

A New Tool for Greening Buildings and Neighborhoods: The “Smart Growth Tax Credit”

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ABSTRACT

According to the U.S. Census Bureau, there will be over two million housing starts nationwide in 2004.¹ This presents an enormous opportunity to affect energy use in both the construction and transportation sectors. Natural Resources Defense Council (NRDC) recently developed state legislation in New Jersey that would establish a “Smart Growth Tax Credit” to provide incentives for developers to design and construct environmentally superior buildings using more sustainable land use patterns. The legislation, now pending in the New Jersey legislature, includes specific criteria regarding location, neighborhood design, and green building practices. The Smart Growth Tax Credit addresses two energy issues that are usually dealt with independently. First, it aims to reduce the energy consumption of individual buildings by including efficiency standards in its green building criteria. Second, it endeavors to reduce vehicle miles traveled (VMT) by incorporating the conclusions of location efficiency research into its location and neighborhood design criteria.

Because the Smart Growth Tax Credit includes both “smart growth” and “green building” aspects, the process of developing criteria involved unifying the supporters of these two goals, who tend to operate separately. The bill provided an excellent opportunity to explore ways to promote both objectives simultaneously, and in the end NRDC was able to establish consensus concerning the respective weighting of “smart” and “green” features. This paper will introduce the Smart Growth Tax Credit as a new policy tool, describe the location efficiency research that was used in its development, and discuss the overlap between the spheres of smart growth and green building.

Introduction

The idea for a Smart Growth Tax Credit grew from NRDC’s successful efforts to establish a Green Building Tax Credit in New York State. The Green Building Tax Credit was a collaborative effort among the environmental community, developers, and building and design professionals in New York. Governor Pataki signed the bill into law in May 2002, and the program was launched in August 2003. The Green Building Tax Credit provides financial incentives for developers to construct more energy efficient buildings using materials that are less toxic, recycled, and recyclable. The Smart Growth Tax Credit uses the same strategy but addresses land use and transportation impacts connected with construction as well as the environmental impacts of buildings themselves. The aim is to provide a short-term incentive—designed to expire after five years—that will encourage a large number of applicants to invest in

¹ This is higher than average in recent years. The Mortgage Bankers Association of America quotes estimates for the last five years (1998 to 2002) that are between 1.6 and 1.7 million housing starts per year.

genuine smart growth developments, creating a new segment in the marketplace rather than a handful of demonstration projects. To achieve this goal NRDC needed to create a policy tool that balanced rigorous environmental standards with commercially feasible requirements. Recognizing that the Smart Growth Tax Credit is not the appropriate tool to address all environmental, economic, and social issues related to development, NRDC tried to cull from the universe of smart growth practices those that could be incorporated into a statutory framework.

Policy Framework

The Smart Growth Tax Credit legislation would create an incentive program to encourage developers to invest in appropriately located, energy-efficient residential and mixed-use construction projects that minimize land and water impacts, are pedestrian friendly, and facilitate the use of public transportation. The proposed legislation defines criteria regarding location, neighborhood design, and green building features that projects must meet in order to qualify for the tax credit.

The program would provide a credit against state income taxes equal to 4% of the developer's project costs (including most of the capitalized costs of construction but excluding the cost of land) for new and renovated developments that meet the required criteria. Additional credit of up to 11% of the allowable costs would be available for those who redevelop brownfields, create mixed-use developments, include green buildings that are LEED[®] certified, or take certain other "extra credit" measures that are not required. The applicant will contract with state-certified architects, engineers, or other third-party professionals to certify that the development meets program criteria—facilitating program administration and lowering the costs of implementation.

NRDC's hope is that the tax incentive will encourage a substantial number of developers and other building professionals to adopt cutting edge design practices and technologies more quickly than they might otherwise have done, recognizing that many market barriers prevent widespread adoption of even the smartest, most cost-effective measures to reduce the environmental and public health impacts of development. One such barrier stems from the fact that introducing a new choice into the marketplace is likely to have higher transaction costs and risks than traditional development. Other barriers include higher first costs for certain technologies, lack of information about products and techniques, and limited time and resources to devote to overcoming hurdles associated with zoning regulations and securing a project's financing.

Incentives are essential tools to help overcome market barriers and make environmentally superior products the industry standard. A comprehensive approach to transforming building and development practices should include: a) a solid floor of minimum requirements contained in codes and regulations; b) comprehensive guidelines for best practices; and c) incentives that encourage broad compliance with such guidelines and raise the ceiling on industry practice. In other words, the approach should include a healthy balance of sticks, guidance, and carrots. Incentives such as the Smart Growth Tax Credit provide necessary carrots, and also lay the foundation for raising the floor of minimum regulatory requirements in the future.

Industry is primarily concerned with meeting consumer demands, and to date has perceived relatively little demand for smart growth developments. While there is a decent amount of interest in improving the quality of buildings and neighborhoods, a combination of

factors prevents the widespread adoption of better practices. In terms of location, land use, and neighborhood design, many developers face a lack of clear direction on the part of local and state governments as to where the “right” places to develop and the “right” design specifications are. In New Jersey, for instance, the recommendations of the environmental and smart growth communities often differ from the guidelines contained in local zoning codes, and even from those in the New Jersey State Plan, making it difficult for developers to create smart growth even when they have the best intentions. In terms of green building features such as energy and water efficiency, a lack of awareness about the benefits of superior buildings among building purchasers and tenants prevents most developers from charging a premium that would offset the higher first costs of some technologies and designs that create benefits for tenants rather than building owners.

In addition, many building and development professionals do not have sufficient expertise to create environmentally superior buildings and neighborhoods in the most cost-effective ways possible. An incentive program like the Smart Growth Tax Credit would provide guidance to developers and local land use officials as to what constitutes smart growth, and it would help development professionals permanently overcome market barriers and grow the capacity to create superior buildings and neighborhoods, fostering a new class of developments with exceptional performance that will help spur demand for these benefits among tenants and buyers.

Developing the Criteria and Program Mechanics

In creating the substantive criteria that a development would have to meet to qualify for the Smart Growth Tax Credit, NRDC consulted a broad group of interested parties, including developers and other building professionals, environmentalists, smart growth advocates, planners, architects, and engineers. NRDC strove to identify practices, design strategies, technologies, and products that constitute substantial improvements over the current industry status quo, but that are achievable in the marketplace without undue risk. NRDC also wanted to avoid providing incentives for practices that, while better than current regulatory requirements, have already become standard. Finally, NRDC endeavored to design a tax credit that developers will actually use, recognizing that the legislation would fail in its objective to transform the marketplace if it created a program that went unused because it was too cumbersome, risky, or included requirements that would not be salable in the marketplace. For example, many developers do not believe that there is a substantial market for higher density residential development, so the minimum average residential density requirement is set at the relatively moderate level of six dwelling units per residential acre. This level is considered to be sufficient to support a basic level of transit, but is less intimidating to suburban developers. However, to encourage further residential density, an incentive of between 0.2% and 2.4% above the base 4% tax credit is available to all applicants who achieve higher levels of residential density.

The proposed legislation delegates responsibility for developing some of the more detailed criteria to state agencies. Most parties involved in the drafting agreed that it was not appropriate to include detailed or product-specific requirements in the legislation. Instead, the legislation directs the New Jersey Department of Community Affairs (NJCA) and the New Jersey Department of Environmental Protection (NJDEP) to develop specific criteria regarding land use, streets and sidewalks, parking, energy efficiency, building materials, wood use, heat

island reduction, water efficiency, heating and cooling, durability, indoor air quality, construction waste, and stormwater management. This approach also allows the state to review and update the criteria as technologies and markets develop. However, in order to ensure that the state agencies do not adopt standards that are too easy to achieve or that are misinformed, the legislation specifies guidelines and minimum standards for each of these categories.

Developers would submit preliminary applications for proposed developments to NJDEP, which would then issue certificates of location eligibility for the property in question. This certificate would be available regardless of whether or not the applicant has purchased the property, if it meets the program's location criteria, thereby encouraging developers who are still at the site selection stage to purchase real estate in smart growth locations. Upon completion of the development, the applicant must obtain certification by a state-certified architect or engineer that the development meets all of the required criteria set forth in the legislation, and file it with the state when he or she claims the tax credit. In order to ensure that real estate investment trusts, non-profit organizations, municipalities, schools and governmental entities can participate in the program, tax credits would be freely transferable.

Finally, NRDC wanted to provide maximum flexibility in achieving the program's requirements and allow developers, architects, and engineers to customize their use of technologies and designs according to their own needs and to meet the program goals in the most cost-effective way. For example, rather than including a number of prescriptive parking design standards, additional credit is available for developments where parking structures cover less than 10% of the total lot. The applicant is thus encouraged to reduce the amount of land "spent" on parking, but is free to decide whether it makes more economic sense for a particular project's conditions to build underground or multilevel parking structures, or to reduce the overall number of parking spaces. Similarly, instead of specifying windows or lighting fixtures, the Smart Growth Tax Credit requires applicants to meet an overall energy efficiency standard of no more than 65% of the energy use permitted by the relevant New Jersey energy code. Applicants can meet this standard through any combination of window technologies, lighting design, and HVAC systems.

Current Status

The Smart Growth Tax Credit was originally introduced during the 2003 legislative session, but without enough lead time to build sufficient support for passage before the session ended and the election cycle began. The bill has been reintroduced in both the New Jersey House and Senate in the 2004 session, and there is increased interest in the legislature in smart growth.

The Smart Growth Tax Credit legislation developed for New Jersey can also serve as a model for municipalities and other states that are interested in promoting smart growth and green building. States will need to tailor some specific language, but can directly adopt almost all of the substantive provisions. States will need to individually determine the location criteria, and this will be more or less difficult depending on the state-level land use planning that has been done thus far. New Jersey already had created an official "State Plan" that designated every part of the state as a particular type of planning area (e.g., urban planning areas, suburban planning areas, rural planning areas, etc.). The location criteria for the New Jersey legislation utilize these categorizations. If similar work has been done in a state, it makes sense to incorporate it into the

location criteria. But even if no such work has been done, states can use existing sewered areas or corridors along existing transit lines as the starting point for establishing location criteria that would encourage development in smart growth areas where significant infrastructure already exists.

Establishing smart growth tax credits in other states would be especially valuable since many “smart growth” policies around the country center on *where* to develop, but not *how* to design new developments. It is not sufficient to encourage developers to build in and near existing urban areas rather than greenfields without also encouraging them to build pedestrian- and transit-oriented developments. Doing so can encourage companies to build the wrong kind of development in the right places, effectively using up precious developable land and other natural resources even faster, exacerbating housing shortages, and worsening traffic congestion by adding more car-dependent development to already stressed highway systems. Smart growth tax credits would guide developers across the nation in learning how to use this valuable land more efficiently, more sustainably, and in accordance with long-term land use and transportation goals. To this end, NRDC has developed a “state neutral” version of the legislation, with an accompanying set of guidelines as to how to adopt it to other states.

Fiscal Impacts

As in most states, the tight budget situation that New Jersey currently faces makes the creation of a new tax credit program a challenge. However, the potential fiscal impact of the Smart Growth Tax Credit would be much smaller than might be assumed at first glance, and is more than outweighed by the economic and environmental benefits it can deliver to a state.

The most important economic argument for smart growth tax credits is that they will save states money in the long run. Smart growth developments reduce the need for costly infrastructure investments that new sprawling residential developments and office parks require. Researchers at Rutgers University recently reported that if New Jersey did *not* build transportation and water infrastructure that the current trend of sprawl development demands, it could save of \$2.32 billion by 2020 (Burchell, Dolphin, & Galley 2000).

There is also the economic benefit of revitalization to consider. As incentives like the Smart Growth Tax Credit spur private sector investment in older urban and suburban areas, the wider effects of revitalization are likely to create new revenue for the state. Although the creation of a Smart Growth Tax Credit is unprecedented, a recent analysis of Maryland’s “Heritage Structure Rehabilitation Tax Credit” found that in 2000 and 2001, \$39 million in tax credits granted by the state spurred \$155 million in private investment in existing urban areas and resulted in \$20 million of *new* revenue for the state (Cronyn & Ford 2002).

Finally, the green building criteria of the Smart Growth Tax Credit will reduce energy costs for the occupants of qualifying developments by up to 30%, raising their taxable net income, increasing tax revenues for the state, and partially offsetting the impact of the tax credits.

Any revenue reduction that might occur would be delayed until after implementing regulations are adopted (at least a year after the passage of legislation), and credits would be collected by developers over a five-year period following the completion of eligible developments, spreading the fiscal impact to the state over the same period. All of this buys time for state economies and state budgets to recover. If a state’s economy does not recover, it is not

likely that a tremendous amount of building will take place, and few developers will apply for the credit. Furthermore, the total amount of funding available for tax credits is explicitly capped in the legislation so that the maximum possible impact to a state is limited and predictable.

Using Location Efficiency Research to Create Efficient Communities

John Holtzclaw, along with David Goldstein of NRDC and others, have produced a substantial body of work around the idea of location efficiency (Holtzclaw 1991; Holtzclaw 1994; Holtzclaw et al. 2002). Location efficiency describes the relationship between neighborhood design characteristics (such as density of housing, transit service levels, pedestrian-friendliness, and proximity to jobs, shopping and services), and levels of automobile ownership and usage, controlling for the characteristics of individual households like size and income. On an intuitive level, many urban planners and environmentalists, have known for years that “smart growth” development requires less driving while making jobs and services more accessible when compared to sprawling communities. The results of location efficiency research now constitute a solid analytical database that demonstrates and quantifies the validity of this intuition.

The most recent location efficiency research confirms the energy efficiency benefits of density and transit access over a variety of metropolitan regions. The study gathered data on 1,099 travel analysis zones (TAZs) in the metropolitan San Francisco Bay Area, 1,700 TAZs in the Los Angeles metro area, and about 316 in the Chicago metro area. In general, the variable with the highest degree of explanatory power was compactness of development, measured as housing units per residential acre. Three other variables with very high explanatory power included transit service density (measured as the number of buses or trains per hour within walking distance of the house), household income, and household size. Although the pedestrian and bicycle friendliness of a neighborhood is difficult to quantify objectively, an approximate measure was created, and showed this factor to be statistically significant as well, but less so. The statistical fit was exceptionally good; for all three metro regions, VMT per household roughly doubles as the calculation moves from densities typical of northeastern San Francisco to typical suburban densities, keeping constant family size, income, and even transit service. Going from essentially no public transportation to the levels of public transportation in northeast San Francisco reduced driving by about one-third, holding everything else constant. The overall conclusion of the study was that differences in density and transit access can explain over 3:1 variations in VMT generated per household (Holtzclaw et al. 2002).

Location efficiency research can be utilized in many ways. NRDC used it to help create the Location Efficient Mortgage[®] (LEM), which employs a recalculation of a homebuyer’s net income if he or she is buying a home in a walkable or transit-served neighborhood, taking into account the resulting lower transportation costs. John Holtzclaw has also used location efficiency research to develop a “smart growth calculator,” which estimates the reductions in land consumption, water pollution, air pollution, and greenhouse gases, as well as household transportation costs, that result from more compact neighborhoods with better transit service. Below in Table 1 is an excerpt of the results of this calculator (Holtzclaw 2002).

Table 1. Excerpt from the “Smart Growth Calculator”

Density	Transit Service	Vehicles	Annual Mileage	Annual Fuel Use	Global Warming
Hh/Res Acre	Veh/hr - 1/4 mi	Avg Veh/Hh	Avg VMT/Hh	Gals Gasoline	tons CO2/1000 Hh
1	0	2.4	32237	1612	22.6
3	0	2.0	22844	1142	16.0
10	19	1.6	15662	783	11.0
100	261	0.7	7609	380	5.3

Location efficiency research informed the criteria for the Smart Growth Tax Credit in two ways. First, NRDC used it to help establish the transit criteria and the extra credit amounts given for locating near additional transit. Location efficiency studies have confirmed previous research that showed that people are generally willing to walk ½ mile in order to get to rail transit, but they are less likely to walk more than ¼ mile for bus transit (Holtzclaw 1994). The Smart Growth Tax Credit legislation requires that, in order to qualify, developments must be served either by adequate bus, rail, or ferry transit service. “Adequate bus service” is then defined as at least one bus stop within a ¼-mile radius of the geographic center of the development, “with service of no less than one bus either (1) every 60 minutes, 18 hours per day, seven days per week or (2) 30 times per weekday and 15 times per weekend day, provided that there are no physical impediments that prevent pedestrians from walking from the development to the transit stop.” Adequate rail and ferry service are similarly defined, but the radius is expanded to a ½ mile, and the minimum frequency was defined slightly differently, as “service of no less than five trains [or ferries] during weekday peak periods” (NJ S2502 2003).

The legislation also allows developments with levels of transit service that are even higher than that required by the 4% base credit criteria to receive “extra credit.” In terms of energy savings, the 4% base tax credit is derived from an estimated annual savings of 40 MBtu per year if *all* of the required criteria are met. The amounts of additional tax credit given for increased transit density are based primarily on calculations, informed by location efficiency research, of what the proportional energy savings resulting from the corresponding increase in transit availability would be, with some consideration also given to New Jersey’s traditional transit use patterns. The criteria provide up to an additional 1.4% of allowable costs for developments with higher than required transit service, depending on the total cumulative transit rides available per weekday,² as set forth in Table 2.

² “Total cumulative rides available” is defined in the legislation as “the sum of (1) the number of rides available by bus within a one-half mile radius of the geographic center of the development; (2) the number of rides available by rail or light rail within a one-half mile radius of the geographic center of the development, multiplied by the average number of cars on each train; and (3) the number of rides available by ferry within a one-half mile radius of the geographic center of the development, multiplied by three.” The number of trains or ferries available is multiplied by the specified factor in order to account for differences in each transit mode’s capacity (NJ S2502 2003).

Table 2. Additional Credit Levels Available for Additional Transit Density

Total cumulative rides available	Multiplier value	Additional Credit, as percentage of Allowable Costs
60-124	0.05	0.2%
125-249	0.10	0.4%
250-499	0.15	0.6%
500-999	0.20	0.8%
1000 or more	0.35	1.4%

The transit criteria became the backbone of the Smart Growth Tax Credit particularly because of the difficulty in developing the location criteria, which involved determining the right “smart growth areas” that would be eligible for the tax credit. Even within NRDC, debate arose over the proper balance between an interest in protecting land, most of which can be categorized as environmentally sensitive in some way, and the recognition that significant acreage needs to be eligible to make the Smart Growth Tax Credit a useful tool. While water and land experts agreed that a fair amount of development is bound to take place in New Jersey and that it would be better for the environment overall if that development was influenced by the Smart Growth Tax Credit, it was difficult to decide how to prioritize, for example, floodplains relative to steep slopes. Everyone was able to reach consensus, however, that the vast majority of land which is already well served by transit would be appropriate to develop, even if it falls into some categories of environmentally sensitive land types. Subsequently, when controversy arose in New Jersey regarding the designation of “smart growth areas” by the state agencies, NRDC was equipped to defend the areas designated as eligible in the Smart Growth Tax Credit as appropriate for development to environmentalists, developers, and legislators.

Location efficiency research was similarly helpful in setting the proper “extra credit” amounts available for development densities that were higher than the minimum required for the Smart Growth Tax Credit. While the initial average residential density requirement of six or more dwelling units per residential acre was calibrated to the land use planning convention regarding the density necessary to support a minimum amount of transit, the additional tax credits for increased density are based primarily on the proportional estimated energy savings resulting from increased density. Depending on the density level as set forth in Table 3, developers can earn extra credit of up to 2.4% of allowable costs.

Table 3. Additional Credit Levels Available for Additional Residential Density

Dwelling Units per Residential Acre	Multiplier value	Additional Credit, as percentage of Allowable Costs
7-10	0.05	0.2%
11-17	0.10	0.4%
18-29	0.30	1.2%
30-39	0.50	2.0%
40 or higher	0.60	2.4%

Finally, it should be noted that location efficiency research will also soon be used to inform the development of yet another new policy tool to affect neighborhood design: LEED®

for Neighborhood Developments (LEED-ND).³ LEED-ND will use the existing LEED® Green Building Rating System framework to create a new rating system that takes into account location, density, and proximity to transit, as well as green building practices—building on the work that was done to develop criteria for the Smart Growth Tax Credit.

Conclusion: Building Smart *and* Green

The primary goal of both green building and smart growth is to reduce the negative impacts of the built environment on the natural environment. A sort of competition can arise, however, when there is a real or perceived need to prioritize one over the other. One advocacy organization in New Jersey decided not to endorse the Smart Growth Tax Credit because it was “too green building heavy,” explaining that they felt that it was not entirely in line with their priorities even though the land use and smart growth aspects of the legislation fit with their goals. In contrast, some green building enthusiasts clearly would have preferred that NRDC spend its energy in New Jersey pushing a green building tax credit like the one adopted in New York, if for no other reason than to prevent it from being bogged down in the state’s sprawl politics. A number of stakeholders expressed general concerns that the Smart Growth Tax Credit was too complex, and that it asked too much of developers to focus on both smart growth and green building simultaneously.

Whether one prioritizes green building or smart growth objectives depends in part on whether one is focused on the environmental impacts of sprawl—habitat fragmentation, loss of farmland and other greenspace, stormwater runoff pollution, and increased vehicle emissions; or the environmental impacts of buildings—indoor air pollution from interior materials, resource extraction and depletion for building materials and fuels, and power plant emissions associated with building energy consumption. But determining the precise impact of each of these aspects of development is impossible. It would entail a full life-cycle analysis of all building materials, their associated transport impacts, and the energy required for both operations and transportation associated with occupancy of the development. Location efficiency research provides one of the only bases for predicting energy savings from smart growth, enabling a rough “apples to apples” comparison of the respective energy savings that result from various green building and smart growth practices. But ultimately, modeling where people are likely to work or send their children to school is much more difficult than modeling the energy savings from improved lighting or HVAC technologies.

Another factor is the relative maturity of policies designed to drive investment in green building policies compared to those designed to drive smart growth. States and localities have implemented market transformation and other incentive programs to promote green buildings for many years, but advocates are still designing the first generation of smart growth policies. Policymakers and advocates are anxious to get new smart growth policies into the field, and we do not have a lot of experience integrating green building and smart growth objectives, even though we believe they should and can be consistent. Consequently, there is potential for conflict. A case in point occurred in New Jersey recently when the largest residential developers in the state agreed to build all new homes to Energy Star® standards as part of the state’s energy

³ “LEED” stands for Leadership in Energy and Environmental Design. It is a registered trademark of the U.S. Green Building Council, and the LEED® Green Building Rating System is a nationally recognized system for certifying certain types of green buildings.

efficiency programs, which provide financial incentives. Later, state regulators decided they did not want to use public funds to support any kind of development, no matter how energy efficient the buildings themselves might be, in areas not designated by the state for smart growth. Controversy ensued when the state proposed to provide incentives only for the new homes located in designated smart growth areas, contrary to a prior agreement negotiated between the developers and the program administrators. This decision alienated the developers, making them less amenable to new ideas for incentive programs for both green building and smart growth, and threatened the building-based energy savings that were “in the bag” through the agreement to build Energy Star[®] homes statewide. While smart growth can bring tremendous energy and environmental benefits and should therefore be a high priority for any administration, it may not be good public policy to abandon efforts to prevent the construction of energy guzzling homes just because they lie in greenfield locations, if it is not politically feasible to prohibit development of those locations. Similarly, it may not be good public policy to indirectly discourage redevelopment or rehabilitation of buildings in urban infill areas by mandating the highest threshold of building energy codes in all types of development, irrespective of age and circumstance.⁴

Policymakers and advocates for energy efficiency and the environment face a difficult task. They must strive to continue to promote both green building and smart growth whenever possible, and to avoid handicapping one for the sake of the other. Although policymakers sometimes must prioritize due to budget or political constraints, it is possible to achieve multiple goals simultaneously, and tools such as the Smart Growth Tax Credit and LEED[®] for Neighborhood Developments can help implement smart growth and green building practices simultaneously, transforming two markets instead of tackling them one at a time.

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⁴ New Jersey provides an example of good public policymaking along these lines, having pioneered the development of the Rehabilitation Subcode, which differentiates between new and existing buildings, making it easier to restore and reuse older buildings. Created by NJDCA, the “rehab code” won the national Innovations in American Government Awards in 1999, and rehabilitation work in New Jersey's five largest cities increased by 60% in 1998, the first year the code was in effect, compared to an increase of a mere 1.6% the year before (NJDCA DCS 1999).

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