

# COST OF COMMUNITY SERVICES STUDIES

Cost of Community Services (COCS) studies are a case study approach used to determine the fiscal contribution of existing local land uses. A subset of the much larger field of fiscal analysis, COCS studies have emerged as an inexpensive and reliable tool to measure direct fiscal relationships. Their particular niche is to evaluate working and open lands on equal ground with residential, commercial and industrial land uses.

COCS studies are a snapshot in time of costs versus revenues for each type of land use. They do not predict future costs or revenues or the impact of future growth. They do provide a baseline of current information to help local officials and citizens make informed land use and policy decisions.

## Methodology

In a COCS study, researchers organize financial records to assign the cost of municipal services to working and open lands, as well as to residential, commercial and industrial development. Researchers meet with local sponsors to define the scope of the project and identify land use categories to study. For example, working lands may include farm, forest and/or ranch lands. Residential development includes all housing, including rentals, but if there is a migrant agricultural work force, temporary housing for these workers would be considered part of agricultural land use. Often in rural communities, commercial and industrial land uses are combined. COCS studies findings are displayed as a set of ratios that compare annual revenues to annual expenditures for a community's unique mix of land uses.

COCS studies involve three basic steps:

1. Collect data on local revenues and expenditures.
2. Group revenues and expenditures and allocate them to the community's major land use categories.
3. Analyze the data and calculate revenue-to-expenditure ratios for each land use category.

The process is straightforward, but ensuring reliable figures requires local oversight. The most complicated task is interpreting existing records to reflect COCS land use categories. Allocating revenues and expenses requires a significant amount of research, including extensive interviews with financial officers and public administrators.

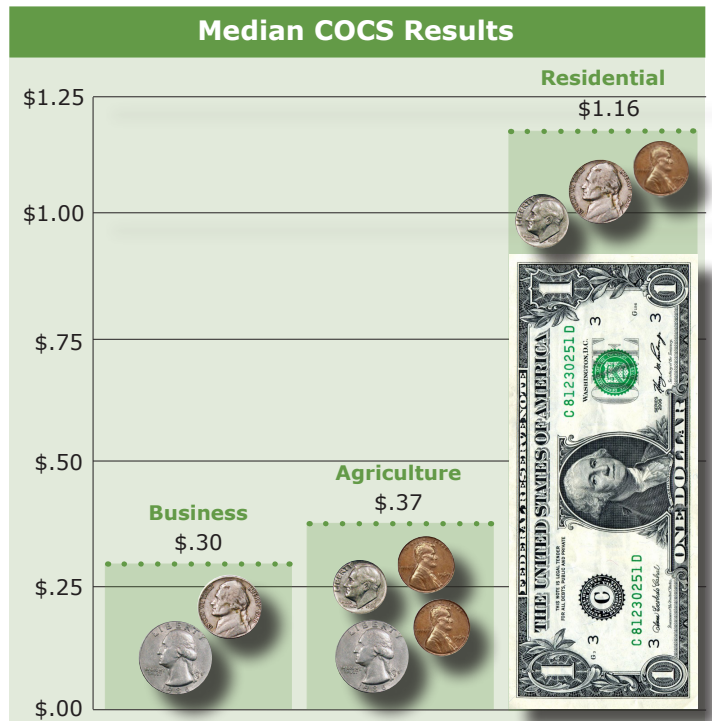
## History

Communities often evaluate the impact of growth on local budgets by conducting or commissioning fiscal impact analyses. Fiscal impact studies project public costs and revenues from different land development patterns. They generally show that residential development is a net fiscal loss for communities and recommend commercial and industrial development as a strategy to balance local budgets.

Rural towns and counties that would benefit from fiscal impact analysis may not have the expertise or resources to conduct a study. Also, fiscal impact analyses rarely consider the contribution of working and other open lands, which is very important to rural economies.

American Farmland Trust (AFT) developed COCS studies in the mid-1980s to provide communities with a straightforward and inexpensive way to measure the contribution of agricultural lands to the local tax base. Since then, COCS studies have been conducted in at least 151 communities in the United States.

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Median cost to provide public services for each dollar of revenue raised.

## SUMMARY OF COST OF COMMUNITY SERVICES STUDIES

Community	Residential including farm houses	Commercial & Industrial	Working & Open Land	Source
<b>Colorado</b>				
Custer County	1 : 1.16	1 : 0.71	1 : 0.54	Haggerty, 2000
Saguauche County	1 : 1.17	1 : 0.53	1 : 0.35	Dirt, Inc., 2001
<b>Connecticut</b>				
Bolton	1 : 1.05	1 : 0.23	1 : 0.50	Geisler, 1998
Brooklyn	1 : 1.09	1 : 0.17	1 : 0.30	Green Valley Institute, 2002
<b>Colchester</b>	<b>1 : 1.14</b>	<b>1 : 0.18</b>	<b>1 : 0.18</b>	<b>Stahl, 2013</b>
Coventry	1 : 1.06	1 : 0.25	1 : 0.25	Green Valley Institute, 2008
Durham	1 : 1.07	1 : 0.27	1 : 0.23	Southern New England Forest Consortium, 1995
<b>Farmington</b>	<b>1 : 1.33</b>	<b>1 : 0.32</b>	<b>1 : 0.31</b>	<b>Southern New England Forest Consortium, 1995</b>
Hebron	1 : 1.06	1 : 0.47	1 : 0.43	American Farmland Trust, 1986
Lebanon	1 : 1.12	1 : 0.16	1 : 0.17	Green Valley Institute, 2007
Litchfield	1 : 1.11	1 : 0.34	1 : 0.34	Southern New England Forest Consortium, 1995
Pomfret	1 : 1.06	1 : 0.27	1 : 0.86	Southern New England Forest Consortium, 1995
Windham	1 : 1.15	1 : 0.24	1 : 0.19	Green Valley Institute, 2002
<b>Florida</b>				
Leon County	1 : 1.39	1 : 0.36	1 : 0.42	Dorfman, 2004
<b>Georgia</b>				
Appling County	1 : 2.27	1 : 0.17	1 : 0.35	Dorfman, 2004
Athens-Clarke County	1 : 1.39	1 : 0.41	1 : 2.04	Dorfman, 2004
Brooks County	1 : 1.56	1 : 0.42	1 : 0.39	Dorfman, 2004
Carroll County	1 : 1.29	1 : 0.37	1 : 0.55	Dorfman and Black, 2002
Cherokee County	1 : 1.59	1 : 0.12	1 : 0.20	Dorfman, 2004
Colquitt County	1 : 1.28	1 : 0.45	1 : 0.80	Dorfman, 2004
Columbia County	1 : 1.16	1 : 0.48	1 : 0.52	Dorfman, 2006
Dooly County	1 : 2.04	1 : 0.50	1 : 0.27	Dorfman, 2004
Grady County	1 : 1.72	1 : 0.10	1 : 0.38	Dorfman, 2003
Hall County	1 : 1.25	1 : 0.66	1 : 0.22	Dorfman, 2004
Jackson County	1 : 1.28	1 : 0.58	1 : 0.15	Dorfman, 2008
Jones County	1 : 1.23	1 : 0.65	1 : 0.35	Dorfman, 2004
Miller County	1 : 1.54	1 : 0.52	1 : 0.53	Dorfman, 2004
Mitchell County	1 : 1.39	1 : 0.46	1 : 0.60	Dorfman, 2004
Morgan County	1 : 1.42	1 : 0.25	1 : 0.38	Dorfman, 2008
Thomas County	1 : 1.64	1 : 0.38	1 : 0.67	Dorfman, 2003
Union County	1 : 1.13	1 : 0.43	1 : 0.72	Dorfman and Lavigno, 2006
<b>Indiana</b>				
See chart on page 6 for details.				
<b>Idaho</b>				
Booneville County	1 : 1.06	1 : 0.84	1 : 0.23	Hartsmans and Meyer, 1997
Canyon County	1 : 1.08	1 : 0.79	1 : 0.54	Hartsmans and Meyer, 1997
Cassia County	1 : 1.19	1 : 0.87	1 : 0.41	Hartsmans and Meyer, 1997
Kootenai County	1 : 1.09	1 : 0.86	1 : 0.28	Hartsmans and Meyer, 1997
<b>Kentucky</b>				
Campbell County	1 : 1.21	1 : 0.30	1 : 0.38	American Farmland Trust, 2005
Kenton County	1 : 1.19	1 : 0.19	1 : 0.51	American Farmland Trust, 2005
Lexington-Fayette County	1 : 1.64	1 : 0.22	1 : 0.93	American Farmland Trust, 1999
Oldham County	1 : 1.05	1 : 0.29	1 : 0.44	American Farmland Trust, 2003
Shelby County	1 : 1.21	1 : 0.24	1 : 0.41	American Farmland Trust, 2005

## REVENUE-TO-EXPENDITURE RATIOS IN DOLLARS

Community	Residential including farm houses	Commercial & Industrial	Working & Open Land	Source
<b>Maine</b>				
Bethel	1 : 1.29	1 : 0.59	1 : 0.06	Good, 1994
<b>Maryland</b>				
Carroll County	1 : 1.15	1 : 0.48	1 : 0.45	Carroll County Dept. of Management & Budget, 1994
Cecil County	1 : 1.17	1 : 0.34	1 : 0.66	American Farmland Trust, 2001
Cecil County	1 : 1.12	1 : 0.28	1 : 0.37	Cecil County Office of Economic Development
Frederick County	1 : 1.14	1 : 0.50	1 : 0.53	American Farmland Trust, 1997
Harford County	1 : 1.11	1 : 0.40	1 : 0.91	American Farmland Trust, 2003
Kent County	1 : 1.05	1 : 0.64	1 : 0.42	American Farmland Trust, 2002
Wicomico County	1 : 1.21	1 : 0.33	1 : 0.96	American Farmland Trust, 2001
<b>Massachusetts</b>				
Agawam	1 : 1.05	1 : 0.44	1 : 0.31	American Farmland Trust, 1992
Becket	1 : 1.02	1 : 0.83	1 : 0.72	Southern New England Forest Consortium, 1995
Dartmouth	1 : 1.14	1 : 0.51	1 : 0.26	American Farmland Trust, 2009
Deerfield	1 : 1.16	1 : 0.38	1 : 0.29	American Farmland Trust, 1992
Deerfield	1 : 1.14	1 : 0.51	1 : 0.33	American Farmland Trust, 2009
Franklin	1 : 1.02	1 : 0.58	1 : 0.40	Southern New England Forest Consortium, 1995
Gill	1 : 1.15	1 : 0.43	1 : 0.38	American Farmland Trust, 1992
Leverett	1 : 1.15	1 : 0.29	1 : 0.25	Southern New England Forest Consortium, 1995
Middleboro	1 : 1.08	1 : 0.47	1 : 0.70	American Farmland Trust, 2001
Southborough	1 : 1.03	1 : 0.26	1 : 0.45	Adams and Hines, 1997
Sterling	1 : 1.09	1 : 0.26	1 : 0.34	American Farmland Trust, 2009
Westford	1 : 1.15	1 : 0.53	1 : 0.39	Southern New England Forest Consortium, 1995
Williamstown	1 : 1.11	1 : 0.34	1 : 0.40	Hazler et al., 1992
<b>Michigan</b>				
Marshall Township, Calhoun County	1 : 1.47	1 : 0.20	1 : 0.27	American Farmland Trust, 2001
Newton Township, Calhoun County	1 : 1.20	1 : 0.25	1 : 0.24	American Farmland Trust, 2001
Scio Township, Washtenaw County	1 : 1.40	1 : 0.28	1 : 0.62	University of Michigan, 1994
<b>Minnesota</b>				
Farmington	1 : 1.02	1 : 0.79	1 : 0.77	American Farmland Trust, 1994
Independence	1 : 1.03	1 : 0.19	1 : 0.47	American Farmland Trust, 1994
Lake Elmo	1 : 1.07	1 : 0.20	1 : 0.27	American Farmland Trust, 1994
<b>Montana</b>				
Carbon County	1 : 1.60	1 : 0.21	1 : 0.34	Prinzing, 1997
Flathead County	1 : 1.23	1 : 0.26	1 : 0.34	Citizens for a Better Flathead, 1999
Gallatin County	1 : 1.45	1 : 0.16	1 : 0.25	Haggerty, 1996
<b>New Hampshire</b>				
Brentwood	1 : 1.17	1 : 0.24	1 : 0.83	Brentwood Open Space Task Force, 2002
Deerfield	1 : 1.15	1 : 0.22	1 : 0.35	Auger, 1994
Dover	1 : 1.15	1 : 0.63	1 : 0.94	Kingsley, et al., 1993
Exeter	1 : 1.07	1 : 0.40	1 : 0.82	Niebling, 1997
Fremont	1 : 1.04	1 : 0.94	1 : 0.36	Auger, 1994
Groton	1 : 1.01	1 : 0.12	1 : 0.88	New Hampshire Wildlife Federation, 2001
Hookset	1 : 1.16	1 : 0.43	1 : 0.55	Innovative Natural Resource Solutions, 2008
Lyme	1 : 1.05	1 : 0.28	1 : 0.23	Pickard, 2000
Milton	1 : 1.30	1 : 0.35	1 : 0.72	Innovative Natural Resource Solutions, 2005
Mont Vernon	1 : 1.03	1 : 0.04	1 : 0.08	Innovative Natural Resource Solutions, 2002
Stratham	1 : 1.15	1 : 0.19	1 : 0.40	Auger, 1994

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<b>New Jersey</b>				
Freehold Township	1 : 1.51	1 : 0.17	1 : 0.33	American Farmland Trust, 1998
Holmdel Township	1 : 1.38	1 : 0.21	1 : 0.66	American Farmland Trust, 1998
Middletown Township	1 : 1.14	1 : 0.34	1 : 0.36	American Farmland Trust, 1998
Upper Freehold Township	1 : 1.18	1 : 0.20	1 : 0.35	American Farmland Trust, 1998
Wall Township	1 : 1.28	1 : 0.30	1 : 0.54	American Farmland Trust, 1998
<b>New York</b>				
Amenia	1 : 1.23	1 : 0.25	1 : 0.17	Bucknall, 1989
Beekman	1 : 1.12	1 : 0.18	1 : 0.48	American Farmland Trust, 1989
Dix	1 : 1.51	1 : 0.27	1 : 0.31	Schuyler County League of Women Voters, 1993
Farmington	1 : 1.22	1 : 0.27	1 : 0.72	Kinsman et al., 1991
Fishkill	1 : 1.23	1 : 0.31	1 : 0.74	Bucknall, 1989
Hector	1 : 1.30	1 : 0.15	1 : 0.28	Schuyler County League of Women Voters, 1993
Kinderhook	1 : 1.05	1 : 0.21	1 : 0.17	Concerned Citizens of Kinderhook, 1996
Montour	1 : 1.50	1 : 0.28	1 : 0.29	Schuyler County League of Women Voters, 1992
North East	1 : 1.36	1 : 0.29	1 : 0.21	American Farmland Trust, 1989
Reading	1 : 1.88	1 : 0.26	1 : 0.32	Schuyler County League of Women Voters, 1992
Red Hook	1 : 1.11	1 : 0.20	1 : 0.22	Bucknall, 1989
Rochester	1 : 1.27	1 : 0.18	1 : 0.18	Bonner and Gray, 2005
<b>North Carolina</b>				
Alamance County	1 : 1.46	1 : 0.23	1 : 0.59	Renkow, 2006
Catawba County	1 : 1.23	1 : 0.54	1 : 0.75	Renkow, 2013
Chatham County	1 : 1.14	1 : 0.33	1 : 0.58	Renkow, 2007
Davie County	1 : 1.14	1 : 0.50	1 : 0.67	Renkow, 2014
Durham County	1 : 1.15	1 : 0.33	1 : 0.59	Renkow, 2010
Franklin County	1 : 1.12	1 : 0.53	1 : 0.77	Renkow, 2009
Gaston County	1 : 1.23	1 : 0.41	1 : 0.89	Renkow, 2008
Guilford County	1 : 1.35	1 : 0.29	1 : 0.62	Renkow, 2010
Henderson County	1 : 1.16	1 : 0.40	1 : 0.97	Renkow, 2008
Iredalell County	1 : 1.35	1 : 0.30	1 : 0.47	Renkow, 2015
Orange County	1 : 1.31	1 : 0.24	1 : 0.72	Renkow, 2006
Pitt County	1 : 1.29	1 : 0.36	1 : 0.62	Renkow, 2013
Union County	1 : 1.30	1 : 0.41	1 : 0.24	Dorfman, 2004
Wake County	1 : 1.54	1 : 0.18	1 : 0.49	Renkow, 2001
Yadkin County	1 : 1.12	1 : 0.38	1 : 0.61	Renkow, 2011
<b>Ohio</b>				
Butler County	1 : 1.12	1 : 0.45	1 : 0.49	American Farmland Trust, 2003
Clark County	1 : 1.11	1 : 0.38	1 : 0.30	American Farmland Trust, 2003
Hocking Township	1 : 1.10	1 : 0.27	1 : 0.17	Prindle, 2002
Knox County	1 : 1.05	1 : 0.38	1 : 0.29	American Farmland Trust, 2003
Liberty Township	1 : 1.15	1 : 0.51	1 : 0.05	Prindle, 2002
Madison Village, Lake County	1 : 1.67	1 : 0.20	1 : 0.38	American Farmland Trust, 1993
Madison Township, Lake County	1 : 1.40	1 : 0.25	1 : 0.30	American Farmland Trust, 1993
Madison Village, Lake County	1 : 1.16	1 : 0.32	1 : 0.37	American Farmland Trust, 2008
Madison Township, Lake County	1 : 1.24	1 : 0.33	1 : 0.30	American Farmland Trust, 2008
Shalersville Township	1 : 1.58	1 : 0.17	1 : 0.31	Postage County Regional Planning Commission, 1997
<b>Pennsylvania</b>				
Allegheny Township, Westmoreland County	1 : 1.06	1 : 0.14	1 : 0.13	Kelsey, 1997
Bedminster Township, Bucks County	1 : 1.12	1 : 0.05	1 : 0.04	Kelsey, 1997

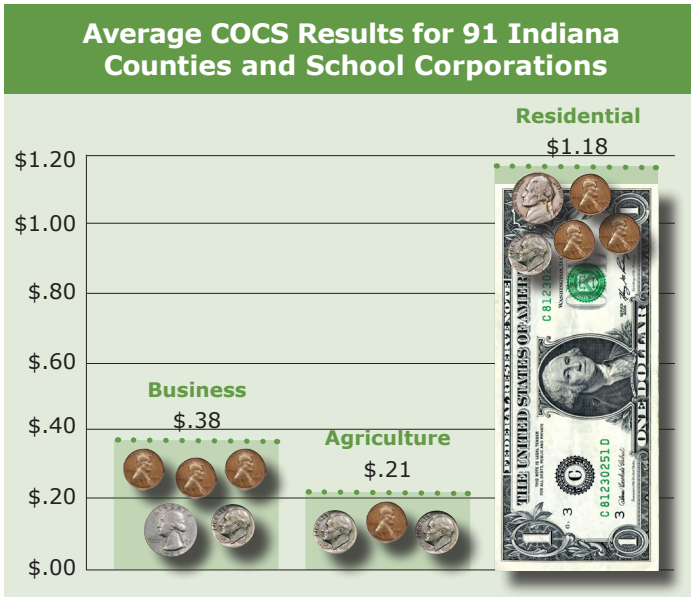
## REVENUE-TO-EXPENDITURE RATIOS IN DOLLARS

Community	Residential including farm houses	Commercial & Industrial	Working & Open Land	Source
<b>Pennsylvania (continued)</b>				
Bethel Township, Lebanon County	1 : 1.08	1 : 0.17	1 : 0.06	Kelsey, 1992
Bingham Township, Potter County	1 : 1.56	1 : 0.16	1 : 0.15	Kelsey, 1994
Buckingham Township, Bucks County	1 : 1.04	1 : 0.15	1 : 0.08	Kelsey, 1996
Carroll Township, Perry County	1 : 1.03	1 : 0.06	1 : 0.02	Kelsey, 1992
Hopewell Township, York County	1 : 1.27	1 : 0.32	1 : 0.59	The South Central Assembly for Effective Government, 2002
Kelly, Township, Pike County	1 : 1.48	1 : 0.07	1 : 0.07	Kelsey, 2006
Lehman Township, Pike County	1 : 0.94	1 : 0.20	1 : 0.27	Kelsey, 2006
Maiden Creek Township, Berks County	1 : 1.28	1 : 0.11	1 : 0.06	Kelsey, 1998
Richmond Township, Berks County	1 : 1.24	1 : 0.09	1 : 0.04	Kelsey, 1998
Shrewsbury Township, York County	1 : 1.22	1 : 0.15	1 : 0.17	The South Central Assembly for Effective Government, 2002
Stewarson Township, Potter County	1 : 2.11	1 : 0.23	1 : 0.31	Kelsey, 1994
Straban Township, Adams County	1 : 1.10	1 : 0.16	1 : 0.06	Kelsey, 1992
Sweden Township, Potter County	1 : 1.38	1 : 0.07	1 : 0.08	Kelsey, 1994
<b>Rhode Island</b>				
Hopkinton	1 : 1.08	1 ; 0.31	1 : 0.31	Southern New England Forest Consortium, 1995
Little Compton	1 : 1.05	1 : 0.56	1 : 0.37	Southern New England Forest consortium, 1995
West Greenwich	1 : 1.46	1 : 0.40	1 : 0.46	Southern New England Forest Consortium, 1995
<b>Tennessee</b>				
Blount County	1 : 1.23	1 : 0.25	1 : 0.41	American Farmland Trust, 2006
Robertson County	1 : 1.13	1 : 0.22	1 : 0.57	American Farmland Trust, 2006
Tipton County	1 : 1.07	1 : 0.32	1 : 0.57	American Farmland Trust, 2006
<b>Texas</b>				
Bandera County	1 : 1.10	1 : 0.26	1 : 0.26	American Farmland Trust, 2002
Bexar County	1 : 1.15	1 : 0.20	1 : 0.18	American Farmland Trust, 2004
Hays County	1 : 1.26	1 : 0.30	1 : 0.33	American Farmland Trust, 2000
<b>Utah</b>				
Cache County	1 : 1.27	1 : 0.25	1 : 0.57	Snyder and Ferguson, 1994
Sevier County	1 : 1.11	1 : 0.31	1 : 0.99	Snyder and Ferguson, 1994
Utah County	1 : 1.23	1 : 0.26	1 : 0.82	Snyder and Ferguson, 1994
<b>Virginia</b>				
August County	1 : 1.22	1 : 0.20	1 : 0.80	Valley Conservation Council, 1997
Bedford County	1 : 1.07	1 : 0.40	1 : 0.25	American Farmland Trust, 2005
Clarke County	1 : 1.26	1 : 0.21	1 : 0.15	Piedmont Environmental Trust, 1994
Culpepper County	1 : 1.22	1 : 0.41	1 : 0.32	American Farmland Trust, 2003
Frederick County	1 : 1.19	1 : 0.23	1 : 0.33	American Farmland Trust, 2003
Northampton County	1 : 1.13	1 : 0.97	1 : 0.23	American Farmland Trust, 1999
<b>Washington</b>				
Okanogan County	1 : 1.06	1 : 0.59	1 : 0.56	American Farmland Trust, 2007
Skagit County	1 : 1.25	1 : 0.30	1 : 0.51	American Farmland Trust, 1999
<b>Wisconsin</b>				
Dunn	1 : 1.02	1 : 0.55	1 : 0.15	Wisconsin Land Use Research Program, 1999
Perry	1 : 1.20	1 : 1.04	1 : 0.41	Wisconsin Land Use Research Program, 1999
Westport	1 : 1.11	1 : 0.31	1 : 0.13	Wisconsin Land Use Research Program, 1999

Note: Some studies break out land uses into more than three distinct categories. For these studies, AFT requested data from the researcher and recalculated the final ratios for the land use categories listed in this table. The Okanogan County, Wash., study is unique in that it analyzed the fiscal contribution of tax-exempt state, federal and tribal lands.

American Farmland Trust's Farmland Information Center acts as a clearinghouse for information about Cost of Community Services studies. Inclusion in this table does not necessarily signify review or endorsement by American Farmland Trust.

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**Average cost, using standard assumptions, to provide public services for each dollar of revenue raised. The [full study](#), including alternate assumptions, is posted on the FIC website.**

## Functions and Purposes

Communities pay a high price for unplanned growth. Scattered development frequently causes traffic congestion, air and water pollution, loss of open space and increased demand for costly public services. This is why it is important for citizens and local leaders to understand the relationships between residential and commercial growth, agricultural land use, conservation and their community's bottom line.

COCS studies help address three misperceptions that are commonly made in rural or suburban communities facing growth pressures:

1. Open lands—including productive farms and forests—are an interim land use that should be developed to their "highest and best use."
2. Agricultural land gets an unfair tax break when it is assessed at its current use value for farming or ranching instead of at its potential use value for residential or commercial development.
3. Residential development will lower property taxes by increasing the tax base.

While it is true that an acre of land with a new house generates more total revenue than an acre of hay or corn, this tells us little about a community's bottom line. In areas

where agriculture or forestry are major industries, it is especially important to consider the real property tax contribution of privately owned working lands. Working and other open lands may generate less revenue than residential, commercial or industrial properties, but they require little public infrastructure and few services.

COCS studies conducted over the last 30 years show working lands generate more public revenues than they receive back in public services. Their impact on community coffers is similar to that of other commercial and industrial land uses. On average, because residential land uses do not cover their costs, they must be subsidized by other community land uses. Converting agricultural land to residential land use should not be seen as a way to balance local budgets.

The findings of COCS studies are consistent with those of conventional fiscal impact analyses, which document the high cost of residential development and recommend commercial and industrial development to help balance local budgets. What is unique about COCS studies is that they show that agricultural land is similar to other commercial and industrial uses. In nearly every community studied, farmland has generated a fiscal surplus to help offset the shortfall created by residential demand for public services. This is true even when the land is assessed at its current, agricultural use. However as more communities invest in agriculture this tendency may change. For example, if a community creates a purchase of agricultural conservation easement program, the local government may spend more on working and open lands than these lands generate in revenue.

Communities need reliable information to help them see the full picture of their land uses. COCS studies are an inexpensive way to evaluate the net contribution of working and open lands. They can help local leaders discard the notion that natural resources must be converted to other uses to ensure fiscal stability. They also dispel the myths that residential development leads to lower taxes, that differential assessment programs give landowners an "unfair" tax break and that farmland is an interim land use just waiting around for development.

One type of land use is not intrinsically better than another, and COCS studies are not meant to judge the overall public good or long-term merits of any land use or taxing structure. It is up to communities to balance goals such as maintaining affordable housing, creating jobs and conserving land. With good planning, these goals can complement rather than compete with each other. COCS studies give communities another tool to make decisions about their futures.

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For more information on COCS, see the [COCS publications](#) on the Farmland Information Center (FIC) website. The FIC is a clearinghouse for information about farmland protection and stewardship. The FIC is a public/private partnership between the USDA Natural Resources Conservation Service and American Farmland Trust.