

# The Neighborhood-Centric City

*Achieving Fiscal Sustainability by Maximizing Returns on Investment in Neighborhood Health*

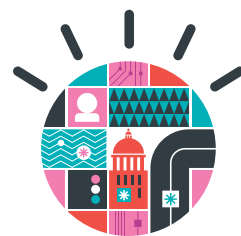


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Introduction

Local governments have endured a couple of tough years. Following a decade where revenues grew at an annual rate of 5.5%, receipts dropped by 4.5% in 2009 (See Figure 1). This nearly 10% swing in revenue performance was driven primarily by the recession’s impact on consumer spending, which pared sales tax revenues by 8%. Other major revenue streams – including building permitting and real estate transfer taxes – declined in conjunction with the faltering economy. And while the Federal stimulus package provided direct relief to the operating budgets of State governments, local governments were afforded little support; in fact, most States reduced the direct operating support they provide to local governments.

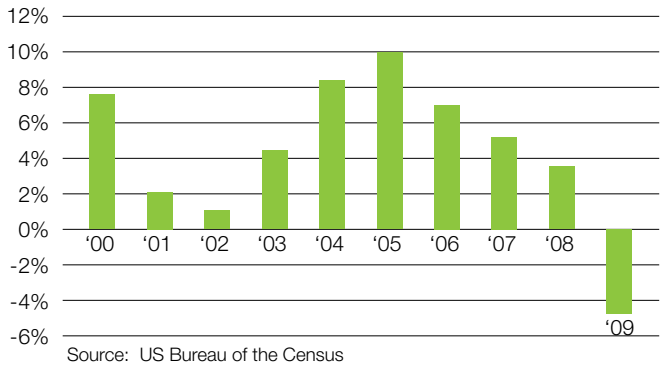


Figure 1: Local Government Revenues(% Change from Prior Year)

And while revenues decline, costs continue to grow. Over the past decade, local governments have grown accustomed to dealing with cost inflation in their budgets. Energy, health care and pension expenses have grown rapidly – sometimes at double digit rates. Fortunately, most local governments have been able to rely on healthy growth in receipts to offset these increased expenses. Those days appear to be over.

According to the Government Accountability Office (GAO), local governments should not expect to return to a healthy fiscal condition anytime soon (See Figure 2). In fact, given the outlook in property markets and the expectation that the reduction in personal wealth will permanently increase the savings rate among consumers, local governments will be fortunate to experience revenue growth in the medium term that keeps pace with general inflation. Local government revenues, in other words, have been flatlined for the foreseeable future.

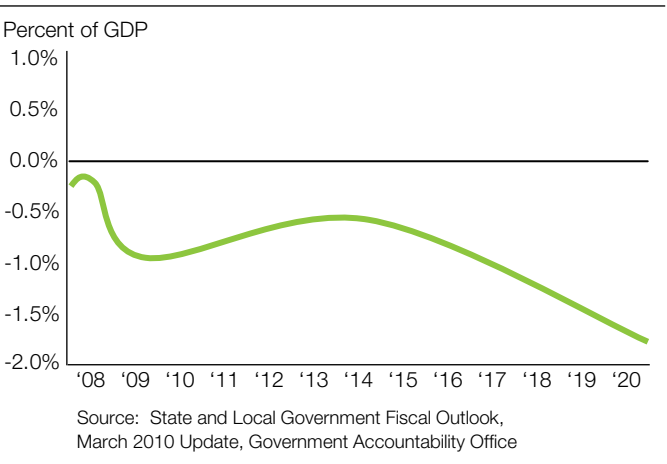


Figure 2: State and Local Budget Deficits as a Percent of GDP (2008-2020)

This is coming as a shock to most local government officials. Unlike private enterprises, which focus most of their attention on growing their “top line”, local governments generally take for granted that their revenues will increase at a healthy clip. Other than perhaps the Chief Financial Officer, few local government officials even have revenue responsibilities, and when they do they generally own only a small sliver of the total revenue stream. As a result, most city managers focus their attention on bottom line concerns. Revenues are generally treated as something that “happens” to local governments, not an aspect of the business that is pro-actively managed.

This is about to change. Revenue management will soon become one of the top priorities for local government officials. Optimizing existing revenue streams and identifying new sources of revenue will soon (if it hasn’t already) become an overriding concern for local government officials. While short-term budget pressures will continue to require focus on cost reduction strategies, local governments will soon realize that they cannot save their way to prosperity. Eventually these officials will realize that revenue growth is the key to the long-term fiscal sustainability of their governments.

As the “new normal” sets in – a world where costs increases outpace revenue growth – we anticipate that local government officials will begin to look more closely at how their spending directly impacts revenue performance. More specifically, we expect local governments to become more thoughtful about understanding and measuring the “returns” on the spending in which they engage. To what extent does a dollar invested in capital or spent on services directly generate revenues?

In private enterprise, this question is at the center of all decision-making. Investment and spending decisions are made based on anticipated returns. The purchase of capital equipment, for example, is expected to generate a revenue stream that will cover the cost of the capital investment, the expenses associated with operating it, and generate a profit. A business will evaluate alternative opportunities for its investment of its scarce capital dollars based on projections (typically taking the form of business cases using metrics like Return on Investment) of their relative profitability.

This concept of “return on investment” is rarely applied in local government settings. Capital investments – in things such as streets, parks and schools – are viewed through the lens of service delivery, not as investments that generate revenues. Cities build parks because parks provide residents with recreational opportunities. Cities build streets because streets enable mobility. To local government managers, sidewalks are not revenue-generating assets.

But are they? What if investments in public infrastructure and service delivery were understood in terms of how they impact revenues? And what if this could be measured?

As a consequence of work that IBM is doing in cities in the United States and abroad, we are concluding that city governments would benefit from examining their business through an alternative lens. Rather than stretching their scarce resources to deliver a set of chartered services, cities should see themselves as investing public resources to generate a financial return.

The purpose of this white paper is to describe what this alternative approach to local government management might look like and the implications it would have on how city officials think about the enterprise they are responsible for managing. To summarize:

1. The mission of local government is to **improve the quality of life of citizens**<sup>1</sup>. Local governments advance this mission by investing in capital (i.e., public infrastructure) and by delivering services (e.g., police, fire, recreation);

2. The quality of life of citizens is most directly impacted by the quality of neighborhood-based services. Citizens care primarily about the quality of parks, schools, streets and sidewalks **in their neighborhood**. Therefore, neighborhood quality is the “unit of analysis” against which city managers should be measuring performance;
3. The most effective metric against which to measure this performance is **change in property values**. Changes in property values are driven by “customer” decisions concerning where they will choose to live and invest, so if property values in a neighborhood are going up, that is a very strong evidence that the quality of life is going up as well;
4. As a result, **public investments in capital and services should be assessed based on direct impact they will have on property values, adjusted based on the net operating impacts of those investments**;
5. Since local government is largely funded by property taxes and related revenues, **directing resources where they achieve their highest returns in property values will not only help local governments advance their core mission of improving the quality of life of citizens, it will also secure the fiscal health of the local government**.

A local government is no different than any other enterprise – it needs to deliver its mission in a manner that ensures its financial sustainability. In this case, local governments need strong “top line” growth: revenue growth that allows them to cover cost increases and provides the resources they need to attract and serve growing populations. Given that their mission is to improve the quality of life of their residents, and given the fact that these residents experience “quality of life” primarily through their neighborhoods, cities should direct their resources in a way that maximizes their impact on neighborhood quality. This impact can best be measured by changes in property values over time. This is convenient, because it is changes in property values that largely determine the fiscal health of the local government. As a result, by striving to maximize returns on investment, cities will simultaneously improve the quality of life of their residents and secure their financial future.

Local Government is in the Revenue Business

The primary sources of revenue for local governments are taxes (primarily property and sales taxes) and user fees (see Figure 3). In general, these revenue sources are related either to the increase in the *value of property* (ad velorum taxes on property, automobiles and other real property) or to a *volume of activity* such as buying and selling (sales taxes), construction (building permitting) or even law breaking (traffic citation revenue). This distinction between value-based revenue and activity-based revenue is useful because it frames the opportunity that cities have to generate revenue: they can either promote the value of property or they can stimulate revenue-generating activities.

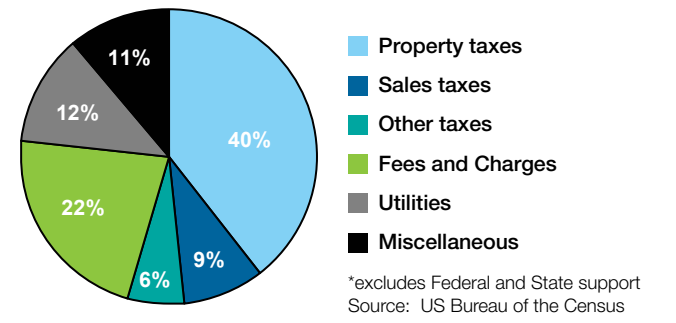


Figure 3: Local Government Revenues From Own Sources\* (2009)

As a practical matter, few cities think of themselves as being in the revenue generating business. In IBM’s recent study – *Smarter, Faster, Cheaper: An Operations Efficiency Benchmarking Study of 100 American Cities* – we did not uncover a single city that had an major operating unit dedicated to revenue enhancement. Most cities employ a revenue collections unit responsible for collecting receipts that are due, but we could not find any city with a unit dedicated to driving up revenues in a pro-active matter.

For the most part, cities are revenue passive. As one city Chief Financial Officer recently told us, cities tend to think of revenues as “something that happens to us” instead of something that they can actively influence.

This is a problem. Any business that ignores its top-line is headed for trouble and governments are no different. While a significant portion of the fiscal crisis that local governments are currently facing can be attributed to excessive cost growth (particularly in pensions and healthcare), it came to a head only with the slowdown in revenue growth associated with the 2008–2009 recession. Local governments had become accustomed to revenue growth rates that exceeded that of growth in national wealth creation, and when those growth rates slowed or reversed themselves, those governments were ill prepared to handle it.

Going forward, we believe that local governments will increase their focus on revenue performance. We are already seeing cities re-setting user fees to make sure that they are recovering their allocated costs as provided by law in most states. Local governments are also focused on revenue areas that they directly control – traffic citations and parking tickets, for example – where they can stimulate revenues by simply being more aggressive in enforcement.

These are important and necessary actions. However, we also believe that local governments need to be more thoughtful about promoting revenue growth through the spending and investment actions they take in their core service areas. For this, they need to rethink their overall economic model.

The Local Government Economic Model

All enterprises have an economic model. All enterprises make investments that generate something of value that someone is willing to pay for. Local governments are no different. The local government economic model looks something like Figure 4.

Let’s take each element of this model and decompose it.

Local government invests in public infrastructure and municipal services...

Local governments have two choices to make when it comes to how they distribute the resources they collect. They can build infrastructure – otherwise known as capital spending – or they can provide services. The distribution of spending between these two options is largely made through a political process intended to weigh the benefits of these alternative uses of funds.

... to provide water, greenspace, mobility, public safety, education, recreation, arts, and other urban amenities...

This mix of spending will determine the scope and quality of the urban amenities that the local government delivers. Capital intensive functions, such as water and transportation, compete against labor intensive services, such as police and fire protection. The distribution of spending is ultimately the result of a political process that strives to allocate incremental dollars to advance the mission of improving the quality of life of citizens.

... that create the conditions needed for thriving neighborhoods, rich culture, and other desirable urban attributes that attract private investment, business investment, job growth, and new residents...

These outcomes are effective if they create the urban experience that citizens desire. If they are effective, and they create healthy neighborhoods, then people and businesses will move in, make investments, and increase the overall level of economic activity. Thriving neighborhoods are growing neighborhoods. They attract new residents and private investment in residences and commercial property. They are *developing*. New parks attract residential development. By expanding the capacity and quality of water systems, developers can be enticed to invest in both commercial and residential properties. Declining crime rates and vigorous code enforcement can have similar impacts.

... which generates revenue - primarily in the form of property and sales taxes – which are used to invest in public infrastructure and municipal services

Most critically (and conveniently), the economic development of neighborhoods increases property values, which expands the tax base upon which the local government depends to generate revenues. In that sense, investments that improve neighborhood quality lead to increases in property values which increase the revenues that are available to finance investments in neighborhoods. And so – assuming investment decisions are good ones - the cycle repeats itself.

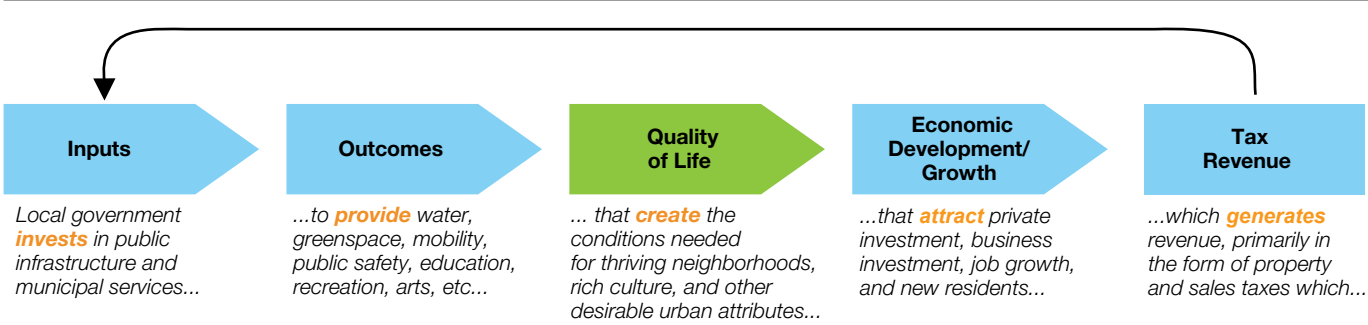


Figure 4: Local Government Economic Model

*“Facilities like libraries, schools, museums and recreational centers add to a neighborhood’s value and provide options for youth, adults and seniors to spend time learning, exercising or just socializing. As every real estate agent knows, a quality school or park in a neighborhood adds significant value to area homes.”*

— *Jennifer Roberts,*  
*Chair of the Mecklenburg County Commission as quoted in the Charlotte Observer, November 7, 2010*

It’s the Neighborhood that Matters

One of the challenges local governments face is that they serve a geography imposed upon them by a set of decisions made a long time ago. Political boundaries in most metropolitan areas have little operational significance. For example, if you were to plot the socio-economic activity of your city on a map – by that we mean commuting patterns, recreation patterns, shopping patterns, etc. – political boundaries would not be discernable. Boundaries that would emerge on a socio-economic activity map of this type, however, are neighborhood boundaries.

Neighborhoods are where people spend the majority of their time. It is where they work, shop, and recreate. It is therefore through the neighborhood lens that citizens consume local government capital and services. While they may care about the quality of the overall park system, they primarily value their neighborhood park. While city-wide crime is important, they react most intensively to crime in their neighborhood. The school system may be important, but they are passionate about the neighborhood school their children attend.

When residents or businesses choose to move to a new metropolitan area – or relocate within the one they already reside in - it is the attributes of neighborhoods that drive their decision. Is it near transit? Are there sidewalks? Can my customers find me easily? What is the school like?

From the perspective of those that city governments are chartered to serve, neighborhoods are what matter.

So from a local government’s perspective, if your customers care primarily about the quality of their neighborhoods – if neighborhood quality is what in fact “quality of life” is mostly about – then it is not unreasonable to suggest that neighborhoods are the “units” that should matter most to city leaders.

This suggests that the health of neighborhoods should be the central concern of local governments. Neighborhoods should be the most important unit of analysis for local governments since it is at the neighborhood level that citizens (customers) most consistently interact with the public goods that city governments provide (schools, parks, sidewalks, police protection, etc). Neighborhoods are what matter.

The Neighborhood-Centric Business Model

This is not how most local governments think. It is certainly not how they organize themselves. Most local governments think “vertically”. They run police departments, fire departments, and public works departments. They dedicate a considerable amount of their resources (approximately 15%’) to support services such as finance and information technology. These services and their attendant support apparatus are directed toward “the city”. Performance measures and outcomes are generally measured city-wide.

But if instead of being in the “police business” and the “fire business” and the “library business”, cities thought of themselves as being in the “neighborhood business”, they might re-think their entire organizational model.



For one thing, rather than thinking of themselves as being providers of these vertical services, they would actually recognize that they were instead in the business of managing a set of largely independent enterprises: neighborhoods. The health of these neighborhoods would be the government’s central concern. While the city might still deliver the same set of vertical services, the measure of success of those services would be in their *collective* ability to generate thriving neighborhoods (see Figure 5).

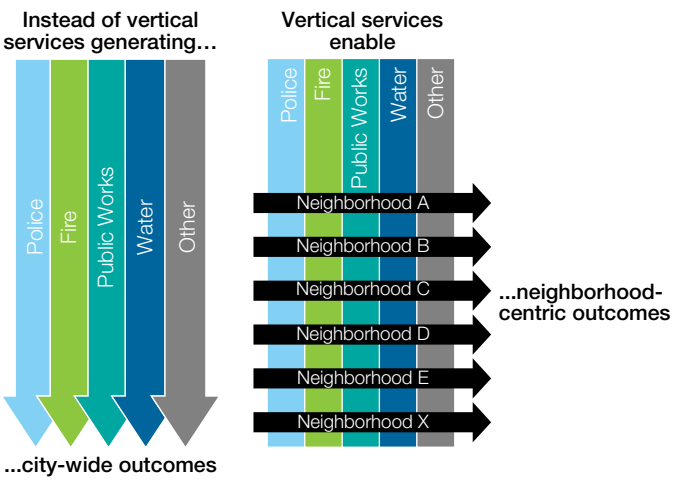


Figure 5: Moving from Vertical to Horizontal Outcomes

Under this model, the city would more closely resemble a traditional private sector conglomerate. Each neighborhood is treated as its own business unit with financial performance goals. And like the business units within a conglomerate, each neighborhood would require an independent strategy for success in their unique markets: upscale residential neighborhoods, for example, would have a different set of strategic priorities than downtown industrial districts.

Local government managers would be charged with developing a unique product and service strategy – the mix of capital and services spending – that best advances the competitive interests of the neighborhoods under their purview. They might make explicit choices to focus capital investments in some neighborhoods and increase service levels in others. Today’s default approach to resource allocation, which is to try to provide an equitable level of service and to spread capital investments uniformly across the city, would be

replaced with tailored, outcome-focused differentiated capital and services investment strategies.

These strategies would be based on the specific needs of neighborhoods. A neighborhood economic development strategy would articulate a future vision for the neighborhood and describe how this base of assets could be leveraged to achieve that vision. As shown in Figure 6, a neighborhood-based strategy would identify the target *customers* (residents and/or businesses) that the neighborhood wants to attract and retain. It would depict the *product and services* set that would appeal to those target customers. Finally, it would describe the *competitive advantages* that the neighborhood can leverage in competing for those customers. These competitive advantages might take the form both of existing assets and of new assets that are required to successfully compete.

No neighborhood is the same. Each has its own set of unique physical assets. Each has a unique mix of residential, commercial and industrial uses. Each neighborhood has its own history. Each neighborhood has its own demographics. In many cases, each neighborhood has its own culture and brand. As a result, these neighborhood economic development plans are likely to be quite different. They will require different types of investments and service commitments.

The result of this neighborhood planning process would be a constellation of economic development plans. In a world of limited resources, these plans will by necessity compete for capital and service resources against each other. The challenge for the governing authority will be to mediate among them.

Fortunately, we believe there is a method that can be applied to evaluate competing investment options. We call this Neighborhood-Based Return on Investment (NROI).

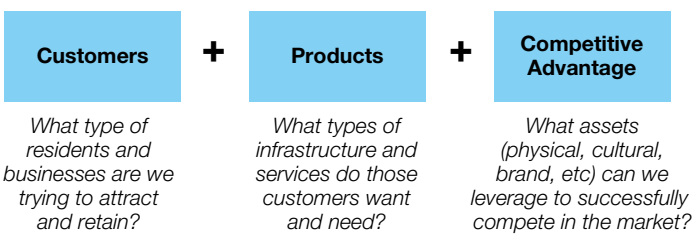


Figure 6: Neighborhood Development Strategy

Measuring Return on Investment in Neighborhoods

Since the economic health of a local government depends more or less exclusively on the economic health of the county or city upon which it depends for revenues, and since the health of the county or city is dependent almost exclusively on the health of its neighborhoods, then the economic development of neighborhoods should be the central preoccupation of local governments.

By recommending that the neighborhood be the “lens” through which public investments are evaluated, what we really are suggesting is that public resources should flow to neighborhoods where those resources will generate the highest returns. Of course, we face an immediate challenge in devising such an approach.

In most local governments today, capital and services decisions are made in silos. The parks department develops its capital planning needs independent of the library system. The water utility works independently of the public works department. Each of these organizations develops their capital plans as if the others do not exist. And the measures they use to evaluate and prioritize their investments are organizational-centric. By that we mean that the parks departments want to expand greenspace, so they evaluate their capital plans based on the degree to which alternative projects expand access to greenspace. Libraries want to increase access to libraries, and so develop their capital plans accordingly. Schools want to reduce overcrowding in classrooms. We could go on.

To compound matters, the sources of revenues used to fund these investments are also often “siloeed”. Some capital investments are funded through revenues generated by specific authorities (see the Chicago Parks District, for example). Most “enterprise” capital investment – for example, water systems, airport infrastructure and transit systems – is funded through user fees derived directly from end users and cannot by law be used for other purposes. Even general obligation bonds, which are the most flexible source of capital financing, are often restricted to targeted purposes (or even specific projects) under the terms of the public referenda employed to authorize them.

The point is that the sources and uses of capital funds tend to force investment decisions to occur in silos and rarely (if ever) do these decisions take into consideration their collective impact on neighborhoods. Yet it is important to recognize that investment decisions that may be *optimal in relation to the interests of the individual agencies* within which these choices may lead to *suboptimal outcomes in terms of neighborhood health*. In some worse case scenarios, the failure to consider neighborhood impacts can have devastating consequences (see sidebar on page 10).

To generate optimal outcomes, three conditions are necessary:

- 1. Local government capital and services resource allocation needs to occur in a **coordinated** fashion across all agencies;
- 2. Those agencies need to **subordinate** their individual strategic objectives to the overall objective of improving neighborhood health;
- 3. A **standardized metric** is needed that can provide an objective measure for assessing alternative capital and services investments.

To base resource investment decisions on the impact they have on neighborhoods, metrics are needed. Most cities collect a wealth of socio-economic data at the neighborhood level. The parks department can tell you which neighborhoods are underserved by green space. The library board can tell you which neighborhoods are the farthest from libraries. Economic development agencies can tell you which neighborhoods need retail services. Transit agencies have a very good sense of which residents are well served by public transportation and which are not.

All of these elements contribute to the quality of life of the residents in those neighborhoods, and are therefore all useful measures. However, in making choices among the wildly variable capital and service investment options facing local government, a single metric that captures the overall impact of these investments is really needed.

Since these investments are ultimately intended to improve the quality of life in neighborhoods, we propose that the most straightforward measure of the quality of life in a neighborhood is property valuation. The demand for property in a neighborhood – as expressed by individuals buying or investing in property – is perhaps the clearest indicator of a neighborhood’s relative health.

Much of the literature on neighborhood health focuses on a family of social and economic measures such as high school graduation rates, poverty levels, and crime rates. In our view, these are leading indicators of neighborhood health, but they do not provide a useful proxy for the overall health of a neighborhood which is the outcome cities are ultimately trying to drive. The rate of change in property values does serve that purpose, because it directly captures the demand for living in a particular neighborhood irrespective of the drivers of that demand.

Just as a private enterprise will measure a variety of attributes associated with the health of their business – worker productivity, customer complaints, product safety, and others – ultimately the outcome the business cares most about is profitability. Similarly, a neighborhood should measure those things that may drive success, but they need to be primarily focused on the core outcome, which is the demand for living and investing in their neighborhood (see Figure 7).

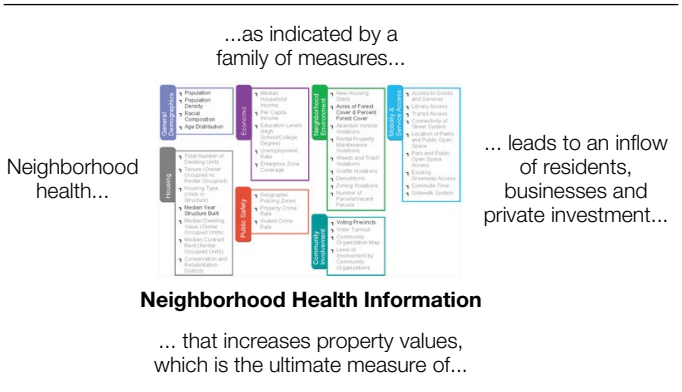


Figure 7: Healthy Neighborhood Lead to Revenue Growth

### Applying NROI in Mecklenburg County

Mecklenburg County in central North Carolina is generally regarded as one of the best managed counties in the country. Over the years, Mecklenburg County and the City of Charlotte have made great strides in rationalizing the organization and delivery of local government services. A pioneer in the use of performance management systems, the local governments in Mecklenburg County are highly regarded and achieve high ratings from their citizens.

However, Mecklenburg County has not been immune to the economic pressures associated with the recent recession, and over the past several years local government agencies within the county have been forced to reduce services and shutter facilities. As is typical, each agency made these decisions independent of each other, and made them in what they thought was in the best interest of their particular organization and mission.



School, Recreational Center and Library Closures in Mecklenburg County

Unfortunately, once the recreation centers, libraries and schools were all independently identified and slated for closure, it became obvious that they closures were concentrated in certain, mostly low income, neighborhoods. The concentration of this public “disinvestment” could clearly have a devastating impact on the future of these neighborhoods.

Since none of these local government agencies is specifically responsible for “neighborhood health”, none of them used the potential impact on neighborhood health as criterion for choosing which facilities to close. They focused on things like utilization, the age of the facilities, and future likely changes in demand for their services. Neighborhood health never really entered into it.

The Mecklenburg County government recognizes the inherent weakness of this approach, and asked IBM – as part of IBM’s Smarter City Challenge - to develop an alternative approach to capital planning. IBM recommended an approach that would focus on neighborhood health and require the collaboration of all local government agencies in a process of joint capital planning. Mecklenburg County is now in the implementation stage. It is an experiment in local government decision making well worth keeping an eye on.

Using property values as the predominant means for measuring neighborhood health creates a financial metric against which local government can compare alternative investments. Remember, the local government economic model is based on the notion that tax revenue is deployed for the purposes of investing in public infrastructure and delivering services. To ensure the fiscal health of the city, it is imperative that resources are invested in a way that maximizes returns in the form of tax revenue. By using property tax valuation impacts as a means of choosing among alternative investments, the city is not only improving the health of neighborhoods, but it is securing its financial future.

Yet there is another critical component of the investment decision that must be incorporated in this calculus. As mentioned earlier, capital and services investments in neighborhoods bring with them direct operating costs. Parks need to be maintained, libraries staffed, streets repaved, etc. These *direct costs* needed to be calculated and understood in assessing the true size of the investment that cities are making in specific neighborhoods.

Neighborhoods also generate *indirect costs* in the form of police, fire and social services. The healthier the neighborhood, the fewer indirect costs they will generate. Healthier neighborhoods will require fewer 911 calls, fewer code enforcement actions, and fewer social service interventions.

The combination of these direct costs and indirect costs constitutes the *net operating impact* of a resource allocation. So the overall return on a given investment is its *impact on property values plus its net operating impact*. The resource allocation decision looks something like the following:

$$\text{Return on Investment} = \text{Increase in Property Values} + \left\{ \begin{array}{l} \text{Increase in operating costs to support investment} \\ \text{Operating savings from reduction in service demand} \end{array} \right\}$$

Figure 8: NROI Formula

We call this formula Neighborhood-Based Return on Investment (NROI). We recognize that this approach for making resource allocation decisions may appear to be rather foreign. Traditional allocation considerations have typically relied on other governing principles. Many of these are not based on investment criteria at all: budgets get cut and facilities get closed. Issues such as fairness or social equity come into play. A reliance on a metric like we have suggested may be troubling to some in that sense.

However, we believe that reliance *on a single, non-biased, quantifiable measure associated directly with quality of life* is the preferred means for a local government to make resource allocation decisions. We believe that the change in property value net of operating impacts serves that purpose.

### Calculating NROI

The NROI has several components:

**Investment:** Every neighborhood of a city has a set of capital investments (roads, sidewalks, parks, libraries, etc) and service investments (police operations, fire operations, etc). These investments are either paid for by issuing debt or through direct appropriation. In general, these investments can be attributed directly to a neighborhood (although certain related support costs may need to be allocated).

**Direct Operating Expenses:** With these investments come a set of operating expenses. Roads need to be maintained. Parks need to be mowed. Libraries need to be staffed. In most cases, these expenses are associated with a specific piece of physical capital like a school or a library, in which case they can easily be attributed to a specific neighborhood. In other cases – say, for example, in the case of a police beat that may run through several neighborhoods – direct expenses will need to be allocated using an appropriate algorithm.

**Indirect Operating Expenses:** Neighborhoods also generate an array of indirect costs. These are costs that are not directly associated with deployed capital. Police need to respond to 911 calls. Code violations need to be investigated. Fire departments need to respond to calls for service. Human service agencies need to provide support to individuals and families. Most indirect costs are “responsive” costs in the sense that they are responding to “problems”.

**Property Values:** We use property values as a proxy for the revenue performance of a neighborhood. Since property values constitute the largest single locally-derived source of revenue for local governments, it is a strong candidate for this role. Property values will also track to some extent other significant sources of local government revenue, including building permitting revenue, real estate transfer taxes, and, to some extent, sales taxes. All of these revenues could be theoretically directly associated with specific neighborhoods.

A high performing neighborhood is one that generates relatively high revenues and relatively low costs given a fixed set of capital investments. For example, think about a distressed neighborhood that has struggled to attract private investment. Since property values are stagnating or in decline, and residential vacancy rates are high, property tax revenues are low. And since store fronts are boarded up and major retail chains refuse to establish operations in that neighborhood, sales tax revenues lag the rest of the city.

At the same time, crime in the neighborhood is a problem, and since so many properties have been abandoned, code enforcement officers spend a significant amount of time citing property owners and tracking down absentee landlords. Social services agencies have high caseload levels, and the local schools struggle to provide a quality education to the children in the neighborhood.

The city has decided to make a capital investment in the neighborhood in the form of a transit stop. The new transit station attracts retail investors eager to capitalize on the congregation of customers that access to transit generates. Residents of the neighborhood can now more easily reach jobs in other parts of the city, generating income that can be spent in the new retail outlets. Over time, developers see this neighborhood as one worthy of new residential development and individual home owners begin to buy and fix up once abandoned homes.

Now let’s do the math. The transit stop required a fixed investment. This investment was likely financed through debt of one sort or another, which generates a debt servicing cost that extends to some future date. The capital costs associated with the neighborhood has therefore *increased*.

The transit stop also requires operating expenses to run and maintain. In other words, there is an *increase* in the direct operating expenses associated with the neighborhood.

At the same time, declining crime and improving housing stock has reduced the cost of police, code enforcement and perhaps the fire department (better tended buildings means fewer fires). As the mix of residents becomes more economically diverse, the demand for social service interventions also declines over time. In other words, there is a *decrease* in the indirect operating expenses associated with the neighborhood.

And what happens to revenues? They go *up* of course. Investments in commercial and residential property increase property values and lead to more property tax revenue. Increases in household income boosts consumer spending which increases sales tax revenue.

That is not to say that the neighborhood necessarily turns a profit. Profitability is not really the objective here. The objective is to improve the quality of life of the residents in these neighborhoods. Improved financial performance is simply a (welcome) side effect.

Given recent advances in the collection of performance management data, many if not most cities could construct a financial performance model for their neighborhoods based on their existing data that could track the impacts described above. Most operating data is now geo-coded: cities know where they fill potholes; cities know what they spend to maintain specific parks; cities know where 911 calls originate. A great deal of revenue data is also available at the parcel level. Property taxes, building permitting revenue, business license revenue and a host of other revenue sources are usually geo-coded.

## Applying NROI in Local Government

While this concept – neighborhood-based return on investment boils down to a simple equation, the actual modeling is rather complex. Neighborhoods will respond differently to similar investments, both in terms of timing and in magnitude. By their very nature, capital investments are long-term investments and it is important to measure their value using models that consider long-term impacts. For this, local governments need predictive modeling capabilities.

If a city builds a park in a neighborhood, the expectation is that it will improve the quality of life in that neighborhood. Our assumption is that this improvement can be measured by monitoring changes in property values in the neighborhood. In fact, there is research that new parks will increase property values by approximately 15% over time<sup>3</sup>. In estimating the revenue impact of a new park, the model could simply assume that a 15% increase in property values will ensue.

Of course, the city has built parks before. A more sophisticated approach might include going back and seeing what impacts those new parks have had on property values historically. Most of that data will be available in the historical tax records. This way, the city can use its own experience to assess likely future impacts.

An even further level of sophistication might include assessing property value impacts across alternative types of neighborhoods. It may be that certain types of neighborhoods – say those inhabited by families – are more likely to value a park than one that is dominated by single professionals. This value differential should reveal itself in different rates of impact on property values.

One potentially valuable source of data to inform this modeling is a city’s history in Tax Increment Financing (TIFs). TIFs are deployed by cities to fund capital investments in public or private infrastructure. The mechanism is straightforward: cities issue bonds to finance a capital investment. Those bonds are paid off by dedicating the incremental property tax revenue that is generated as a consequence of the capital investment. The advantage of TIFs for our purposes is that they are widespread, diverse, and their

impact on property values is carefully monitored. By mining a city’s experience with TIFs, cities can gain an immediate understanding of how certain types of investments drive property values.

The direct cost elements of the NROI equation should also be relatively simple to collect. Most local governments track the direct costs that they incur to maintain roads and parks or to staff libraries, recreation centers and schools. In evaluating the impact of capital investments (or disinvestments for that matter) cities are well equipped to quantify their operating impact.

Indirect costs may be slightly more challenging, but not impossible. In most cases, the data already exists. Cities, for example, know exactly where calls for police service originate and have a general idea of what it costs to provide a 911 call response. The same is true for a code enforcement action or a social services response. And since most cities now geographically track incidents associated with these types of activities, associating those costs with specific neighborhoods should not be too taxing.

## Changing the Way Local Governments “Go to Market”

Local governments are no different from private enterprises in one critical respect: they make investments that they hope will generate a future benefit stream. The challenge for local government is that since many – if not most – of their investments do not spawn specific revenue streams, it is challenging to mediate among of alternative investment options. The result is that investment decisions are often based on political considerations, most notably the “spread the investment around” strategy.

In this paper we have proposed a different approach. We take exception to the notion that sidewalks don’t generate revenues. In fact, we think they do. Investments in infrastructure and services generate real and attributable revenues, mostly in the form of property taxes. New parks increase surrounding property values which generate incremental property tax revenues. New schools attract new residents. Transit attracts commercial development. Tax increment financing attracts



private investments in commercial and residential real estate that generate property and sales tax revenues. In general, public investments do create a quantifiable benefit stream, primarily in the form of property tax revenue.

Once a local government attaches this revenue stream to potential investments, it begins to look a lot more like a private enterprise evaluating alternative investment options. This is helpful, because these investments are wealth creating (particularly in the medium and long term) and are therefore *critical to the future fiscal health of the local government*.

And these benefits streams are generated locally, specifically in neighborhoods. Tax and fee revenues are generated by residents and businesses. Those residents and business choose to locate within cities – within neighborhoods to be precise – because they believe that those neighborhoods will deliver the “quality of life” that they are seeking. They make private investments – buying and renovating homes and commercial property, for example – that increase property values. Those properties are then taxed in order to fund investments in public infrastructure and services, which are what attracts residents and businesses in the first place. It should therefore possible to measure the returns on those investments in public infrastructure and services based on the degree to which they increase quality of life, as measured by changes in property values.

The adoption of this approach to decision making by local governments would have two major impacts. First, it would focus local governments more intently on the health of neighborhoods, which is as we have argued their central mission. This could have profound implications. Most department heads inside local governments have little if any idea how their services impact the health of individual neighborhoods. Few if any organize their services in that manner. They think vertically and treat the entire city as the unit around which they organize themselves.

Now consider a scenario where neighborhoods are the principle organizing unit, and department heads were charged with improving the quality of life in those neighborhoods. Suddenly, the incentive for the commissioner of parks and commissioner of pubic works to work together has increased significantly. A well maintained park is no longer the outcome that needs to be achieved. The park must conform to the vision that the neighborhood has articulated for it, so the parks department must understand that larger vision. The park must be utilized and accessed easily. It needs to “fit” into a larger plan for the neighborhood that might include street and access improvements that the only the public works department can deliver. The park is merely a piece of a larger puzzle, and the parks department needs to direct its spending in a way that aligns with a larger plan of which parks is merely one component.

Second, this approach to decision-making would change the way that citizens interact with their local governments. Today, most citizen interface occurs in silos. The library board holds public hearings to discuss the future of the library system. The school board holds public hearings to discuss the future of the school system. The economic development agency holds public hearings about a new tax increment financing plan.

This approach to citizen engagement - while admittedly convenient for the agencies involved – has several flaws. For one, at no point is anyone truly engaging in a visioning process for the neighborhood. What is the long-term plan for the neighborhood and how do public investments advance that plan? It also forces neighborhood groups to play defense. Tonight we will try to protect our recreation center. Next week it is the park. Next month we need to worry about changes to our elementary school.

Instead, we are suggesting that rather than having multiple, unrelated and disjointed conversations running in parallel, why not have one conversation that is focused on the neighborhood overall? Why not discuss public investment plans within the context of a neighborhood economic development plan and understand how all the pieces – schools, parks, streets, transit, etc. – work together to execute that plan?

An approach like this would change the way local governments “go to market”. It would define their customers as “residents and investors in neighborhoods”. It would describe its product set as “investments and services that advance the quality of life of neighborhoods”. It would encourage local governments to organize themselves in a way that reflects how their customers are organized: not as consumers of police services one day and fire services the next, but as consumers of “neighborhood services” every day.

### Where There is a [Political] Will, There is a Way

The strategic advantage to the approach we have offered is obvious: by directing resources to their highest returns in neighborhood health – as measured in changes in property values (adjusted by net operating impact) — cities would advance their mission of improving the quality of life of their citizens and at the same time secure the health of the local government financial model.

Several steps are needed to implement this approach:

- Cities need to **develop a vision for their neighborhoods** that describes the future state they are trying to achieve and the public and private investments needed to achieve that vision. This would constitute the business strategy for each neighborhood;
- Local government agencies, irrespective of their governance structure, **need to collaborate on resource allocation decisions**. This would include engaging in joint public input sessions, aligning budgeting processes, and agreeing to support resource allocation decisions that maximize returns in neighborhood health;
- These agencies need to build the **data collection and modeling capabilities** required to objectively assess alternative investment and spending decisions.

It is important not to underestimate the institutional barriers to implementing this approach. In many respects, by fragmenting local government services and allocating them to independent boards, we have managed to construct a public service supplier market uniquely ill-fitted to adopt neighborhood health as a strategic goal. Governing boards of schools, libraries and economic development agencies – to name just a few – are very protective of both their resources and their autonomy. Many have independent sources of revenue and independent resource allocation authority. Why would they surrender that authority?

Fortunately, we are not suggesting that they should. We are simply arguing that those independent decisions be made *within a context* informed by plans to improve neighborhood health. Let them understand how their choices impact neighborhoods, and let citizens understand how all of these decisions work together to advance a larger objective.

So it will be difficult. However, by appealing to both the strategic and economic rationale underlying this approach for governing, parochial interests may be overcome. At the end of the day, the advantages to be gained by improving both the quality of life of citizens and increasing the fiscal sustainability of local governments could outweigh the instinct to “protect the silo”. At the very least, it is a conversation worth starting.



**IBM and Smarter Government**

Government plays an increasingly central role in our economic lives. In the United States, government will be responsible for more than 4 out of every 10 dollars spent within our economy in 2010. Perhaps even more importantly, large sections of the private economy – health care, financial services, communications, and energy to name just a few – are more closely integrated with government than ever before. Traditional lines between the private and public sectors are becoming less distinct, and the overall performance of our economy is now dependent on improved cooperation and alignment between private companies and government. Getting government right – that is, making sure that it operates in a highly efficient and effective manner – has never been more important. In recognition of the fact that the performance of government is the public’s collective responsibility, IBM has launched its Smarter Government program. Our goal is help governments inject intelligence into their decision support processes, business operations and public infrastructure to improve performance and deliver better public outcomes. Governments need to maximize the public value they generate through every dollar they spend. We think we can help.

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**About the Author**

David Edwards leads the Smarter Government Campaign for IBM’s Public Sector Strategy and Innovation Practice. He served for eight years as the chief policy advisor to Atlanta Mayor Shirley Franklin.



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**Footnotes**

- <sup>1</sup> We use this term broadly. For a resident, quality of life generally refers to the value associated with access to urban amenities such as greenspace, transit, and social and commercial centers. For businesses, quality of life refers to the value associated with access to customers, suppliers, and complementary business enterprises.
- <sup>2</sup> Smarter, Faster Cheaper: An Operations Efficiency Benchmarking Study of 100 American Cities, 2011, IBM
- <sup>3</sup> Crompton, John L; The impact of parks on property values: empirical evidence from the past two decades in the United States; Department of Recreation, Park and Tourism Sciences, Texas A&M University, TX, USA





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