COMMENT

Thoughts on *Climate Exactions*

by Gwen Wright

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I. Introduction

Montgomery County, Maryland, has a long history of progressive land use policies that are aligned with the overall goal of addressing climate change and its negative effects. Preservation of large areas of open space and environmentally sensitive areas, as well as a strong focus on transit-oriented development to reduce vehicle miles traveled are at the core of the county's planning strategy. In addition, a sophisticated development review process, including an adequate public facilities ordinance, ensures infrastructure is in place to accommodate school and transportation capacity through a series of exactions tied to these public interests.

For all of these reasons, Montgomery County is in an excellent position to assess the viability of the *Climate Exactions* paper prepared by authors J. Peter Byrne and Kathryn A. Zyla regarding the potential for implementing exactions on the local government level to address climate change impacts.

II. Background

The Maryland-National Capital Park and Planning Commission (M-NCPPC) is a bi-county agency tasked with planning for the physical development of the two counties surrounding the District of Columbia: Montgomery and Prince George's Counties. The Montgomery Planning Department is the part of M-NCPPC focused on land use, transportation, and environmental sustainability issues for Montgomery County. The county is a jurisdiction of more than 1 million residents and is home to a number of important "edge cities" such as Bethesda and Silver Spring. Montgomery County has grown from a suburban community of commuters into a regional job center. Land use policies are oriented toward concentrating development along designated transportation corridors, protecting stream valleys, wetlands and forests, and preserving agricultural land.

Guiding documents, such as the 1964 General Plan of Wedges and Corridors, and the 1980 Functional Plan for the Preservation of Agriculture and Rural Open Space—which protects more than 93,000 acres of land in the county, are the foundation for more environmental sustainability efforts to minimize suburban sprawl, preserve land, and concentrate highest densities along major thoroughfares and transit routes. Our current planning policies and tools aim to reduce carbon emissions by achieving compact, transit-oriented, and mixed-use development. The county has set a goal of reducing countywide carbon emissions to year 2005 levels by 2050.

III. Existing Policies and Tools

The following policies and tools provide a comprehensive planning strategy for Montgomery County. They not only create a blueprint for more sustainable development, but also advance the county's goals of greenhouse gas reduction.

A. Agriculture Reserve: This designated land use zone is intended to preserve agriculture and rural open space in the northern and western parts of the county by permitting a density of no greater than one dwelling unit per 25 acres. A system of transferring development rights to other parts of the county with the infrastructure to support growth is an important tool that allows the Agricultural Reserve to succeed. In addition, the county has created the Building Lot Termination program—which is funded by development requirements in other parts of the county—to further reduce the impact of development in the Agricultural Reserve. The Agricultural Reserve creates a de facto growth boundary, limiting vehicle miles travelled.

B. Forest Conservation Law: The law aims to protect, maintain and plant forest areas, especially in stream buffers within the county. It also protects trees of 30-inches in diameter or greater. The law ensures that tree canopy goals and forest preservation and planting requirements are adhered to closely.

C. Growth Policy and Adequate Public Facilities: The county's growth policy is entitled the "Subdivision Staging Policy" (SSP) and is the guiding document that ensures public facilities, such as schools, transportation infrastructure, and other vital public services, are adequate to meet new development. The 2016 SSP encourages the devel-

opment of compact, walkable, transit-oriented development. This policy also assesses transportation impact taxes and traffic mitigation payments based on the location and overall impact of the development on existing infrastructure. Metrics such as vehicle miles of travel and percentage of non-auto driver mode share (the percentage of trips made by non-single occupant vehicles) are proxies for the relative impact of development on both the environment and infrastructure. A development that provides less parking is treated as having less of an impact on the road network than a development that provides more. Through the SSP, exactions for schools and transportation are accessed at the time of building permit.

D. Commercial/Residential (CR) Zone: This mixed-use zone seeks to incentivize more compact, mixed-use development, with the goal of creating walkable communities that do not rely on automobile travel. Developers of projects in the CR zone are required to provide public benefits from a predetermined list of potential amenities that will support and accommodate higher densities. The following public benefits that are available and that contribute to the reduction of greenhouse gases specifically include:

1. Proximity to transit
2. Energy conservation and generation
3. Habitat preservation and restoration
4. Public parking
5. Live/work units
6. Trip mitigation
7. Vegetated roofs
8. Tree canopy cover
9. Public open space
10. Vegetated areas
11. Location near retail establishments
12. Retained buildings

IV. Potential for Exactions Related to Climate Change

Even a modest level of growth inherently brings new development, which increases carbon output. The Planning Department is continuously evaluating effective growth management strategies that balance development with the need to reduce carbon emissions. Therefore, the Planning Department is increasingly aware of the need to implement policies that explicitly target reductions in greenhouse gas emissions. However, as carbon reduction requirements for new development become more prevalent, they present a variety of challenges that must be addressed to develop tools that can measure impact and policies to address that impact.

Prof. J. Peter Byrne and Kathryn A. Zyla contemplated and addressed many of the challenges in their paper. The most relevant challenges fall into three categories: (1) creating a defensible methodology to measure the level of impact on an individual development scale; (2) weighing exactions related to carbon emissions amongst other top public priorities; and (3) a concern that adding climate exactions to the current robust list of development requirements would have a chilling effect on new development and needed tax revenues.

Currently, the Montgomery Planning Department does a carbon footprint analysis for each master plan under review and evaluates changes in the carbon footprint as a result of recommended changes in zoning, land use, and projected vehicle miles travelled. However, we have never attempted to do this type of modeling on an individual development level. To some degree, this may be easier as new methodologies for measuring a building's carbon footprint are becoming sophisticated, although complex. As noted in the paper, it may be possible to improve upon our existing methodology for a more refined quantification of greenhouse gas emissions connected to transportation modeling—a regular part of both the master planning and the individual regulatory processes.

In accordance with this approach, the Department has also been working on new tools to refine our transportation modeling efforts so that they are not solely based on automobile travel but rather consider multi-modal options including transit, bicycling, and walking. Although tying the modeling for climate exactions to transportation modeling has great potential, it could be complicated by the fact that this methodology only addresses one element of environmental impact. The construction of a new building, in and of itself, has climate impacts as does the long-term operation of that building. In addition, steps that a developer may be taking to reduce vehicular trips would need to be considered—such as minimizing parking availability and entering into a formal Transportation Demand Management agreement. As an example of this concern, our current master plan level modeling methodology does not account for continual improvements in technology, building efficiencies, and energy standards, such as Energy Star and the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). Until better models become available, measuring carbon projections in small geographic areas and on an individual basis is challenging. At best, the methodology for quantifying the level of environmental impact for an individual development project would be complex and would need to be multi-pronged.

A second challenge is a political one: many public interests and priorities need to be balanced in reviewing every development project. In some cases, provision of affordable housing is paramount; in other cases, provision of a key

piece of open space or public infrastructure takes priority. In almost every case, many threads of public interest need to be woven together and balance a wide variety of competing interests. This consideration of multiple interests is not to minimize the importance of addressing climate change; however, it may be that the implementation of exactions needs to be balanced with other important factors including sustainability proffers. For example, these may include whether the development is near transit, whether the development is proposing a high level of efficiency and sustainability in its construction, and whether the development is proposing to minimize parking and take other actions to reduce vehicle trips. Adding carbon reductions to the menu of other top priorities and exactions that are required of new development will require a high level of political will, not only from county staff, but also from elected leaders.

Finally, there is a real and legitimate concern that adding more exactions will have a chilling effect on new development. The CR zones in Montgomery County provide flexibility in development and offer higher densities in exchange for significant public amenities. Robust exactions for schools and transportation are applied to every development project. Montgomery County also has one of the earliest inclusionary zoning laws in the United States and 12.5 percent of every new residential development over 20 units must be moderately priced dwelling units.

The challenge for developers is weighing the economics of the total development (including provision of public amenities) with all the county's public interests and requirements. Adding a new carbon tax could be perceived as another burdensome layer and would compete with other ostensibly more urgent priorities, including affordable housing, transportation infrastructure, and school impact taxes.

V. Conclusion

The Montgomery Planning Department achieves carbon reduction though multiple processes and at all levels of master planning and development. Through current efforts to implement smart growth principles, we are limiting vehicle miles travelled, improving environmental sustainability, negating heat island effect, and reducing greenhouse gases and energy demand. These efforts include everything from focusing on transit-oriented development, protecting large areas of agricultural and rural open space, preserving forest, and directing developers toward energy efficient buildings by making the economic case that such improvements financially and ecologically benefit property owners and tenants.

The concept of incorporating evaluation of climate impact into individual development projects and creating a climate exaction is creative and deserves further consideration. But this proposal presents challenges in measuring the exact amount of greenhouse gases generated or reduced by an individual project, balancing this important public interest with other priorities, and ensuring that an additional exaction will not have an undue chilling effect on positive new development.

However, the goal of reducing greenhouse gas emissions and addressing climate change is essential to our future survival as a society and we should continue to look for every method to make positive progress in this area.