



# Sustaining Agriculture

## Measuring Success

**A RESEARCH PROJECT OF THE URBAN LAND INSTITUTE**

All types of agriculture – whether large commercial agribusiness or small local farm - need sun, water, good land, and access to infrastructure. Urban growth through development often demands the same resources. This research focused on understanding existing local agriculture, how to encourage economically sustainable local agriculture and maintain these resources for agriculture given the pressures of urban growth in the Treasure Valley.



# **Sustaining Agriculture Measuring Success**

A Research Project of the Urban land Institute in partnership with the University of Idaho, Boise State University, the Community Planning Association of Southwest Idaho (COMPASS), Idaho Center for Sustainable Agriculture, the Treasure Valley Food Coalition and Idaho Smart Growth

**RESOURCE DOCUMENT**

March 2012



Idaho

## ABOUT THE URBAN LAND INSTITUTE (ULI)

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The mission of the Urban Land Institute is to provide leadership in the responsible use of land and in creating and sustaining thriving communities worldwide. ULI is committed to:

- Bringing together leaders from across the fields of real estate and land use policy to exchange best practices and serve community needs;
- Fostering collaboration within and beyond ULI's membership through mentoring, dialog, and problem solving;
- Exploring issues of urbanization, conservation, regeneration, land use, capital formation, and sustainable development;
- Advancing land use policies and design practices that respect the uniqueness of both built and natural environments;
- Sharing knowledge through education, applied research, publishing, and electronic media; and
- Sustaining a diverse global network of local practice and advisory efforts that address current and future challenges.

Established in 1936, the Institute today has nearly 30,000 members in over 90 countries, representing the entire spectrum of the land use and development disciplines. ULI relies heavily on the experience of its members. It is through member involvement and information resources that ULI has been able to set standards of excellence in development practice. The Institute has long been recognized as one of the most respected and widely quoted sources of objective information on urban planning, growth, and development in the world.

### **About ULI Idaho District Council**

**ULI Idaho** is a district council of the Urban Land Institute serving the mission of ULI throughout Idaho with a focus on the Treasure Valley region. **ULI Idaho provides leadership on the responsible use of land and sustaining Idaho communities through:**

- The research and educational resources of ULI;
- Technical advisory panels by local ULI members; and
- Mobilizing community members and key decision makers via informational and educational forums for projects with community wide impact.

### **Goals for the ULI Idaho District Council:**

- Advise, educate and facilitate an understanding of local land use policy, plans and ordinances;
- Influence responsible use of land and projects of community-wide interest through thoughtful collective opinion and action;
- Foster educated and informed community leaders.

# ACKNOWLEDGEMENTS

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# CONTENTS

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## Introduction and Overview

1. Next Steps
2. What we learned – Nine Findings
3. The Economic Research
4. The Land Use Research
5. Maps and Graphics
6. Focus Groups and Surveys
7. References, Supporting Documents, and Interviews
8. Resources and Organizations
9. Glossary of Terms

# INTRODUCTION AND OVERVIEW

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This report is the outcome of a research project undertaken from June through December 2011. The research was funded by the Urban Land Institute (ULI) Foundation with in-kind support from several partner organizations: the ULI Idaho District Council, the University of Idaho, Boise State University, and the Community Planning Association of Southwest Idaho (COMPASS). The original initiative for the research was to provide information as part of the update of the Regional Long Range Transportation and Sustainability Plan being undertaken by the Community Planning Association of Southwest Idaho (COMPASS).

The research objectives were to:

- Focus attention on the contribution that a **local food** supply has on regional **sustainability**.
- Identify the effect that improving the economics of agriculture can have on better land development practices.
- Provide a better understanding of the current and future **food security** needs of the region and how that should be addressed through regional planning.
- Set forth ways to measure progress and success in determining the economic **sustainability** of the **local food** economy and for improving the region's contribution in supporting **local food**.

There are a number of individuals and organizations that contributed their time and expertise in the development of this research. Their names are listed on the preceding page. A special thanks goes to Bob Taunton, the former ULI Idaho Chair for initiating this project; Priscilla Salant from the University of Idaho Office of Community Partnerships for her on-going support; and Janie Burns of Meadowlark Farms for her inspiration and mentoring.

## Overview

The research focus was from three perspectives:

- What is the current market for foods produced locally and what agricultural products can be produced or are produced locally that meet our basic needs. How does this production translate into acreage and what is the available land supply to meet our food needs locally?
- What are the current land use conditions as it relates to agricultural? What have been the trends in land conversions, what is the current use of land, and what are the current policies and practices that influence agricultural land uses?
- What is the opinion of farmers, developers, planners and policy makers about the challenges and opportunities for agriculture land use?

In pursuing these questions, the research found no easy answers. The research also led to the conclusions that agriculture is more than a use of land. As Janie Burns indicates, "Local Food is a Gateway term for discussion of other aspects of food: Social, Cultural, Economic, Environmental. (BURNS, 2011). For many of the farmers interviewed as part of this research, farming is a lifestyle choice for their family. For the newer citizens of our region, agriculture is a means to build community. For everyone who lives in the Treasure Valley, agriculture is our heritage and the genesis of some of the most significant infrastructure in the Valley. Small and large-scale commercial agriculture is an important economic engine that generates jobs and livelihoods. Finally, without a local source of food we cannot create sustainable, healthy or safe communities. Life style choices, building community, jobs

and economic development, historic preservation, and sustainable healthy and safe communities are all objectives that are of concern to planners, policy makers, developers others looking toward the future.



This resource report and the accompanying brochure are the outcomes of the research. This report is organized by first identifying the Next Steps; a score card with *indicators*, *benchmarks*, and *targets* is provided. Chapter 2 is the nine major findings of the research. Chapter 3 is the analysis of the market today for locally produced and consumed products. This research was prepared by Erinn Cruz, research assistant with the University of Idaho. Chapter 4 is an analysis of land use policies and practices authored by Helen Ubic, architect, Certified Building Advisor, and graduate of Boise State University. Chapter 5 contains maps, graphs and spreadsheets developed by COMPASS staff, Eric Adolfson and Ian Shives. Chapter 6 is the outcomes of the survey and focus group discussions designed and organized by Carol Nemnich from Boise State University. Chapter 7 is a list of references and background documents used in the research. A list of general resources, websites, and organizations involved in this topic is included in Chapter 8. Finally Chapter 9 is a glossary of terms.

In Chapters 1 and 2, citations are indicated by (NAME, YEAR) and can be found in Chapter 7. Words that are defined and listed in the glossary of terms, Chapter 9, are in **bold font italics**.

# CHAPTER 1. NEXT STEPS

## The Score Card

One of the major intended outcomes of this research was to establish a framework for future action. The framework that is suggested is a score card that measures progress toward meeting goals for improving the economic viability of **local food** for local consumption, land use actions to support the long term **sustainability** of agriculture land uses, and capacity building to grow education and support. The score card uses a series of **indicators, benchmarks** and **targets**. An **indicator** is a measurement that assists in demonstrating movement toward goals. **Benchmarks** establish a starting point—the **indicator** at that time this project was completed. A **target** is a quantifiable outcome that provides a framework for measuring progress.

In the score card that follows, **indicators** and **benchmarks** have been identified that evolved out of the research. For some **indicators**, there is no data, or the research did not go far enough to generate the needed information. The **targets** are suggested, an initial starting place to generate discussion. A major criticism of planning efforts is there is no accountability for measuring progress toward stated goals. The hope is that the score card with these or modified **targets** will be incorporated into the region, county and/or local planning processes.

<b>Indicator</b> <i>A measurement</i>	<b>Benchmark 2012</b> <i>A starting point.</i> <i>The existing indicator.</i>	<b>Target 2020</b> <i>A quantifiable outcome</i> <i>to measure progress</i>
<b>Market and Economic Indicators</b>		
1. % of local grown food consumed locally	2%	20%
2. Annual number of people attending farmers markets	500,000	600,000
3. Annual direct sales of <b>local foods</b> to supermarkets, restaurants and institutions		
4. Number of Farmers' markets	12	15
5. Number of <b>Agri-tourism</b> businesses	99	125
6. Number of employees in agriculture	6,121	15,000
<b>Land Use Indicators</b>		
1. Agriculture land as a percentage of all private land	28%	28%
2. Acres of farmland in use	195,942	195,942
3. Acres of farmland in <b>healthy dozen</b> crops	17,453	21,000-43,000
4. Number of farms producing for local consumption	62	68
5. Number and type of food and animal processing plants	21 (not all accessible)	2 public ones
6. Acres of land in agricultural easements.	0	400
7. Acres designated for agriculture on land use maps	Not known	All of it
8. Acres of land zoned where agriculture is an allowed use	826254	826254
9. % of <b>in-fill</b> to total land within cities	unknown	
<b>Capacity-building Indicators</b>		
1. Number of community gardens	19	35
2. Number of <b>CSA's</b>	18	32
3. Number of <b>food policy councils</b>	0	1



## Explanations:

### Market and Economic Indicators

1. **% of locally grown food consumed locally:** The 2% **benchmark** is what the research determined was the amount spent at Farmers Markets and Grocery Stores on food grown within the foodshed of the Treasure Valley. See Chapter 3 for the methodology used in determining this **indicator**. The 20% **target** has been used by the Treasure Valley Food Coalition.
2. **Annual number of people attending farmers markets:** 500,000 is the estimate based on the **Rapid Market Assessments** conducted during the summer of 2011. See Chapter 3 for the methodology in determining this estimate. The 600,000 **target** is a 20% increase.
3. **Annual direct sales of local foods to supermarkets, restaurants and institutions:** This is an **indicator** where additional research is needed. In 2012 the University of Idaho is continuing their research with a survey of local institutions.
4. **Number of farmers markets:** The **benchmark** is the number identified by the Idaho Department of Agriculture. A modest **target** of 15 is set because it may be easier to expand the existing markets over adding additional ones.
5. **Number and type of agri-tourism businesses:** The **benchmark** is based on the research. From the initiatives being undertaken by the Idaho Departments of Commerce and Agriculture to market agribusinesses, and the growing number of businesses, a **target** based on a 25% increase is identified.
6. **Number of employees in agriculture:** The **benchmark** is based on Idaho Department of Labor. If the **Healthy dozen** goal of 20% of food eaten by locals being produced locally is to be achieved, employment will expand. Most of the **healthy dozen** is vegetables which are more labor intensive to produce, so the **target** is more than double the current number.

### Land Use Indicators

1. **Agriculture land as a percentage of all private land:** The **benchmark** is based on the 2007 Agriculture Census. The **target** is based on not reducing this amount.
2. **Acres of farmland in use:** The **benchmark** is based on the acreage of prime, irrigated agriculture land receiving tax exemptions from the Ada and Canyon County Assessors. The **target** is based on not reducing this amount, and is a reasonable **target** with the amount of vacant land that is currently fallow and not cultivated.
3. **Acres of farmland in healthy dozen crops:** The **benchmark** is the amount of acreage needed to provide for 20% of the **healthy dozen** food products for the 2011 population. The **target** is the number needed to provide 20% for the 2020 population forecast. The upper figure is needed if Beef and Pork production are pastured and the small number is if animals are raised in feed lots. See chapter 3 for an explanation of the methodology.
4. **Number of farms producing for local consumption:** The **benchmark** is the number of farms producing food for local consumption as determined by this research. (CRUZ, 2011) The **target** is a 10% increase in the number of farms providing **local food** in order to meet the **target** of 20% by 2020.
5. **Number and type of food and animal processing plants:** Most current processing plants are not open to the public. The ones that are tend to be small and not approved by the USDA or FSA. The **target** is based on the feedback from local farmers who have expressed a need for a meat focused plant and another for everything else.
6. **Acres of land in agricultural easements.** The **benchmark** is 0. Although, 240 acres of land is currently in conservation easements, these are not agricultural easements. A low **target** of 400

acres is set because although easements are a tool for agriculture land preservation, they are extremely restrictive on descendants.

7. **Acres designated for agriculture on future land use maps:** The data for this *indicator* was not available within the scope of this research. It is a very important *indicator* of the community's future intention regarding the permanent agricultural land in their jurisdiction.
8. **Acres of land zoned where agriculture is an allowed use:** The *target* of 826,000 acres was determined by reviewing the zoning provisions and the zoning districts within each jurisdiction. See Chapter 4 for details on this calculation. The *target* is not reduced from the *benchmark* because of the opportunities to infill rather than develop on greenfield land, and there could be more acres designated for agricultural use than are currently shown.
9. **% of infill land to total land area within cities:** The *benchmark* for this *indicator* could not be determined through this research.

#### **Capacity Building *Indicators* (*indicators* of organizational development and education)**

1. **Number of community gardens:** The *benchmark* is based on the research and the suggested *target* is a 50% increase based on the increased interest and recent expansion of community gardens.
2. **Number of CSA's:** The *benchmark* is based on the research of the current number and expected doubling as a suggested *target*.
3. **Number of food policy councils:** No *food policy council* currently exists and only one is needed.

## CHAPTER 2. WHAT WE LEARNED – NINE FINDINGS

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1. Agriculture Is an Important and Valid Land Use
2. Sustainable Local Food Is a Key to Sustainable Cities
3. Agriculture Must Be Economically Viable to be Sustainable
4. Using Prime Farm Land for Subdivisions has Grave Consequences
5. Most good building land is also prime agricultural land in the Valley
6. Resource Uses Need to be Balanced to Sustain Agriculture and Communities
7. Imagine a Different Future
8. Agriculture has Many Faces
9. Planning for a Sustainable Future Requires Good Data

## 1. Agriculture Is an Important and Valid Land Use

*Agriculture is the dominant feature of Idaho's economy and the major portion of Idaho's agricultural development is predicated upon irrigation. (MURPHY, 1932, pg. 177)*

Early settlement of the Treasure Valley depended primarily on agriculture, and because of the arid climate in southwestern Idaho, farming was made possible only by irrigation. Substantial public and private investment in an extensive system of dams, canals and wells brought the abundant water supply that was needed for agriculture production. The creation of the Reclamation Service by Congress in 1902 accelerated the development of these water projects. For example, the Arrowrock Dam project was completed in 1911 two years ahead of schedule at a cost of \$12 million. (ARRINGTON, 1994, pg. 484) Irrigation water supported the production of orchards, fruits, grains, and vegetables needed to supply the growing population. The development of the region was made possible by the area's agricultural productivity, and without the early investment in water systems, the region could not have grown.

Agriculture and the water system to support it influenced the location and function of early valley settlements. For example, communities such as Caldwell, Kuna and Meridian were "farm centers". Up until thirty years ago, outside these communities, the predominate land use was agriculture. Based on the US Agriculture Survey, Janie Burns has described the contrast in agriculture land use both in terms of number of farms and acreage, between 1940 and 2007:

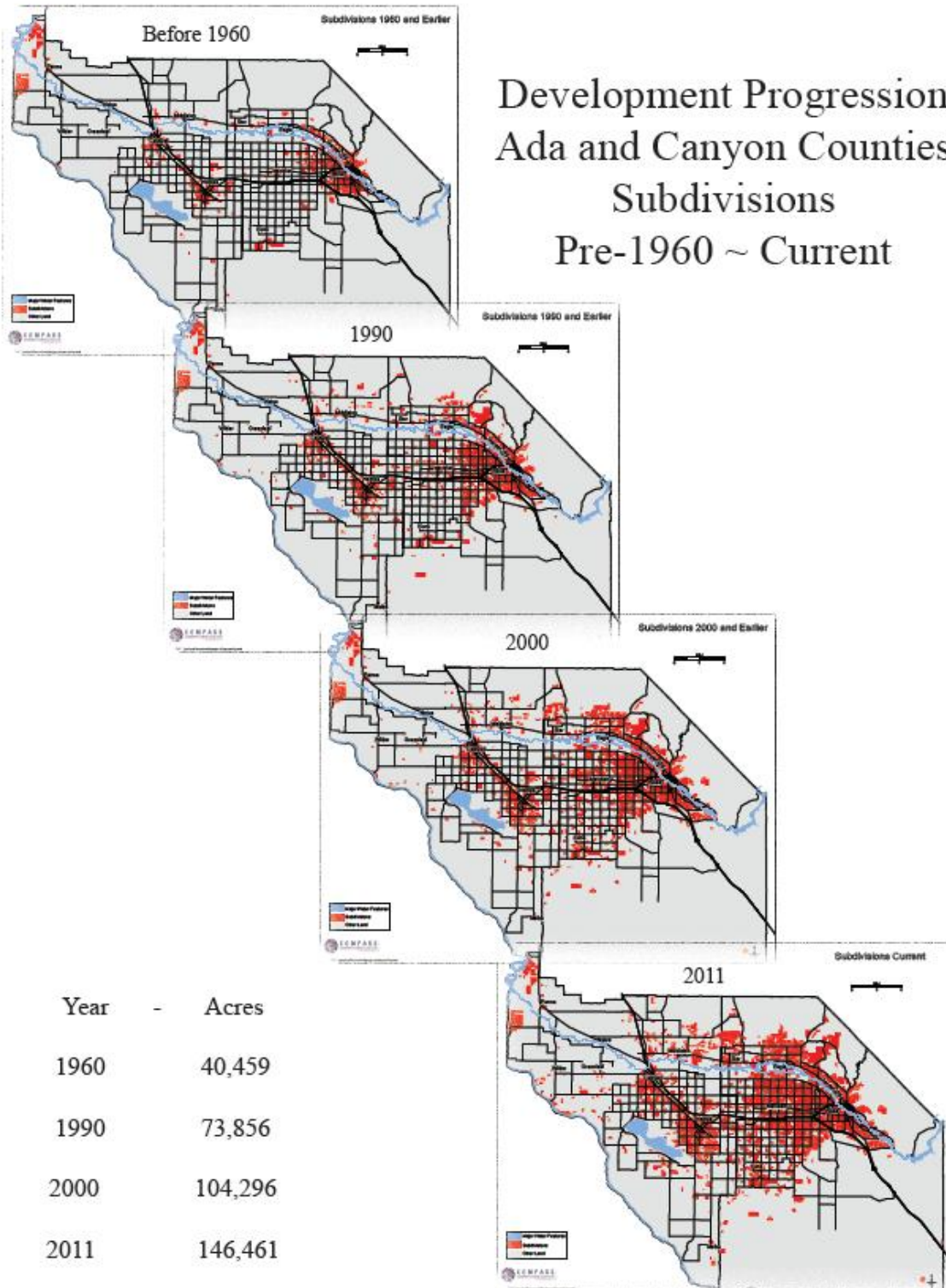
Crop	1940		2007	
	Acres	Farms	Acres	Farms
Cabbage	29	24	0	0
Carrots	54	31	4	1
Lettuce	1793	173	Unknown	1
Onions	1692	261	6100	43
Raspberries	42	345	9	6
Snap beans	18	13	3	8
Strawberries	65	237	Unknown	1
Tomatoes	31	49	7	12

(BURNS, 2011)

Over the past fifty years, the landscape has changed, and that change has been accelerated in the last fifteen years. Between 2002 and 2007, Ada County and Canyon County's population grew 14% and 15%, respectively. During that same time period, Ada County's agricultural land was reduced by 14% and Canyon County by 4%. (USDA, 2007)

Compass has mapped the transformation of the region's landscape in a series that shows the location of preliminary development plats from 1960 to 2011.

## Development Progression Ada and Canyon Counties Subdivisions Pre-1960 ~ Current



A closer examination of this development pattern shows a scattering of development outside the cities that has converted irrigated farmland to residential, commercial and industrial development. The value of the agriculture land and the substantial investment in the water system infrastructure to support it

has been trumped by land uses with a “higher and better use”. This is not news to even the most casual observer. What is remarkable is that little forethought has been given to this change.

Planning for a future that includes agriculture as a permanent land use is not in place. Most of the local comprehensive planning documents acknowledge current agriculture land use and have wishful statements about its long term viability. For example, the Ada County Comprehensive Plan states,

*“Goal 5.9: Ada County will continue to support the agricultural industry and preservation of prime agricultural land in areas designated as Rural on the Comprehensive Plan Future Land Use Map. (ADA COUNTY, 2007, pg 5-24)*

This laudable goal is contrasted with the following statement from the plan that suggests that agriculture is a temporary use.

*“The county continues to retain a significant amount of agricultural and rangeland (about 240,000 acres in 2006). While Ada County Comprehensive Plan future development and urbanization will result in conversion of agricultural land over the long term, residential and other development should be planned and located to reduce adverse impacts on agricultural operations as development occurs.” (ADA COUNTY, 2007, pgs. 5-9-5-10)*

Similarly, Canyon County 2010 Comprehensive Plan states goals recognizing the importance of agriculture to the county’s economy, but as a future land use, agriculture remains a blank space on the county’s future land use map.

The current lack of planning for agriculture is understandable because planning in Idaho is heavily influenced by individual private property rights. Development has been guided more by the economic interests of individuals than the benefits of the community. If however, we plan for **sustainability**, which is defined by meeting the needs of present generations without diminishing opportunities for generations of the future, planning needs to look more long term. As John Ikerd states,

*“Economic value is inherently short-run in nature. In the absence of land use planning, economic incentives allocate parcels of land to their highest economic use. Economic value accrues to the individual. There is no economic value in doing anything solely for the benefit of someone else or for society in general.” (IKERD, 2011)*

Planning for a future that includes agriculture as a land use involves asking the question how much agriculture land use is needed. Just as planners forecast the amount of residential and commercial land uses that are needed to support expected future growth, planners can and should also determine the future agricultural land use needs to support the food requirements of that growth. Agriculture is an important and valid land use, if we are to look at planning from a **sustainability** perspective.

## 2. Sustainable Local Food Is a Key to Sustainable Cities

The Treasure Valley is a major agricultural region in a significant agricultural state. In terms of production value, Idaho is the sixteenth largest agricultural producer in the nation, and third in dairy products. Canyon County is the fifth largest agricultural producer in the state. In 2007, \$574 million in agricultural commodities were generated in Ada and Canyon, a 21% increase for Ada and a 57% increase for Canyon County over 2002. (USDA, 2007) In terms of individual agricultural products:

- Ada County ranks first in Idaho for sales of nursery and ornamental crops.
- Ada County ranks second in the state for hog sales.
- Ada County ranks fourth in Idaho for layer hens.
- Canyon County ranks first in Idaho, and 24th in U.S., for the number of bee colonies.
- Canyon County ranks first in the state for sales of fruits and nuts.
- Canyon County ranks first in the state for acreage devoted to corn for grain.
- Canyon County ranks second in Idaho for sales of forage (METER, 2010)

Most of the food produced in the two-county region are commodities which are exported out of state, and an estimated 98% of the food we consume is imported into the area. (CHAPTER 4). In Ken Meter's 2010 research conducted for the Treasure Valley Food Coalition and which looked at a broader region than the Treasure Valley, he concluded:

*Farmers gain \$221 million each year producing food commodities, spending \$600 million buying inputs from external suppliers, for a net outflow of \$400 million from the region's economy. Meanwhile, consumers spend more than \$1.7 billion buying food from outside. When this is added to farm production losses, total loss to the region is \$2 billion of potential wealth each year. This loss amounts to more than the value of all commodities raised in the region. (METER, 2010)*

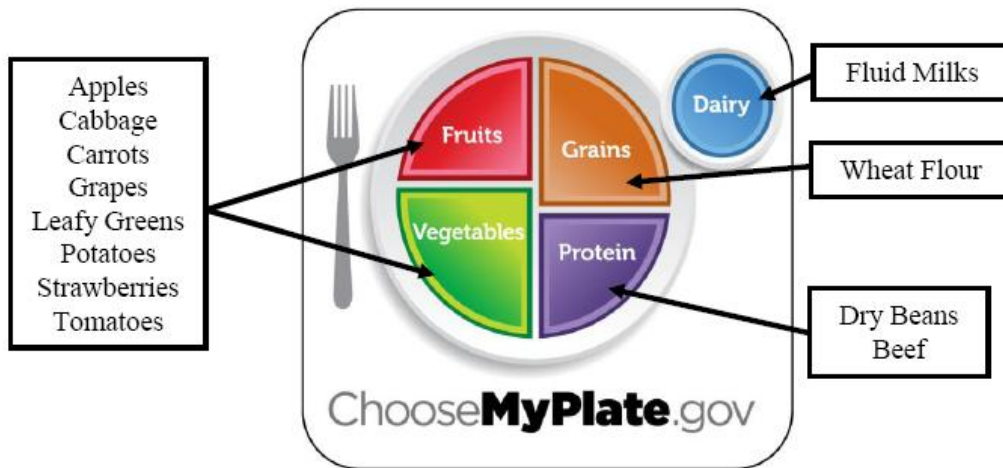
Long term **sustainability** and **food security** for the region is hard to achieve through reliance on imported food. We know that rising oil prices negatively affect profitability. Richard Manning writes that our food system uses *"ten calories of fossil energy for every calorie of food energy produced."* (MANNING, 2004) Since so much of our food is imported, **food security** depends on stable climatic conditions and reliable, abundant energy sources. A generally accepted fact is that most grocery stores have three days worth of food in the store. Reliance on overly processed food necessary for storage and distribution from outside of the area also has health consequences. *Americans eat 31 percent more packaged food than fresh food and they consume more packaged food per person than their counterparts in nearly all other countries. (FAIRFIELD, 2010)*

A few of the food-related health conditions in this region are summarized as follows:

- 6% of Boise Metro residents have been diagnosed with diabetes. (Centers for Disease Control)
- Medical costs for treating diabetes in the Greater Treasure Valley region are estimated at \$399 million per year. (American Diabetes Association).
- 63% of Boise Metro residents are overweight (38%) or obese (25%).

Increased consumption of fresh fruits and vegetables and minimally processed foods are proven ways to combat these expensive diseases.

While not all food we consume can be produced locally, research conducted for this project suggests that a balanced, healthy diet could be best achieved with agriculture products grown or raised locally. The University of Idaho looked at a “healthy dozen” group of twelve crop and livestock products that are produced, have been produced historically, or could be produced in the Treasure Valley foodshed. These products also provide a healthy, balanced diet on the USDA’s new food plate, with an emphasis on fruits and vegetables. These are nutritious foods that can stem the unhealthy tide of obesity, diabetes and create more healthy communities. The details of this research are found in Chapter 3.



There are a number of positive signs that consumers are becoming more conscious about food and are connecting the dots between food sources, **food security**, health, and more global issues of climate and energy consumption. Buying local is popular. The Department of Agriculture Idaho Preferred® Program surveyed consumers in 2010. The survey found that 35% were buying more local, compared to 19% in 2008. Of those buying more local in the survey, 83% were buying more fruits and vegetables. In that same survey when asked why they bought local, the responses were: to support the local economy, 75%; better quality, 30%; healthier, 22%; and safety, 22%. (IDAHO DEPARTMENT OF AGRICULTURE, 2012)

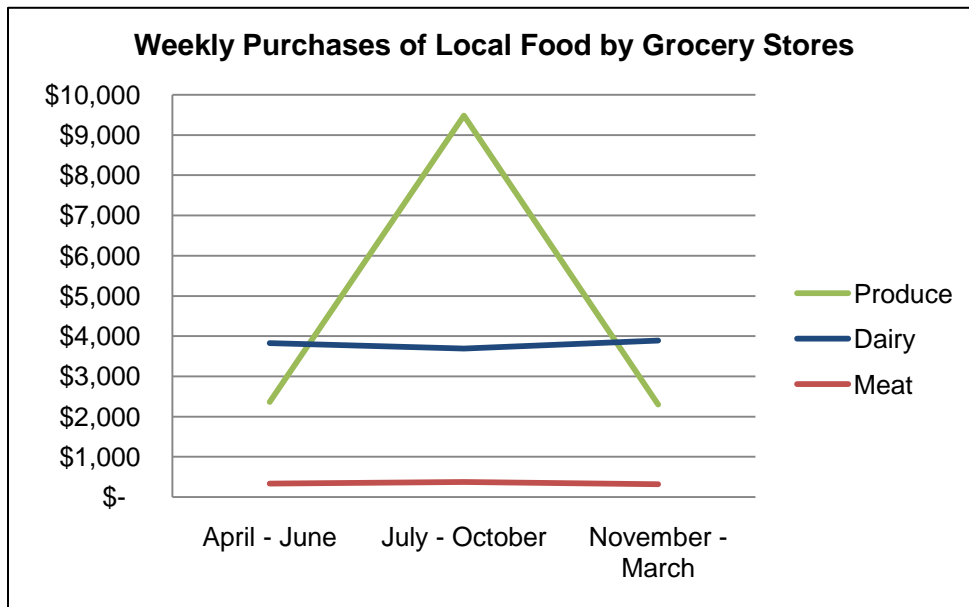
As part of this project, the University of Idaho researched the market for **local food** in Ada and Canyon County. The full report, “Meeting the Demand for Food through Local Production in Ada & Canyon Counties: Where Are We Today”, is contained in Chapter 3. A brief summary of the methodology and findings are as follows: Two tools were used to measure local demand for **local food**. The first was a **Rapid Market Assessments (RMA)** conducted at seven farmers markets in the Valley during the summer of 2011. The RMA gauged the attendance at each market, as well as surveyed patrons on their reasons for attending the market and their spending habits at the market. The second tool was a survey of department managers at 24 representative grocery stores in Ada and Canyon counties about their **local food** purchases.

The research found that on an annual basis, over a half million people attend the Farmers Markets, spending \$3.4 million. Of those who attend the farmers markets 45% indicated it was for the reason of purchasing food products. The conclusion of this research is that in Ada and Canyon County, about 0.2%



of food purchases are from farmers markets and 1.8% of foods purchased at grocery stores are **local food** products.

Most people attend farmers' markets for the Agricultural products.	
Agricultural Products	45%
Atmosphere	42%
Prepared Foods	9%
Arts	7%
Music	3%
Children's Programs	1%



Farmers Markets are growing in number of vendors and customers. Buying and selling **local food** at grocery stores has its challenges. Pete Pearson, of SuperValu Corporation and The Idaho Center for Sustainable Agriculture has suggested several barriers to the expansion of **local foods** purchased by grocery store food managers. Most important is the issue of food safety. Also is the importance of farmers building personal relationships with managers and getting in front of them in the off-season to plan marketing and production. (PEARSON, 2012)

### 3. Agriculture Must Be Economically Viable to be Sustainable

Agriculture is a volatile business. While the income of the average farm household has surpassed that of nonfarm households since the mid-1990s, farm household income today comes from a number of income sources. For the smaller farmer, financial well-being today depends less on the income from the farm business and more on the availability of remunerative off-farm employment. In 2011, agricultural profits skyrocketed as net income rose 88% in Idaho. (STATESMAN, 2012) However, the USDA predicts that US net farm income will not reach 2011 levels again until 2020, and there will be a 10% drop nationwide in 2012. (HAMMEL, 2012)

There is a disparity between the manner in which public policy and governmental subsidies are directed at large commodity agriculture versus small, family farms. Federal agriculture support programs and reward quantity which encourages big specialized farms with mono-crop acreages, while discouraging crop diversity. Historically, federal farm bills have provided financial support for commodity crops (such as wheat, corn and soybeans) and no financial support for fruits and vegetables. (CONDRA, 2011) With some exceptions, local and state support is also oriented toward large commodity scale agriculture.

The survey and focus groups discussion with local farmers conducted as part of this research identified the level of support farmers feel they have from state and local government and the barriers that they see to economic viability. (CHAPTER 5) The survey found that 41% of the survey respondents (small agricultural producers) believe that local officials are supportive of their agricultural operation, and 29% were unsure. However, fewer believe that state-level officials are supportive for their endeavors, and a higher proportion were unsure. The most common barriers to success mentioned by survey respondents were: access to/the cost of labor, the availability of local markets, transportation expense, and land availability.

Policy and priority changes are needed to support small-scale agriculture. Small scale farmers need effective support systems and policies similar to efforts for large producers. Marketing, like what is provided through the Idaho Preferred® Program is important, but a more comprehensive approach is needed if local agriculture can succeed. Assistance is needed to create local storage and processing capacity, so that local producers can respond to demand over time, and increase overall production without fear of waste. Policy makers should consider local farm business incubators, training new farmers to be farmers, and providing better workforce development. Regulators should acknowledge that small scale operations have distinct needs that require some flexibility, especially when regulations serve as a barrier to entry or expansion, or deny access to consumers. Just one example of comparison, UC Davis has a small farm program whose mission is to support small and family farms so that they remain viable components of their communities. Their focus is solely on smaller scale farm operations that are not reached by traditional programs and include support on initiatives such as agritourism, farm stands, farmers markets and cooperatives. (SMALL FARM PROGRAM, 2012)

Local agriculture needs to be recognized for its economic contribution and accorded the same level of business growth incentives and support as other industries. Just one example as comparison, the Port of Skagit, Washington is a sponsor of the annual Skagit Valley “Festival Family Farm”, a weekend farm tour. The port recognizes the value to the community from the event means economic rewards for the port operation as well. Locally, the Caldwell Economic Development Commission has been actively supporting improvements to the Snake River By-way which would link many of the *agri-tourism* and farms along the by-way. The Commission is currently working on submittal of a \$50,000 Federal grant through ITD to develop way-finding along the by-way. This will include information kiosks at each city

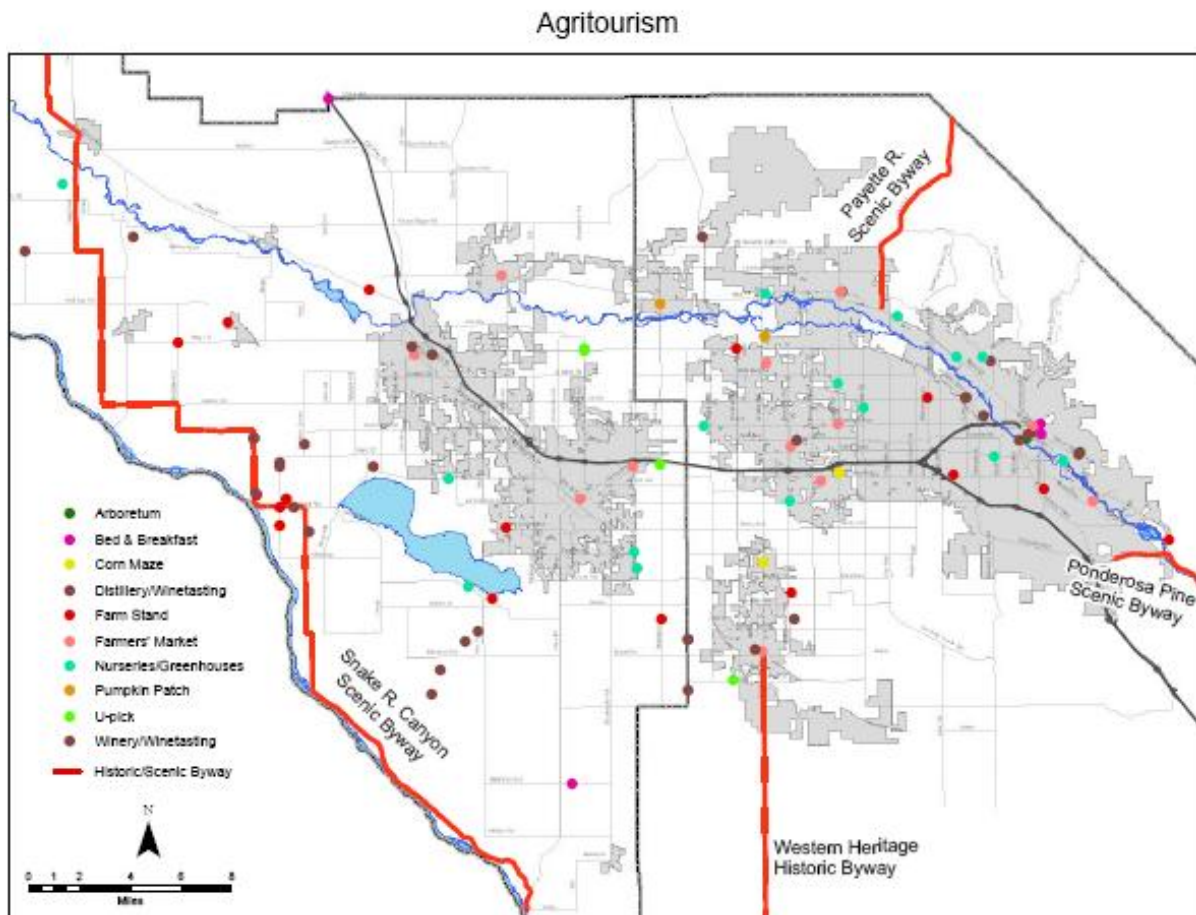
portal, signs identifying the crops grown along the highway and an information kiosk about the Snake River appellation and directions to each winery. (BILLINGSLEY, 2011)

**Agri-tourism** is big and has the potential to be even bigger in the region. Foremost is the region's burgeoning wine industry.

*The Idaho wine industry is just in its infancy and is expected to see remarkable growth in the next 15 years. It is just coming into its own, receiving a great deal of recognition, and winemakers and growers are learning as they go while making great wine along the way.*  
(IDAHO WINE COMMISSION, 2012)

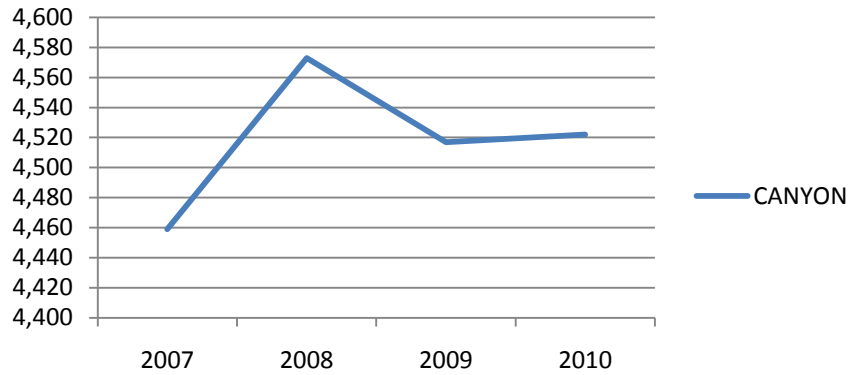
From just 11 wineries statewide in 2002, the industry has grown to over 40 with almost half of those located in Canyon and Ada counties.

**Agri-tourism** brings in visitors and dollars from out of state. Both the Idaho Department of Commerce and Agriculture are actively pursuing programs to support agritourism. The Department of Agriculture publishes brochures of farmers markets and agritourism businesses and promotes programs linking restaurants with **local food**. The Department of Commerce has announced a statewide tourism promotion initiative beginning in 2013. (NORTON, 2011)

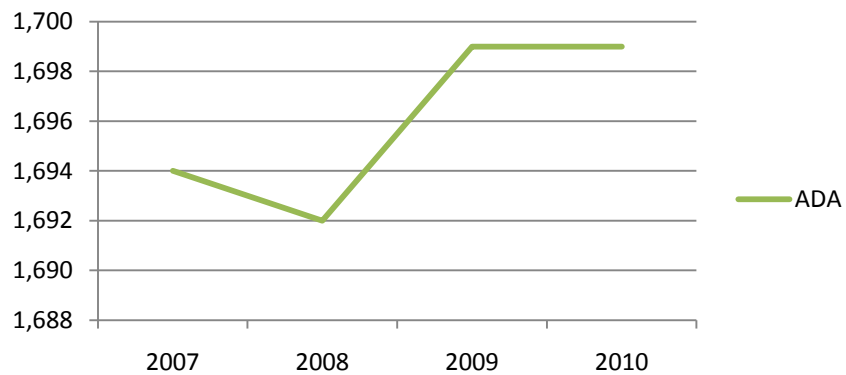


Agriculture also means jobs – green jobs. Annual average employment in agriculture has been estimated by the Idaho Department of Labor:

### Canyon County Average Annual Agriculture Job Estimates



### Ada County Average Annual Agriculture Job Estimates



*The Idaho Department of Labor’s 2008-2018 Long-Term Occupation Projections forecast the number of farm, ranch and other agricultural managers to grow almost 28 percent by 2018 with more than 200 annual openings as workers leave the field or retire. This projection puts farm, ranch and other agricultural managers in the top 5 percent of in-demand occupations in Idaho. (TOWNSEND, 2011)*

Linking the growing interest in **local foods** with jobs is an economic opportunity that has yet to be seized. If Ada and Canyon County residents bought 15% of food each year locally, \$118 million in new income to farmers could be expected each year. This translates to 1000 new jobs and \$13 million in labor income. (BURNS, 2011)

#### 4. Using Prime Farm Land for Subdivisions has Grave Consequences



Lack of planning has created a haphazard pattern that is challenging for maintaining permanent agriculture. Throughout the region, development is scattered around areas of agricultural landscape. No value has been placed on the importance of preserving prime agriculture land. Developing in green field areas has been relatively easy and inexpensive. There are no economic or regulatory incentives in place to develop on infill and vacant land within existing urban areas. Cities are reliant on a property tax system that inherently encourages annexation and development of adjacent areas.

Agriculture land conversion has been accelerated by the incremental land use decisions that create islands of residential subdivisions surrounded by farmland. A recent USDA report found that even a limited number of conversions of farmland to urban uses can lead to generally higher farmland values in areas influenced by urban demand for land. (USDA, 2012)

Planning decision-makers have relied on the Right to Farm Act as the way to protect agriculture from the impacts of development. This act protects farmers from nuisance complaints from non-agriculture development. This is not a proactive strategy nor an ineffective tool for planning. There are inherent characteristics of agriculture and non-agriculture uses that create potential conflicts:

Urban development concerns with farm practices		Farmers' concerns with urban development	
Noise	Stray animals	Liability	Flooding
Odors	Irrigation overspray	Trespassing	Soil erosion
Chemical spray drift	Hours of operation	Theft	noise
Dust	Pollution	Vandalism	Crops shaded
Emissions	Debris	Harassment of animals	Noxious weeds
Farm traffic	Unsightly operations	Spraying limitations	Crop damage
Lighting	Intensive operations	Pollution	
		Movement of equipment restricted	
		Economic instability from land prices changing	

(PERCH, 1997)

The survey undertaken as part of this research (CHAPTER 3) asked small farmers about the impact of nuisance issues from surrounding development, and few situations were cited. This is not the opinion of an organization of large agriculture producers who in 2011 successfully introduced changes to the Idaho Land Use Planning Act to more thoroughly address agriculture comprehensive plans. The Coalition for Agriculture's Future website states,

*The Coalition believes that the continued loss of rural agricultural lands to urban development has begun to severely limit the ability of Idaho's agricultural industry to produce the sustainable volume of crops required to meet the food needs of the world. We also are concerned that as Idaho grows, its historical agricultural heritage and traditions are being lost to urban development as concrete and asphalt in residential subdivisions replace land historically used to grow crop. (COALITION FOR AGRICULTURE'S FUTURE, 2012)*

The antidote frequently cited as the reason for conversion of agricultural land is that the farmer is retiring and the farmland is his retirement asset. However, most of the farmers interviewed for this research want to continue to farm. Almost all (94%) of respondents have no intention of converting agricultural land to non-agriculture purposes in the near future; none indicated an intent to sell or convert.

Farmland values are determined by the both global and location specific factors: the value of the commodity produced, demand for the commodity, access to markets, costs of production, and development demand.

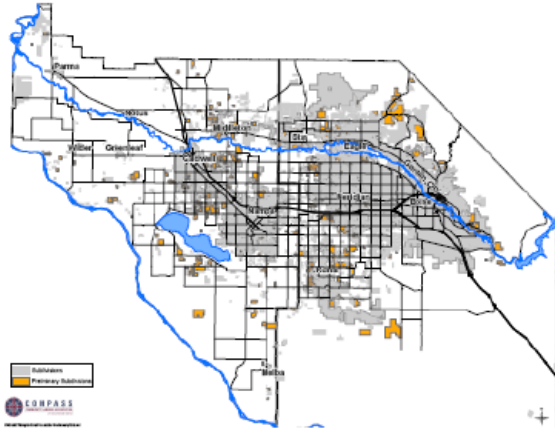
*While proximity to population centers and increased access to markets could influence farmland values by increasing expected agricultural returns, development demand for residential, commercial, and industrial uses tends to increase farmland values even more in areas influenced by urban demand for land. (USDA, 2012)*

Small scale farms in particular are squeezed from both price and production pressure of larger corporate farms and from the pressure of urban development. The surest way to preserve small family farms is to keep them profitable through local support of their products and minimize the intrusion of urban development which has a cascading effect on agriculture land values.

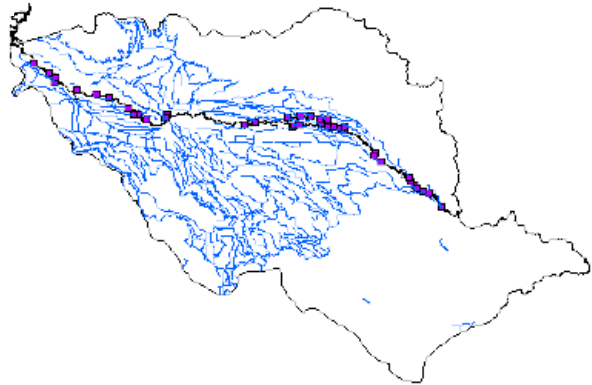


## 5. Most good building land is also prime agricultural land in the Valley

Accessible water, reasonably flat terrain, and loose soils make good farm land. These traits are also attractive to urban development. Looking at a comparison of urban development patterns and the Boise river system with diversions and canals, shows that development follows water:



(COMPASS, Chapter 5)



(TRACY,2011 )

Currently, nothing prevents the encroachment and conversion of agricultural land to development. The same land that now supports agriculture can provide land for urban development. So in many ways, the issue is not if we can avoid developing agricultural land, but rather how we manage developing responsibly.

The incremental decisions in approving subdivisions for development are irreversibly eliminating the productive potential of the land forever. The organic components of land can be restored over time. However, the mineral elements of land are essentially a nonrenewable resource. If the valley is to have a sustainable future, agriculture land needs to be seen as a finite resource, and its use planned accordingly.

COMPASS is projecting a population increase of 400,000 by the year 2040 and will be undertaking scenario planning over the next few months on where that development should occur. (COMPASS, 2012) One of the trade-offs to be made in that process is how much additional agricultural land use should be converted to accommodate this additional growth. For example, this research calculated the amount of agricultural land necessary to support a balanced diet of food that could be produced locally. (CHAPTER 3) If 50% of the region's needs in 2020 were met through the *healthy dozen* grown locally, 50,000 acres would be needed. This same 50,000 acres could support 150,000 people at a density of 3 housing units per acre.



Almost everyone is concerned by the patterns and rate of land development that emerged in the last decade. None more than the agricultural producers – both large and small. The survey and focus groups undertaken as part of this research (CHAPTER 6) found that farmers generally feel excluded from the planning process:

*Most agricultural producers – large or small – were unaware, uninformed, or disengaged from the planning process at the county or community level. While large agricultural producers had been active in the recent past to enact statutory changes to protect agricultural land uses, most other producers had never participated in the process. The few smaller producers, who had participated, generally had a very local, one-time issue to defend, or attended a meeting in support of a neighbor and had neutral feelings about the planning process. Planners and developers agreed that agricultural producers were almost never involved in the land use planning process. Planners also indicated a strong preference for local participation in the process. Currently, the ‘voices’ of the community are absent in the discussions, and therefore, ignored.*

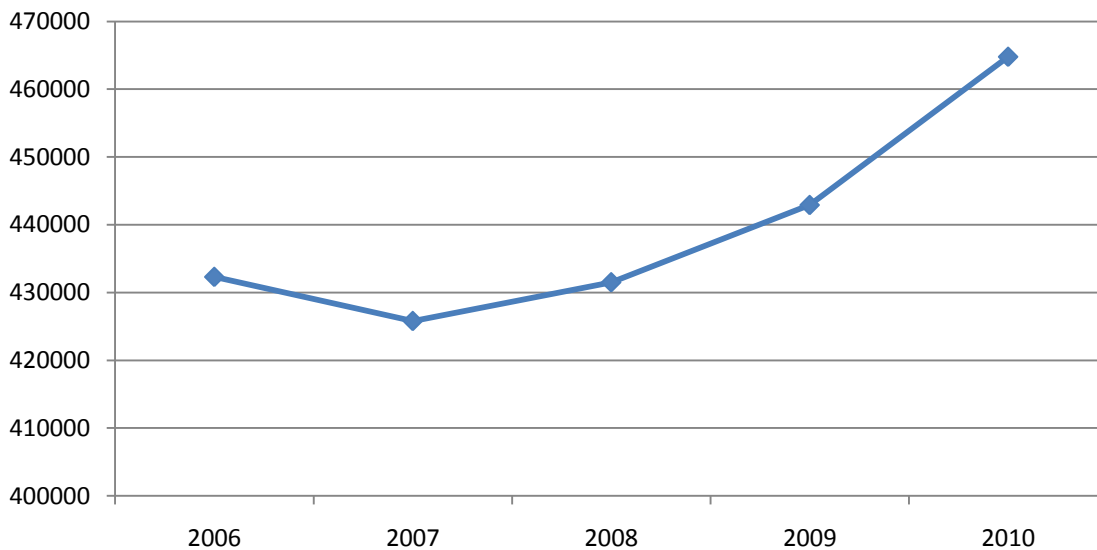
Effective planning which balances the short-term economic desires with the long-term objectives of **sustainability**, including agriculture, requires public consensus along a broad representation of the entire population, including farmers. Without the public understanding of the the issues and without their support for land use decisions that result in a sustainable future, the short-term economic objectives will prevail.



## 6. Resource Uses Need to be Balanced to Sustain Agriculture and Communities

Agriculture land in the region is still abundant. In 2011, 465,000 acres received agricultural tax exemptions from the Ada and Canyon County tax assessors. This included land used for dry farming and grazing; land that has been platted and improved, where crops are grown between streets; and land that is marginal for long term agricultural production. A better *indicator* of agricultural land may be land classified by the assessors as prime irrigated agricultural land. There is almost 196,000 acres in this category, representing 28% of all private land in Ada and Canyon counties.

### Acres in Agriculture Tax Exemptions



Over the next three or four decades the conditions are ripe for this resource to disappear. Water in the Treasure Valley continues to be abundant. Recent research by the University of Idaho suggests there is water supply to support a population of 8 million (excluding agriculture). (TRACY, 2011)

A steep rise in population is expected in Ada and Canyon Counties between now and 2040. Current projections suggest that by 2040, most of the 195,942 acres of prime agricultural land in Ada and Canyon County could be developed. That's additional development equal to two cities the size of Boise. (COMPASS, 2012)

The good news is that the economic downturn over the past four years has halted the conversion of agricultural land use to development. The number of approved, but not completed preliminary plats in the Treasure Valley (as estimated by COMPASS), shows that there is currently capacity within these entitled plats to absorb the future growth projections for the next seven to ten years without losing any additional agricultural land use. This means that for the near term, from a housing demand perspective, there is no need to approve the conversion of any additional agricultural land.

<b>2011 Preliminary Plats in the Treasure Valley</b>	
Total number of lots:	40421
Total Acres:	23056

In the long term, to balance the need for growth with sustaining agriculture, public policy must be changed to recognize agricultural land as an irreplaceable resource. There are a number of ways that this can be achieved:

1. Effective Agricultural Zoning. The first line of defense in protecting agriculture is having zoning regulations with teeth: agriculture zoning regulations that have a purpose to permanently maintain agricultural uses; limits the type and amount of non-agricultural development; district regulations with minimum lot sizes that discourages suburban residential development; and regulations that will not allow the fragmentation of agricultural land use.
2. Priority on *in-fill* development over developing farmland. Information abounds about how to do this. A sizable body of research by the American Planning Association, Urban Land Institute and Smart Growth, among other organizations, explores ways to use land sparingly. ULI Idaho and Idaho Smart Growth have jointly sponsored two studies looking at infill development. The second report, *Quality Infill Recommendations and Tools* is an excellent local resource of recommendations. (CLEGG, 2010)
3. Purchase of development rights. Over 800,000 acres of farmland have been preserved through the purchase of development rights nation-wide in more than 250 localities. (BOWERS, 2001) For example, King County, Washington's Farmland preservation program began in 1979 when the voters approved an initiative authorizing the County to preserve rapidly diminishing farmland by purchasing the right to develop it. There are now approximately 13,200 acres of farmland that are permanently protected. (KING COUNTY, 2012).

Closer to home a survey conducted by the Farm Bureau in 2004, found that 71% of the respondents felt steps should be taken to preserve agricultural land and 57% would have supported a bond measure financed through increased property taxes. (OTTENS, 2011). Conservation easements are typically the way development rights are purchased to maintain wildlife. A program of agricultural easements would enable development rights to be removed from farmland but allow farmers to continue their operations. According to Tim Breuer, Executive Director of the Treasure Valley Land Trust, currently there are only two conservation easements in Canyon County and none in Ada County. (BREUER, 2011)

## 7. Imagine a Different Future

The demographics of the region are changing. Boise City is an example of what policy makers can expect. The 2010 Census shows 30% of the population aged 50 and over. This will increase to nearly 40% by 2025. Two-thirds of “baby boomers” and “empty nesters” live in two person households, and many of them are planning to downsize their house size while choosing a location which improves their quality of life. The 28% of single-person households and increased interest in city living by “Generation X-ers and Y-ers” will add to the move toward greater density and less sprawl.

The population is getting older and the household size is becoming smaller. Idaho’s 65 year olds and older are expected to increase by 49% between 2010 and 2020. (ULI, 2011) Dr. Arthur (Chris) Nelson in a presentation provided by COMPASS in January 2012 summarized these changes:

### Treasure Valley Changes in Population Composition

Age group	% Share in 2010	% Share in 2030
< 25	41	40
25-64	48	44
> 65	11	16

### National Changes in Household Composition

Household type	1970 (%)	2000 (%)	2030 (%)
Households with children	45	33	27
Households without children	55	67	73
Single/other household	14	31	34

(NELSON, 2012)

In response to these changing demographics, many market *indicators* suggest that the era of big houses on big lots in exurban locations is over. As a result of demographic and consumer preferences, more people are looking for smaller, compact development with public services provided, and easy access to commercial and employment opportunities. (LEINBERGER, 2012) The old model of peripheral, large-lot development is not affordable for the consumer. Nor is it an efficient use of taxpayer dollars for public agencies providing services.

Developers suggest that future development is likely to happen first on platted sites adjacent to cities. In the current real estate crash, the land having lost the most value is often isolated in the middle of working farmland. (MARINO, 2011) This is all good news for slowing the pace of agricultural land conversions. The changing economics, demographics, and market desires with better use practices can ensure a future with permanent agriculture.

## 8. Agriculture has Many Faces



2010)

Modern zoning pushed agriculture out of our towns and cities, but small-scale farming is taking root again in a number of innovative ways within our communities. **Urban agriculture** is big. It is not just about raising chickens, but bees, goats and a growing variety of fruits and vegetables. It includes greenhouses, aquaponics, small scale food productions, micro-breweries, and animal processing. **Urban agriculture** also means community gardens, demonstration gardens at schools, **community supported agriculture (CSA)**, home gardening for personal use and sale, farmers' markets, and food cooperatives. These activities meet **local food** needs, as well as promoting **sustainability**, economic development, education, health, and social interaction. (HODGSON, 2011 and MUKHERJI,

Farmers, too, are looking for close-in land to be near customers and reduce transportation costs as indicated by those who participated in the focus groups conducted as part of this research (CHAPTER 6). Unlike large scale agriculture, **urban agriculture** is adaptable to a variety of different spaces and locations – some within our neighborhoods.

Communities are responding to this new future and updating policies, procedures and regulations to recognize that not all agriculture is an antithesis to urban living. (HODGSON, 2011) Zoning changes are taking place to allow for a wide variety of agriculture within cities. Increasingly, communities find that these agricultural activities do not involve the nuisances associated with large scale agriculture (e.g. pesticides, chemical fertilizers, noise, smells, etc.) **Urban agriculture** can be compatible with urban settings. Locally for example, Boise City has a draft of proposed amendments to the zoning codes that lessen restrictions on a number of **urban agriculture** activities. (RIDDLE, 2011) Roughly, zoning changes need to include:

1. Definitions and types of **urban agriculture**. **Urban agriculture** can include a range of uses and clear definition will help in developing the appropriate regulations.
2. Regulations of **urban agriculture** uses that eliminate unnecessary barriers but ensure safe practices and adequate protection for surrounding neighbors. These regulations can be part of permitted or approved use, or part of a conditional use. There is a wide range of impacts that occur with **urban agriculture** and the zoning should be nimble enough to recognize the nuisances of these various activities.
3. Adding an **urban agriculture** zone is another way that could be used to provide districts for small scale farms or community gardens.

Good sources with model zoning ordinances can be found in the references under HODGSON and WOOTEN.

Other ways that cities can support **urban agriculture** is by donating or leasing public property for community gardens. The Boise City Parks and Recreation Department has an online searchable inventory of city-owned land available for community gardens. The City is also supporting The Capital City Farmers' Markets and the Idaho Center for Sustainable Agriculture in planning to create a year round farmers market and center for **local foods**.

## 9. Planning for a Sustainable Future Requires Good Data

You can't plan for the future without a current baseline. In collecting data for this study, the researchers found that useful data sources about agricultural land either do not exist or need modification to be useful. One of the guiding lights for this research was the Sacramento Area Council of Governments Rural Urban Connections Strategy. Since 2002, the Sacramento regional has looked at some of their pressing problems of transportation, land use and air quality from a rural perspective. In doing so, they have generated a robust data base about their agricultural industry locally. This has included:

- Compilation of crop reports data comparing the volume and value of individual crops over 15 years
- Parcel-level crop maps showing what is grown and where in generalized agricultural "landscape types"
- Cost and revenue data for various crops to better understand agricultural viability
- Land needs for locally grown food
- Loss of farmland, actual and projected, given change in population and possible growth patterns
- Research of general (comprehensive) plans and agricultural zoning
- Mapping of traffic volume, safety data and key farm-to-market routes for rural roads
- Analysis of labor needs for potential changes in crops
- Mapping of environmental data such as vernal pool locations and other protected lands

(SACRAMENTO AREA COUNCIL OF GOVERNMENTS, 2011)

A future that meets the goals of both preserving agricultural land and accommodating projected growth will have to involve more compact development. Data about how much vacant, under-utilized or undeveloped land exists within urban centers was also not available during the course of this study. If public policy is to direct future growth and development into existing urban centers, then data resources that provide an understanding of how much land is available to accept that development is fundamental.

The first chapter of this report is a Score Card of the *indicators, benchmarks* and suggested *targets* that the research determined was important in measuring success in meeting goals around sustainable agriculture. This is just the beginning and the hope is that the research provides a start toward improving the data sources that are critical and are needed to measure progress over time.