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Greenhouse Gas Emissions: Transit Orientation Reduces Car Dependency

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In Memoriam: The authors note the passing of John M. Armentano, a founding partner of the Long Island law firm of Farrell Fritz, P.C. who served as zoning law columnist for the New York Law Journal for 14 years. His prolific writing, steady service to the bar, and dedicated work on behalf of his clients are a lasting and positive contribution to the practice of land use law.

Abstract: Urban dwellers emit less greenhouse gases per capita than their suburban or rural counterparts because urban environments are conducive to less automobile travel and require less energy to heat or cool their smaller urban living quarters. This article addresses the need for a more comprehensive transit oriented land use paradigm by taking the reader through a step-by-step approach to accomplishing this goal. The suggested model exemplifies the complexity of amending community planning and the importance of incorporating several different groups of people into the planning process. These groups include municipal, state, and federal governments, research groups, developers, and regional transportation agencies.

The connection between land use regulation and climate change:

In our April column we discussed the close link between zoning and greenhouse gas emissions. We noted that zoning creates the blueprint for land development and dictates residential densities and permissible land uses. The low per capita amount of carbon emissions attributable to New York City residents, relative to their country cousins, is due in part to the City Zoning Resolution. It has produced relatively smaller residential units, a large proportion of multi-family, high-rise, and mixed-use buildings, and located retail goods, personal services, and mass transit stations within walking distance for many of the City's residents.

City dwellers own fewer cars, take fewer automobile trips, and use less fossil fuel to heat and cool their residences. They are responsible for less than a third of the carbon emissions attributable to suburbanites, many of whom live in large single-family homes on individual parcels of land in exclusively residential neighborhoods. In outlying communities, residents take up to fifteen automobile trips per household per day and drive long distances to work, shop, school, and recreate. Simply eliminating the car trip to work can reduce a commuter's contribution to carbon dioxide emissions by 6,520 pounds per year.

Our last column pointed to examples of Westchester County cities and suburban towns in Rockland and Dutchess counties where land use reform is taking place that promises to reduce carbon emissions. Yonkers, New Rochelle, and White Plains have rezoned land to increase residential density near transit stations, giving residents the option of leaving their cars at home. Suburban towns are adopting compact, mixed-use zoning laws that put people closer to the goods and services they need, which can reduce vehicle trips per day, if they chose to walk to the corner store, school, or dentist's office.

The need for best management practices:

These types of developments constitute a small evolutionary step toward building transit oriented developments (TOD) that measurably reduce car dependency. In this column, we describe a step-by-step regime for cities, villages, and towns to follow to reduce carbon emissions by connecting transportation infrastructure with the built environment. In doing this we take some risks, since there is little written on precisely how land use law can actually get people out of their cars, cut back on daily vehicle trips, or require the private market to build smaller, less energy-consumptive buildings. Best land use regulatory practices are a work in progress, at best, if not a good idea waiting to be discovered.¹ It is not enough to rezone land near transit stations for higher density residential or mixed uses, although this certainly helps. Municipalities are on the brink of discovering precisely how to rezone and create design and locational standards that significantly reduce carbon emissions by integrating land use and transportation planning.

The questions that burden attempts to create best land use regulatory practices include how to identify a large enough area for rezoning around transit stops, how many riders are needed for efficient rail or bus rapid transit service, how can land use planning create a pattern of population to support transit development, how to encourage land owners and developers to cooperate with transit oriented development plans, how to finance needed infrastructure improvements, how to create affordable housing for workers in the transit area, and how to create a strong and compelling sense of place. How does land use regulation go beyond simply placing more buildings and people adjacent to

¹ See Robert T. Dunphy, *Shaping Land Use as if Transportation Mattered* (Apr. 2005), at http://online.caup.washington.edu/udp_symposium/dunphy.doc (last visited Jun. 13, 2007).

transit stops and actually get them out of their cars or reduce the number of auto trips they take?

There has been much writing in this area of practice, most of it under the rubric of “transit oriented development” or TOD. But the terminology is varied, revealing a certain amount of ambiguity about the subject matter. Some authors write about “transit friendly” or “transit supportive” development, others use the term “transit ready,” and some discuss “transportation efficient” land use patterns. This is a highly interdisciplinary field involving many different geographical contexts, populations, densities, and transportation modalities. Much of what is written about the subject is imprecise about how land use planning and regulation can serve the cause of cost-effective transit oriented development.² Any attempt to describe a single approach is subject to a host of exceptions in particular places, but some template for discussing the legal underpinnings of this important subject is needed as a point of beginning.³

The components of a comprehensive approach:

There are ten steps in our comprehensive land use regime to integrate land use and transportation planning:

1. Conduct feasibility study and designate one or more Transit Areas
2. Develop and adopt a Transit Area Land Use Plan
3. Conduct Environmental Impact Review
4. Adopt Transit Area Overlay Zone
5. Develop strategies with land owners and for selecting developers
6. Amend site plan regulations to add energy efficiency standards and car independency criteria for all Transit Area developments
7. Streamline approval of proposed Transit Area development projects
8. Provide bonus densities to developers and require cash in exchange for bonuses
9. Use cash to create energy efficient workforce housing and livable neighborhoods
10. Leverage cash with grants and incentives from state and federal agencies

Brief Explanations:

1. Feasibility study and *Transit Area* Designation

Transportation planning is site specific and dependent on local transit and traffic circumstances. Adequate densities of development and a variety of land uses [residential, retail, office] are needed in a sufficiently large *Transit Area* to

² See ITE SMART GROWTH TASK FORCE, SMART GROWTH TRANSPORTATION GUIDELINES: AN ITE PROPOSED RECOMMENDED PRACTICE 23-27, 41-72 (Inst. of Transp. Eng'rs 2003) (many recommendations are proposed concerning how to improve road usage and encourage public transportation, but hardly any space is given to describe how land use will affect these changes).

³ See, e.g. Greg Yager, *Taking Transit*, URB. LAND, vol. 65, No. 7, July 2006, at 103; Alden S. Raine, *Waterfront TOD*, URB. LAND, vol. 62, No. 5, May 2003, at 79.

generate enough riders for transit service to be economically feasible.⁴ The feasibility of a local transit oriented development plan is dependent on a regional transit system that serves sufficient riders at each transit station; this requires close coordination between regional transportation planning and local land use planning. The two go hand-in-hand; localities must be willing to create transit ready plans while regional transportation agencies must create plans that can serve a number of transit ready locations.

2. Develop and adopt a *Transit Area Land Use Plan*

Local governments in New York are authorized to adopt comprehensive land use plans under state law.⁵ As a corollary, they are authorized to adopt area wide plans for discrete neighborhoods to serve various purposes such as local waterfront development, urban renewal, and transit oriented development. For communities with two or more transit stations, such area specific plans can be created for each facility. These area plans can be form based; they can show design elements that define the scale, intensity, and density of buildings and the particular features that discourage the use of cars and encourage pedestrian access to amenities including the transit station. Such plans can be designed and drawn in sufficient detail so that developers know what to propose and so that proposals can be judged for compliance with the plans.

3. Conduct Environmental Impact Review

Under the State Environmental Quality Review Act, the local legislative body can prepare a Generic Environmental Impact Statement (GEIS) on the environmental impact of the proposed Transit Area Land Use Plan.⁶ If this study is done in sufficient detail, then development projects that conform to the plan can be expedited since no further environmental impact studies will be required. Loans from transportation and land use agencies can be solicited to pay for feasibility studies. These loans can be repaid through the collection of fees from developers who propose projects that comply with the plan.⁷

4. Adopt Transit Area Overlay Zone

The current zoning in the Transit Area can be left in place. An overlay zone can be adopted by the local legislative body that is coterminous with the boundaries of the designated Transit Area. The zoning can provide that any development that complies in full with the carefully designed Transit Area Land Use Plan and the Generic Environmental Impact Statement is automatically an

⁴ Studies indicate that 4-8 dwelling units per acre are needed to support transit at a minimum. In order to raise the productivity of the level, 7 to 14 dwellings per acre are required, and anything beyond that range will further increase ridership. ITE SMART GROWTH TASK FORCE, SMART GROWTH TRANSPORTATION GUIDELINES: AN ITE PROPOSED RECOMMENDED PRACTICE 30-31 (Inst. of Transp. Eng'rs 2003).

⁵ N.Y. VILLAGE LAW § 7-722; N.Y. TOWN LAW § 272-A; N.Y. GENERAL CITY LAW § 28-a.

⁶ Title 6 NYCRR Part 617.10 of the SEQRA regulations defines a GEIS and explains its potential uses and functions.

⁷ Title 6 NYCRR Part 617.13(a) allows agencies to charge a portion of the lead agency's costs of preparing a GEIS to developers in the study area.

as-of-right land use in the overlay zone. We call this a “regulatory plan:” one that is specific enough that it can be incorporated in a zoning provision that incorporates its design, bulk, and use provisions by reference.

This zoning district can be designated by the local legislature as a density bonus and workforce housing district. This allows the legislative body to accept cash contributions in exchange for the additional density and zoning benefits allowed in the Transit Area over the densities and benefits in the current, underlying zoning.

5. Develop strategy with land owners and for selecting developers

In most localities, much of the land within a Transit Area will be privately owned. Some of it will be developed, some vacant, and some underdeveloped. For a public plan to be implemented, private landowners must be willing to cooperate with the plan. One approach is to provide in the zoning provisions that adjacent landowners can petition for the rezoning of their land to the Transit Area Overlay Zone, subject to the submission of a development proposal that conforms to the Transit Area Land Use Plan. Another approach is to form a local development corporation that can negotiate options to purchase parcels from land owners and empowering this quasi-public corporation to enter into agreements with developers. A third is to use a local renewal agency or a state quasi-public entity, such as the Empire State Development Corporation, to carry out this function. Where there are title problems with land in the Transit Area or other problems in acquiring difficult parcels, there are allowances for the use of eminent domain as a last resort.

6. Amend site plan regulations to add *energy efficiency standards and car independency criteria* for all *Transit Area* developments

Transit Area Overlay Zoning provisions must regulate the size of residential units and require all buildings in the overlay zone to comply with energy standards that reduce energy consumption thereby reducing fossil fuel consumption and provide for green development that helps reduce and mitigate greenhouse gas emissions. Although the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) energy standards are voluntary, they can be made regulatory by incorporation into local site plan regulations in a transit area overlay district.⁸

7. Streamline approval of proposed *Transit Area* developments

Developers who propose projects that comply with the Generic Environmental Impact Statement and the Transit Area Overlay Zone provisions can enjoy significant streamlining of the local approval process of their proposals. Such developments are exempt from the time intensive and costly provisions of

⁸ See RESOLUTION NO. ____ NOVEMBER 15, 2006: ADOPTING LOCAL LAW NO. ____ OF 2006 ADDING TO THE CODE OF BABYLON, CHAPTER 89, ARTICLE VIII, BUILDING CONSTRUCTION, at www.usgbc.org/ShowFile.aspx?DocumentID=2164 (last checked Jun. 14, 2007).

the State Environmental Quality Review Act and the politically charged and potentially dangerous process of rezoning. They should raise no unexamined environmental impacts and they enjoy as-of-right zoning status--a rare commodity in New York outside of New York City.

8. Provide bonus densities to developers, requiring cash in exchange

New York law allows municipalities to provide a variety of zoning bonuses, waivers, and incentives to developers in exchange for the provision of public benefits, broadly defined.⁹ The statutes make it clear that, in lieu of providing benefits directly, developers can be required to pay cash in exchange for zoning incentives. In a transit area overlay zone, the underlying zoning remains in place and the higher densities allowed under the overlay provisions can be designated bonus densities under these statutes.

9. Use cash to create workforce housing and livable spaces

Where such incentives are provided, needed public benefits include affordable workforce housing and recreational and neighborhood design enhancements. Cash provided by developers can be kept in trust funds for transit area enhancements such as these, enhancements that put the workforce within walking distance of the jobs provided and that mitigate the impact of the greater density that comes with transit oriented development.

10. Leverage cash with grants and incentives from state and federal agencies

Climate change has altered the federal and state agenda and will reshape funding programs and priorities for programs and projects that promise to reduce fossil fuel consumption, dependency on foreign oil, and greenhouse gas emissions. Since there are few competent local initiatives in the nation that utilize a comprehensive land use regime of the type described here, local initiatives that do should enjoy considerable success in soliciting state and federal funding for land use and transportation planning, environmental studies, affordable workforce housing, transportation and urban amenity capital projects, and other support needed to create successful transportation and land use demonstration projects.

In fact, the need for localities to develop such programs could lead to state legislation that expands existing urban redevelopment incentives to transit oriented initiatives. The state legislature could create an Energy Conservation Zone Program under which developers are allowed relief from sales, mortgage recording, and real estate transfer taxes, and that authorizes local governments to enter into Payment in Lieu of Taxes agreements with Transit Area developers.

Transportation Efficient Development

⁹ New York Town Law § 261-b and Village Law § 7-703, adopted in 1991, and General City Law § 81-d, adopted in 1992, grant parallel authority to towns, villages, and cities to adopt incentive zoning systems and set forth the specific provisions that must be followed.

In some communities, development at densities and in locations that support transit facilities is not feasible. These communities may not be located along an existing or planned transit line or may lack the infrastructure or market conditions that support higher density development. Still, these communities can adopt a Transportation Area Overlay Zone that achieves some of the public benefits of transit oriented development. Zoning controls can limit the size of housing units, combine retail, service, office, and residential land uses, and require new buildings to meet energy standards and mitigate greenhouse gas emissions.

Each of the ten steps outlined above for Transit Area Development can be followed by such communities, setting the stage for a transformation in land development patterns in developing communities. The comprehensive plan of a developing community, outside the service area of foreseeable transit lines, can be amended to concentrate future development in Transportation Overlay Zones and to limit development outside such zones. Mixed use, higher density suburban developments can provide jobs for residents of the development and provide retail goods and personal services within walking distance of neighborhood residents.

Suburban communities that adopt higher density, mixed use zoning will find it easier politically to adopt strong environmental protection ordinances applicable to the land outside these higher density zones. Density bonuses can be provided in the transportation efficient overlay area and the cash contributed by developers can be used to purchase development rights in valuable open space areas that contain important natural resources. The preservation of such resources will provide valuable environmental benefits such as carbon sequestration, food production, wetlands and habitat preservation, stormwater management and flood prevention, watershed protection, and the prevention of erosion and sedimentation.

Conclusion:

Until very recently, public opinion regarding the importance of reducing greenhouse gas was in flux. With recent reports of the Intergovernmental Panel on Climate Change, the scientific and policy community seem united in the understanding that governmental actions that reduce emissions and that mitigate them through sequestration are critically important. Local plans and regulations that integrate transportation and land use planning and environmental laws that preserve vegetative covers that remove and store carbon clearly advance the public health, safety, morals, and welfare, the *sine qua non* of land use regulation.