The data presented here reflects our best attempt to get the most recent and accurate information available in the Pikes Peak region. We appreciate any help in correcting omissions, updating information, and providing cautions and caveats as to interpretation as this is a work in progress.

LOCAL INDICATORS OF QUALITY OF LIFE:
A Preliminary Look at the Pikes Peak Region

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LOCAL INDICATORS OF QUALITY OF LIFE:
A Preliminary Look at the Pikes Peak Region Introduction

Concern with preserving and enhancing quality of life has stimulated the development of indicators beyond the traditional economic numbers to try to measure a broader concept of quality of life. Many communities around the country have explored the usefulness of expanded indicators of well-being.[1] Here in Colorado, the development of indicators in a number of communities (not including the Pikes Peak region) was a priority for a major Colorado Trust initiative in the mid-1990's. While a valuable dialogue regarding problems and priorities occurred in many communities, few actually reached the point of data collection and analysis.[2] This experience is not uncommon. It is also not unusual to find that what are called "community indicators" are actually limited to one particular area of concern: health, environmental issues, economic factors, or children's well-being.

Three communities in the U. S. stand out for their development of locally based indicators that incorporate economic, environmental and social factors and the linkages among these areas. For that reason, we consider them here before turning to the Pikes Peak region. We can learn from the experience of other communities as we move forward in measuring quality of life or its long-term sustainability in this region.

Jacksonville, Florida was a pioneer in developing local quality of life indicators in 1986. In the early 1990's Seattle, Washington developed community indicators centered on the concept of sustainability.[3] The Central Texas Indicators focused on greater Austin, Texas were first published in the year 2000. This paper examines data for the Pikes Peak region that is similar to information collected in these community-based projects, and goes on to identify areas where the Pikes Peak region does not appear to

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[1] See Greenwood, 2000 and Mueller, 1999 for more thorough discussions of these.
[2] One of the more successful endeavors (for the Roaring Fork Valley) can be seen at www.hmccolorado.org. For a discussion of the entire initiative see Connor, Tanjasiri and Easterling, 1999.
[3] Although theoretically distinct, in practice the terms quality of life and sustainability tend to be used almost interchangeably in local projects. Quality of life measures imply an orientation toward current

have readily available data necessary to make a comparison.[4] By using the references provided in Appendix A and the links to local area websites, many more indicators in related areas can be found.

I.   Why quantify "quality of life"?

Sustained economic growth in the U. S. and other industrialized countries has led to a resurgence of interest in how we ensure that quality of life is increasing along with the level of income. In the U. S. today, even after adjusting for inflation and population growth, we have over 50% more output per person than we did a generation ago in 1975. For many years, most economists and political leaders believed that if we could "increase the size of the pie", i.e. the total output of goods and services (Gross Domestic Product)[5] this would improve the standard of living of everyone. It was also widely argued that increased national productivity and incomes would create the additional resources necessary to protect the environment and broaden access to quality education and health care for citizens without giving up other elements of our standard of living. This appears less true today, and raises questions about relying too heavily on income and output as measures of success.[6]

Here in the Pikes Peak region, for example, there have been enormous successes in the last decade in bringing down unemployment, stimulating new job growth, and raising average household incomes. Yet housing and transportation are less affordable for many people, while traffic congestion and greater crowding of parks and open spaces have raised concerns about the impacts of continued growth on what is often termed

outcomes and specific community values, while sustainability refers to the preservation of capital stocks used to produce quality of life, now and in the future.
[4] While footnotes explain some differences in data collection between communities, it is important to remember that data may not be strictly comparable and are presented only as a starting point for discussion.
[5] It is important to remember that the developers of the Gross National Product concept, including Nobel Prize winner Simon Kuznets, cautioned from the beginning it should not be used as a measure of national well-being. Nevertheless, what is now GDP, or gross domestic product, has taken on a life of its own in the popular media as well as in political, and some economic discourse.
[6] On a national level, the Genuine Progress Index modifies gross domestic product by additions and subtractions reflecting environmental, social, and economic equality trends. The Index of Social Health is constructed of many measures of social well-being not included in most economic reports.

"quality of life". Our situation is not unusual. Communities around the nation –
particularly those experiencing rapid population growth -- are grappling with ways to
move beyond traditional economic measures to broader concepts termed "quality of life",
"healthy communities", or "sustainable development".

II.   Why collect quality of life information at the local level?

Indicators as a means to encourage local action

While economic forces are largely national, or even global, many changes
necessary to improve other aspects of quality of life – altered development patterns,
better public schools, less racism, or community policing - require collective action at the
local level. For this reason, it makes sense for communities to work toward a shared
vision and priorities. In the 1960's, Daniel Patrick Moynihan wrote

> "the way in which …indicators are developed is likely to have
> considerable influence on the level of government – and of abstraction- at
> which the problems are dealt with. Specifically, if urban indicators remain
> for the most part "national" statistics, a powerful, built-in tendency to seek
> "national" solutions will emerge."[7]

The use of broadly based community indicators is often based on the premise that
collecting new data will lead to addressing problems previously ignored. A leading guide
for the development of community indicators says:

> "By convening citizens to consider how to measure their overall well-
> being, the community as a whole is spurred to create new visions of the
> future, develop new working relationships across old boundaries, and
> define its assets, problems, and opportunities in new ways."[8]

Passage of growth management legislation by the Nevada state legislature led to
an indicators project for the greater Reno (Truckee Meadows) area, where growth
patterns could be compared with target quality of life variables to assess needed policy
changes at the city and county level.[9] In the Jacksonville, Austin, and Seattle
experiences, combinations of concerns about rapid population and land-use growth, along

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[7] Moynihan, 1967, pp. 159-77.
[8] Norris, et al. 1997
[9] Besleme, Maser and Silverstein, 1999.

with inequality of economic opportunity, led to citizen based initiatives with local government support.

Choosing key indicators[10]

All around the United States much more information on a variety of subjects is available today than was in past generations. This is due both to technologies that allow cheaper and timelier data collection and storage, as well as to greater accessibility for the general user through the Internet and other electronic media. However, the volume of available data is overwhelming to almost all users. Identifying key indicators makes it possible for policymakers and interested citizens to look at a more manageable set of numbers when assessing changes in quality of life over time.

The process of choosing key indicators also helps citizens and policymakers realize gaps in their current information. Despite the enormous volume of numbers available on a variety of subjects, we may not always be collecting what we most need to know to meet our goals in the twenty-first century! Many times data is collected because "we have always collected it" or because it is easy to collect as a by-product of an ongoing government program. Although indicator projects rely on existing data wherever possible, they seem to lead to the collection of new information, sometimes by survey. Rather than a series of one-time surveys, an indicator project can result in regular collection over time so that meaningful comparisons can be made.

The process of choosing key indicators also leads a community to focus on what the real problems and priorities are, and to recognize the linkages between them. The community indicator projects discussed here – Seattle, Austin, and Jacksonville – all devoted substantial time to looking at the relationships, or linkages, between indicators.

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[10] Jacksonville, Austin, and Seattle each involved many community groups in their selections over a several year period. From all the kinds of indicators available from health and police departments, departments of transportation, etc. citizens chose between forty and sixty as "key indicators" and then grouped these into four to eight categories. Appendices C-E list the indicators and groups chosen by each of these projects.

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The high school dropout rate, for example, is heavily influenced by student reading performance in earlier grades, which is heavily influenced by the child poverty rate and by the quality of prenatal and early childhood health care.   A good indicator project makes understanding the relationships between the economic, the environmental and the social a more manageable task for policymakers and interested citizens.

III.   Problems with measuring quality of life at the local level

Defining quality of life

Decisions about which indicators will be used to quantify quality of life are difficult, and vary by community. However, it is interesting to see the similarity of ideas and of indicators chosen in the Jacksonville, Seattle, and Austin projects (although Austin and Seattle define themselves as sustainability indicators).

- The Jacksonville project defines quality of life as "a feeling of well-being, fulfillment, or satisfaction resulting from factors in the external environment." [11] While stressing the importance of interpersonal relationships to actual feelings about quality of life it concentrates on the external environment.
- The Seattle project focuses on sustainability although the term quality of life is also used. It asks "How do we protect our environment, meet everyone's basic needs, keep our economy dynamic, and maintain a just society? How do we make difficult trade-offs and balanced judgments that take everyone's interests into account, including those of our children and grandchildren?"
- The Central Texas Indicators, based in Austin, also focuses on sustainability as the guiding principle while acknowledging the importance of quality of life. They state their goal as "recognizing the interdependence of the environment, economic development, and social equity…with a decision-making climate that invests in what is good for today without compromising the future for our children, a climate that benefits each person and the common good."

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[11] Jacksonville Community Council, Inc., p. 1.

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If we look at the kinds of indicators community-based groups choose, we find that they expand the scope of traditional economic indicators in three ways. [12] First, many quality of life measures simply extend the range of "having" beyond goods and services that we purchase in the private market with income. For example, air quality is a privately consumed good which we cannot pay for in the private market. Such measures are needed to supplement income and arrive at a broader measure of standard of living.

But there are two important ways in which quality of life measures generally go further than extending the idea of consumption beyond the private sector to public goods. A second set of measures extend into the social realm by attempting to measure the quality of relationships between members of the community and the larger community. Examples are the many indicators of racial relations, of child abuse or family violence and of neighborliness. These reflect concerns with human relationships as well as with consumption of material goods. A third set of indicators measure access to cultural resources, nature, and recreation and civic participation, based on concern with opportunities for personal development in a community. [13]

Confusing the average with the experience of everyone in the community

A common limitation of locally collected indicators is reliance on simple averages that fail to reflect the distribution of highly skew indicators, such as income or health status. While median income is a far superior measure to the simple average, which gives undue weight to the town billionaire, even increases in median income do not always reflect gains for all the population. Without supplementary measures about what is going on at the lower end of the income or wage distribution, these numbers will not be fully representative. Levels of crime or of educational quality may differ greatly in the more affluent suburbs vs. the central core of a city and may not be indicative of the experience

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[12] This discussion draws on the model of "having, loving, and being" developed by Erik Allardt which is discussed in Greenwood 2001.
[13] See Putnam 1993 for a discussion of social capital and its importance in economic development and social well-being.

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of large groups of citizens. Many of the popular "rating systems" ranking communities in terms of desirability as a place to live or to start a business are rife with this problem.

However, by using a number of measures regarding income, for example (the ratio of median income to median housing price, the poverty rate, the hours of work necessary to meet basic needs at a typical wage) a more realistic picture of the community can be formed from the results. The cities whose indicators are cited here all attempted to address the concern of representing all segments of the community.

Local economic or civic agendas

Many local quality of life studies are based on a desire to attract capital or jobs or by the agendas of local civic groups for environmental improvement, growth limits, or other social concerns. In order to achieve an accurate picture which helps the community plan for the future, it is desirable to avoid striving for "positive" or "negative" results. Many communities have not progressed as far as Jacksonville, Seattle, and Austin because they have either not been able to achieve consensus on which indicators are key to quality of life or build support for funding the data collection and analysis.

IV.   What do local indicators reveal about the overall quality of life?

Comparisons between areas

Below, information from the Austin, Jacksonville, and Seattle indicator projects is compared to the best and most recent available information for the Pikes Peak region. In some cases, data is for the city of Colorado Springs, but where possible values are reported for El Paso County or the Pikes Peak region (which also includes Teller *and Park* counties).   This mirrors the approach used in the three comparison cities. Appendix A lists the sources of information for each Pikes Peak region or Colorado Springs indicator.[14]

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[14] Much of the information was collected for the Center for Colorado Policy Studies by Katie Donnelly, CU-Colorado Springs candidate for a masters in sociology, during an internship in Spring 2001. Jay Gary also provided assistance.

Where there is federal collection or national guidelines for an indicator (air quality, crime rates, median income) there is fairly direct comparability between the Pikes Peak region and other areas. Other numbers such as vehicle miles traveled per capita are self-explanatory. Where definitions and data are less standardized, the user should look carefully at differences in the definitions, criteria or collection processes used by Jacksonville, Seattle, and Austin as documented in each of their studies (see reference section for web addresses). While data from Austin and Jacksonville is generally for year 2000, the most recent Seattle data is from 1996 and 1997, also limiting its comparability. The reader seeking to compare cities based on the limited data presented here should bear in mind all these cautions.

Table 1 shows several economic indicators often used to supplement traditional income and job growth measures. Table 2 includes some typical environmental and land use indicators, while Table 3 covers health and public safety indicators. Civic indicators are included in Table 4, cultural and educational indicators are in Table 5 and transportation and mobility indicators in Table 6. Many indicators could easily be classified in two or three different categories, and in different cities and different projects they often are. Should vehicle accidents per 1000 be part of health and public safety, or part of transportation? Different communities make different decisions about these categorizations, as well as about the choice of key indicators, as Appendices C-E demonstrate.

Table 1, supplementary economic indicators includes measures of the diversification of the employment base, the affordability of housing, and the degree to which income growth is spread throughout the community. If available, the overall poverty rate or child poverty rate can indicate how widely the benefits of job and income growth are spread throughout the community. Where recent poverty rates are not available, the percentage of K-12 pupils on free and reduced lunches shows the incidence of poverty and near poverty in this population.[15] The percentage of jobs, or job growth

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[15] Recent studies of the income level needed to meet what are sometimes termed "basic needs" or "self-sufficiency" establish levels between 175% and 200% of the official poverty line. The Colorado Fiscal

from the largest employers or industrial sectors gives an indication of the stability of
employment over the business cycle. Measures of the number of new businesses and
their viability over time are important to communities such as Austin because they view
the entrepreneurial sector as a vital source of income and jobs. Housing affordability
measures compare both rents and home prices to wage and income levels. To be
comprehensive, measures of housing affordability must address more than what is
happening to the "average" buyer and find ways to capture the experience of lower
middle income buyers and low income renters.

Table 1. Sample Supplementary Economic Indicators[16]

Indicator	Colo Spgs (El Paso Cty)	Austin (Travis Cty)	Jacksonville (Duval Cty)	Seattle (King Cty)
Child poverty or *overall poverty* rate	14.1	*13*		15.7
Hourly wage rate for single worker with child to meet basic needs level	$12.73-16.97			
% of children in families below basic need level/*on school lunch program*	*27.6*		*46.5*	33
Median home price/median income	2.9		2.25	
% of households able to purchase median priced home	62	59		
Rental affordability [17]	82	*59*		
% avg rent above affordability for low income households[18]				60
Rate of change of median income/rate of change in CPI	1.55	3.6		
% of new businesses surviving 3+ yrs		75.6		
% of total jobs in public sector	15.8	21.5		
% of total jobs from top 10 private employers		11.1		16
% of new jobs in top 10 industry sectors		37		

Policy Project recently reported levels of income working parents needed to maintain self-sufficiency and
calculated the minimum necessary hourly wage to meet those working year round full-time.
[16] We focus primarily on traditional economic indicators not already covered in reports such as the CU-
Colorado Springs' Southern Colorado Business Economic Outlook Forum.
[17] Percent of households for which average apartment rent would be less than 35% of household income
[18] Affordability defined as no more than 30% of income for households at 50% or less of median income

Table 2. Sample Environmental and Land Use Quality Indicators

Indicator	Colo Spgs (El Paso Cty)	Austin (Travis Cty)	Jacksonville (Duval Cty)	Seattle (King Cty)
Toxic releases in lbs, annually	750,000	243,296		750,000
Solid waste generated per capita per day		8.6		8.1
Solid waste recycled per capita per day				4.0
Good air quality days	328		325	320
Days not meeting natl ozone standards	0	20		
Open space/park acreage per 1000[19]	27.6	60.3	13.02	
% living near urban open space				87
Newly platted acreage as % of total undeveloped land approved for conversion		1.06		
Water bodies meeting state standards (%)		45.5	59	
Daily per capita water consumption (gal)	127	194	49.6	92.5
% of land surface impervious to water				32
Gasoline consumption per capita, annual	623		607	530

Table 2 includes a sample of environmental and land use measures used by communities. Open space per capita, proximity to open space, and the percent of undeveloped land newly platted are all measures relating to land use. There are enormous differences in measurement between areas making these difficult to compare between communities. Other measures such as per capita consumption of water or gasoline, or the number of good air quality days, are much more directly comparable. Toxic release data is influenced by the amount and type of industry within a community. Many of these measures are more useful to a particular community over time, as it tracks changes that occur and their effects on other aspects of quality of life.

Table 3 includes a variety of measures used to assess the quality of health and public safety in a community. Surveys asking the population the quality of their health or their health care are a start. Lung cancer death and suicide rates are more objective measures of more limited dimensions of health. Use of cigarettes and alcohol, especially among the youth population can be leading indicators for future health problems. The

infant mortality rate, or the discrepancy between races in mortality along with the percentage of babies born at low birth weight and the percentage of pregnant mothers receiving prenatal care in the first trimester indicate how broadly good health and health care are shared among the population. Measures indicating the share of the population with no health insurance or the percentage of emergency room applicants who appear for non-emergencies due to lack of other health care options are important indicators.

Along with the indexed crime rate, more specific measures of child abuse or family violence, along with survey question asking the percentage of people who feel safe walking alone in their neighborhood at night, can help to get a broader measure of public safety. Some included motor vehicle accidents, but we have grouped them with transportation data in Table 6.

Table 3. Sample Health and Public Safety Quality of Life Indicators

Indicator	Colo Spgs (El Paso Cty)	Austin (Travis Cty)	Jacksonville (Duval Cty)	Seattle (King Cty)
% with no health insurance	13.4	20	8	
Emergency room use for non-emergencies				89.6
% reporting good health status/*health care*	90.3	51	*62*	
% with prenatal care in first trimester	84			
% of babies born at low birthweight	9			5.7
Infant mortality rate per 1000	7		10.2	
% of youth (12-17) reporting alcohol use			51	
Packs of cigarettes sold per person			90	
Lung cancer deaths per 100,000	38.8		61.2	
Suicides per 100,000	18	10		
% feeling safe walking at night	70		62	
Indexed crime rate per 100,000	5210	6373	6900	
Family violence/*child abuse* reports per 1000	6.8	10	*13.5*	

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[19] The Austin figure is for a three county area but includes only publicly owned parks, recreation areas, wildlife preserves and hunting grounds.

Table 4. Sample Civic Quality of Life Indicators

Indicator	Colo Spgs (El Paso Cty)	Austin (Travis Cty)	Jacksonville (Duval Cty)	Seattle (King Cty)
% of registered voters voting in local elections[20]	26.3	19.3	22.8	22
% reporting trust in city leaders/govt	47		71	
% believing city moving in right direction	63			
% reporting very good quality of life[21]	58			55
% perceiving racism a local problem			49	
Racial disparities in juvenile courts[22]		1.8		3.3
% volunteering time without pay		47	67	
% who know or help neighbors		72		56

Civic participation measures, as in Table 4, generally include voting in local elections as well as some survey questions about quality of life, trust in government, confidence in elected officials, etc. Where available, Pikes Peak region measures are very similar to the others presented here. Communities also attempt to measure volunteer activities, the degree of neighborliness its members feel, and either access to or participation in cultural activities. They also generally attempt to measure racial inequities or tensions in a variety of ways. Jacksonville asked survey questions of its' citizens, while Austin and Seattle used racial disparities in juvenile courts as a measure of racial problems.

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[20] El Paso County data is for November 1999, when tax issues but no major races were on the ballot. Austin data is a composite of local and school election turnouts, Seattle is for primary, and Jacksonville is for local elections.

[21] The "very good" rating was the top category of 4 for Seattle, but encompassed the top two of five categories for Colorado Springs.

[22] For Austin, the likelihood of an African American youth being prosecuted in criminal court is 1.8 times their population representation, while for whites it is .78 and for Hispanics 1.15. For Seattle, the likelihood of an African American youth being prosecuted in juvenile court is 3.9 times greater than their population representation, while for whites, Asians and Hispanics the ratio is 1:1.

Table 5. Sample Cultural and Educational Quality of Life Indicators

Indicator	Colo Spgs (El Paso Cty)	Austin (Travis Cty)	Jacksonville (Duval Cty)	Seattle (King Cty)
High school graduation rate	81		59	60
% of students at or above grade level according to state test		74	18 math 9 reading	
% of licensed child care workers replaced annually		31		
% attending artistic or cultural activities during past year		61	40	69
Library circulation per capita	9		4.9	10.2

Educational quality may be measured by high school graduation rates, performance on achievement tests, turnover among child care workers, and a host of other variables. The Pikes Peak region ranks much higher in high school graduation rates than the others we look at here. While Colorado has recently instituted state achievement tests, conclusive results are not available and would not be comparable to those given in other states. Performance across time or in comparison to other Colorado communities would be more valuable. Increasing awareness of the importance of early childhood development has led many communities to search for measures of child care quality.

Table 6. Sample Transportation Quality of Life Indicators

Indicator	Colo Spgs (El Paso Cty)	Austin (Travis Cty)	Jacksonville (Duval Cty)	Seattle (King Cty)
% with commuting time < 25 minutes	91		70	
Average work commute (min)	18.8	21.4		
Vehicle miles per capita (daily)	21.9	27.6		25.9
Vehicle accidents per 1000	35	18.6	17.9	10.8
% street miles with sidewalks	76			80
Street miles with striped bike lanes				16
Direct air flight destinations daily	12		59	

With traffic congestion a major issue and transportation costs a rapidly rising share of the consumer's budget, indicators about transportation quality are important. Despite major complaints, commuting time in the Pikes Peak region appears substantially

less than in Austin or Jacksonville, the cities which have comparable data.   Vehicle accidents per 1000 are substantially higher than that reported by Jacksonville, Austin or Seattle. This may be due in part to measurement for the City of Colorado Springs vs. the counties in the comparison cities. It is also possible that there are differences in the definition of the level of accident recorded (i.e. the dollar amount of damage necessary to reach the threshold of accident status). The percentage of street miles with sidewalks, a partial measure of "walkability", is close to that reported by Seattle, while destinations reachable by direct flight from the Colorado Springs airport are substantially lower than that reported by Jacksonville.

What Can We Learn from looking at Local Indicators?

Although each community is unique, it is not unusual for many local trends to track national patterns. When unemployment rates or the percentage of individuals without health insurance falls nationally, they fall in most communities around the country. Even when worsening or improved performance is counter to the national, it is difficult to say whether this was caused by local actions or policy decisions or by forces outside the control of the community. Climate patterns influence air quality, immigration patterns influence student performance in schools, and state laws influence the definition of child abuse and domestic violence, and hence the increase or decrease. Indicators generally raise as many questions as they answer. Their value lies in stimulating debate within a community about the special factors and problems that cause better performance in some areas and weaker performance in others.

This preliminary comparison of Pikes Peak region data, where available, to some of that collected by three communities intensively involved in the quality of life/sustainability indicator process, points out some areas where we lack information that might be of interest to citizens and policymakers. For example:

- Future flooding as well as drainage system costs are influenced by the percentage of land impermeable to water. As more development occurs, the need for

incentives for alternative building techniques could be better assessed if this indicator were readily available.

- Comparing the hourly wage needed for single or two parent families to support a family at the most basic need level [23] to the wages paid by existing and potential new companies would help us to 1) anticipate shortages in affordable housing in response to certain kinds of growth and 2) improve economic development strategies to broaden the benefits of growth.

- Measures of racial inequities in employment, housing, or the justice system, as well as perceptions of racism in the community could be helpful in preventing the kinds of problems which have divided other cities and in improving the performance of minority students in schools.

Colorado Springs and the Pikes Peak region stood out as substantially better in:

- High school graduation rate

- Share of population reporting good health status

- Commuting time to work

However, we have less favorable results when it comes to

- Toxic releases in total pounds

- Gasoline consumption per capita

- Vehicle accidents per capita

For most of the information presented here, direct comparisons are not possible or would be misleading. These six should also be interpreted with caution, as there may be measurement differences that explain part of the differences in performance. The data from other communities has been presented for the purpose of increasing awareness of what other communities are doing to track their own progress over time and how we might expand the indicators we use locally to fit our vision of the future.

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[23] See the Colorado Fiscal Policy Project's study on self-sufficiency for a good explanation of the basic needs concept. School lunch programs, Medicaid eligibility, and a host of other government programs recognize the inadequacy of current poverty level measurement as an adequate barometer of economic well-being.

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V.   Economic analysis of quality of life differentials

Rather than measuring a set of "quality of life" variables, many economists advocate instead that we observe peoples actions to infer what they value. [24] It makes sense that people will be willing to pay more – i.e., to accept lower wages relative to housing costs -- in order to live in desirable (high quality of life) locations.[25] If housing costs are persistently high relative to incomes in an area, this discrepancy indicates the presence of amenities for which people are willing to pay a premium. These amenities might be geographic/climactic conditions or they might be cultural and educational opportunities. While many factors limit mobility between cities (jobs, family responsibilities, ties of friendship) the more mobile part of the population with less strong ties will move to areas with lower housing costs and/or higher wages if they are not willing to "pay" the premium. This net out-migration works to lower previously high housing prices once there are more sellers than buyers. Net out-migration also works to raise previously low wages as labor becomes in shorter supply. The combined effect pushes housing prices and wages toward more equality as time goes by.

Along these lines, an economic study based on 1980 and 1990 census data shows males in their prime labor market years (the most mobile group) moving to Los Angeles and San Francisco, from places such as Houston or Chicago, presumably in pursuit of amenities since there was an economic cost.[26] However, it is likely that analysis of the year 2000 census data will show an opposite action with the exodus from California to the Rocky Mountain states and the Pacific Northwest in the mid-1990's.

Clearly, the components and perceptions of quality of life are highly fluid. The relative quality of life (or at least beliefs about relative quality) can change rapidly. Much of the out-migration from older urban areas to the South and West has been driven by quality of life variables rather than traditional economic concerns although economic

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[24] This "revealed preference" approach is discussed further in Greenwood 2001.
[25] See also Powell 2001.
[26] Kahn, 1995.

concerns still have an important role.[27] Climate and geography are critical variables in the aspects of quality of life that are location-specific, according to both popular ranking systems and econometric analysis. However, neither can be changed by economic growth, local policy decisions, or individual behavior

The Cycle of the Pursuit of Quality of Life

The increased popularity of Sunbelt cities owes a great deal to the availability of air-conditioning technology and relatively cheap energy, while increased settlement in the arid west has been aided by the ability to transport food cheaply over long distances. Both of these are results of economic growth and the ability to make more choices regarding location, as well as the availability of relatively cheap energy sources.

It seems that cheap energy, along with a desire to escape some of the costs of growth, has led to a quest for the "best places" to live. This, in turn, has put increased population pressures on the environment, community, and economy in the "desirable" areas. Some communities use quality of life ratings to attract new businesses or retirees but then have to deal with declines in particular elements of quality of life from rapid growth. In Colorado, so many people have come seeking wide-open spaces that most of Colorado's urban communities have passed special sales taxes to finance the purchase of open space before it disappears. An influx of people attracted to inexpensively priced housing has driven up housing prices to above the national average, faster than local wages have risen. As a result, although conventional economic measures look good, there are increasing numbers of people who cannot afford basic housing in Colorado. This pattern is typical of many desirable areas of the U. S. today.

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[27] See Powers (1993) as well as Greenwood 2001.

VI. Concluding Remarks about Local Indicator Projects

It is not surprising that pollution, traffic congestion and child poverty are of greater concern to more people when they are a mile or two away rather than half a continent away. While nationally based decisions, such as vehicle fuel standards, energy policies, or income and estate tax changes have major impacts on local outcomes, a great many critical decisions are made at the local level. Through their public and private decisions, people have more control over what can be influenced locally.

Local land use and zoning determine patterns of sprawl and traffic, and thereby influence levels of air quality and access to open space. Local school boards still have the major role in spending patterns, curriculum, and discipline policies in public education. Changes in welfare and housing policies at the federal level have increased the importance of local decision-making. For these reasons, developing locally based indicators and holding local officials accountable for how their policies affect key indicators can have substantial popular appeal.

However, despite their popularity, most local indicator projects have not made much progress toward their stated goals. Even the three reviewed here have major gaps in their usefulness. Greater standardization, mirroring that of nationally collected economic, demographic, or environmental data, would make comparisons between communities easier. It would also allow researchers to explore cross-sectional statistical relationships in a more rigorous way and facilitate tracking change over time. This would require a continued commitment to high quality data collection. At present, two of the cities discussed here now have over fifteen years of data in some areas. But other variables are not collected on a regular basis due to lack of funds or shifting priorities. All of these factors limit our ability to use local or regional indicators to say as much as we would like to about changes in quality of life across time.

The three communities studied here used fairly similar criteria to select indicators. These criteria include clarity, availability, reliability, policy relevance, and reflection of

community values. If there were adequate data for statistical analysis, this analysis could be helpful in several ways. First, correlations between indicators could be established, which might save resources used tracking measures that have similar patterns. Second, although selecting indicators that lead performance was a priority for these three projects, most of the indicators used are coincident rather than leading. For example, the high school graduation or dropout rate is an outcome. In order to influence it, progress on leading indicators about children and schools must be tracked so as to anticipate and intervene to lower the dropout rate. As there is more data available, analysis of which indicators lead various outcome statistics can improve the usefulness of indicators for policy purposes.

Developing more measures to reflect geographic diversity or skew distributions in the population would address the criticism that local indictors average over too large and diverse a population and are not representative for many groups. If the move toward locally based quality of life and sustainability indicators continues, perhaps it will be the impetus needed to eventually collect these local indicators nationally. Then we will have more and better information about changes in the quality of life in our nation as a whole, as well as in local communities.

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Appendix A: Sources and Notes for Colorado Springs/ El Paso County Data

The following are presented in alphabetical order for ease of use

Average commute time to work – Pikes Peak Area Council of Goverments, 1999

Child poverty rate – El Paso County, 1999, Regional Economic Review, p. 13, Colorado Legislative Council, Denver, Colorado, Nov 2000.

Commuting time to work < 25 minutes – El Paso County, PPACG, 1999

Direct air flight destinations daily- Mary Collins, Director of Marketing, Colorado Springs Airport, 2000.

Family violence reports – include child abuse and domestic violence, Colorado Springs Police Department, 2000

Gasoline consumption per capita – year 2000 estimate, El Paso County, PPACG

Good air quality days – El Paso County Department of Health , 1999

Government going in right direction – City of Colorado Springs, Talmey-Drake survey, 2001

Health status reported good - El Paso County Department of Health survey, 1999-2000

High school graduation rates – weighted average of school districts in El Paso County, 1999, Colorado Department of Education, http://www.cde.state.co.us

Hourly wage rate necessary to meet basic needs- El Paso County , *Self-Sufficiency Study, 2001.* Colorado Fiscal Policy Institute http:///www.cofpi.org

Housing affordability at median income – 1999 data from National Association of Homebuilders, 2001.

Infant mortality rate – El Paso County Department of Health, 1999

Library circulation per capita – Pikes Peak Library District, 2000.

Low birth weight babies, % of total births- El Paso County Department of Health, 1999

Lung cancer deaths per 100,000 - El Paso County Department of Health, 1999

Median housing cost/median income - family of four, National Association of Homebuilders, 2001.

Motor vehicle accidents per 1000- Colorado Springs, 1998, Colo. Spgs. Police Dept

Ozone violation days – El Paso County Department of Health, 1999

Percent feeling safe walking alone at night – Colorado Springs Police Dept., unpublished survey, 2000.

Percent of households able to purchase median priced home – National Association of Homebuilders, 1st quarter 2001

Percent of registered voters voting – November 1999, El Paso County election dept

Perception of quality of life - City of Colorado Springs Talmey-Drake survey, 2001

Prenatal care in first trimester – El Paso County Department of Health, 1997

Rate of change in median income/rate of change in Denver-Boulder CPI- 1999

Rental affordability – average rent is 35% or less of household income, PPACG Market Housing Analysis, 2001, p. 44

Street miles with sidewalks – City of Colorado Springs, Dept. of Transportation

Students on free and reduced lunches – weighted average of El Paso County school districts, 1999 – Colorado Dept. of Education

Suicides per 100,000 – Colorado Department of Health, 1999

Toxic releases in pounds – El Paso County, Environmental Protection Association, www.scorecard.com, 1998

Trust in government - City of Colorado Springs, Talmey-Drake survey, 2001

Uninsured population, health care – El Paso County, Colorado Dept of Health, *2000*

Vehicle accidents per 1000 – Colorado Springs police department, 1999

Vehicle miles per capita – Pikes Peak Area Council of Governments

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Appendix B: Partial List of Community Indicator Projects in the U. S.

Alaska – Juneau
Arizona – Phoenix, Sonora, Tucson
California – Pasadena, San Francisco, Santa Monica, San Jose, Silicon Valley
Colorado – Boulder, Healthy Mountain Communities Indicator Project, Yampa Valley
Connecticut – New Haven, Hartford
Florida- Gainesville, Tallahasee, Jacksonville
Georgia – Atlanta
Kansas – Manhattan
Massachusetts – Cape Cod, Boston, Cambridge
Maine – Statewide Economic Growth Council, statewide Sustainable Maine group
Mississippi – Jackson
Missouri – Kansas City, St. Louis
Montana – Flathead County, Missoula County
Nevada – Truckee Meadows (Reno/Sparks)
New Jersey – Sustainable State
New Mexico – Sustainable Albuquerque
Ohio – Cleveland
Oregon – Portland Benchmarks, Sustainable Sherwood
Pennsylvania – Delaware Valley
South Carolina – Greenville County, Spartanburg County
Tennessee – Chattanooga
Texas – Austin, Amarillo
Virginia – Russell County
Washington – Seattle, South Puget Sound
Wisconsin – State of Public Wisconsin, Wausau

SOURCE: Norris, Tyler and Associates, et al. 1997. *The Community Indicators Handbook*. San Francisco: Redefining Progress.

Appendix C: Jacksonville (Duval County), Florida Quality of life Indicators
Note: + indicates improvement, - a decline, ~ mixed or unclear trends, ? lack of data

Cultural and recreational opportunities seem, on balance, to have improved.
The key indicators had only been measured during the last few years.
- Number of major events and performances open to the public (+)
- Attendance per 1,000 at major musical and sports performances (+)
- Per capita financial support for key arts organizations (+)
- Public park acreage per person (+)
- Library circulation per capita (+)

Political/governmental aspects of quality of life were measured by
- A survey evaluating local leadership (+)
- The percentage of the adult population registered to vote (+)
- The percentage of registered voters actually voting (~)
- The percentage reporting "keeping up with local government news" [28](~)
- The percent of adults naming two current city councilpersons [29](~)

The **economic area** also included, along with net employment growth
- The child poverty rate rose from 36% in 1984 to 46.5% in 1999 (-)
- The ratio of housing costs to income, which fell to target level (+)
- The level of real monthly utilities costs also falling to target level (+)

Mobility indicators included
- Increase in average commute to work time (-)
- Decline in bus ridership (-)
- Increase in miles of bus service increased (+)
- Accessibility to airline flights and destinations via air (~)

 Social environment indicators also include
- Child abuse and neglect, which declined somewhat from 1993 to 1999 (~)
- Births to mothers under 18 also decreased fairly steadily as a percentage of total but remain above target level (~)
- Data on volunteerism and charitable giving showed no clear trends (~)

The natural environment section also included measures such as
- Gallons of motor fuel sold per person (~)
- Water level in aquifer wells (~)
- Compliance with water standards in major rivers (~)

Source: Jacksonville Community Council. 2000. *Quality of life in Jacksonville:
Indicators for Progress.* Jacksonville, Florida

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[28] This ranged from 43% to 58% throughout the decade, with no clear trends
[29] This fell from 43% in 1986 to the mid 20 percent range by the late 1990's, jumping to 37% in year 2000

Appendix D: Sustainable Seattle Indicators, 1998
   Note: + indicates improvement, - a decline, ~ mixed or unclear trends, ? lack of data

The category of environment has seven sub-categories, some of which are built from several indicators. These are:
- open space acreage near urban villages (?)
- the level of air quality (+)
- the percentage of drainage lands now impervious to surface water (?)
- soil erosion (~)
- pedestrian and bicycle friendly streets (?)
- ecological health: condition of a sample of local streams and loss of natural vegetative cover due to urban development(?)
- wild salmon runs (~, short term) (-, 15 yr/long term)

Other environmental variable are placed in the population and resources category, such as
- solid waste generated and recycled (-)
- use of renewable and nonrenewable energy (-)
- direct toxic releases and sewage heavy metals (+)
- water consumption (+) 12% less use since 1990

Along with
- population (~) less growth, still pressure on environmental systems
- local farm production (-)
- dependence on automobiles (-) : vehicle miles traveled per capita
                                              fuel consumption per capita

In the category of economy, Sustainable Seattle lists
- energy use per dollar of income (+)
- employment concentration (+) – more diversification
- unemployment rates (+)
- distribution of personal income (-)
- children living in poverty (-)
- work required for basic needs (-)
- housing affordability (~) : stabilizing in short term, worse long term
- community reinvestment by banks (?)
- emergency room use for non ER purposes (~)
- health care expenditures per capita (-)

Under "Youth and Education" is information on
- high school graduation rates for all groups (?)
- Ethnic diversity of teachers (~)
- Youth involvement in community service (?) – higher than national averages at almost 50%
- Juvenile crime (~) – relatively stable

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- Volunteer involvement in schools (+)
- Arts instruction (?)
- Adult Literacy (?)
- Equity in justice (+) – proportion of minority youth in juvenile justice system falling

However, other youth related variable appear under "Health and Community"
- Low birth weight infants (~)
- Asthma hospitalizations for children (~)

Along with adult oriented variables such as
- Voter participation (+)
- Gardening (+)
- Perception of "quality of life" (~)

And those which include both adults and children
- Library and community center use (~)
- Public participation in the arts (+)
- Neighborliness (?)

Source: Sustainable Seattle. 1998. *Indicators of Sustainable Community*. Seattle, Washington.

Appendix E: Austin, Texas (Travis-Hays-Williamson counties) Indicators

I.   **Community/Children**
   1. Community Safety – indexed crime rate
   2. Safety in the Home – family violence incidents
   3. Adult Literacy – national survey data
   4. Student Academic Performance – performance on state test
   5. School Quality – state rating system
   6. Equity in Education – race/ethnic disparities among top rated schools
   7. Equity in Law Enforcement - race/ethnic disparities in justice system
   8. Equity in Access to Capital – race/ethnic disparities in loan rejections
   9. Equity in Leadership Positions – race/ethnic/gender disparities in civic and business leadership
   10. Participation in the Arts – percent attending two or more activities
   11. Philanthropy and Volunteerism – incidence of volunteering/giving
   12. Neighborliness – percent comfortable asking a neighbor for help/favor
   13. Quality of child care – turnover rate of child care workers
   14. Access to child care – number of subsidized child care spaces
   15. Civic Engagement – voting in local elections by registered voters

II. **Workforce/Economy**
   16. Government Effectiveness – cost of local govt/median hh income
   17. Cost of Living- % increase in median hh income/% increase in CPI
   18. Housing Affordability - % able to buy median priced home or rent median priced rental unit
   19. Household Income – poverty rate
   20. Labor Availability- net chg in labor force/net chg in employment
   21. Job Training Availability – number of training slots in high demand occupations relative to identified new job openings
   22. Exporting Industries Growth- net new jobs in "exporting" industries
   23. Job Opportunities – unemployment rate
   24. Diversity of Industries - % of total job growth from top ten private industry sectors
   25. Diversity of Employers -- % of total job growth by top ten private employers
   26. Entrepreneurship- % of new businesses surviving third year
   27. Technological Innovation – patents issued to institutions and individuals

III. **Health/Environment**
   28. Individuals' Physical Health –% reporting good/excellent health
   29. Individuals' Mental Health – suicide rate
   30. Health Insurance Coverage - % adults with health insurance
   31. Air Quality – days failing to meet national ozone standards
   32. Hazardous Materials – pounds of toxic release (EPA)
   33. Water Quality - % of monitored water bodies meeting state standards

34. Energy Use – per capita consumption of nonrenewable energy[30]
35. Solid Waste – solid waste sent to local landfills, per capita[31]
36. Water Availability – per capita water consumption

IV.   **Our Land/Our Infrastructure**
37. Attractiveness of the Landscape -- % seeing improvement in natural and built environments in recent years
38. Rural land in the region -- % of farm/ranch/other undeveloped land approved for conversion to residential and commercial use
39. Public open spaces – acres of public land per 1000 residents
40. Density of new development – population per developed acre
41. Vehicle miles traveled – daily vehicle miles traveled per capita
42. Time spent commuting – average commute time

Source: Sustainability Indicators Project of Hays, Travis and Williamson Counties. 2000. *Central Texas Indicators, 2000*. Austin, Texas.

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[30] Does not include energy used in products imported into the area
[31] Does include landfill waste from other regions