Measuring the Performance of Livability Programs

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A Thesis Quality Research Project Submitted in Partial Fulfillment of the Requirements for the Masters of Science in Transportation Management

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Executive Summary

This research project analyzes five regional level "livability" programs to answer the question: how should agencies measure the performance of livability programs? Within that broader question, two subsidiary questions are explored: 1) What can and should new livability programs learn from existing livability programs' approaches to performance measurement? 2) To what degree are the performance measurement approaches of existing livability programs aligned to the objectives of the programs and their stakeholders and to recommendations for good performance measurement?

Livability programs are generally led by transportation, development, or environmental agencies and focus on supporting the creation or preservation of communities with some subset of the following characteristics: dense; mixed-use; strong transit, bicycle, and pedestrian access; mixed-income and/or affordable; location efficient; environmentally sustainable; and some definition of "quality of life" or "sense of place."

A review of literature on livability programs and performance measurement provided the basis to develop a framework to analyze the research questions. First, we developed a synthesized set of criteria for good performance measurement: customer focus; alignment to strategy, goals and objectives; clarity; measurability (efficiently and accurately); balance; decision-orientation; and ability to address key stakeholder perspectives. Next, to provide more clarity to the criterion "customer focus" we developed a synthesized set of customer criteria for livable communities, including factors addressing economics, location, amenities, housing type, and safety.

The current performance measurement programs of five mature livability programs were analyzed based on the criteria for good performance measurement. In addition to providing a detailed analysis of each program, common themes and lessons learned were drawn from

across the programs. The goal was not to critique the programs per se, but to provide insight into good practices and potential pitfalls that other programs can learn from.

The analysis revealed that programs commonly measure sources and uses of funds, volume of development activity, changes in land value, and jobs created. While some programs characterized the development activity based on livability criteria (e.g., percent affordable) most programs did not capture all of their customers' livability goals in their development activity statistics. Beyond these commonalities, factors reported across programs were very diverse.

Four specific measurement types were called out by interviewees as particularly useful in supporting program decisions: delivery of project commitments (did we get what we funded); the percentage of the region's development that occurs in targeted development areas (are we developing where we want to develop); leveraged funding (did we close the development financing gap); and transportation access factors such as induced ridership, cost per induced rider, and bicycle and pedestrian access (did we achieve a transportation land use link).

Considerations for applying performance measurement to livability programs gleaned from the analysis are: 1) the structure of an agency does not dictate the focus of its measurement; 2) measuring the nature, not just the volume, of development is critical to understanding the impact of the program; 3) meaningful measurement of livability need not be costly; 4) a focus on decisions pays off; 5) reporting on both affordability and land value appreciation goals prevents measurement imbalance from leading to program imbalance; 6) performance reporting should be tailored to the many audiences of livability programs; and 7) agencies must balance measurement of quantifiable factors with subjective factors such as "quality of life."

There is no one size fits all approach to measuring livability – by its nature it is a locally defined issue with a wide range of stakeholders. The hope is that this research will help livability programs learn from others when developing the measurement program that is right for them.

Introduction

Programs to support the creation of "livable communities" are on the rise among transportation agencies and their partner agencies at all levels of government. The "Livable and Sustainable Communities" initiative is currently one of the top three initiatives of the US Federal Transit Administration (FTA).[1] This FTA effort is part of the overall U.S. Department of Transportation's (DOT) Livable Communities initiative and includes active engagement with the Interagency Partnership for Sustainable Communities – a joint project among DOT, the Department of Housing and Urban Development (HUD), and the Environmental Protection Agency (EPA).[2] At the regional level, the San Francisco Bay Area's Metropolitan Transportation Commission's Transportation for Livable Communities program has been in place since 1998. The Atlanta Regional Commission, Metro (Portland Oregon Metro Area), The Metropolitan Council (Minneapolis-St. Paul), and the North Central Texas Council of Governments also have well established livability programs at the regional level. These MPOs and COGs often collaborate in their pursuit of livability with redevelopment agencies, other state and local agencies focusing on housing, not-for-profit Community Development Corporations, and for-profit developers.[3] In general, livability programs focus on supporting the creation or preservation of communities with some subset of the following characteristics, along with other agency-specific criteria: dense; mixed-use; strong transit, bicycle, and pedestrian access; mixed-income and/or affordable; location efficient; environmentally sustainable; and some definition of "quality of life" or "sense of place."[4]

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[1] *FTA listing of top initiatives, at http://www.fta.dot.gov/publications/reports/other_reports/ publications_140.html, accessed 12/28/2009.*
[2] *DOT, HUD, EPA, "DOT Secretary Ray LaHood, HUD Secretary Shaun Donovan and EPA Administrator Lisa Jackson Announce Interagency Partnership for Sustainable Communities. Partnership sets forth six 'livability principles' to coordinate policy," joint press release, DOT/HUD/EPA, June 16, 2009.*
[3] *Reconnecting America, "Financing Transit-Oriented Development in the San Francisco Bay Area Policy Options and Strategies," Prepared for the Metropolitan Transportation Commission, Reconnecting America, August 2008.*
[4] *Author's synthesis of livability definitions from across all sources cited.*

The wide range of organizations involved in livability initiatives – and the academics studying the topic – generally agree on the opportunities and problems they seek to address. Specifically, there appears to be general agreement that the demand for housing in "livable" communities will increase significantly over the coming 20-30 years, and that a handful of barriers – such as lack of patient capital, zoning issues, lack of joint planning between transportation and land use, and limited undeveloped land in suitable corridors – prevent the developer community from investing to capture that demand. However, despite this general agreement, the organizations seeking to address those barriers have a very diverse range of initiatives – with a diverse set of stated objectives, strategies and metrics.

The first step in achieving livability – or any other goal – is to clearly define it. Well developed metrics define what it would mean to succeed and help put programs on the path to success. As the saying goes, "you get what you measure." In fact, Reconnecting America's recent white paper "Realizing the Potential for Sustainable and Equitable TOD: Recommendations to the Interagency Partnership on Sustainable Communities," recommends that the partnership prioritize the development of "livability indicators" – metrics which can be used by the partnership and by agencies at all levels of government to guide and evaluate programs, and to prioritize funding.[5]

The purpose of this capstone project is to contribute an initial step toward that objective, by analyzing existing metrics for livability programs and providing recommendations for the future application of metrics for government agencies seeking to support livability.

This paper focuses on a subset of livability programs: those which are led by MPOs or other regional agencies within which an MPO resides. For example, in many cases a Council of

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[5] *Reconnecting America, "Realizing the Potential for Sustainable and Equitable TOD: Recommendations to the Interagency Partnership on Sustainable Communities," Reconnecting America, November 18, 2009.*

Governments (COG) is both the land use planning agency and the MPO for the region. While many livability programs are led by agencies at other levels of government and by agencies with non-transportation foci (e.g., environmental agencies, cities and towns), selecting this subset enabled a more focused research project, which can provide more detailed and targeted recommendations to the community. However, as will be discussed at length below, livability is a multi-faceted goal, and a multi-stakeholder perspective was retained throughout the research.

Methodology

The data analysis focused on 5 livability programs: Atlanta Regional Council's Livable Communities Initiative (ARC's LCI); the Metropolitan Transportation Commission's Transportation for Livable Communities Program (MTC's TLC - San Francisco Bay Area); Metro's Transit Oriented Development and Centers Program (Portland, Oregon Area), the North Central Texas Council of Governments' Sustainable Development Initiative (NCTCOG's SDI), and the Metropolitan Council's Livable Communities Act Grant Program (LCA - Minneapolis St. Paul Area). All of these agencies are regional agencies – most have both an MPO role and a broader COG role. The exception is MTC, which is solely the MPO for the region, and collaborates with the COG and local jurisdictions on land use issues. These programs were selected to provide a diverse range of examples in terms of location in the country (east, midwest, south central, and west), program strategies, and city densities. All five programs were identified in the literature review as mature programs which may serve as examples of current practice in livability.

The data analysis had two parts: analysis of program documentation and interviews with program leadership. Livability program documentation provided the data required to document existing metrics and to analyze their fulfillment of criteria for good performance metrics synthesized from the literature review. Program documentation reviewed included program

websites, fact sheets, calls for projects, performance reports, and program evaluation documents. A full list of program documentation consulted is provided in the bibliography.

Data collection was completed based on a data template designed to capture information about the programs in a consistent manner. The full data tables are provided in the appendix. The analysis compared the metrics used by each program to criteria established based on the literature review.

To test the initial findings developed from the program documentation analysis, and to provide a richer understanding of the applicability and value of key metrics, interviews were completed with leaders from each of the programs analyzed. Interview questions were formulated based on the initial findings.

The interview results provided deeper insight into the initial findings based on the program documentation analysis and supported the development of recommendations based on agencies' experiences. The intent was not to critique individual programs, but rather to identify trends and lessons that can be applied broadly. As such, the recommendations are not absolute, as the metrics that will work for one program may not work for others. Rather, the recommendations focus on issues for programs to consider when choosing metrics.

Literature Review

Perspectives on Livability

In general, livability programs focus on supporting the creation or preservation of communities with some subset of the following characteristics, along with other agency-specific criteria: dense; mixed-use; strong transit, bicycle, and pedestrian access; mixed-income and/or

affordable; location efficient[6]; environmentally sustainable; and some definition of "quality of life" or "sense of place."

However, perspectives vary based on the agencies involved. In addition, while most livability initiatives to date have focused on urban and suburban areas, the Federal Department of Transportation and its federal partners seek to address livability for all of America – including rural areas, which may define livability very differently from their urban and suburban peers.[7] For example, while accessibility to jobs and other destinations may be a priority, accomplishing this aim through density may not be the focus in a rural community.

The Interagency Partnership for Sustainable Communities – a joint project among DOT, the Department of Housing and Urban Development (HUD), and the Environmental Protection Agency (EPA) – developed a list of six livability principles which intend to address the goals of all three agencies, and to be applicable to urban, suburban, and rural communities. The principles are defined as shown on the following page.[8]

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[6] *Senate Bill 1619 defines location efficient as follows "The term 'location-efficient' characterizes development, housing, or neighborhoods that integrate land use, mixed-use housing and commercial development, employment, and transportation (A) to enhance mobility; (B) to encourage transit-oriented development; (C) to encourage infill development and the use of existing infrastructure; and (D) to reduce growth in vehicle miles traveled and the transportation costs and energy requirements associated with ownership or rental of a home."*

[7] *Deputy Administrator Therese McMillan, Dakota Transit Association Annual Meeting, Opening Remarks, Fargo, ND, September 21, 2009.*

[8] *DOT, HUD, EPA, "DOT Secretary Ray LaHood, HUD Secretary Shaun Donovan and EPA Administrator Lisa Jackson Announce Interagency Partnership for Sustainable Communities. Partnership sets forth six 'livability principles' to coordinate policy," joint press release, DOT/HUD/EPA, June 16, 2009.*

Interagency Partnership for Sustainable Communities Livability Principles

"1. Provide more transportation choices. Develop safe, reliable and economical transportation choices to decrease household transportation costs, reduce our nation's dependence on foreign oil, improve air quality, reduce greenhouse gas emissions and promote public health.

2. Promote equitable, affordable housing. Expand location- and energy-efficient housing choices for people of all ages, incomes, races and ethnicities to increase mobility and lower the combined cost of housing and transportation.

3. Enhance economic competitiveness. Improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services and other basic needs by workers as well as expanded business access to markets.

4. Support existing communities. Target federal funding toward existing communities – through such strategies as transit-oriented, mixed-use development and land recycling – to increase community revitalization, improve the efficiency of public works investments, and safeguard rural landscapes.

5. Coordinate policies and leverage investment. Align federal policies and funding to remove barriers to collaboration, leverage funding and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices such as locally generated renewable energy.

6. Value communities and neighborhoods. Enhance the unique characteristics of all communities by investing in healthy, safe and walkable neighborhoods – rural, urban or suburban."

Senator Christopher Dodd (D-CT) introduced the Livable Communities Act of 2009 (S. 1619, 2009) to formally establish the HUD Office of Sustainable Housing and Communities and the Interagency Council on Sustainable Communities. This legislation defines livability as follows:

> "The term 'livable community' means a metropolitan, urban, suburban, rural, or neighborhood community that--
>
> (A) provides safe and reliable transportation choices;
>
> (B) provides affordable, energy-efficient, and location-efficient housing choices for people of all ages, incomes, races, and ethnicities;
>
> (C) supports, revitalizes, and encourages the growth of existing communities and maximizes the cost effectiveness of existing infrastructure;
>
> (D) promotes economic development and economic competitiveness;
>
> (E) preserves the environment and natural resources;
>
> (F) protects agricultural land, rural land, and green spaces; and
>
> (G) supports public health and improves the quality of life for residents of and workers in the community."

However, while the Interagency Partnership for Sustainable Communities and similar partnerships at the state, regional, or local levels may state a set of common goals, the goals are often pursued through specific activities of the member agencies and organizations. These organizations – government agencies at different levels and with different missions, non-profit partners, and developers – all have different perspectives, priorities, and blinders when formulating programs to pursue livability.

Livability reflects the whole picture of a community – including transportation, housing, businesses, recreation facilities, other infrastructure, and even the quality of the air. However, there is no single agency with jurisdiction over all of these elements, and many are delivered by the private sector or non-profit organizations. And in the end, livability is not about the government agencies themselves. Rather, it is about people: creating a place that people find to be a good place to live. Therefore, in order to pursue and achieve livability, a wide range of actors – with a wide range of perspectives – must be involved. These stakeholders include transportation, housing, development, and environmental agencies, at the federal, state, regional, and local levels, as well as customers and developers. Each organization brings its own history, objectives, jurisdiction and regulatory authorities, toolsets, and biases to the process. While this provides a rich diversity of views and strategies, it can also lead to confusion or conflicting objectives

Transportation agencies tend to focus on mobility, accessibility, multi-modal options, and reduction of negative externalities of transportation (such as emissions) as their contribution to livability. For example, the US DOT's livability program aims to "enhance the economic and social well-being of all Americans by creating and maintaining a safe, reliable, integrated and accessible transportation network that enhances choices for transportation users, provides easy access to employment opportunities and other destinations, and promotes positive effects on the surrounding community." Strategies such as transit-oriented development (TOD), context sensitive solutions, and bicycle/ pedestrian access are key tools in the transportation agencies' livability toolbox, and already incorporate an integrated transportation-land use perspective. [9] Coordination with development agencies and local cities and towns is critical, to integrate land

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[9] *FTA's Livable and Sustainable Communities web page, http://fta.dot.gov/publications/publications_10935.html, accessed January 31, 2010.*

use and transportation planning. Equity is certainly an objective, but affordability is not the primary lens.

Development and housing agencies, on the other hand, define livability primarily through the lens of affordability, and the proximity of affordable housing to jobs. For example, the Department of Housing and Urban Development's (HUD) mission is focused on community development and increasing access to affordable housing.[10] The primary strategies applied by housing and development-oriented agencies are funding and tax incentive programs to support affordable housing and job creation.[11] However, as HUD Secretary Donavan stated in congressional testimony in 2009, its mission "cannot be achieved in a vacuum." Transportation has become a significant portion of household expenditures, and the connection between transportation choices and housing choices must be addressed to achieve HUD's mission[12]

On average, families spend 19% of their household budget on transportation, but households with good access to transit spend only 9%. For very low income families, transportation can represent up to 55% of the family's budget.[13] However, for HUD, increasing transit ridership is not a primary focus – rather, increased transit access may be one way to help reduce the combined cost of housing and transportation, and to help improve access to jobs.

Environmental agencies look at livability from the perspective of quality and safety of the natural environment. They find common ground with transportation agencies to the extent that transportation agencies seek to reduce emissions or traffic congestion. They find common ground with development and housing agencies on issues of environmental equity. However, if

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[10] *http://portal.hud.gov/portal/page/portal/HUD/about/mission*
[11] *Based on listing of programs in ibid.*
[12] *U.S. Department of Housing and Urban Development Secretary Shaun Donovan, Testimony, Hearing before the Committee on Banking, Housing, and Urban Affairs, United States Senate, June 16, 2009*
[13] *Center for Transit Oriented Development, "Realizing the Potential: Expanding Housing Opportunities near Transit," CTOD, April 2007, page iii.*

adding a new road improves mobility or jobs access better than adding transit, environmental agencies may find themselves at odds with their partners in defining livability. Just as TOD is a tool for transportation agencies to address the transportation-land use connection, Smart Growth has been EPA's focus for addressing the intersection of development and environmental concerns.[14]

Perspectives at the state, regional, and local levels vary considerably. Cities and towns tend to take a more integrated view of livability, include less definable objectives such as quality of life, and focus at the street and neighborhood level.

Clearly, livability is much more than the sum of its parts. A harmonized perspective can aid in achieving any of the agencies' individual goals. Programs that address only one aspect of livability can result in conflicting incentives, communities that only achieve one aspect of livability, or a lack of focus on areas that do not fall under any agency's jurisdiction – such as "quality of life." For example, improvements in a transit station area can increase the value of land, resulting in displacement of low income residents from the station area.[15] Therefore, what might be considered a livability success by some transit agencies might be considered a failure from a development and housing agency's perspective. Another example is the Low Income Housing Tax Credit (LIHTC), a HUD program that provides incentives for development in "Qualifying Census Tracts" (QCTs) and "Difficult to Develop Areas" (DDAs). While this program may be effective in stimulating development in these areas, it is less effective in reducing the combined housing and transportation cost, as many station areas are not in such zones.[16] For this reason, many states explicitly allocate a portion of their LIHTC programs to development

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[14] *http://www.epa.gov/dced/about_sg.htm*
[15] *Reconnecting America, "Realizing the Potential: Expanding Housing Opportunities Near Transit,"p.12.*
[16] *Reconnecting America, "Realizing the Potential One Year Later," p. 14.*

that meets criteria for proximity to transit.[17] However, in developing case studies on opportunities for housing near transit, the Center for Transit Oriented Development (CTOD) found that "Most existing affordable housing policies identified … do not include special consideration or criteria for transit proximity," and "Most TOD efforts do not include an affordability component."[18]

Effective Performance Metrics in Customer Facing Government Programs

What Makes a Good Performance Measure?

Given this complex environment, selecting appropriate performance measures can be a challenge. This section of the report discusses what makes a good performance measure. The following section explores the literature on specific measures for agencies and programs related to livability.

Before discussing what to measure, we must first understand why we are measuring performance. At the federal level, agencies are required by the Government Performance and Results Act of 1993 (GPRA) to establish measures that evaluate agency and program performance in achieving established strategic goals. Similar requirements for performance measurement and reporting are in place for programs at other levels of government, either through state legislation or through requirements placed on federal funding.

The most straightforward reason to measure performance is captured in the common saying, "you get what you measure" or "what gets measured gets done." When tied to incentives for agencies or individuals – financial or otherwise – performance measures serve to focus efforts on the most important objectives.

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[17] *Reconnecting America, "Realizing the Potential: Expanding Housing Opportunities Near Transit," p.8. 28 states had this allocation as of the date of publication.*
[18] *Ibid. p. 164.*

Performance measures also support decision making at multiple levels. Overall program or agency measures provide feedback to senior management on the overall direction of the program or agency in support of decisions about strategic direction and resource allocation. Such overall measures can also be used for external reporting, to secure funding or gain stakeholder support. At the operational level, performance measures can help managers and staff refine tactics and processes to improve results or efficiency.

Much has been written on what makes a good performance measure, for both public and private sector organizations. In 1997, the National Performance Review – established in 1993 by President Clinton and Vice President Gore – published a study on "Best Practices in Performance Management," synthesizing relevant literature and the results of extensive interviews of organizations considered leading practitioners in performance measurement in the public and private sectors.[19] This report outlined common uses of performance information, a number of considerations for what makes a good performance measure, and best practices in structuring and implementing the measurement program.

The authors note that performance measures can be used for a wide variety of purposes, including decisions on resource allocation, identification of gaps in the achievement or definition of goals, focusing efforts to improve processes, and the evaluation of performance of individual employees and managers.

The authors apply a variation of a commonly used framework that breaks down performance measures into four primary types: outcomes (end results, in relation to program purpose), quality of outputs (how well goods or services are delivered and how satisfied customers are

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[19] *"Serving the American Public: Best Practices in Performance Measurement Benchmarking Study Report," National Performance Review, June 1997.*

with them), efficiency of operations (conversion of resources to outputs), and effectiveness of operations (specific contribution of the operations to the outputs/ program objectives).

In this context, outcomes, and to some degree outputs, are most useful in supporting decisions on resource allocation and goals. On the other hand, outputs, efficiency, and effectiveness are most useful in focusing efforts to improve processes. For the evaluation of staff performance, it is critical that the measure can be directly tied to the individual's contribution, so the appropriate type of measure will depend on the individual's role. For example, a senior executive may be held accountable for outcomes, but an operations manager may be more appropriately measured based on outputs (such as customer satisfaction with service levels), or efficiency.

The authors provide the following summary of what makes a good measure: "is accepted by and meaningful to the customer; tells how well goals and objectives are being met; is simple, understandable, logical and repeatable; shows a trend; is unambiguously defined; allows for economical data collection; is timely; and is sensitive." [20]

The authors also summarize what makes a good measurement system: "comprises a balanced set of a limited vital few measures; produces timely and useful reports at a reasonable cost; displays and makes readily available information that is shared, understood, and used by an organization; and supports the organization's values and the relationships the organization has with customers, suppliers, and stakeholders." [21]

In the context of a multi-stakeholder environment, the authors noted that study participants indicated that aligning metrics to strategy made it easier to align the contributions of multiple stakeholders.

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[20] *National Performance Review, and also cited in Compin.*
[21] *Ibid.*

The authors cite an example reported in the June 2, 1997, Federal Times to demonstrate the value of aligning performance measures to customer goals: "Instead of counting the number of forecasts it makes, the National Weather Service measures the warning time given to the public before severe weather. The lead time before tornadoes increased from seven minutes to nine minutes."

Literature on performance evaluation written specifically for transportation agencies supports many of the conclusions of the National Performance review, and provides additional perspectives. A 2003 TCRP report – "A Guidebook for Developing a Transit Performance-Measurement System"[22] – opens with a synthesis of good practice in performance measurements. The guidebook addresses four primary points of view for transit performance measures: customer (existing and potential), community (including mobility, financial, and pollution reduction impacts), agency (focusing on efficiency and effectiveness) and driver/vehicle (focusing on traditional measures used by traffic engineers). The authors cite Nakanshi and List to provide a set of characteristics of effective measurement systems. Most of these characteristics relate to the structure and implementation of the measurement program overall, although several also relate specifically to the chosen measures. The characteristics are as follows[23]:

- Stakeholder acceptance of the performance system
- Linkage to goals
- Clarity of performance reports to the intended audience
- Reliability and credibility of the underlying data
- Variety of measures, reflecting a broad range of issues and trended over time

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[22] *Paul Ryus, principal investigator Kittelson & Associates "A Summary of TCRP Report 88: A Guidebook for Developing a Transit Performance-Measurement System," pp.4-5.*
[23] *Ibid pp.5-6.*

- Number of measures, balancing variety with usability (not overwhelming the audience)
- Level of detail, balancing sufficient detail for decision making with simplicity
- Flexibility, allowing change as goals change, but retaining links to historical measures
- Realism of goals and targets

Like the National Performance Review, the authors of TCRP 88 stressed the importance of a customer focus.[24] Many public sector managers believe that the private sector "has it easy" when it comes to performance measurement, because everything can be measured through financial measures such as revenue and profit, whereas the public sector must focus on objectives that are more difficult to measure. However, TCRP 88 found that in fact, while both public transit agencies and private companies measure revenue-based objectives, private sector companies were more likely than government agencies to measure the "soft" issue of customer satisfaction and loyalty. On the other hand, the report found that transit agencies were more focused on concrete operating measures – such as boardings per mile. Private companies have determined that customer satisfaction is fundamental to their strategic goals (as it can drive revenue), and have found ways to measure this "softer" factor. The authors posit that most public transit agencies do not take this end-goal orientation to performance measurement due to the cost of measuring customer satisfaction.[25]

Gary van Landingham echoes similar themes to the National Performance Review and TCRP reports. He states that performance measures are intended to "let us know: how well we are

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[24] *Ibid. p. 9*
[25] *Ibid. pp. 9-10*

doing, if we are meeting our goals, if our customers are satisfied, [and] if and where improvements are necessary." [26]

He goes on to state that performance measures are intended to support "intelligent decisions about what we do," and should be expressed in a way that best supports the decisions. Van Landingham's list of criteria for a good performance measure is similar to those discussed above: "Reflects the customer's needs as well as the organization's, provides an agreed upon basis for decision making, is easily understandable, is easily measurable, is broadly applicable, is easily interpretable." [27]

Van Landingham also applies the "output" v. "outcome" distinction, and notes that while internal measures can focus on output, external performance measures intended for reporting to the customer and other stakeholders must focus on outcomes, as the stakeholder seeks to understand what the funds and other resources put into the process delivered in the end. [28]

However, Haas provides a useful critique of the "outcomes measurement" approach.[29] Haas' fundamental critique of measuring outcomes and outputs is that such measures do not always provide the kind of insight that leaders require to make strategic and operational decisions. Measuring outcomes or outputs can tell you what happened, but often cannot tell you why, and many programs have "diffuse, long term goals that defy ready measurement."[30] Livability, as discussed above, is one such program. Defining outcome or output measures that capture "quality of life" or measure changes in public health or air quality in a meaningful way can be a challenge. Furthermore, knowing that obesity decreased does not necessarily tell you whether or how the livability program contributed to this outcome. Similarly, knowing that a land banking

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[26] *Gary van Landingham conference presentation, as quoted by Dr. Nicholas Compin, Lecture Notes, p. 6.*
[27] *Ibid p.7*
[28] *Ibid p.7*
[29] *Dr. Peter Haas and J. Fred Springer, "*Applied Policy Research: Concepts and Cases," *Chapter 2, pp. 18-21.*
[30] *Ibid, p21.*

program acquired 10 new parcels of land near a planned transit station does not necessarily tell you why that level of output was achieved, nor does it tell you the contribution of this output to the end goal of creating a livable community. Haas does not reject outcome measurement outright, however. Rather, he notes that the approach can be useful to some degree, and that other authors recommend taking a more qualitative approach to assessing programs, which can compensate for some of the shortcomings outlined above.[31]

For the purposes of this paper, the focus will be on measures of outcome, output, and process (efficiency and effectiveness). However, the critique outlined by Haas will be taken into consideration. The analysis will seek to consider how well the measures support leaders' decision making needs, and provide a picture of both what was accomplished and why.

Implications for this Research

Overall, the criteria for good performance measures and performance measurement systems described in the literature are fairly consistent. For the purposes of this research, a synthesized set of seven criteria will be applied to characterize the performance measures used by existing livability programs. These seven criteria cover the full range of criteria recommended by the literature discussed above. The criteria are: customer focused; aligned to strategy, goals, and objectives; clear and unambiguous; measurable efficiently and accurately; balanced; decision-oriented; and address key stakeholder perspectives. The table on the following page demonstrates the alignment of these criteria to the criteria recommended by the literature.

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[31] *Ibid, p21.*

Table 1: Synthesis of Criteria for Good Performance Measurement

Summary Criteria	National Performance Review	TCRP 88	van Landingham
Customer focused	• Accepted by and meaningful to the customer	• Customer focused	• Reflects the customer's needs as well as the organization's • Lets us know how if our customers are satisfied
Aligned to strategy, goals, and objectives	• Tells how well goals and objectives are being met	• Linkage to goals	• Lets us know how well we are doing and if we are meeting our goals
Clear and unambiguous	• Simple, understandable, logical • Unambiguously defined	• Clarity of performance reports to the intended audience	• Is easily understandable and easily interpretable
Measurable efficiently and accurately	• Allows for economical data collection • Produces reports at a reasonable cost • Repeatable	• Reliability and credibility of the underlying data	• Is easily measurable
Balanced	• Comprises a balanced set of a limited vital few measures	• Variety of measures, reflecting a broad range of issues and trended over time • Number of measures, balancing variety with usability (not overwhelming the audience)	• Is broadly applicable
Decision-oriented[32]	• Produces timely and useful reports • Displays and makes readily available information that is shared, understood, and used by an organization • Sensitive • Shows a trend		• Provides an agreed upon basis for decision making • Tells us if and where improvements are necessary •
Address key stakeholder perspectives	• Supports the organization's values and the relationships the organization has with customers, suppliers, and stakeholders	• Stakeholder acceptance of the performance system	

[32] *Note: this factor is also intended to address Haas' point that measures should support decision makers' needs, by demonstrating both what occurred and why.*

Agency Measures of Value and Impact

There is little written to date on what outcome metrics livability programs per se should use. However, extensive research has been done on how each of the types of stakeholder agencies – such as transportation agencies, housing and development agencies, and environmental agencies – can measure their core missions. In addition, as mentioned above, TOD and Smart Growth are examples of programs that go a long way in drawing the connections across multiple aspects of livability. Research has been done regarding the measurement of the desired outcomes of these programs, and this research can be very helpful in establishing metrics for a broader livability program.

Transportation and TOD Outcome Measures

Transportation agencies measure outcomes across a broad range of parameters. For example, the California Transportation Commission's guidelines for developing the State Transportation Improvement Program outlines a set of indicators to be applied to both road and transit. These measures fall into seven categories: safety, mobility, accessibility, reliability, productivity (throughput), system preservation, and return on investment/lifecycle cost.[33] TRCP Report 78 provides an overview of measures of transit benefits from multiple sources. They outline Litman's 20 benefits of transit across three major categories (mobility, efficiency, and cost) aligned to the beneficiaries of each benefit, including transit users, road users, the regional community, the environment, taxpayers, government agencies, pedestrians and cyclists, and "all of society." They also cite Williams and Lewis in outlining three major benefits of transit – low cost mobility, congestion management, and location efficiency – and three major beneficiaries: transit users, other travelers and community members, and society at large. Further, they cite a detailed benefit hierarchy by Biemborn et al., which places dozens of

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[33] *California Transportation Commission, as cited in Compin, Lecture Notes, p.15.*

benefits into a framework of five categories: transit trips, fewer auto trips, provides alternatives, land use/economic activity, and transit supply. They conclude that while all of these frameworks provide valid types of transit impact, measuring these impacts in a distinct way is not only difficult, but does not reflect the customer perspective on transit benefits. Riders, they argue, do not disaggregate the variety of travel costs and benefits when making a travel decision, so disaggregating them for measurement purposes is flawed.[34]

TCRP Report 20[35], in its discussion of "quality of life," comes a bit closer to finding measures more directly applicable to livability The report outlines 31 areas of impact from transit, across the major categories of mobility and access, economic and financial, environmental and energy, safety and security, social equity, and "intangible factors." In order to provide what the authors term a "quality of life orientation" they state that a focus should be placed on "'fundamental benefits', i.e., those characteristics that individuals and communities most want to consume more of, versus 'intermediate' benefits, i.e., those whose principal importance lies in the production of fundamental benefits." In other words, focus on the end outcome, not the intermediate outputs that are indented to create the desired outcomes. While access and mobility have long been key indicators for transportation agencies, the authors argue that these are intermediate benefits which are important (but not sufficient) in producing the fundamental benefits of economic, safety/security, and environmental impact.

The authors argue that the fundamental benefits should be measured, as should the cost effectiveness with which they are achieved and the equity of the distribution of the benefits. The intermediate benefits should be measured, but should not be seen as the primary goal – rather they are output measures that can inform evaluation of the outcomes. However, as noted

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[34] *Econorthwest and Parsons Brinckerhoff Quade & Douglas, Inc., "Estimating The Benefits And Costs Of Public Transit Projects: A Guidebook For Practitioners," pages I:17-I:19.*
[35] *Cambridge Systematics, Inc. and Apogee Research, Inc., "Measuring and Valuing Transit Benefits and Disbenefits," TCRP Report 78, pages 5-12.*

above, such outcomes can be difficult to measure, especially when the outputs of the program in question are only one set of factors influencing the outcomes. The authors acknowledge that this is the case with their "fundamental" benefits: mobility and access can have positive economic, safety/security, and environmental impacts, but many non-transportation factors also come into play.

The literature on Transit Oriented Development provides additional guidance for livability metrics. As Reconnecting America points out in "Realizing the Potential for Sustainable and Equitable TOD," the livability goals outlined by the Interagency Partnership on Sustainable Communities align very closely to the objectives of TOD.[36]

Belzer and Autler outline the most comprehensive set of potential metrics for TOD, with 30 types of measures across 6 categories: Location Efficiency, Value Recapture, Livability, Financial Return, Choice, and Efficient Regional Land-use Patterns. While they call out livability as one of the categories of metrics, they note that "At its core, transit-oriented development strives to make places work well for people." [37] In other words, livability is the fundamental mission of TOD. Therefore, the other categories of metrics can also inform livability programs. For example, value recapture and financial return can be quite useful as metrics for livability programs in general, as well as specific metrics for TOD programs. They also note that while livability is a very subjective term, and one which is defined differently in different communities and by different individuals, the creation of livability metrics can help communities articulate and then measure their own, localized definition. We will explore this point further in the section of

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[36] *Reconnecting America, "Realizing the Potential for Sustainable and Equitable TOD," pp.4-6.*
[37] *Dena Belzer and Gerald Autler, "Transit Oriented Development: Moving From Rhetoric To Reality: A Discussion Paper Prepared for The Brookings Institution Center on Urban and Metropolitan Policy and The Great American Station Foundation," p. 8-17.*

this report on customer definitions of livability. Belzer and Autler's full set of metrics are outlined in the table on the following page.[38]

Other literature provides more detail on some of the same types of measures proposed by Belzer and Autler. For example, CTOD's "TOD 202" notes several measures which represent indicators of transportation choice and outputs which can impact the desired outcomes of improved air quality and reduced congestion: transit ridership, pedestrian volumes, and trip generation rates. "TOD 202" also provides sample indicators of economic impacts of TOD: development activity and retail sales.[39]

However, while livability and TOD may have similar objectives, TOD assumes that livability is best achieved through transit and density, while other livability programs may not find these to be the primary strategies for improving livability. Rural livability programs, or programs in cities that are already transit-rich but still not "livable" may take a different perspective. While this paper focuses on livability programs led by or with the participation of MPOs, as discussed above, success depends on integration of multiple stakeholder objectives. Therefore, research on the metrics of programs led by other agencies – such as livable streets initiatives and EPA's Smart Growth program can be informative.

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[38] *Ibid.*
[39] *Reconnecting America, Center for Transit Oriented Development, "TOD 202: Station Area Planning: How to Make Great Transit Oriented Places," page 24.*

Table 2: Belzer and Autler TOD Performance Criteria[40]

Category Definition	Examples Cited
Location efficiency: making auto use an option, rather than a necessity	• "Increased mobility choices (walking and bicycling as well as transit). • Increased transit ridership. • Good transit connections to the rest of the city and region. • Reduced auto use and reduced auto ownership. • Reduced transportation costs to individuals and households. • Sufficient retail development (quantity, quality, and diversity) to satisfy the basic daily needs of residents and employees in the area • Ability to live, work, and shop within the same neighborhood."
Value recapture: the translation of location efficiency into "direct savings for individuals, households, regions, and nations"	• "Increased homeownership rates or more adequate housing, especially among borderline income groups." • "Reduced individual and community spending on transportation and therefore greater discretionary individual and community spending."
Livability: "Measures of livability that relate directly or indirectly to transit-oriented development"	• "Improved air quality and gasoline consumption. • Increased mobility choices (pedestrian friendliness, access to public transportation). • Decreased congestion/commute burden. • Improved access to retail, services, recreational, and cultural opportunities (including opportunities for youth to get involved in extra-curricular activities within the neighborhood). • Improved access to public spaces, including parks and plazas. • Better health and public safety (pollution-related illnesses, traffic accidents). • Better economic health (income, employment)."
Financial Return on the TOD project	• "For local governments: higher tax revenues from increased retail sales and property values. • For the transit agency: increased fare box revenues and potential ground lease and other joint development revenues. It is possible that in some cases increases in land value could cover a significant portion of the cost of transit investments. • For the developer: higher return on investment. • For employers: shorter and more predictable commute times, easier employee access. • A balance between financial return and other goals of TOD so that projects are not judged purely on their monetary return."
Choice in housing, retail, and transportation	• "A diversity of housing types that reflects the regional mix of incomes and family structures. • A greater range of affordable housing options. • A diversity of retail types. Diversity will necessarily be limited by the market area and the particular desires of the residents; however, this outcome could be measured in terms of how well the retail mix meets the needs and desires of the residents as they themselves define them. • A balance of transportation choices."
Efficient Regional Land-use Patterns	• "Less loss of farmland and open space. • More suitable regional and subregional balance between jobs and housing. • Shorter commutes. • Less traffic and air pollution. • Station areas as that can serve as destinations as well as origins."

[40] *Ibid.*

Cities and Towns: Livable Streets Metrics

New York City is a prime example of a city which is transit-rich, but still struggles with creating communities which residents define as "livable." A 2008 study by Transit Alternatives noted that New York, like many other cities around the world, "is now employing livable streets as a central strategy to nurture a healthy population and support local economies."[41] The report cites multiple studies of the benefits of livable streets, and lists the following outcomes that can be expected from successful livable streets initiatives: economic benefits such as increased property values and increased retail sales, health benefits such as increased outdoor activity and reduced air pollution, and stronger and livelier neighborhoods. Outcome metrics for tracking these goals include lower rates of obesity and diabetes, reduced noise and air pollution, and increased size of the social networks of residents. The authors also outlined detailed output measures and design specifications that they argue are indicators of the outcomes livable streets initiatives seek. These include measures such as pedestrian volume (high enough to be vibrant, but not so high as to create pedestrian congestion, as one sees in New York's Times Square), density of stationary activities (such as sitting on café chairs), pedestrian diversity (more women, children, and elderly residents on the street is an indicator of safety, comfort, and accessibility), social interaction and social contacts (such as the number of neighborhood residents with which one is acquainted), ownership/pride (such as participation in block parties and community gardens). The authors also recommend health- and economic-related output measures, such as vehicle speeds, traffic volume and retail foot traffic.[42]

The authors note that many of these factors may be difficult to measure, and that outcomes such as reduction in obesity rates are influenced by many factors outside of the scope of the

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[41] *Lusher, Seaman, and Tsay, "Streets to Live By: How Livable Street Design Can Bring Economic, Health, and Quality-of-Life Benefits to New York City," p. 1.*

[42] *Ibid pp. 1-29*

livable streets program. In addition, they note that many of the factors – such as the number of social contacts – may change very slowly over time. However, the authors point the reader to specific studies that can provide methodologies for making the measurements, while also recommending that planners focus on the more measureable of the factors outlined above, such as pedestrian behavior and vehicle speeds.[43] Of course, choosing the more measureable factors often results in having to rely on output measures (such as pedestrian volume) rather than outcome measures (such as reduced obesity).

The Intersection of Development and Environment: Smart Growth Metrics

Smart Growth has been EPA's focus for addressing livability objectives at the intersection of development and environmental concerns.[44] The Smart Growth website provides a wealth of information on measuring smart growth, including scorecards for projects and municipalities. A full analysis of the measures in the scorecards is outside the scope of this paper. However, a summary of the types of measures included is informative.

In general, EPA recommends considering the social, economic, aesthetic, and environmental impact of development projects on the community. The scorecards, which are not endorsed by EPA, but posted by EPA as references, address topics such as density, mix and balance of uses, location type (brownfield v. greenfield), proximity and quality of transit/ped/bike options, community character, connectivity/accessibility, and economic development impact.

The Intersection of Transportation and Development: The Housing and Transportation Affordability Index

In the definition of their "livability principles," the Interagency Partnership on Sustainable Communities include a goal of "lower[ing] the combined cost of housing and transportation," and

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[43] *Ibid p.24*
[44] *http://www.epa.gov/dced/about_sg.htm*

many livability programs that involve both transportation and development agencies outline similar goals.[45] The Center for Transit-Oriented Development's (CTOD) "Housing and Transportation Affordability Index" or simply "Affordability Index" was developed to measure this outcome. The goal was to establish a measure that "prices the trade-offs that households make between housing and transportation costs, and the savings that derive from living in communities that are near shopping, schools, and work, and that boast a transit rich environment."[46] The study found that most measures currently in use for evaluating the affordability of housing (and therefore allocating incentives such as housing tax credits and housing vouchers) do not include the cost of transportation, even though transportation cost is highly correlated with a neighborhood's characteristics. The Affordability Index establishes for a given census block the sum of housing and transportation costs, divided by average income. The transportation costs are estimated in three parts – cost of auto ownership, auto use, and transit use. These three cost categories are dependent variables in a model which combines nine independent variables representing the built environment and household characteristics. The study showed that these nine variables, when applied at the census block level, can reasonably predict the dependent variables. The independent variables are as follows: households per residential acre, households per total acre, average block size, transit connectivity index (a measure of frequency and location of transit established by the Center for Neighborhood Technology), distance to employment centers, jobs per square mile, access to amenities (based on number of service jobs), household income, and household size.[47]

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[45] *DOT, HUD, EPA, "DOT Secretary Ray LaHood, HUD Secretary Shaun Donovan and EPA Administrator Lisa Jackson Announce Interagency Partnership for Sustainable Communities. Partnership sets forth six 'livability principles' to coordinate policy," joint press release, DOT/HUD/EPA, June 16, 2009.*
[46] *Center for Transit-Oriented Development and Center for Neighborhood Technology, "The Affordability Index: A New Tool for Measuring the True Affordability of a Housing Choice," The Brookings Institution Urban Markets Initiative, Market Innovation Brief, January 2006, p1.*
[47] *Ibid., p.21.*

As will be discussed in the findings section below, for the livability programs studied, the Affordability Index has so far only been applied to demonstrate the need for livability investments. However, it could also be used as an outcome measure if applied before and after a program investment.

Implications for This Research

The literature provides a strong starting point for a list of potential areas for performance measurement for livability programs. In addition, the literature reinforces the idea that measures should be broken down into outcomes, outputs, and process (or "fundamental benefits," "intermediate benefits," and "cost effectiveness" in the language of TCRP 78)[48]. A summary of the measures described above is outlined in the table on the following page. However, as Belzer and Autler point out, livability is subjective, and the goals and objectives of livability programs vary greatly. Therefore, this list should not be used as a standard for measures that each program should have, but as a source of ideas for measures that programs may wish to have, given their specific goals and objectives.

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[48] *Cambridge Systematics, Inc. and Apogee Research, Inc., "Measuring and Valuing Transit Benefits and Disbenefits," TCRP Report 78, pages 5-12.*

Table 3: Synthesis of Agency Measures of Value and Impact

Category	CTC STIP Guidelines	TCRP 78 and 20	Belzer and Autler	Livable Streets/ Smart Growth/ Affordability Index
Outcome	▪ Safety	▪ Low cost mobility ▪ Congestion management ▪ Location efficiency ▪ Economic ▪ Safety/ security ▪ Environment	▪ Economic (home ownership rates, reduced transportation cost, economic health aspect of livability) ▪ Environmental (air quality aspect of livability) ▪ Congestion (aspect of livability) ▪ Efficient Regional Land-use Pattern outcomes (less loss of open space, shorter commutes, air quality, congestion).	▪ Economic (increased property values, increased retail sales ▪ Health and environmental (rates of obesity and diabetes, noise and air pollution, traffic injuries) ▪ Social (increased size of the social networks of residents) ▪ Affordability: Combined cost of transportation and housing, in relation to average income (Affordability Index)
Output	▪ Mobility ▪ Accessibility ▪ Reliability ▪ Productivity (throughput) ▪ System preservation	▪ Mobility ▪ Access ▪ Efficiency of transit ▪ Cost of transit ▪ Transit trips ▪ Fewer auto trips ▪ Provides alternatives ▪ Land use/ economic activity ▪ Transit supply	▪ Choice in housing, retail, and transportation ▪ Mobility choices and access (livability outputs of TOD) ▪ Efficient Regional Land-use Pattern outputs (job housing balance, stations that are origins and destinations) ▪ Location efficiency: making auto use an option, rather than a necessity	▪ Pedestrian volume and diversity ▪ Density of stationary activities ▪ Social interaction and social contacts ▪ Ownership/pride (participation in block parties and community gardens). ▪ Safe conditions (vehicle speeds and traffic volume) ▪ Retail foot traffic ▪ Aesthetic/ community character ▪ Mix and balance of uses ▪ Proximity and quality of transit/ ped/bike options, ▪ Connectivity/accessibility ▪ Density of housing and jobs
Process	▪ Return on investment/ lifecycle cost		▪ Financial return on the project (tax revenues, farebox return, lease revenues, developer ROI, attractiveness to employees, balance between financial return and other goals of TOD)	

The Customer and Developer Perspective

In "Realizing the Potential: Expanding Housing Opportunities Near Transit," the Center for Transit Oriented Development (CTOD) states that the demand for housing near transit by individuals from a range of income brackets will increase in the coming decades. "A conservative estimate is that by 2030, nearly a quarter of those seeking housing, or over 16 million households, will express a demand for living near fixed-guideway transit." This predicted demand is due in part to demographic shifts: "The types of households who tend to seek out TOD – singles, couples without children, the elderly and low income minority households – are also the types of households that are projected to grow the most over the next 25 years." These projections mean that "livable" communities as defined by the Interagency Partnership on Sustainable Communities and similar programs will be in higher demand in the future.

The challenge, they argue, is that building such communities is costly and risky, and developers will only develop such communities if they can sell or rent the units for premium prices. "Lack of ready-to-develop land, high land costs near transit, absence of TOD supportive land use and rigid parking requirements, and lengthy entitlement processes for development all combine to push private sector developers to the high end of the housing market where there is more margin to absorb the time, uncertainty and cost of risk inherent in TOD."[49]

This dynamic pits the objective of affordability against the need for developers to achieve a competitive return from their investments at a reasonable level of risk. CTOD and others recommend that programs seeking to enhance the affordability of housing near transit – one of the goals of the Interagency Partnership on Sustainable Communities and other livability programs – consider strategies that will close this gap. They recommend helping to reduce the

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[49] *Center for Transit Oriented Development, "Realizing the Potential: Expanding Housing Opportunities near Transit," pp.2-3*

costs of development (e.g., through subsidies) and/or the risks of development (e.g., through land banking, to transfer the risk of long term holding of land near potential transit stations from developers to the government). A full analysis of the barriers to livability and of the strategies for addressing such market dynamics is outside the scope of this paper. However, it is clear that any program to address livability is fundamentally seeking to fulfill (or create) a demand from residents for a particular type of community, and to encourage (or require) developers to take actions to invest in developing such a community. As such, livability programs must take into consideration the customer and developer perspectives in their strategic and operational decisions, and therefore must have performance measures that provide insight into those perspectives.[50]

Aligning Developer and Agency Goals

The developer perspective is quite straightforward, in theory. Developers commonly use five metrics to evaluate the success of a project: total return, income return, capital return, market value, and net operating income.[51] Developers seek to achieve a return on investment that matches or exceeds that of other potential uses of their funds. Even if investing in a "livable" community provides a positive return, if investing in high end suburban development provides a higher return, the developer will choose to spend limited investment on the development with the higher return. In addition, developers must consider a risk-adjusted return. In other words, even if a "livable" project might have a much higher return than another project, if the "livable" project has higher risk (e.g., the location of a transit station is uncertain, so purchasing land near the potential station may pay off, but may result in a loss if the station is not built), then

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[50] *Ibid.*
[51] *Gary Pivo and Jeffrey D. Fisher, "Investment Returns from Responsible Property Investments: Energy Efficient, Transit-oriented and Urban Regeneration Office Properties in the US from 1998-2007," p. 5.*

developers will factor this risk into their decisions about which project to undertake. The challenge comes in predicting the returns and quantifying the risks.

In an effort to evaluate whether "Responsible Property Investment" (RPI) can provide competitive returns, Pivo and Fisher analyzed the historical risk-adjusted returns of a portfolio of office properties that met three criteria for RPI: energy efficient, transit-oriented, and urban regeneration. They found that a portfolio of RPI properties performed as well as, if not better than, a portfolio of non-RPI properties in terms of 10 year risk-adjusted returns.[52] As with any regression model, other researchers using different criteria and definitions may come to different conclusions. However, for the purposes of this research, the key point is that measuring the risk-adjusted investment return of "livable" property investments is possible, and can contribute to formulating and evaluating strategies for livability programs.

In fact, Pivo convened a panel of experts from both the real estate industry and the social investment industry in 2007 to develop a set of criteria for socially responsible property investing that reflect both the financial performance priorities of investors and the value to the public interest of a development project. The result was a list of 66 criteria ranked in terms of their impact on "materiality" (importance to investors' investment decisions) and "public interest" ("ethical issues and externalities relevant to the general welfare"). The priority order of the criteria differs significantly depending on whether one ranks the list based solely on materiality or solely on public interest. However, five criteria made the top ten under both ranking systems: "energy efficiency and conservation"; "high level of public transport services"; "TOD"; "daylight and natural ventilation"; and "contributes to higher density, mixed use walkable places." This finding indicates that these factors (or potential output measures) may provide significant

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[52] *Pivo and Fisher p.5.*

common ground between agencies and the developers they seek to influence to build livable communities.[53]

Customer Perspectives on Livability

The real estate industry also puts a great deal of effort into attempting to measure customer preferences, as returns are higher when developers focus on features customers will pay for. This customer research can be beneficial to agencies pursuing livability goals. While some aspects of the public interest – such as equity or air quality – may be externalities that are not fully reflected in the individual choices people make about housing location, a significant part of livability is ultimately about what residents define as a good place to live. Even with livability factors that reflect externalities such as air quality, the customer perspective is critical. For example, access to transit will only result in lower emissions if access to transit is valued by residents and translates into fewer vehicle miles traveled (VMT).

Resident preferences vary significantly across geographies and demographic groups. However, several national trends bode well for advocates of dense, mixed use, transit oriented communities. The Urban Land Institute and PricewaterhouseCoopers' "Emerging Trends in Real Estate 2010," a study based on a survey of more than 900 real estate industry professionals, described such communities as a "best bet" for developers based on the survey results.

"Next-generation projects will orient to infill, urbanizing suburbs, and transit-oriented development. Smaller housing units—close to mass transit, work, and 24-hour amenities—gain favor over large houses on big lots at the suburban edge. People will continue to seek greater

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[53] *Pivo, Gary "Responsible property investment criteria developed using the Delphi Method," pp.1, 22, 26, 28.*

convenience and want to reduce energy expenses. Shorter commutes and smaller heating bills make up for higher infill real estate costs. 'You'll be stupid not to build green.' Operating efficiencies and competitive advantage will be more than worth 'the minimal extra cost.'" [54]

They note that investors are favoring urban areas and "urbanizing infill suburbs" which offer "upscale, pedestrian-friendly neighborhoods; convenient office, retail, entertainment, and recreation districts; mass transit alternatives to driving; good schools (public and/or private); and relatively safe streets." They found that investors are shying away from secondary cities and exurbs with "long car commutes."[55] Clearly, the preference for investing in "upscale" communities is at odds with agency objectives for equity and affordability, but the trend toward urbanization and reduced driving is consistent with other transportation and environmental agency objectives. While part of the preference for "upscale" may reflect a customer demand for a certain type of community, it also reflects the investor bias for communities with a price premium that investors can benefit from.

"Best places to live" types of indices are intended to appeal more directly to customer preferences, and therefore do include affordability as a key criterion. These indices range from rigorous analytical studies, such as the Mercer Quality of Living Survey,[56] to lists generated by expert input for popular magazines, such as US News and World Report, Money Magazine, and Forbes.[57] All of the lists acknowledge that the relative weighting of the livability factors are very subjective, and vary based on demographics and individual preferences. However, the indices are remarkably consistent in the types of criteria they include. In addition to aspects of the

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[54] *ULI–the Urban Land Institute and PricewaterhouseCoopers LLP., "Emerging Trends in Real Estate 2010," p. 12.*
[55] *Ibid., p. 27.*
[56] *"Mercer's 2009 Quality of Living Survey," Mercer LLC, http://www.mercer.com/qualityofliving, accessed January 30, 2010.*
[57] *Accessed February 3, 2010:* money.cnn.com/magazines/moneymag/bplive/.../index.html, *www.usnews.com, http://www.forbes.com/2009/07/15/cities-empty-nest-lifestyle-real-estate-top-ten.html, http://www.forbes.com/2009/07/24/best-cities-singles-lifestyle-singles-online-dating.html, http://www.forbes.com/2009/07/16/jobs-cities-career-lifestyle-real-estate-young-professionals.html*

natural environment – which livability programs cannot impact directly – the lists generally focus on economic characteristics such as average income, availability of quality health and education resources, access to public services and public transportation, access to recreational activities, social factors such as safety, and total household costs. Many of the indices created for popular magazines include sub-indices (e.g., Forbes' "Best Downtowns for Empty-Nesters" and "Best Cities for Singles"). Many also provide interactive features allowing the reader to prioritize the criteria to generate a personalized list. The sub-indices reflect the reality that the factor weighting is subjective, but also provide some insight into more granular criteria that may be worth consideration. For example, "Best Cities for Singles" includes a culture index – which factors in the number of cultural and sporting venues per capita in the metro area – and a nightlife index, which looks at bars and nightclubs per capita. On the other hand, "Empty-Nesters" weights property tax considerations more highly.[58]

Beyond the broad trend data provided by the real estate industry and the characteristics of livable communities provided by best places to live indices, scholars and public agencies often engage in detailed studies of housing choices in a particular city or region in relation to factors such as access to transit. For example, Smart Growth America and the National Association of Realtors ® commissioned a report in 2004 to measure community preferences regarding density v. sprawl and community diversity (generational and economic), which provides regional level data.[59] Bina, Kockelman and Suescun's study of location choice in relation to transportation in Austin, Texas provides detailed insight into the customer's perspective in that city.[60] The Metropolitan Transportation Commission initiated a study of the impact of factors

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[58] *Ibid.*
[59] *Belden Russonello & Stewart Research and Communications, "2004 National Community Preference Survey," Conducted for Smart Growth America and National Association of Realtors®, October 2004.*
[60] *Michelle Bina, Kara M. Kockelman, David Suescun, "Location Choice vis-à-vis Transportation: The Case of Recent Homebuyers," Lassiter Transportation Group and the University of Texas at Austin, 2006.*

such as transit and mixed-use on housing choice in the San Francisco Bay Area, to help guide their livability program and other priorities.[61]

Each agency pursuing livability goals can look to (or commission) detailed local research on resident preferences – both current and future – to help define performance measures. This research can be used as an input to framing options, which can then be refined through the extensive public involvement that is required by law for both land use and transportation planning at the regional and local levels.

Implications for This Research

The literature provides a broad set of criteria that are important to developers and residents. It also provides insight into the type of customer demand that investors are interested in meeting – in other words, the type of demand that investors believe will provide an adequate risk adjusted return. A synthesis of these criteria is presented below. For programs seeking to close the gap between increased demand by residents for "livable" communities and the willingness of developers to meet that demand, these criteria can serve as a starting point for determining how to close the gap. For the purposes of this paper, the criteria defined by the studies and indices outlined above were taken into consideration when evaluating whether programs addressed the customer perspective in their performance measures.

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[61] *Metropolitan Transportation Commission (MTC), "Ten Years of TLC: An Evaluation of MTC's Transportation for Livable Communities Program," p.7.*

Table 4: Synthesis of Customer and Developer Measures

Customer-Oriented Measures[62]		
Factor	**Type of Customer Demand Investors See as High Return**	**Best Places to Live**
Economic	• Upscale • Total household costs (trade off higher housing cost of urban for: shorter commutes and smaller heating bills)	• Average income • Total household costs
Location	• Urban • Infill • Urbanizing suburbs	• NA (indices focus on a single type – e.g., cities)
Amenities	• Office • Retail • Entertainment • 24 hour amenities • Pedestrian friendly • Recreation • Schools (public and/or private) • Transit access/TOD	• Health • Public services • Recreation • Schools • Transit
Housing Type	• Smaller units	• NA
Quality of life	• Safe	• Safe

Developer/ Investor Outcome Measures[63]
• Total return • Income return • Capital return • Market value • Net operating income

[62] *Author's synthesis of all works cited.*
[63] *Pivo and Fisher.*

Summary of Implications from Literature Review

Livability is a complex, subjective topic. While many agencies have established definitions and principles for livable communities, each individual livability program has its own set of goals, objectives and strategies. As such, no single set of livability performance measures can be applied as a one-size-fits-all solution. Rather, new livability programs can apply criteria for what makes a good measure, and draw from the types of measures other programs have applied for ideas on what can or should be measured.

The literature review above provided a broad perspective on the definitions of livability, criteria for good metrics in customer facing programs, and discussion of a wide range of metrics that can be applied to livability and related programs. These insights were applied to an analysis of the performance measurement approaches actually applied by five existing livability programs: Atlanta Regional Commission's Livable Centers Initiative, Metropolitan Council's Livable Communities Act Grant Program (Minneapolis-St. Paul Metro Area), Metro's Transit Oriented Development and Centers Program (Portland Oregon Metro Area), North Central Texas Council of Governments' Sustainable Development Initiative, and Metropolitan Transportation Commission's Transportation for Livable Communities Program (San Francisco Bay Area). For each program, program documentation was analyzed and program leadership was interviewed. The goal was to answer the research questions of this paper: How should agencies measure the performance of livability programs? What can and should new livability programs learn from existing livability programs' approaches to performance measurement? To what degree are the performance measurement approaches of existing livability programs aligned to the objectives of the programs and their stakeholders and to recommendations for good performance measurement? The findings, conclusions, and recommendations from this analysis follow.

Program Analysis

Overview of Program Analysis

The programs reviewed took a wide range of approaches to performance measurement, from detailed annual or biennial reports at the Metropolitan Council and the Atlanta Regional Commission, to periodic program evaluation at the Metropolitan Transportation Commission, to a streamlined set of measures incorporated into the call for projects for the North Central Texas Council of Governments. Metro started with a very detailed set of reports, and scaled down as resources tightened.

Every program reported on the sources and uses of funds and on the volume of development activity produced by the program. While some characterized that development based on the livability goals – reporting on factors such as affordability, walkability, and use mix – most programs did not capture all of their livability goals or all of the customer criteria for livability in their development activity statistics. Often, livability goals were assumed to be achieved because the projects were selected based on their ability to achieve them. Most programs also reported on financial return factors such as changes in land value and jobs created. Beyond these commonalities, the factors reported across programs were very diverse.

In discussing performance management approaches with the leaders of each program four specific measurement types were called out by interviewees as particularly useful in supporting program decisions: delivery of project commitments (did we get what we funded); the percentage of the region's development that occurs in targeted development areas (are we developing where we want to develop); leveraged funding (did we close the development financing gap); and transportation access factors such as induced ridership, cost per induced rider, and bicycle and pedestrian access (did we achieve a transportation land use link).

The Atlanta Regional Commission's approach is notable for its balance of quantitative and qualitative factors, addressing a broad range of outcome, output, and process in a consistent, trended biennial report. The set of reports provides rich examples of good measures as well as lessons on how to achieve breadth and balance in an efficient, affordable manner.

Metropolitan Council, in contrast, is a strong example of laser-like focus on a smaller set of very clear, quantifiable measures of project delivery. Their practical approach to assuring and demonstrating that projects achieve what they set out to achieve also speaks to a wide range of stakeholders: legislators, advocates of affordability, environmentalists, and the local jurisdictions that are program grantees.

Oregon's Metro started with a very comprehensive set of measures of outcome, output, and process. Although Metro has since scaled back reporting due to the cost of comprehensive measurement their reports provide a treasure trove of examples of potential measures and indicators for almost any livability factor a program might seek to achieve.

North Central Texas Council of Governments provides an example of how to make livability come to life through case study style reporting. In addition to summary statistics on basics such as sources and uses of funds, their published reports provide rich examples of the types of projects they fund, capturing the spirit of livability.

The Metropolitan Transportation Commission, like ARC, is notable for its broad and balanced set of measures, mixing quantitative and qualitative factors, rigorously addressing each program goal, and addressing a wide range of stakeholders. What sets MTC apart is its strong decision-orientation. MTC takes a periodic performance evaluation approach and uses the opportunity to step back and determine what strategic decisions need to be made and what analysis should be done to support those decisions. The reports provide both data and rich analysis of the dynamics behind the numbers and make specific recommendations for program improvements.

While many of the measures are consistent from one evaluation to the next, MTC does not constrain itself to rote regular reporting, but adapts the evaluation to the program needs at the time.

The “”Overview of Livability Programs Analyzed” table below provides a summary of each program reviewed, its goals and objectives, and the performance measures it applies. The following section provides a detailed analysis of the performance measurement approach of each of the programs reviewed against the criteria for good performance measurement identified in the literature review above: customer focus; alignment to strategy, goals and objectives; clarity; measurability (efficiently and accurately); balance; decision-orientation; and ability to address key stakeholder perspectives. More detailed data on each program and its reporting scheme is included in the appendix. The paper ends with conclusions and recommendations based on the analysis of the programs.

Table 5: Overview of Livability Programs Analyzed

Agency/ Program/ Agency Type	Goals	Strategies	Process Metric Categories	Output Metric Categories	Outcome Metric Categories
▪ Atlanta Regional Commission (ARC) ▪ Livable Centers Initiative (LCI) ▪ COG and MPO – led by land use division, with transportation funding	▪ Mixed income ▪ Mixed use ▪ Walkability & transport options ▪ Safety ▪ Sense of place ▪ Quality of life ▪ Reflect the goals of the community	▪ Joint planning ▪ Zoning and other policy changes ▪ Funding (planning and transportation projects)	▪ Source and uses of funds ▪ Implementation (e.g., barriers, success factors, approaches) ▪ Project status, by type	▪ Private development – Volume – Percent in LCI areas – Alignment to goals ▪ Land use policy and regulation changes ▪ Modeled outputs (based on project plans): – Street rte. directness – Use mix and balance – Jobs housing ratio – VMT	▪ Livability improvement perceptions (grantee survey) ▪ Modeled outcomes (based on project plans): – Employment & population density – Emissions
▪ Metropolitan Council (Minneapolis-St. Paul Metro Area) ▪ Livable Communities Act (LCA) Grant Program ▪ COG and MPO – led by planning and development unit	▪ Job creation/ economic development ▪ Affordability ▪ Mixed income ▪ Density ▪ Links among housing, jobs, and transit	▪ Planning for affordability ▪ Funding for – Land cleanup – Development/ redevelopment – Land banking	▪ Source and uses of funds (incl. geo. equity) ▪ Evidence of demand (oversubscription of funding) ▪ Efficiency/ Return on Investment – Investment leveraged – New tax capacity	▪ Private Development – Volume – Affordability ▪ Local government policy changes	▪ New or retained jobs ▪ Acres of polluted land reclaimed ▪ Quality of life (qualitative project descriptions)
▪ Metro (Portland Oregon Metro Area) ▪ Transit Oriented Development and Centers Program ▪ COG and MPO – transportation funded	▪ Increased transit/ walking/biking ▪ Cost effectiveness ▪ Air quality ▪ Reduced auto congestion ▪ Economic development ▪ Housing and transportation options ▪ Location efficiency ▪ Return to developers	▪ Public investments to private developers, to "close the gap" – Land acquisition – Purchasing TOD easements – Site improvements – Green building ▪ Education, Advocacy and Technical Assistance	▪ Source and uses of funds (incl. geo. equity) ▪ Efficiency/ Return on Investment – Cost per induced rider – Net present value of future farebox return – Cost premium for livable development – Investment leveraged	▪ Private development – Volume – Affordability – Use ▪ Efficient land use: – Change in density – Mixed use ▪ Transportation choice – Use growth by mode – Capital needs v. spending by mode ▪ Housing options – Size/type – Affordability	▪ Economic development – Land values – Goods movement – Jobs growth ▪ Environmental – Protected land – Air quality – Waste reduction ▪ Quality of life – Park acres per capita – Protection of land

Agency/ Program/ Agency Type	Goals	Strategies	Process Metric Categories	Output Metric Categories	Outcome Metric Categories
▪ North Central Texas Council of Governments (NCTCOG) ▪ Sustainable Development Initiative (SDI) ▪ COG and MPO – led by transportation unit	▪ Density ▪ Mixed use ▪ Rail and walking options ▪ Housing-Income Match ▪ Job Creation	▪ Funding: – Development – leveraging private funds (PPP projects) – Planning – Land banking ▪ Best practice sharing	▪ Source and uses of funds (incl. geo. equity) ▪ Case descriptions of select programs with some or all of the following: – Value of public and private investments – Change in property value and resulting revenue	▪ Transportation infrastructure development activity (volume) ▪ Case descriptions of select programs with some or all of the following: – Acreage – Use mix – Units – Transit access features	▪ Case descriptions of select programs sometime include jobs created
▪ Metropolitan Transportation Commission (MTC) (San Francisco Bay Area) ▪ Transportation for Livable Communities (TLC) ▪ MPO only (not COG)	▪ Joint planning ▪ Transportation choice ▪ Mixed use/ density near transit ▪ Revitalization/infil ▪ Quality of life/sense of place	▪ Funding: – Joint planning – Transport infrastructure tied to goals – Rewards for development meeting goals with transport funding	▪ Source and uses of funds (incl. synergies across programs) ▪ Evidence of demand (grantee perception of adequacy of grant) ▪ Efficiency/ Return on Investment – Investment leveraged ▪ Grantee perception of efficiency of program elements in achieving goals	▪ Grantee perception of effectiveness of program elements in achieving goals ▪ Development activity – Volume – Affordability – Proximity	▪ Grantee perception of effectiveness of program in achieving goals

Atlanta Regional Commission (ARC) – Livable Centers Initiative (LCI)

Program Overview

The Atlanta Regional Commission's Livable Centers Initiative "encourages local jurisdictions to plan and implement strategies that link transportation improvements with land-use development to create sustainable, livable communities."[64] The goal of the program is to encourage development that is mixed income, mixed use, walkable, multi-modal, safe, provides a sense of place and quality of life, and reflects the goals of the community.[65]

LCI has two primary program elements. First, LCI provides Planning Grants to local jurisdictions and non-profits to undertake planning and pursue policy changes in concert with the LCI objectives. Second, priority funding is provided for transportation projects within the LCI study areas if the policies established in the LCI plans are implemented.[66]

ARC is a ~150 person agency which serves as both the MPO – with transportation planning and funding authorities – and the Regional Commission – with land use planning responsibilities. LCI is managed by the land use division, but funded with transportation funding. As a result, the land use and transportation divisions work together closely on the program. [67]

LCI was cited in the livability literature[68] and mentioned by interviewees in other regions as a leading program. LCI has also received awards from a broad range of organizations, including the American Planning Association, the Environmental Protection Agency, the National

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[64] *Atlanta Regional Commission, "2009 Livable Centers Initiative Indicators and Benefits Study," Atlanta Regional Commission, http://www.atlantaregional.com/land-use/livable-centers-initiative, accessed March 1, 2010.*
[65] *Synthesis of information in Atlanta Regional Commission, "2009 LCI Implementation Report," Atlanta Regional Commission, http://www.atlantaregional.com/land-use/livable-centers-initiative, accessed March 1, 2010. Note that the "2009 LCI Indicators and Benefits Study" states the goals of LCI slightly differently, and does not include safety and sense of place at all. Since both were published in 2009, for the purposes of this study we will consider the larger set of goals as stated in the "Implementation Report."*
[66] *Atlanta Regional Commission, "2009 Livable Centers Initiative Indicators and Benefits Study."*
[67] *Robert LeBeau, Senior Principal Planner, Telephone Interview, May 6, 2010.*
[68] *Cited in Reconnecting America: "Realizing the Potential for Sustainable and Equitable TOD: Recommendations to the Interagency Partnership on Sustainable Communities."*

Association of Regional Councils, the Association of Metropolitan Planning Organizations, the Federal Highway Administration and the Federal Transit Administration.[69]

Reports Reviewed

Three performance reports are produced for the program and were reviewed for this research. The "2009 LCI Implementation Report" is the most recent biennial report on program execution results. It includes both quantitative project execution reporting from grantees and the results of a more qualitative survey of grantees. This report is produced by a planning intern with oversight from staff, and takes approximately the full summer internship as well as the fall term to complete. The "2009 Livable Centers Initiative Indicators and Benefits Study," also a biennial report, applies the INDEX model to a subset of LCI plans to model outcomes such as population and employment density, use mix and balance, and vehicle greenhouse gas emissions. This report is produced by staff, and does not require a significant investment of time. The "2009 LCI Breaking Ground Report"[70] is twice annual process-oriented report. It provides a list of current projects, with descriptions and project status, as well as a summary of the projects by status and a summary of sources and uses of funds.[71]

Analysis

Customer focus

ARC reports on the broadest set of factors important to customers, including access to retail, restaurants, and personal services; pedestrian and transit options and activity; jobs-housing balance; density; and bicycle and pedestrian safety. In addition, ARC explores – through a

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[69] *Atlanta Regional Commission LCI website. http://www.atlantaregional.com/land-use/livable-centers-initiative accessed March 1, 2010*

[70] *Atlanta Regional Commission. "2009 LCI Breaking Ground Report." Atlanta Regional Commission. http://www.atlantaregional.com/land-use/livable-centers-initiative accessed March 1, 2010.*

[71] *Unless otherwise noted, data in this section are from a synthesis of these three reports. Except where interviewees are directly cited, all analysis, conclusions, and opinions are the author's own, and do not necessarily reflect the position of the agency reviewed.*

survey of grantees – the softer side of livability. For example, for the Implementation Report grantees are asked to rate their agreement with the statement: "the LCI study area is more livable since the completion of the LCI study." However, like all of the other programs analyzed, ARC does not report on access to schools, health services, or recreation – all factors which both the real estate industry's analysis of demand and the "Best Places to Live" indices indicate are important to residents, as discussed above. In addition, while the reports provide information on the development of senior or affordable housing projects, they do not directly address the customer perspective on economic issues such as total household cost, or on the flip side, average income and demand for "upscale" development in urban or urbanized suburban areas. If customers are willing to trade off higher housing cost per square foot for lower commute and energy costs (as indicated in the real estate industry demand surveys and "Best Places to Live" indices) ARC is not directly capturing whether the LCI development provides this balance.

In addition, ARC does not directly survey residents to determine whether the program is meeting their needs. Rather, the survey asks the grantee to comment on these factors. Therefore, van Landingham's criterion that measures "let us know if our customers are satisfied" is not fully met. However, none of the programs analyzed regularly surveyed residents, and the planning process undertaken by grantees does require significant public outreach, which may enable grantees to learn directly whether they are meeting the community's needs.

Alignment to Strategy, Goals, and Objectives

ARC's measures directly tie to the goals outlined for the program. The goals of mixed income, mixed use, walkable, transit-accessible, and safe communities are all explicitly measured through the questions in the grantee survey, and many are also measured quantitatively. The purpose of the program – to help planners and local jurisdictions to plan and implement development oriented toward these goals – is also measured through the survey and through statistics on land use and policy changes. The grantee survey also provides some qualitative

evidence on the less measureable goals of sense of place and quality of life. However, ARC does not directly report on the success of LCI's final objective – to "reflect the goals and vision of the community." Rather, that goal is presumed met because the process involves significant public involvement.

ARC's primary strategy – funding joint planning and implementation, with a focus on zoning and other policy barriers – is directly measured in the Implementation Report and in Breaking Ground. Both reports provide measures regarding the results of development itself and the Implementation report also provides statistics on changes in zoning and regulation. However, it does not directly measure whether those zoning and policy changes were critical to removing barriers to livable development. In other words, ARC measures whether the program had the intended outputs on the policy side, but does not measure whether those policy outputs were critical to the development outputs and outcomes.

However, ARC's survey of grantees does ask about the factors that contributed to the success of the program as well as collecting data about the implementation organization structures and other funding sources. These questions provide data for ARC to evaluate whether they are focusing on the right strategies and mechanisms to achieve LCI's end goals.

Clarity

ARC's performance reports are quite clear and direct and provide an explanation of the sources and methodologies behind each measure. The full set of questions from the grantee survey are provided in the Implementation Report and full statistics are provided – not a subset of results selected to cast the program in the best light. A number of the questions in the grantee survey do require interpretation by the respondent and therefore do not provide completely unambiguous results. However, many of these questions are by nature difficult to make unambiguous. For example, the survey asks whether the LCI area is more "livable" after

Table 6: Program Analysis Summary

Particularly Strong or Notable Approaches Highlighted in Grey Boxes

Agency/ Program/ Agency Type	Customer Focused	Aligned to strategy, goals, and objectives	Clear and unambiguous	Measurable efficiently and accurately	Balanced	Decision-oriented	Addresses key stakeholder perspectives
Atlanta Regional Commission Livable Centers Initiative	Measures a relatively broad set of amenities and features, but not affordability.	Measures all goals and asks grantees what program features best support goals.	Clear, direct, and thoroughly explained. Also measures more ambiguous quality of life outcomes through grantee survey.	Efficient collection of wide range of measures. However, outcomes measured indirectly through grantee surveys.	Outcomes, outputs, and process; trended over time. Covers the what and the why in a digestible format.	Biennial to support strategic program direction. Measures have been used to refocus the program.	Focus is on grantee and policymaker perspectives. Developer perspective addressed indirectly.
Metropolitan Council Livable Communities Act Grant Program	Focus is on affordability of housing. Other customer needs addressed qualitatively.	Focus is on delivery of projects, as well as policy changes, jobs created and land reclaimed. Density and links among housing, jobs and transit not measured.	Clear direct, and thoroughly explained for most measures.	Very focused on highly measureable project delivery elements.	Primary focus is on project delivery.	Annual and trended. Focus on project delivery limits the range of decisions supported.	Developers, environmental, affordability advocates, policy makers, and grantee perspectives addressed.
Metro TOD and Centers Program	A wide range of customer needs addressed over time. However, scaled back more recently.	Primary goal (transit/bike/ped) partially measured – plan to expand measurement of bike/ped access	Unambiguous and thoroughly explained. However, was originally overly detailed – not focused on "the vital few"	Started out with a complex and costly approach and scaled back.	Started out covering the full spectrum and scaled back to minimal measurement.	Started out with a rich set of analysis with both the what and the why, but scaled back to minimal measurement.	All perspectives have been covered in reports over time, with different reports targeted to each audience. However, scaled back recently.

Agency/ Program/ Agency Type	Customer Focused	Aligned to strategy, goals, and objectives	Clear and unambiguous	Measurable efficiently and accurately	Balanced	Decision-oriented	Addresses key stakeholder perspectives
North Central Texas Council of Governments Sustainable Development Initiative	Case study approach brings the end customer perspective on livability to life. Clear focus on grantees as intermediate customers. However, does not address all end customer needs.	Case studies address all goals. However, data are not comprehensive enough to determine if the program meets goals overall.	Information presented is clear. However, each case provides different data, leading to ambiguity in program-wide results.	Summary statistics are focused and measurable. However, each case provides different detailed data.	Both quantitative and qualitative. Primarily focused on process and to some degree output, with little on outcomes.	Very focused on decision making of the target audience: grantees. Limited decision support for the program itself.	Focused on grantees.
Metropolitan Transportation Commission Transportation for Livable Communities	Addresses affordability, density, transportation options and "quality of life." Does not address all amenities.	Evaluation is directly tied to program goals, and at least one measure is defined for each goal and each program/strategy area.	Narrative style provides the "why" behind the results, and key statistics are selected to illustrate points. However, the full data and survey questions are not provided.	Explicitly addressed efficiency and accuracy and made conscious tradeoffs. Focused the evaluation on strategic questions rather than regular reporting for its own sake.	Qualitative and quantitative. Covers process, output, and some outcomes. Attempts to distinguish between project screening/selection measures and project evaluation measures.	Focused on major strategic decisions, and provides the what, the why, and recommendations. Not timely to support more operational decisions.	Even though MTC is an MPO and not a COG, addresses non-transportation stakeholders. Explicitly seeks to use measures that speak to "non-planners"

program implementation. ARC should be commended for attempting to measure the less measureable goals of quality of life and sense of place, and while these results may not be completely unambiguous, they do provide value to ARC and avoid the pitfall of only measuring (and therefore only pursuing) the most concrete goals.

Measurability – Efficiently and Accurately

ARC relies primarily on self-reporting of data from grantees, the results of a grantee survey, and modeling. These activities are both efficient in comparison to end customer surveys and measurements such as pedestrian counts as suggested in the Livable Streets literature.[72] However, customer surveys and direct observations/counts may provide more accuracy. Fundamentally, ARC is balancing efficiency and available resources with depth and breadth of analysis. While the program leadership would like to measure outcomes (and more outputs) directly, or survey residents, the cost of adding these measures would be significant.[73]

Balance

ARC's measurement spans the majority of the LCI program goals, and covers outcome, output, and process measures. Results are trended, with comparison between the current and previous reporting period. The Implementation Report provides a summary section, narrative to provide context and interpretation of the data, and is of a length that is digestible by program leaders and board members while providing a rich set of data and insights. Indicators and Benefits models the types of development and outcomes that are likely to be achieved. Breaking Ground provides process measures on the execution of individual projects. Providing three distinct reports allows readers with different agendas and perspectives to choose the report that suits their needs.

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[72] *Lindsey Lusher, Mark Seaman, Shin-pe Tsay, "Streets to Live By: How Livable Street Design Can Bring Economic, Health, and Quality-of-Life Benefits to New York City," Transit Alternatives, New York, NY, August, 2008.*
[73] *LeBeau.*

Decision-oriented

The Implementation Report and the Indicators and Benefits Report are both biennial, and as such are well timed for strategic program reviews. They are not intended to support mid-year course corrections, but rather to help program leaders and board members set policy, and to provide evidence to the public and to grantees of program effectiveness. The intended audience of both reports is broad, including program sponsors, the Board of Directors, the state Department of Transportation, and peer programs seeking advice. [74]

Internally, the Implementation Report is used to support decision making on program direction. For example, the measure showing the percentage of the region's development that occurs within the LCI areas recently supported a decision to refocus the program. The team found that LCI was capturing a high percentage of office space development, but not as high a percentage of housing development as they had hoped. As a result, a focus was placed on housing development. In addition, the team is considering adding a new measure of the "halo effect" – development just outside the formal boundaries of an LCI area – to determine whether housing development is higher in these boundary areas. Such nearby development, while not in the LCI areas, would support LCI goals of reducing VMT and greenhouse gas emissions.[75]

Breaking Ground is tailored to more tactical decision making. ARC tracks project progress on a monthly basis and publishes the data in the Breaking Ground report every six months. This provides regular process measurement that would support tactical decisions to improve execution.

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[74] *LeBeau.*
[75] *LeBeau.*

Address key stakeholder perspectives

The key external stakeholders for LCI – in addition to customers, which are addressed above – are policy makers, grantees (local jurisdictions) and developers. Policymakers concerns are addressed through all reports, from confirmation of execution progress in Breaking Ground, to policy outcome projections in the Indicators and Benefits Report. Grantee perspectives are thoroughly covered based on the grantee survey and self-reporting of results. Developer perspectives are not directly addressed. Indirectly, ARC measures developer interest in LCI areas by measuring the LCI area development as a percentage of the total development in the region. However, ARC does not, for example, measure whether the zoning and regulation changes make developers more willing to invest because they increase the risk adjusted return of the developers. In other words, ARC does not directly measure whether the program outputs (policy change) contributed to the development outputs (attraction of livable development).

Metropolitan Council (Minneapolis-St. Paul Metro Area) – Livable Communities Act (LCA) Grant Program

Program Description

The LCA grant program provides "…funding for communities to invest in local economic revitalization, affordable housing initiatives, and development or redevelopment that connects different land uses and has good access to transportation." Stated goals of the program include job creation/economic development, affordability, mixed income development, density, and links among housing, jobs, and transit. [76]

The program includes three primary accounts: Tax Base Revitalization Account (TBRA), which provides grants to "clean up polluted land for redevelopment," the Livable Communities

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[76] *"Livable Communities Program Fact Sheet," Metropolitan Council, www.metrocouncil.org, accessed March 6, 2010.*

Demonstration Account (LCDA), which provides "funding for development and redevelopment projects" with a focus on replicable models, and the Local Housing Incentive Account (LHIA), which provides affordable housing development and rehabilitation grants. In 2008, a sub-account of LCDA – Land Acquisition for Affordable New Development (LAAND) – was established to provide funds for no-interest loans to LCA-eligible communities to take advantage of the real estate downturn.[77]

Metropolitan Council has three divisions: Community Development, Transportation (MPO), and Environment. The LCA Grant Program is one of five programs under the Community Development Division. The other four are Research, Planning and Growth Management (policy), Parks and Open Space, and Local Planning (which reviews the comprehensive plans required by law). All of the LCA Grant Program's funded projects must be consistent with the comprehensive plans and with the transportation plans overseen by the transportation division. While the divisions work independently, there is some integration of the comprehensive plans and the transportation plan. In addition, the staff review team for LCA grants includes a representative from the Transportation Division, and a representative from Metro Transit, the local bus operator.[78]

The LCA Grant Program was cited in the livability literature[79] and was mentioned as a leading program by interviewees in other regions.

Reports Reviewed

The measurement focus of the LCA Grant Program is assuring that grantees deliver what they promise. Approximately 20% of staff time is spent on monitoring and reporting grantee results,

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[77] *Metropolitan Council LCA website: http://www.metrocouncil.org/services/livcomm.htm, accessed March 6, 2010.*
[78] *Joanne K. Barron, Planning Analyst / LCDA Program Coordinator, Telephone Interview, May 7, 2010.*
[79] *Cited in two reports by Reconnecting America: "Realizing the Potential for Sustainable and Equitable TOD: Recommendations to the Interagency Partnership on Sustainable Communities," and ""Financing Transit Oriented Development in the San Francisco Bay Area: Policy Options and Strategies."*

and the reports focus on these results.[80] The primary performance report for the LCA Grant Program is "Metropolitan Livable Communities Fund: Report to the Minnesota State Legislature," an annual report required by law.[81] Metropolitan Council also develops a fact sheet on the program annually: the "Metropolitan Livable Communities Act – Expected Results for Grants Awarded 1996-2008"[82] was reviewed for this research, and an update is currently under development by the agency. [83][84]

Analysis

Customer focus

The primary LCA measure which appeals to customer needs is the number of new or improved housing units which are affordable. However, the wider range of livability criteria that the literature review indicates customers are interested in – such as walkability and access to services – are only addressed through qualitative statements and project descriptions. In addition, while housing affordability is measured, LCA does not provide an overall measure of household cost, nor does it measure outputs such as transit and job accessibility which would contribute to a lower total household cost. However, the CTOD Housing and Transportation Affordability Index was applied to the Minneapolis-St. Paul area and has been used as part of the rationale for LCA type plans and projects.

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[80] *Barron.*
[81] *"Metropolitan Livable Communities Fund: Report to the Minnesota State Legislature," Metropolitan Council, Publication No. 78-08-025, June 2009.*
[82] *"Metropolitan Livable Communities Act – Expected Results for Grants Awarded 1996-2008," Metropolitan Council, March 25, 2009, www.metrocouncil.org, accessed March 6, 2010*
[83] *Barron*
[84] *Unless otherwise noted, data in this section are from a synthesis of these two reports. Except where interviewees are directly cited, all analysis, conclusions, and opinions are the author's own, and do not necessarily reflect the position of the agency reviewed.*

Alignment to Strategy, Goals, and Objectives

The goals for livability outcomes outlined in the enabling legislation are very broad, and include affordability, job creation, reclamation of polluted land, mixed income development, density, and links among housing, jobs and transit.[85] The Grant Program itself focuses on funding development consistent with the LCA legislative goals, land cleanup, and land banking – it does not fund policy or planning. Land use planning and transportation planning are handled in separate programs and the LCA Grantees' projects must be consistent with the adopted plans for their community.[86]

The measures used are very well aligned to measuring program execution, being focused on measuring whether the grantees delivered what they promised, rather than measuring whether the program resulted in policy outcomes definable as livable. In addition to a number of process metrics, the annual report to the legislature focuses primarily on private development outputs – including affordable housing units. Job creation and land reclamation are also addressed. However, broader policy goals of density and links among housing, jobs and transit are not directly addressed in the measures provided.

Clarity

The overall presentation of the LCA performance reports is clear, concise, and readable. The primary LCA metrics are very clear, and well defined. The Metropolitan Council has chosen very concrete measures on which to focus – including outputs such as the number, type, location, and affordability of housing units developed or improved and process metrics such as the dollar amount by which the program is oversubscribed. LCA does not provide specific metrics on softer items such as "quality of life," thereby avoiding the quicksand of measures that are by nature ambiguous.

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[85] *Minnesota Statutes 473.25*
[86] *Barron.*

Measurability – Efficiently and Accurately

The choice of clear, simple measures such as private development activity and acres of land reclaimed also means that LCA's primary measures are efficiently and accurately calculated. However, the decision to report on private funds leveraged and job creation raise well known measurability challenges. Reporting on public and private investment leveraged is an appealingly concrete way to show the catalyst effect of livability programs. However, it must be noted that the figure provided for leveraged funds is simply the total funds provided by other entities for projects funded by LCA. The selection committee attempts to choose projects that would not go forward without LCA grant funding.[87] However, this is notoriously difficult to determine and the total leveraged funds must be taken for what it is – total matching funds – rather than a pure indication of funds that would not otherwise have been spent on "livable" projects. Similarly, job creation is reported, but causation is difficult to prove. These measurability challenges are well known and are faced by all programs which report on leveraged funds and job creation.

Balance

LCA provides a good balance of output and process measures, and focuses on "a vital few" as recommended by the National Performance Review. LCA also provides the broadest set of return on investment factors – including tax capacity increase. The use of a measure of oversubscription is also a potentially useful process indicator for the program.

Decision-orientation

LCA's measures are produced annually, and are therefore timely for strategic decision making. The program also provides trended information over time, which gives a context to decision makers for understanding the implications of the data. As stated above, the inclusion of a range

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[87] *Barron.*

of process measures are also useful for decisions on program optimization. However, the focus on process and development volume – with less emphasis on the type of development and on livability outcomes – means that decision makers have limited information with which to make strategic decisions about the program.

Metropolitan Council is also considering collecting information from grantees about what program elements are most useful and least useful, similar to the grantee survey undertaken by ARC.[88]

Address key stakeholder perspectives

The LCA program measures include indicators of stakeholder acceptance for both grantees and other types of stakeholders. The measure of oversubscription is a strong indication of the response of grantees. Acres of polluted land reclaimed addresses stakeholders with an environmental focus. Private development volumes and private investment leveraged are useful metrics as indicators of developer response to the program.

Metro (Portland Oregon Metro Area) – Transit Oriented Development (TOD) and Centers Program

Program Description

Metro's TOD and Centers Program was established to pursue Metro's growth management plan through providing public investments to developers to build in concert with the plan's goals in designated urban centers, regional centers, and corridors. "Metro's growth management plan, the 2040 Growth Concept calls for the region to grow up rather than out, away from farm and forest land by limiting expansion and focusing growth around the region's 44-mile MAX Light Rail Transit (LRT) line, along frequent bus corridors and in mixed-use urban centers. The

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[88] *Barron.*

TOD/Centers Program pursues the Growth Concept by providing public investments to developers to build more intensely and with higher attention to creating a walkable environment than the market would complete on its own. A TOD or Centers development will result in a higher share of travel from transit, walking and biking and a lower percent by an automobile." [89]

The primary focus of the program is to "shape the community for increased transit, walking or biking."[90] Project selection focuses primarily on cost per induced transit rider.[91] This focus is driven by the fact that it is funded with transportation dollars. [92] However, the program also addresses a broader range of livability goals, including air quality, reduced auto congestion, economic development, housing and transportation options, location efficiency, and providing an attractive return to developers (as a means to the end of leveraging private funds).[93]

Metro is both the COG and MPO. Land use planning and transportation planning are closely connected through Metro's programs. However, the TOD and Centers Program is an implementation program, exclusively focused on funding infrastructure, and is managed separately from planning. TOD and Centers also has a shorter term focus than the planning departments. Many of the urban centers, regional centers, and corridors designated by the planning departments are aspirational and are not yet ready for investments of the types that the TOD and Centers Program funds.[94]

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[89] *"Transit Oriented Development and Centers Program Annual Report 2007," Metro, November 20, 2007, p2.*
[90] *Ibid p3*
[91] *Christopher Yake, Transit Oriented Development, Metro, Telephone Interview, May 14, 2010*
[92] *Ibid.*
[93] *Transit Oriented Development and Centers Program Annual Report 2007," Metro, November 20, 2007, p3.*
[94] *Yake.*

The TOD and Centers Program was cited in the livability literature[95] and was mentioned by interviewees in other regions as a leading program. The program was also featured in the British Broadcasting Corporation's series, "The World's Best Public Services" in 2006.[96]

Reports Reviewed

Metro set out to establish detailed annual reporting, but shifted to periodic program analysis. In 2007, Metro produced "Transit Oriented Development and Centers Program Annual Report 2007."[97] In part due to resource constraints, that report was not produced in subsequent years.[98] In 2003 and 2004, Metro also produced very detailed reports on the 2040 Growth Plan, with specific output and outcome metrics for each of the objectives of the Growth Plan, including those affected by the TOD and Centers Program. [99] However, these reports were not produced again after 2004.

Two later reports developed by the planning departments provided Metro with specific insights valuable to the TOD and Centers program: "Urban Living Infrastructure " measured the effect of "urban amenities" such as dry cleaners, restaurants and bookstores on housing value.[100] "State of the Centers: Investing in our Communities" built on this analysis to provide a detailed picture of the state of the urban amenities, urban form, and demographics in each of the designated urban centers, regional centers, and corridors. [101] Both of these reports were used by the TOD

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[95] *Cited in two reports by Reconnecting America: "Realizing the Potential for Sustainable and Equitable TOD: Recommendations to the Interagency Partnership on Sustainable Communities," and ""Financing Transit Oriented Development in the San Francisco Bay Area: Policy Options and Strategies."*
[96] *"Transit Oriented Development and Centers Program Annual Report 2007," Metro, November 20, 2007, p2.*
[97] *Ibid p2*
[98] *Yake.*
[99] "The Portland region: How are we doing? Highlights of the region's land-use and transportation performance measures," Metro, March 2003. "2004 Performance Measures Report: An evaluation of 2040 growth management policies and implementation," Metro Planning Department, December 2004.
[100] *"Urban Living Infrastructure: Executive Summary," Metro, June 2007. (Note: only executive summary was publicly available as of May 14,2010, at http://library.oregonmetro.gov/files/uli_excutive_summary.pdf. The full report was not available.)*
[101] *"State of the Centers: Investing in Our Communities," Metro, January 2009.*

and Centers Program to focus program investments.[102] However, neither is a performance measurement report per se – they are both planning baseline studies.

Finally, Metro produces the "Metro Management Report,"[103] a quarterly report of activities and issues against each Metro budget category, including the TOD and Centers program. However, this report is not used by the program staff for program decision making.[104]

Analysis

Customer focus

Metro has measured a number of elements reflecting customer definitions of livability. Metro reported on economic growth, changes in transportation access and mode share, and the extent and nature of development – including changes in density, mixed use, affordability, and park acres per capita. The use of stakeholder surveys – in combination with analysis of program data – supported the customer-orientation of the reporting.

However, most of these measures were reported in the "The Portland Region: How Are We Doing." This report has not been produced since 2004. Furthermore, it is an overall report on the achievement of the region's planning goals rather than a program specific performance report. The advantage of this approach is that Metro decision makers were encouraged to view the goals as a holistic package, rather than seeing land use, transportation, environment, and economic issues in silos. The disadvantage is that the "How are we Doing" report did not always explicitly tie the outcomes and outputs back to the TOD and Centers Program and the other programs that contribute to the goals. Therefore, decision makers had to infer the

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[102] *Yake.*
[103] *"Metro Management Report" and "Metro Management Report At-a-Glance," http://www.oregonmetro.gov/index.cfm/go/by.web/id=32400, accessed April 3, 2010.*
[104] *Unless otherwise noted, the data in this section are from a synthesis of all of the reports reviewed. Except where interviewees are directly cited, all analysis, conclusions, and opinions are the author's own, and do not necessarily reflect the position of the agency reviewed.*

connections themselves when attempting to understand the true impact of a particular program, such as TOD and Centers. In contrast, "Transit Oriented Development and Center Program Annual Report 2007" is specific to the program, but focuses primarily on process and outputs, rather than the outcomes customers seek. However, this report did include figures on affordability – one of the many factors customers consider important.

The clearest example of a customer-oriented measurement that impacted program direction is the "Urban Living Infrastructure " (ULI) analysis. ULI measured the effect of "urban amenities" such as dry cleaners, restaurants and bookstores on housing value, thereby providing insight to Metro on what is valuable to customers.[105] Although this was not directly an evaluation of the program (i.e., the effect was not tied to program investments), it was used to improve the program. Based on the results of the report, the TOD and Centers Program began funding projects that advance amenities that are valued by residents. For example, the program now can fund the renovation of a building to enable its use as a restaurant, to support an increase in "urban amenities" in a designated center. [106]

Alignment to Strategy, Goals, and Objectives

The primary goal of the TOD and Centers Program is to "shape the community for increased transit, walking or biking" in concert with the Metro 2040 Growth Concept – the overall planning framework for the region. Additional goals include transportation cost effectiveness, air quality, reduced congestion, economic development, housing and transportation choices, and accessibility of jobs, services and trade centers. [107]

The primary program report - "Transit Oriented Development and Centers Program Annual Report 2007" – is focused on output measures such as private development activity and

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[105] *"Urban Living Infrastructure: Executive Summary," Metro, June 2007.*
[106] *Yake.*
[107] *"Transit Oriented Development and Centers Program Annual Report 2007," Metro, November 20, 2007, p2.*

process measures such as project funding by jurisdiction. The only measures directly related to transit are cost effectiveness measures: cost per induced transit rider and the net present value of future farebox revenues. Some of the secondary goals are measured through the reporting of development of housing units by affordability category and commercial development by type. "State of the Centers" provides qualitative information on both road and transit access in each designated center and corridor and provides detailed information on access to services, but is not designed to measure the program's affect on these items. Neither report addresses pedestrian and walking features.

"The Portland Region: How Are We Doing" and the detailed report behind it provide the measures for achievement of the 2040 Growth Concept. These reports explicitly tied performance measures directly to each development goal. Therefore, Metro ensured that every development goal had one or more associated measure. As the TOD and Centers Program's goals are aligned with the Growth Concept objectives the majority of the program goals were covered by these reports. However, the contribution of this program to the achievement of the objectives is not measured. Furthermore, the report was discontinued after 2004.

Clarity

All of the performance measures used by Metro are thoroughly explained, and relatively unambiguous. However, the sheer number of measures initially reported by Metro meant that the reporting program was not "simple" as recommended by the National Performance Review. Metro mitigated this complexity by providing a range of reports each suitable to a different audience. The set of reports ranged from a detailed evaluation of multiple measures against every goal in the 2040 growth plan, to a simple fact sheet summarizing the impact of the TOD and Centers program. Simplicity was later gained by paring down the number of reports – albeit at the cost of losing detail.

Measurability – Efficiently and Accurately

In 2007, Metro chose to report on a broad range of measures for the TOD and Centers program, as it did for the overall 2040 Growth Plan in 2003 and 2004. However, as with the reporting on the overall 2040 Growth Plan, the planned annual report for TOD and Centers was found to be too resource intensive to produce annually.[108] Some of the measures in these two reports were very simple to measure accurately and credibly, while others required complex modeling, or subjective opinions provided through stakeholder surveys. This complexity, combined with the sheer number of measures reported meant that efficiency was compromised.

Metro's new approach of leveraging reports generated by the planning department (such as "State of the Centers") to help focus the funding program reduces the required resources, but compromises the ability to measure the direct effects of the program.

Balance

The breadth of measures Metro has used is extensive, and covers process, output and outcome, quantitative and qualitative, and a full spectrum of objectives. However, as discussed above, Metro found balancing efficiency and comprehensiveness a challenge.

Decision-orientation

The robustness and breadth of the measures reported in the "Transit Oriented Development and Centers Program Annual Report 2007" and "How We Are Doing." provided data to support most decisions. In addition, the reports included analysis of the "why" behind the numbers and provided information about trends over time, both of which can help in decision making. However, the fact that the outcomes and outputs measured in the "How Are We Doing" report were not directly tied to the programs such as the TOD and Centers Program mean that they

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[108] *Yake.*

were less useful in making decisions regarding the strategic direction and program focus of each of the programs in Metro's portfolio.

In addition, since the detailed reports were not made annual, the information available each year or every few years is limited. The TOD and Centers Program must depend on baseline reports developed by the planning department, rather than having a set of measures that look at performance and look directly at the program itself. Depending on analysis coming from the planning department is particularly concerning as the planning department is focused on 2040, with many centers still described by program staff as "aspirational," while the TOD and Centers Program is focused on funding projects that will have a short term impact on the community and on leveraging developer funding. Therefore, even if the "State of the Centers" is updated from year to year, the overall state of the centers will likely not reflect significant changes from year to year as a result of the TOD and Centers Program. A more targeted evaluation looking at the areas receiving funding would be more useful as an evaluation tool to support strategic direction.

The quarterly management report, which provides information on recent actions and upcoming decisions for each funded area within Metro, is timely but is not used by the program staff and is limited in scope to action item progress. Therefore it appears limited in use to tactical course correction from senior management.

As mentioned above, the "Urban Living Infrastructure" report was used to change program direction, allowing for the addition of funding of improvements to urban amenities.[109] Metro plans to produce other program analyses in the future as needed to support other major strategic decisions.[110] However, without a regular, broader program evaluation or reporting

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[109] *Yake.*
[110] *Yake.*

approach it is not clear whether Metro will have the information it needs to provide course corrections on a timely basis.

Address key stakeholder perspectives

The sheer breadth of measures in Metro's past reports ensured that all key stakeholders' concerns were included – from residents, to developers, to environmentalists, to advocates of affordability, transit, and farm preservation. Since the planned annual reports were discontinued, Metro will need to ensure that future analysis and reports continue to address all stakeholders.

North Central Texas Council of Governments (NCTCOG) Transportation Department – Sustainable Development Initiative (SDI)

Program Description

The overall purpose of SDI is to promote development types that reduce the overall demand for transportation infrastructure and improve air quality. Specifically, the program has funded infrastructure (e.g., transportation infrastructure and station area development), land banking, planning, and outreach projects that enhanced one or more of the following goals: utilization of existing system capacity, mixed use, rail mobility, and access management ("shared drives/parking, spacing of turns/signals"). [111] NCTCOG is the MPO as well as the COG, and the

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[111] *Two similar presentations by Karla Weaver, Senior Transportation Planner: "Sustainable Development 2009 Call for Projects," presentation to Southeast Area Transportation Alliance (SEATA), May 28, 2009; and "Sustainable Development: Sustainable Public Rights of Way," presented to 10th Annual North Texas Public Works Roundup, May 5, 2009.*

program is run out of the transportation department, with transportation funding.[112] The program was cited in two reports by Reconnecting America.[113]

Reports Reviewed

NCTCOG does not produce a regular performance report on SDI, nor has it executed formal program evaluations. However, program performance measures were included in the program's recent call for projects and in a recent presentation to the 10th Annual North Texas Public Works Roundup.[114] These publications included an overview of sources and uses of funds as well as case studies of funded projects, providing narrative description of the project impacts and select project statistics. In addition, NCTCOG maintains a development database, and SDI uses the database to produce ad hoc reports to help the program leadership decide the focus of the call for projects.[115]

Analysis

Customer focus

NCTCOG reports on customer-focused measures of success through the descriptions of funded projects. The quantitative measures published by NCTCOG do not address the type of development funded in terms of factors such as increased access to jobs and amenities, mixed use, mixed income, affordable, or increased transportation options. However, page long descriptions of each project provide a rich picture of each project, allowing the reader to make his or her own judgments about the degree to which the project fulfills customer needs. Each

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[112] Staron Faucher, Transportation Planner, North Central Texas Council of Governments, Telephone Interview, May 13, 2010.
[113] Cited in two reports by Reconnecting America: "Realizing the Potential for Sustainable and Equitable TOD: Recommendations to the Interagency Partnership on Sustainable Communities," and ""Financing Transit Oriented Development in the San Francisco Bay Area: Policy Options and Strategies."
[114] Weaver May 5, 2009; Weaver May 25, 2008.. Unless otherwise noted, all data in this section are from a synthesis of these two publications. Except where interviewees are directly cited, all analysis, conclusions, and opinions are the author's own, and do not necessarily reflect the position of the agency reviewed.
[115] Faucher

project description includes customer-oriented items such as use mix and transit access features. The advantage of this approach is that the "real" livability is described and presented in pictures, whereas programs which rely solely on statistics for customer-oriented measures may obscure the less tangible "quality of life" aspect of these factors. However, the disadvantage is that the descriptions allow the program to choose which elements to focus on in each development and do not provide a bigger picture of the success or failure of the full program to meet the full range of goals.

The inclusion of information about increases in property value in some of the project case descriptions raises an interesting question about customer focus. For current property owners, development projects that raise the value of property is a benefit. For some prospective property owners or renters – those who seek "upscale" urban settings as described by the real estate industry reports discussed above – higher property values may also be seen as a positive, as long as transit access and other amenities either reduce total household costs or raise the value (monetary or not) that they gain from their investment.[116] However, for customers seeking affordability, increased property value is a negative. NCTCOG has a stated goal of housing-income match and does not explicitly report on whether the reported land value increases are consistent with this goal.

Alignment to Strategy, Goals, and Objectives

SDI seeks to promote a mix of objectives, including infill, mixed use development with proximity to transit. While these factors are described in the project case studies, the summary metrics focus entirely on the uses of funds by program area (planning, land banking, and transportation infrastructure). Therefore, the reader is left to infer from the cases the success of the program in meeting its goals.

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[116] *ULI–the Urban Land Institute and PricewaterhouseCoopers LLP., "Emerging Trends in Real Estate 2010," p. 12.*

SDI has two primary strategies – funding planning and land banking as a stepping stone to livable development, and funding development to leverage private funds. The program reports do not provide clear evidence as to whether the funded plans and land banking resulted in livable development. While some of the individual cases note the amount of private development funding that was leveraged, no total is provided across the project. Therefore, the success of this strategy is not directly measured in the published reports.

Clarity

The summary statistics presented are clear and unambiguously defined. However, the reliance on the project case studies to provide the fuller picture of program success is a double-edged sword: it provides a richer description of the results than summary statistics might, but it leaves to the reader the task of sorting out the overall impact. In this way, the reporting is somewhat ambiguous as to the success of the program overall.

Measurability – Efficiently and Accurately

The summary statistics are efficiently and accurately measureable. However, because the cases provide different information for each project, one is left to wonder how the agency selected which information to provide in each case. Therefore, the accuracy of the reports may come into question.

Balance

SDI provides a balance of quantitative and qualitative or descriptive measures. However, while SDI's reporting focuses on a select few measures, it is not clear that the measures reported are the "vital few' in the words of the National Performance Review. The few summary statistics provided are focused on uses of funding, and not on the results of that funding. This may be because the published measures are part of a call for projects and thus are focused on the audience of potential grantees. However, even with an audience of potential grantees it would

be useful to provide more measures on the impact that the grants will have on the grantees' communities.

Decision-orientation

The published reports are not targeted toward program decision makers – rather they are part of a call for projects. The primary decision to be made by this audience is whether to apply, and what type of project to apply for. Therefore, the information provided – descriptions of the results and nature of individual projects and summary statistics on the uses of funds – is helpful.

For internal decisions, NCTCOG develops ad hoc analyses based on the information in its development database. These analyses help NCTCOG identify the focus for the call for projects in each funding cycle. For example, low occupancy rates may lead to a focus on a specific area, or a decrease in affordability overall may lead to a focus on affordable development.[117] However, while these analyses show development trends, they are not intended to directly measure the impact of the previous round of projects. Rather, they are intended to determine the baseline need for future projects.

Address key stakeholder perspectives

The reports reviewed are focused on two sets of stakeholders: potential grantees (for the call for projects) and peer agencies (for the presentation to the North Texas Public Works Roundup). As described above, they are well targeted for potential grantees. For peer agencies – or for other stakeholders not targeted by these reports – a broader set of measures would be in order.

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[117] *Faucher.*

Metropolitan Transportation Commission (MTC – San Francisco Bay Area) – Transportation for Livable Communities (TLC) Program

Program Description

Transportation for Livable Communities, as its name implies, focuses on supporting transportation planning and capital projects that contribute to vibrant, transit-connected communities. According to the program website, "the purpose of the Transportation for Livable Communities (TLC) Program is to support community-based transportation projects that bring new vibrancy to downtown areas, commercial cores, neighborhoods, and transit corridors, enhancing their amenities and ambiance and making them places where people want to live, work and visit. TLC provides funding for projects that provide for a range of transportation choices, support connectivity between transportation investments and land uses, and are developed through an inclusive community planning effort."[118]

Program goals include transportation choice, mixed use/ density near transit, revitalization/infill, and quality of life/sense of place. In addition, joint planning is stated as a goal in itself in addition to being a means to achieve the other goals.[119]

MTC is the MPO for the region. Unlike the other agencies reviewed, MTC is solely an MPO – it does not have other COG roles and authorities. MTC collaborates with other agencies to make transportation-land use connections. [120]

TLC was cited in the livability literature[121] and was mentioned by interviewees in other regions as a leading livability program.

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[118] *Metropolitan Transportation Commission TLC website, http://www.mtc.ca.gov/planning/smart_growth /tlc_grants.htm*
[119] *Ibid.*
[120] *Ibid.*

Reports Reviewed

MTC takes a program evaluation approach to measuring performance. In 2008, MTC published "Ten Years of TLC: An Evaluation of MTC's Transportation for Livable Communities Program," along with a series of presentations drawing from the prose report.[122] This evaluation built upon a similar program evaluation executed in 2004. In addition, MTC commissioned "Financing Transit Oriented Development in the San Francisco Bay Area: Policy Options and Strategies" in 2008 to help with strategic program decisions regarding project financing.[123] This report provided recommendations on future performance measures for the program.[124]

Analysis

Customer focus

Performance measures used in the published reports on TLC directly addressed key customer needs, such as density, transportation options, affordability, and even "quality of life." However, some of the customer needs identified in the literature review were not addressed. For example, access to a full range of retail and other amenities and services was not reported, nor was safety.

MTC's primary measure of affordability was the percentage of developed units which were affordable (based on median income and median house price). Although MTC, like Metropolitan Council, did apply the Housing and Transportation Affordability Index to provide an overall picture of the combined housing and transportation cost in the TLC communities, this

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[121] Cited in Reconnecting America: "Realizing the Potential for Sustainable and Equitable TOD: Recommendations to the Interagency Partnership on Sustainable Communities."
[122] "Ten Years of TLC: An Evaluation of MTC's Transportation for Livable Communities Program," Metropolitan Transportation Commission, April 2008.
[123] Reconnecting America, "Financing Transit Oriented Development in the San Francisco Bay Area: Policy Options and Strategies," August 2008, Appendix A.
[124] Unless otherwise noted, all data in this section are from a synthesis of these two reports. Except where interviewees are directly cited, all analysis, conclusions, and opinions are the author's own, and do not necessarily reflect the position of the agency reviewed.

analysis was done in a stand-alone report and was not directly tied to TLC – no trend over time or other indication of the impact of TLC on affordability was provided. The Index was used to show the need for TLC types programs rather than their results. [125]

In addition, similar to ARC, although customer needs are reflected in the reporting, the reports were based on a survey of grantees, so the perceptions of softer outcomes such as "quality of life" is from the perspective of the jurisdiction, not of the citizens themselves.

Alignment to Strategy, Goals, and Objectives

TLC's program evaluations directly tied each measure to the goals outlined for the program, and provided at least one measure for each identified goal and program area/strategy type (planning funding, infrastructure funding, and rewards for development of affordable housing).

Clarity

MTC's program evaluation is in a narrative style, presenting the overall findings, insights, and recommendations in each program and goal area and providing individual statistics on outputs or survey results within this context. The reports do not provide full statistics on all of the measures and survey questions used. As a result, the meaning of the results and definitions of measures are quite clear. However, the results are not entirely unambiguous, as the reader is not provided the opportunity to see the raw data – only the interpretation of the data by the analysts.

Measurability – Efficiently and Accurately

The TLC program reports explicitly take up the topics of both measurability and balance. In "Ten years of TLC," potential measures for each goal are outlined and the authors explicitly discuss the practicalities of applying these measures – access to data, cost of collection, and

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[125] *Doug Johnson, Metropolitan Transportation Commission, Telephone Interview, May 13, 2010.*

other factors. The authors then state which measures are used, and why. In "Financing Transit Oriented Development," a strategy study for the TLC and TOD programs at MTC, the authors propose a set of potential TLC performance measures and provide specific sources of data that support efficiency and accuracy in collection. TLC has incorporated many of these measures into their project screening and scoring criteria and some into their program evaluation approach.[126] This set of recommendations is a good source of ideas for new metrics and screening or scoring criteria for any livability program.

TLC sees many of the quantitative measures of livability as proxies for quality of life, and cautions that while quantification is important, over-reliance on quantitative measures can obscure the real results of livability programs. MTC's Doug Johnson noted that "when you talk to people in downtown Gilroy they are ecstatic about the fact that they have a nice place to have an outdoor movie night and a farmers' market. How do you enumerate that?" MTC addresses this question by pairing up quantitative analysis with grantee surveys asking which of the program goals were effectively meet through the funded project. Johnson notes that all of the projects scored improvement in "sense of place" and "quality of life" as the goal most impacted by the program.[127]

Balance

The grantee survey used for "Ten Years of TLC" covers a broad range of goals and the full evaluation covers process, output and outcome. The evaluation did not select the "vital few" measures up front, but it did sort through the results and present only the data that appeared meaningful to the evaluators.

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[126] *Johnson.*
[127] *Johnson*

MTC explicitly seeks to balance its approach to measuring livability across three categories: screening measures, scoring measures, and evaluation measures. While acknowledging that the three types of measures have some overlap, MTC notes that they are different. Concrete measures such as access to transit and projected induced ridership serve as factors to screen potential projects and then score projects for funding prioritization. If projects are implemented as designed, these outcomes and outputs are expected to be achieved. Project evaluation can then focus on answering periodic strategic questions. Evaluations include a mix of concrete output and outcome measures, such as development activity and affordability, as well as effectiveness and efficiency questions, such as grantee perceptions of which aspects of the program were most useful in achieving livability goals.[128] While assessment of screening and scoring measures is outside the scope of this research MTC's framework presents an interesting area of potential future research.

Decision-orientation

MTC takes a program evaluation approach to performance reporting. Rather than establishing set of metrics reported annually, MTC engages a consultant every few years to provide an overall evaluation of the program, encompassing process, output, and outcomes, and providing data, descriptions of projects, and analysis and recommendations. As such, the performance reports are very focused on strategic decision making, and provide both the what and the why MTC needs to make strategic program decisions. In particular, the grantee survey used for "10 Years of TLC" asked not only about outcomes, but also about the process and the strategy, with questions about which aspects of the program were most useful in achieving program goals. In addition, the evaluation looked at the cascade of impacts from the planning program to the

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[128] *Johnson*

infrastructure program, asking grantees to identify whether projects identified based on planning grants were implemented and whether they were implemented with TLC infrastructure grants.

MTC has used the results of performance evaluation to redirect the program focus. For example, metrics on project implementation rates led to the cancellation of the Housing Incentives Program and the TLC Planning Program. MTC folded the objectives of these small niche programs into the larger TLC program and other MTC efforts, allowing planning and housing needs to be funded under the larger program, and therefore simplifying the program.[129]

The downside of MTC's periodic evaluation approach, according to the findings of the literature review, are that the information is not timely for more tactical or even annual strategic redirection and that MTC does not have a consistent set of data to provide trends over time.

Interestingly, MTC believes that consistent, trended data is not necessarily the most useful information to support strategic decisions. While measures such as leveraged funding, ridership, and access to bicycle and pedestrian options are consistently useful, the needs of a program change from year to year, and the evaluation questions one might ask about the program may change as well. Therefore, MTC prefers the flexibility to change some aspects of performance evaluation to match the decision needs at each evaluation period.[130]

Address key stakeholder perspectives

MTC is the only MPO reviewed which is not also the COG for the region. The primary objectives and project selection criteria are focused on access to transit, bicycle, and pedestrian options. However, in spite of this transportation perspective, the goals and performance measures applied are broad and include affordability, emissions, and other measures important to non-transportation stakeholders.

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[129] *Johnson*
[130] *Johnson*

MTC also makes an effort to focus on goals and measures that resonate with “non-planners” – communities, politicians, and business people. While reduced VMT might appeal to a transportation planner, a survey result that shows quality of life has improved speaks more loudly to many of the program’s stakeholders.[131]

[131] *Johnson*

Conclusions and Recommendations

Every livability program has a unique set of goals, objectives, strategies, customers, and stakeholders. Therefore, no single set of performance measures can or should be applied to every livability program. However, new programs can learn a great deal from the performance measurement approaches applied by the five mature programs analyzed for this research. Each of the five programs demonstrates both good practices and potential pitfalls, and provides examples of measures that new programs can consider adopting. Taking a step back and looking across the five programs also provides a broader set of lessons that new livability programs can apply as they develop their own performance measurement approaches.

Summary of Analysis Results

Most of the programs analyzed for this study reported on sources and uses of funds, the volume of development activity produced by the program, and financial return factors. Beyond these commonalities the measures reported were very diverse, reflecting the diverse goals and needs of the programs. A summary of what can be learned from each of the five livability programs analyzed for this research is provided in Table 6.

The Atlanta Regional Commission provides a good example of how to achieve breadth and balance in an efficient, affordable manner. Metropolitan Council, on the other hand, demonstrates laser-like focus on a smaller set of very clear, quantifiable measures of project delivery that are tailored to address key stakeholders. Metro's reports provide a treasure trove of measures from which agencies can select. North Central Texas Council of Governments' case study style reporting shows how to make livability come to life. The Metropolitan Transportation Commission's program evaluation approach is an example of strong, goal-oriented decision support, as well as breadth, balance, and customer focus.

Taking a Step Back: Lessons Learned Across the Programs

Taking a step back and looking across all five programs reveals a broader set of lessons that new livability programs can apply when developing a performance management approach. We will discuss each of these lessons in turn.

- The structure of an agency does not dictate the focus of its performance measurement
- Measure the nature, not just the volume, of development
- Meaningful measurement need not be costly
- A focus on decisions pays off
- Report on both affordability and land value appreciation
- Tailor your reporting to your audiences
- Balance the quantifiable with subjective factors such as "quality of life"

Agency structure does not dictate measurement focus: Atlanta Regional Council is a small agency with responsibility for both transportation and land use planning. ARC's LCI leadership found that this integrated structure helped them take an integrated approach to measuring livability. However, the Metropolitan Transportation Commission's experience demonstrates that MPOs without land use responsibilities can still take an integrated approach to measuring livability. Although MTC was the only MPO studied that was not also a COG, MTC managed to take one of the broadest views of livability in their performance evaluation and directly measured the achievement of both transportation and non-transportation related livability factors. This is because MTC established broad livability goals for the program and then explicitly chose a set of measures that addressed every program goal. Livability programs struggling with measuring goals that fall outside their own agency's authorities can look to MTC as an example of how to overcome the constraints of agency structure.

Measure the nature, not just the volume, of development: While some of the agencies reviewed for this study characterized development based on their livability goals – reporting on factors such as affordability, walkability, and use mix – most programs did not capture all of their livability goals or all of the customer criteria for livability in their development activity statistics. Often, livability goals were assumed to be achieved because the projects were selected based on their ability to achieve them. However, project selection is imperfect. In addition, even with the most sophisticated project selection process, changes in conditions can easily change the ability of a portfolio of projects to accomplish the results a selection committee expects. For example, ARC carefully selected projects to achieve a wide range of objectives for development in designated LCI areas including density, mixed use, and transit accessibility. When ARC measured use mix in the LCI areas, however, they found that they were not achieving the desired mix. As a result, ARC modified their LCI project selection focus. Measuring both the volume and the nature of completed development was critical for ARC to determine whether the program produced the desired results and how to adapt the program to deliver better results.

The programs analyzed for this study provide several examples of how to measure the nature of the development delivered. MTC measured not only the volume of development but also the nature of that development in terms of affordability, proximity to transit, and other program objectives. Metro measured results such as affordability, use mix, and cost per induced transit rider. In addition to measuring use mix and other factors, ARC asked grantees what percentage of development was "in line with LCI goals." All livability programs should report on both the volume and the nature of the development delivered by the program to determine whether the program delivered the intended results.

Meaningful measurement need not be costly: Resource constraints led some agencies to limit the scope of measurement and the degree of empirical measurement of factors such as walkability, proximity to amenities, and mode switch. However, several programs identified

ways to provide meaningful reporting without breaking the bank. For example, Atlanta Regional Council provides a robust biennial report without adding significant cost to the program. Two strategies they apply are to make the report an internship project and to reuse data that is collected for other purposes. In addition, their measurement scope is balanced and broad but not as extensive as the comprehensive measurement program that Metro initially applied but decided not to sustain on an annual basis. MTC addresses the cost of measurement by undertaking periodic, decision-focused program evaluations every few years rather than maintaining a comprehensive annual or biennial reporting scheme. Although this approach means that MTC does not have statistics to spot trends regularly, the decision-focus of MTC's approach has proven its value by delivering insights that led to significant changes in the program direction. Agencies should not assume that good performance measurement is too costly to achieve. They should instead apply ARC and MTC's strategies as cost effective ways to get valuable program insights.

Focus on decisions*:* Agencies with decision-focused measures find that the measurement does improve decisions – making the return on program investment higher. Rather than, in the words of one interviewee, "running around justifying what we already know," programs that designed their performance measurement program to answer specific questions got those questions answered. ARC focused its measures on the objectives of the program and uses the performance reports in setting program direction. For example, ARC discovered that office development was becoming concentrated in LCI areas but housing development was not. They increased focus on housing and added a "halo effect" measure to determine whether housing development was truly remaining sprawled or whether housing development was in fact being concentrated just outside the LCI areas. ARC also asked grantees what worked and what did not and used this information in adapting the program. MTC's approach, tailoring the analysis to the decision needs at the time of the analysis, provided insight into progress on every goal

and into what aspects of the program were most effective in helping grantees achieve the program goals. As a result, MTC was able to use the evaluation to refocus the program, eliminating two program areas. Agencies whose measurement programs were more focused on compliance or program advertising saw less of an impact on decisions. Agencies developing new livability program performance measures should start with the question of what decisions the measurement will support and design the program to give them the data and analysis they need support those decisions.

One agency was reluctant to survey grantees to ask what program improvements could be made because they feared that grantees would ask for program changes that policy makers would not support. Clearly, one should only ask for feedback that one intends – and has the authority to – use. However, this concern raises again the question of who is the customer: grantees, policy makers, or residents themselves. A grantee survey can be developed that helps policymakers use customer and stakeholder perspectives to prioritize program focus without compromising the strategic intent of the program or raising stakeholder expectations unnecessarily.

Address both affordability and land value appreciation: Metropolitan Council, Metro, and NCTCOG cited increases in property value as evidence of success. Higher property values indicate customers value the neighborhood and its amenities and are also an indicator that developers are getting the return they need to invest in the development sought by the agency. Metropolitan Council also reported on increased tax capacity resulting from the land value increase. However, the creation or preservation of affordable housing is also seen as a core aspect of livability for most of the agencies. As such, rising property values may run counter to program objectives. This tension is well recognized and must be addressed by each program as a matter of policy. If agencies have both affordability and value appreciation goals, they

must include measures for both of these objectives in their reporting to prevent measurement imbalance from leading to program focus imbalance.

Tailor your reporting to your audiences: All of the agencies studied focused their performance reports on the audiences they sought to reach. NCTCOG sought to gain new grant applicants and painted a picture of the projects to make the program come to life. Metro produced multiple reports – from a very detailed analysis to support tactical decisions to a high level summary to gain stakeholder acceptance. MTC's leadership sought to understand why the program results were as they were and took a program evaluation approach. They developed reports that were rich with explanation rather than simply a series of statistics. MTC also explicitly sought to combine traditional measures loved by planners with measures that resonate with non-planners – the residents, businesspeople, and politicians that make up their stakeholders. Good performance measurement requires understanding all of the audiences of the reports and baking their perspectives and needs into the reporting approach.

Balance the quantifiable with the subjective: ARC, MTC, and Metro all sought to measure the more subjective elements of livability such as sense of place and quality of life. They established both qualitative measures (grantee surveys) and quantitative indicators (such as acres of parkland). Other agencies preferred to focus on clearly measureable factors, attempting to avoid implying causation where correlation was all that was proven. They covered the "softer" aspects through narrative case studies. There is no single answer to striking this balance – measuring only the concrete can lead to focusing only on the concrete, but using softer measures can provide misleading results. Every agency will need to determine the balance that works for them and take their results with the appropriate grain of salt. However, as discussed in the literature review, livability is more than the sum of its parts and finding some way to capture the full picture is critical. Even if a goal is difficult to measure, reporting on it ensures that the program will continue to focus on it.

In conclusion, the livability community has a strong degree of consensus that policy, planning, and funding are needed to close the gap between the livable neighborhoods that residents and policymakers both increasingly seek and the cost, risk, and regulatory burdens that keep developers from delivering them. These livable neighborhoods are more than the sum of their parts – a dense neighborhood that is not accessible to jobs or a mixed use neighborhood that is not safe would not be called livable by any rational resident. As one of the agencies interviewed put it, "it's integrated – that's the whole point of livability." What differentiates a good measurement program from a great one is whether it captures the whole, or simply captures – and thus incents – some subset of disjointed parts. If we get what we measure, then we must measure all of what we seek. Similarly, great measurement goes beyond justifying the program to truly seeking to understand what works and why. If we only seek to justify what we know, we will never learn what we do not know. Future livability programs would do well to learn from both the individual measures applied by these mature programs studied and the bigger picture of what an integrated, balanced, decision-oriented measurement program can provide.

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Appendix– Livability Program Summaries

Atlanta Regional Commission (ARC): Livable Centers Initiative (LCI)	
Purpose: Plan and implement joint land-use/transportation strategies to create livable communities. • "Help planners and governments more effectively link current and future land use planning to existing or planned transportation infrastructure."[132] • "Encourages local jurisdictions to plan and implement strategies that link transportation improvements with land-use development to create sustainable, livable communities."[133]	
Lead Agency Type: ARC is both the MPO and the regional association of governments. Grantees are local jurisdictions and non-profit organizations. [134]	
Goals and Objectives	
Goal Types:[135] • Mixed income • Mixed use • Walkability focus – with transportation options • Safety • Sense of place • Quality of life • Reflect the goals of the community	**Stated Goals & Objectives:**[136] • "To connect homes, shops and offices by encouraging a diversity of mixed-income residential neighborhoods, employment and recreational choices at the center/corridor level • To provide access to a range of travel modes including transit, roadways, walking and biking, while emphasizing the pedestrian • To improve safety and a sense of place in order to increase livability and quality of life for all members of the community • To develop an outreach process that promotes the involvement of all community stakeholders so that the LCI plans created reflect the goals and vision of the community"
Strategies and Programs	
Strategies: [137] • Joint planning • Zoning and other policy changes • Funding (planning and transportation projects)	**Programs:** [138] • LCI Planning Grants to local jurisdictions and non-profits ($1M annually) – plans must address zoning and other local policy barriers • Priority funding for transportation projects within the LCI study areas if the policies outlined in the LCI plans are implemented ($500M planned, $129M programmed since 1999)

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[132] *Atlanta Regional Commission, "2009 Livable Centers Initiative Implementation Report."*
[133] *Atlanta Regional Commission, "2009 Livable Centers Initiative Indicators and Benefits Study."*
[134] *Ibid.*
[135] *Author's analysis*
[136] *ARC, "2009 LCI Implementation Report." Note that the "2009LCI Indicators and Benefits Study" states the goals of LCI slightly differently, and does not include goal #3 above (safety and sense of place) at all. Since both were published in 2009, for the purposes of this study we will consider the larger set of goals as stated in the "Implementation Report."*
[137] *Author's analysis*
[138] *Atlanta Regional Commission, "2009 Livable Centers Initiative Indicators and Benefits Study."*

Atlanta Regional Commission (ARC): Livable Centers Initiative (LCI)		
Awards/ Evidence of Good Practice[139]		
• APA National Planning Excellence Award for Implementation, 2008 • EPA National Award for Smart Growth Achievement – Policies and Regulations, 2008 • National Association of Regional Councils – Certificate of Excellence for Best Practices Project, 2005 • Federal Highway Administration & Federal Transit Administration – Transportation Planning Excellence Award for Transportation and Land Use Integration, 2004 • Association of Metropolitan Planning Organizations – Noteworthy MPO Practices in Transportation-Land Use Planning Integration, 2004 • Georgia Planning Association – Outstanding Innovative & Effective Planning Process, 2000 • Articles in Georgia Trend (Sept 2006 & July 2004), New Urban News (March 2002), Brownfield News (Apr 2005), numerous articles in Atlanta Business Chronicle, AJC and other local papers		
Report: 2009 LCI Implementation Report **Report Type:** Biennial external execution reporting	**Methods:** Survey of grantee staff and grantee quantitative reporting	
Metric Category	**Metrics**	**Type**
Source and uses of funds	• **Expenditures by program** (planning funds, supplemental planning funds, implementation funds) • **Expenditures by type** (corridor, town center, activity center) • **Source of funds**	Process

Private development activity	• **Total development inventory in LCI areas**[140]
	  ○ Development by stage of construction
	  ○ Development volume by use: Residential units, Hotel units, Commercial space (sqft), Office space (sqft)
	• **Alignment of development to LCI goals**
	  ○ % of grantees approving development "that was not in line with their LCI goals"
	  ○ % of development that is mixed-use (residential and commercial or office)
	  ○ Average size of development (units/project; projects/LCI area), e.g.:
	  ▪ % of residential that is over 200 units (indicates higher density)
	  ▪ Average size of commercial, and % that is over 1000,000 sqft (smaller/ finer mix indicates livability)
	• **LCI area development as % of total** development in the region (indicates concentration of development in target areas)
		Primarily Output

[139] *ARC LCI website, accessed 3/1/2010 at http://www.atlantaregional.com/land-use/livable-centers-initiative*
[140] *Development activity figures cover all development projects, regardless of alignment to LCI goals.*

Atlanta Regional Commission (ARC): Livable Centers Initiative (LCI)		
Land use policy and regulation changes	• **% of jurisdictions which adopted LCI plan into comprehensive plan** (based on grantee survey) • **Zoning and regs changes** - % of grantees: ○ Created special zoning district for LCI ○ Made development regulation changes ○ Adopted design and architectural standards ○ Using LCI policies in other parts of jurisdiction • **Affordability** - % of grantees which had: ○ Senior or affordable housing projects being developed ○ Policies to focus on senior, workforce, or special needs housing	Output
Implment-ation	• Factors contributing to success of program • Organization within grantee jurisdiction focused on implementing LCI (does one exist, and what type) • Funding sources used to support implementation (% by type)	Process
Livability improvement perceptions (grantee survey)	• Overall livability • Opportunities to walk or bike • Ped/bike activity • Safety • Access to transit/ transit service options • Housing choices by type and price • Employment opportunities • Mix of retail, restaurants and personal services • Street life • Local codes and ordinances • Community participation in planning • Participation in community activities	Output & Outcome
Report: 2009 LCI Indicators and Benefits Report **Report Type:** Biennial benefits analysis	Methods: Model potential impacts of implementation of LCI plans based on the characteristics of the LCI plans (analyzes a subset of the plans only). Uses INDEX software.	
Metric Category	**Metrics**	**Type**
Modeled outcomes	• Population density • Employment density • Street route directness • Use mix • Use balance • Jobs to housing balance • Single-family and multi-family share • Transit-oriented Residential Density (units/ acre in ¼ mile of transit) • Vehicle Greenhouse Gas Emissions • Home-based Vehicle Miles Travelled	Outcome (proj.)

Atlanta Regional Commission (ARC): Livable Centers Initiative (LCI)		
Report: 2009 LCI Breaking Ground Report **Report Type:** Project activity progress report. Data collected monthly, reported publicly every six months	Methods: Summary of project activity reporting from grantees.	
Metric Category	**Metrics**	**Type**
Sources and Uses of Funds	• Number and value of projects by county, study area, project type	Process
Project Activity	• List of projects with the following data for each: ○ Location ○ Sponsor ○ Name ○ Description ○ Federal and local funding for PE, ROW, and CST ○ Project type (e.g., ped, transit) ○ Project status (authorized, dropped, advancing, project of concern) ○ Descriptive "update on progress" as of: ▪ Report issuance date ▪ Last report issuance date (6 months prior) • Summary of number of projects by status for each month since the last report	

Metropolitan Council: Livable Communities Act (LCA) Grant Program (Minneapolis-St. Paul Area)	
Purpose: The stated focus of the program varies depending on the report, but the enabling legislation takes a broad view, including job creation, affordability, density, and links among housing, jobs, and transit. [141] "…a voluntary, incentive-based approach to help the Twin Cities metropolitan area address affordable and lifecycle housing needs while providing funds to communities to assist them in carrying out their development plans." [142] "…funding for communities to invest in local economic revitalization, affordable housing initiatives, and development or redevelopment that connects different land uses and has good access to transportation."[143]	
Lead Agency Type: The Metropolitan Council is both the COG and the MPO for the Minneapolis-St. Paul metropolitan area. LCA programs reside within planning and development, not transportation. [144] TBRA is a partnership with MN Dept of Trade and Economic Development. LCDA grantees are developers, and local jurisdictions may be joint owners. LHIA is a partnership with the Minnesota Housing Finance Agency [145]	
Goals and Objectives	
Goal Types: [146] • Job creation/economic development • Affordability • Mixed income development • Density • Links among housing, jobs, and transit	**Stated Goals & Objectives:** • LCA legislation stated goals: [147] ○ helping to change long-term market incentives that adversely impact creation and preservation of living-wage jobs in the fully developed area; ○ creating incentives for developing communities to include a full range of housing opportunities; ○ creating incentives to preserve and rehabilitate affordable housing in the fully developed area; ○ creating incentives for all communities to implement compact and efficient development. ○ LCA legislation specifies that the guidelines for LCDA provide that

[141] *"2009 Minnesota Statutes, 473.25 Livable Communities Criteria and Guidelines," https://www.revisor.mn.gov/statutes/?id=473.25, accessed March 6, 2010.*
[142] *http://www.metrocouncil.org/services/livcomm.htm*
[143] *"Livable Communities Program Fact Sheet," Metropolitan Council, www.metrocouncil.org, accessed March 6, 2010.*
[144] *http://www.metrocouncil.org/services/livcomm.htm*
[145] *Ibid*
[146] *Author's analysis*
[147] *"2009 Minnesota Statutes, 473.25 Livable Communities Criteria and Guidelines," https://www.revisor.mn.gov/statutes/?id=473.25, accessed March 6, 2010.*

Metropolitan Council: Livable Communities Act (LCA) Grant Program (Minneapolis-St. Paul Area)	
	the projects will: – interrelate development or redevelopment and transit; – interrelate affordable housing and employment growth areas; – intensify land use that leads to more compact development or redevelopment; – involve development or redevelopment that mixes incomes of residents in housing, including introducing or reintroducing higher value housing in lower income areas to achieve a mix of housing opportunities; or – encourage public infrastructure investments which connect urban neighborhoods and suburban communities, attract private sector redevelopment investment in commercial and residential properties adjacent to the public improvement, and provide project area residents with expanded opportunities for private sector employment. • LCA Grant Program overall: [148] ○ "Clean up polluted land for redevelopment, new jobs and affordable housing ○ Create development or redevelopment that demonstrates efficient use of land and infrastructure through connected development patterns ○ Create affordable housing opportunities" • TBRA: "Cleaning up polluted land for redevelopment and productive uses," with the following expected benefits: [149] ○ "Cleaner environment ○ Revitalized communities ○ More housing opportunities, and ○ Growth directed to central cities and older suburbs where costly infrastructure is already in place" • LCDA: "funding for development and redevelopment projects that achieve connected development patterns that link housing, jobs, and services, and use regional infrastructure efficiently" [150] • LHIA: development grants to "help create and preserve affordable rental and ownership housing… at all of life's stages, and to support residential reinvestment and redevelopment to achieve economically healthy and livable communities." [151] • LAAND: Preference is given for land that is close to jobs, "allow density that is consistent with achieving affordability, minimizes

[148] *http://www.metrocouncil.org/services/livcomm.htm*
[149] *Ibid*
[150] *Ibid*
[151] *Ibid*

Metropolitan Council: Livable Communities Act (LCA) Grant Program (Minneapolis-St. Paul Area)	
	vehicle miles traveled, and implements Green Communities criteria, Minnesota Overlay or comparable programs."
Strategies and Programs	
Strategies: [152] • Funding land cleanup • Funding development/ redevelopment • Funding land banking • Planning: a prerequisite for all above funding is the negotiation with Metro of lifecycle and affordable housing goals and an LCA Housing Action Plan[153]	**Programs:** [154] • Tax Base Revitalization Account (TBRA): grants to "clean up polluted land for redevelopment" • Livable Communities Demonstration Account (LCDA): "funding for development and redevelopment projects" • Local Housing Incentive Account (LHIA): affordable housing development and rehabilitation grants • New program in 2008 --- Land Acquisition for Affordable New Development (LAAND) – uses LCDA funds for no-interest loans to LCA-eligible communities to take advantage of downturn in real estate costs. • Past program -- Inclusionary Housing Account (IHA) – (one time funding allocation in 1999) "supported affordable housing developments in which the reduction of local controls and regulations resulted in reduced development cost."
Awards/ Evidence of Good Practice	
• None stated.	

Report: "Metropolitan Livable Communities Fund: Report to the Minnesota State Legislature"[10]	**Methods:** Staff analysis of grant statistics
Report Type: Annual report, required by enabling legislation[155]	

Category	Metrics	Type
Source and uses of funds	• Sources of funds • Funding requests v. funding provided (for each fund, # applications, # awards, funds requested, funds available, funds awarded, number of dollars over/undersubscribed, number of communities receiving funding) – however, no efficiency measure	Process

[152] *Author's analysis*
[153] *"Metropolitan Livable Communities Fund: Report to the Minnesota State Legislature," Metropolitan Council, Publication No. 78-08-025, June 2009.*
[154] *http://www.metrocouncil.org/services/livcomm.htm*
[155] *The enabling legislation requires "an annual report on the metropolitan livable communities fund. The report must include information on the amount of money in the fund, the amount distributed, to whom the funds were distributed and for what purposes, and an evaluation of the effectiveness of the projects funded in meeting the policies and goals of the council. The report may make recommendations to the legislature on changes to Laws 1995, chapter 255." "2009 Minnesota Statutes, 473.25 Livable Communities Criteria and Guidelines," https://www.revisor.mn.gov/statutes/?id=473.25, accessed March 6, 2010.*

Metropolitan Council: Livable Communities Act (LCA) Grant Program (Minneapolis-St. Paul Area)		
Evidence of Demand	• See above (number of dollars over/undersubscribed)	Process
Geographic Equity	• Number of communities receiving funding from each account/program • List of communities receiving funding	Process
Private Development Activity	• # of housing units created (ownership and rental) • # of improved or rehabilitated existing housing units • # of new/improved housing units which are affordable	Output
Economic Development	• # new or retained jobs	Outcome
Environment	• # acres of reclaimed polluted land	Outcome
Efficiency/ Return on Investment	• Private and public investment leveraged (no methodology provided – not clear to what degree the LCA programs influenced these investments in size or focus) • Increase in net tax capacity • Qualitative: "projects offer replicable examples," "funding is a catalyst	Process
Quality of Life	• Qualitative statement: "projects serve as destinations" • Qualitative descriptions of each project	Outcome
Report: "Metropolitan Livable Communities Act – Expected Results for Grants Awarded 1996-2008"[156] **Report Type:** Fact Sheet	**Methods:** Summary of figures in annual reports	
Category	**Metrics**	**Type**
Local government policy changes	• Number of communities which have adopted "affordable and life-cycle" housing goals (a pre-requisite for applying for grant funding • Total new units and new affordable units which would be in place if all communities' goals were reached	Output

[156] *"Metropolitan Livable Communities Act – Expected Results for Grants Awarded 1996-2008," Metropolitan Council, March 25, 2009, www.metrocouncil.org, accessed March 6, 2010*

Metropolitan Council: Livable Communities Act (LCA) Grant Program (Minneapolis-St. Paul Area)		

Uses of Funds, Private Development Activity, Environ-mental, Geographic Equity	• Grants awarded (# and $ and # of communities)
	• TBRA:
	  ○ Leverage private investment
	  ○ Increase annual net tax capacity
	  ○ Provide new and retained jobs
	  ○ Redevelop former brownfields
	  ○ List of communities
	• LCDA
	  ○ Leverage private development investment
	  ○ Leverage other public investment
	  ○ New housing units
	  ○ Rehabilitate housing units
	  ○ Offer replicable examples
	  ○ Provide better jobs/housing/transportation connections (qualitative statement – no metric)
	  ○ List of communities
	• LHIA
	  ○ Same as LCDA, plus
	  ○ Affordable new and rehabilitated rental and owner housing units
	  ○ # home improvement loans to homeowners
		Primarily output and process

Metro: Transit Oriented Development and Centers Program	
Purpose: [157] Pursue Metro's growth management plan through providing public investments to developers to build in concert with the plan's goals • "Metro's growth management plan, the 2040 Growth Concept calls for the region to grow up rather than out, away from farm and forest land by limiting expansion and focusing growth around the region's 44-mile MAX Light Rail Transit (LRT) line, along frequent bus corridors and in mixed-use urban centers." • "The TOD/Centers Program pursues the Growth Concept by providing public investments to developers to build more intensely and with higher attention to creating a walkable environment than the market would complete on its own. A TOD or Centers development will result in a higher share of travel from transit, walking and biking and a lower percent by an automobile."	
Lead Agency Type: Metro is both the COG and MPO. Land use planning and transportation are closely connected through Metro's programs. The Urban Growth Report provides a consolidated view of the 2040 vision for the region, which includes land use, transportation, and natural environmental protection. Grantees are private developers and local jurisdictions.[158]	
Goals and Objectives	
Goal Types: [159] • Increased transit, walking or biking • Cost effectiveness • Air quality • Reduced auto congestion • Economic development • Housing and transportation options • Location efficiency • Attractive return to developers	**Stated Goals & Objectives:**[160] • Primary benefit: "Shape the community for increased transit, walking or biking" in concert with the Metro 2040 Growth Concept • Cost effectiveness (cites study showing TOD is more cost effective than new transit lines or "conventional congestion mitigation measures, such as new LRT construction, freeway expansion and vanpools") • Air quality • Reduced auto congestion • Economic development • Housing and transportation options • Livability – defined as "convenient and inexpensive access to most of the region's major locations of jobs, services and trade Centers" • "For the developer, the return is often the developer's fee and net profits from managing the project"

[157] *"Transit Oriented Development and Centers Program Annual Report 2007," Metro, November 20, 2007, p2.*
[158] *Ibid p18*
[159] *Author's analysis*
[160] *Ibid p3*

Metro: Transit Oriented Development and Centers Program

Strategies and Programs

Strategies: [161]

- Public investments to private developers, to "close the gap" ("Planning allows but does not cause certain development patterns. Metro… uses public investment to help shape desired development" (rather than regulation))[162]

Programs:

- Primary strategies:[163]
  - Land acquisition for future TOD projects
  - Purchasing TOD easements on projects requesting funding
  - Site improvements
- Three smaller programs:[164]
  - Green building (Business Energy Tax Credits)
  - Education Advocacy and Technical Assistance
  - Small Projects and Loans, and Unsolicited proposals
- Three types of development areas: TOD, Centers, and Frequent Bus

Awards/ Evidence of Good Practice

- Featured in the British Broadcasting Corporation's series, "The World's Best Public Services" in 2006.[165]

Report: "Transit Oriented Development and Centers Program Annual Report 2007"[166]

Methods: Staff data analysis

Report Type: One time program analysis. Title indicates it was to be an annual report, but due to financial constraints Metro did not repeat the analysis annually.

Category	Metrics	Type
Private and joint development activity	• Active and completed projects with name, jurisdiction, status, owner, and funding • Housing units by median family income affordability category and status (completed/under construction or approved) • Commercial SF by type (office or retail) and status	Output Process
Sources and Uses of Funds	• Expenditure by type (land, projects, and operating expense) • Efficiency trend over time (operating expense) – includes figure and explanation of trend • Expenditure by program activity (TOD, Centers, Frequent Bus) • Land acquisition cost by jurisdiction and cost per square foot • Development project funding by jurisdiction	Process

[161] *Author's analysis*
[162] *Ibid p2*
[163] *Ibid p18*
[164] *Ibid p19*
[165] *Ibid p2*
[166] *Ibid p2*

Metro: Transit Oriented Development and Centers Program		
Geographic Equity	• See above (both categories)	Process
Cost Effectiveness Analysis	• Cost per induced rider, v. building new transit lines, or traditional congestion management techniques[167] • Net present value of farebox revenues: funding generally does not exceed this figure • Cost premium compared to base case (e.g., mixed use is more expensive than single use): funding generally does not exceed this figure • Other funding leveraged: ○ Development project funding by jurisdiction ○ Funding by development entity (owner)	Process
Report: "Urban Living Infrastructure"[168] **Report Type:** Not a performance report. Analysis of whether "urban living infrastructure improves financial feasibility of mixed use residential development," and "if public investment in urban living infrastructure is a cost effective strategy to catalyze centers development"		**Methods:** Hedonistic statistical modeling of home transactions proximate to various urban amenities
Category	**Metrics**	**Type**
Financial return/ cost effectiveness	• Price premium estimates for proximity to various urban amenities, by housing type and household characteristics.	Outcome
Report: "State of the Centers: Investing in our Communities"[169] **Report Type:** Not a performance report. Detailed baseline analysis of all designated centers and corridors. Description of six typologies and the current profile of each center/corridor to help guide program focus overall and to help local planning.		**Methods:** Case analysis

[167] *Ibid p19*
[168] *"Urban Living Infrastructure: Executive Summary," Metro, June 2007. (Note: only executive summary was publicly available as of May 14,2010, at http://library.oregonmetro.gov/files/uli_excutive_summary.pdf. The full report was not available.)*
[169] *"State of the Centers: Investing in Our Communities," Metro, January 2009.*

Metro: Transit Oriented Development and Centers Program		
Category	**Metrics**	**Type**
Urban Amenities	• Summary statistics on all designated urban centers, regional centers, and corridors, including: ○ People and dwelling units per acre ○ Total acres ○ Percent owner occupied ○ Median income ○ Median age ○ Total businesses per acre Description of each designated urban center, regional center, and corridor, including: • Count of each business type designated as urban amenities by the "Urban Living Infrastructure" report (described above) ○ Bakery ○ Bar ○ Bike shop ○ Book store ○ Brew pub ○ Child care ○ Cinema ○ Clothing store ○ Coffee shop ○ Deli ○ Dry cleaner ○ Fast food restaurant ○ Fitness gym ○ Full service restaurant ○ Garden store ○ Grocery store ○ Limited service restaurant ○ Music store ○ Wine bar/sales • Quantitative summary with comparison to average, including: ○ Number of each type of business ○ Activity level (e.g., 24 hour, 14 hour) ○ Jobs to housing ratio ○ Economic focus (e.g., employment, tourism) ○ Median household size and income ○ Median age ○ Home ownership percentage ○ People per acre ○ Dwelling units per acre ○ Floor area ratio (a measure of density of use) • Qualitative description of urban form and transportation access (road and transit)	Baseline/ outcome

Metro: Transit Oriented Development and Centers Program		
Report: "Metro Management Report" and "Metro Management Report At-a-Glance"[170]		**Methods:** Management activity reporting
Report Type: Quarterly report of activities and issues against each Metro budget category. Not used by program staff.		
Category	**Metrics**	**Type**
Program Activity Report	• Provides a description of activities and outputs for each budget program – no predetermined metrics – management chooses what activities to include ○ Budget program title ○ Budget program description ○ Major accomplishments for this period ○ Major accomplishments/corrections for next quarter; Items for management and Council attention/action	Process, Output
Report: "The Portland Region: How Are We Doing?"[171]		**Methods:** summarizes detailed performance report, which is derived from staff data analysis and stakeholder surveys[172]
Report Type: Performance against overall regional planning goals (not just TOD and Centers Program). Executed in 2003 and 2004, but no subsequently. Not used by program staff.		
Category	**Metrics**	**Type**
Economic	• Encouraging a strong local economy: ○ Commercial, industrial, and mixed-use land supply, by type, with year-on-year (YOY) comparison ○ Land values, by type, with year-on-year comparison ○ Goods movement by type (no trend) • Encouraging efficient land use: ○ Population, households and employment attracted to the region: % of growth captured within the UGB ○ Employment: industrial and commercial land, development and job growth (YOY)	Output and outcome (job growth, land values)

[170] *"Metro Management Report" and "Metro Management Report At-a-Glance," http://www.oregonmetro.gov/index.cfm/go/by.web/id=32400, accessed April 3, 2010.*
[171] *"The Portland region: How are we doing? Highlights of the region's land-use and transportation performance measures," Metro, March 2003.*
[172] *Detailed performance report: "2004 Performance Measures Report: An evaluation of 2040 growth management policies and implementation," Metro Planning Department, December 2004.*

Metro: Transit Oriented Development and Centers Program		
Efficient land use	• Encouraging efficient land use: ○ Residential: change in density ○ Mixed use centers: % of employment and residences in mixed use areas (v. single use areas) (snapshot)	Output
Environment	• Protecting and restoring the natural environment: ○ Acquisition: acreage acquired v. target; funds available for acquisition ○ Regulation: acreage by type protected be regulation ○ Waste management: waste recovery and waste disposal 1995 v 2000 and 2000 v goal • Providing Transportation Choices: ○ Air quality days of violation over time ○ Air quality days of violation v. comparable cities	Output and outcome
Transportation Choice	• Providing Transportation Choices: ○ Freeway traffic growth by corridor ○ VMT total and per capita trend over time (1990-2000) ○ Transit ridership % growth (1990-2000) v. population and VMT growth ○ Transit ridership by bus v. each light rail line ○ Transportation capital needs v. spending by mode	Output
Affordability and Options in Housing	• Ensuring diverse housing options ○ Number of single family homes built by sqft range, comparing 1996 to 2000 ○ % of housing permits to single v. multi-family housing, 1990-2000 ○ Median income and home selling price (Portland region v US) (1990 v 2000) ○ Median home affordability surplus (median home price v. home price affordable at the median income) (1990 v 2000) ○ Home ownership rate v. US (1990-2000)	Output and Outcome
Quality of life	• Creating vibrant place to live and work: park acres per capita • Maintaining separation between the Metro urban growth boundary and neighboring cities (qualitative discussion only)	Output

Metro: Transit Oriented Development and Centers Program
Additional information
Metro also reported very detailed metrics for each goal in the 2040 Growth Management Plan in the "2004 Performance Measures Report: An evaluation of 2040 growth management policies and implementation."[173] This report covers performance against overall regional planning goals (not just TOD and Centers Program). The report indicates it was to be developed annually, but no subsequent reports were found on the Metro website. The report focuses primarily on outputs, with some outcomes:[174] "The performance measures report analyzes trends and focuses on outputs (how much effort has been made). Outcomes (the change that has occurred or how the region has improved) were also addressed, but were based on the relationship between an adopted policy and an outcome. The report does not suggest benchmarks or targets for achieving regional planning objectives and avoids editorial commentary and suggestions of which policies may need revamping."

[173] *"2004 Performance Measures Report: An evaluation of 2040 growth management policies and implementation," Metro Planning Department, December 2004.*
[174] *Ibid p6*

North Central Texas Council of Governments (NCTCOG) Transportation Department: Sustainable Development Initiative (SDI) [175]	
Purpose: Promote development types that reduce the overall demand for transportation infrastructure and improve air quality (2005 program description)	
Lead Agency Type: NCTCOG is the MPO as well as the COG, and the program is run out of the transportation department, with transportation funding. A related program run by NCTCOG's transportation department's sustainability program, the Brownfields Revolving Loan Fund, is EPA funded. Local government with land use authority is primary grantee. For profit developers are required as secondary sponsor for infrastructure projects (optional for planning).	
Goals and Objectives	

Goal Types: [176]
 	
• Density
• Mixed use
• Rail and walking options
• Housing-Income Match
• Job Creation
	Stated Goals & Objectives:
	
	• Promote each of the following, and the intersection of the following (e.g., infill mixed use with rail access)
	  ○ Utilization of existing system capacity
	  ○ Mixed use
	  ○ Rail mobility
	  ○ Access management ("shared drives/parking, spacing of turns/signals")
	• 2005 program included incentive for:
	  ○ Housing-Income Match
	  ○ Workforce Housing Near Transit
	  ○ Areas with High Emitting Vehicles
	  ○ Density/Walkability
	  ○ Mix of Residential and Non-Residential Uses
	  ○ Job Creation In High Unemployment Areas
	  ○ Public sector action to un-bank previously banked land

[175] *Two similar presentations by Karla Weaver, Senior Transportation Planner, posted on NCTCOG's website: "Sustainable Development 2009 Call for Projects," presentation to Southeast Area Transportation Alliance (SEATA), May 28, 2009; and "Sustainable Development: Sustainable Public Rights of Way," presented to 10th Annual North Texas Public Works Roundup, May 5, 2009.*

[176] *Author's analysis*

North Central Texas Council of Governments (NCTCOG) Transportation Department: Sustainable Development Initiative (SDI) [175]	
Strategies and Programs	

Strategies: [177]
 	
• Funding development – leveraging private funds (PPP projects)
• Funding planning
• Funding land banking
• Best practice sharing
	Programs:
	
	• 2001 Sustainable Development Program ($40.8M)
	  ○ Infrastructure projects (e.g., station and station area development)
	  ○ Regional Rail Corridor Study (Planning/Outreach)
	  ○ Center of Development Excellence (Planning/Outreach)
	• 2005-6 Sustainable Development Program ($40M)
	  ○ Transportation infrastructure within an area of interest:
	  ▪ Rail station
	  ▪ Infill in area with high unemployment, emissions, or low income
	  ▪ Historic downtowns
	  ○ Land banking (max 20% of funds)
	  ○ Center of Development Excellence
	  ○ Local Sustainable Development Planning Programs
	• 2009 Sustainable Development Program ($40M):
	  ○ Infrastructure within an area of interest:
	  ▪ Rail station (1/4 mile)
	  ▪ Passenger rail (1/4 mile)
	  ▪ Infill in area with high unemployment, emissions, or low income
	  ▪ Main Street/Historic District
	  ○ Planning

Awards/ Evidence of Good Practice	
• None cited.	
Report: "Sustainable Development Program" **Report Type:** Call for projects presentations at regional events	**Methods:** Staff analysis of project data

Category	Metrics	Type

Uses of Funds	• 2001 Infrastructure projects
	  ○ Number by stage (cancelled, underway, completed)
	  ○ Geographic distribution
	• 2005 infrastructure projects
	  ○ Geographic distribution
	  ○ # and $ requested by program area (transportation infrastructure, land banking, planning)
	  ○ Funds shortfall
	  ○ # and $ funded by program area
		Process and Output

[177] *Author's analysis*

North Central Texas Council of Governments (NCTCOG) Transportation Department: Sustainable Development Initiative (SDI) [175]		
Private development activity and Economic	• Description of select 2001 Infrastructure projects with select data, including one or more of the following in each case: ○ Value of public and private investments ○ Change in property value and resulting revenue ○ Acreage ○ Use mix ○ Units ○ Jobs created ○ Transit access features	Output and some outcome

Metropolitan Transportation Commission (MTC): Transportation for Livable Communities (TLC) (San Francisco Bay Area)	
Purpose: "The purpose of the Transportation for Livable Communities (TLC) Program is to support community-based transportation projects that bring new vibrancy to downtown areas, commercial cores, neighborhoods, and transit corridors, enhancing their amenities and ambiance and making them places where people want to live, work and visit. TLC provides funding for projects that provide for a range of transportation choices, support connectivity between transportation investments and land uses, and are developed through an inclusive community planning effort."[178]	
Lead Agency Type: MPO	
Goals and Objectives	
Goal Types: [179] • Joint planning • Transportation choice • Mixed use/ density near transit • Revitalization/infill • Quality of life/sense of place	**Stated Goals & Objectives:** • Support community based transportation projects which: ○ "Develop projects through a collaborative and inclusive planning process…" ○ "Improve a range of transportation choices" by improving ped/bike/transit facilities and links between facilities and activity nodes ○ "Support well-designed, high density housing and mixed use developments" near transit or that will support future transit ○ "Support a community's infill or TOD and neighborhood revitalization" ○ Enhance "sense of place and quality of life"
Strategies and Programs	
Strategies: [180] • Joint planning funding • Funding transport infrastructure tied to goals • Reward development meeting goals with transport funding	**Programs:** • TLC Planning program: funds community planning efforts to revitalize existing neighborhoods, downtowns, commercial cores and transit stops and create more pedestrian-, bicycle-, and transit-friendly environments • TLC Capital Program: funds transportation infrastructure improvements that encourage pedestrian, bicycle and transit trips and support high-density, mixed use development • Housing Incentive Program (HIP): rewards communities with funding for TLC-type transportation improvements when they build high density housing and mixed-use developments at transit stops

[178] *http://www.mtc.ca.gov/planning/smart_growth/tlc_grants.htm*
[179] *Author's analysis*
[180] *Author's analysis*

Metropolitan Transportation Commission (MTC): Transportation for Livable Communities (TLC) (San Francisco Bay Area)		
Awards/ Evidence of Good Practice		
• None cited.		
Report: "Ten Years of TLC: An Evaluation of MTC's Transportation for Livable Communities Program"[181] **Report Type:** Periodic program evaluation (previous evaluation was completed in 2004). Results were also summarized in presentations to MTC's planning committee and the Focus Forum.	**Methods:** Survey of grantee project managers, co-sponsoring community organizations for capital grants, local business owners, and end users. Focus is on completed projects.	
Category	**Metrics**[182]	**Type**

Uses of funds and funding demand	TLC Planning Program:
	
	• Adequacy of grant size:
	  ○ Max and average size of grant
	  ○ Grantee need to supplement grant with local funds (qualitative statement "typically added a substantial amount")
	  ○ Grantee perception of adequacy of grant size
	• Plan content: most common planned improvements in each category (capital, policy)
	• Synergies across the programs
	  ○ % of implementation funds for TLC Plans coming from TLC Capital Program
	  ○ % of projects receiving TLC Capital Grants which came from TLC Planning Grant plans
		Process and output

Effectiveness and efficiency	• Benefits: Grantee perception of program benefits • Implementation of plans: ○ Percent of planned capital projects and policy changes actually implemented	Process (strategic as well as tactical)

[181] *"Ten Years of TLC: An Evaluation of MTC's Transportation for Livable Communities Program," Metropolitan Transportation Commission, April 2008.*
[182] *Ibid pp 11-4: this section provides a qualitative summary of findings with selective statistics cited and insights drawn from the survey results, but does not provide a full set of statistical results of the survey.*

Metropolitan Transportation Commission (MTC): Transportation for Livable Communities (TLC) (San Francisco Bay Area)		
Uses of funds, funding demand, leveraged funds	TLC Capital Program: • % of funds used by improvement type (ped, transit, bicycle, traffic calming) • Average local match • Grantee perception of effectiveness of TLC funds in leveraging other funds ("TLC funds are often some of the first funds on the table")	Process and output
Effectiveness and efficiency	• Goal achievement: grantee perception of the effectiveness of capital projects in furthering each TLC goal capital (note: top result was sense of place and quality of life) • Grantee perception of which types of projects most/least effectively meet TLC goals (note: before and after statistics were not measured, so only perception could be used as a measure)	Process (strategic as well as tactical)
Private development activity	Housing Incentive Program (HIP) • # projects funded • # new housing units • % affordable • Distance of improvements from housing project (adjacent, within 1/2 mile, further)	Output
Effectiveness and efficiency	• % of grantees stating HIP grant in facilitated the permitting process and provided a positive incentive (v. provided a reward) • Grantee perception of key challenges to HIP being an adequate incentive • Grantee perception of whether the requirements were "realistic"	Process (strategic as well as tactical)
Additional information		
"Ten Years of TLC: An Evaluation of MTC's Transportation for Livable Communities Program"[183] also provides an outline of the measures that the evaluators would have liked to use if the data were available. "Financing Transit Oriented Development in the San Francisco Bay Area: Policy Options and Strategies"[184] provides a list of recommended new performance measures for TLC, along with potential data sources.		

[183] *Ibid pp9-10.*
[184] *Reconnecting America, "Financing Transit Oriented Development in the San Francisco Bay Area: Policy Options and Strategies," August 2008, Appendix A.*

About the Author

Ms. Fabish works as a management consultant to the transportation industry. She has had the pleasure of working across multiple modes, including transit, aviation, and high speed rail. Prior to turning her focus to transportation Ms. Fabish worked for more than a decade consulting to commercial, not-for-profit, and government clients across multiple sectors, including energy, technology, financial services, health, security, telecommunications, agricultural products, automotive, and education. Her work has spanned a broad range of functions, including strategy, organization, financial management, risk management, mega-project management, and operations.

Prior to her studies at the Mineta Transportation Institute, Ms. Fabish earned degrees from Yale University (Master in Business Administration) and Tufts University (Bachelor of Arts in Sociology) and she is certified through the Project Management Institute as a Project Management Professional.

Ms. Fabish loves exploring new cities and towns and discovering what makes each one uniquely livable. She has lived or worked in nearly every region of the US as well as Europe, Africa, and Asia. Someone once told her that home is where you've lived more than once. For her that is Silicon Valley, where she finally decided to settle.