

The Charlotte-Mecklenburg Region & New Urban Development

City of Charlotte, North Carolina



PRESENTED BY

Citistates Group



Gateway
Planning Group

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Re: *The Charlotte-Mecklenburg Region and New Urban Development*
Attached analysis of recent and pending policy decisions

WHILE ATLANTA debates whether to add as many as eight lanes to I-75, making it as wide as a football field, the Charlotte region is busy making itself a distinct, more livable and prosperous urban place. Charlotte wants to stay authentic.

To be fair, Atlanta shows signs of waking up. But Charlotte is already making big strides toward making a good place to live even better. Home to the bank with the largest capitalization in America, Charlotte-Mecklenburg is actively implementing, through a series of pioneering ordinances, a major increase in *social* capital as well. It is raising the bar on good living. When the city passed a set of General Development Policies, it put the region on the road to handling its population and employment growth through a design that seems destined to eventually become mainstream for the 21st century. Charlotte is ahead of the game, seeing the future, and embracing policies to welcome it.

These policies capitalize on the historic pattern of centers and corridors in the region. By investing in transit, being smart about which roadways to fund and changing zoning to welcome a mix of residential, retail, entertainment, and employment in compact areas in its town centers and along the broad shoulders of its major transportation corridors, the region is positioning itself to accommodate a significant share of its employment and population growth in these cosmopolitan urban zones. Because daily destinations will be closer together (as they are in Uptown today), people will have more choices in how they go from place to place. Experience elsewhere shows people will walk – and enjoy it. This new urban pattern also consistently converts auto drivers into transit riders – benefiting economic productivity while slowing down growth in congestion rates.

With the backdrop of the Institute of Transportation Engineers – the group that truly understands road-building – now for the first time publicly acknowledging that what is *on* the streets matters as much as the capacity to move vehicles, Charlotte-Mecklenburg will forge a higher-quality future with its Urban Streets Design Guidelines. Those guidelines are the crucial “DNA” of neighborhood building because of the vital connection of land use and transportation that public officials in many other regions still do not grasp. Charlotte gets it.

Just as important, new policies will add open space protection and review development decisions to minimize damage to air and storm water impacts, thus preserving the environmental advantages the region already has. In less sophisticated places, policymakers often see preserving public open spaces as an expensive trade-off, believing everyone would do better if all land were open to development. That is simply not true. Whether it is a large area such as New York City's Central Park, or a constellation of small, rather ordinary neighborhood parks in Dallas-Fort Worth, economic studies consistently show that the property values in proximity to parks carry a premium that more than offsets foregone development. There are similar findings for the effects of the kinds of environmental protection envisioned by the proposed Post-Construction Controls Ordinance.

Of course shifting from a 20th century model that emphasized low-density, spread-out, auto-dependent development does have costs. Quality always does. But those costs are really investments when Charlotte's future is viewed in terms of preserving quality of life and real bottom-line value. In particular, adopted and proposed ordinances for the implementation of Charlotte's vision should be measured in terms of their outcomes. There is no real option because within a few years, the payoff for making these changes will be substantial and sustainable.

And that is the critical question: do the benefits flowing from these new policies outweigh the costs? Or, put another way, is better planning also good business for the region? This study – using the rigorous methodologies of economic analysis along with the evidence of experience from multiple case studies – shows that not only will the Charlotte region be more attractive as a result, but more economically prosperous.

- Experience in other regions indicates that property values in areas rezoned for mixed use, with streets designed for people as well as cars, and access to good, reliable transit, will show significantly higher values; commercial properties will have lower vacancy rates; employment growth will be higher than the region's average.
- Residential property values in neighborhoods where people have transportation choices and a mix of destinations will also show double-digit premiums in value, which along with commercial properties, has obvious implications for public revenues.
- Permanent transit investment sends a market signal for development. (Near the 14 stations of Denver's latest light rail line, \$725 million of new development was built or started before the line opened and another \$1.6 billion of development is moving through the approval stages).
- Accommodating more growth within the centers and along corridors means public costs go down; studies show reductions such as 11 percent

less on road costs, 6 percent for water and sewer provision and 3 percent on service delivery.

These are measurable gains for developers, buyers of commercial property, homeowners, and the entire community. The gains do outweigh the front-end costs. And those gains are sustainable.

But the real bottom line is the advantage to the region in wealth generated and talent attracted. There are now national data enabling a economic comparison of regions by land use and transportation characteristics. The analysis in this report concludes that if the new policies now in place and contemplated had been adopted ten years ago, aggregate personal income in the Charlotte region would have been more than a billion dollars higher than it is today. And tax revenues to the city would be at least \$7 million more annually. If bonded, that number could generate 10 times that amount in new capital available for neighborhood redevelopment. So while some people see the front-end costs of changing policies, the real story is the big dividend from the investment in better policy.

And an even more consequential impact of these landmark policy commitments might well be the effect on attracting and holding talented young professionals. The hard work force reality for cities is that another boomer turns 60 every eight seconds. Many of them are already retired and most are thinking about it. The number of young adults is declining, with the result that by 2012 the work force will lose two workers for every one it gains. Those younger adults who have a college education are increasingly choosing *where they want to live* and then finding a job. Cities and regions are in a high-stakes race to get them and keep them. Charlotte has taken steps to get them, now it is time to take action to keep them.

The good news for the Charlotte region: in a recent Brookings study, only Las Vegas showed a higher increase than Charlotte in capturing the 25-34 year old youth talent. Brookings said they came to join other young professionals in a dynamic financial services industry and that newly redeveloped urban spaces and new recreational opportunities were a significant draw. Every study shows these young people want vibrant, active urban places to live and work in. That is exactly what Charlotte is poised to produce.

Respectfully submitted,

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Overview

The Citistates Group is charged with assisting staff in assessing how the proposed General Development Policies, the Urban Street Design Guidelines and the Post-Construction Controls Ordinance impact Charlotte's overall economic development future. Additionally, the Citistates Group is tasked with researching and responding to the following questions:

1. Have similar policies and regulations in other communities facilitated an overall increase in the quality of development and tax base even if certain elements of the development process have seen some increase in costs associated with them?
2. Can the proposed policies and regulations be viewed as a necessary and critical investment in Charlotte's future?
3. What happens if Charlotte does not implement such standards and ordinances?

SCOPE OF SERVICES

Task 1

Analyze and document the benefits from a planning perspective of the Centers, Corridors, and Wedges strategy, using available best practices information on design and environmental standards; offer feedback to staff assessment on anticipated conflicts between and among the GDP-E, USDG, PCCO and Centers and Corridors with suggestions for mitigating the conflicts arising from the these initiatives.

Deliverable: *Memorandum documenting the above (i.e., benefits of the GDP-E, USDG, PCCO; comments on staff assessment of potential conflicts and suggestions for addressing such conflicts).*

Task 2

Using available academic and field studies, attempt to measure the net incremental benefits of these policies, including net positive effects on value of tax base and potential net savings in public costs.

Deliverable: *Memorandum documenting methodology, information sources and findings of above specified analysis.*

Task 3

Research available case study information for examples relevant to Charlotte's strategy and prospective policies and offer analytical comparisons that may be useful in explaining documentable benefits of these policies.

Deliverable: *Memorandum documenting methodology, information sources and findings of above specified analysis.*

Task 4

Prepare a written report by date specified in “Schedule” section of this contract that merges and summarizes the information provided in the foregoing tasks and responds to staff comments on memorandums provided as documentation in each of the previous tasks. The report will focus on identifying implications – positive or negative – for future economic development of the region. This report will address the specific questions outlined in the proposal and provide to staff all available guidance toward shaping these policies for measurable net benefit.

Deliverable: *Draft and final report as specified above. Citistates will provide five bound copies of the final report and an electronic version on CD in a format usable by the Charlotte-Mecklenburg Planning Commission.*

Task 5

Work on-site with staff, using the foregoing analysis as context, in shaping policy adoption and a communication approach to facilitate a positive public response. Up to two trips for on-site consultation, at project intervals agreed to by staff. Interdepartmental staff team will be responsible for identifying appropriate staff to participate in work session(s) with consultant team. Staff will also be responsible for securing a work site, scheduling sessions and inviting the appropriate staff.

Deliverable: *Two 1.5 day sessions with staff identified by interdepartmental team.*

Task One

Making the Centers and Corridors Vision a Reality

In their landmark work, *Suburban Nation*, Andres Duany, Elizabeth Plater-Zyberk, and Jeff Speck, underscore that the “devil is in the details” in terms of shaping patterns of growth into sustainable, livable neighborhoods. To reinforce the point, they quote Zev Cohen who said in a 1995 lecture that “people say they do not want to live near where they work, but that they would like to work near where they live.” Mr. Cohen’s simple underscoring of the complex paradox of growth planning sets a realistic context for the opportunity facing the Charlotte-Mecklenburg Region. In today’s modern development context, the ability to facilitate authentic living requires a true partnership of the public and private. The promise of sustainable growth (defined in the broadest sense) facilitated by the Charlotte-Mecklenburg Initiative provides the strategy and implementation framework to deliver on its promise.

Providing a comprehensive strategy in the face of a myriad of complexities that accompany growth, the General Development Policies (GDP) establish the growth framework for development and redevelopment for the Charlotte-

Mecklenburg Region. The GDP is used for developing future land use plans and in making rezoning decisions, as well as reforming zoning and subdivision standards. Most significantly, the GDP provides integration for land use and transportation planning.

The proposed GDP Phase II Guiding Principles for Air, Land and Water as well as the Post Construction Controls Ordinance provide a means to minimize negative environmental impacts of that framework. The complementary Transportation Action Plan and its core implementing mechanism, the proposed Urban Street Design Guidelines (USDGs) create the organic skeleton for the Centers and Corridors Vision. Collectively, this set of policies, standards and guidelines (the “Centers and Corridors Initiative”) will implement the adopted transportation and future land use vision for the region.

The GDP establishes that the “Centers and Corridors Structure...offers tremendous potential for directing future development.” The GDP further directs that “[i]t also provides an ideal framework for the area’s economic development.” This critical goal builds on the well accepted community development notion that sustainability is not just social and environmental, but grounded in the economics of place. In this regard, the GDP Structure assumes efficiencies by encouraging future development and effective redevelopment within the Centers and Corridors established for the Charlotte-Mecklenburg Region. Why? The Centers and Corridors provide a community fabric that is already extensively improved in terms of transportation and other infrastructure, with the promise of rail transit leveraging that infrastructure, both in terms of mobility and place-making.

The land use and quality growth policies of the GDP will “enable appropriate, quality development” in the rapid transit corridors and hubs, with “appropriate, well designed” development outside the corridors (a.k.a. the “wedges”). These policies seek to advance seven core goals:

- Providing a broad range of housing and living opportunities;
- Fostering neighborhood and economic viability;
- Protecting the natural environment;
- Creating well designed, interconnected communities;
- Integrating land use and transportation;
- Supporting the Centers and Corridors Land Use Vision via transit linking key activity centers; and
- Encouraging more compact, mixed-use development.

Phase II of the GDP seeks to “minimize negative environmental impacts of land use and development decisions. Developed through an extensive stakeholder process, the proposed “Environmental GDP” establishes four key principles:

- Make the protection of the natural environment a priority in land use and development decisions;
- Facilitate a land use pattern that accommodates growth while respecting the natural environment;
- Promote and enable environmentally sensitive site designs; and
- Consider the environmental impacts of land use and development comprehensively and strive to reconcile the various environmental concerns with each other and balance them with other land development considerations.

Several objectives flow from these goals and principles, as identified in the Centers and Corridors Vision reflected in the 2015 and 2025 Vision Plans. These objectives seek the realization of new vital and sustainable mixed-use neighborhoods; stimulated growth in key areas such as the Center City, as well as the northwest and west sides; environmental sustainability; and streets designed for both cars and people. Unlike the initial growth policies characterized as “Smartgrowth,” these objectives underscore that the GDP Tools embrace the quality of the growth, both in terms of environmental preservation and place making..

The Citistates team concludes that the Centers and Corridors Initiative will be effective in terms of sustainable place making

The Citistates team has reviewed the Centers and Corridors Initiative, focusing generally on (i) the likelihood it will be implemented in the marketplace; (ii) whether implementation will achieve the initiative’s place-making goals; and (iii) its capacity to deliver on the promise of transportation choice. In this regard, we conclude that the Centers and Corridors Initiative will implement effectively a growth strategy, which can be characterized as both comprehensive and cutting-edge.

Its comprehensiveness is unparalleled in terms of the marriage of regional planning and livable community design, both in transit villages and in the broader neighborhood context.. This benchmark is achieved through the unique meshing of the GDP’s Residential Location and Design Assessment Matrix (Assessment Matrix) with the Urban Street Design Guidelines. The calibration of street attributes facilitated through the USDGs provides a template for the true realization of mode choice for walking, driving and cycling, within any given neighborhood, whether urban or suburban. This sophisticated, yet workable

calibration will in turn enable the Assessment Matrix to accommodate higher quality place-making and, thus, higher densities in appropriate locations.

Our conclusions are based on our experience nationally and ongoing review of best practices. The realization of the Centers and Corridors Vision should be viewed in a performance-based context. The Citistates Team believes that implementation of the CATS 2025 Transit Corridor Plan will provide a critical spine to the goals of the GDP. But also, the Citistates Team recognizes the importance of implementing the full panoply of Centers and Corridors implementation tools for the entire region, including areas characterized as “wedges.” Those areas between the corridors will remain an important part of the quality of life equation for the region.

Notwithstanding the overall geographic reach of the Centers and Corridors Initiative, success of the initiative in part will require realizing the potential of transit-oriented development (TOD) within the centers. In this regard, the realization of TOD should be measured through the achievement of the following attributes:¹

- Location efficiency—the relative location of homes to transit
- Rich mix of choices—housing, shopping, transportation, etc.
- Value Capture—increased tax base; reduced household expenditures
- Place Making—creating attractive, pedestrian-friendly places
- Resolution of the tension between node and place—balancing stop and neighborhood

Facilitating Value Capture through the Marriage of Connectivity and Mixed Use

Regional growth initiatives, code reform efforts and transit investments are being implemented across the nation. At the regional level, such notable efforts as Envision Utah have generated great promise; while the question of implementation at the local level—literally city block by city block—remains the challenge. We are not aware of a land development reform effort as comprehensive at the regional level or focused at the neighborhood level as that of Charlotte-Mecklenburg’s. Accordingly, the team has focused in on the specific categorical combination of attributes of the GDP initiative.

Early focus on implementation was guided by two seminal constructs: Peter Calthorpe’s TOD Design Guidelines and Duany Plater-Zyberk’s *Lexicon of the New Urbanism*. (Calthorpe’s work has evolved into his Urban Network Concept, and DPZ’s core tool has been transformed into the Transect-based SmartCode.) Inspired by these tools of regional urbanism, early city-wide efforts of growth

management reform through corridor and site connectivity and complementary mix use neighborhoods were undertaken most effectively in Fort Collins, Colorado. (See the Task 3 case studies for further information).

The Virtue of Integration

As compared to these other communities, the combined land use planning and development authority of Charlotte-Mecklenburg offers an intrinsic advantage of implementation. By seeing land use and transportation together, Charlotte can achieve continuity in design and consistency in fiscal effects. Too many places define success as achieving land uses that leverage transit investments in just one zone, or one zone at a time. The Centers and Corridors policy initiative opens the door to have region-wide impact, leading to the ability for the entire region to capture a meaningful share of growth within a system of interconnected transit corridors.² This policy can exploit the meshing of connectivity and mixed use centers so that transit results in real value capture.

Value capture in the TOD context recognizes that with each transportation investment some marginal improvement or marginal decline occurs in the value of the surrounding land. This value might be measured in two ways. First, to what degree is the actual value of a parcel due to a change in access, noise, aesthetics, safety, reliability, other transportation impacts, or related mixed use zoning reforms? Second, what is the impact of the derived land uses on the transportation system? For example, a rail station's first effect might be an increase in land values due to great access, reliability and safety when the private sector reacts with an investment in a TOD. This land development investment increases the location efficiency of the transit investment.

The second effect is the reduced relative demand for transportation services from the people living, working, shopping or otherwise enjoying the TOD. This type of land use redirects person-trips to transit, walking or shorter driving trips. Without the TOD, these person-trips would have caused more congestion, increased travel times and greater wear and tear on the transportation system. A value capture program simply aims to (i) make transportation investments, including necessary infrastructure for walkable and accessible neighborhoods, which have these positive impacts and (ii) leverage this value to build more transportation facilities through a positive return on tax base.

By not only evaluating, but actually promoting growth through density bonuses, the Centers and Corridors Initiative—in tandem with the implementation of light rail and other transportation improvements—provides a credible likelihood that it will attract a substantial amount of its growth within the Centers and Corridors as planned. But the growth must be livable. The attributes of neighborhood-based place making and a rich choice of mixes enables the essential conduit for development that ranks high on livability. Providing the essential tools, the

Centers and Corridors policy will attract that segment of the development industry that holds this livability standard as a primary goal.

Although the GDP is essentially based on a guideline principle (not mandatory), the encouragement of (i) development within a transit station area, or in the alternative, (ii) the integration and promotion of utility capacity, accessibility, connectivity, effective road network design and good site design to support greater residential densities, provides not only the essential formula for sustaining the aggregation of growth into the Centers and Corridors, but it also provides an opportunity for value capture through Project Development Financing (Tax Increment Financing) or other public-private mechanisms.

The aggregate value capture opportunities from the Centers and Corridors Initiative could be utilized to close the funding gap identified in the Transportation Action Plan. In addition to the utilization of Tax Increment Financing providing some assistance for the funding of necessary transportation infrastructure, the value capture dynamic of the TOD growth in the Centers and additional quality growth in the corridors could also provide an efficiency of investment of federal transportation funds invested by MUMPO through the Long Range Transportation Plan. In particular, consistent with Policy 2.1.7 of the Transportation Action Plan, Charlotte-Mecklenburg should consider working with MUMPO to create a competitive mechanism for the award of federal transportation funding to those transportation investments associated with the best projects proposed for development and redevelopment within the Centers and Corridors.. Excellent examples of such program have been implemented by the Atlanta Regional Commission and the Regional Transportation Commission in the D/FW Metroplex, the metropolitan planning organizations of those respective regions.

A Best Practice: The Utilization of Connectivity and Urban Design

Value capture from quality growth is driven by not only the essential street network and character of the resulting neighborhood structure, but also by the fine-grained impacts at the site level of the street cross-section itself. Notably, the engineering community seems now to accept this notion in its newly promulgated ITE (Institute of Transportation Engineers) Recommended Practice for Context Sensitive Solutions.

In Charlotte, the Urban Street Design Guidelines set forth a thoughtful process with pertinent standards for combining the mobility goals of a given street and street networks with the community's and the developer's specific desires for place making goals along those streets.³ The Citistates Team underscores that this construct provided by the Urban Street Design Guidelines applies to street types and their placement throughout the entire region, whether in Centers, Corridors or Wedges.

The ITE standards represent the first comprehensive recommended practice guidelines aimed at effective place making in the transportation context. The new ITE Recommended Practice supports the approach taken in the Design Guidelines in three respects: process, connectivity analysis and urban design context for a given street. The support of the ITE Recommended Practice for the approach taken by the Urban Street Design Guidelines for the implementation of the Centers and Corridors Initiative is critical as specific networks and streets are implemented in the face of growing congestion and the inevitable engineering questions about the utility and safety of those streets.

First, the ITE Practice calls for a definition of needs including analysis of the long range transportation objectives that respects the community vision. The Urban Street Design Guidelines implement these initial steps by analyzing the land use and transportation in the context of stakeholder input. Next, the ITE Practice calls for analysis of context zones, which is paralleled by the Urban Street Design Guidelines analysis of deficiencies and development of future objectives. Finally, the ITE process calls for initial design and testing, which gives rise to the detailed thoroughfare design. In this regard, the Urban Street Design Guidelines complete the process by defining the street type and, ultimately, selecting a street cross-section only after final analysis of the tradeoffs.

Second, the ITE Practice lines up with the GDP on connectivity analysis. The GDP utilizes a connectivity analysis based on street segments, which ultimately form intersections. This measure of the degree of connectivity is supported by the ITE. The Urban Street Design Guidelines take the connectivity measure to the next level by incorporating transit accessibility, sidewalk availability and bicycle facilitation within the calculation of the level of connectivity.

A high level of connectivity is critical to the ability of the transportation system to “support the desired development pattern.” The specific functional need is to expand the typical definition of “collectors” to recognize and institutionalize the ability to distribute better local origins and destinations and to accommodate transit riders, pedestrians and cyclists. Supported by the ITE Recommended Practice, the Urban Street Design Guidelines embrace this expanded definition of “collector” by marrying up improved connectivity with a design context for each street type, not measured from curb to curb, but from building to building.

The ITE sets forth a design context for streets based on Context Character Zones. The character zones are based on the Planning Transect, which is an idealized slice of physical form from the most rural condition to the most urban. The ITE Practice transitions the analysis of the appropriate cross-section from the functional classification embraced by AASHTO (American Association of State Highway and Transportation Officials) into a thoroughfare type

categorization including main streets, avenues and boulevards. This categorization of thoroughfare type, rather than delineation by functional classification, enables the ITE Recommended Practice to provide analysis of each type in terms of parking, transit, cycling and pedestrian capacity. Similarly, the Urban Street Design Guidelines sets forth a framework to enable streets for multiple users.

We have reviewed the various street types in the Urban Street Design Guidelines and have concluded that their design attributes are supported generally by the ITE Recommended Practice for boulevards, avenues and streets. Although some design criteria vary only slightly from the ITE Recommended Practice in terms of development, pedestrian, green, parking and vehicle zones (e.g., by slightly more width of the travel lanes for the Design Guidelines), the Urban Street Design Guidelines integrate and track well with the ITE Standards the various elements of each thoroughfare type such that they should support the intended place making environment for a given corridor and neighborhood.

The Urban Street Design Guidelines take the cross-sectional and intersection standards one step further by providing for a Multi-Modal Level-of-Service analysis for intersection design. The Multi-Modal Level-of-Service analysis objectively considers the movements of cyclists and pedestrians, along with vehicles. This approach will provide a credible means to balance the ability for pedestrian and bicycle movements to be measured within the required traffic impact analysis (TIA) that will be needed to determine the efficacy of a given street design.

TIA's are typically undertaken before a municipality will allow for a particular street design to be constructed. Conventional TIA's only measure the level-of-service of the movement of cars through intersections. The inclusion of pedestrian and bicycle movements in the level-of-service analysis will ensure that the place making function of the Urban Street Design Guidelines is realized literally on the ground, and not just on paper. Because transit's success is dependent on the convenience of walking and the ease of access to mixed use neighborhoods, the expanded level-of-service analysis will also enable better the transit goals of the Centers and Corridors Policy and its implementing GDP and Transportation Action Plan.

At the bottom line, the ITE Recommended Practice for intersection design seeks to accommodate all modes of travel with appropriate levels of service for pedestrians, cyclists, transit riders and drivers. The ITE approach supports foursquare the philosophy undergirding the Urban Street Design Guidelines as the core implementing tool of the Centers and Corridors Policy and the GDP.

The Open Space Goals of the Mixed Use Centers Design Guidelines Provide an Additional Opportunity for Value Capture

There is a popular misconception that, for any given parcel of undeveloped land, a community has to trade economic potential for the preservation of open space. The leading expert on the Proximate Principle of the economic benefits of open space, Professor John Crompton (2004) notes the argument sometimes advanced by developers or elected officials that the development of parks and other open space lands is not the "highest and best use" of vacant land.

According to Rogers (1999):

Too many community leaders feel they must choose between economic growth and open space protection. But no such choice is necessary. Open space protection is good for a community's health, stability, beauty, and quality of life. It is also good for the bottom line.

That of course is merely an assertion. So it is relevant to check, for example, the study of economic impacts of neighborhood green space undertaken by Andrew Miller in the Dallas/Fort Worth Metroplex. This study seems to relate directly to the questions for the Charlotte-Mecklenburg Region. The author examined the impact of 14 neighborhood parks on suburban areas based on 3,200 residential sales transactions recorded over a 2-1/2 year period. Parks were selected "because of their ordinariness rather than their excellence" (Crompton, 2004, p. 80) and certain ones were excluded if they were too close to arterial or collector streets, or shopping or commercial centers to clarify the effect of the park.⁴

The analysis showed that homes adjacent to parks received an approximate price premium of 22% relative to homes located a 1/2 mile away from the parks. Approximately 75% of the value occurred within 600 feet of a park, and 85% within 800 feet, representing an approximate two to three minute walk. The effect was virtually insignificant at 1,300 feet from the park, which represents a five minute walk. In addition, Crompton reported that:

The study also reinforced the value of the edge factor.... It found that while large parks add more value to residents' property than small parks, the premium is small relative to that of proximity. All else equal then, more value will be created by a series of small parks, which permit proximity by more total houses, than by a single large park of equivalent area.

The application of the Proximate Principle to the stream buffers requirement of Section 3 and the open space requirements of Section 5 of the Post-Construction Controls Ordinance provides an opportunity to leverage environmental protection into an additional factor for value creation from the perspective of project cost. This will require a careful partnership between the

City and the Applicant to realize the best design possible of the environmental and open space assets and to get maximum leverage from the Proximate Principle.

In other words, the open space requirements of the mixed use centers design guidelines and the stream buffers requirements of the Post-Construction Controls Ordinance provide not only an opportunity for aesthetic and intrinsic environmental protection; but also even greater tax base growth within both the transit villages and the new neighborhoods within the Wedge Areas. A critical need of course remains to develop and implement design review so that the place-making effects of the buffers and open-space elements do in fact leverage proximity and accomplish value capture.

The Environmental Policies Balance the Goals of the Centers and Corridors Initiative, Especially in terms of Open Space and Water Resources

This principle of value capture through proximity to open space also provides an opportunity to ensure the most efficient application of Section 5 (Open Space) of the proposed Post-Construction Controls Ordinance. On the broader question of the impacts of the Post-Construction Controls Ordinance, the Citistates Team is not qualified to evaluate the efficacy of the specific environmental controls within the ordinance. However, the Citistates Team clearly agrees that there are opportunities for utilizing the open space requirements, and the more comprehensive Guiding Principles of the Environmental GDP, to achieve both the goals of protecting the land, air and water, as well as facilitating the sustainable growth of urban centers.

In particular, the Environmental GDP provides for the consideration of opportunities and constraints including watersheds (Policy 1.c); facilitation of the incremental development of well-designed and well-connected mixed-use development in appropriate locations (Policy 2.b); utilization of existing infrastructure (Policy 2.c); improvement of water quality and water use efficiency (Policy 3.a); and minimization of overall environmental impacts resulting from accommodation of growth (Policy 4.b). These policies are interrelated in several respects. First, these policies essentially delineate the factors necessary to sustain growth, whether at the site, neighborhood or regional level. In other words, they constitute a comprehensive framework for good planning.

In this regard, density and water quality/land preservation often are perceived to be in conflict. In the proper planning and regional context, they are not. To more fully understand this issue, the U.S. Environmental Protection Agency (EPA)

modeled three scenarios of different densities at three scales—one-acre level, lot level, and watershed level, and at three different time series for build out examples to examine the premise that lower density is always better.⁵ Assuming that the Post-Construction Controls Ordinance can facilitate the levels of density and corresponding environmental protection called for in the overall Centers and Corridors Vision, the results of the EPA are instructive.

In its 2006 report, *Protecting Water Resources with Higher-Density Development*, the analysis resulted in three conclusions:

- The higher-density scenarios generate less stormwater runoff per house at all scales—one-acre, lot and watershed—and time series build out examples;
- for the same amount of development, higher-density development produces less runoff and less impervious cover than low density development; and
- for a given amount of growth, lower-density development impacts more of the watershed.

Although we are not advocating the abandonment of low density development patterns in certain locations, especially as unique site conditions dictate special protection (Environmental GDP Policy 1.b), the team is reinforcing—based on the results of the EPA Study—that higher densities may better protect land resources and water quality, especially at the lot and watershed levels as concluded by the EPA. The EPA Study assumed that environmental practices in this context include the provision of open space, preserving ecological and buffer areas, and minimizing land disturbance as called for in the Post-Construction Controls. From the regional perspective, the essential point is simply that the same number of housing units built at higher densities results in a net reduction of impervious cover. All other things being equal, the application of the Post-Construction Controls in this context will provide not only an economic (see economic analysis) but an environmental advantage over build out.

An additional economic benefit, from both a public-sector infrastructure perspective and a private-sector cost of service perspective is that larger-lot, dispersed-development patterns create more demand for water. Whether in the context of cost of delivery or the impacts of such factors of more lawn to water, efficiencies from more contained mixed-use development patterns can be realized.

In its 2006 report, the EPA concluded the following:

- Large lots increase water demand;

- low density means more leakage and increases both demand and cost;
- building new systems while deferring maintenance of older ones worsens water losses and raises costs; and
- development on and beyond the fringe can reduce return on investment in infrastructure and raise costs.

We highlight these findings only to provide general support and specific context to the effective integration of the open space requirements of the GDP and corresponding environmental protection policies of the Environmental GDP and the Post-Construction Controls Ordinance. In this regard the quality growth opportunities underscored by Environmental GDP Policy 2.a., which promotes redevelopment, requires a careful balance of development needs and environmental protection. The Redevelopment Mitigation mechanisms of the Post-Construction Controls Ordinance (Section 4) appear to provide this balance. By providing an exemption to the application of the storm water control requirements via payment of mitigation fees in certain conditions—essentially small sites, transit station areas and distressed business districts -- the environmental goals of the initiative can be achieved while promoting the mixed-use and connectivity objectives of the Urban Street Design Guidelines, as well as the Centers and Corridors Initiative.

We suggest that a careful definition of “distressed business district” include under-performing strip malls or other high-impervious cover commercial developments with devolving characteristics. By including these contexts in the definition, redevelopment of strip malls and other similar developments, such as abandoned or underutilized light industrial centers, can be realized more frequently in the marketplace by mitigating the otherwise high cost of compliance with contemporary storm water and water quality standards.

Facilitation of this exemption via mitigation payment for these conditions should include a definition of performance standards for the redevelopment itself in terms of implementing the mixed use and connected objectives of the Centers and Corridors Initiative. For example, a minimum point system could be developed that included such factors as degree of incorporation of a residential component, as well as the level of onsite connectivity and external site access for pedestrians and transit. This approach may then also justify a specific redevelopment project because it is part of a larger common plan of development or sale with a plan consistent with the mixed use and transit goals of the Centers and Corridors Vision. The ability to link redevelopment projects of failing high-impervious cover sites within the vision to a larger plan of development may be critical to creating market momentum in certain areas of the region. Without the ability to deal with the often insurmountable costs from a

project perspective of attaining current environmental standards, desirable projects from the perspective of the Centers and Corridors Vision may go unrealized.

As a corollary to this recommendation, we suggest that the mitigation payment be programmed for regional facilities within the project area that provide the storm water and water quality management necessary to achieve both environmental protection as well as an urban design of high enough density to justify the cost of redevelopment. In this regard, the overall objectives of the Environmental GDP, Post-Construction Controls Ordinance, the Urban Streets Design Guidelines and the overall Centers and Corridors Vision can be realized through a more efficient market.

Generally, the ability to sustain both the natural assets and the built environment of Charlotte-Mecklenburg will be significantly affect the long term economic vitality of the region.

Task Two

New Urban Development Overview

Urban design is how a city is put together - how it looks, feels and functions. As Tyler Gibbs, Director of Urban Design for the City of Denver, notes:

As long as people have built cities, we have tried to define the qualities that would make for the most ideal urban environment. In the first century B.C., the Roman architect Vitruvius declared that great buildings required three virtues: Commodity, Firmness, and Delight, or as we might say today, they must be functional, well-built, and attractive.⁸

According to Gibbs, urban planning involves deliberate actions to create a physical environment that meets social, economic, functional, environmental, and aesthetic objectives. Good urban design enhances the distinctiveness of a city, which has ramifications for the city's attractiveness as a place to live, work, and visit.

New urban development is a dynamic urban design movement that is seen as part of a broader trend toward the restoration of community and concern for a more sustainable environment. Charles Bohl, in his seminal book Place Making, defines urbanism as an innovative design concept that applies "the best urban design practices from the 'traditional urbanism' found in historic town centers and main streets, while pragmatically adapting them to modern lifestyles, business

practices, and technologies.”⁹ Urbanism has been characterized by *New York Times* architecture critic Herbert Muschamp as the “most important phenomenon to emerge in American architecture in the post-Cold War era.”¹⁰

Underlying new urban development ideals is a belief that the physical design of many communities and regions is seriously impairing quality of life, contributing to traffic congestion, environmental degradation, and a lost sense of community. Todd Bressi writes,

...the New Urbanism is not a romantic movement; it reflects a deeper agenda. The planning and design approaches...revive principles about building communities that have been virtually ignored for half a century: public spaces like streets, squares, and parks should be a setting for the conduct of daily life; a neighborhood should accommodate diverse types of people and activities; it should be possible to get to work, accomplish everyday tasks (like buying fresh food or taking a child to day care) and travel to surrounding communities without using a car.¹¹

Bressi continues by stating that New Urban Developments pay close attention to architecture – particularly to where a building sits on the lot, its mass and exterior details, arguing that only certain types of buildings can create the range of public and private spaces that successful communities require. He notes that “the primary purpose of design rules is to force greater attention to detail, thereby invigorating urban and suburban architecture and imparting a greater level of civility to the streetscape.”¹²

Key Characteristics of New Urban Development

A common characteristic of traditional real estate development is the presence of formula-driven designs that follow a set script, regardless of the place where the project is built. As Charles Bohl has noted, “while the real estate industry has become very good at building these projects, the projects themselves are not very good at building communities.”¹³ New Urban Development, on the other hand, is about reforming the design of the built environment. It revives the lost art of “place-making” and creates environments that are distinctly different from the standard product types. Bressi contends that:

Buildings should not be conceived as objects isolated from their surroundings; they should contribute to the spatial definitions of streets, parks, greens, yards, and other open spaces. The New Urbanists draw upon a range of design traditions for inspiration. Their ideas about the relationships between planning and architecture reach back to the City

Beautiful and Town Planning movements, which in turn reach back to Renaissance and Classical cities.¹⁴

Some of the key factors of New Urban Development are outlined below.

Providing a Sense of Community

The central idea of new urban design is the use of public spaces to reconnect people and through those connections strengthen the sense of community. The great American migration to the suburbs in the 20th century was all about a search for cleaner, wider, safer spaces, and the presumption of serenity in the countryside. Numerous studies now show a rising dissatisfaction from many who feel stranded by traffic and separated from authentic community life.

Sociologist Ray Oldenburg describes this phenomenon by naming the various places that humans live and interact. The home is the “first place,” the workplace is the “second place,” and community gathering places outside of home or work such as town squares, village greens, cafes, or taverns are identified as “third places.” Oldenburg maintains that “third places” are absent in too many standard development patterns and they are the missing ingredient that many people in suburban areas search for today.¹⁵

New Urban Developments fulfill this need and, if properly designed, have become magnets for residents and visitors alike. As Bohl notes,

...today's town center projects typically revolve around a central plaza or park that establishes a public atmosphere and provides an ideal setting for the cafes, taverns, and bistros celebrated by Oldenburg. In fact, it is the space between buildings – the public realm of plazas, greens, squares, and walkable streets – that enables a town center or a main street to act as the third place for nearby neighborhoods and communities.¹⁶

Creating a “Place Identity”

Physical places that promote sociability have become critical for building strong communities and creating a unique sense of “place.” Booth, Leonard & Pawlukiewicz from the Urban Land Institute note that place making is the essence of real estate development, and “establishing a live-work-shop environment with a sense of place is a community need as well as an aspiration.” Places that are desirable appeal to all the senses - sight, sound, smell, taste, and touch. Rather than relying on formulaic real estate products, new urban developments are a rich mix of local activities, aesthetic design, quality, and price.

As noted on Smart Growth Online, New Urban Developments are designed to:

...create interesting, unique communities which reflect the values and cultures of the people who reside there, and foster the types of physical environments which support a more cohesive community fabric. Smart growth promotes development which uses natural and man-made boundaries and landmarks to create a sense of defined neighborhoods, towns, and regions. It encourages the construction and preservation of buildings which prove to be assets to a community over time, not only because of the services provided within, but because of the unique contribution they make on the outside to the look and feel of a city.¹⁷

Whereas many traditional developments, such as shopping malls or retail strip centers, are focused exclusively on trade, Bohl notes that new urban market and town squares are designed to be not only “consumer space,” but are clearly recognized and experienced as “public space,” with a civic character that transcends the commercial activities that take place there.

Providing a Mix of Land Uses

A critical component of achieving better places to live is an integration of mixed land uses. Mixed uses create a critical mass and a sense of place by affording the community a wider range of goods, services, and experiences at one location, thereby increasing connectivity and choice. By putting uses in close proximity to one another, alternatives to driving, such as walking or biking, become viable.

Providing a mix of land uses generally refers to offering residential, retail, and office space within close proximity to one another. Booth, *et al* note the economic synergy that happens from mixed uses in a new urban development:

Office uses feed retail operations by supplying customers for stores and restaurants both during the day and after work. Retail uses within walking distance of employment or residences – restaurants, bookstores, clothing stores, gift shops, and coffee bars – reinforce amenities that allow and encourage employees and residents to go out to lunch or run errands without relying on their cars. The addition of theaters, museums, art galleries, libraries, post offices, and town halls that are properly integrated...attracts significant pedestrian traffic, which supports a range of other uses.¹⁸

Creating Walkable Neighborhoods

At the heart of new urban design is the concept of walkable neighborhoods; walkable communities are desirable places to live, work, learn, worship, and play. These neighborhoods respect the human scale by providing pedestrian-friendly spaces that ensure that users feel at home and can navigate easily by foot within an area. As Bohl notes, “the way that streets and pathways weave through the town center, connecting its buildings and public spaces, can provide pedestrians with a sense of discovery and delight that is seldom experienced in the suburban landscape, and that is essential to the town center experience.”

Creating a sense of enclosure on a street is important in honoring the human scale and helping to define an area. It is thus crucial to pay attention to the proportion between the height of the buildings and the amount of open space; ideally, new urban designs achieve a tight 1:1 relationship and thus are much easier for pedestrians to navigate. By contrast, Bohl notes that:

Streets in suburban areas are typically many times wider than the heights of the buildings than line them, often reaching ratios of 1:6 and more. Such wide streets prevent any sense of spatial enclosure from being achieved and are more difficult for pedestrians to cross.¹⁹

Henton and Walesh, discussing the vital role of well educated, technically savvy young people in the growth of the new economy, note that these workers are attracted to places that have a lively mix of activity that need not be accessed by car. As one young worker told the Wall Street Journal, “It’s a lot more fun to be in a locale where you can go for a walk and have a nice dinner, or shop and take in a sports game, than it is to be isolated in some sprawling suburban office park where a little truck comes by at lunch and sells microwave burritos.”²⁰ Providing pedestrian-friendly activities thus give new urban communities an edge in attracting and retaining workers and residents.

In addition to creating a more walkable environment, good urban design can also incorporate “traffic calming” changes to streets and sidewalks to make them safer, more attractive, and more livable to both pedestrians and bicyclists alike. Researcher Emily Drennen conducted a 2003 study of the economic effects of traffic calming measures on twenty-seven small businesses in the Mission District of San Francisco. Merchants were interviewed about how the Valencia Street bicycle lanes had impacted their businesses. Four and a half years after the bike lanes were built, the vast majority of the business owners expressed support for the bike lanes. Respondents generally felt that the bike lanes had

made the street more attractive and had a generally positive impact on their business and/or sales.²¹

Preserving Open Space

Greenspace or “open space,” another vital component of New Urban Development, describes natural areas -- both in and surrounding developments -- that provide important community space, habitat for plants and animals, recreational opportunities, places of natural beauty, and critical environmental areas (e.g., wetlands).

Increasing numbers of people are concerned about the natural environment and value access to open space in both their private life and in their workspace. A healthy environment, rather than viewed as an added bonus, is now seen as one of an area's prime economic assets. Fortunately, the divide that existed in the past between developers and environmentalists is softening as both sides realize the interconnection and interdependence of a development's preservation of the natural environment and its economic viability.

New Urban Developments are designed to protect and preserve open spaces, thereby providing environmental quality and health benefits that are significant. According to Smart Growth Online,

Open space protects animal and plant habitat, places of natural beauty, and working lands.... Additionally, preservation of open space benefits the environment by combating air pollution, buffering noise, controlling wind, providing erosion control, and moderating temperatures. Open space also protects surface and ground water resources by filtering trash, debris, and chemical pollutants before they enter a water system.²²

In addition to environmental benefits, the preservation of open spaces can give a region a competitive economic edge. Open spaces can offer an amenity that a region may not currently possess in abundance, enabling the region to retain the people that currently live and work there. Open spaces can also help a region compete with other communities in attracting businesses and residents, as well as enabling it to compete for tourist dollars. And, research has shown that oftentimes it makes good economic sense to preserve a parcel of land rather than develop it; a number of recent studies show that parks and open space development in many instances increases residential property values and the property tax base of communities.²³

Economic Development Benefits

According to Henton and Walesh, quality of life has become a community's most valuable asset in the new economy.²⁴ As Smart Growth Online reports, "recent trends in the global economy – industrial clustering and specialization, diversification of the workforce, reintegration of work and home – are placing a premium upon community character and quality of life."²⁵

New economy companies are attracted to new urban communities for a variety of reasons. Companies realize their workers want to work and live in areas that offer a vibrant social life, environmental amenities, and a reasonable commute. Talent is attracted to sociable communities – places with destinations, public and civic spaces, plenty of open spaces – where they can come together with colleagues or friends either through planned or chance encounters. And, as business is increasingly being conducted outside the boardroom – in restaurants, health clubs, and other public spaces – access to places where people can come together, converse, network, and share ideas is paramount.

Muro and Puentes note that:

Regional economic performance is enhanced when areas are developed with community benefits and the promotion of vital urban centers in mind. Studies show that productivity and overall economic performance may be improved to the extent compact, mixed-use development fosters dense labor markets, vibrant urban centers, efficient transportation systems, and a high "quality-of-place."²⁶

Richard Florida, who has written extensively about the new knowledge economy, notes that knowledge workers like to mix fun with work, to be close to stimulations from colleagues, in close proximity to outside activity and recreation, and live and work in places convenient to services and recreation. He goes on to say:

In this milieu, talent is scarce. Everybody is competing for the best people, and if you don't have quality of life and quality of place, you won't get talented people. Skilled talent calls the shots in where and how they want to work.²⁷

Companies must locate in such locales to attract and retain quality employees. In discussing how the state of Wisconsin can successfully integrate into the new economy, commentators noted that:

A higher level of diversity in urban environments can be achieved through the creative design of our built environments and through the emphasis we place on innovative small businesses and attractions. New urban ideals also help create diversity by emphasizing mixed-use developments and attractive architectural styles. Finding new uses for historic buildings also provides a mixture of old and new charm to urban environments. Local governments can also encourage small business startups of ethnic restaurants and unique shops to increase diversity in their region.²⁸

In essence, the private sector in the new economy equates competitive advantage with the ability of being where the action is, and to them, the action is in new urban communities.

Public Sector Benefits

Tax Base Enhancement

In order to properly assess the fiscal benefits of new urban developments to the public sector, it is important to understand how these developments operate financially and how they are different from traditional suburban developments. According to Christopher Leinberger in a paper for The Brookings Institution²⁹, the investment cycle for many income-oriented traditional developments peaks around year seven. When comparing new urban and traditional developments on a short-term basis, therefore, traditional developments often project better cash flows as evaluated by internal rates of return. New income peaks can be achieved in subsequent years, but this often requires a major investment of additional capital. If a suburban development is no longer “cutting-edge,” i.e., maintained its viability, the influx of capital does not occur, and the development begins to decline. This has become a common occurrence in suburbia, and has created a “throwaway built environment” that has largely contributed to urban sprawl. The area formerly known as the “Miracle Mile” in 1980’s Atlanta is an example of such a decline; it is now filled with over 15 dead or dying strip malls because the market has moved farther out and developers are not inclined to reinvest in it.

New urban developments, on the other hand, generally create and sustain value in excess of traditional developments, though their short-term performance may not be as attractive. This can be due, in part, to the quality (and thus cost) of architecture and construction intrinsic to new urban design, the amount of open space provided in the overall development, or the higher cost of financing. However, what may be lost in the short-term is made up for in the mid- and long-term. Leinberger notes that:

The major reason progressive development seems to yield higher mid- and long-term returns and has a longer life is the pedestrian nature of its design. In stark contrast to conventional development with its car-dominated character, progressive developments create special places that are still rather rare in this country.³⁰

The desirable nature of new urban developments, including the mix of land uses and physical context, translates into increased property values if not right away, certainly in the longer run, Muro and Puentes note that these developments

...may enhance regions' tax bases, create wealth through housing appreciation, and boost property tax collections. In that sense, smart growth may well create substantial value by enhancing the real estate market.³¹

Increased real estate values in turn can make a tremendous difference in the overall value of the local tax base, and it is possible to develop some indication of the impact of a new urban development approach through evaluation of residential values. Researchers at George Washington University developed estimates of the incremental gain per unit attributable to traditional neighborhood design at the Kentlands, a new urban project in Maryland.³² The researchers estimated the price that homeowners were willing to pay for houses in Kentlands and comparable homes in surrounding traditional subdivisions. Based on their analysis, housing units in the new urban development commanded an 11.7 percent market premium, all other factors held constant. This premium existed in both new and resale markets.

Cost of Service Reduction

Muro and Puentes reviewed the best academic empirical literature on fiscal effects of growth and development for the Brookings Institution and reported that overall, the cost of providing public infrastructure and delivering services can be reduced through thoughtful design and planning.³³ The logic is straightforward; compact, less sprawling development patterns can reduce the capital and operations costs governments incur from new growth. The authors identify two related ways urban form can decrease costs:

- Economies of scale – because the marginal cost of serving additional population decreases as more residents cluster within a small geographic area. Also referred to as “density efficiencies.”

- Economies of geographic scope – because the marginal cost of serving each additional person decrease as each person locates more closely to existing major public facilities.

Muro and Puentes report that over the year 1999-2000 states and localities nationwide spent nearly \$140 billion on capital outlays for infrastructure shaped by development patterns such as elementary and secondary schools, highways, sewer lines, solid waste management, and utility systems. More than \$200 billion was spent on recurring expenditures to provide such services such as highway maintenance, police and fire protection, trash collection, and utility service. The authors note that:

Considering that these outlays represent almost 20 percent of the \$1.7 trillion states and localities spent during 1999-2000, realizing even modest percentage savings from smart growth could save taxpayers billions. And such savings grow only more attractive in light of economic stagnation, weakening federal support for states and cities, and the twin challenges many states face with shrinking revenue bases and increasing mandatory spending.

Several studies reported by the authors predict that rational use of more compact development patterns from 2000 to 2025 promise the following sorts of savings for governments nationwide: 11 percent, or \$110 billion, from 25-year road-building costs; 6 percent, or \$12.6 billion, from 25-year water and sewer costs; and roughly 3 percent, or \$4 billion, for annual operations and service delivery.

Rapid Transit

The introduction of rapid transit service can have positive effects on a region's economy, which can be manifested in a variety of ways. The most immediate beneficiaries are the users, who are able to convert their automobile trips to transit trips, thereby reducing the personal frustration they experience each workday as they negotiate clogged roadways and attempt to predict unreliable driving times. Ideally, employers benefit when workers are able to commute via transit, because they often do so in less time and are more likely to arrive without unexpected delay. This, in turn, gives employees the opportunity to perform their work more productively. A functional transit service also extends benefits to non-users; by removing their cars from the roadways, passengers unintentionally improve the trips of workers who cannot or choose not to use some form of transit. Similarly, their actions also create benefits for industry, since many firms are sensitive to the effects of roadway congestion.

Beyond the transportation impacts, rapid transit service can have a discernible impact on land use patterns, real estate values, corporate recruitment and relocation, tourism, and the overall appeal of a region to potential residents. All of these additional impacts in turn influence the performance of a regional economy. The following section provides more detail on the relationship between rapid transit and regional economic performance.

Transit-Oriented Development (TOD)

One mechanism for promoting the denser urban form is transit-oriented development (TOD). Transit-oriented development concentrates commercial, retail, and residential growth around transit stations to reduce sprawl and the volume of automobile trips, while increasing social interaction and the number of walking trips. It is characterized by multi-story office and residential buildings located within walking distance of a transit station, which is usually within a 0.25 miles but typically no farther than 0.5 miles. Retail stores and various services are added to the mix, often in the lower levels of the multi-story buildings. At California locations with TOD, Cervero found that workers were more likely to use transit if their office was within 0.25 miles of a regional passenger rail station.³⁴ He also found that workers were more likely to use it they lived near a station, had a longer commute, owned fewer cars, or they had to pay for their parking at work. A key finding of this study was the importance of having both residential and commercial development clustered around transit stations to improve ridership.

In many metropolitan areas with rapid transit, local governments have entered into public-private partnerships to build high-density commercial and residential projects around transit stations called “joint developments.” Cervero studied joint developments at five stations in Washington, D.C. and Atlanta, Georgia between 1978 and 1989.³⁵ His research found that the commercial rents of buildings near joint developments were usually \$3 a square foot higher; vacancy rates were lower; buildings were vacant for shorter periods; densities were higher (although there was a lagged effect); and the areas experienced higher shares of overall regional growth

Rapid transit and TOD also have the potential to make suburban communities attractive for employment growth, because it improves access for reverse regional passengers (i.e. regional passengers who live in central city and work in a suburb) or regional passengers who live and work in a suburb. Hadj-Chikh and Thompson investigated whether the Tri-Rail Regional passenger Rail in South Florida would be attractive to regional passengers who both lived and worked in suburbs, rather than the traditional assumption of regional passenger

rail riders who live in suburbs and work in the central business district (CBD).³⁶ Their research found that the potential ridership for Tri-Rail suburb-to-suburb travel was similar to suburb-to-CBD, but that fewer potential suburb-to-suburb riders used regional passenger rail than suburb-to-CBD riders. They did, however, believe that regional passenger rail lines serving only suburbs could become an effective mode of transport. Because suburbs have more sprawling landforms and because many of their large employers operate campus-like facilities, suburb-to-suburb rail regional passengers often need additional transit to take them from the regional passenger rail station to their work place. A study by Fish et al. examined the viability of a regional passenger rail system that served suburb-to-suburb passengers whose place of work was not within walking distance of a regional passenger rail station.³⁷ They concluded that by using a van-based shuttle service with frequent service, it was possible to efficiently move regional passengers from the station to their place of work and back.

To make TOD work it is important to reemphasize that communities must promote a mixture of commercial and residential land uses at transit stations, rather than just commercial development. Boarnet and Crane found evidence that suburban communities in California often preferred to promote commercial development only at transit stations, because it generates sales tax, in addition to property taxes, and because it bring jobs into the community rather than sending people out to work in other communities.³⁸ Their study found that residential development was often shunned near transit stations in suburban areas because it can create more liabilities than income (access to schools, public services like police and fire, etc.).

Additional Residential Property Impact

Investments in transit pay dividends in higher residential property values (over and above transit-oriented development). In contrast to many earlier studies, Rybeck's investigation of residential properties around two Washington D.C. Metro stations³⁹ provided evidence that proximity did improve property values.⁴⁰ More recent studies generally show that single-family residences located near passenger rail stations increase in value. Voith found that residential property values in Philadelphia were 6.4 percent higher in neighborhoods with access to transit rail than those that did not have access.⁴¹ Armstrong concluded that property values of single-family homes in communities with transit rail stations around Boston, Massachusetts increased by 6.7 percent more than communities without a transit rail station.⁴² A study by Lewis-Workman and Brod investigated the value of residential property around two stations on the BART.⁴³ Their research found that property values declined as the distance from a station

increased. A consultant study estimated that the values of single-family homes within 1,000 feet of a regional passenger rail station in Chicago were 20 percent greater than similar homes located a mile from the same station.⁴⁴ Their analysis also showed that single-family homes in both low-income and high-income neighborhoods experienced an overall positive impact from proximity to regional passenger rail stations.⁴⁵

Another consultancy⁴⁶ conducted a study for the Bay Area Rapid Transit, which found that homes lost between \$3,200 and \$3,700 for every mile they were located away from a transit rail station.⁴⁷ Bowes and Ihlanfeldt discovered that the effects of transit rail on residential property values in Atlanta, Georgia varied, according to their distance to a station and the CBD, as well as the income level of the neighborhood.⁴⁸ The most positive impacts were experienced by homeowners living in high-income neighborhoods that were the farthest from the CBD and within one-quarter mile of a station. The positive impact on property values in lower income neighborhoods extended to approximately one-half mile from the station. Residential properties around regional passenger rail stations in CBD neighborhoods with parking lots were identified as having negative property value impacts, due to increased crime levels.

Weinstein and Clower studied the impacts of the Dallas Area Rapid Transit (DART) light rail on property values near stations outside of the CBD.^{49, 50} In their 1999 study, they found that residential property values grew by a rate of 11.0 percent in neighborhoods with DART stations between 1994 and 1998, compared to 16.7 percent in neighborhoods without light rail stations. However, their 2001 follow-up study, which examined the period between 1998 and 2001, found that the median value of single-family homes near DART stations had increased 32.1 percent compared to 19.5 percent for a control group.

Additional Commercial Property Impact

Transit rail also demonstrates positive impacts on commercial property values. Cervero found that commercial properties in joint developments near regional passenger rail stations commanded higher average rents.⁵¹ Rybeck's earlier study also revealed a positive impact to commercial properties that were located near Washington D.C. Metro stations.⁵² Cervero and Duncan reported that rail transit created significant benefits to the value of commercial land.⁵³ While parcels of commercial property located near light rail stops were found to have increased by 23 percent, commercial parcels in business districts within 0.25 miles of regional passenger rail stations appreciated by 120 percent more than other commercial parcels. They also learned that when stations are located in areas surrounded by auto-oriented strip malls, the benefit of proximity only

existed if the commercial properties were within a five-minute walk and sometimes only within view of the station.

Weinstein and Clower's study of DART found that between 1994 and 1998, retail and office properties near stops increased in price by 36.8 and 13.9 percent, respectively, when compared to similar properties that were not near stations.⁵⁴ Their follow-up 2002 study showed the value of office buildings near DART stations between 1998 and 2001 increased by 24.7 percent compared to 11.5 percent for those that were not.

Attracting New Workers to the Region

The existence of rapid transit can promote a region's economic growth by improving its ability to attract a skilled and educated workforce. Many of these workers have lived or worked in other parts of the country where rail transit services were available. Especially for workers who have used rapid transit before, its option for work trips is usually considered desirable.⁵⁵ Others may perceive that the availability of rapid transit implies a "sophisticated" urban environment, which makes the overall region more attractive.

Expanding a Region's Tourism Industry

The development of a rapid transit system could also generate economic growth by supporting additional tourism in a given region. Marchwinski examined the recreational spending patterns of riders on the New Jersey Coast Line regional passenger rail.⁵⁶ He found that tourist regional passengers along the North Jersey Coast Line created between \$6 and \$9 of direct and indirect tax revenue per passenger for every dollar spent on providing the rail service.

Improved Environmental Quality

The conversion of passenger vehicle trips to rapid transit trips can have a positive effect on the environment. More specifically, with sufficient ridership, rapid transit produces fewer airborne contaminants than passenger vehicles, which is important to maintaining air-quality "attainment" status with the U.S. Environmental Protection Agency (EPA). Rapid transit could become a major element in a region's plan to improve air quality and to insure the continued flow of federal dollars for roadway construction and maintenance, while avoiding costly federal mandates. Barth *et al* demonstrated that regional passenger rail in Los Angeles (Metrolink) reduced overall emissions of carbon monoxide and hydrocarbons, by shifting just 300 regional passengers from automobiles.⁵⁷ The levels of nitrous oxides and particulate matter increased, but as the number of riders shifted to Metrolink grew, the overall emission levels fell. The modeling showed a net reduction of all emissions after achieving 2,200 riders. It is

possible that transit systems could have similar positive effects, although the actual results will depend upon the age of vehicles in the region and the locomotive's emissions.

Transit can diminish environmental impacts in other ways as well. By reducing the demand for right-of-way acquisition for new or expanded roadways, there are fewer impacts on residences and businesses that might be relocated or disrupted by roadway construction, as well as minimizing impacts to the natural environment.

Improved Public Safety

The transition of riders from passenger vehicles to rapid transit can have a measurable impact on the safety of a region's transportation network. Injuries sustained affect a region's economy because they diminish regional productivity levels, as well as commit private and public resources to returning injured workers to an employable condition. During 2001, nineteen rail passenger injuries were sustained for every 100 million passenger miles traveled compared to more than 110 for private passenger vehicles. Fatality rates have also fallen for both modes between 1990 and 2001, but rail remains a safer mode of transport than private vehicles, in terms of fatalities per 100 million passenger miles traveled. During 2002, the fatality rate was 0.9 for regional passenger rail, while it was 1.4 for private passenger vehicles.

New Urban Development & Local Economic Growth – A Measurement

Land use and transportation policies are instruments for managing the spatial pattern of economic activities. They consequently play a critical role in setting parameters that affect the economic trajectory of a region. In this section, we consider two classes of metropolitan land use policies, "traditional" and "reform", and examine the impact that each has had on economic growth from 1995 through 2005. To set the stage for that analysis we first take a brief look at the empirical relationship between the spatial concentration of economic activity in metropolitan regions across the United States and economic performance.

Spatial Concentration and Economic Growth

Alfred Marshall (1890) was the first modern economist to theorize about the positive economic effects of spatial concentration of economic activity on economic growth. His insights into economic geography lay relatively dormant for nearly a century before they found new voice in the 1990s in what has come to be known as the "New Growth" theory of economics (Romer 1986, 1990; Grossman and Helpman 1991; Krugman 1991; Porter 1991). The core insight of

New Growth theory is that technology and innovation are not merely accidental exogenous stimuli to growth. Rather, they are largely endogenous, shaped most importantly by factors that promote greater interaction among human beings. These factors include spatial concentration, “virtual” proximity made possible by such innovations as the Internet, and communities (physical or virtual) with shared interests. More formally, location in close proximity to upstream and downstream linkages in the production process lead to positive economies of scale and positive “network externalities,” collectively referred to as economies of “agglomeration” or “concentration”. The spatial concentrations of high technology firms in Silicon Valley, film and digital media in Los Angeles, the financial industry on Wall Street (and, to a growing degree, in Charlotte), and the insurance business in Connecticut are among the many examples of spatially concentrated economic activity that exploit agglomeration economies as engines of regional economic development.

More recently, Richard Florida has explored the concentration of skilled and educated workers in desirable locations and how these communities of elites have propelled certain cities in the United States to the forefront of innovation and technology.⁶⁴ He has found that no longer are these workers attracted to the location of firms as much the firms have become concentrated in locations where this skilled and educated labor force has chosen to settle. These locations tend to be urban areas with a larger component of their workforce employed in “creative” professions, such as scientists, engineers, researchers, writers, artists, teachers, etc. Florida also found that these cities are generally more ethnically diverse and have more tolerant attitudes towards social norms. However, for these populations to create economic growth, creative individuals must interact socially, have access to cultural activities, exchange ideas, switch jobs, and create businesses. Denser urban forms with rapid transportation linkages (i.e. rail transit) often make these activities easier, as opposed to a sprawling environment that requires residents to drive a car to meet almost every need.

There are, of course, countervailing forces at play as economic activity becomes more spatially concentrated. Frictions such as traffic congestion and urban sprawl tend to undermine the positive scale economies of agglomeration. Measuring metropolitan sprawl and connectivity is not an easy matter. Ewing, Pendall, and Chen (2002) applied factor analysis to a large set of variables for 83 of the largest metropolitan areas in the United States to construct five indexes of sprawl:

- Density factor: A measure of residential density;
- Mix factor: A measure of the degree to which neighborhoods offer a mix of homes, jobs, and services;
- Centers factor: A measure of the strength of downtowns and other regional activity centers;
- Streets factor: A measure of the accessibility of the metropolitan street network, and;
- Overall sprawl factor: A linear combination of the four factors mentioned above; the larger the value of this index, the more concentrated the metropolitan area. Obviously, smaller aggregate values suggest higher degrees of sprawl.

To examine the net effects of spatial concentration on economic growth, we gathered additional data to calculate the compound annual growth of per capita personal income over the period 1995-2005 for as many of the Ewing-Pendall-Chen metropolitan areas as possible (69 of them). This time-frame was chosen for several reasons: it is of recent enough duration to reflect a fairly consistent underlying structure to the economy (in terms of the various factors of production) and yet is long enough to encapsulate a full economic cycle, including the tech boom and bust and the impact of September 11th. A series of linear regression models were used to explore the impact of these various measures of sprawl on the growth in per capita personal income. Regressions were estimated for each measure individually and for the four component indexes collectively. The latter regression, while statistically significant as a whole, produced only marginally significant coefficients due to the high degree of correlation among the four component indexes. The Overall sprawl index has a strikingly significant impact on growth in per capita personal income (p value of 0.008) under a two-sided hypothesis test). The greater the value of the Overall sprawl index (ie, the *more concentrated* the MSA), the higher the growth in per capita personal income.

Some of the component factors of the Overall sprawl index also have significant explanatory power. The Streets factor, capturing the density and interconnectedness of metropolitan street networks, and the Mix factor, measuring the density of mixed-use amenities accessible to residents, both have a significant positive impact on the growth of per capita personal income (p values of 0.002 and 0.021, respectively). The "Density" and "Centers" factors are positively associated with growth in per capita personal income, although their impacts are not statistically significant at conventional confidence levels.

This empirical exercise confirms the conventional wisdom that the greater the concentration of a metropolitan area, the higher the rate of growth in per capita personal income. Unfortunately, the Ewing-Pendall-Chen dataset does not include Charlotte nor does it provide the data necessary to estimate sprawl indices for Charlotte to compare against those of other major metropolitan regions in the U.S

The Impact of Land Use Policy Regimes on Local Economic Growth

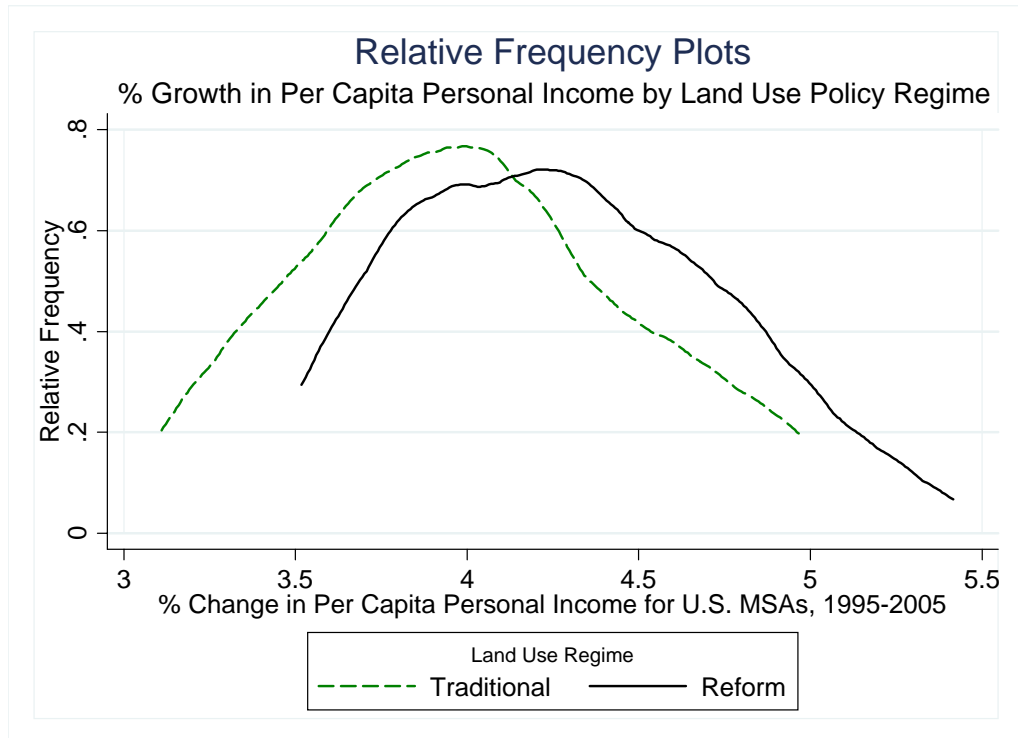
In a more recent study published by the Brookings Institution, Pendall, Puentes, and Martin (2006), develop a taxonomy of metropolitan land use policies that can usefully be thought of as falling into one of four categories: 1) Traditional; 2) Exclusionary; 3) Wild West Texas; and 4) Reform.⁶⁵

The study makes an important point that densities in metropolitan areas with traditional land use regimes are falling faster than areas elsewhere. Since, as we have demonstrated, spatial density is positively related to long-term economic growth, it is instructive to examine how metropolitan areas with traditional land use policies fare against those with reform-oriented policies in terms of economic performance.

Building on this classification schema developed by Pendall, *et al* we classified land use regimes in 64 metropolitan areas in the United States as Traditional or Reform (which is analogous to New Urban Development). Upon review, it appears that the key distinction is between areas that have a “reform” orientation toward planning, land use, and transportation (i.e., those that “use tools beyond comprehensive plans, zoning and subdivision regulation to manage and control land use), and the balance, who apply a more “traditional” set of policies and procedures. In addition, we re-classified the Austin area as Reform – while the metro area as a whole may well be largely Traditional in orientation, the City of Austin is well known as a leader in adopting a New Urban Development approach.⁶⁶ Data on per capita personal income, population density, and housing density from the U.S. Bureau of Economic Analysis served as auxiliary explanatory variables in our analysis of the impact of land use regimes on metropolitan economic performance. Charlotte ranks in the middle of these metropolitan areas in terms of population density and housing density and is classified as employing traditional land use policies. A specific purpose of this analysis is to estimate what Charlotte’s economic performance between 1995 and 2005 might have looked like had reform land use policies been in place.

The empirical distributions of the compound annual growth rate of per capita personal income for the two metropolitan land use regimes (41 of them Traditional and 23 Reform) are arrayed as relative frequencies in the following

figure. It is readily apparent from the figure that the distribution for metropolitan areas with reform-oriented land use policies falls to the right of that for areas with more traditional policies. The mean growth rate for traditional metropolitan areas from 1995 to 2005 was 4.0 percent while the rate for reform areas averaged 4.276 percent. The difference in these mean rates, 0.276 percent, is statistically significant with a two-sided p-value of 0.03 (Regression Model 1 in Table 1).



The effects of agglomeration economies on these growth rates can be appreciated by regressing the compound growth annual rate of per capita personal income on the level of per capita income (a measure of the direct consequences of agglomeration), population density, and housing density. Since all three of these measures are highly inter-correlated, the impact of each was estimated separately (Models 2-4 in Table 1). As expected, all three measures of metropolitan concentration are highly significant with p values all less than 0.001. The level of per capita income has the greatest explanatory power, producing an R-squared goodness-of-fit measure of 0.27 in Model 2.

Multiple regression models 5-7 in the table offer adjusted estimates of the impact of reform land use policies controlling for each of the three measures of agglomeration. Model 5, using the level of per capita income as a control, yields the strongest results (with an R-squared statistic equal to 0.32) and the most conservative estimate of the impact of reform policies on the rate of growth in per capita personal income (0.239 percent higher compound growth over

metropolitan areas employing traditional land use policies). The 95 percent confidence interval for the 0.239 estimate in Model 5 (based on robust heteroskedastic-corrected standard errors) has a lower bound of 0.026 and an upper bound of 0.451. Two tests were conducted to verify the assumption that the error term in Model 5 is plausibly normally distributed, lending greater strength to the findings.

Model Results

Variable	Models						
	1	2	3	4	5	6	7
"Reform" Orientation	0.276 (.030)				0.239 (.028)	0.287 (.021)	0.310 (.012)
Per Capita Income		0.0376 (<.001)			0.0371 (<.001)		
Population Density			0.289 (<.001)			.342 (.039)	
Housing Density				0.742 (<.001)			1.04 (.028)
R ²	.07	.27	.07	.06	.32	.16	.17

Implications for Charlotte

Per capita personal income in the Charlotte area grew at a compound annual rate of 3.83 percent between 1995 and 2005, from \$24,830 to \$36,151. The analysis here suggests that had New Urban Development policies been in place at the beginning of that period Charlotte might have enjoyed an annual growth rate of 4.05 percent, which would translate into 2005 per capita income of \$36,932, an increase of \$781 from what actually occurred. This difference is significant – given a 2005 MSA population of 1,521,278, aggregate personal income in the region would have risen from \$54,995,720,978 to \$56,183,158,384, a gain of \$1,187,437,406. Over a billion dollars in additional income in the region clearly would have a substantial impact on most measures of the economy and local prosperity, including employment, property wealth, and overall business activity. In addition, local public sector jurisdictions would stand to gain significant tax revenues. For example, according to budget data from the City of Charlotte, the City realized the equivalent of just over .624 cents in tax and other economy-related revenue for every dollar of personal income during 2005. Based on this ratio, \$1.2 billion in additional income translates into approximately \$7.4 million in additional City of Charlotte revenue for 2005.

Task Three

Planning Case Studies

Fort Collins

Concerned about unbridled growth, Fort Collins established a new vision for growth via transit corridors. Although many communities by the mid-1990s had been planning and implementing neighborhood-based growth strategies, Fort

Collins undertook a mandatory implementation of urban development standards within its “Structure Plan.” The Structure Plan identified key corridors for quality growth. The fundamental implementation was based on required pedestrian-scale designs at the site level and better connectivity through the implementation of maximum block lengths and specific traffic-shed patterns in new developments -- all providing better access for the community. Fort Collins claims a successful experience with comprehensive connectivity reform.⁶⁷

The connectivity reforms were married with a mixed use strategy, a combination considered aggressive at the time. Fort Collins sought to bring back the idea of authentic neighborhoods with two policy tools: (1) a required minimum mix of housing types for each neighborhood; and (2) the requirement that a minimum number of housing units be located within three-quarters of a mile from a “neighborhood center” or “neighborhood commercial district.” Like Charlotte, the Fort Collins region was (and remains) under major growth pressures. The Fort Collins approach appears to be similar to Policy 2.b of the GDP Phase II Guiding Principles (facilitate the incremental development of well-designed and well-connected mixed use development in appropriate locations).

Although some in the development community raised concerns that the initiative would shut down growth (a predictable early reaction), Fort Collins has realized robust and continued growth. Fort Collins’ growth management efforts have evolved into an aggressive redevelopment and in-fill program to round out its efforts. The efficacy of Fort Collins’ focus on regional place making as a tool for growth management can be measured in part by its rank this year by Forbes as the sixteenth (16th) Best Place in America for Business. The early implementation experience of Fort Collins provided the impetus for many other reform efforts across the country.

Boise

Another good analog for Charlotte-Mecklenburg’s Centers and Corridors Initiative is the effort in the Boise, Idaho region. The Treasure Valley Blueprint for Good Growth and Communities in Motion are being undertaken respectively by Ada County (Boise) and the Community Planning Association of Southwest Idaho (COMPASS), the region’s metropolitan planning organization. Similar to the Centers and Corridors Initiative, the goal of the two coordinated initiatives is to marry transportation planning and land use as the region grows.

The coordinated Treasure Valley Initiative has developed alternative land use scenarios, assessing their impact on public infrastructure including the relative costs of public investment in transportation. In addition, the initiative focused on assessing land use impacts on agricultural land consumption, as well as direct environmental impacts such as impervious covers. Covering a multi-county area, the COMPASS Initiative, Communities in Motion, is now developing a long-

range transportation plan with associated land use concepts. The Ada County Initiative, Blue Print for Good Growth, is developing a guide for future growth with a “model” code for future implementation by the municipalities within the county.

The coordinated Treasure Valley Initiative strives to harness the tremendous growth facing the Boise Region by linking land use and transportation. Specifically, the Treasure Valley effort is positioned to:

- Facilitate growth in areas of impact that efficiently use public infrastructure;
- Promote housing choice while retaining the area’s natural beauty through the realistic limitation of sprawl;
- Support a successful central city;
- Coordinate coordination of transportation and land use to achieve real transportation choice; and
- Expand the reach and availability of transit within the region.

These principles are similar to the interrelated goals of the Centers and Corridors Initiative.

Having provided some strategic advice to the Boise Region, the Citistates Team appreciates the implementation challenges they face. Among the biggest challenges facing the Treasure Valley Initiative is the coordination among Ada County (and other Counties), Boise, the smaller towns in the region and the related transportation entities. Under Idaho law, all these jurisdictions are essentially autonomous and are not even coordinated except through the informal glue represented by the coordinated initiatives. An Intergovernmental Agreement for Transportation Planning and Land Use Planning is being developed to overcome the lack of legal coordination. (The city-county integration of Charlotte-Mecklenburg may substantially mitigate the thorny coordination issues that the Treasure Valley faces.)

In addition, the development of a model development code for multiple jurisdictions poses some challenges. Certainly a model code provides some continuity towards implementation. But, as each individual municipality struggles to adopt and implement a regulatory scheme that is acceptable to the goals of the initiative, it also faces hurdles of acceptance within its home jurisdiction.

The growth in Treasure Valley is essentially linear along the I-84 Corridor. But that linearity, while potentially channeling growth, can also proliferate the sprawl that follows when highways are extended without concurrent reforms in land use policy. The result: the potential for leveraging the potential of rail transit to guide denser growth gets diluted if not cancelled altogether. For this reason, regional

leaders in the Treasure Valley, and in particular in Ada County and Boise, conclude that disaggregated implementation of land use reforms will not be effective in making the real link of transportation and land use.

The Boise and Charlotte Regions share many similar attributes. Both are blessed with a beautiful natural environment. Both are attracting more of the creative class. Both have recognized the need for rail transit, although Charlotte-Mecklenburg seems closer to implementing a system, while the Treasure Valley takes more to explore the possibilities. Both have developed popular cultural assets in the arts, entertainment and sports. Both have developed a strong sense of regionalism. Both view the efforts as pro-growth. And, finally, both are fiercely independent, reflecting in culture and attitude a strong sense of property rights and land development. In this regard, the Treasure Valley Initiative provides some promise that the Centers and Corridors Initiative will be successful. Why?

Because in both places there is evidence that public officials respect the reality that they are challenged with planning for a complex region and that *implementation* is the indispensable step. Implementation requires crafting and putting into place regulatory reforms and fiscal investments at the regional level. Other than the late 20th century growth-boundaries experience in Portland, Oregon, there is not much on the American horizon to show as regional implementation. The encouraging note is how strongly officials embrace the vision of the Treasure Valley Initiative. We see a parallel enthusiasm in the Charlotte-Mecklenburg Region, strengthened by a higher propensity to act.

Reticence to act stalls the vision in most places. A reluctance to act regionally may cripple the vision in the Treasure Valley. These politics are relatively common. Consider what is happening with the Envision Central Texas (Austin region) effort and the quite similar Envision Dallas.

Austin and Dallas

Envision Central Texas, under steady growth pressure, faces the challenge that the regional vision, albeit detailed with targeted corridors and nodes targeted for growth, is not connected to the comprehensive plans and regulatory schemes of the relevant municipal or county jurisdictions. In a similar vein, the newly adopted amendments to the Dallas Comprehensive Plan, Envision Dallas, provide only a general framework for growth patterns in select areas of the city. But those efforts do not provide a clear path to implementation in terms of specific tools for the plan amendments to be utilized when development actually occurs on the ground.

Indeed, rail transit is now and will be in the future of the Dallas and Austin Regions, respectively, and Dallas has certainly realized the advantages of rail

transit with considerable transit-oriented development. Similarly, the Austin Area is proceeding with many ad hoc planning efforts to take advantage of rail transit. But neither region has developed an integrated and comprehensive strategy to leverage large scale growth around transit-centers in terms of comprehensive implementation regionally of neighborhood level development guidelines linking transportation and land use. The structure of Charlotte's Centers and Corridors Initiative holds greater promise because it does make this linkage.

Omaha

On the opposite end of the spectrum, the revolutionary effort called Omaha by Design seeks better growth management in Omaha, Nebraska through a comprehensive set of development design guidelines for better neighborhood environments and public spaces. But unlike the Centers and Corridors Initiative, those design guidelines are still looking for an implementation structure, both in terms of a regional plan and the regulatory scheme for development. In short, Omaha (and any other communities focused on design guidelines as the basic reform) faces the uphill challenge of "rewriting" development regulations without considering the underlying plan shaped by the regulations. Visionary desires for better, more sustainable neighborhoods are easy enough to embrace, but without serious strategies for implementation, not much actually happens.

Transit-Oriented Development

The Brewery Blocks - Portland, Oregon

Introduction

Transit-oriented development in Portland, Oregon (population: 538,544) has helped the city bring new jobs and investment to the urban core, while enhancing the city's transportation network and improving residents' and employees' quality of life. The Portland Streetcar, which opened in 2001, has generated over \$1.4 billion in development along its 4.7-mile loop.

Developed on a former brewery site, Brewery Blocks ties a cluster of residential and commercial spaces to the streetcar line, and has created a bridge between the city's central business district and the Pearl District. "Brewery Blocks exceeded expectations for the city – it was a great project built in a short amount of time, and built when the economy was down," said Bruce Allen, Senior Development Manager at the Portland Development Commission.

City Context

Brewery Blocks covers five blocks on the southern edge of Portland's Pearl District, a former warehouse and light industrial area north of downtown. "Having five continuous blocks of ownership is a unique real estate opportunity," said Allen. "It's the largest project we've seen in sometime."

In the 1980s and 90s, the area shed its industrial heritage, welcoming art galleries, boutiques, trendy nightspots, and fashionable restaurants, and turning warehouses into loft apartments.

Brewery Blocks added to the district's momentum, bringing 1.7 million square feet of mixed-use development, including renovated office space, new Class A office space, high-end retail destinations, and luxury apartments and condominiums. The district received another boost in 2001 when the city installed the Portland Streetcar line, including stops accessible to Brewery Blocks.

Project Development

The project is located on the former site of the Blitz-Weinhard Brewery, which opened in 1856. The brewery operated until 1999, when its owners sold the Henry Weinhard brand to Miller Brewing Company. Miller transferred production offsite, and Portland-based Gerding/Edlen Development purchased the land in January 2000. GBD Architects designed the blocks to balance contemporary structures and amenities with an industrial past, reusing historic buildings and maintaining a pedestrian-scale streetscape.

As Portland and other West Coast cities faced economic decline and high unemployment in the wake of the dot.com burst, Gerding/Edlen took a significant gamble with this project. However, Portland's growth policy encouraged urban infill and made investments in projects such as the Brewery Blocks attractive. The Pearl District's cultural amenities, housing options, and transit access drew a highly educated, high-income workforce, which in turn brought national retailers and helped the project succeed.

Funding and Economic Impact

The total cost of the Brewery Blocks redevelopment was approximately \$300 million. The city of Portland supplied \$8 million: a \$6 million loan for the construction of a three-level, 1,350-space underground parking facility; and a \$2 million grant for infrastructure improvements. The remaining \$292 million came from private sources, producing a 36:1 private-to-public investment ratio. The project has generated an increase of over \$1.3 million in property tax revenue for the city of Portland, and the value of the land has shot up by 488 percent. According to a Transportation Research Board study, the Pearl District is the strongest urban retail market in Portland, in terms of high demand and low vacancy rates. Retailers look to position themselves in this area because of its expanding residential base, its relatively affluent population, its access to the Portland Streetcar, and its variety of historic structures coupled with new development.

Transit

Portland's public transportation system includes a bus network, three light rail lines, and the Portland Streetcar. The Portland Streetcar route bisects the Brewery Blocks along 10th and 11th Streets, helping it become a transit-accessible, pedestrian-oriented retail and employment center. Introduced in 2001, the city-owned and operated streetcar circulates around a 4.7-mile loop, linking the city's northwest neighborhoods with the south waterfront, via the Pearl District and downtown.

The streetcar has had a symbiotic relationship with the Brewery Blocks development. When the streetcar started running in 2001, Brewery Blocks was under construction and weekday ridership was 4,982. Weekday ridership grew to 5,729 in 2003, and 6,899 in 2004, as sections of the Brewery Blocks opened. As the project neared completion in spring 2005, weekday ridership rose to 7,837. The Streetcar has been credited with leveraging \$1.4 billion in investment around the transit loop. Approximately 5,200 housing units and 3.6 million square feet of commercial development have been built in the Pearl District since the arrival of the Streetcar.

Commercial Development

The Brewery Blocks contains approximately 800,000 square feet of commercial space: 300,000 square feet of retail and 500,000 square feet of office space, divided into five "blocks": The project has 43 commercial tenants: 25 retailers (including restaurants) and 18 office or service-based workplaces. Whole Foods Market, located on Block 1, at the corner of 13th and Burnside, is the project's retail anchor. Other retail and restaurants include Anthropologie, Sur La Table, The North Face, Diesel, Henry's 12th Street Tavern, and P.F. Chang's China Bistro.

Despite less than favorable economic conditions in the region, eighty-five percent of Brewery Blocks office space was leased within one year, at above-market rates. The development includes 400,000 square feet of Class A office space. Commercial tenants include Tyco Telecom, which houses a communication center, and Portland Energy Solutions, which operates the Blocks' energy-efficient cooling systems, as well as several law firms, consulting companies, and an Army Corps of Engineers office.

Residential Development

Two new residential towers contain a total of 368 residential units. Both towers are mixed-use structures with ground-level retail space with energy efficient and sustainable design features. One of the projects, the Henry, is a 15-story, 124-unit condominium which sold out before the building opened in 2004; sales prices ranged from \$250,000 to \$1.4 million.

Adaptive Reuse

The adaptive reuse of three historic structures has been one of Brewery Blocks' finest selling points. On Block 1, the art deco façade of a former Chevrolet dealership, built in 1929, has been restored as the exterior of the ground-level Whole Foods Market and upper-level office space. The historic Blitz-Weinhard Brewhouse consumes Block Two. The brewery has been renovated into a mixed-use structure including Henry's 12th Street Tavern and 21,200 square feet of office space.

The Portland Armory, a 20,000-square-foot structure located on Block 3, was built in 1889 and is listed on the National Register of Historic Places. In April 2004, Portland Center Stage, an area theater company, purchased the structure and launched a \$32.9 million capital campaign, supported by the Portland Development Commission and the Portland Family of Funds, a community investment bank, to renovate the structure into a state-of-the-art theatre. According to the Portland Development Commission, the Armory project, slated

to open in the fall of 2006, will create 300 new jobs, add \$80 million to the city's economy, and generate \$2.2 million in city, county, and state tax revenue over the next ten years.

Sustainable Design

Architects and environmentalists have praised Brewery Blocks' environmentally conscious design. The project uses high-efficiency heating and air-conditioning systems, above-code insulation, daylighting, operable windows, high-efficiency windows, low-flow plumbing, a chiller plant, eco-roofs, and solar panels. The sustainable design features increased the overall cost of the project by about ten percent, but the anticipated annual savings in energy costs is \$58,700.

Summary

Brewery Blocks is emblematic of Portland's dedication to using smart growth techniques to generate economic development, drawing millions of dollars in new investment to a transit accessible location.

Silver Spring Downtown Redevelopment - Silver Spring, Maryland

Introduction

Silver Spring (pop. 35,575), one of Washington, DC's oldest suburbs, has used transit-oriented development to bring new life to its once-ailing downtown. Anchored by a station that is part of 'Metro'— the DC region's subway system — downtown Silver Spring has become a magnet for economic activity, linking new businesses and jobs with a growing residential market. Residents have walking access to a cluster of shops, offices, parks, and the train station, which connects Silver Spring to Washington, DC and other regional destinations.

In 1998, Montgomery County planners and private developers targeted four square blocks for downtown development, coordinating public and private funding for projects around the transit station. The initial project, a \$400 million town center funded with public and private capital, stimulated a surge of new development: between 2000 and 2010, public (\$423 million) and private investment (\$1.37 billion) will reach \$1.8 billion.

"The development is performing way beyond expectations," said Mel Tull, Incentives Manager, Silver Spring Regional Center. "The town center plan led to many new projects, which ultimately caught the attention of Discovery."

The arrival of Discovery Communications in 2003 was the driving force behind 1,554 new jobs in downtown Silver Spring between 2000 and 2005. Montgomery County forecasts 1,246 more new jobs in Silver Spring between 2005 and 2010. Throughout the late 1990s and 2000s, the DC region experienced significant

growth, the effects of which were also felt in Silver Spring. The arrival of the new town center and its corporate anchors significantly contributed to this growth.

Prosperity and Decline

Silver Spring originally developed as a stop along the Baltimore & Ohio railroad. By 1950, it was one of the busiest retail markets between Richmond and Baltimore. Downtown decline began when the suburban Wheaton Mall opened in 1960. Silver Spring's last retail anchor, Hecht's, moved to Wheaton in the 1980s. Silver Spring tried to attract a new mall to stay competitive, finally landing the 400,000 square-foot City Place Mall in 1992. City Place, however, did not attract quality anchor stores, and ultimately failed to help stem the downtown exodus.

Between 1988 and 1996 more than 220 businesses left Silver Spring. The city was a shell of its former self: vacancy rates increased, traffic sped through downtown along six-lane boulevards, and the retail environment was limited to discount stores, tattoo parlors and pawnshops.

Initial Revival: Downtown Silver Spring Town Center

In 1998, Montgomery County entered a partnership with Foulger-Pratt Development to build the 22-acre Downtown Silver Spring town center. The town center promised to bring new shops, theaters, a civic building, parking garages, a public square, and townhouses to downtown, with connections to the transit station and the existing pedestrian streets and sidewalks.

Following six months of intensive community meetings, Foulger-Pratt attracted businesses that would best serve nearby resident needs – a grocery store, hardware store, and other small retail shops. The second stage concentrated on entertainment with the addition of an anchor bookstore, a theater, larger retailers, a hotel, and a 3,600-space parking garage.

The project is located within three blocks of the Silver Spring Metro Station, and its retail facades are oriented toward the street to encourage pedestrian traffic. Construction is in progress on the third stage, a civic center and public plaza, and the fourth stage, 160 units of adjacent housing.

Contracts, Incentives, and Investment

Montgomery County assembled the 22 acres of land and negotiated a contract with Foulger-Pratt requiring a long-term commitment to the site. After 10 years the city will deed the property to the developer. Because the county assembled the land and retains ownership, the developer saved several years of holding costs typically endured during the design and approval processes. The proposal was designed to return public investment on the town center within 10 years.

Investment in the town center totaled \$367 million: the county dedicated \$187 million to infrastructure improvements, including roads, streetscapes, utilities, and a parking garage; and Foulger-Pratt directed an estimated \$180 million to build the retail structures. As part of the town center project, the county rehabilitated and modernized the American Film Institute's (AFI) historic Silver Theater while preserving its 1938 appearance. The AFI Silver Theatre and Cultural Center is a state-of-the-art exhibition, education and cultural center, and is the country's preeminent organization dedicated to advancing and preserving the art of film, television, digital media and other forms of the moving image. The AFI involvement brought attention and investment to the project.

The following lists downtown Silver Spring business incentives:

- Access to Metro rail, Metro bus, Ride-On buses, and taxi stand
- CBD Enterprise Zone designation provides tax credits on expansions, renovation, or improvements
- Green Tape Zone gives downtown projects priority reviews and inspections for permits
- Arts and Entertainment District within CBD provides tax credits for construction
- Live Near Your Work Program offers \$3000 to downtown employees purchasing homes in Silver Spring or neighboring Takoma Park
- Montgomery County maintains streetscape, public interest activities, enhances safety of public areas
- County sponsored marketing seminars for local businesses
- Incubator Without Walls Program providing business owners with internet and marketing training
- County Regional Center advises businesses prior to approval to address anticipated difficulties
- Dept. of Housing and Community Affairs offers facade/canopy/streetscape improvement grants

Downtown Growth: Effects of the Town Center

The Town Center project helped stimulate private development throughout downtown Silver Spring. Montgomery County estimates \$1.37 billion in new private investment will arrive between 2000 and 2010 – a private to public investment ratio of 7:1. Between 2000 and 2004 the CBD generated over \$3.6 million in property tax revenue (a 30% increase), and 1,052,580 square feet of renovations of existing buildings.

The project's corporate anchors, the American Film Institute and Discovery Communications, were key to bringing in other businesses. Discovery, located adjacent to the town center and two blocks from the transit station, brought 1,500

employees to downtown. The company excluded a cafeteria to encourage employees to patronize downtown establishments, and designated 65% of their property as public green-space.

Office and Retail

Over \$668 million, 49 percent of total private investment, has been dedicated to commercial rehabilitation projects, new construction, and business start-ups. Downtown has added 800,000 feet of office space since 1997 and reduced its office vacancy rate from 18% to 9.8% in 2005. The American Nurses Association and Ullico Incorporated are Silver Spring's largest office tenants. Retailers have added 80 percent more shopping center floor area since 2002 to meet rising demand for retail space. The addition brings total retail square footage in downtown Silver Spring to 4,460,406.

Residential

Silver Spring has traditionally maintained a very low residential vacancy rate (about 2 percent). With the addition of shopping and employment centers, the CBD required additional housing. Almost 2,700 housing units, the equivalent of \$709 million in private investment, have come on line since 1998. Many abandoned offices and factories, like the Canada Dry plant, are being converted into housing. The industrial vacancy rate fell from 6.2 percent in 1997 to 2.5 percent in 2005.

Pedestrian Improvements and Transportation

While Silver Spring has had a Metro station since 1978, it is only recently that development has been oriented around it and made more convenient for pedestrians. Pedestrian improvements have helped the once-failing City Place Mall become part of downtown's success. When City Place was constructed in 1992, it was a boxy, regional mall that was disconnected from the transit station and from the downtown streets. The ground floor, formerly inaccessible and monolithic, now has a main entrance as well as individual storefronts along Ellsworth Street for retail and restaurant tenants. The main entrance of City Place is oriented toward Town Center.

Silver Spring Metro Station is the busiest WMATA station in Maryland, and the ninth busiest in the Metro system. Recent transit-oriented development has increased average weekday ridership from 10,579 to 13,078 passengers. By 2007, parking garages will be built under the station in addition to a two-deck bus station. A development above the station will add 420 housing units and a 200-room hotel. New housing, office, and retail development is planned near the Metro station, further establishing Silver Spring as a northern transit hub.

Public Improvements

In addition to improvements around the town center, the county dedicated \$236 million to downtown public improvement projects. Creation of the Silver Spring Green Trail will connect the regional Sligo Creek Park Trail with downtown Silver Spring and the Capital Crescent Trail, enhancing pedestrian and bicycle connections to the transit station. The county is also renovating and expanding five parks in Silver Spring, and the state is helping the county construct a new fire station, district court, library, and pedestrian bridges. Montgomery County built the Silver Spring Innovation Center (SSIC) to build on the technology jobs at Discovery. The SSIC can house 14 or more start-up or early stage information technology businesses.

Reinventing Silver Spring

Implementing an incremental transit-oriented approach revived Silver Spring's economy and improved the community's quality of life. Silver Spring has reinvented itself around the Metro station, drawing companies, employees and residents from within the region and across the country, and setting the standard for suburbs-turned-cities seeking economic development and smart growth.

Commercial Corridor Revitalization

East Carson Street - Pittsburgh, Pennsylvania

Introduction

The decline of American manufacturing has left many cities with neighborhoods in transition. With fortunes tied to heavy industry, the city of Pittsburgh acutely felt the impact as steel production waned. Between 1950 and 2000, the population dropped from 676,806 to 334,563, with residents relocating to suburbs or leaving the area entirely. While the new economy – financial, healthcare and other service based fields – has helped the region recover, a tremendous challenge remains: rebuilding the city's industrial areas.

As the main commercial street, East Carson was the backbone of South Side residential neighborhood, home to many steel mill employees. Once a prosperous industrial community, the South Side fell into physical and economic decline during the 1970s and many of the younger and wealthier residents left. Deserted streets and dilapidated storefronts were common, and the corridor needed a lift. In 1982, the South Side Local Development Company (SSLDC) was created to encourage reinvestment in the corridor and throughout Pittsburgh's south side.

A long-term rehabilitation effort has revived East Carson, which is lined with 18 blocks of Victorian-era storefronts, offices, and homes. Much of the renewed activity is between 10th and 24th Streets, where East Carson meets the newly

restored South Side Works. Once an active steel mill, the Works is now a growing center for employment and a catalyst for area business development. Residents from the steel mill days still call the South Side home, while sharing the neighborhood with new arrivals who have moved in to enjoy the art galleries, music venues, and coffeehouses.

Over 23 years, SSLDC has leveraged \$16 million in funding for housing and business redevelopment in the area. Between 1985 and 2005, revitalization efforts resulted in 3,500 new jobs and 225 improved structures. The commercial vacancy rate dropped from 60 percent to 4.5 percent. In addition, SSLDC teamed with the Urban Redevelopment Authority (URA) to strengthen the surrounding residential neighborhood with new homes and apartments. The South Side neighborhood is now a popular destination for residents, employers, and visitors.

A New Beginning

In 1985, The National Trust for Historic Preservation selected East Carson Street as an Urban Main Street Demonstration Program site. The Main Street model promotes self-reliance and the rebuilding of traditional commercial districts through organization, promotion, design, and economic restructuring.

With funds from Pittsburgh's generous foundations, SSLDC improved historic storefronts, made streetscape improvements, and brought in new businesses consistent with consumer demand. One hundred and thirty-four businesses received technical assistance to address startup needs and everyday operations. The URA created a Streetface program that supported the renovation of over 225 storefronts along East Carson since 1985. Funded primarily by the state, Streetface offers up to half of reconstruction costs up to \$52,800.

"We saw 18 continuous blocks of Victorian architecture that constituted a major cultural asset and a significant economic asset as well. By restoring the buildings, attracting small businesses, and promoting the area as the unique shopping experience that it could be, the merchants, residents, and SSLDC embarked on a program that became a ...tremendous success," said Arthur Ziegler, Chairman of the Pittsburgh History and Landmarks Foundation.

The URA has partnered with SSLDC on many new housing projects. Using state funding, CDBG grants, and mortgage revenue bonds, the groups have developed over 100 market-rate housing units since 1995. Private developers built an additional 330 lofts, condos, and townhouses. Many of these units are former office buildings and churches rehabilitated for residential use.

In all, the public sector has directed \$119 million to the neighborhood since 1985. The investment, said SSLDC executive director Rick Belloli, is paying off. Private investment reached \$368 million; property tax revenue in the East Carson Street business district increased by about \$1 million; and the activity has created or retained 3,500 jobs, with 3,900 additional jobs coming to South Side Works.

The renewed East Carson corridor boasts 85 restaurants and bars, 250 businesses, and six turn-of-the-century banks on a two-mile stretch. East Carson Street has won numerous awards including the Great American Main Street Award, the Pennsylvania Historical Award, and the Museum Commission Statewide Historical Presidential Award.

South Side Works – Extending the South Side Revival

On the western edge of the South Side neighborhood, the 123-acre LTV Steel South Side Works (SSW) site sits between the Monongahela River and East Carson Street. The URA purchased the site when the plant closed in 1993, and held community meetings to elicit ideas for redevelopment. Following the meetings, the URA secured a developer that would execute the community vision – a mix of residential, commercial, light industrial and public uses, connected to the river with trails and to the surrounding neighborhoods on the existing street grid.

Public investment in SSW totaled \$103 million, drawing \$300 million in private investment. New development includes 1,193,000 square feet of new construction, a 200-room hotel, an open-air town center, a 10-screen movie theater, and 354 urban living residential units. The site, formerly tax exempt, now produces \$3 million annually in property tax revenues; once development is complete, revenues will top \$8 million. The site is home to 1,500 new jobs, with 5,400 expected upon completion.

Many of the new jobs are in bioengineering and biotechnology. Located across the river from the Pittsburgh Technology Center, SSW is an attractive site for the expansion. Since 1998, SSW has attracted the University of Pittsburgh Medical Center (UPMC) Sports Medicine Facility, UPMC Distribution Center, and a biomedical incubator called the Life Sciences Center.

Shane Tulloch, chief executive of SEEC Inc., is moving his software development company to the South Side Works for its energy and pedestrian environment. He told the New York Times that SEEC needs “an environment where people are excited about being at work and going out after work.” The

area, said Tulloch, has “a sense of vitality and beautiful surroundings, and everything’s within walking distance.”

Back in Business

The South Side, capitalizing on its compact urban design and charming Victorian features, has overcome economic hardship. As Beth Marcello, former SSLDC Board of Directors President, explained “Carson Street was one of those neighborhoods where there was no reason to be there...but now it has a wonderful walkable business district with almost everything you could want, a high rate of ownership, and a lot of pride from the past.”

Main Street Program - Burlington, Iowa

Introduction

Traditional Main Street commercial corridors, where a variety of daily needs are close at hand, are a hallmark of smart growth in small and large towns alike. These corridors were originally designed with a mix of shops, restaurants, offices, and housing, allowing people to walk, take transit, ride their bikes, or drive to reach their destinations. As the movement toward more auto-oriented, regional retail centers grew, many of these commercial corridors suffered. However, towns and cities are seeing the value in having a strong and vibrant Main Street. Revitalization of these areas is reaffirming community identity and delivering investment, jobs, and tourism dollars.

Over the past 20 years, Burlington, Iowa has reestablished its downtown as the city’s primary activity center. Since the Main Street program began in 1986, the central business district has attracted scores of new businesses and 500 new jobs. The private sector has invested \$33 million in downtown projects, including the restoration of 396 historic buildings.

Burlington’s progress has drawn national acclaim. In 2004, Burlington earned the National Trust for Historic Preservation’s Great American Main Street Award, an honor given to five communities each year for excellence in preservation-based revitalization.

Burlington in Context

Founded in 1833, Burlington (pop: 26,839) was once a prosperous transportation and manufacturing hub. Its location on the Mississippi River and major railroad routes made the city a ‘Gateway to the West,’ rivaling St Louis during the nineteenth century. Burlington maintained a healthy economy into the twentieth century, but faltered after World War II. Downtown businesses could not compete with suburban shopping centers, and highway construction led to the demolition of nearly one hundred businesses and historic homes. Attempts at

urban renewal in the 1960s and 1970s, including a pedestrian mall on Jefferson Street, were ineffective. By the 1980s, many downtown facades were covered by aluminum siding; storefront vacancy rates exceeded 80 percent.

Downtown Partners, Inc.

The Iowa Department of Economic Development and the National Trust for Historic Preservation designated downtown Burlington as a National Main Street Community in 1986. The Main Street program, adopted in communities across the country, is designed to gradually – over 10 to 20 years, for instance – bring economic development and community activity back to downtown. Downtown Partners, Inc. (DPI), a non-profit organization, operates the Main Street program in Burlington. It promotes the downtown as a place to do business and hold events; provides design, regulatory and networking services for existing businesses; markets downtown properties; and recruits new businesses.

DPI is a small organization, operating with several staff, strong volunteer participation, and a \$200,000 annual budget. It is funded in part by a 32-block municipal improvement district established by the city. Property owners within the district contribute three dollars per one \$1,000 of taxable valuation. In return, DPI advocates for downtown investment, provides training and resources, and organizes events that bring customers to local businesses.

Economic Growth

The Main Street Program has facilitated changes during its nearly 20 years in operation. The private sector has invested \$33 million in downtown since 1986, including \$29 million toward rehabilitation projects. The city's property tax revenue has increased 33.9 percent, with much of the increase generated from properties previously vacant, abandoned or otherwise off the tax rolls. Two hundred and twelve business starts, relocations, or expansions and 500 new jobs have come to downtown.

The city and DPI have collaborated on a number of physical improvements over the years, creating a more business and people-friendly environment downtown. The pedestrian mall was removed in favor of upgraded street features, including sidewalk renovations, historic light post installation and on-street parking in front of merchant entryways.

Adaptive Reuse

Rehabilitation of historic buildings has been a key driver for revitalization, accounting for 87 percent of all private investment going into downtown. Historic landmarks have become new businesses, residential spaces, and retail and restaurant locations.

Built in 1911, Hotel Burlington was once among the Midwest's top hotels. The hotel was closed by the time the Main Street program arrived in the 1980s. Supported by \$1.2 million in funds from the city's tax increment financing program, the ten-story structure has been restored as a residential development, including 75 units of mixed-income housing for older residents. Prior to redevelopment, the city collected \$7,480 (1998) in property taxes on the hotel property. After redevelopment, the tax collection jumped to \$115,296 (2003).

RiverPark Place is a mixed-use development in a former hospital building overlooking the riverfront. The structure, completed in 2003 with the help of a \$1 million Chamber of Commerce grant, houses local businesses, condominiums, and an upscale restaurant. RiverPark generated approximately \$60,000 to \$65,000 in property tax revenues during its years as a hospital building. With the new project online, the city estimates that it will collect between \$80,000 and \$90,000 each year.

Schramm's Corner is located in the historic Schramm's Department Store, the former retail anchor of downtown Burlington; the company closed in 1997. The building is now a \$2 million mixed-use development that contains retail establishments, upscale condominiums and apartments, and Burlington's business incubation center. In 1998, the city collected \$4,494 in taxes from the three properties at Jefferson and Second Street. Redeveloped as Schramm's Corner, the properties account for \$16,792 (2003) in annual property taxes.

Special Events and Attractions

A regular series of special events has helped bring people downtown and encouraged support for local businesses. DPI promotes a spring open house in March, customer appreciation days in April, sidewalk sales in July, extended opening hours in the fall, Trick-or-Treating on Halloween, and a holiday open house in November. The Riverfront Farmers Market takes place on the waterfront on Thursday evenings in summer, and draws up to 1,500 customers on its busiest nights.

The Annual Living Windows event, in which retailers open up their storefront window space for local non-profits, families, or other businesses to decorate, draws visitors from all over southeast Iowa each December. Permanent attractions, such as the historic Snake Alley, bring in additional retail and tourism dollars. Snake Alley is a winding stretch of North Sixth Street, marketed as 'the most crookedest street in the world.' It is one of Burlington's most famous landmarks.

With the Main Street program as a guiding force, downtown Burlington has steadily turned around. Its historic features, pedestrian-scale and community gathering places have made downtown an attractive location for business. New projects are returning old buildings to productive use, while returning thousands of dollars to the tax rolls.

Arts and Entertainment District

Fountain Square - Indianapolis, Indiana

Introduction

Fountain Square, a historic commercial and residential neighborhood located southeast of downtown Indianapolis, was the city's first theatre district. But suburban flight and disinvestment beginning in the 1950s turned the once vibrant neighborhood into an economically challenged community. Through community-based redevelopment and continued revitalization, the once distressed neighborhood is now a thriving live-work community for artists.

The Southeast Side Neighborhood Development (SEND), a non-profit community development corporation, is the lead organization for the Fountain Square Cultural District. It provides a unified approach to developing the commercial corridor that now comprises more than 300,000 square feet of commercial space and two arts centers. SEND has also worked to upgrade public infrastructure and amenities including a \$5.5 million community center and a \$2.5 million library. SEND's effort, with substantial investment from the city, charitable organizations, corporate support, and individual donations, has fostered the revitalization of Fountain Square and its surrounding residential neighborhood. Increased investment in the commercial district has attracted investment in surrounding residential areas, with both long-time residents and new homeowners participating in improving the quality of area homes.

Early Fountain Square

From 1910 to 1960, Fountain Square was a neighborhood destination and the city's downtown for the Southside. There were multiple movie and vaudeville theaters, independent banks, a wide range of retail, churches, and social centers serving a range of ethnicities.

Economic hardship in the 1950s eclipsed Fountain Square's long-standing role as the Southside's commercial district. All of the neighborhood theaters closed, and there was a turnover in the type of businesses housed in the original commercial buildings. Many businesses closed and were replaced by lower quality ones.

In the 1970s, construction of I-65 cut the unified Southeast into isolated pockets and destroyed thousands of homes, hundreds of businesses, and many schools and churches. Suburban flight and disinvestment compounded the process.

Recovery

SEND worked incrementally on individual projects in the commercial district for more than 20 years. “If you look at where Fountain Square was twenty years ago, the improvement is remarkable. We’ve seen many successes as we steadily revitalize the neighborhood’s commercial center,” said SEND Project Manager Paul Baumgarten. Although the substantial success of the revitalization of downtown Indianapolis had some effect on Fountain Square, it was mostly SEND’s long-term commitment that encouraged confidence in program sponsors.

SEND is still working to diminish the past negative perceptions of people from outside of the neighborhood, but as more and more people have positive experiences in Fountain Square, visitation and interest in commercial and residential real estate has increased.

SEND and the city energized the revitalization of Fountain Square by redeveloping large, prominent buildings that served as catalysts for additional reinvestment and improvement. The Murphy Art Center and Fountain Square Theatre Building were developed through a partnership between private investors, SEND, and the Local Initiatives Support Corporation (LISC). A previously abandoned 45,000 square foot retail complex, the Murphy Art Center, completed in 2001, was developed in partnership with two artists. The project created six business storefronts primarily occupied by arts-related businesses and galleries, with 32 studios on the second floor offering affordable workspace for artists. For the Fountain Square Theater Building, SEND was the co-developer with a longtime neighborhood resident to restore a largely vacant 1920s movie building into an entertainment complex. The building hosts a theater with cultural, community, and educational events.

SEND restored an abandoned 1902 commercial building. In 2004, the Fountain Block Building, with 22 upper-floor apartments and a public library branch, became the primary contact point for visitors to the cultural district. The apartments have brought extended hours of activity to the commercial area.

In 2001, the Wheeler redevelopment put Fountain Square on the map as a serious arts community. The Wheeler Arts Community, an adaptive-reuse 60,000 square foot abandoned industrial building, now serves as 36 live-work lofts for low-income artists, and arts program space for the University of

Indianapolis. A mix of federal tax credits, bank investments, grants, and special loans paid for the \$4.4 million redevelopment.

The four catalyst projects cost a total \$9.5 million. Project funding sources include local, state, and federal governments, charitable foundations, corporate donations, and individual contributions. Significant in-kind contributions, fundraisers and thousands of hours of volunteer support further supplemented monetary contributions.

Long-term projects, currently in the planning stages, include upgrades to the streetscape and fountain, developing additional public space, and creating gateways and directional signs that visually define Fountain Square as a unique neighborhood of Indianapolis.

Economic Indicators and Funding

Although the population in the Fountain Square Commercial District decreased by 3.5 percent between 1990-2000, the surrounding areas experienced a population increase of 7.5 percent at that time. The commercial district's median household income rose by 82 percent from \$15,331 in 1989 to \$27,936 in 1999. The neighboring census tracts experienced a 54 percent increase. Similar to the change in median household income, per capita income steadily rose over the same decade by 67 percent in Fountain Square and surrounding districts. Fountain Square outpaced the city's increase in median household income (41.8 percent) and per capita income (52.7 percent).

Fountain Square's residential occupancy rate was 6 percent less than the city's in both 1990 and 2000. But while Indianapolis's rate dropped by 2.3 percent from 1990 to 2000, the residential occupancy rate rose by 1.2 percent in the areas around Fountain Square. Property tax values increased by 40.5 percent in Fountain Square from 1995 to 2005. Private investment funds most of the current projects in Fountain Square. In 2004 there was a total of \$176,000 in funding from private organizations and \$5,000 from public organizations. The following year there was \$23,700 from public sources and \$154,700 in private investment.

Fountain Square is just beginning to see interest and investment from private developers. A boom in the condominium market in downtown Indianapolis is gradually working its way into the area. Streetscape and infrastructure improvements will potentially attract multiple new development opportunities on the commercial corridor. SEND is still the primary developer, but they are marketing the area to the commercial development and real estate community.

Outlook

The development of the Fountain Square Commercial Corridor is an organic and slow process. Sustainability was a constant concern as the program was being developed. Currently, long-term funding for the Fountain Square Main Street program remains a primary concern. Challenges include improving cultural identity (artists are not integrated into the local community) and enhancing the architecture.

The Fountain Square Cultural District is a young project. Taking the cultural district project under its wings only a few years ago, SEND has managed to finesse multiple programs and initiatives through careful oversight in a very short time. The success of the project is already visible in the revitalization of the neighborhood, but it will still take several more years to determine the long-term economic impact. Millions of dollars in investment and focused support from local, state, and national organizations transformed Fountain Square into a vital commercial hub in Indianapolis. Now an Indianapolis destination, the historic community boasts a concentration of visual, literary and performing artists who live and work in the neighborhood.

Artist Relocation Program - Paducah, Kentucky

Introduction

Art is often considered an expression, a measure of talent, or a guide to culture and history, but to residents of Paducah, Kentucky (pop. 26,307) art is economic development. A walk through the 22 square block Lower Town neighborhood illustrates how this community has embraced its history and attracted new creative enterprises. Located in western Kentucky along the Illinois border and Ohio River, the once distressed neighborhood boasts historic homes and storefronts now used as residences, galleries, cafes, and workshops.

Lower Town owes much of its renewed energy to the Artist Relocation Program, an initiative designed to lure artists and associated economic benefits to Paducah. Adopted in 2000 with the Lower Town Neighborhood Plan, the program attracted 62 artists and \$15.5 million in private investment by 2005.

The economic turnaround is grounded in smart growth principles. By strengthening existing neighborhoods, revitalizing abandoned buildings, and making it more convenient to get between homes and jobs, the program is creating benefits for residents throughout the city.

Glory and Decline

Developed between the 1850s and 1920s, Lower Town is the oldest part of Paducah. Following the Civil War, businessmen, wealthy from industrial development located on the river, built mansions in the neighborhood. Because of its age and grandeur, Lower Town was placed on the National Register of Historic Places in 1982.

Despite its historic character and proximity to downtown, Lower Town declined after World War II, leaving large Victorian homes, bungalows, and storefronts in decay. New construction ceased in the 1950s, and historic homes were carved into apartments. The neighborhood became increasingly transient – it was seventy percent rental by 2000 –and did not seem safe, due in part to increased drug activity.

The Plan Begins

Following persuasion from resident and artist Mark Barone in 2000, the city initiated the Lower Town Neighborhood Plan to reduce crime, increase safety and property ownership, and ultimately improve the quality of life in Lower Town. The city adopted business-licensing policies from Minneapolis and Kansas City, built an inventory of properties in Lower Town, and held visioning meetings with the community. These efforts brought 65 percent of code-violating properties into compliance.

With revitalization in progress, the city looked for ways to draw new residents and businesses. The artist attraction strategy was a natural fit: the city felt that artists would buy properties, start new businesses, and draw tourism to the area. Plus, Paducah already had plenty of arts and tourism assets – theaters, a performing arts center, a quilt museum, a symphony, and shopping.

Wayne Sterling, Director of the Greater Paducah Economic Development Council, explained that because Paducah is the shopping center for a 15 county area, “surrounding residents were already used to going to Paducah for conventions, health care, shopping, and cultural events.” Tourists had long enjoyed Paducah’s festivals and downtown shops. Lower Town simply gives visitors from Missouri, Illinois, Tennessee, and elsewhere more to see and do in the city.

Bringing in the Artists

The city launched a series of financial and regulatory incentives, and used a national marketing campaign to spread the word. Free lots for new construction, multi-use zoning, and tax exemptions on construction materials encouraged

artists to buy structures and transform them into homes, workspaces, and galleries.

A group of community-minded institutions complemented the city's efforts. Paducah Bank offered loans with generous borrowing terms, required no down payment, and left the option to borrow against the entire appraised value of a structure. The Paducah Power System created a safer, more attractive streetscape by teaming with the city to install historic light fixtures. The tourist visitor's bureau promoted gallery tours hosted by the artists, and marketed Lower Town to Ohio River paddleboat travelers. Local broadcasters and newspapers donated airtime and page space to advertise fairs, festivals, gallery openings, and showings.

The following are some incentives that were offered to artists:

- Financing for purchase and rehab of an existing structure or building of a new structure. Basic loan package is seven percent - 30yr. fixed rate up to 300 percent of appraised value.
- Free lots for new construction as available.
- City pays up to \$2,500 for architectural services or other professional fees.
- Tax exemption on materials purchased for rehab or new construction.
- Discounted web pages.
- National marketing of arts district and Paducah.
- Mixed-use zoning enables gallery, studio, and living space under one roof.

Lower Town Today

The Artist Relocation Program has drawn sixty-two artists to Paducah; none has left or defaulted on a loan. The program has generated \$15.5 million in private investment – a 13 to one return on public funding – and delivered dozens of new jobs including 65 to construct, renovate and maintain buildings, and 32 for art gallery assistants and marketing associates. Artists have opened 18 galleries and brought in seven service-oriented businesses. The City of Paducah Planning Department estimates that since August 2000 building permits and business license revenue increased by \$62,100 and property tax revenues increased by \$45,000.

Neighborhood improvement is widespread. More than half of the 50 vacant structures in Lower Town have been renovated and filled, with the remainder expected to be occupied within one or two years. Vacancy rates have declined 46 percent thanks to 138,000 square feet in renovations and 48,000 square feet of new construction since August 2000.

The program has done wonders for Lower Town's image, drawing national recognition and piquing local curiosity. Non-artists in the area increasingly think of Lower Town as a place to start a business or own a home. And nearby neighborhoods view Lower Town as a model for revitalization.

Conclusions

Centers and Corridors is both appropriate and workable as overall planning orientation for Charlotte-Mecklenburg

As discussed earlier, the ability to sustain both the natural assets and the built environment of Charlotte-Mecklenburg will be critical to the long term economic vitality of the region. To that end, the Centers and Corridors Initiative provides a framework for growth. The Centers and Corridors Initiative will leverage existing corridors with new infrastructure investment in those corridors (both roads and rail transit) by providing urban design tools and density incentives in order to realize mixed-use transit-oriented neighborhoods connected within those corridors.

This approach is unique nationally in terms of its comprehensiveness. Ensuring implementation, the Centers and Corridors Initiative provides a realistic environmental strategy to preserve the natural assets of the region while at the same time utilizing those assets, such as well planned green space, to create sustainable, high quality places to live, work and shop. The initiative's environmental strategy is paralleled and complemented by development policies and an urban design approach that focus on streets and the transportation network as the primary means to create and maintain livable neighborhoods and village centers, not just conduits for moving cars.

Taken together, the environmental policies and design guidelines of the Centers and Corridors Initiative provide an opportunity for meaningful value capture. Value capture will enable Charlotte-Mecklenburg to invest efficiently in new infrastructure because the resulting market-driven pattern of development and the character of the neighborhoods emanating from that development will lead to ongoing reinvestment through a healthy and sustainable tax base.

There could be a substantively and statistically significant positive relationship between Centers and Corridors and region's economic performance.

The literature review that forms the first portion of this report outlines the academic research available on this topic, and suggests that planning policy and patterns of infrastructure investment, in a variety of specific ways, can have a positive influence on the performance of a regional economy. Beyond the literature, the statistical analysis puts form and structure on the extent of the

impact. The findings indicate that the historical difference between communities that have adopt a New Urban Development (as represented in this case by Centers and Corridors) orientation toward planning and those that do not is statistically significant. These findings are somewhat theoretical, in that it is difficult to suggest that one single factor alone will drive the performance of a region's economy. Sustained economic growth is the product of a variety of interrelated factors, including an educated and skilled workforce, high levels of worker productivity, local policies that are conducive to business and overall quality of life, local transportation accessibility and mobility, and a growing national economy, to name a few. A region might grow absent a specific variable, but rarely can it sustain growth without strong performance of at least a majority. Combined, they create a portfolio of assets that make a region competitive in the regional, national, and global economy. Moreover, the sum is greater than the parts, which means that the assets present, the stronger the portfolio, and the more economically successful a region is likely to be.

APPENDIX A – Two Influential Recent Studies

Measuring Sprawl and Its Impact (2002) – Ewing, Pendall, and Chen

Much has been written about sprawl and its effects on the suburban landscape. The Environmental Journalism Center describes sprawl as follows:⁶⁸

Sprawl is associated with rapid suburban growth, but not all growth is sprawl. It's a pattern of development that puts miles of asphalt between home and work, work and school, shops and home, Mom and the soccerplex - and connects them with the automobile. It is a pattern that is easily and quickly replicated, with mass-produced houses and chain store architecture. Therefore, it frequently outpaces the infrastructure needed to serve it - roads, water lines, sewer systems, schools. It carves former farms and forests into house lots, parking lots and streets, and usually leaves out space for parks, plazas, sidewalks and other common areas where people can gather without their automobiles.

In essence, sprawl occurs when the spread of development (suburban expansion) far outpaces the population growth, even as central cities and inner suburbs decline. In their 2002 study measuring sprawl and its impact on metropolitan communities throughout the U.S., Ewing, Pendall & Chen named four dimensions unique to landscape sprawl:⁶⁹

1. A population that is widely dispersed in low-density development;
2. Rigidly separated homes, shops, and workplaces;
3. A network of roads marked by huge blocks and poor access;
4. A lack of well-defined, thriving activity centers, such as downtowns and town centers.

In their study, the authors created a sprawl index for 83 metropolitan areas, representing nearly half of the U.S. population. The index was based on four factors that were measured and analyzed: residential density; neighborhood mix of homes, jobs, and services; strength of activity centers and downtowns; and accessibility of the street network. Each of the four factors had measurable subcomponents (a total of 22) that helped produce the score.

Each metro area earned a score in each of the four factors, indicating where it falls on the spectrum relative to other areas. Analysis showed that some regions were found to sprawl badly on all dimensions - namely, Atlanta, Raleigh, and Greensboro, NC. Regions that scored well on all four factors included San Francisco, Boston, and Portland, Oregon. Most other metropolitan areas had a combination of good, fair, and poor scores on the factors. The scores for the four factors were combined to create an overall Four Factor Sprawl Index, the average of which is 100 for all 83 metro areas analyzed.

Below is a table showing the metropolitan areas that received the lowest and highest index scores, indicating the most and least sprawl, respectively:

Table A.1: Most Sprawling Metropolitan Regions

Metropolitan Region	Overall Sprawl Index Score	Rank
Riverside-San Bernadino, CA	14.2	1
Greensboro-Winston-Salem-High Point, NC MSA	46.8	2
Raleigh-Durham, NC MSA	54.2	3
Atlanta, GA MSA	57.7	4
Greenville-Spartanburg, SC MSA	58.6	5
West Palm Beach-Boca Raton-Delray Beach, FL MSA	67.7	6
Bridgeport-Stamford-Norwalk-Danbury, CT NECMA	68.4	7
Knoxville, TN MSA	68.7	8
Oxnard-Ventura, CA PMSA	75.1	9
Fort Worth-Arlington, TX PMSA	77.2	10

Source: *Measuring Sprawl and Its Impact (2002)*

Table A.2: Least Sprawling Metropolitan Regions

Metropolitan Region	Overall Sprawl Index Score	Rank
New York, NY PMSA	177.8	1
Jersey City, NJ PMSA	162.3	2
Providence-Pawtucket-Woonsocket, RI NECMA	153.7	3
San Francisco, CA PMSA	146.8	4
Honolulu, HI MSA	140.2	5
Omaha, NE-IA MSA	128.4	6
Boston-Lawrence-Salem-Lowell-Brockton, MA NECM	126.9	7
Portland, OR PMSA	126.1	8
Miami-Hialeah, FL PMSA	125.7	9
New Orleans, LA MSA	125.4	10

Source: *Measuring Sprawl and Its Impact (2002)*

Examining the region which received the lowest marks, Riverside-San Bernadino, CA, is instructive. According to the authors, Riverside received such low marks because:⁷⁰

- It has few areas that serve as town centers or focal points for the community; for example, more than 66 percent of the population lives over ten miles from a central business district;
- It has little neighborhood mixing of homes with other uses; one measure shows that just 28 percent of residents in Riverside live within one-half block of any business or institution;
- Its residential density is below average: less than one percent of Riverside's population lives in communities with enough density to be effectively served by transit;
- Its street network is poorly connected: over 70 percent of its blocks are larger than traditional urban size.

The study found that people living in more sprawling regions drive greater distances, own more cars, breathe more polluted air, are at increased risk of traffic fatalities, and walk and use transit less. Specifically, the research showed the following impacts of sprawl on quality of life:⁷¹

- Higher rates of driving and vehicle ownership: In relatively sprawling regions, cars are driven longer distances per person than in places with lower-than-average sprawl. Over an entire region, that adds up to millions of extra miles and tons of additional vehicle emissions. The study also found that in the ten most sprawling metro areas, there are 180 cars to every 100 households. In the least sprawling metro areas (excluding New York City and Jersey City, which are outliers), there are 162 cars to every 100 households. The research indicates that this is not simply a matter of greater or lesser affluence; even controlling for income, households are more likely to bear the expense of additional vehicles in more sprawling areas.
- Increased levels of ozone pollution: The degree of sprawl is more strongly related to the severity of maximum ozone days than per capita income or employment levels. The difference in ozone peaks appears significant enough to potentially mean the difference between reaching or failing to meet federal health-based standards. Failing to reach the standard not only imperils the health of children and other vulnerable populations, but also subjects regions to a raft of rigorous compliance measures.
- Greater risk of fatal crashes.: Residents of more sprawling areas are at greater risk of dying in a car crash. In the nation's most sprawling region, Riverside, CA, 18 of every 100,000 residents die each year in traffic crashes. The eight least sprawling metro areas all have traffic fatality rates of fewer than 8 deaths per 100,000. The higher death rates in more sprawling areas may be related to higher amounts of driving, or to driving on high-speed arterials and highways, as opposed to driving on smaller city streets where speeds are lower. Speed is a major factor in the deadliness of automobile crashes.
- Depressed rates of walking and transportation use: In more sprawling areas, people on their way to work are far less likely to take the bus or train or to walk. Twice the proportion of residents take public transit to work in relatively non-sprawling metro areas versus those with below-average scores. Likewise, thousands more residents walk to work in regions that sprawl less.
- No significant differences in congestion delays: The research found that sprawling metros exhibited the same levels of congestion delay as other regions. This finding challenges claims that regions can sprawl their way out of congestion.

As the study authors note, "even for metropolitan regions that appear relatively compact, urban sprawl is a serious problem because of its strong association with numerous societal problems."⁷² Even a modest increase in residential density (from one or two houses per acre to six or seven) has the potential to alleviate many of these problems. Fortunately, there is an increasing desire for

compact, walkable neighborhoods, in-town living, and a stronger sense of community as reflected by shifts in the real estate market.

Six policy recommendations were offered for regions wishing to improve their quality of life by reducing sprawl:⁷³

1. Reinvest in neglected communities and provide more housing opportunities;
2. Rehabilitate abandoned properties;
3. Encourage new development or redevelopment in already built up areas;
4. Create and nurture thriving, mixed-use centers of activity;
5. Support growth management strategies;
6. Craft transportation policies that complement smarter growth.

From Traditional to Reform: A Review of the Land Use Regulations in the Nation's 50 largest Metropolitan Areas (2006) – Pendall, Puentes, and Martin

The Brookings study reviewing the current landscape of housing regulation in the United States is divided into 3 major sections: a background on the evolution of land use regulation in the U.S., along with the impacts of these regulations; a summary of the survey and the process of analyzing the data; and the results of the analysis, with six major findings. The information in the following sections is taken directly from the report.

Background

Land use regulation in the United States is a decidedly local affair. The U.S. Constitution does not address land use per se, and state governments have historically delegated decisions about land use to local governmental bodies. The most common form of local land use regulation is zoning, which "entails separating the land in a particular area into sections, or zones, with different rules governing the activities on that land."⁷⁴ Zoning and other land use controls have consistently been upheld by the U.S. Supreme Court because they are rationally related to public health, safety, and welfare.

Comprehensive planning - a policy statement of the future land use and development goals of a particular region - has historically received much less enthusiastic support. After Congress passed the Housing Act of 1954, local governments were required to adopt a long range general plan before they could qualify for urban renewal, housing, and other grants. And beginning in the late 1960's, some state governments started requiring local governments to plan, often to ensure they were consistent with state goals.

These efforts are referred to broadly as "growth management," a term used to describe the deliberate and integrated use of the planning, regulatory, and fiscal authority of state and local governments to influence the pattern of growth and development in order to meet projected needs. This definition includes such tools as comprehensive planning and zoning, but also development fees, infrastructure investments, and other policy instruments

like containment that significantly influence the development of land and the construction of housing.⁷⁵

According to the Brookings authors, "one of the most significant local land use innovations in the last 30 years has been in the anticipation and incorporation of the impacts of growth on local infrastructure and environmental systems, at the scale of both individual developments (subdivisions and site plans) and larger areas (neighborhood plans and comprehensive plans)."⁷⁶ By way of example, local governments now charge impact fees on building permits as prorata shares of capital costs for a variety of infrastructure systems. Growth controls can also take the form of building permit rationing, reductions in permitted density and height of new buildings, and increased time to process development applications. Urban containment is another strategy employed by municipalities to respond to public concerns about open space and infrastructure capacity by developing policies that shape the urban edge.

Another policy innovation worth noting is using local land use regulations to induce or require affordable housing. Whereas affordable housing had primarily been the responsibility of the federal government, in the 1970's new local housing measures arose in response to both state and federal mandates and to residents who wanted their communities to have a more balanced supply of housing. Local governments began to spend more on affordable housing by, for example, subsidizing housing construction.

What are the impacts of these land use regulations? Research can generally be separated into two categories: whether the regulations achieve their stated purpose, and whether there are any intended or unintended "downstream" effects. In some areas, land use regulations were adopted to support or endorse market trends, so there was little visible influence of the regulations. Other studies identified regions where regulations have had a substantial impact on development patterns and land prices.

Most consistently, building permit caps and extensive low density zoning appear to associate with slower growth, less housing provision, and at the regional level, lower density land use patterns than would occur in their absence....At the larger level some research shows that states with growth management do not differ significantly from non-growth management states. In short, implementation matters with all these regulations, and result vary dramatically depending on both the initial design of the regulation and its execution.⁷⁷

Evidence suggests that places with stricter land use regulations differ systematically from those where they are less strict. Even as regulations can raise the quality of housing and neighborhoods, it can also play a role in fragmentation of space according to race and income. Research has shown that strictly regulated jurisdictions are more likely to be occupied by white non-Hispanic and upper-income people.

The Survey

Surveys were sent to every local government in the 50 largest metropolitan areas in the U.S.. These metropolitan areas included 2,365 jurisdictions that had a 2000 population over 10,000 and another 812 jurisdictions that had less than 10,000 residents. All jurisdictions had regulatory authority on the broad array of issues covered in the survey. Over 58 percent of jurisdictions responded.

The survey covered six discrete (but related) areas of land use regulation. These descriptions were taken directly from the report (summarized for brevity, if necessary):

- 1) Zoning: The survey investigated whether there was zoning at all. If so, the survey determined the maximum permitted residential density in the zoning ordinance in dwellings per acre. Five density ranges corresponding to particular housing types were provided. The survey asked whether the maximum permitted density had increased since 1994 by more than 10 percent, remained the same, or decreased by more than 10 percent. Mobile home placement was also asked. Lastly, to learn more about the impact of zoning on multi-family development, the survey investigated whether the ordinance had a zoning category that would allow construction either "by right" or by special permit of a prototype apartment dwelling with 40 units of two story apartments on a five acre lot. The purpose was to investigate the extent to which zoning excludes certain development types and, by extension, the households that would hypothetically occupy them.
- 2) Comprehensive planning: The survey asked whether the jurisdiction had a comprehensive plan and when its land use element was last updated.
- 3) Containment: The local governments surveyed were asked to report on whether they used any of a series of growth containment measures such as service areas or service boundaries, growth areas or growth boundaries, and/or greenbelts. They were also asked what year they had adopted these measures.
- 4) Infrastructure regulation: The inquiries about impact fees and adequate public facilities ordinances included questions about whether the municipalities had either of these tools. Regarding impact fees, the survey asked whether the fees were calculated case by case or at a flat rate; what the flat fee was, if any; and which infrastructure systems were subject to impact fees. It also asked which infrastructure systems were subject to adequate public facilities ordinances.
- 5) Growth control: The survey asked whether the jurisdiction had a building permit cap, how many units were allowed to be built each year, and how long the cap had been in place. It asked whether there was a current moratorium on issuance of building permits, how long it had been in place, and whether it covered only some or all of the jurisdiction. The distinction between innovative and restrictive growth control measures is among the most complex in the analysis.

6) Affordable housing: The survey asked a battery of questions about local affordable housing programs. The first concerned regulatory approaches, such as inclusionary zoning, density bonuses, linkage fees, fast-track permitting processes, and fee waivers. Second, it asked local governments if they directly work to create affordable housing, for example, by spending their own funds or working with nonprofits and public housing authorities, or by setting up a dedicated funding source (such as a trust fund) for affordable housing. Finally, it asked them to estimate the number of assisted housing units in their jurisdictions.

Table 1. Measures used in factor analysis

Factor	Measure
Zoning	1. Presence of zoning
	2. Low density-only zoning
	3. Zoning allowed above 30 dwellings per acre
	4. Permission for the prototype high density apartment complex
Comprehensive Planning	5. Presence or absence of a comprehensive plan
Containment	6. Presence of a containment device
Infrastructure Regulation	7. Presence of adequate public facilities ordinances
	8. Utilization of impact fees
Growth Control	9. Utilization of building moratoria
	10. Presence of permit caps
Affordable Housing	11. Presence of a regulatory affordable housing program
	12. Existence of a funding source (such as a trust fund)

Once the surveys were complete and coded, estimates were constructed of the incidence of 16 key land use regulations and housing programs at the metropolitan level and stratified by three and sometimes four dimensions. The result was a table of probabilities that were then applied to non-respondents and non-surveyed municipalities. This process allowed the estimation of how many and what share of jurisdictions had a particular regulation.

Factor analysis was used to characterize the prevalence in each metropolitan area in each of the six areas of land use regulations listed above. Once the factor analysis was complete, hierarchical cluster analysis was used to gain a more empirically based view of which metropolitan areas most resemble one another in their regulatory structure based on the land use tools/factors. The cluster analysis resulted in 12 clusters (or typologies) that identify similar approaches to residential land use regulation in the 50 largest metropolitan areas. These 12 clusters were then combined into four major groups based on their similarity to one another.

Findings

The analysis of the survey resulted in six major findings:

1) *Basic land use regulations like zoning and comprehensive planning dominate the regulatory landscape all across the U.S., while other tools like containment and permit caps are far less common.*

The authors point out that neither zoning nor comprehensive planning are particularly innovative planning tools, and their presence does not necessarily indicate that a jurisdiction will accommodate growth. Apart from zoning, impact fees are the most common tool in the U.S. today for residential land use regulation; they are imposed by 37 percent of the jurisdictions containing 56 percent of the population and 46 percent of the land area in the top 50 metropolitan areas. The data shows that other regulatory tools, such as urban containment programs and permit caps, are far less common.

It was estimated that 23 percent of jurisdictions have an incentive-based affordable housing program and 15 percent have a dedicated source of funds for affordable housing. However, these jurisdictions tend to be larger cities; those regulatory programs actually account for 57 percent of the population and 30 percent of the land area, while the ones with dedicated housing funds include 52 percent of the population and 33 percent of the land.

2) *The presence of these land use tools varies greatly across the country. Northeast and Midwest metropolitan areas use land use regulation to exclude while those in the West are more accommodating, with more regulations designed to affect the pace and shape of development.*

Even with wide variations across and within metropolitan areas, some clear commonalities were observed in the four large regions of the country: the Northeast, Midwest, South and West.

Metropolitan areas of the West clearly distinguish themselves from the rest of the nation (particularly the Northeast and Midwest); they lead in terms of percent with a comprehensive plan and they have, by far, higher densities than the other metropolitan areas. They utilize containment and infrastructure regulations much more frequently, and they have more programs designed to boost the supply of affordable housing.

In terms of zoning, Northeast and Midwest jurisdictions greatly restrict densities while those in the South and West are much more accommodating. For purposes of the survey, an exclusionary jurisdiction is one that maintains solely low densities (no housing anywhere greater than 8 dwellings per acre) and would bar the hypothetical apartment building by right or special exception.

Comprehensive plans exist in 85 percent of jurisdictions, with the West leading the group with 99 percent. The major areas in which planning is

weak are Salt Lake City, Houston, Milwaukee, New Orleans, Chicago, and in New York City, which does not have any sort of comprehensive plan.

The list of metropolitan areas where urban containment policies are common is dominated by the South and the West. Not surprisingly, the highest-ranking metropolitan areas on the containment factor are those in which state law requires containment: Portland, Seattle, and Nashville. Although the percent of jurisdictions with containment policies in place in the West (55) is more than twice as high as the figure for the South (23), the percent of land area affected by the containment policies is closer (51 percent in the West, 43 percent in the South).

The percent of jurisdictions with control on infrastructure capacity is highest in the West for both impact fees and adequate public facilities ordinances. Nearly 90 percent of Western jurisdictions use impact fees, twice as high as those in the South. However, the highest scoring areas on the impact fee factor are those in Florida, which mandates concurrency between infrastructure and development and prescribes the use of impact fees.

The professional and political backlash against growth control measures such as building permit caps and growth moratoria makes them quite rare outside a few metropolitan areas (Denver, Las Vegas, and to a lesser extent, Boston).

Lastly, outside the West, there is only modest local action in developing incentive-based affordable housing programs, and even less in establishing dedicated housing funds to support affordable housing. In the West, nearly two-thirds of the municipalities have incentive programs and half have dedicated funds established; no other region comes close to these figures.

Table 2. Local Land Use Tools in the 50 Largest U.S. Metro Areas:
Share of jurisdictions, population, and land area to which they apply, 2003

	Estimated percent of		
	Jurisdictions	Population	Land
Zoning			
Ordinance in place.....	91.5	95.3	89.3
Maximum permitted density in zoning ordinance:			
<4 / acre	22.1	5.1	11.8
4-7/acre	16.4	6.6	7.4
8-14/acre	21.5	14.5	15.9
15-30/acre	19.9	20.9	32.9
>30/acre	11.6	48.2	21.3
No zoning	8.5	4.7	11.1
No prototype apt. permitted.....	30.4	9.2	15.6
No mobile homes permitted.....	51.2	40.9	18.0
Change in maximum permitted density of more than 10% since 1994:			
Increase.....	10.5	9.6	7.3
Decrease	8.9	7.1	5.4
Comprehensive plan in place	84.6	84.1	92.1
Urban containment program or policy	16.4	27.1	37.9
Infrastructure tools in place			
Impact fees.....	37.5	55.6	45.6
Adequate public facilities ordinance	18.6	28.5	36.5
Controls on the pace of development			
Permit cap	2.4	3.5	2.9
Moratorium	3.8	6.5	6.3
Affordable housing programs			
Regulatory incentives	22.9	57.2	29.9
Dedicated funds	14.9	51.6	33.3

3) Several important typologies of places emerge that associate metropolitan areas with each other based on their combination of land use regulations. As mentioned earlier, the cluster analysis of the data yielded 4 major groups of jurisdictions (called "regulatory orders" in the study): Traditional, Exclusionary, Wild West Texas, and Reform. The table below summarizes the groups by number of metropolitan areas included and total population.

Table 3. Typology of Land Use Regulations, by Orders and Families, Major U.S. Metropolitan Areas, 2003

Regulatory Orders and Families	Number of Metropolitan (or Sub-metropolitan) areas	Total Population
Traditional	34	75,483,321
Middle America	32	61,459,742
High Density	2	14,023,579
Exclusion	5	14,621,514
Basic Exclusion	3	8,563,688
Exclusion with Restriction	1	5,287,393
Extreme Exclusion	1	770,433
Wild Wild Texas	4	12,733,518
Austin	1	1,249,763
Houston	1	4,669,571
Dallas/San Antonio	2	6,814,184
Reform	19	59,340,464
Containment	5	7,838,637
Containment-Lite	3	7,496,135
Growth Management	9	34,384,824
Growth Control	2	9,620,868

Traditional: The traditional group contains the largest number of metropolitan areas and residents. All of these places are in the Midwest, Northeast, and South with the exception of Salt Lake City. Planning and zoning remains mostly voluntary, few local governments engage in innovative land-use regulation, and state review of local plans is largely absent. These are also highly fragmented metropolitan areas with large numbers of local governments, each of which regulates land use based mainly on its own measures. The Traditional group has two regulatory families: Middle America and High Density.

Because Middle America includes so many metropolitan areas, it approximates the national average on most regulatory factors, with three telling exceptions. First, these areas have more restrictive densities in their zoning ordinances than the national norm. Second, they have more modest commitments than the national average to infrastructure-based growth management (e.g., impact fees). Third, they make very little use of affordable housing mechanisms, such as incentive programs or dedicated funding sources.

High Density is distinguished mainly by its openness to high density residential development, but it still resembles Middle America in its moderate adoption of new planning tools. This family contains only two metro areas: the portions of the New York metro area in New York state and the Salt Lake City metro area.

Exclusionary: The Exclusionary group is known for its extensive use of measures that restrict apartment construction. They also share a comparatively low use of tools to require that development "pay its own way." There are five

metro areas in this group: the Wisconsin suburbs on the far eastern fringe of Minneapolis, the New Jersey suburbs of Philadelphia and New York, Boston's New Hampshire suburbs, and the Massachusetts component of metropolitan Boston. The areas differ slightly with regard to how exclusionary they are, based on what percentage of population and land area is zoned low-density only, and whether or not they would permit the hypothetical apartment development proposed in the survey. The three subfamilies based on these criteria are Basic Exclusion, Exclusion with Restriction, and Extreme Exclusion.

Wild Wild Texas: According to the study authors, the Texas metropolitan areas form a group of their own. They have in common an unparalleled openness to growth and development. Texas counties are not allowed to adopt zoning, nor can they adopt binding comprehensive plans. Cities are authorized to zone unincorporated land within specified distances of their city limits, but any land outside that extraterritorial jurisdiction is regulated only by minimal subdivision regulation. The variation in the three Texas families (Houston, Dallas/San Antonio, and Austin) is primarily on the degree to which "no zoning" dominates the landscape.

Reform: This final group contains four distinct families whose metropolitan areas use tools beyond comprehensive plans, zoning and subdivision regulation to manage and control land use. They differ mainly in the extent to which they include local affordable housing measures, in their emphasis on containment or infrastructure regulation, and in the importance of building-cap permits in the regulatory toolkit.

The Growth Management family includes nine metro areas: five in Florida, Phoenix, and three in California. It is so called because of the high use of containment policies and infrastructure management as logical counterpoints to zoning ordinances that permit comparatively high-density housing development.

The Growth Control family is made up of two metro areas: Denver and San Francisco. This family closely resembles the Growth Management family in the extensiveness of planning, zoning framework, importance of impact fees, and its use of affordable housing programs. But, unlike Growth Management, it ranks first in the use of permit caps, and it also makes more extensive use of containment.

The Containment family includes Seattle, Portland, Nashville, Memphis, and the Arizona component of the Las Vegas metro area. This family depends much more than the others on containment mechanisms, averaging 80 percent of jurisdictions, largely a consequence of mandates in state growth management laws. This family has a weaker commitment to affordability than other reform families.

The Containment Lite family includes the Maryland portion of the Washington, DC metro area, New Orleans, and the Nevada portion of the Las Vegas metro area. This family has a moderate level of containment among the Reform families, and also a more modest commitment to other growth management tools and a more active growth control agenda.

4) *Densities in metropolitan areas with Traditional land-use regimes are falling much faster than areas elsewhere.*

A first important outcome of a group or family of land-use regulation is the pattern of land development, which, when undesirable, is often called "sprawl." Between 1982 and 1997, the amount of urbanized land in the U.S. increased over 20 percent. But land consumption varied dramatically among metropolitan areas, with some regions retaining or increasing their density, and others losing density at a rapid pace. The study authors explored the relationship between density, the change in density, and the group to which they belonged. They found that, overall, densities in metro areas classified as Traditional are falling faster than other areas. Regions that rely on traditional zoning are losing their historical density at rapid rates, and the loss is particularly acute in regions where exclusionary land use prevails and is combined with controls on the issuance of building permits.

5) *Central cities are high-value places for residents of the Texas and Reform areas but frequently contain most of the "neighborhoods of last resort" in Traditional and Exclusionary places.*

The study found a relationship between a jurisdiction's classification (Traditional, Reform, etc.) and families, on the one hand, and central city opportunity or distress. Central cities in Traditional and Exclusionary areas have very high concentrations of low income people and people of color and low concentrations of college graduates and homeowners. By contrast, The Wild Wild Texas and Reform areas have higher concentrations of college graduates and homeowners in their central cities than their suburbs. And while black and Hispanic residents as well as people living in poverty are still concentrated in central cities of these metropolitan areas, they are much more dispersed to suburban jurisdictions than in the other two major types.

6) *Housing prices are highest in the Growth Control and Exclusionary regions.*

The study shows that by far the housing prices in the U.S. are in the Growth Control metropolitan areas, owing mainly to the sky-high prices of San Francisco metropolitan area. However, other regions such as Denver wherein certain parts are more "growth controlled" than others also showed higher prices as well. It appears arguable that the Growth Control family (a subset of the Reform group), which combined a series of locally imposed and generally uncoordinated urban growth boundaries with widespread building permit caps, associates with high housing prices.

APPENDIX B – Detailed Data

Measures of Sprawl

	Overall	Street Connectivity	Centeredness	Mixed Use	Density
Atlanta	57.7	57.0	82.3	73.7	84.0
Austin	110.3	94.4	115.8	111.9	89.0
Baltimore	115.9	105.2	115.6	106.8	104.3
Birmingham	88.0	104.0	112.5	62.2	77.1
Boston	126.9	119.1	109.4	124.4	113.6
Buffalo	119.1	70.6	135.2	124.7	102.1
Chicago	121.2	134.9	85.8	115.1	142.9
Cincinnati	96.0	85.4	110.2	95.8	88.8
Cleveland	91.8	66.8	100.9	107.4	99.7
Columbus	91.1	97.2	101.5	76.5	91.5
Dallas	78.3	90.2	81.1	82.6	99.5
Denver	125.2	125.7	108.9	115.7	103.7
Detroit	79.5	93.0	63.0	102.5	97.3
Fort Lauderdale	108.4	137.2	75.0	94.7	113.9
Fort Worth	77.2	97.5	73.9	89.1	90.3
Hartford	85.2	59.6	84.6	119.4	86.3
Houston	93.3	95.6	87.0	110.1	95.3
Indianapolis	93.7	84.5	102.4	96.2	89.3
Jacksonville, FL	91.6	104.6	102.1	72.9	85.6
Kansas City	91.6	88.8	89.0	100.0	90.9
Las Vegas	104.7	108.8	99.8	80.1	110.0
Los Angeles	101.8	123.3	72.4	123.1	151.5
Memphis	92.2	76.5	104.2	97.0	88.9
Miami	125.7	136.4	92.7	104.7	129.1
Milwaukee	117.3	93.9	117.7	117.9	101.4
Minneapolis—St. Paul	95.9	87.7	107.8	94.7	94.7
New York	177.8	154.9	144.6	129.8	242.5
Oakland	98.8	133.4	57.6	106.3	116.6
Oklahoma City	85.6	69.1	95.6	101.3	84.5
Orlando	96.4	120.6	103.5	60.8	93.8
Philadelphia	112.6	113.0	95.9	119.5	114.7
Phoenix	110.9	107.2	92.6	116.0	106.8
Pittsburgh	105.9	124.2	104.5	86.8	90.4
Portland	126.1	128.0	121.8	102.3	101.3
Providence—Pawtucket	153.7	135.9	140.3	140.5	99.1
Riverside—San Bernadino	14.2	80.5	41.4	41.5	93.5
Rochester	77.9	37.2	120.7	82.3	91.4
Sacramento	102.6	98.4	87.4	110.9	99.1
Salt Lake City	110.9	117.0	93.8	103.2	99.5
San Antonio	107.8	103.0	108.4	100.6	95.0
San Diego	101.9	106.0	74.4	105.4	113.4
San Francisco	146.8	139.8	128.6	107.3	155.2
San Jose	109.7	125.2	93.9	96.6	124.8
Seattle	100.9	117.1	98.0	79.4	103.6
St. Louis	94.5	106.0	76.2	107.4	90.3
Tacoma	105.9	111.2	122.7	85.6	90.8
Tampa—St. Petersburg	86.3	133.6	51.9	80.0	93.6
Washington DC	90.8	98.0	97.8	78.7	106.9
West Palm Beach	67.7	104.7	53.9	54.7	94.0

MSA Per Capita Income & Population

	1995 PCI	2000 PCI	2005 PCI	95-05 Change	2005 Population
Atlanta	\$25,161	\$33,122	\$35,009	3.36%	4,917,717
Austin	\$22,493	\$32,548	\$34,005	4.22%	1,452,529
Baltimore	\$25,314	\$33,293	\$40,846	4.90%	2,655,675
Birmingham	\$22,257	\$28,383	\$34,864	4.59%	1,090,126
Boston	\$29,621	\$41,436	\$48,158	4.98%	4,411,835
Buffalo	\$21,926	\$27,210	\$32,012	3.86%	1,147,711
Charlotte	\$24,830	\$32,182	\$36,151	3.83%	1,521,278
Chicago	\$27,170	\$34,918	\$38,439	3.53%	9,443,356
Cincinnati	\$23,567	\$30,476	\$35,618	4.22%	2,070,441
Cleveland	\$25,383	\$31,625	\$35,542	3.42%	2,126,318
Columbus, OH	\$23,752	\$30,743	\$35,226	4.02%	1,708,625
Dallas-Ft. Worth	\$24,894	\$33,972	\$37,075	4.06%	5,819,475
Denver	\$27,148	\$37,848	\$42,574	4.60%	2,359,994
Detroit	\$26,201	\$34,047	\$37,694	3.70%	4,488,335
Hartford	\$28,187	\$36,981	\$42,706	4.24%	1,188,241
Houston	\$24,474	\$34,040	\$39,052	4.78%	5,280,077
Indianapolis	\$24,531	\$31,916	\$36,231	3.98%	1,640,591
Jacksonville, FL	\$22,713	\$29,436	\$33,732	4.03%	1,248,371
Kansas City	\$24,309	\$31,607	\$35,859	3.96%	1,947,694
Las Vegas	\$24,187	\$29,601	\$34,890	3.73%	1,710,551
Los Angeles	\$24,420	\$31,045	\$36,917	4.22%	12,923,547
Memphis	\$22,994	\$28,518	\$33,880	3.95%	1,260,905
Miami	\$25,383	\$31,223	\$36,293	3.64%	5,422,200
Milwaukee	\$25,298	\$32,717	\$37,862	4.11%	1,512,855
Minneapolis—St. Paul	\$27,606	\$36,838	\$42,083	4.31%	3,142,779
New York	\$30,499	\$39,915	\$45,570	4.10%	18,747,320
Oklahoma City	\$20,213	\$26,501	\$31,630	4.58%	1,156,812
Orlando	\$21,053	\$27,017	\$31,112	3.98%	1,933,255
Philadelphia	\$26,177	\$34,059	\$40,468	4.45%	5,823,233
Phoenix	\$21,682	\$28,363	\$32,536	4.14%	3,865,077
Pittsburgh	\$23,628	\$30,610	\$36,208	4.36%	2,386,074
Portland, OR	\$24,924	\$32,122	\$35,215	3.52%	2,095,861
Providence—Pawtucket	\$22,752	\$28,973	\$35,493	4.55%	1,622,520
Riverside—San Bernardino	\$18,505	\$22,808	\$26,584	3.69%	3,909,954
Rochester	\$24,093	\$29,327	\$33,618	3.39%	1,039,028
Sacramento	\$23,397	\$29,989	\$34,805	4.05%	2,042,283
Salt Lake City	\$20,863	\$27,852	\$33,279	4.78%	1,034,484
San Antonio	\$20,324	\$26,751	\$30,109	4.01%	1,889,797
San Diego	\$23,533	\$32,803	\$39,880	5.42%	2,933,462
San Francisco-Oakland	\$32,149	\$48,343	\$51,964	4.92%	4,152,688
San Jose	\$31,479	\$53,415	\$50,373	4.81%	1,754,988
Seattle-Tacoma	\$27,007	\$37,746	\$41,661	4.43%	3,203,314
St. Louis	\$24,592	\$31,172	\$36,174	3.93%	2,778,518
Tampa—St. Petersburg	\$22,383	\$28,653	\$33,008	3.96%	2,647,658
Washington DC	\$31,332	\$40,672	\$49,530	4.69%	5,214,666

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