Discussion of X-Factor as a Tool for Determining Planned Development Density

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One way (but not the only way) to establish potential development densities for Reston's TOD areas is to determine the expected absorption of office and residential development within one or more transit station areas during the selected planning horizon (i.e., the development demand) and then plan development densities intended to meet the expected absorption (i.e., the development supply). In a perfect world, the planned densities (supply) would match expected absorption (demand), such that market equilibrium could be maintained during the planning horizon.

In reality, however, market equilibrium rarely is achieved, as demand for office and residential development ebbs and flows with market cycles, while the supply of development square footage is impacted by factors such as the availability of land, financing, existing income streams, sale/rental rates and the investment expectations of individual landowners. That's why, for example, property adjacent to the Ballston Metro Station is developed as both one-story retail uses and 20+ story office and residential buildings. The locations of these developments are comparable, but the results vary dramatically.

For this reason, one must assume that (a) not all property owners will act rationally to use their property for its highest and best use when demand for such use is at its theoretical peak; (b) supply and demand for development square footage will never consistently operate at equilibrium throughout and beyond the planning horizon; and (c) some amount of additional supply must be available to make up for irrational market behavior and to meet actual yearly demands during the planning horizon. Otherwise, demand will outstrip supply, driving up prices and forcing the demand to be met at potentially less desirable locations (outside the TOD corridor or outside the County altogether).

The challenge is to determine how much additional development supply could/should be planned to compensate for irrational market behaviors – the so-called X-Factor. Here is an example:

<u>Assume GMU 2030 High Scenario = Absorption/Demand</u>
13.5M s.f. of office
6.6M s.f. of residential

<u>Assume Wiehle Subcommittee Recommendations = Planned Density/Supply</u>
14.8M s.f. of office
11.5M s.f. of residential

<u>X-Factor for Wiehle Avenue Demand v. Supply</u>
9% for office (expected absorption/demand equals 91% of planned supply)
43% for residential (expected absorption/demand equals 57% of planned supply)

Given this example, the question becomes whether property owners will act sufficiently rational to ensure that 91% and 57%, respectively, of the planned development/supply will be built each year between today and 2030 (or at least sufficiently close in time) to meet the expected, incremental demand? To the extent property owners are unlikely to or cannot act rationally (from a market perspective) due to, say, existing lease requirements, lender obligations or the relative youth of their existing assets, one must then determine how much excess planned density/supply would be needed by "rational" property owners (i.e., the X-Factor) to meet the absorption demands other owners are unwilling/unable to meet.

Without debating the merits of the data, the discussion draft that County Staff circulated at the last meeting (Scenario A2) assumed the following square footages would be on the ground (whether occupied or not?) within the Wiehle Avenue TOD area (exclusive of the areas beyond ½ mile) by 2030:

<u>Staff Scenario A2</u>
8.1M s.f. of office
9.25M s.f. of residential

Assuming this represents the absorption/demand side of the equation (as compared to the GMU forecasts, for example), the question then becomes how much of an X-Factor to apply to adjust for irrational decisions by property owners. Said another way, how much additional planned development capacity should be authorized within the TOD to ensure the expected demand/absorption can be met each year during the planning horizon? For illustrative purposes, here are three options:

<u>Scenario 1 – 25%</u>
10.1M s.f. of office
11.5M s.f. of residential

<u>Scenario 2 – 35%</u>
10.9M s.f. of office
12.5M s.f. of residential

<u>Scenario 3 – 50%</u>
12.2M s.f. of office
13.9M s.f. of residential

Once the proper X-Factor is determined, the next step is to allocate this development potential within the TOD area based on planning considerations like proximity to the station and parcel size (parcel size dictates what FAR is required to meet the target density established by the X-factor).

As an example, assume (i) a 35% X-factor and (ii) that the north side of the Wiehle Avenue TOD area will develop with 60% of the planned residential square footage and 50% of the office square footage. Next, using the acreage of the land bays north of the Toll Road, one

would assign densities intended to promote development of 5.45M s.f. of office development and 7.5M s.f. of residential development in the land bays north of the Toll Road (totaling 12.95M s.f.). The land bays south of the Toll Road would then be planned to accommodate the remaining 5.45M s.f. of office and 5M s.f. of residential uses (totaling 10.45M s.f.), again with the acreage of the land bays determining the relevant FAR.

In this scenario, Land Bays H-1, H-2, I-1 and I-2 (totaling 86.12 acres) would need to be planned at an average 2.79 FAR across all of the land bays in order to accommodate the 10.45M s.f. of development discussed in this scenario. Similarly, the northern land bays (G-1 to G-6 inside ½ mile) would need to be planned at an average FAR of 1.71 FAR across all of the land bays (totaling 174 acres) in order to accommodate the 12.95M s.f., of development discussed in this scenario. Relative intensities among each of the land bays could be stratified, so long as the overall target X-Factor is achieved across the TOD area.