

CHAPTER 11: COMMUNITY INDICATORS

As part of this comprehensive housing needs assessment, Oakland County asked the research team to compile information on indicators that it could use to track housing conditions and housing affordability. This chapter of our report presents the results of our work on this topic. It begins with an overview of community indicators where we discuss why they are important and identify critical considerations for those attempting to assemble a useful set of community indicators. The chapter proceeds by discussing specific indicators. We begin with housing indicators, as they are the most pertinent to this report. This presentation includes an assessment of various data sources available for measuring these indicators. We continue by presenting broader indicators of community conditions and quality of life. We also present indicators that go beyond basic housing and community development issues, but might be of interest to the county. We end our discussion of specific indicators by examining whether or not the large set of indicators that could be collected can be reduced to a more efficient set of indicators that still provides the type of information we desire to obtain.

To compile the information on community indicators we relied upon our foundation of existing knowledge, which includes work on a number of projects designed to collect, compile, and present usable indicator data. We also conducted literature reviews and web searches and consulted experts at Wayne State University and other institutions. Our focus was on compiling practical, usable information for both the immediate and long-term needs of the county and its stakeholders.

Overview of Community Indicators

The collection of community-level data for use in government decision-making has a long history in the United States. One need look no further than the U.S. Census for a prime example of such an effort with long historical roots. As time has progressed, decision-makers have become increasingly sophisticated in their collection and use of indicator data. In fact, there has been approximately three and half decades of research done on the topic of indicators (Campbell & Converse, 1972; Rossi, 1972). However, it has only been recently that the focus of this research has changed from that of large areas (e.g. metropolitan regions or cities) to smaller areas, such as neighborhoods (Sawicki & Flynn, 1996). This push to generate and utilize indicator data at the neighborhood level is driven by a multitude of forces, including increased mobility of residents and businesses, increased competition for residential and business investment, growth in the number of stakeholders involved in neighborhood preservation and revitalization, improved understanding of the dynamics related to neighborhood transition, and growing sophistication of interventions for improving neighborhood stability. One of the most critical factors enabling these forces to drive utilization of indicator data is the explosion in technology that makes it easier to gather, compile, track, analyze, distribute, and present indicator data in a timely and usable format.

Indicators can be used for a variety of purposes. Most obviously, they can be used to provide a snapshot of physical, social, and economic conditions in a community. These basic snapshots can be used for annual reports, marketing materials, and public relations campaigns. While such uses can be important, indicators can serve a much greater purpose when they are used to critically examine community conditions to determine when interventions by the public, private,

or nonprofit sectors might be warranted to alleviate problematic conditions or take advantage of new opportunities. Indicators can also be used to assess the impact of interventions when they do occur by enabling measurement of changes in communities where interventions have taken place. In these ways, indicators help to improve decision-making among private, public, and nonprofit organizations so that they can better serve communities.

Critical Issues Related to Community Indicators

Before discussing specific indicators, it is important to understand some critical issues related to selecting and utilizing indicators. There are numerous issues to consider when using indicators. Many of these relate to statistical and other analytical procedures and are beyond the scope of this report. In this section we discuss the following four issues that are particularly relevant:¹

1. Distinguishing between objective and subjective measures;
2. Validity and reliability of measures;
3. Indicators as predictive (i.e. lead) indicators vs. primarily descriptive (i.e. lag) indicators; and
4. Level, frequency, and practicality of data measurement.

Objective vs. Subjective Measures: A Critical Distinction

There are many distinctions that are important when deciding what indicators to track. One of the most important is the distinction between subjective and objective measures. *Subjective measures/data are dependent upon an individual's mindset, attitude, and/or perceptions.* Their values are driven by a multitude of personal experiences that unavoidably vary by individual. They measure a "subjective reality," a person's interpretation of their reality. As such, the value of a subjective measure can vary drastically between two people even though the reality surrounding the two people is the same. Customer satisfaction is an example of a subjective measure. Two people can be provided exactly the same level of service by a company (i.e. their external reality of level of service is identical), but their level of satisfaction with that service will vary based upon their personal opinion, which is largely driven by their expectations. Someone expecting a very low level of service might be pleasantly surprised to receive a moderate level of service and, consequently, provide high customer satisfaction ratings. Someone expecting a high level of service might give the same moderate level of service a low satisfaction ranking.

In contrast, objective measures/data are those that are based upon actual, observable, universally accepted realities uninfluenced by personal opinion, biases, etc. Objective measures should yield similar results across individuals or communities. Employment level is an objective measure. It results from an actual count of the number of people employed in a community. People

¹ We wish to note two other issues of importance. The first is whether the indicator measures changes in characteristics of the geographic areas versus changes in the condition of the population living in the areas. Area changes brought about by movement of the population (e.g. wealthy replace poor) are quite different from changes brought about for the existing population (e.g. the poor increase their income). The second, which is related to the first, is the importance of tracking changes in population by subpopulation. Changes for the population as a whole might not be shared by all racial, ethnic, age, or income groups.

can disagree on the acceptability of a given employment level or have vastly different levels of satisfaction with their jobs, but the actual level of employment is an objective reality that all can agree on.

The distinction between subjective and objective data is critical for at least three reasons.

1. Interpreting subjective measures is often more complicated than interpreting objective measures;
2. Contrary to common perceptions, subjective measures are sometimes preferable to objective measures; and
3. Both subjective and objective measures can be quantitative (i.e. numerical).

Interpreting Subjective Measures is More Complicated than Interpreting Objective Measures. Since subjective measures can vary by individual and time, differences in values may not reflect real differences in the phenomenon that you are trying to measure. For instance, the measures of customer satisfaction resulting from our example above might be interpreted as an indication that each customer was provided a different level of service. Customer service managers might decide that intervention was necessary to ensure a consistent level of service for all customers. Yet, in our example, the customers were already provided consistent levels of service. Thus, such interventions might not cause the satisfaction levels to change. Looking at our customer satisfaction level differently, we might find that as a result of receiving unexpectedly high service the customer who gave a high ranking for customer satisfaction increases her expectations for future service delivery. If so, even if she is provided the same level of service in the future, her customer satisfaction rating for that service might be lower. The change would reflect a change in the customer's expectations/opinion over time rather than a change in the level of services provided.

In contrast, changes in the values of objective measures tend to reflect real differences in the phenomenon they are designed to measure. For instance, a change in the employment measure from 500 individuals to 535 individuals would reflect a real increase in the number of individuals employed. The result is not contingent upon beliefs, opinions, or personal interpretations. *Thus, those using indicators must be aware of whether or not they are using subjective or objective measures to ensure that they interpret those measures correctly.*

Subjective Measures Are Sometimes Superior to Objective Measures. The preceding example demonstrates that objective measures are sometimes preferable to subjective measures. Yet, people often mistakenly assume that subjective measures are always inferior to objective measures. In reality, subjective measures are sometimes preferable. For example, anyone who runs a business can quickly learn that the actual level of service provided is not necessarily as important as the customers' perception of the service. If customers do not perceive services as being high quality they may buy their services from another business even though your service levels are high. Once we understand that customer satisfaction measures the customer's perception of the service, rather than actual service level we realize that customer satisfaction may be a more important indicator for a business than some objective measure of actual service levels, because it is the perception of the service that determines whether or not customers will return for future services.

As we discuss later, subjective measures can be especially valuable for measuring phenomena such as neighborhood satisfaction or quality of life, both of which can be critical community indicators.

Both Subjective and Objective Measures Can be Quantitative. Often, people assume that since subjective measures are often qualitative (non-numerical) they cannot be presented in numerical form. Likewise, they assume that only objective measures can be numerical. This creates two problems. First, those operating under such assumptions may assume that even though a subjective measure is preferred for a particular indicator, gathering data and reporting such a measure is too impractical. Second, people who assume that subjective measures cannot be presented numerically may assume that all numerical measures are objective. Consequently, they may assume that a subjective measure is actually objective and fail to interpret it correctly.

Again, we can use customer satisfaction to illustrate this point. Often, customer satisfaction surveys will ask respondents to rank their satisfaction on a numerical scale (e.g. 1 to 5) with each number corresponding to a particular level of satisfaction (e.g. 1 = very low satisfaction and 5 = very high satisfaction). Those gathering the customer satisfaction rankings can then compare the rankings across time, target markets, or services to determine true differences in service levels. They can also apply specific statistical techniques that are dependent upon certain types of numerical data.

Validity and Reliability: Measuring the Right Thing and Doing it Consistently

Validity and reliability are two fundamental concepts in the world of data collection and analysis. *Validity refers to whether or not you are actually measuring what you intend to measure.* This seems like a no-brainer, and it often is. Yet, it deserves special attention when selecting indicators and the tools used to gather data to measure those indicators. We need look no further than our customer service example to understand how easily validity can be violated. Recall that the customer satisfaction survey was identified as a measure of the customer's perception of service and how it related to her expectations. The survey is a valid measure of this phenomenon. However, the casual user might view the satisfaction survey as an assessment of actual service levels and interpret differences in satisfaction as an indicator of differing levels of service. As we discussed, this would be an inappropriate use of the survey data. In other words, the survey would not be considered a valid measure of actual level of service.

Reliability refers to the consistency of the measure. In other words, a reliable measure will consistently produce the same result when the value of the underlying phenomenon does not change. There are many factors that can influence reliability, and reliability is often a greater concern for subjective measures than for objective measures. For example, decision-makers might desire to use the physical condition of housing as a community indicator. Since no readily available measure of physical condition exists, they may create a survey to collect the data. If such a survey relies upon aesthetic considerations (e.g. the color of a house), which are inherently subjective (i.e. people inevitably disagree on the attractiveness of certain colors) then the results of the survey will not be very reliable. A person who likes pink may rate the condition of a pink house high, while someone who dislikes pink will rate it low. As such, the rating will be different even though the underlying phenomenon (i.e. condition of the house) did not change.

There are several methods available for assessing validity and reliability, and these issues are addressed most easily by selecting indicators that rely upon measurement tools that have been tested and proven to be valid and reliable (e.g. U.S. Census). The critical issue is for those selecting indicators to consider validity and reliability and at least give it a “smell test” to see if it creates obvious validity or reliability problems. These issues will be most relevant when indicators require the users to create a new instrument or rely on an untested instrument for measurement.

Lead vs. Lag Indicators

Another important distinction for indicators is whether the indicator is a lead or a lag indicator.² *Lead indicators serve a predictive purpose.* Changes in lead indicators enable users to predict changes in related variables. For example, in the world of economics, measures such as factory orders for durable goods or building permits are considered lead indicators of future economic growth.³

Lag indicators are indicators that primarily describe the results of a phenomenon. They tend to represent the thing that is the ultimate goal for the people utilizing the indicators. In essence, leading indicators are intended to predict the results of lagging indicators. Using our example from economics, growth in orders for durable goods (a lead indicator) may predict a future drop in unemployment levels (a lagging indicator). Referring back to the customer service example, improved customer satisfaction might be a lead indicator for future sales growth (a lag indicator).

Whether an indicator is a lead or lag indicator depends upon how it is used. In some cases, the same indicator can be a lead or a lag indicator. It simply depends upon what you are trying to assess with the indicator. For example, housing cost burden (i.e. the number/percentage of households paying more than 30% of their income on housing cost) shows the end results of a mismatch between housing costs and income. As such, it can be a lag indicator of problematic increases in housing cost or decreases in income. However, since housing cost burden measures the extent to which households are having problems accommodating their housing costs, it may be a lead indicator of mortgage or tax foreclosures or housing abandonment.

When deciding on a set of indicators, it is advisable to utilize both lead and lag variables. Often our goal with indicators is prediction, to create early warning systems for problems or identify new opportunities. As such, we might bias our set of indicators towards lead indicators. Yet, we also need lag indicators to determine whether or not the lead indicators are legitimate. Moreover, often a predictive/lead indicator simply is not readily available. In such cases, we must rely on lag indicators as our next best option. Lag indicators can be useful in such cases to identify existing (rather than predict potential) conditions that warrant attention. Even though they do not

² Indicators can also be “coincident,” meaning they occur at the same time the phenomenon that you want to measure is occurring. To simplify the presentation, we have omitted discussion of this category of variables.

³ Readers must be careful not to confuse prediction with causation. Although changes in a particular variable may correctly predict changes in another variable, it does not mean that the changes in the first variable *caused* the change in the second. Instead, it simply means that the two variables are related (i.e. correlated) in some way. For example, it may be that changes in both of these variables are caused by changes in a third variable that was not measured.

enable us to take action to prevent the condition from occurring, the lag indicators can enable us to take actions to reverse the condition or prevent it from becoming worse.

Level, Frequency, and Practicality of Measurement

The level, frequency, and practicality of measurement are three criteria that must be considered when selecting a set of indicators. Level of measurement refers to the unit of analysis for the measurement. For example, does the indicator measure data at the state, county, or city level. The higher the level (i.e. larger the unit of analysis), the greater the availability of data. This often poses challenges for neighborhood-level analysis. Sometimes data simply are not available at the level we want to measure. So, those selecting indicators must determine whether or not the data are available at the desired level and, if not, whether or not analyzing the data at the higher level will still be useful.⁴

The frequency of measurement (a.k.a. periodicity) refers to how often the data related to the measurement are available. In order to be useful, data for an indicator must be provided frequently enough to enable timely response to problems or opportunities. The United States' decennial census is one of the most common sources of data for community indicators. Yet, much of this data is only available every ten years. Including indicators that rely upon this data is valuable, but such indicators will not be especially useful for re-orienting policies or other actions on an annual basis. Thus, decision-makers must examine the frequency of data availability before selecting indicators.

Practicality of measurement refers to a wide array of issues that determine how easy or difficult it is to gather, compile, and analyze the data required for a particular indicator. Critical issues to consider related to practicality include whether or not the data are already collected by another party, whether or not previously tested tools are available for gathering the data, how many staff resources are required to make the data usable, and what the financial cost of the data is.

Data that are assembled by the U.S. Census Bureau are usually extremely practical. Users do not have to gather the data, nor do they have to engage in sophisticated analyses to assess data validity or reliability. Moreover, the Census Bureau makes most of the data readily available for free in electronic format and many data users have become adept at analyzing the data. On the other hand, indicators that are based on subjective measures and have no readily available tool for data collection are less practical. Using such indicators might require users to design a survey to collect the data. They would have to test the survey for validity and reliability and administer the survey and compile the survey results, both of which are resource-intensive.

Of course, the practicality of measurement associated with many indicators falls in between these two extremes. For example, Oakland County already collects an extensive amount of administrative data for tax and community planning purposes. While some resources might be needed to compile the data and report it in a usable format, the data collection piece is already in-place. As another example, some subjective measures that rely upon resident surveys may require

⁴ To be most useful, many of the indicators must be measurable at the county, local, and neighborhood level. Generally, neighborhood level measures can be aggregated to create local and county-level measures. Users that rely primarily on county- or local-level measures may miss important dynamics occurring at the neighborhood level which, if not addressed, will lead to changes at the local or county level in the long-term.

some county resources to administer the survey, but various surveys have already been designed and tested by other parties and proven to be useful for measuring important variables. Thus, the county would not need to allocate resources to designing and testing a data collection tool.

Housing Indicators

This section focuses on indicators that are most relevant to housing. The indicators presented were compiled based upon our research team's experience in previous housing research, reviews of academic and practitioner articles on housing and community development, and discussions with academic experts. Although less relevant here than in our subsequent presentations of indicators, sources that proved particularly useful for identifying indicators include Diener & Suh (1997); Sawicki & Flynn (1996); the Glendale, CA Quality of Life Project Report (City of Glendale, 2002), the Baltimore Neighborhoods Indicators Alliance (BNIA, 2005), the Urban Institute's Neighborhoods and Health project (Pettit, et al., 2003), a study of subjective quality of life indicators by Diener and Suh (1997), and a table of indicators produced by Dr. David Martin from the Center for Urban Studies as part of his on-going Taking Stock of Neighborhoods research project.

We begin our discussion of housing indicators by presenting a list of the underlying phenomena that indicators would be designed to measure (Table 11.1). Under each phenomenon we identify the types of issues that can be better understood by measuring the phenomenon. For each phenomenon the need for government, nonprofit, or private-sector intervention to address problems/opportunities suggested by the indicators is an important goal. Most of the information that we present on specific housing and other indicators is provided in tables so as to provide one place for accessing the information and avoid lengthy narratives.

In the next table (Table 11.2) we present various indicators that can be used to measure each phenomena addressed in Table 11.1.

Table 11.1. Categories of Housing Phenomena to be Measured by Housing Indicators

Phenomena to be Addressed by Housing Indicators
<p>1) Availability of Housing (current and potential) (by type)</p> <p>Assessing the current and potential availability of housing helps us understand:</p> <ul style="list-style-type: none"> - The ability of the community to accommodate future growth. - The types of households that might be most attracted to the community households (based on the style of homes available). - The need to alter zoning and/or land use plans to accommodate (or limit) new housing. - Potential mismatches between services available and demand for services. - The need for intervention to prevent decline in areas with surplus availability. - The potential for future affordability problems.
<p>2) Availability of Housing Financing (by type of financing)</p> <p>Assessing the availability of housing financing by type helps us understand:</p> <ul style="list-style-type: none"> - The extent of constraints faced by households (by income group) desiring to move into (or out of) a community. - The ability of developers/builders to accommodate demand through new housing production or subdivision of existing units. - The ability of households to maintain or improve housing through home equity or home improvement loans. - Problematic lending practices, such as predatory lending or excessive subprime lending. - The potential for future affordability problems.
<p>3) Affordability of Housing (by income group and housing type)</p> <p>Assessing the affordability of housing helps us understand:</p> <ul style="list-style-type: none"> - The ability of people of varying income groups to access housing in the community. - Financial attractiveness of the community to current and future residents. - Potential constraints on (or opportunities for) economic growth (via decreases/increases in disposable income). - Financial burdens limiting household and individual opportunities for personal and economic growth. - Constraints on households' ability to maintain/improve homes. - Potential for foreclosure and abandonment.
<p>4) Quality of Housing Stock</p> <p>Assessing the quality of the housing stock helps us understand:</p> <ul style="list-style-type: none"> - The potential for retaining and attracting residents. - The need for intervention to address blighting influences. - The potential for increase or decline in tax base, via taxable value. - The need to intervene to remove unsafe/dangerous housing. - The potential for financial interventions to stimulate spillover investment by owners. - Potential problems with availability of financing.

Phenomena to be Addressed by Housing Indicators

5) Household Demographics

Assessing household demographics helps us understand:

- The potential for retaining and attracting residents.
- Potential changes in housing demand/need.
- Potential for neighborhood stability.
- Potential for residents to maintain/improve properties.
- Need for current or future changes in services to meet changing needs of households.
- Potential problems with availability of financing.

6) Housing Market

Housing market inevitably overlaps with the other five phenomena. It is often where we see the results of the interaction of the other phenomena, but examining certain aspects provides distinct benefits. Specifically, it helps us understand:

- Neighborhood stability and/or turnover.
- Potential for changes in service demands.
- Attractiveness of the community relative to other communities.
- Changes in neighborhood quality.

Table 11.2. Specific Housing Indicators

<i>Indicator</i>	<i>Source of Data for Indicator</i>
PHENOMENON: AVAILABILITY OF HOUSING	
▪ Number of Housing Units (by type, size, and single-family vs. multifamily)	▪ Decennial U.S. Census, American Community Survey ▪ County/local assessor/equalization files
▪ Number of Housing Units in Pipeline (by type, size, and single-family vs. multifamily)	▪ County/local building permit data ▪ County/local planning departments
▪ Vacant Housing Units (total, by type, and as ratio of units)	▪ Decennial U.S. Census, American Community Survey ▪ Community-level surveys of residents and/or landlords/property managers
▪ # of home sales (total, by type, and as ratio of units)	▪ County/local assessor's office ▪ County Register of Deeds ▪ Private data vendors (e.g. DataQuick, Realcomp, etc.)
▪ Capacity to Accommodate New Housing Units	▪ County Planning Department's analysis of development capacity based on current and planned land use
▪ Population Change (actual/projected)	▪ Decennial U.S. Census, American Community Survey ▪ SEMCOG Regional Development Forecast ▪ Birth/death data from county clerk combined with housing sales/construction data and statistical estimation procedures
▪ Owner vs. rental units	▪ Decennial U.S. Census, American Community Survey ▪ County/local assessor/equalization files (for multifamily properties and a match of taxpayer address to property address for single-family properties)
▪ # of rehabbed units (total, by type, and as ratio of units)	▪ County/local permit data and/or assessor data
PHENOMENON: AVAILABILITY OF HOUSING FINANCING	
▪ # of home loans by type and census tract (total and as ratio of owner units)	▪ Home Mortgage Disclosure Act (HMDA)
▪ \$\$ amount of home loans by type and census tract (total and average/median)	▪ HMDA
▪ Home mortgage approval rates	▪ HMDA
▪ # of home sales (as indirect indicator of housing financing) (total, by type, and as ratio of units)	▪ County/local assessor's office ▪ County Register of Deeds ▪ Private data vendors (e.g. DataQuick, Realcomp, etc.)
▪ # of home loans by subprime lenders (by type of loan)	▪ HMDA data mined for activity of lenders identified on HUD's subprime lender list
▪ Number and \$\$ volume of loans for new construction	▪ Actual data from lenders ▪ Interviews with builders/lenders
PHENOMENON: AFFORDABILITY OF HOUSING	
▪ Households with Cost/Severe Cost Burden	▪ Decennial U.S. Census, American Community Survey ▪ CHAS data from HUD ▪ Resident survey
▪ Median Rent	▪ Landlord survey
▪ Median Sales Price of Homes	▪ County/local assessor data ▪ County Register of Deeds ▪ Private data vendors (e.g. DataQuick, Realcomp, etc.)

Indicator	Source of Data for Indicator
▪ Land price per acre	<ul style="list-style-type: none"> ▪ County/local assessor data (sales compiled to enable analysis of properties w/o structures on them or w/structures that will be torn down) ▪ County Register of Deeds (sales matched to parcels and compiled to enable analysis of properties w/o structures on them or w/structures that will be torn down)
▪ Median Mortgage Value	▪ HMDA
▪ Home mortgage approval rates	▪ HMDA
▪ Property Tax Burden (average or median)	▪ County/local assessor data
▪ Home owner insurance burden (average costs)	▪ Michigan Insurance Commission
▪ Availability (#, location, and type) of subsidized housing	<ul style="list-style-type: none"> ▪ MSHDA subsidized housing directory (downloadable from MSHDA website) ▪ Local public housing commissions
▪ # of Section 8 vouchers/units	<ul style="list-style-type: none"> ▪ Local public housing commissions ▪ HUD
▪ # of expiring Section 8 units	▪ HUD list of expiring Section 8 contracts (downloadable from www.huduser.org)
▪ Waiting list for Section 8 vouchers (# on list, average wait time)	▪ Local public housing commission
▪ # of applications for subsidized housing (overall and for special needs)	<ul style="list-style-type: none"> ▪ Local public housing commissions ▪ MSHDA ▪ Landlord survey ▪ Survey of nonprofit housing/service providers
▪ # and \$\$ amount of mortgage foreclosures (total and as ratio of units)	▪ County Register of Deeds
▪ # and \$\$ amount of mortgage delinquencies (total and as ratio of units)	▪ Oakland County Legal News
▪ # and \$\$ amount of tax foreclosures (total and as ratio of units)	<ul style="list-style-type: none"> ▪ County Register of Deeds ▪ County Treasurer
▪ # and \$\$ amount of tax delinquencies (total and as ratio of units)	<ul style="list-style-type: none"> ▪ County Register of Deeds ▪ County Treasurer
▪ Prevalence of utility arrears	▪ DTE Energy
▪ Requests for utility assistance	<ul style="list-style-type: none"> ▪ DTE Energy ▪ Heat and Warmth Fund ▪ Survey of housing/public assistance providers
▪ # of homeless	<ul style="list-style-type: none"> ▪ Survey of homeless shelter/service providers ▪ Street-level count of homeless
PHENOMENON: QUALITY OF HOUSING STOCK	
▪ # and \$\$ amount of home improvements (total and as ratio of units)	<ul style="list-style-type: none"> ▪ County/local planning/building inspectors (permit data) ▪ County/local assessor's offices
▪ # housing code violations (total and as ratio of units)	▪ County/local building inspector data
▪ Inferior housing conditions	▪ HUD's American Housing Survey
▪ Incomplete plumbing/kitchen facilities	<ul style="list-style-type: none"> ▪ Decennial U.S. Census. American Community Survey ▪ HUD's CHAS datasets
▪ Overcrowding	<ul style="list-style-type: none"> ▪ Decennial U.S. Census, American Community Survey ▪ HUD's CHAS datasets

Indicator	Source of Data for Indicator
▪ Need for repair measurement	<ul style="list-style-type: none"> ▪ HUD's American Housing Survey ▪ Windshield survey of housing conditions (WSU survey methodology) (see below)
▪ Residential perception on housing quality	<ul style="list-style-type: none"> ▪ Resident survey
PHENOMENON: HOUSEHOLD DEMOGRAPHICS	
▪ Household Income	<ul style="list-style-type: none"> ▪ Decennial U.S. Census and updates, American Community Survey ▪ Resident Survey ▪ Income tax data (City of Pontiac)
▪ Poverty Levels	<ul style="list-style-type: none"> ▪ Decennial U.S. Census and updates (persons below poverty line), American Community Survey ▪ Welfare/food stamp utilization stats from Michigan Department of Human Services ▪ Federally subsidized school lunch program participation (USDA/US DoED) ▪ Resident Survey
▪ Individual Bankruptcies	<ul style="list-style-type: none"> ▪ Court documents
▪ Age of Households/Population	<ul style="list-style-type: none"> ▪ Decennial U.S. Census and updates, American Community Survey ▪ SEMCOG Regional Development Forecast ▪ Resident Survey
▪ # of children in households	<ul style="list-style-type: none"> ▪ Decennial U.S. Census and updates, American Community Survey ▪ Resident Survey
▪ Education level of residents	<ul style="list-style-type: none"> ▪ Decennial U.S. Census and updates, American Community Survey ▪ Data from local school districts ▪ Resident survey
▪ Race/ethnicity of population/households	<ul style="list-style-type: none"> ▪ Decennial U.S. Census and updates, American Community Survey ▪ Resident Survey
▪ Racial/ethnic segregation (dissimilarity and exposure indices)	<ul style="list-style-type: none"> ▪ Decennial U.S. Census and updates, American Community Survey ▪ Resident Survey
▪ Age of population/households	<ul style="list-style-type: none"> ▪ Decennial U.S. Census and updates, American Community Survey ▪ SEMCOG Regional Development Forecast ▪ Resident Survey
▪ Size of Households	<ul style="list-style-type: none"> ▪ Decennial U.S. Census and updates, American Community Survey ▪ SEMCOG Regional Development Forecast ▪ Resident Survey
PHENOMENON: HOUSING MARKET	
▪ # of home sales (total, by type, and as a ratio of units)	<ul style="list-style-type: none"> ▪ County/local assessor's office ▪ County Register of Deeds ▪ Private data vendors (e.g. DataQuick, Realcomp, etc.)
▪ Median Sales Price	<ul style="list-style-type: none"> ▪ County/local assessor's office ▪ County Register of Deeds ▪ Private data vendors (e.g. DataQuick, Realcomp, etc.)

Indicator	Source of Data for Indicator
▪ # of days homes stay on market	▪ Board of realtors ▪ Private data vendors (e.g. DataQuick, Realcomp, etc.)
▪ # of home loans by type and census tract (total and as a ratio of owner units)	▪ HMDA
▪ Home mortgage approval rates	▪ HMDA
▪ Owner vs. rental units	▪ Decennial U.S. Census, American Community Survey ▪ County/local assessor/equalization files (for multifamily properties and a match of taxpayer address to property address for single-family properties)
▪ Vacant Housing Units (total, by type, and as ratio of units)	▪ Decennial U.S. Census, American Community Survey ▪ Community-level surveys of residents and/or landlords/property managers
▪ Median Rent	▪ Landlord survey
▪ # and \$\$ amount of mortgage foreclosures (total and as ratio of units)	▪ County Register of Deeds
▪ # and \$\$ amount of mortgage delinquencies (total and as ratio of units)	▪ Oakland County Legal News

Commentary on Data Sources

As discussed at the beginning of this chapter, there are several factors that make certain data sources preferable to others. In this section, we provide some preliminary insights on strengths and weaknesses of many of the data sources identified in the preceding table. Specifically, we address the validity, reliability, level, frequency, and practicality of the sources. Before addressing specific measures, it is important to note that data sources which might be available for the indicators listed above, but have low rankings on three or more of these criteria or extremely low rankings on any one of the criteria were intentionally excluded from the table above.

Our discussion shows that the county has many of the most critical and highest quality data sources available at its fingertips through its various administrative agencies. Oakland County is well ahead of many communities in terms of data quality, availability, and sophistication. Actively utilizing the available administrative data for community indicators can be valuable both for policy decision making and ensuring support for the continued maintenance and improvement of the County's data collection and reporting systems.

U.S. Census (Decennial). The decennial U.S. Census is one of the most reliable and valid sources of data available. Validity and reliability vary somewhat depending upon the variable being measured (and how the user interprets/applies the data). Any variables measured through data collected from the Census Bureau's short-form (e.g. population, number of households, age of householders, homeownership, household size) are considered extremely valid and reliable, because they represent what the Census Bureau considers to be a 100% count (i.e. all households are sent the short form). Variables measured through the long form (e.g. income, occupation, etc.) score lower on validity and reliability, because the long form is only sent to a sample of the population and totals for the entire population are created using statistical estimation procedures. Still, even the sample data score extremely high on validity and reliability, because of the rigorous standards and

testing done by the Census Bureau. Decennial census data have been tested for validity/reliability more than any other source identified in the table.

This source also scores high for level of data, because most of the variables we are interested in for indicators are measured at the census tract, block group, or block level. This means the data can be analyzed for areas of relatively small geographic size. It is worth noting that census tracts, which are one of the most common levels for neighborhood analysis, often do not correspond well with some neighborhood boundaries. But, often, census tract data are the best available.

Decennial census data are widely available in a variety of paper and electronic formats and countless software programs have been developed to tabulate census data in easy to use formats. A casual user of the internet can easily download seemingly endless census data by tract and import the data directly into Excel, SPSS, and mapping software. Thus, the practicality of this data source is very high.

The main weakness of this data source is the frequency of measurement. Since the data are only gathered every ten years, their utility drops dramatically towards the end of a census cycle. Even when the data are new, they take time to assemble and report. Thus, it can be two to three years between the collection of data and its distribution.

Census Updates. The Census Bureau offers updates of various measures provided through the decennial census. This helps overcome the frequency of data limitation just described. The population estimates and projects are most relevant to the indicator list presented here. These measures are still highly valid, reliable, and practical, but less so than decennial census data, because they are based upon estimation models, not 100% counts. A primary limitation of these data sources is their level of measurement. Because they are generated by applying estimation models to decennial census data (and some additional data gathered between census years) often the estimates are generally provided only at the county level and/or not especially reliable at the neighborhood level.

It is also worth noting that various private companies (e.g. Claritas) create their own updates to decennial census data using a variety of data inputs and estimation models. In all cases, users must pay to access the data. In some cases, the data are quite useful. However, the data are least useful for small areas of analysis (e.g. neighborhoods or census tracts). They also tend to be least useful for areas that are experiencing change. Thus, these private company updates to decennial census data would not be especially useful for documenting changes in community indicators.

American Community Survey. For the past several years, the Census Bureau has been gathering critical community data through the American Community Survey (ACS). Basically, the ACS entails collecting data similar to that collected through the decennial census's long-form. The data are collected annually. The plan is for the ACS to eventually replace the long-form census questionnaire. When the ACS is fully implemented, it will provide indicator data with the high validity, reliability, and practicality measures of decennial census data and the updates. Yet, it will also have high rankings for frequency and level of measurement. State, metropolitan area, and county-level data similar to that provided through the decennial census SF3 file (long-form responses) will be available annually. Census tract level data will take five years to produce

initially, but will be provided annually (in the form of changing five year averages) beginning year six. Ultimately, the ACS will be a one-stop source for many of the variables identified in the indicator table. At this point, the future of the ACS is uncertain. Congressional support for funding has been mixed, at best, and recent declines in federal revenue do not bode well for the ACS. Presently, Oakland County ACS data is only available at the county level.

Comprehensive Housing Affordability Strategy (CHAS). CHAS data are created by the Census Bureau for the U.S. Department of Housing and Urban Development (HUD), which makes the data available for community (especially housing) planning purposes—specifically, generation of the HUD Consolidated Plan. The data are generated from special tabulations of decennial census data. Thus, they have the same basic ratings for the measurement criteria that the census data have, with some minor distinctions. First, CHAS provides some measures not available through standard decennial census data (e.g. cost burden). Thus, CHAS is a more valid source than the decennial census for estimating certain housing conditions. Second, because CHAS data come from decennial census data, the delay between data collection and data availability is even greater for CHAS than for decennial census. Finally, the practicality of CHAS data is somewhat lower than decennial census data. It is downloadable in large datasets or pre-fabricated tables from HUD’s website. Tabulating figures for some communities, such as CVTs as we did for this report, requires a fairly extensive amount of manipulation. However, once the standard syntax files are created, the data can be manipulated fairly easily.

Home Mortgage Disclosure Act (HMDA). Passed by the U.S. Congress in 1975, HMDA requires lending institutions that meet certain requirements to report information on the volume and dollar amount of loan activity by census tract.⁵ According to the Federal Financial Institutions Examination Council (FFIEC), which manages and distributes HMDA data, the information is designed to assist in determining whether lending institutions are serving the housing needs of their communities, help public officials in distributing public-sector investments so as to attract private investment to areas where it is needed, and help communities identify possible discriminatory lending patterns among institutions.⁶ According to the FFIEC, 8,121 financial institutions reported approximately 41.6 million loan records nationwide for calendar year 2003.⁷ HMDA data identify the number and type of loans (e.g. conventional purchase, non-conventional purchase, home improvement, refinance, loans for multifamily buildings, and loans to landlords) applied for and originated by census tract. The data also provide special analysis of loans by the racial and economic characteristics of the tract. Data are available for all loans in the county/census tract, as well as loans made by specific lenders.

⁵ Financial institutions must report to the federal government via HMDA if they meet the requirements of a certain asset size, physical location of offices, and the number of loans made annually. The government holds banks to a higher standard than non-depository institutions. Non-depository institutions do not have to report if they have an asset size less than \$10 million or if they have made less than 100 loans in a given year. This is a significant variable. For example, in a study of home loans in Durham County, North Carolina in 1996, the NeighborWorks Organization found that two out of every three loans made within the county were not reported to HMDA due to the loopholes in the reporting guidelines. 92% of these unreported loans were from mortgage and finance companies, rather than depository institutions (Skillern, Peter and Jeanette Bradley. *Exposing the Hidden Problem of Predatory Lending*. Found at: http://www.nw.org/network/pubs/studies/documents/skillern_bradley.pdf. Last accessed on 04.26.05).

⁶ Federal Financial Institutions Examination Council. *Home Mortgage Disclosure Act*. Found at: <http://www.ffiec.gov/hmda/history.htm>. Last accessed on 04.26.05.

⁷ HMDA data can be found at www.ffiec.gov/hmda/default.htm and is available to the general public at no cost.

In spite of limitations on the number and type of institutions reporting (see previous footnotes), HMDA data score high on validity (except for home improvement lending) and reliability.⁸ They also score high on frequency and practicality of measurement. Most critical data are available at the census tract level and by individual financial institution, and the data can be downloaded from the web or purchased on CD. There are some timing delays in the release of HMDA data. For example, as of July of 2005, 2004 data were still not available. There are also some practical complications with the format of the electronic data. However, simple Excel macros can be written to transform the data from the format downloaded from the web or CD into a flat Excel or database file for easy statistical analysis and mapping.

American Housing Survey. “The American Housing Survey (AHS, formerly Annual Housing Survey) is the largest, regular national housing sample survey in the United States. The U.S. Census Bureau conducts the AHS to obtain up-to-date housing statistics for the Department of Housing and Urban Development (HUD)...The AHS contains a wealth of information that can be used by professionals in nearly every field for planning, decision making, market research, or various kinds of program development. It gives you data on apartments, single-family homes, mobile homes, vacant homes, family composition, income, housing and neighborhood quality, housing costs, equipment, fuels, size of housing unit, and recent movers. National data are collected every other year, from a fixed sample of about 50,000 homes, plus new construction each year. The survey started in 1973, and has had the same sample since 1985, letting you see homes and households changing over the years.”⁹

The AHS is a tremendous resource for housing data, and its validity and reliability ratings are pretty high. The frequency rating for AHS is moderate. Although the national survey is conducted annually, data for metropolitan Detroit is collected every four years. So, Oakland County data is available every four years. However, because of the sample size within metropolitan areas, the data are really most useful at the national and metropolitan area levels. Some variables simply are not reported for Oakland County, and those that are are really only useful at the county level. Thus, the level of measurement rating is low.

SEMCOG Regional Development Forecast. SEMCOG's Regional Development Forecast (RDF) provides population and household estimates by community at five-year intervals through 2030 and serves as the basis for long range regional planning. The forecasts combine decennial U.S. Census data with jobs data from the state employment agency and information provided by local government representatives regarding land availability, planned land use, short term development expectations, and sewer capacity plans. These data are integrated into sophisticated mathematical forecasting models to produce estimates of population and household change over three decades.

Once produced, these estimates are readily accessible through SEMCOG in an easy-to-use format for analysis at the local government level. Our chapter on land use and housing relied

⁸ Home improvement loan data has low validity, because many home improvement loans are issued through refinance loans. HMDA does not identify the purpose of refinance loans issued; so, a count of home improvement loans is not possible.

⁹ Description pulled from HUD User website (www.huduser.org/datasets/ahs.html). Last accessed September 10, 2005.

heavily on these forecasts. The validity and reliability of these forecasts are only as good as the validity and reliability of the data sources used for input, the forecasting model, and the assumptions underlying that model. An in-depth discussion of these factors is beyond the scope of this report. We make two main points here. First, whatever their limitations, the forecasts are presently the best available. Second, the numbers provided are only forecasts that, in spite of the sophistication of SEMCOG's process are subject to great uncertainty. So, for planning purposes (e.g. estimating sufficiency of development capacity relative to expected demand) this data source is probably the most useful. However, for indicators of current conditions, there are better sources, primarily those listed in this report and/or used by SEMCOG as the basis of their estimates.

Oakland County Administrative Data. A quick scan of the indicator list shows that administrative data from various county and/or local government agencies can be a data source for many of the indicators. County and local tax assessor offices, the Oakland County Register of Deeds, the Oakland County Treasurer, county and local planning offices, and local building inspector offices, and local public housing commissions are all listed as potential sources for important housing data (e.g. number and dollar amount of sales, mortgage/tax foreclosures, and tax delinquencies; housing unit counts; new housing construction; home repairs/improvements; development capacity; etc.). It is hard to over-emphasize how critical these data sources can be for tracking community indicators.

Data from several of these sources were used throughout this report. They provided essential information, much of which was not readily attainable through other means. Certainly, there are many other administrative datasets that we did not access, but could be accessed to assess housing or other community conditions (e.g. building permits, housing code violations, school enrollment data, county health data, etc.). Wherever possible, we have recommended county or local administrative datasets as a key source for indicators. With the ability to update these data on weekly, monthly, or at whatever intervals it sees fit, the county is in a unique position to have freely available to it data sources for measuring proven indicators of community conditions. Importantly, these data sources do not suffer from many of the pitfalls common to other data sources listed in the table. Collection and use is practical—most of the data are already collected, compiled, and reported regularly. Cost (at least marginal cost) is low, because at most minor modifications to collection or reporting procedures would be necessary to make the data useful for indicators. The collection/measurement processes are generally valid and reliable, certainly as valid/reliable as many other cited sources.¹⁰

Oakland County has at its fingertips the raw material to construct a number of indicators that can inform stakeholders about neighborhood health without any of the common pitfalls. Moreover, it has established and maintained a consistent process for compiling, disseminating and using the data for public and private decision-making. Our experience with this housing assessment indicated that while some work is required to make the county's data suitable for the required analysis, the

¹⁰ It is important to note that these data are not free from validity and reliability concerns. For example, inconsistency in tax assessment processes is a common complaint in communities throughout the country. Also, some data sources (e.g. building code violations) may be measuring enforcement more than they are measuring underlying conditions (i.e. property in disrepair). That said, minor adjustments to improve validity/reliability may be possible. More importantly, so long as the users of the data are aware of the limitations and do not draw inappropriately refined conclusions from them, the validity/reliability concerns should not pose major problems.

county's data is of a much higher quality and is easier to use than data provided by many other governmental institutions. Although the initial process of manipulating the data into a standardized, usable form takes some time, once the procedures are in place on-going changes would likely be minimal and the tracking of neighborhood indicators using administrative data would be relatively simple.¹¹ However, if the county chooses to utilize administrative data, we recommend that it closely examine the consistency/reliability of the procedures used to collect the data and modify procedures, as necessary to improve reliability.

Windshield Survey of Need for Repair. Momentarily, we discuss the variety of other data sources listed in the table. Because of our research team's considerable experience with windshield surveys of housing conditions we devote special attention to this potential data source now. As shown in the table, the American Housing Survey is the only highly reliable data source that consistently attempts to measure external housing conditions. However, this source is only updated every four years for Oakland County. Moreover, the data are only available at the county level, which limits their utility. County/local administrative data on repair/rehab permits and code violations can be useful for understanding housing conditions, but they offer only approximations of conditions. To regularly measure housing condition data at the local or sub-local level (e.g. neighborhood), on-the-street surveys must be conducted. These can be done by car (i.e. "windshield" survey) or on foot. Yet, such surveys can be highly unreliable and time consuming if not designed and implemented properly. Our research team, in conjunction with other components of the Center for Urban Studies has developed a valid and reliable survey instrument for measuring housing/property conditions. We have also developed a standardized in-class and on-the-ground training curriculum, as well as a state-of-the art data collection and reporting system that utilizes laptops, tablet computers, or PDAs linked to global positioning systems (GPS), digital photography, and tax parcel files to compile the necessary data at the individual parcel level. The system results in a numerical ranking of need for repair for various property components (e.g. roof, windows, exterior walls, etc.), as well as an aggregate ranking for the whole property. The system enables users to determine the extent of repair needed on individual properties and neighborhoods. It also enables users to understand if certain types of repairs (e.g. roof, paint, etc.) are needed more than others. We have successfully implemented this survey system in various neighborhoods throughout Wayne County and would be glad to discuss the potential for training county staff on the use of such a system.

Other Data Sources. The indicator table identifies a variety of other sources that could be used for one or two measures each. The validity, reliability, frequency and level of measurement, and practicality of these sources varies considerably. While we limited our list of sources to those that we have seen used in at least one community in the country, in some cases (e.g. market data from private lenders) the information may simply not be attainable. We encourage the county to limit the pursuit of data from these sources by focusing only on those that are considered vital and for which no viable alternative exists. Of special note is the use of surveys of residents, landlords, or organizations. In some cases, these surveys are the only way to acquire the data. To serve the

¹¹ Our description of necessary changes as minor is not intended to discount the likely political/turf concerns that might emerge when trying to secure the cooperation of agencies/offices that are run by elected officials who are not mandated to cooperate with one another. We simply mean to suggest that if cooperation of the appropriate officials is obtained, the need for changes in the technical/procedural aspects of data collection and reporting would be minor given the infrastructure that is already in place.

purposes of community indicators the surveys must be designed by those with some expertise in survey design and implementation. This can help ensure validity and reliability. Yet, this does not mean such surveys need to cost a lot of money. Often, once the survey is designed, it can be used repeatedly without any re-design. Moreover, surveys only need to be administered to a sample of residents, not all residents. Finally, such surveys can also be great for measuring non-housing indicators (see section below) that simply cannot be measured well through other means.

Broader Indicators of Community Conditions and Quality of Life

A quick scan of the phenomena related specifically to housing may bring to mind other community variables that do not directly relate to housing but might be worth tracking. These are variables that inevitably impact the housing market and, thus, a multitude of housing indicators identified above. Most of these variables fall under a broad category known as quality of life. Many researchers of indicators agree that satisfaction with neighborhood features affects overall quality of life for residents (Andrews & Withey, 1976; Campbell, Converse, & Rodgers, 1976; Morris & Winter, 1978; Russ-Eft, 1979; Barresi, Ferraro, & Hobe, 1984; Sirgy et al., 2000; Sirgy & Cornwell, 2002). Maximizing residents' satisfaction with the physical, social, and economic characteristics of their neighborhoods should result in increased resident and community well-being. In this section of the chapter we identify (Table 11.3) a comprehensive set of community quality of life indicators that do not directly relate to housing, but do relate to factors that ultimately impact the housing market. These indicators cover the physical condition of the non-housing components of the neighborhood, neighborhood amenities, neighborhood safety, basic economic characteristics of the neighborhood, neighborhood health and environment, and neighborhood social characteristics. We have excluded from our list demographic variables that are relevant to this section, but were already listed in the housing indicators table.

Our commentary on the sources of data for housing indicators also applies to data sources identified for these quality of life indicators. One additional comment is that this section includes many more indicators that are dependent upon subjective measures (i.e. surveys that assess residents' perception of, or satisfaction with, various community characteristics) than the housing indicators section did. While such measures have limitations, they also enable users to assess some of the most critical indicators that simply cannot be assessed through other means (see earlier discussion regarding subjective versus subjective measures).

Table 11.3. Non-Housing Quality of Life Indicators

<i>Indicator</i>	<i>Source of Data for Indicator</i>
PHENOMENON: PHYSICAL CONDITIONS OF NEIGHBORHOOD (NON-HOUSING)	
▪ Condition of streets	<ul style="list-style-type: none"> ▪ Data from state/county/local road commissions ▪ Survey of resident satisfaction with streets
▪ Condition of sidewalks	<ul style="list-style-type: none"> ▪ Data from county/local public works departments ▪ Survey of resident satisfaction with sidewalks
▪ Condition of water/sewer system	<ul style="list-style-type: none"> ▪ Data from water/drain commissions ▪ Survey of resident satisfaction with water/sewer systems
▪ Condition of street lighting	<ul style="list-style-type: none"> ▪ Data from county/local public works departments ▪ Survey of resident satisfaction with street lighting
▪ Condition of neighborhood businesses	<ul style="list-style-type: none"> ▪ Building department code violations ▪ Windshield/sidewalk survey of business properties ▪ Survey of resident satisfaction with condition of neighborhood businesses
▪ Condition of yards/open space	<ul style="list-style-type: none"> ▪ Windshield/sidewalk survey of yards/open space ▪ Survey of resident satisfaction with condition of yards/open space
PHENOMENON: NEIGHBORHOOD AMENITIES	
▪ Adequacy of park and recreational opportunities	<ul style="list-style-type: none"> ▪ Data on parks/recreation space from county/local parks departments ▪ Assessor parcel data on publicly owned recreational space ▪ Survey of resident satisfaction with recreational facilities
▪ Adequacy of cultural facilities	<ul style="list-style-type: none"> ▪ Survey of resident satisfaction with cultural facilities
▪ Adequacy of neighborhood shopping opportunities	<ul style="list-style-type: none"> ▪ Assessor parcel data on commercial properties by type ▪ Survey of resident satisfaction with shopping facilities
▪ Adequacy of transportation options	<ul style="list-style-type: none"> ▪ State/county/local road commission data ▪ SMART data on public transportation lines ▪ SEMCOG data on transportation infrastructure ▪ Survey of resident satisfaction with transportation options
PHENOMENON: NEIGHBORHOOD SAFETY	
▪ Crimes by type (at least property vs. violent) (total number and ratio per 1000 people)	<ul style="list-style-type: none"> ▪ FBI crime statistics ▪ Oakland County Sheriff and local police departments ▪ 911 calls ▪ Victimization and/or perception of crime survey of residents
▪ Number of locations with repeat crimes	<ul style="list-style-type: none"> ▪ FBI crime statistics ▪ Oakland County Sheriff and local police departments ▪ 911 calls ▪ Victimization and/or perception of crime survey of residents
PHENOMENON: NEIGHBORHOOD ECONOMIC INDICATORS (those not listed in housing indicators table)	
▪ # and size of businesses	<ul style="list-style-type: none"> ▪ Assessor data on business properties ▪ Dunn & Bradstreet business data ▪ U.S. Census Bureau County Business Patterns
▪ # of jobs	<ul style="list-style-type: none"> ▪ Dunn & Bradstreet business data
▪ # of business closures	<ul style="list-style-type: none"> ▪ Dunn & Bradstreet business data ▪ U.S. Census Bureau County Business Patterns

Indicator	Source of Data for Indicator
▪ # of businesses with utility arrears (as predictor of business closure)	▪ water/drain commission ▪ DTE Energy
▪ Unemployment rate	▪ US Bureau of Labor Statistics (county level) ▪ Decennial U.S. Census data ▪ Data from state unemployment agency ▪ Survey of residents
▪ Labor force participation rate	▪ US Bureau of Labor Statistics (county level) ▪ Decennial U.S. Census data ▪ Survey of residents
▪ Resident satisfaction with socioeconomic characteristics of neighborhood	▪ Resident survey
PHENOMENON: NEIGHBORHOOD HEALTH AND ENVIRONMENT	
▪ # babies born with low birth weights	▪ County clerk birth certificate data
▪ Teen birth rate	▪ County clerk birth certificate data
▪ Infant mortality	▪ County clerk
▪ Leading causes of death	▪ County coroner ▪ County clerk death certificate data
▪ Lead blood levels of children	▪ State/county health agencies
▪ Presence of environmental hazards	▪ Federal / state environmental agencies
PHENOMENON: NEIGHBORHOOD SOCIAL ENVIRONMENT	
▪ Social interaction among residents	▪ Resident survey
▪ Social cohesion of residents	▪ Resident survey
▪ Presence of community associations / block clubs	▪ IRS 990 data (via Guidestar website) ▪ Local planning departments ▪ Resident survey
▪ Resident satisfaction with social environment	▪ Resident survey

Reducing the Number of Indicators that Need to Be Collected

One need look no further than the long list of variables provided in the tables included in this chapter to understand that tracking community indicators can quickly become overwhelming. Assembling and analyzing data for every indicator identified in these tables would require considerable personnel resources. It could also require substantial financial resources. Moreover, even if all of the indicators were tracked the sheer volume of indicators could make people’s eyes glaze over and cause confusion of which indicators are most important. Thus, it is highly advisable that the county prioritize its list of indicators. Which ones are most important? Of those, which are practical to measure and analyze?

Aggregation vs. Dis-Aggregation. In some cases, the task may be made easy by deciding between aggregation and disaggregation. For example, while the county might like to track all types of housing loans provided in the county, this level of detail might not be necessary. Instead, aggregate number of loans might be sufficient. Alternatively, focusing only on home purchase loans might suit the county’s needs.

Eliminate Redundancies. A second way of reducing the number of indicators tracked is to determine which indicators track similar phenomena. For example, while tracking both the number of mortgages and home purchases might be interesting, it would also seem unnecessary. Since mortgages are used to purchase homes the number and dollar amount of home sales provides an indirect measure of mortgage activity. Since actual home sales is a more inclusive figure than mortgages (i.e. some homes are purchased without mortgages), the county could save time by focusing on home sales as the more important indicator.

Establish Priorities. A third means of reducing the number of indicators involves tougher choices. The basic approach is to decide which phenomena are most important to track and then focus on indicators related to those phenomena. Under this approach, certain phenomena which could be tracked will not be. However, the county might be able to work with groups that have special interests in tracking some of these untracked phenomena and encourage them to develop means of tracking the relevant indicators and reporting the results to the county. Certainly, the county government does not need to be the only organization tracking indicators.

Robust, Non-Redundant Indicators. Other means of reducing the number of indicators are also possible. One holds particular promise for reducing administrative burden while still enabling tracking of a substantial number of phenomena. The basic idea behind this approach is to examine a multitude of indicators to determine if certain indicators prove especially valuable for tracking/predicting changes in other variables, some of which we might not automatically assume to be relevant. Galster, Hayes, and Johnson (2005) recently completed such an analysis, the results of which are informative for efforts to track community indicators.

Galster, et al. sought to determine whether the demographic, social, economic, and housing trends of a neighborhood can be discerned by using just a handful of indicators, rather than laboriously measuring and monitoring the hundreds of potential existing indicators. They used a statistical procedure called factor analysis to identify a practical set of robust (i.e. providing consistent results over many cases) and parsimonious (i.e. non-redundant) neighborhood indicators.

The investigators used a statistical procedure called factor analysis to examine a wide variety of community indicators and data sources in five U.S. cities. They found that each measure provided insights for one of six neighborhood dimensions—social disadvantage (e.g. female headed household rates, teen birthrates, welfare usage, etc.), housing type and tenure, prestige (e.g. college-educated, managerial/professional occupations, high home values, etc.), business and employment, crime, and housing vacancy. Using regression analysis they found a small set of robust, parsimonious indicators that capture multiple dimensions of neighborhood conditions of importance. The indicators included approval rate of home purchase mortgage loan applications (from HMDA), number of home purchase mortgage loan applications (from HMDA), median dollar amount of home purchase mortgage loans originated over two years (from HMDA), and the number of businesses (from Dunn & Bradstreet). Home mortgage approval rates were found to be an indicator of social disadvantage, especially changes in female-headed households, racial composition, and unemployment. Median amount of home purchase loans originated was an indicator for neighborhood prestige, especially housing values, managerial/professional households, and college educated households. The number of mortgage loan applications indicated housing

type and tenure, especially single-family home and owner-occupancy rates. The number of businesses served as an indicator for employment and sales.

Considering the accessibility, validity/reliability, and low cost of the indicators determined by Galster et al. (2005) to be good predictors of neighborhood health and viability, Oakland County might want focus on these indicators, at least initially.