

# Economic Value of Working Lands

Brooklyn October 19, 2010





# Green Valley Institute

a partnership among

**The Last Green Valley's**

**Quinebaug Shetucket National Heritage Corridor**

and the

**UConn College of Agriculture and Natural Resources**

**UMass Extension, The Nature Conservancy, and others**

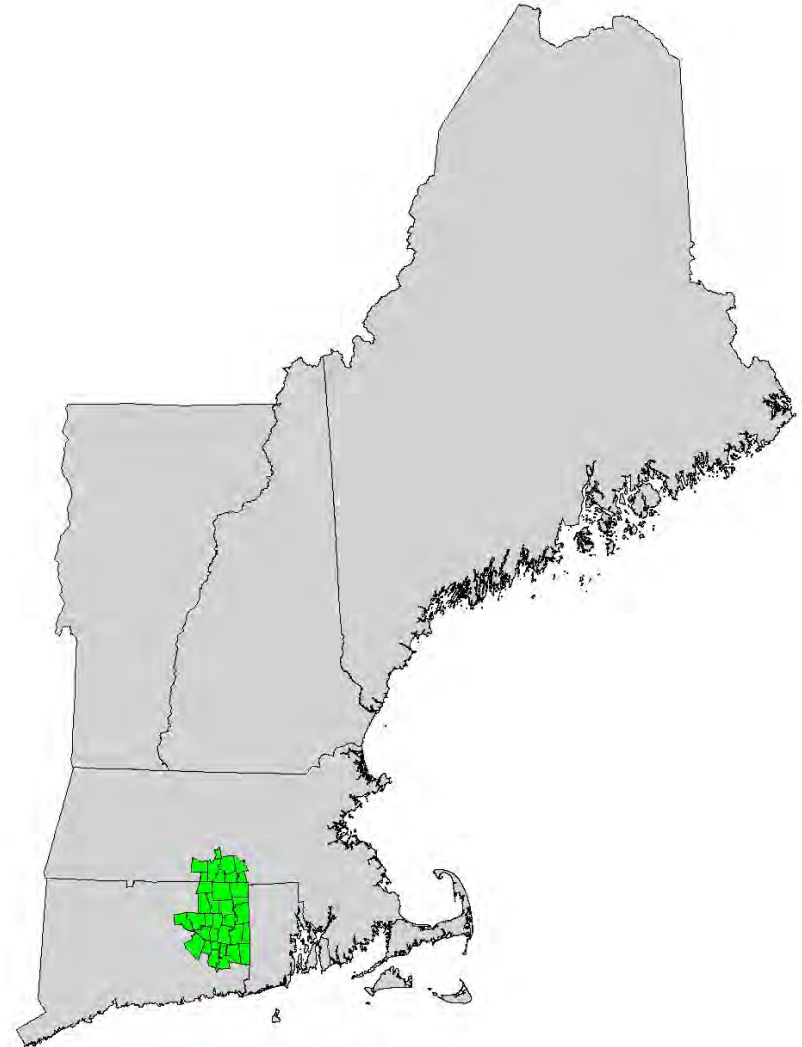
**Paula Stahl, LLA, ASLA, AICP**

*Community and Finance Educator*

*Co-Director of the Green Valley Institute*

## The Last Green Valley

- One of the first Heritage Regions in United States
- 1994 Act of Congress
- 1,086 square miles
- 35 Towns





[www.tlgv.org](http://www.tlgv.org)



*"The Last  
Green Valley"*

# Last Green Valley Farms

556 Agriculture and related businesses

TLGV survey – 331 respondents

		<u>Considering:</u>	<u>Primary Issue:</u>
70%	Food production <ul style="list-style-type: none"> <li>• Vegetable</li> <li>• Dairy and hay</li> <li>• Meat</li> <li>• Fruit</li> </ul>	<i>expansion</i> 47% <i>diversify</i> 50%	<i>financial</i> <i>marketing</i>
30%	Other <ul style="list-style-type: none"> <li>• Nursery</li> <li>• Forest</li> <li>• Equine</li> </ul>	<i>expansion</i> 46% <i>diversify</i> 45%	<i>economy</i>



# Economics of Land Use

## Municipalities

Need local tax revenue to support services

# Economics of Land Use

## A Balancing Act

Local tax  
revenue

Cost for  
services





# Economics of Land Use

## How the Mill Rate is determined

### Town Assessor

Compiles list of Property Values:

### Finance Board

Compiles Budget:

Real Estate – Homes

Anticipated Revenues

Real Estate – Commercial & Other

Board of Education Budget

Motor Vehicles

Town Government Budget

Personal Property (Commercial)

Capital Projects

Subtracts Non-Taxable Property

Bond Payments

Grand List

Divide

Amount of Local Tax

=

MILL RATE

MAKE CHECKS		REAL ESTATE 2003		TAX BILL		DESCRIPTION	
PAYABLE TO: TOWN OF CORRIDOR P.O. BOX 557 CORRIDOR TOWN CT 06526-0557				Section 86a Information: Payment on the reverse side. Conditions involving assessments or exemptions should be directed to the assessor.			
If payment is not received within one month of the Date Due, the installment will become delinquent and accrue interest at the rate of 1 1/2% per month (18% annually) from the Date Due. The minimum interest charge is \$2.00 as specified by Connecticut State Statute.				THIS IS THE ONLY TAX BILL YOU WILL RECEIVE. No separate mailings will be made. Mail proper stub with each payment, or bring entire bill when paying in person. If receipt is desired, mail this entire bill and a stamped self-addressed envelope.			
TAX NUMBER	DIST.	BANK	ON GRAND LIST	TOTAL TAX DUE	FIRST PAYMENT DUE	SECOND PAYMENT DUE	
02 3 0064313	2		OCTOBER 1, 2002		07/01/2003	07/01/2004	
TOWN	MILL RATE	GROSS ASSESSMENT	EXEMPTION	NET ASSESSMENT			
	37.20	112,810		4,195.52	2,098.26	2,098.26	
51447900							
123 CENTER ST CORRIDOR TOWN CT 06520-2712							
				TOWN MILL 37.20			

# **Economics of Land Use**

## **Types of Land Use**

### **Developed:**

**Residential**

**Commercial / Industrial**

### **Undeveloped:**

**Vacant land**

**Protected open space**

**Working lands**

# Economics of Land Use

## Analytical Methods

- ❖ **Cost of Community Services Study**

Fiscal analysis by land use category

- ❖ **Fiscal Impact Analysis**

The long term fiscal effect of one project

- ❖ **Build-out Analysis**

The maximum development possible

# Cost of Community Services Study

- ❖ **Developed by American Farmland Trust in 1986**
- ❖ **Tool to show cost to provide town services on a land use basis**
- ❖ **Land use categories used**
  - **Residential - including apartments**
  - **Commercial / Industrial**
  - **Vacant / Protected Open Space / Working Lands**

# Cost of Community Services Study

## **Pros:**

- ❖ **Establishes the Fiscal Effect of Development**
- ❖ **Valuable as Trend Analysis**
  - ❖ Land use costs in general by category
  - ❖ Change in study results over time as land use shifts
- ❖ **Compare to other towns**

## **Cons:**

- ❖ **Does not differentiate new development**
- ❖ **Development benefits limited to fiscal**
- ❖ **Effect on Community as a whole omitted**



**Town of Lebanon**  
 Cost of Community Services  
 Fiscal Year 2006-07

## BUDGET

	2006-2007 Budget Total
<b>General Fund Revenue</b>	
Tax Revenue	
Real Estate Tax Revenue at 25.3 mills	10,548,025
Personal Property Tax Revenue	488,894
Motor Vehicle Tax Rev(incl prorated)	1,319,797
Prior Tax	50,000
Interest/Liens	108,600
	<hr/> 12,515,316
<b>Intergovernmental Revenues</b>	
Education Assistance	4,650,179
Transportation	204,848
Vo-Ag Grant	70,520
State-Const. Prin	417,375
State Const. Interest	92,772
Boats	2,507
PILOT (In Lieu Taxes)	37,951
Circuit Breaker	33,000
Elderly Freeze	1,600
Add Vets Exemption	4,100
Disabled	300
New Machinery	29,000
Mash-Pequot	62,866
Misc - State	100
Misc	
	<hr/> 5,607,118
<b>Local Revenue</b>	
Interest	75,000
Utilities Direct	62,000
Town Clerk Fees	75,000
Conveyance Tax	100,000
Misc	19,730
Copier	7,500
Building Permits	80,000
Sexton, COA Van, Bd Ed Reimb,Tsf	20,086
PZC,ZBA,WC fees	26,000
Solid Waste Facility	115,000
Recreation	
School Tuition	1,532,109
Misc	
	<hr/> 2,112,425
Transfers from LoCIP	
Transfers from TAR	98,517
Use of Fund Balance	
	<hr/> 98,517
<b>Total General Fund Revenues</b>	<hr/> 20,333,376

**Town of Lebanon**  
**Cost of Community Services**  
**Fiscal Year 2006-07**

	<b>BUDGET</b>	<b>Residential</b>	<b>Commercial/ Industrial</b>	<b>Open Space Farm Vacant</b>		
	<b>2006-2007 Budget Total</b>	<b>Residential</b>	<b>Commercial Industrial</b>	<b>Open Space Farm/Vacant</b>		
<b>General Fund Revenue</b>						
Tax Revenue						
Real Estate Tax Revenue at 25.3 mills	10,548,025	8,798,418	83.4%	899,498	8.5%	850,109
Personal Property Tax Revenue	488,894	0		488,894	100.0%	0
Motor Vehicle Tax Rev(incl prorated)	1,319,797	1,201,016	91.0%	118,782	9.0%	0
Prior Tax	50,000	41,706	83.4%	4,264	8.5%	4,030
Interest/Liens	108,600	90,586	83.4%	9,261	8.5%	8,753
	<u>12,515,316</u>	<u>10,131,726</u>	<u>81.0%</u>	<u>1,520,699</u>	<u>12.2%</u>	<u>862,891</u>
						6.9%
<b>Intergovernmental Revenues</b>						
Education Assistance	4,650,179	4,650,179	100.0%	0		0
Transportation	204,848	204,848	100.0%	0		0
Vo-Ag Grant	70,520	70,520	100.0%	0		0
State-Const. Prin	417,375	417,375	100.0%	0		0
State Const. Interest	92,772	92,772	100.0%	0		0
Boats	2,507	2,507	100.0%	0		0
PILOT (In Lieu Taxes)	37,951	0		37,951	100.0%	0
Circuit Breaker	33,000	33,000	100.0%	0		0
Elderly Freeze	1,600	1,600	100.0%	0		0
Add Vets Exemption	4,100	4,100	100.0%	0		0
Disabled	300	300	100.0%	0		0
New Machinery	29,000	0		29,000	100.0%	0
Mash-Pequot	62,866	50,893	81.0%	7,639	12.2%	4,334
Misc - State	100	81	81.0%	12	12.2%	7
Misc		0	81.0%	0	12.2%	0
	<u>5,607,118</u>	<u>5,528,175</u>	<u>98.6%</u>	<u>74,602</u>	<u>1.3%</u>	<u>4,341</u>
						0.1%
<b>Local Revenue</b>						
Interest	75,000	60,716	81.0%	9,113	12.2%	5,171
Utilities Direct	62,000	0		62,000	100.0%	0
Town Clerk Fees	75,000	71,250	95.0%	2,250	3.0%	1,500
Conveyance Tax	100,000	95,000	95.0%	3,000	3.0%	2,000
Misc	19,730	15,972	81.0%	2,397	12.2%	1,360
Copier	7,500	7,500	100.0%	0	0.0%	0
Building Permits	80,000	76,000	95.0%	4,000	5.0%	0
Sexton, COA Van, Bd Ed Reimb,Tsf	20,086	20,086	100.0%	0		0
PZC,ZBA,WC fees	26,000	24,700	95.0%	1,300	5.0%	0
Solid Waste Facility	115,000	109,250	95.0%	5,750	5.0%	0
Recreation		0	100.0%	0		0
School Tuition	1,532,109	1,532,109	100.0%	0		0
Misc		0	81.0%	0	12.2%	0
	<u>2,112,425</u>	<u>2,012,583</u>	<u>95.3%</u>	<u>89,810</u>	<u>4.3%</u>	<u>10,031</u>
						0.5%
Transfers from LoCIP		0	81.0%	0	12.2%	0
Transfers from TAR	98,517	79,754	81.0%	11,971	12.2%	6,792
Use of Fund Balance		0	81.0%	0	12.2%	0
	<u>98,517</u>	<u>79,754</u>	<u>81.0%</u>	<u>11,971</u>	<u>12.2%</u>	<u>6,792</u>
						6.9%
<b>Total General Fund Revenues</b>	<u>20,333,376</u>	<u>17,752,238</u>	<u>87.3%</u>	<u>1,697,081</u>	<u>8.3%</u>	<u>884,056</u>
						4.3%

**Town of Lebanon**  
Cost of Community Services  
Fiscal Year 2006-07

**General Fund Revenue**  
Tax Revenue  
Real Estate Tax Revenue at  
Personal Property Tax Revenue  
Motor Vehicle Tax Revenue (incl p  
Prior Tax  
Interest/Liens

Intergovernmental Revenues  
Education Assistance  
Transportation  
Vo-Ag Grant  
State-Const. Prin  
State Const. Interest  
Boats  
PILOT (In Lieu Taxes)  
Circuit Break  
Elderly Freeze  
Add Vets Exe  
Disabled  
New Machine  
Mash-Pequo  
Misc - State  
Misc

Local Revenue  
Interest  
Utilities Direct  
Town Clerk P  
Conveyance  
Misc  
Copier  
Building Perm  
Sexton, COA Van, Bd Et  
PZC,ZBA,IWC fees  
Solid Waste  
Recreation  
School Tuition  
Misc

Transfers from  
Transfers from  
Use of Fund

Total General Fund

**General Fund Expenditures**

General Government  
Legal Counsel  
Board of Selectmen  
Election  
Probate  
Bd Finance  
Treasurer  
Tax Collector  
Bd Assess Appeals  
Town Clerk  
Assessor  
Auditor  
Town Report  
Computer Service  
Town Hall

Total	Residential	Commercial Industrial	Open Space Farm/Vacant				
19,000							
115,000							
28,000							
3,060							
1,500							
57,500							
62,000							
1,000							
99,000							
62,000							
11,500							
1,500							
40,000							
54,000							
	Community Pres & Development						
	Planning and Zoning	77,000	67,226	87.3%	6,427	8.3%	3,348 4.3%
	Zoning Board of Appeals	6,635	5,793	87.3%	554	8.3%	288 4.3%
	Economic Development Comm	2,000	0	0.0%	2,000	100.0%	0 0.0%
	Inland Wetlands	14,000	13,300	95.0%	700	5.0%	0
	Flood & Erosion and Conserv Comm	280	244	87.3%	23	8.3%	12 4.3%
		99,915	86,563	86.6%	9,704	9.7%	3,648 3.7%
	Benefits and Other						
	Social Security	82,500	72,027	87.3%	6,886	8.3%	3,587 4.3%
							9,491 4.3%
							2,852 4.3%
							130 4.3%
							5,435 4.3%
							21,496 4.3%

**Town of Lebanon**

	Total	Residential	Commercial Industrial	Open Space Farm/Vacant		
<b>Revenues</b>	<b>20,333,376</b>	<b>17,752,238</b>	<b>1,697,081</b>	<b>884,056</b>	0	
<b>Expenditures</b>	<b>20,333,376</b>	<b>19,903,361</b>	<b>279,606</b>	<b>149,430</b>	0	
<b>Cost of Services Used</b>					217	4.3%
<b>for every dollar paid in Taxes</b>	<b>1.12</b>	<b>0.16</b>	<b>0.17</b>		0	

**Town of Brooklyn - 2002**

	Total	Residential	Commercial Industrial	Open Space Farm/Vacant		
<b>Revenues</b>	<b>15,968,069</b>	<b>14,389,468</b>	<b>1,254,858</b>	<b>340,538</b>	0	
<b>Expenditures</b>	<b>15,968,069</b>	<b>15,657,568</b>	<b>208,858</b>	<b>101,738</b>	84,056	
<b>Cost of Services Used</b>					49,430	0.7%
<b>for every dollar paid in Taxes</b>	<b>1.09</b>	<b>0.17</b>	<b>0.30</b>			

# Cost of Community Services Study

	Residential	Commercial Industrial	Open Space Farm/Vacant
<b><u>Other Connecticut Towns</u></b>			
<b>Bolton</b> (Geisler 1998)	<b>1.05</b>	<b>.23</b>	<b>.50</b>
<b>Brooklyn</b> (Stahl 2002)	<b>1.09</b>	<b>.17</b>	<b>.30</b>
<b>Coventry</b> (Stahl 2008)	<b>1.06</b>	<b>.25</b>	<b>.25</b>
<b>Durham</b> (SoNE Forest Consort 1995)	<b>1.07</b>	<b>.27</b>	<b>.23</b>
<b>Farmington</b> (SoNE Forest Consort 1995)	<b>1.33</b>	<b>.32</b>	<b>.31</b>
<b>Lebanon</b> (Stahl 2007)	<b>1.12</b>	<b>.16</b>	<b>.17</b>
<b>Litchfield</b> (SoNE Forest Consort.1995)	<b>1.11</b>	<b>.34</b>	<b>.34</b>
<b>Pomfret</b> (SoNE Forest Consort.1995)	<b>1.06</b>	<b>.27</b>	<b>.86</b>
<b>Windham</b> (Stahl 2002)	<b>1.15</b>	<b>.24</b>	<b>.19</b>

# COCS Study - Projections

**20 years - 2022**



# COCS Study - Projections

## Assumptions:

- No inflation

- State Aid same

- State Reimbursement rate same

- Salaries are fixed

- Mill rate is same

# COCS Study - Projections

## Growth Assumptions:

- 10% population growth per decade
- Vacant land would be developed

## Budget Assumptions:

- Grand list would increase – tax revenue increase
- Some expenses would not change
- Some would increase at a higher rate
- Most would increase at the rate of growth

# Cost of Community Services Study

	<b>Residential</b>	<b>Commercial Industrial</b>	<b>Open Space Farm/Vacant</b>
<b>Brooklyn 2002-3</b>	<b>1.09</b>	<b>.17</b>	<b>.30</b>
<b>Forecast 2022</b>	<b>1.15</b>	<b>.21</b>	<b>.22</b>
<b>Projected at 50% total growth</b>	<b>1.17</b>	<b>.25</b>	<b>.21</b>

## **Forecast Assumptions:**

**Shift in Land Use from Undeveloped to Developed  
based on historical trends**

**NO change in other revenues or expenses**

**ONLY change is land use**

# Development's Fiscal Impact

## New Residential Development

- ❖ Immediate – Additional tax revenue
- ❖ Gradually see need for increased municipal services:
  - Education
  - Public Works – new roads
  - Other town services – safety, library, recreation
- ❖ In time the population growth will mean capital expenditures for schools and other municipal buildings



# Development's Fiscal Impact

## Additional Commercial Development

- ❖ Immediate – Additional tax revenue
- ❖ Gradually see need for increased municipal services:
  - Increased workers from out of town using town services
  - Additional residential development
  - Shoppers from neighboring towns using town services
- ❖ Commercial real estate values appreciate much slower than residential reducing the grand list percentage mix over time





# Working Lands & Open Space Impact

- ❖ Maintaining and preserving farms, forest and open space may lower future taxes



- minimal municipal services required
- provides balance
- counters impacts of other uses both economically and environmentally

# Mill Rates

A thick, dark blue horizontal bar with rounded ends, positioned below the title "Mill Rates".







# Mill Rates 1997-2007 CPI 29%

## Manchester

1997	24.26
1998	23.99
1999	23.79
2000	23.59
2001	24.79
2002	27.41
2003	32.90
2004	34.31
2005	36.07
2006	38.07
2007	40.14

**15.88 Mills 65%**

## Brooklyn

1997	20.00
1998	20.84
1999	21.00
2000	21.50
2001	21.97
2002	22.97
2003	24.33
2004	25.97
2005	27.34
2006	19.90
2007	21.41

**1.4 Mills 7%**

## Thompson

1997	17.56
1998	17.56
1999	17.90
2000	18.40
2001	19.89
2002	21.64
2003	22.64
2004	23.63
2005	24.63
2006	15.91
2007	16.65

**-.9 Mills -5%**

Population Change

**9%**

**15%**

**2%**



# Community Growth Considerations

What's it all mean .....

Development is good—

provides needed tax revenue

brings new people into the community

Development comes with a price—

cost for added services

possible change in community character

# Community Growth Considerations

What's it all mean .....

Counterintuitive –

more development can mean higher taxes

And, the more land available for development, the more there is cause for concern for the fiscal future of the town

# Community Growth Considerations



# Community Growth Considerations

## Build-Out Analysis

### What is it?

- Tool to analyze amount of future development
- Based on Current Zoning Regulations, site constraints and other information

### What it's not.

- It's not a crystal ball

# Buildout Analysis – 2002 Summary

- Over the previous 30 years, Brooklyn's population increased an average of 12.1% per decade
- 56% of Brooklyn's undeveloped land is potentially buildable
- 13,730 acres are undeveloped (RA, R-30 and VCD)
- Mathematical build-out results indicate 3,529 additional residences could be built, 258% compared to the 2,235 existing in '02
- Build-out could occur in 2070 to 2090

# Buildout Analysis 2009 Update

Buildout analysis – based on current zoning regulations

Changes since 2002 Study:

RA zone – new subdivision lot size  
90,000 sqft (was 30,000)

# Buildout Analysis 2009 Update

- total construction permits issued from 2000-08: 367  
projected population growth for this decade is 20%  
(12% previously)

# Buildout Analysis 2009 Update

## Assumptions made:

vacant parcels with potential for development

- R30 / VCD parcels  $> 1.4$  acres
- R90 parcels  $> 90,000$  sqft
- R90 parcels  $< 90,000$  sqft at time of zone change

## Also:

other parcels with potential for development

- R30 / VCD parcels  $> 2.25$  acres with existing use
- R90 parcels  $> 5$  acres with existing use



# Buildout Analysis 2009 Update

Assumptions made:

each parcel had 43% of undevelopable area

larger parcels (10+ acres) reduced by 20% for needed  
infrastructure and open space setaside

# Buildout Analysis 2009 Update

## Findings:

2008 zoning changes have resulted in significant reduction in buildout potential

Maximum buildout potential (at 150% minimum lot size)  
2,765 additional residences; 203% compared to today

# Fiscal Value of Open Space



Converting Open Space and Agriculture Lands into developed  
increases the demand for services  
increases pressure on mill rate.



# Summary

- ❖ **Residential land use**
  - uses more in services than it brings in revenue



# Summary

- ❖ **Commercial / Industrial development**
  - brings in more revenue than it uses in services
  - usually increases residential development
  - possible town infrastructure costs
  - impacts rural feel of community
  - may have environmental concerns





# Summary

## ❖ Open Space

- brings in more revenue than it uses in services
- no/low demand for services
- retains rural character
- environmentally friendly



# Summary

## ❖ Agriculture / Working Lands

- brings in more revenue than it uses in services
- part of the local economy
- high local multiplier effect
  - hire local workers
  - buy local supplies and services
- smart economic development

**BONUS:** tourism and rural character





**Thank you.**

aerial photos courtesy of: Les Sweetnam  
[GLSweetnam.com](http://GLSweetnam.com)