

Memorandum

To: Vienna Mayor and Town Council

From: David B. Levy, Director of Planning and Zoning

Date: March 28, 2023

Re: Impacts and Factors of Development in the Maple Avenue Corridor

This memorandum provides some first-cut analyses of the impacts of model development scenarios for upper stories in the Maple Avenue corridor. Though David Levy's name is on this memorandum, key input was provided by staff across multiple departments, as described below in each respective section.

The core question under consideration is whether the Town Council would like to change, or stay with, the current height maximum of 35 feet along Maple Avenue. This height maximum has, in recent history, resulted in the development of single-story buildings. No two-story or three-story buildings have been built along Maple Avenue in a long time.

The analysis assesses those impacts along the following parameters:

- Traffic
- Infrastructure – water/sewer
- Fiscal costs and benefits

The memorandum also provides input from one-hour interviews of three businesses who are active in Vienna. Two of them are property owners and landlords who also act as developers, and one is an operating business along Maple Avenue.

The exercise that resulted in this memorandum came from conversations with the Mayor, Councilmembers, and the Town Manager. Staff involved was, and is, from the Departments of Finance, Economic Development, Public Works, and Planning and Zoning.

At the February 27, 2023 Code Create Conference Session, staff raised the topic of this requested analysis with the Town Council to confirm that 1) the Town Council as a whole wanted it done, and 2) staff's proposed approach, given the short time frame and the lack of outside experts to provide assistance, offered the potential to provide the input needed. Staff received that confirmation and moved forward.

The Approach

The core question of the analysis relates to the impacts of potentially raising the maximum permitted height along Maple Avenue above the current 35 feet, along with the potential to remove the requirement that more than 50% of the square footage be commercial. *The analysis does not address the ground floor*, which is presumed to remain exclusively non-residential.

The basic approach taken was two-fold:

For quantification of impacts for traffic, infrastructure and fiscal impacts, staff used a model “story” of development, of a total of 10,000 square feet. An example of a building with a approximately 10,000 square feet of footprint is the Vienna Metro Building at 309 Maple Avenue W, where Long & Foster has offices. 20,000 square feet was also modeled for traffic and infrastructure to test scalability. The test confirmed the notion -- that is, doubling the size of the development size doubles the impacts. This same concept was also confirmed for the fiscal impacts model. Because it is a “linear” model, all impacts would be doubled by doubling the square footage of the development. Assumptions are discussed in the next section.

For business input, interviews focused on how they thought about height limits and other development regulations. Of particular importance was to understand what the key factors were in the decision whether to develop a property. The results of these interviews are presented in narrative form.

Basic Assumptions

All estimation of this sort relies on reaching a set of basic assumptions. To develop those assumptions, staff spoke on multiple occasions with Steve Kenney, who is a practicing architect and member of both the Planning Commission and the Windover Heights Board of Review. For expertise on mixed-use development, Mr. Kenney brought in Jim Voelzke of MV&A Architects. These two architects helped to establish the assumptions that underlie the analyses. We appreciate greatly their having provided this assistance.

The assumptions are as follows:

- 10,000 square feet of building footprint per story (with 20,000 square feet as a test of scalability)
- Residential story:
 - 82.5% efficiency, meaning that 8,250 square feet could be leased or sold.
 - On average, 1,000 gross square feet per unit.
 - 2/3 of units are one-bedroom units or efficiencies, and 1/3 are two-bedroom units. For this exercise, eight (8) units were assumed out of 10,000 square feet, with five (5) being one-bedroom or efficiency units.
 - For water usage -- One bathroom per bedroom, with efficiencies having one bathroom.
- Office story
 - 85% efficiency, meaning that 8,500 square feet could be leased or sold.
 - For water usage, the Fairfax County building code sets requirements for the number sinks and toilets needed for women and men in office spaces, plus one service sink, based on the anticipated number of people that will be in the space (i.e., occupancy). These numbers are technical and can be provided if requested. Steve Kenney provided this data, which was used by DPW in their estimation.

Modeling and Results

Four scenarios were tested by DPW for both traffic and water/sewer, as follows:

Scenario 1: (10,000SF) Residential, 8 Multifamily units, 3 2BR and 5 1BR/Eff, 11 bathrooms

Scenario 2: (20,000SF) Residential, 16 Multifamily units, 6 2BR and 10 1BR/Eff, 11 bathrooms

Scenario 3: (10,000SF) Office, 8,500 leasable units, Required fixtures (water sources) per building code

Scenario 4: (20,000SF) Office, 1,700 leasable units, Required fixtures (water sources) per building code

The Department of Finance used a different set of four scenarios. The main reason for the change is that Finance saw the importance of distinguishing between the fiscal impacts of rentals versus condominiums, in both residential and office development, because there are different factors to consider. More explanation of assumptions and the results are provided below.

Traffic

Andrew Jinks, Transportation Engineer with the Town's Department of Public Works (DPW), was able to take scenarios provided to him and develop estimated numbers of vehicle trips, based on ratios and factors from the Trip Generation Manual of the Institute for Transportation Engineers (ITE).

An important point to note in the numbers that follow is that leaving a location and coming back to that location count as two trips. So, if two people live in an apartment and travel elsewhere to work every day, each day of commute will count as four trips. That approach frequently means that there are two AM peak hour trips, and 2 PM peak hour trips for that household.

Scenario 1: Residential 10,000 square feet

- Weekday rate: 5.44 daily trips per dwelling unit, 43.52 daily trips for 8 units

Scenario 2: Residential 20,000 square feet

- Weekday rate: 5.44 daily trips per dwelling unit, 87.04 daily trips for 16 units

Scenario 3: Office 10,000 square feet

- Weekday rate: 9.74 daily trips per 1,000 Gross Square Feet (GFA), 97.04 daily trips for 10,000 SF

Scenario 4: Office 20,000 square feet

- Weekday rate: 9.74 daily trips per 1,000 Gross Square Feet (GFA), 194.80 daily trips for 20,000 SF

As a reference point, the 2019 estimate of average daily trips (ADT) along Maple Avenue was approximately 32,000 ADT.

Water and Sewer

Marvin Lawrence, DPW's Water and Sewer Superintendent, conducted the analysis related to the capacity of the water and sewer systems to handle the developments presented in the four scenarios. The results are in Attachment A to this memorandum.

DPW has concluded from the attached results that the Town's existing infrastructure is equipped to handle the increase in demand from any of these four scenarios.

However, the Acting Director of Public Works, Christine Horner, has noted that Town staff does not have the capacity to assess the capacity of the overall system to determine how much development could be handled by the existing system. Such an assessment would be a very complicated analysis and would require the support of outside technical expertise.

Fiscal Impacts

Marion Serfass, Director of Finance, and Gwen Riddle, Finance Operations Manager, conducted the requested fiscal analysis. They used the same fiscal impacts model that was used to assess the impacts of the Vienna Courts project along Church Street, when that project was being proposed. Some assumptions were added or amended to match the development scenarios for this exercise, which were different than the Vienna Court development.

The Finance staff modeled four different scenarios, which, as indicated above, are a slightly different suite than are those used for Traffic and for Water and Sewer. In all cases, 10,000 square feet were modeled. For residential development, a scenario was modeled for rental units and a different scenario was done for condominiums. The same was done for office development, for which one scenario was rental office and the other was condominium office. This distinction was important because there are different financial assumptions, as described in Attachment B to this memorandum.

Attachment B provides Finance staff's description of the analysis and the results. All scenarios show a net fiscal benefit for a story of development, of both residential units and office space. Interestingly, rental properties show higher net fiscal benefits than do ownership.

Discussions with Developers and Business Owners in Vienna

Natalie Monkou, Director of Economic Development, and David Levy, Director of Planning and Zoning, interviewed three businesses (two property owners and one owner of a fast-casual restaurant, all of whom operate along Maple Avenue) to discuss regulatory matters related to the market viability of the current code and of potential changes through Code Create, especially when considering heights, setbacks, uses, and whatever else came up in the discussion.

In these discussions, staff heard consistent themes from the representatives of the two companies that are properties owners and developers —primarily noting that the following concerns would presents challenges with respect to future development (or redevelopment) of multi-use projects:

- The current code only allows the development of buildings up to 35 feet in height on Maple Avenue. The building height constraint makes development of anything other than a single-story building financially infeasible or an unattractive option.
- The Town's requirement that more than 50% of the square footage of buildings be commercial, in a mixed-use development that includes residential units (especially when paired with the maximum building height limit), adds to the financial pressures and feasibility challenges of a development

project. This constraint is especially true because, at present, the returns from housing development are higher than those from office development.

- Additional concerns mentioned by developers include the high costs of construction, increased commercial market standards (e.g., decorative elements, storage, height), and inflation.

The property owners, who are also developers, indicated that, *if the building height standards stay at 35 feet*:

- 1-story projects, either newly built or to improve the façade of existing buildings for commercial uses (e.g., retail, bank, restaurant), would be viable.
- 2-story projects, to include commercial ground floor and either office or residential uses on the second floor, would remain financially infeasible and not attractive to the market.
- 3-story projects would remain financially infeasible, when considering what the market demands for commercial ground floor ceiling heights (e.g., retail national standard of 16-18 feet) and residential or office uses for the second and third floor.

However, 3-story projects would be considered if the maximum allowed building height were to increase to at least 42 feet—not including the extra height needed for amenities, parapets, or other decorative elements.

Additional considerations raised during the interviews included:

- **Commercial As the Principal Use**
 - [Section 18-73](#) of the Town’s current code states that if apartments are in a commercial zone and in a mixed-use building, the commercial use must be the principal use of the building. Vienna has traditionally interpreted this language to mean that more than 50% of the square footage must be non-residential.
 - The Town Code also states that residential uses may be located only on floors above the ground floor.
 - Because residences on any upper story require an entrance lobby on the ground floor, some space on the ground floor must be devoted to residential usage. Developers are looking to include sufficient square footage that is dedicated to a small-lobby area and rentable storage for multi-unit residential (apartments or condos).
 - This combination of requirements make it practically infeasible to build a two-story building with commercial uses on the ground floor and residential uses on the second floor.
- **Cost to Redevelop and Construction**
 - Costs for construction and redevelopment have increased steeply in the last few years.
- **Parking (Structured vs. Surface)**
 - Depending on the parcel size and uses, surface or structured parking may be difficult to develop—with structured parking costs becoming increasingly unattractive for smaller parcels (below 4-5 acres).

- One of the property owners thought it would be important to retain a strip of surface short-term parking in front of operating retail, rather than requiring all parking to be in structured parking behind the retail.
- **Operating Business**
 - The interviewed owner of the fast-casual restaurant did not have a preference regarding their business being in a single-story development or in a mixed-use taller development.
 - They also did not have a preference as to whether the parking should be all in structured parking or whether there should be surface frontage parking available.

In summary, a continued regulatory approach that limits maximum heights to 35 feet (plus rooftop amenities) is likely to continue to yield 1-story buildings, especially if the requirements remain for both ground-floor commercial uses and for more than 50% of overall space being non-residential. Raising the maximum heights to 42 feet (plus leaving space for rooftop features) and eliminating the 50% requirement would lead property owners to consider investing in 3-story buildings. One developer also expressed interest in potentially developing townhomes in portions of sites adjacent to single-family homes but did not state that interest as a requirement to consider redevelopment.