Center for Regional Analysis, George Mason University

Coles Hill Uranium Report

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Executive Summary

The GMU Center for Regional Analysis has conducted four independent research analyses over the past year examining the potential economic impact of constructing and operating the proposed Coles Hill Uranium Mine and Processing Facilities in Pittsylvania County. This final report contains the key findings of each of the four analyses in separate sections.

A brief description and summary of findings from each analysis is presented below.

Fiscal Impact on Pittsylvania County

This section examines the revenue and expenditure impacts on Pittsylvania County of the proposed uranium mine and mill.

The analysis is based on the County's FY2010 Comprehensive Annual Financial Report. It describes how the Coles Hill operation would have changed the total revenue collected and expenditures made in Pittsylvania County had the mine and mill been fully operational in 2010.

- The primary finding is that in FY2010 the facility would have generated a net fiscal benefit of $1.32 million for the county.
- The revenues would have accounted for 2% of the county's total revenue base, while the additional demand for county-funded services would have accounted for only 0.25% of the county's total outlays in FY2010.
- The net fiscal benefit would have been equivalent to a reduction of 4 cents on the county's real estate tax in FY2010.

Housing Analysis and Update

This section analyzes trends and patterns in the Danville MSA housing market to determine how the local housing market might be affected by the proposed uranium mine and mill.

Multiple factors affect housing supply, demand and pricing. Accordingly, the Center for Regional Analysis examined demographic, employment, land use, housing stock, permits, and sales data among other figures to understand the dynamics in the region's housing market. Compared to these factors, the proposed uranium operation would have a minor effect on the housing market.

At the time of the study (November 2011), the housing market indicators suggested the region had weak and declining demand for housing, accompanied by small changes in the supply of housing (0.5% annual increase 2000-2010) and low home values compared to other regions in the state.

However, in the update (July 2012), the housing market showed signs of strengthening, as measured by number of sales, decreases in foreclosures, and number of residential building permits. The recovery has paralleled gains in the labor market and expansion of the business base.

The initial study found the existing home supply in the Danville MSA is "more than adequate" to meet demand from employees working in the uranium mine and mill.

The Center also conducted a survey of 20 realtors each in the Danville MSA and a comparison location in Texas that has experience with uranium operations to consider the potential impact of the proposed uranium mine and mill.

- The survey found a "general lack of knowledge about the Coles Hill mine" among Realtors in the Danville market.
- The survey of Kingsville, Texas, Realtors found 85% believe the mine "has absolutely no effect on the housing market."

Economic Effects of Uranium Operations in Select Communities

This section addresses the ways uranium mining and milling have affected the economies of a set of communities in the United States that have a history of uranium operations.

The Center selected four counties (San Juan County, UT; Montrose County, CO; Sweetwater County, WY; and Karnes County, TX) that provide several perspectives on the economic impacts of uranium operations. These counties have decades-long experience with uranium operations in different forms and stages.

The Center reviewed economic studies, economic impact analyses, demographic data, plus descriptions of uranium operations past and present, and completed interviews with 22 local, regional and state economic development professionals and community leaders.

- The primary finding is that the majority of respondents believe the uranium operations are positive for their community's economy.

- The direct impacts – especially the jobs created by the mines and mills – are the most important economic impacts for the communities.
- Uranium operations have neither hindered nor helped overall business attraction and retention efforts.
- There is no evidence that uranium operations decrease tourism and outdoor activities.
- The most commonly cited economic downside is the boom-and-bust nature of the uranium business.
- There is unanimous agreement that strong regulation is necessary to protect community health and environment.

Impact on the Business Climate in Pittsylvania County

This section examines recent economic data and builds on findings from the other three analyses to address the consequences of uranium mining on the broader economy and business base in Pittsylvania County.

The primary finding is that there is no current local evidence that Virginia Uranium, Inc.'s announcement that it would seek approval to conduct mining and processing activities at the Coles Hill site has negatively impacted Pittsylvania County's economy.

- Business investment in Pittsylvania County has shown gains in recent years. Recent successes in attracting new business to the County would suggest that its reputation as a good place to locate and do business has not been undermined by the presence of the Coles Hill uranium deposit and its potential mining activities.
- Our review of recent business location decisions in the County confirms that operational issues specific to each company drive site selection decisions, and that the County's competitiveness on factors such as community support, workforce, location and market access, incentives/investments and facility availability have and will continue to account for these successes.
- The housing market has stabilized and experienced an upward trend in sales activity. This market adjustment will accelerate as the County's job base grows, including the addition of the new construction jobs associated with developing the Coles Hill uranium facility and its 324 post-construction, year-round, on-site jobs.

Anticipated positive impacts include jobs created and local spending generated during the construction phase, direct spending with local supplier businesses, and local income effects of personal earnings accruing to mine and mill workers residing in Pittsylvania County. The scale

and scope of these economic impacts have been documented in "The Socioeconomic Impact of Uranium Mining and Milling in the Chatham Labor Shed, Virginia," prepared in November 2011 for the Virginia Coal and Energy Commission by Chmura & Associates.

Conclusions

- The fiscal impact analysis of the proposed mine and mill on Pittsylvania County found a substantial net fiscal benefit for the County.

- The regional housing market analysis found that economic and demographic factors have the greatest impact on housing sales and values with recent housing trends showing gains from the 2008-09 recession. Spending from the uranium mine and mill construction and operation would also be expected to increase demand for housing in the County.

- The analysis of how uranium operations have affected the economies of other counties found that uranium has had a positive economic impact on these communities with no effect on business attraction and retention.

- The business climate analysis concluded that recent gains in the housing market and multiple business attraction successes indicate that the proposed mine and mill do not create a stigma that negatively impacts the County's economy.

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SECTION I: Fiscal Impacts

The Fiscal Impact of the Proposed Coles Hill Uranium Mine and Processing Facility on Pittsylvania County

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October 2011

Summary Of Findings

This fiscal analysis examines the revenue and expenditure impacts on Pittsylvania County of the proposed Coles Hill uranium mine and processing facility. The county's FY 2010 audited accounts, as reflected in its Comprehensive Annual Financial Report, were used to measure these fiscal impacts against the county's other revenue sources and expenditure demands reflecting real costs and tax rates. This fiscal analysis answers the question: how would the Coles Hill uranium mine and processing facility have changed the total revenue collected and the total expenditures made by the Pittsylvania County had it been fully operational in 2010?

This fiscal analysis found that the proposed Coles Hill uranium mine and processing facility would have generated a net fiscal benefit for the county in 2010 had it been in operation. Not only would it have generated a net fiscal benefit for the county, the magnitude of this benefit would have exceeded the average net fiscal benefit that the county realized from its non-residential tax base by a factor of four as expressed on a per employee basis. The key conclusions from this analysis can be summarized as follows:

- The revenues generated by the proposed project would have accounted for 2.0 percent of the county's total revenue base while its demand for county-funded services would have accounted for only 0.25 percent of the county's total outlays during FY 2010;

- It is estimated that had the Coles Hill uranium mine and processing facility been in existence in FY 2010, its net contribution to the county's fiscal base would have totaled $1.32 million; and,

- The net fiscal benefit generated as a result of this substantial surplus of revenues over expenditures would have been equivalent to a reduction of 4 cents on the county's real estate tax rate in 2010.

The fiscal analysis reported herein found that the demand for public services provided by the county to its residents exceed the value of total revenues that the county's residents generate through all forms of local taxes and fees including intergovernmental transfers. This fiscal impact resulted in a net cost of $110.45 per resident during FY 2010. This deficit was compensated for by a net fiscal contribution to the county's budget from its non-residential tax base. The revenue generated by these non-residential activities exceeded their public service

demands (expenditures) approximately 2 to 1 resulting in a fiscal surplus equal to $608.92 per job located in the county. This compensating balance between net fiscal costs generated by the population residing in the county and the net fiscal benefits generated by the non-residential uses located in the county is key to achieving a balanced budget while maintaining a low tax burden on local citizens.

Had the Coles Hill uranium mine and processing plant had a county tax revenue profile and expenditure demand pattern the same as the average for all county non-residential uses during FY 2010, it would have generated a net fiscal benefit to the county totaling $197,290. But because of the substantial investment value of the facilities that would be developed to support the uranium mine and its processing requirements, as reflected in real estate value, the value of motor vehicles and trucks subject to personal property tax (assuming a 50% depreciation of value in the first year for tax purposes), and the high value of machinery and tools subject to local taxation (assuming a 50% depreciation of value in the first year for tax purposes), the estimated revenue contribution to the county's budget will exceed this average value by a factor of four when expressed on a per employment basis. And, in spite of these higher revenues values, the demand for public services provided by the county by the Coles Hill uranium mine and processing facilities will be no greater than those for any other business on average (as expressed on a per employee basis).

The result of this fiscal analysis finds that the net fiscal benefit of the proposed Coles Hill uranium mine and processing facility will generate revenues on a per employee basis that total $4,537.96 (plus $89.47 in transfers and fund balance adjustments) while placing demands on the county for public services that would cost $556.75 per worker for a net fiscal benefit of $4,070.68 per worker employed at the plant. With a workforce of 324, the total net fiscal benefit would have totaled $1.32 million in FY 2010 had the mine been operational during the fiscal year.

Introduction

The objective of this fiscal analysis is to measure the impact of the proposed Coles Hill uranium mine and processing facility on Pittsylvania County's fiscal conditions. The fiscal impact analysis is designed to calculate the revenue and expenditure impacts of the uranium mine and processing facility as if it had existed in fiscal year 2010. Fiscal year 2010 was selected as the analysis year because it is the latest year for which audited revenue and expenditure data for the county were available, as reported in its Comprehensive Annual Financial Report (CAFR). By

loading the associated revenues and expenditures estimated for the proposed project into the FY 2010 budget, its impacts on revenues and expenditures can be assessed in constant dollars (holding inflation constant), at current tax rates, and at constant levels of services and costs. The results of this analysis provide a comparative basis for appraising the fiscal flows that the county would realize from the proposed mine and processing facility had these existed within the budgetary conditions reflected in FY 2010.

Fiscal Impact Methodology

The fiscal impact analysis reported in this document is based on Pittsylvania County's fiscal year 2010 expenditures and revenues as reported in its 2010 Comprehensive Annual Financial Report. This is a "balanced budget" based analysis. By employing the most recent audited financial statements for the county, the analysis enables the fiscal impact of the proposed mine and processing facility to be based on real revenue and expenditure flows, tax rates, and operating costs. The results of this fiscal analysis provide the net fiscal impact on the proposed mine and processing facility on the county's budget relative to its other revenue and expenditures outlays during FY 2010.

The first step in the fiscal analysis is to disaggregate the revenues and expenditures reported in the county's 2010 CAFR, assigning the proportion of each revenue source and category of expenditure to its beneficiaries: (1) residents of the county and (2) businesses and non-business activities including tax exempt uses. These assignments were made based on the records of payments where such records were available and from research in other Virginia jurisdictions. In some cases, an examination of the purposes for a particular class of expenditures was relied upon for the assignment (e.g., debt service relating to bond issues of school were assigned to residents). In other cases allocations were based on the principal that everyone living or working in Pittsylvania County had equal access to a particular service (e.g., General Government) irrespective of whether the service was utilized or not, it was availability to every one. Therefore, its cost allocation is based on a per capita/per employee basis.

For allocations assigned to the county's residents, all revenues and all expenditures for operations including debt service, but excluding capital spending (current year capital spending would be reflected in debt service costs in future budget years) and cash capital outlays, were assigned on a per capita basis.

For non-residential sources of revenues and expenditure beneficiaries were assigned to jobs in both the private and public sectors adjusting for tax exempted activities.

Based on these allocations, the total FY 2010 budget as reported in the CAFR was assigned to residents (based on population) and non-residential activities (as represented by number of jobs). The results of these allocations, divided respectively by the number of residents in the county in 2010 and the number of jobs reported in the county in 2010, yield average per capita and average per job values for the county's revenues and expenditures.

These allocations are presented in Table 1 and provide the fiscal data for the analysis of the Coles Hill Uranium Mine and Processing Facility. For this project- specific analysis, the real estate tax revenue for the mine and processing facility, for its capital equipment and personal property and for its machinery and tools were estimated base on their values during the initial year of operation. These respective revenue estimates were substituted for the average per job revenue values calculated based on all jobs in the county as presented in Table 1. Countywide per- job-averages were used for the other categories of revenues and expenditures.

The results of these analyses provide an estimate of the net fiscal impact of the proposed Coles Hill Uranium Mine and Processing Facility on Pittsylvania County.

Fiscal Flows In Pittsylvania County, FY 2010

An analysis of the CAFR for Pittsylvania County for FY 2010 shows that its expenditures exceeded its revenues by $5.6 million and that fund balance transfers were utilized to achieve a balanced budget as required by the state. As this fiscal impact analysis reflects a balanced budget, these fund balance transfers were included in the fiscal impact analysis for the proposed uranium mine and processing facility.

The fiscal model developed for the county's revenue and expenditure flows and allocations in FY 2010 show that the net fiscal impact of the county's resident population totaled a negative $110.45 per resident reflecting a per capita revenue total of $899.97 and per capita expenditure demand total of $1,086.37 and net transfers and changes in fund balances of + $74.95.

In comparison, the non-residential activities in Pittsylvania County generated a fiscal surplus. If this surplus is calculated on a per job basis, it equaled $608.92 per jobholder in the county (persons working in the county do not necessarily also live in the county). This net fiscal benefit generated by non-residential activities (businesses and other non-residential uses) in the

county offset the net fiscal deficit generated by the residents of the county. The results of this calculation are shown in Table 1.

Table 1: Summary of Fiscal Effects of Residential and Non-Residential Activities In Pittsylvania County, FY 2010

Budget Elements	Per Resident Fiscal Impacts	Per Employee Fiscal Impacts
Revenues	$899.97	$1,076.20
Expenditures	$1,085.37	$556.75
Transfers	- $17.21	- $20.55
Change in Fund Balance	+ $92.16	+ 110.02
Net Fiscal Impact	- $110.45	+ 608.92

The Net Fiscal Impact of the Coles Hill Uranium Mine and Processing Facility

This analysis of per capita and per employee revenues and expenditures provides the framework for estimating the fiscal impact of the proposed Coles Hill uranium mine and processing facility. By substituting the actual revenue values that can be estimated for the mine and processing facility, such as estimated real estate taxes, estimated taxes on machinery and tools, and estimated personal property taxes, for the average of all non-residential activities (as reported in Table 1) and combining these per employee revenues with the averages for all businesses in the county where these specific revenues cannot be estimated specifically for the Coles Hill operation, an estimate for its net fiscal impact can be developed. This estimate is shown in Table 2.

The results of this fiscal impact analysis reflect estimates of county tax revenues specific to the proposal Coles Hill uranium mine and processing facility, its real estate assessment (based on finished construction cost values), the value of its equipment subject to personal property tax (depreciated at 50%), and the value of its machinery and tools (depreciated at 50%). The values used in this analysis reflect the capital cost/value of equipment, machinery and tools that will decline each year following the initial year. As these values will change as new equipment is purchased or as the mix of equipment, machinery and tools changes these tax values will change in future years as will tax rates and other budgetary inputs.

If the Coles Hill uranium mine and processing facility's tax burden was similar to the average of all non-residential uses in Pittsylvania County, its revenue burden would have been $1,076.20 per employee, its expenditure demand per worker would have been $556.75 and its adjustments per worker for budget transfers and changes in fund balances would have equaled $89.47 for a net fiscal benefit totaling $608.92 (from Table 1) for the FY 2010 tax year. By multiplying this per employee net fiscal benefit times the number of employees projected at Coles Hill (324), the result would be a net fiscal gain for the county of $197,290.08 had the uranium mine been in operation for the full year in 2010.

The fiscal analysis shown in Table 2 finds that the proposed uranium mine and processing facility has a much greater revenue potential than the county average for non-residential activities due to its high assessed real estate valuation and its high value of equipment, machinery and tools and vehicles. As a result, the revenue generated by the proposed plant would total $4,537.96 per employee, or more than four times the county average for all non-residential activities. This greater revenue production will generate a net fiscal benefit totaling $4,070.68 after adjustments for transfers and changes in fund balances in 2010 and reflecting an expenditure demand that would be the same on average to any other non-residential activity in the county as prorated to respective employment base size. With this net fiscal benefit, the proposed Coles Hill uranium mine and processing facility would have generated a net fiscal benefit totaling $1,318,900.32 had it existed in 2010.

This fiscal analysis confirms that the addition of the proposed Coles Hill uranium mine and processing facility to the Pittsylvania County tax base will generate a net fiscal benefit for the county as its projected revenues would exceed its projected demand on county-provided public service expenditures. Not only would the proposed uranium mine and processing facility generate a net fiscal benefit for the county but the magnitude of this benefit would far exceed the average net fiscal benefit that the county realized from its non-residential tax base. It is estimated that had the Coles Hill uranium mine and processing facility been in existence in FY 2010, its net contribution to the county's fiscal base would have totaled $1.32 million.

The revenues generated by the proposed project would account for 2.0 percent of the county's total revenue base while its demand for county-funded services (expenditures) would account for only 0.25 percent of the county's total outlays in 2010 as reported in its CAFR. The net fiscal benefit generated as a result of this substantial surplus of revenues over expenditures would have been equivalent to a reduction of 4 cents on the county's real estate tax rate in 2010.

Table 2: Estimated Fiscal Impact of the Coles Hill Uranium Mine and Processing Facilities On The Pittsylvania County FY 2010 Budget

Source	Per Employee
Expenditure Demand	$556.75
Revenue	
Average for county excluding real estate, personal property and machinery and tools	$619.89
Estimated real estate tax*	$577.18
Estimated personal property taxes*	$1,234.84
Estimated taxes on machinery and tools*	$2,106.04
Total Revenues	$4,537.96
Net Fiscal Impact w/o fund balance adjustments	$3,981.20
With Adjustment for transfers and changes in the fund balance	+ $89.47
Total Net Fiscal Impact	$4,070.68

Source: GMU Center for Regional Analysis, *reflects employment base of 324 jobs.

SECTION II: Housing Analysis Update

Update to the Coles Hill Housing Analysis

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Overview

The purpose of this sub-section is to update the key housing metrics provided in the Coles Hill Housing Analysis released in November 2011. The general trends reported in November 2011 have continued through the first quarter of 2012.

- Overall, the housing market in the Danville MSA appears to have strengthened since the initial analysis.

- The proportion of homes for sale in Danville vs. Pittsylvania County remains the same as it was in September 2011, however the overall inventory of homes for sale is slightly lower.

- Sales have been rising in the Region, though still well below the pre-2008 levels. The Southside Region had three consecutive quarters of year-over-year sales increases.

- Following a $20,000 surge in Q3-2011, the median sales price for the Southside Region has fallen to $78,900, consistent with seasonal norms.

- The Southside region experienced a 36.9 percent decrease in foreclosures between Q4-2011 and Q1-2012, the sharpest decline in the state.

Housing Market Snapshot: Danville MSA, 1st Quarter 2012

There were 157 sales in the Danville MSA during the first quarter of 2012. The City of Danville still leads Pittsylvania County in quantity of sales, though homes are selling faster in Pittsylvania County. In terms of pricing, homes in Pittsylvania County sold for over $25,000 more than the City of Danville in the first quarter. This could reflect several factors including larger lot sizes in the county, location preferences of the buyer market, and the general age of the housing stock. The median sale-to-list price ratios are very similar in both markets.

Q1-2012 Housing Market Snapshot

Metric	Danville MSA	Danville City	Pittsylvania County
Units Sold	157	98	59
Median Sales Price	$75,000	$64,750	$85,000
Median Days-on-Market	139	140.5	132
Median Sales-to-List Price Ratio	93.23%	93.12%	93.40%

Source: Virginia Association of Realtors

Regional Housing Market Trends

Sales

Home sales in the Southside Region have been on an upward year-over-year trend during the first quarter of 2012. There were 378 sales in Q1-2012, up 6.5 percent from Q1-2011, and the third consecutive quarter of over-year gains for the region since the initial was released. Still, volumes remain slow relative to pre-2008 levels, which is in line with national housing trends.

Southside Region Home Sales

Quarter	Sales	Y-o-Y Chg
Q1-2012	378	6.5%
Q4-2011	335	2.4%
Q3-2011	419	29.3%
Q2-2011	454	-9.2%
Q1-2011	352	4.5%
Q4-2010	321	-24.5%
Q3-2010	340	-28.9%
Q2-2010	498	21.2%

Source: Virginia Association of Realtors

Median Sales Price

The median sales price in the region remains changeable reflecting the mix of units in the market. Since the initial analysis, the median sales price spiked $20,000 between Q2-2011 and Q3-2011 before declining $16,100 during 2011 and Q1-2012. At $78,900, the Q1-2012 median sales price for the Southside Region is percent higher than Q1-2011, a $5,150 increase in value.

Southside Region Median Sales Price

Quarter	Price	Y-o-Y Chg
Q1-2012	$78,900	11.1%
Q4-2011	$84,000	-1.2%
Q3-2011	$95,000	15.9%
Q2-2011	$75,000	-15.7%
Q1-2011	$73,750	-10.6%
Q4-2010	$87,400	1.6%
Q3-2010	$82,000	-12.8%
Q2-2010	$90,125	7.9%

Source: Virginia Association of Realtors

Foreclosures

As with many areas in Virginia, the volume of foreclosures in the Southside region has decreased significantly over the past two quarters. There were 53 foreclosures in Q1-2012, 36.9 percent below the previous quarter level of 84, which represents the sharpest decline in the state. The diminishing supply of foreclosures is an encouraging sign as foreclosures often put downward pressure on housing prices.

Southside Region Foreclosures

Quarter	Foreclosures	Q-o-Q Chg
Q1-2012	53	-36.9%
Q4-2011	84	-65.1%
Q3-2011	241	21.7%
Q2-2011	198	-4.8%
Q1-2011	208	-37.3%
Q4-2010	332	60.4%
Q3-2010	207	-1.4%
Q2-2010	210	9.4%

Source: Virginia Association of Realtors

Residential Construction Activity

Year-to-date residential building permit volumes for the Danville MSA through May are at their highest level since 2007. This could be partially attributed to the unseasonably mild winter season, however it could also indicate an uptick in demand for new housing.

Residential Building Permit Volumes
Jan-May by Year

Year	Danville MSA	
2012	60	15.4%
2011	52	40.5%
2010	37	19.4%
2009	31	-41.5%
2008	53	-32.1%
2007	78	

Source: US Census Bureau

Active Listings

There were 635 active listings in the Danville MSA (as of 6/22/12), which is 9.2 percent below the listing volume of 699 reported in the initial analysis (as of 9/13/11). The City of Danville, which is comprised of zip codes 24541 and 24540, still leads the County with 68 percent of all active listings, the same proportion as reported in the initial analysis.

Danville MSA Active Listings (As of 6/22/12)

Zip Code	Active Listings	Proportion
24541	240	37.8%
24540	194	30.6%
24531	60	9.4%
24557	30	4.7%
24549	26	4.1%
24527	21	3.3%
24586	18	2.8%
24530	11	1.7%
24566	8	1.3%
24563	6	0.9%
24565	6	0.9%
24069	4	0.6%
24054	3	0.5%
24594	3	0.5%
24139	2	0.3%
24569	1	0.2%
24137	1	0.2%
24597	1	0.2%
24161	0	0.0%
27326	0	0.0%
TOTAL	**635**	

Sources: Dan River Region Association of Realtors, zipmap.net

Conclusion

The housing market in Pittsylvania County and the City of Danville has experienced further improvement since the third quarter of 2011 with 2012 conditions (through March 2012) reflecting year-to-year gains in sales volume and pricing. This continuing recovery is closely paralleling gains in the areas labor market and expansion of the County's business base.

SECTION III: Housing Analysis

Coles Hill Housing Analysis

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Executive Summary

The purpose of this study is to ascertain how the Danville MSA real estate market might be affected by the Coles Hill mine. Demographic and economic conditions were examined along with the historic and current values for various types of land use in Pittsylvania County and the city of Danville. These trends and market patterns were studied in terms of their susceptibility to price changes as a result of the development and operation of the proposed uranium mine at Coles Hill.

The analysis on the following pages will explain in greater detail this summary of its highlights:

The demand for housing in the Danville MSA is trending down due to significant demographic and economic declines in recent years. Unlike neighboring MSAs (Lynchburg and Roanoke), the Danville MSA actually lost population between 2000 and 2010. And, the fastest rate of decline among young people (under the age of 19) in the general population. Further and as recently as the 2008-2009 time period, more residents moved out than moved into the MSA. Finally, population is projected to grow in this MSA at a slower than average rate of only 1.6 percent through 2030.

Population erosion (and therefore the need for housing) may be due in some part to a loss of jobs. Civilian employment in the Danville MSA declined 11.4 percent from 2000 to 2010. The largest losses occurred in the manufacturing sector, long a mainstay of the local economy. As a result, the unemployment rate in the Danville MSA exceeded the statewide rate every month since at least January 2001 and the national rate for 125 of the last 128 months. Incomes have clearly suffered - two thirds of the residents in the Danville MSA earn less than $50,000 per year with a 2010 median household income of $35,964 (28 percent less than the national median and 41 percent less than the Virginia median). Because the majority of land cover in Pittsylvania County (87 percent) is rural in character (forest or farm land) the current infrastructure is unlikely to boost employment levels in the near future.

The supply and value of housing in the Danville MSA slowed to match demand in the last decade. For example, the supply of housing in the Danville MSA increased at a level of only .5 percent per year from 2000 to 2010. While 70 percent of the homes in the Danville MSA are single family homes, it is interesting that it also includes an unusually high percentage of mobile homes (18 percent). As a result of the economic and demographic conditions in the area, homes are not typically new. In fact, 47 percent of homes in the Danville MSA are over 40 years old. Home values are also low in comparison to other areas in the state; 53.2 percent of them

are valued at something less than $100,000 and the median home value is $95,500. The pace of growth in the value of owner-occupied homes only increased at an annual pace of 2.5 percent per year from 2000 to 2010, down from a 6 percent pace between 1990 and 2000.

The lack of affordable rentals in the Danville MSA is also a deep concern; 54 percent of renters are housing cost burdened (i.e., their monthly housing cost exceeds 30 percent of their gross income).

In spite of all this, some housing market indicators are encouraging. The Danville MSA's House Price Index improved in the last two consecutive quarters and although still comparatively low, the average value of building permits issued in the MSA improved in 2010 and 2011. Finally, foreclosures were trending down at the end of 2010 in the city of Danville where 68 percent of the MSA's foreclosures occur.

The existing home supply in the Danville MSA is more than adequate to house the employees that may move to the area if the Coles Hill mine becomes operational, even if all 324 mine employees moved from elsewhere and needed housing. In mid-September 2011, 699 homes were on the market in the Danville MSA; 68 percent were located in the city of Danville and 32 percent were in Pittsylvania County. The housing in the area would be affordable for a wide variety of salary scales since the active listings had median list prices ranging from a low of $98,500 to $149,900 (depending on location) and 26 percent of these active listings were priced between $50,000 and $99,999. Demand and therefore prices have not yet rebounded in this market, 36 percent of sellers have dropped their asking prices. Additionally, these existing home listings will face little competition from new homes in the Danville MSA. There are no active subdivision applications in the city of Danville or Pittsylvania County and the six subdivisions that were approved (for a total of 62 lots) in the county from 2009 to 2011 are not yet under construction. This suggests there is no measurable demand for new homes.

The Realtors in a given area are a good source of information on the trends in their local housing market. Surprisingly, a survey of Realtors in the Danville market indicates a general lack of knowledge about the Coles Hill mine. Local Realtors tend to agree that the Danville MSA housing market has suffered significantly in the last three years - primarily due to a loss of area jobs. At least 50 percent of the Danville Realtors surveyed also believed the Coles Hill mine operation will negatively affect the housing market but another 30 percent either could or would not comment. Although 50 percent of Danville Realtors in this survey believe the Coles Hill Mine will boost the local economy, another 40 percent were unsure how the economy would be affected.

A similar phone survey of local Realtors in Kingsville, Texas, was conducted to ascertain how perceptions of mine operations may change over time. A uranium mine in Kingsville, Texas, is nearing the end of its life cycle and locals have the benefit of hindsight there. In contrast to the Danville survey, most of the Kingsville, Texas, Realtors surveyed believed their market's decline was merely slight and that it was primarily due to changes in lending standards (as opposed to job losses). A significant 85 percent of the Kingsville, Texas, Realtors believed the mine there currently has absolutely no effect on the housing market.

Given the high share of workers looking for employment in the Danville region, the proposed Coles Hill mine will have an adequate supply of available nearby employees in Pittsylvania County and the city of Danville. They will be motivated by a desire to shorten long average commute times while increasing the average wage. If the skills required of workers in the proposed mine are scarce in the Danville region, skilled workers will likely live in neighboring counties such as Campbell County, Virginia or Caswell County, North Carolina.

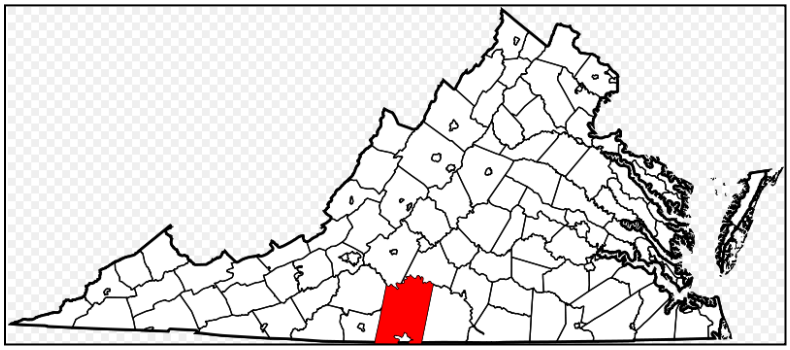
Introduction

The Center for Regional Analysis at George Mason University was commissioned in mid-2011 to analyze the trends and patterns in the Danville Metropolitan Statistical Area (MSA) housing market. The purpose was to determine how the local housing market might be affected if a proposed uranium mine were allowed to open in the Pittsylvania County and city of Danville area.

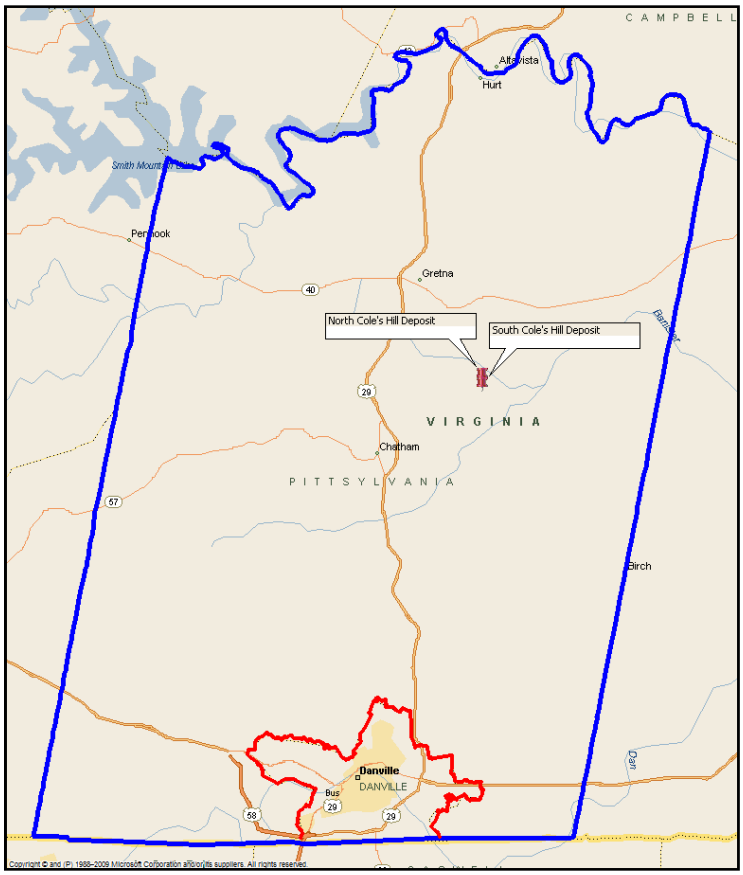
Market trends and patterns are analyzed using those demographic and economic factors that play the largest role in defining housing demand and values. Existing home data is also used to provide a historical picture of the local market along with an informed summary of what to expect in the future.

Pittsylvania County is located in the south central section of the Commonwealth and borders North Carolina. It is a component of the Danville Metropolitan Statistical Area (MSA) that also includes the city of Danville, located in the southern part of Pittsylvania County. The proposed mine is located on Coles Hill Road in Pittsylvania County, roughly nine miles northeast of the county seat, Chatham (as shown on the following page).

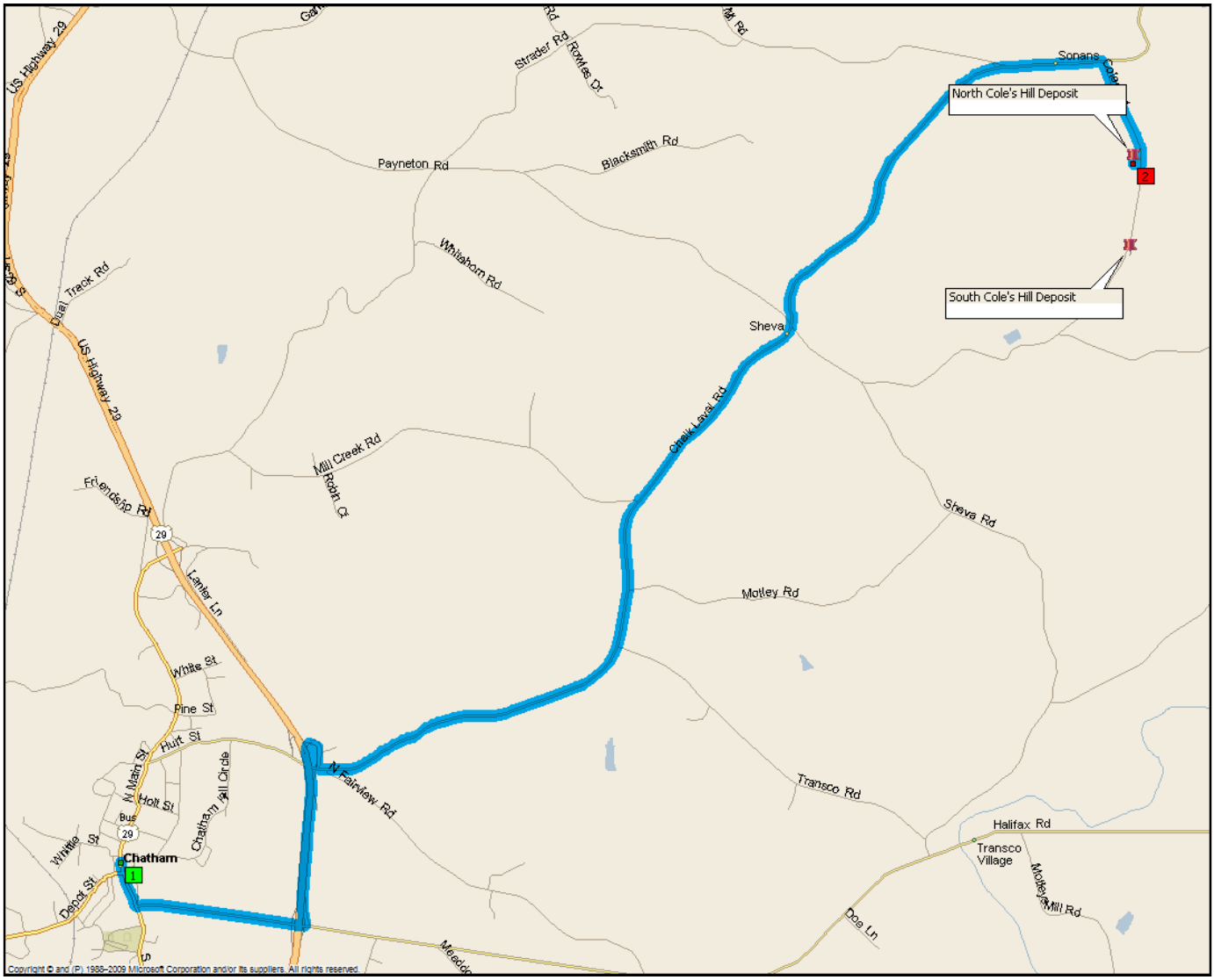
Pittsylvania County Location within the State of Virginia



Danville MSA

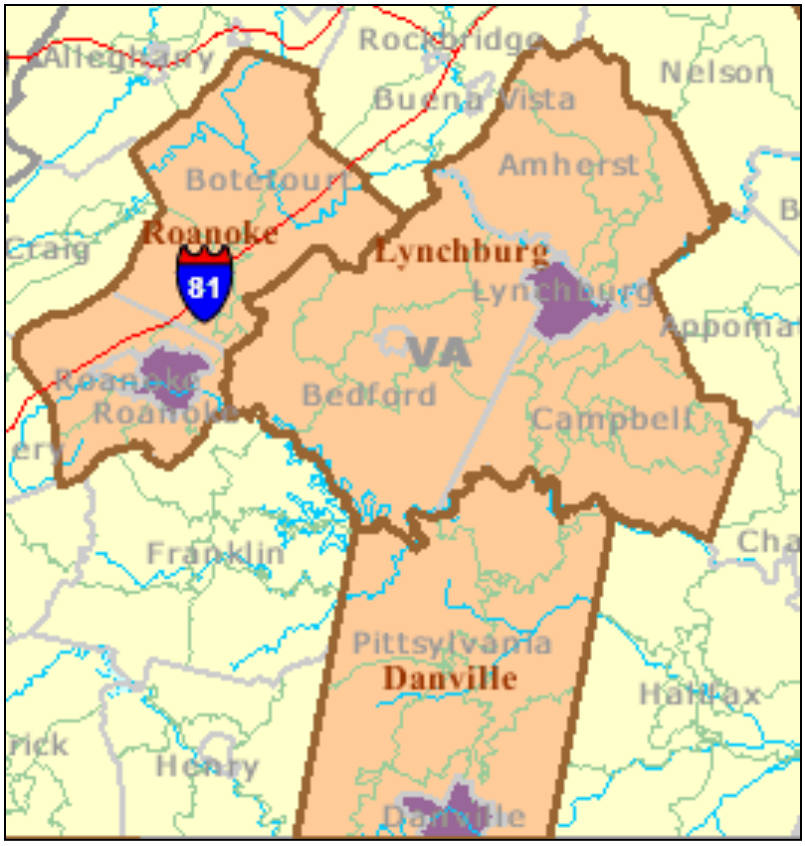


Coles Hill Location within Pittsylvania County



This analysis uses demographic data available for the Danville MSA compared to the nearest MSAs within the state of Virginia: Lynchburg and Roanoke. The Lynchburg MSA is located north of the Danville MSA and includes the cities of Lynchburg and Bedford as well as the counties of Bedford, Campbell and Amherst. The Roanoke MSA is located northwest of the Danville MSA and consists of the cities of Roanoke and Salem along with the counties of Roanoke, Botetourt, and Craig.

Danville, Lynchburg, and Roanoke MSA Locations

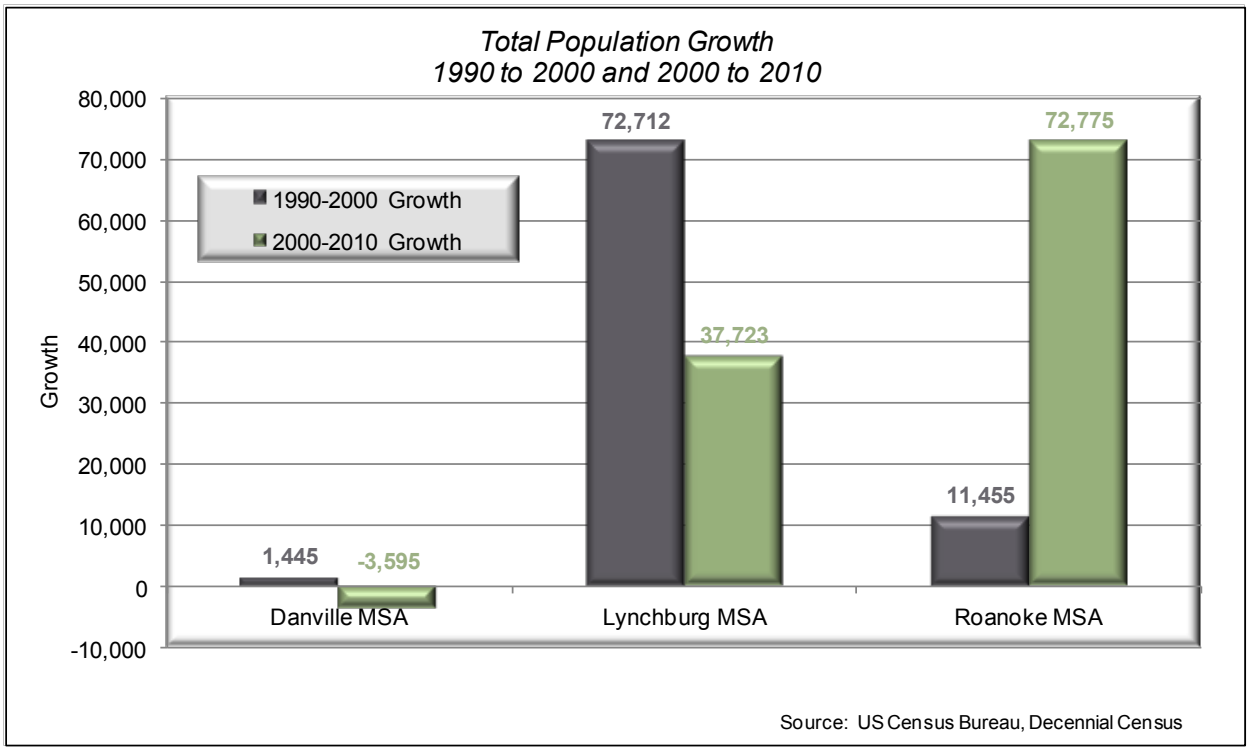


Demographics

Population

Unlike the Lynchburg and Roanoke MSAs, the Danville MSA gained relatively few residents between 1990 and 2000 and actually lost population in the last decade. The graph below illustrates population trends since the 1990 census in each MSA. From 1990 to 2000, population in the Danville MSA increased at an annual rate of .1 percent (1,445 residents) while the annual growth rate over the same period was 5.1 percent in the Lynchburg MSA (72,712 residents) and .5 percent in the Roanoke MSA (11,455 residents). From 2000 to 2010, there was a loss of population in the Danville MSA at an annual rate of -.3 percent (-3,595 residents) – enough to negate the gains from the previous decade and then some. Growth slowed in the

Lynchburg MSA over the period to an annual pace of 1.8 percent and increased substantially to 3.1 percent in the Roanoke MSA.



Components of Population Growth

The Census Bureau tracks two components of population growth, 1) the natural increase of births over deaths and 2) migration at the city and county level. The table below summarizes the sources of population growth in the Danville MSA (the city of Danville and Pittsylvania County) from April 1, 2000 to July 1, 2009.

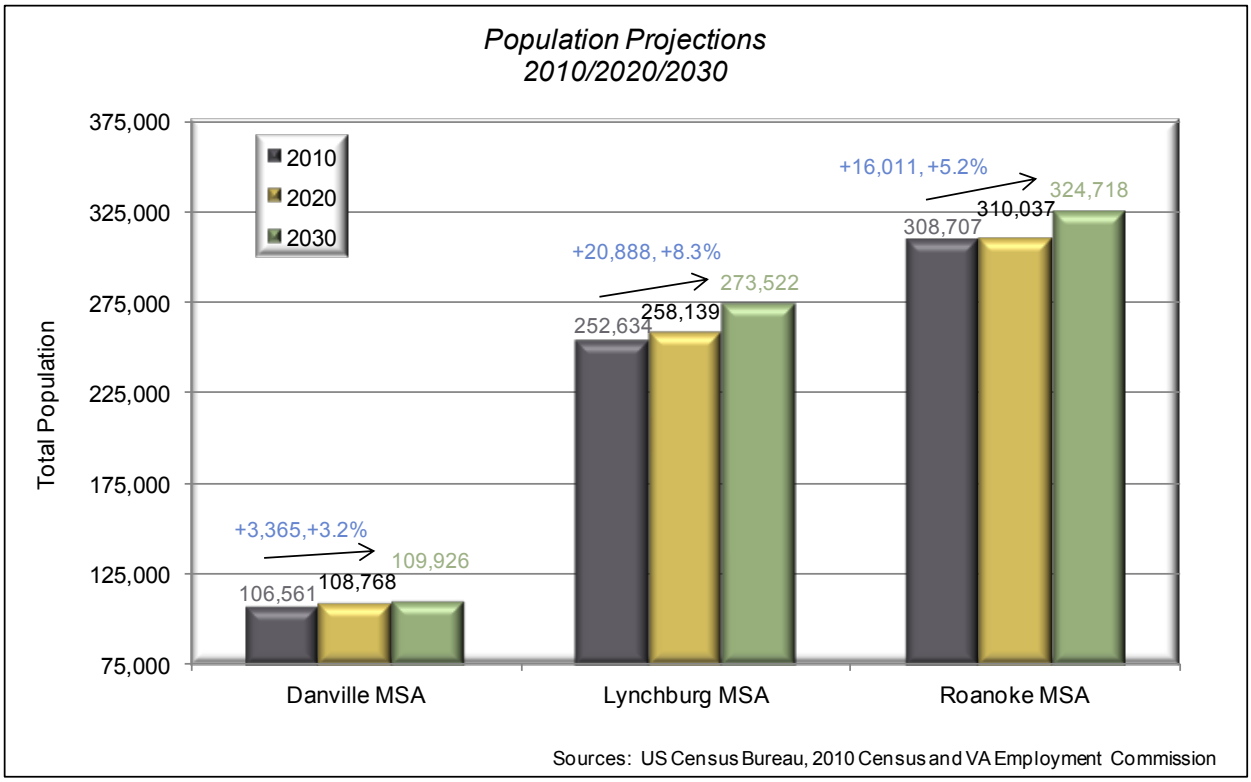
As detailed below, there were more deaths over the period than there were births resulting in a negative natural increase component in the Danville MSA. Compounding that issue was a net migration trend out of the area. Although migrants from outside the country provided positive migration, over four times more domestic residents migrated out of the MSA. Obviously, with a decreasing population, the need for housing in the region has also declined.

Cumulative Estimates of Components of Population Change	Danville MSA
Census Population 4/1/00	110,158
Natural Increase	
Births	11,652
Deaths	12,487
Total Natural Increase	-835
% of Total Population Change	19%
Migration	
Net International Migration	848
Net Domestic Migration	-3,734
Total Migration	-2,886
% of Total Population Change	66%
Census Population 7/1/09	105,814
Total Population Change	-4,344
% Population Change	-3.9%

Source: U. S. Census Bureau

Population Projections

The Virginia Employment Commission projects that the Danville MSA will add 3,365 persons from 2010 to 2030 for a population growth rate of 3.2 percent over the next 20 years. Growth in the Lynchburg MSA is expected to total 20,888 persons over the same period for an overall growth rate of 8.3 percent. The population in the Roanoke MSA will grow by 16,011 persons resulting in a growth rate of 5.2 percent by 2030.



Migration

The Internal Revenue Service (IRS) tracks the movement of taxpayers from year to year. The table below summarizes the Danville MSA migration patterns, both in and out, from the 2008-2009 tax year. Some observations:

- The most popular destination, by far, for Danville city residents is Pittsylvania County and vice versa;
- Slightly more people moved out of the MSA than moved in (96 more residents left the area than moved in, 4.6 percent);
- 65 percent of in-migrants came from elsewhere in the state;
- 39 percent of out-migrants moved out of the state;
- Less than one percent of in-migrants came from outside the US; and
- A negligible share of out-migrants moved outside the US.

Migration Analysis

In-Migration

County	*Total Returns*	*In Migrants*	*% In Migration*	*% Non-Migrants*	*% Same State*	*% Different State*	*% Foreign*	*#1 Origination*
Danville MSA	40,220	2,082	5.2%	94.8%	65.1%	34.1%	0.8%	Danville, Pittsylvania County

Out-Migration

County	*Total Returns*	*Out Migrants*	*% Out Migration*	*% Non-Migrants*	*% Same State*	*% Different State*	*% Foreign*	*#1 Destination*
Danville MSA	40,316	2,178	5.4%	94.6%	61.5%	38.5%	-	Danville, Pittsylvania County

Source: Internal Revenue Service, 2009 Returns

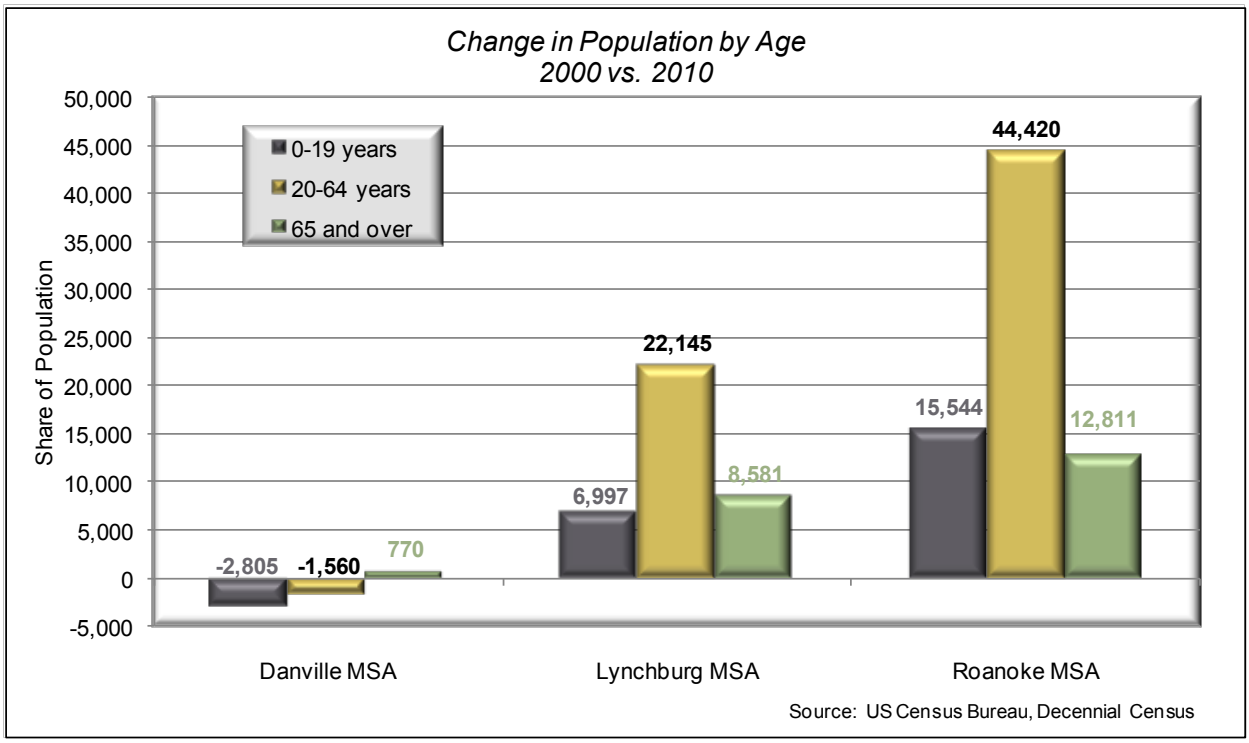
"-" = data suppressed; < 10 returns

This migration data supports the demographic findings that the Danville MSA is losing population. It is also interesting that, according to this data, more Danville MSA residents moved out of the state than moved in from another state in 2008-2009.

Age

The median age in the Danville MSA had a much larger change from 2000 to 2010 than the change in the Lynchburg or Roanoke MSAs in the last decade. From the 2000 Census to the 2010 Census, the median age rose from 40 years to 43.7 years in the Danville MSA. In Lynchburg, the median only rose from 38 years to 39.8 years and in Roanoke the median was 39.4 years in 2000 and 42 years in 2010.

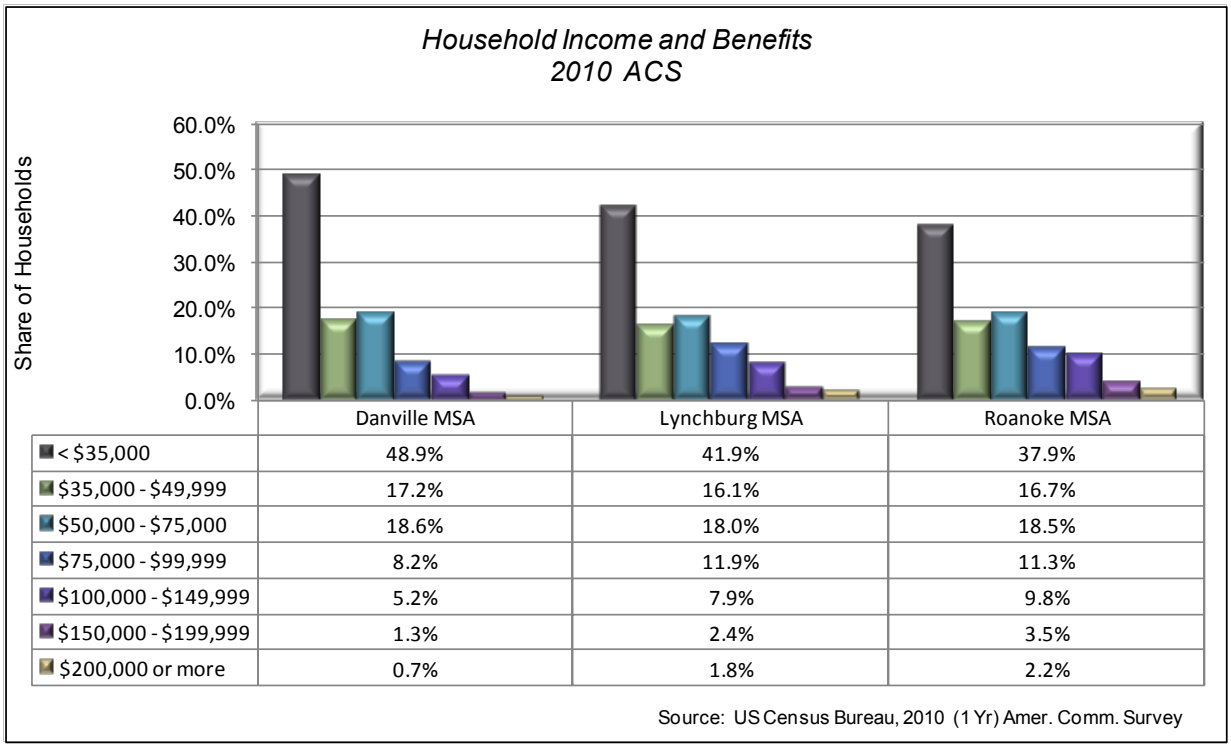
The graph below illustrates that the decrease in population noted earlier was primarily a loss of young people probably as a result of lower birthrates and out migration. The population of residents aged 20 to 64 grew substantially in both the Lynchburg and Roanoke MSAs while the Danville MSA lost population among this age group who typically make up the largest part of the workforce.



Income

According to the 2010 American Community Survey (1-year estimate), the median household income in the Lynchburg MSA was 14.7 percent higher and in Roanoke it was 26.7 percent higher than the median in the Danville MSA. The graph below illustrates the share of residents with various income levels. It is clear that Danville MSA residents' incomes are concentrated at the low end of the salary scale compared to residents in the Lynchburg or Roanoke MSAs. Two-thirds of Danville residents earn less than $50,000 per year. The share shrinks to 58 percent in the Lynchburg MSA and to 54.6 percent in the Roanoke MSA. Conversely, 2 percent of residents earn over $150,000 in the Danville MSA while the share is more than double that in the Lynchburg MSA and exceeds three times that amount in the Roanoke MSA.

MSA	Median Household Income (2010 ACS)	vs. Danville MSA
Danville	$35,964	-
Lynchburg	$41,248	+14.7%
Roanoke	$45,569	+26.7%



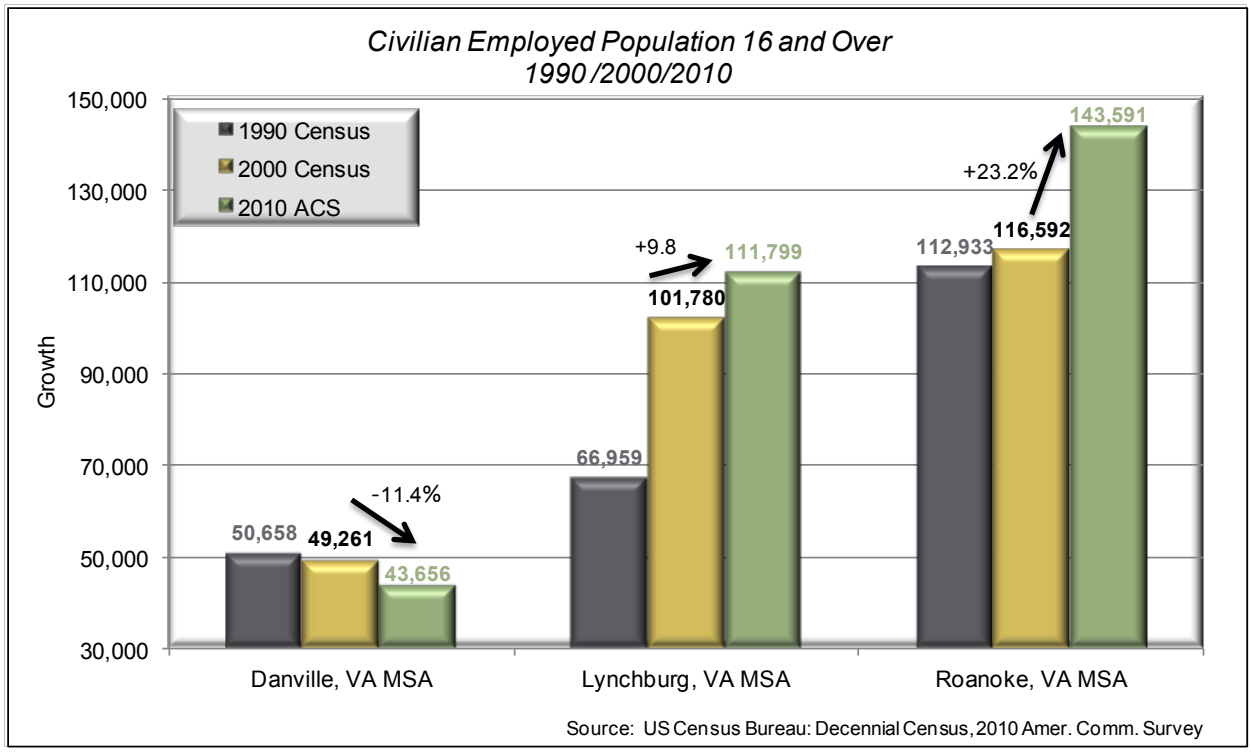
	Danville MSA	Lynchburg MSA	Roanoke MSA
< $35,000	48.9%	41.9%	37.9%
$35,000 - $49,999	17.2%	16.1%	16.7%
$50,000 - $75,000	18.6%	18.0%	18.5%
$75,000 - $99,999	8.2%	11.9%	11.3%
$100,000 - $149,999	5.2%	7.9%	9.8%
$150,000 - $199,999	1.3%	2.4%	3.5%
$200,000 or more	0.7%	1.8%	2.2%

Source: US Census Bureau, 2010 (1 Yr) Amer. Comm. Survey

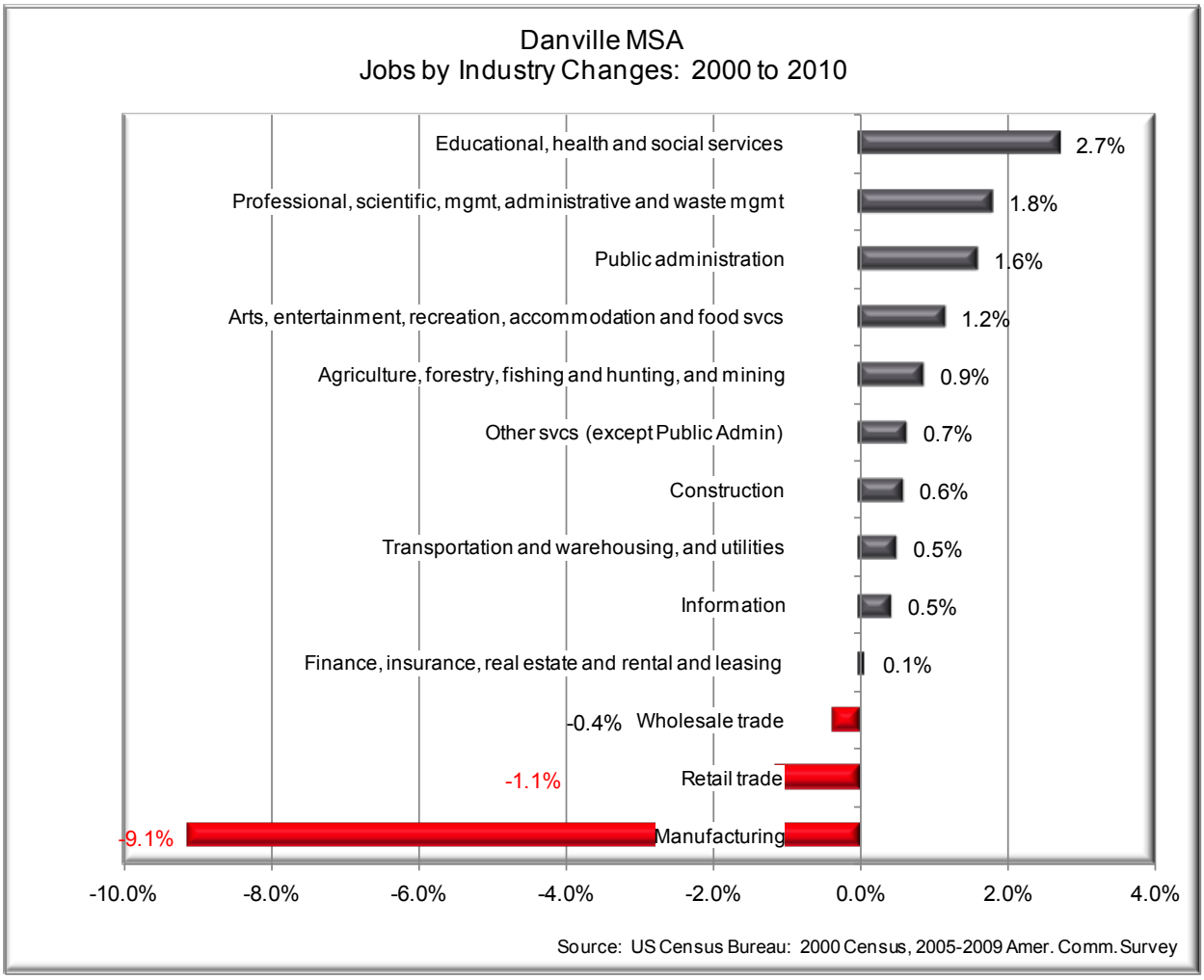
Employment

Civilian Employment

The graph below illustrates the change in civilian employment since 1990 in the three MSAs under investigation. The employment rolls increased 9.8 percent in the Lynchburg MSA and 23.2 percent in the Roanoke MSA from 2000 to 2010. By contrast, the number of employed residents declined 11.4 percent in the Danville MSA, probably as a result of failing and closed businesses.



The industry that has suffered the most over the last decade in the Danville MSA is the manufacturing sector which lost 9.1 percent of its civilian employment. The two other industries with losses, Wholesale Trade and Retail Trade, are probably due in some part to the losses in the manufacturing industry.



Even though there has been a dramatic decrease in the number of manufacturing establishments in the Danville MSA over time, manufacturing still tops the list of industries in the area. With less than 4 percent of the establishments, manufacturing employees make up over 17 percent of the workforce. The distribution is different in the Lynchburg and Roanoke MSAs where the health care industry is ranked first (16 percent of establishments, 15.8 percent of employees) followed by manufacturing (4.8 percent of establishments, 15.5 percent of employees) in the Lynchburg MSA. Health care (11.3 percent of establishments, 17 percent of employees) and retail (13.4 percent of establishments, 12.4 percent of employees) top the list of industries in the Roanoke MSA.

Distribution of Industries in Danville MSA

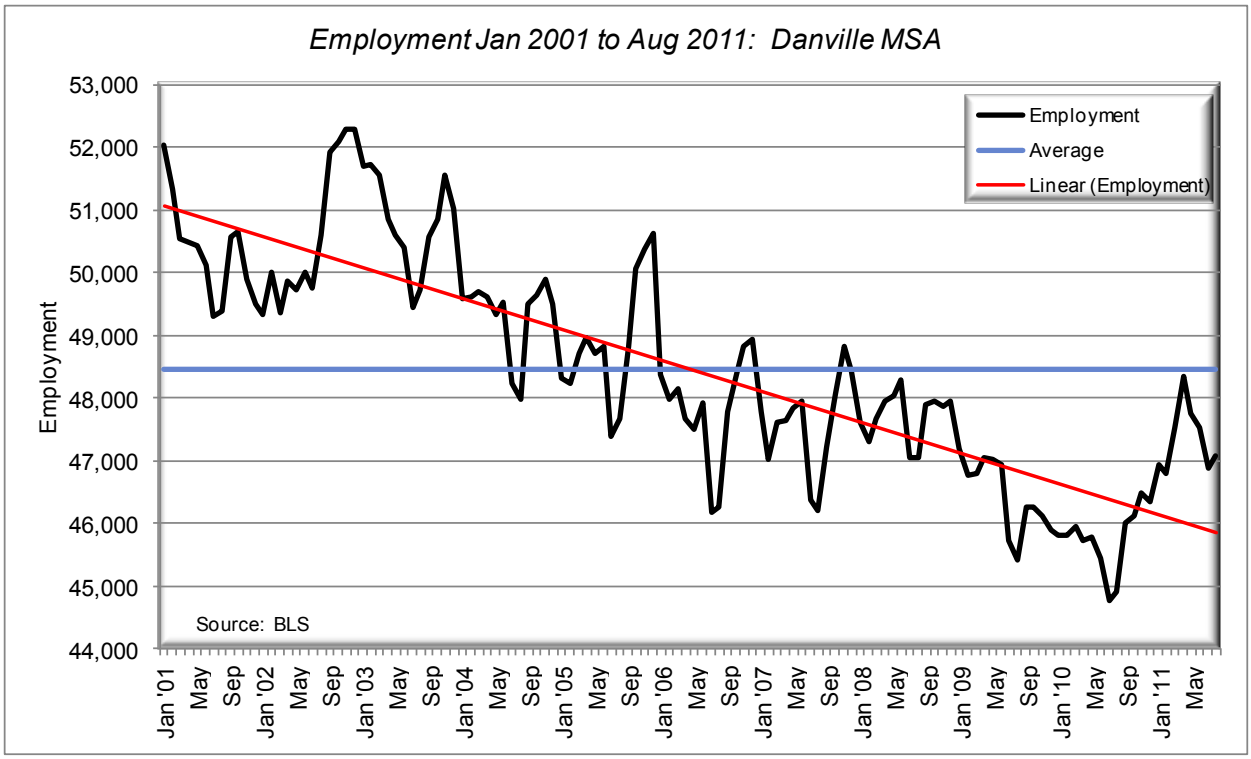
Sorted by # of Employees

Rank	Industry Sector	Establishments		Employees	
1	Total, all industries	2,500		37,821	
2	Manufacturing	97	3.9%	6,569	17.4%
3	Health Care and Social Assistance	460	18.4%	6,192	16.4%
4	Retail Trade	414	16.6%	4,986	13.2%
5	Education Services	31	1.2%	4,748	12.6%
6	Accommodation and Food Services	174	7.0%	2,988	7.9%
7	Admin., Support, Waste Mgmt, Remediation	105	4.2%	2,709	7.2%
8	Public Administration	74	3.0%	1,732	4.6%
9	Construction	248	9.9%	1,467	3.9%
10	Wholesale Trade	96	3.8%	1,390	3.7%

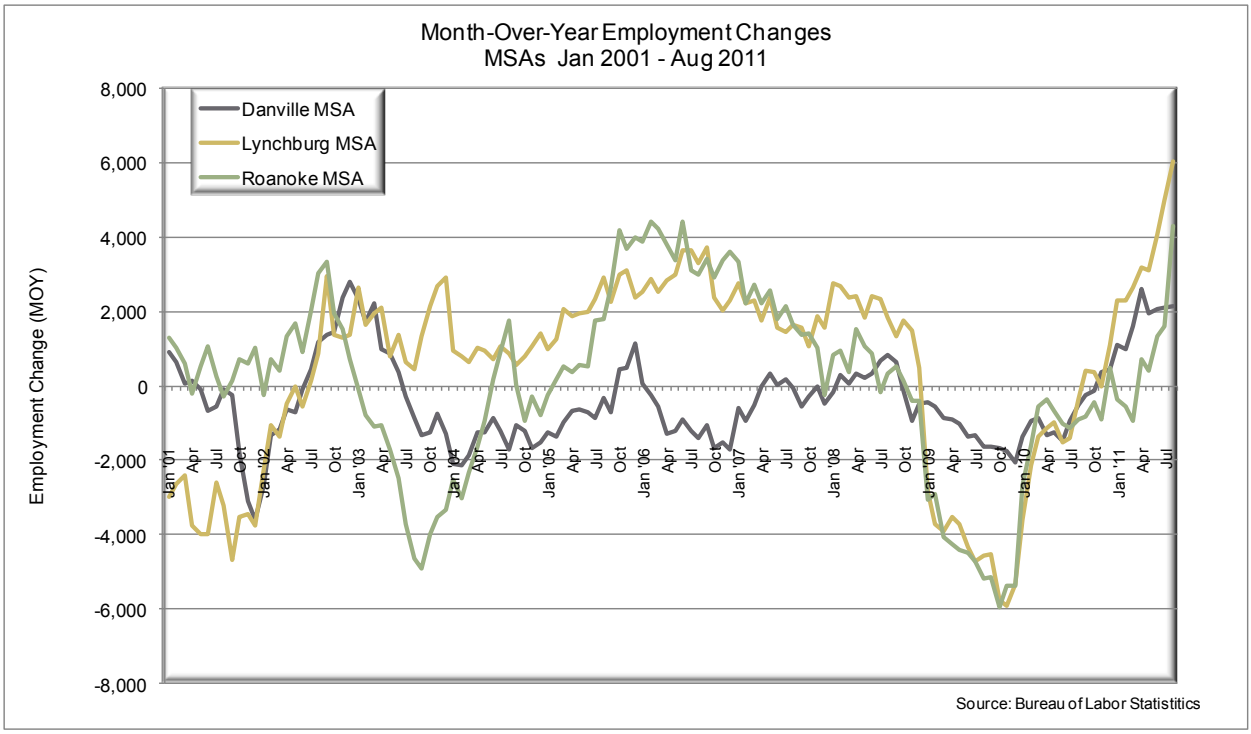
Source: VEC Labor Market Statistics, Quarterly Census of Employment and Wages Program, 1Q 2011

Employment Growth

As reported by the Bureau of Labor Statistics, the black line on the graph found on the following page illustrates monthly employment levels in the Danville MSA since January 2001; the blue line represents the average and the red line denotes the trend over the period. Non-farm employment reached a peak in December 2002 (52,292 jobs) and the trough occurred in July 2010 (44,744 jobs). The ten-year average employment is 48,459 jobs. However, employment in the Danville MSA has not reached the average since December 2007. Employment rolls have trended up since July 2010, indicating improvement in the labor market, but they have not yet reached the long time average.



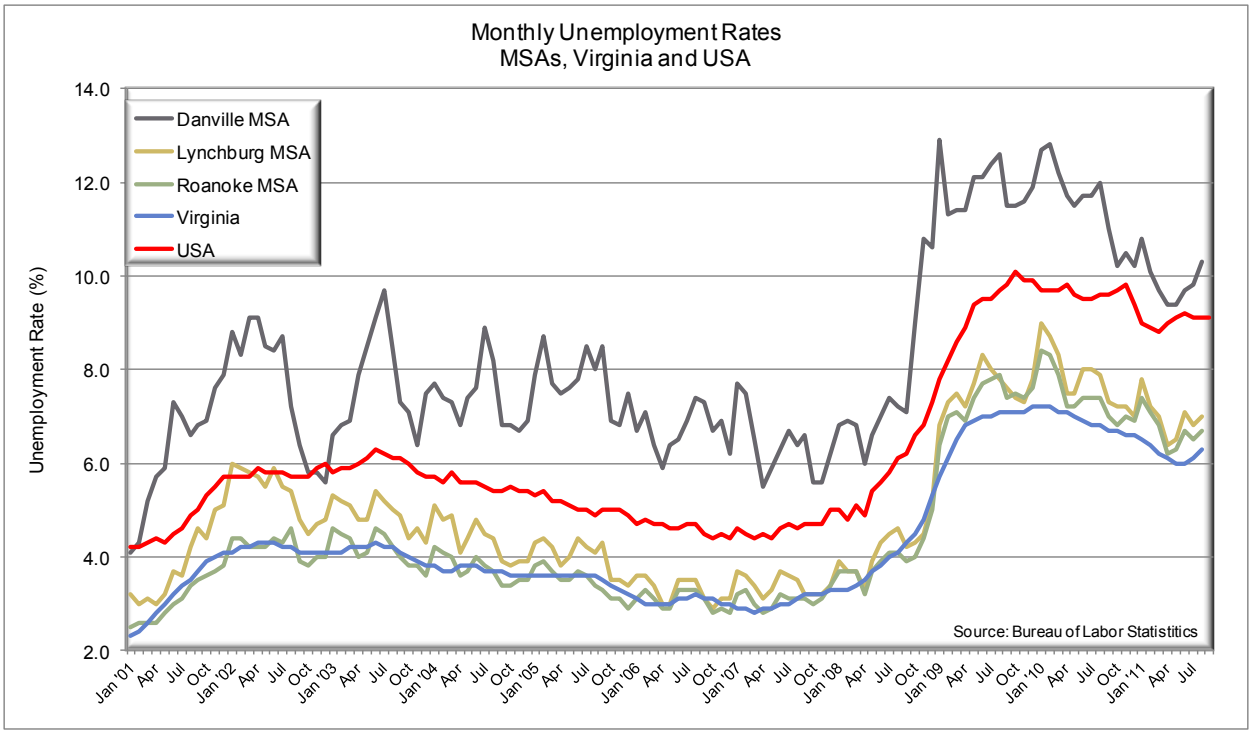
The graph on the following page illustrates the month-over-year change in employment in each of these MSAs. What is apparent is that the Danville MSA experienced job losses on a month-over-year basis in 111 of the 152 months covered here (73 percent). However, for the last ten months, this indicator has been positive suggesting that the MSA's job market is in a state of recovery. Roanoke and Lynchburg added jobs at a faster pace through the decade but also had substantial losses in 2009 and 2010.



If the Coles Hill uranium mine had opened in August 2011 and was fully staffed, employment would still be below the ten-year average at 47,407 jobs.

Unemployment Rates

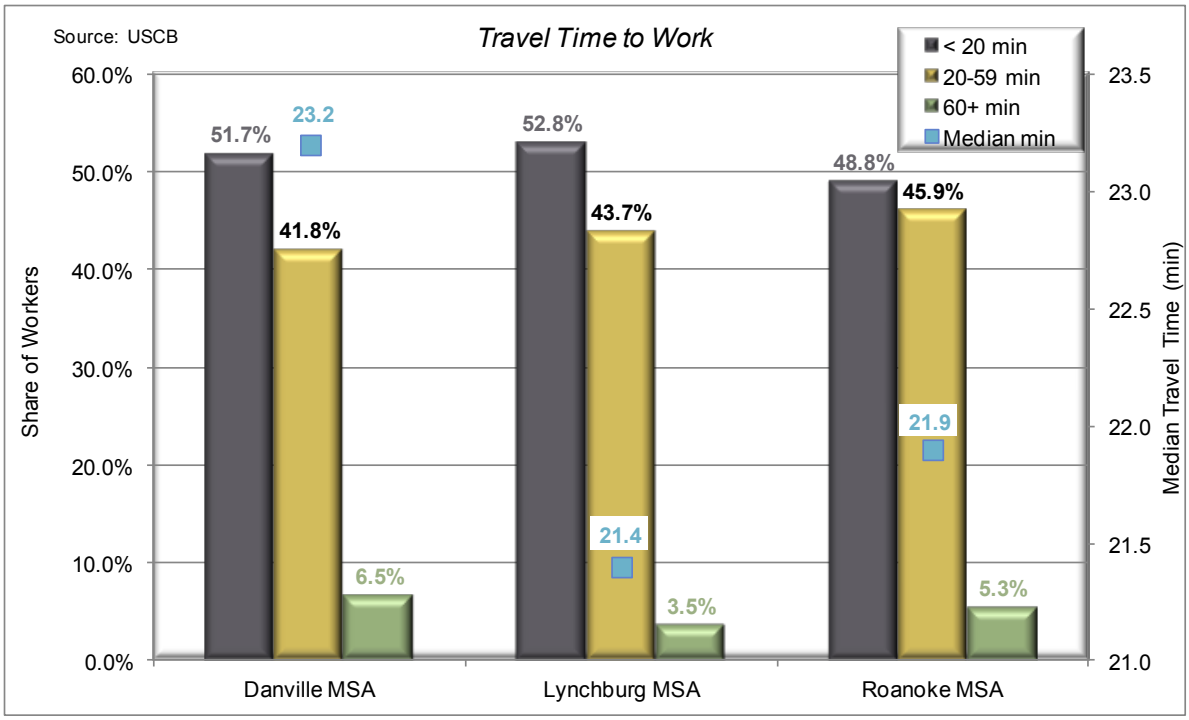
Much has been made of the high unemployment rates in the Danville MSA. That is because the unemployment rate in the Danville MSA exceeded the national rate in all but three months in the 128 months from January 2001 to August 2011 – all before 2003. The graph on the below illustrates the monthly unemployment rates in the MSAs under examination along with the statewide and national rates. The gray line represents the Danville MSA and it is clear that it has a long history of exceeding the rate in the other areas. The Danville MSA unemployment rate passed the 10 percent threshold in November 2008 and stayed there until February 2011, actually reaching a high of 12.8 percent in February 2010. The Danville MSA rate ranged from 9.4 to 9.8 from March to July 2011 but again climbed to 10.3 percent in August. Unemployment in the Lynchburg MSA has typically been higher than the Virginia rate and the Roanoke MSA rate kept pace with the state rate until 2009. The state of Virginia was ranked tenth in the nation for the lowest unemployment rate (6.3 percent) in August 2011. The national rate was unchanged from July to September 2011 at 9.1 percent. Compare that to the August rate in the Danville MSA of 10.3 percent.



As of August 2011, the Virginia Employment Commission reported that the number of unemployed persons in the Danville MSA totaled 5,378 persons while the number of online advertised job openings totaled only 2,737 positions. This resulted in a number of unemployed persons per job opening ratio of 1.96. This represented the highest ratio among all of the MSAs in the state. The Lynchburg MSA ratio at the same time was 1.4 and the ratio in the Roanoke MSA was 1.0.

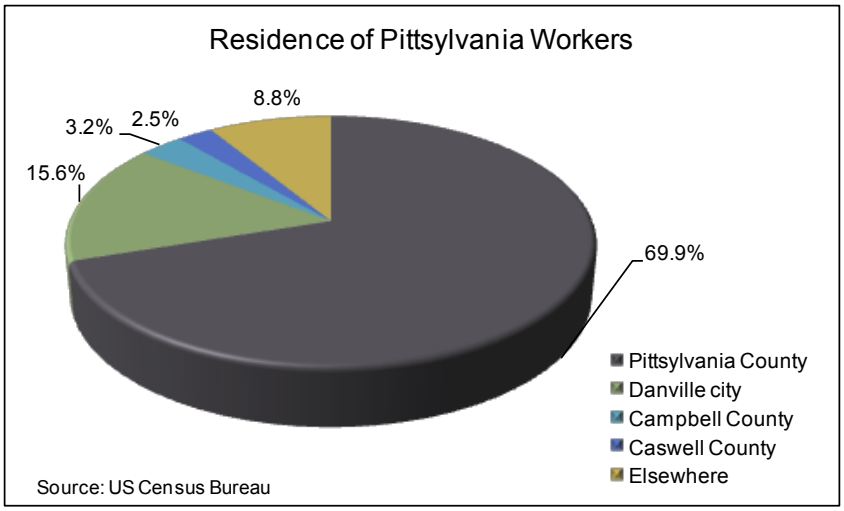
Commute and Place of Work

Workers in the Danville MSA have the highest median travel time to work among these three MSAs. At 23.2 minutes, the median is 7.8 percent longer than the median in the Lynchburg MSA and 5.9 percent longer then the Roanoke MSA median. Over six percent of the Danville MSA's workers travel 60 or more minutes to work, almost twice the share in Lynchburg.



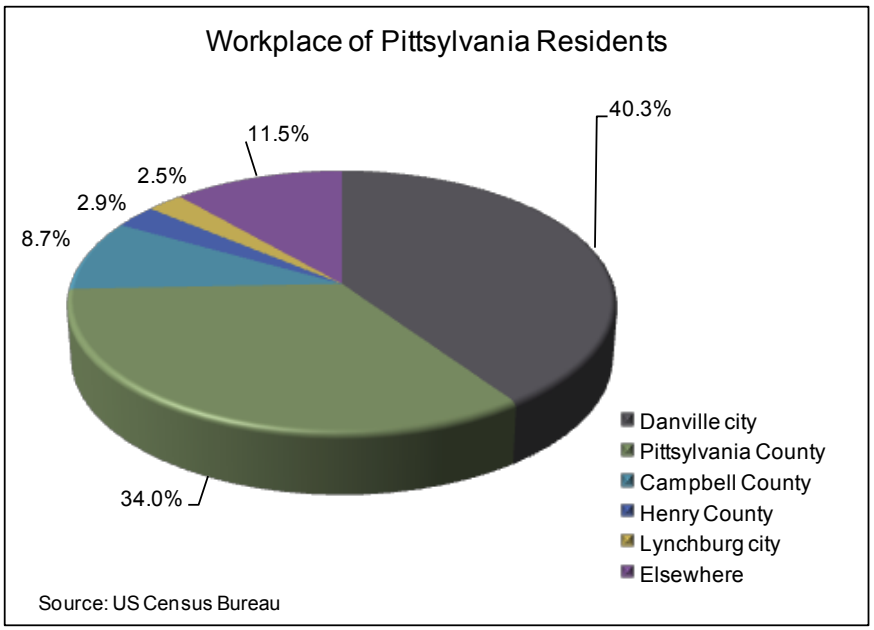
The two graphs on the following page summarize 1) the place of residence for workers whose jobs are in Pittsylvania County and 2) the workplace of Pittsylvania County residents.

About 70 percent of the workers in Pittsylvania County also reside within the county boundaries. Over 15 percent live in the city of Danville. Almost 6 percent live in either neighboring Campbell County or Caswell County, North Carolina. The remaining 9 percent of workers live in a variety of places but the share of total workers does not exceed 1.7 percent for any one location. For example, only .1 percent of Pittsylvania workers live in the city of Lynchburg.



Just over 40 percent of Pittsylvania residents work in the city of Danville while 34 percent work in Pittsylvania County. Over 11 percent work in Lynchburg or Campbell County and almost 12 percent work in a various

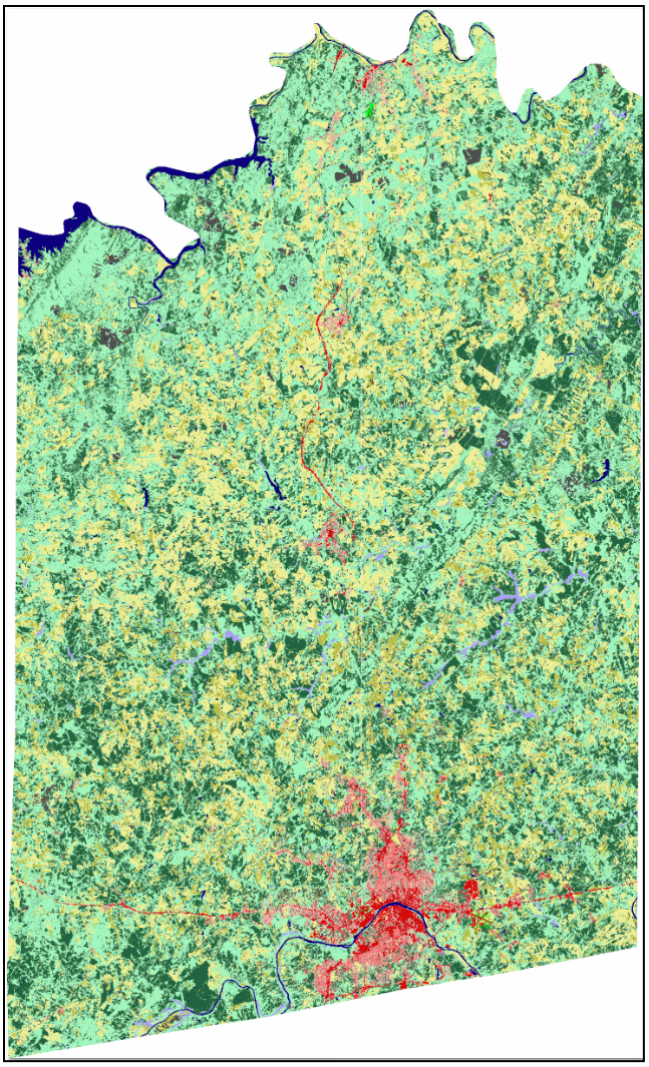
locations. Included in the "Elsewhere" category are the 6.1 percent of Pittsylvania residents who work in a number of North Carolina counties.



Land Use

According to the Department of Economic Development in Pittsylvania County, the majority of land cover in Pittsylvania County is either forest (43 percent), as shown in green to the left or farm land (44 percent, yellow on the map). Developed property accounts for the remaining 13 percent.

The table on the following page shows the change in the number of farms in the United States as well as in Virginia from 2000 to 2010. While the actual number of farms increased by 1.6 percent across the country, the number of farms in Virginia declined 2.4 percent over the same period to 47,300. The average size of the farms also declined - by almost 10 acres - in Virginia from an average of 179.6 acres per farm to 170.



Map Source: Natural Resources Conservation Service, US Department of Agriculture

Farms-Number and Size 2000 and 2010

State	Farms (1,000)		Acreage (millions)		Acreage (1,000)		Acreage per farm	
	2000	2010	2000	2010	2000	2010	2000	2010
Virginia	48.5	47.3	8.7	8.1	8,710.0	8,050.0	179.6	170.0
United States	2,166.8	2,200.9	945.1	920.0	945,080.0	919,990.0	436.2	418.0

Farms-Change in Number and Size 2000 to 2010

State	Farms (1,000)	Acreage (millions)	Acreage (1,000)	Acreage per farm
	2000 to 2010	2000 to 2010	2000 to 2010	2000 to 2010
Virginia	-1.2	-0.7	-660.0	-9.6
United States	34.1	-25.1	-25,090.0	-18.2

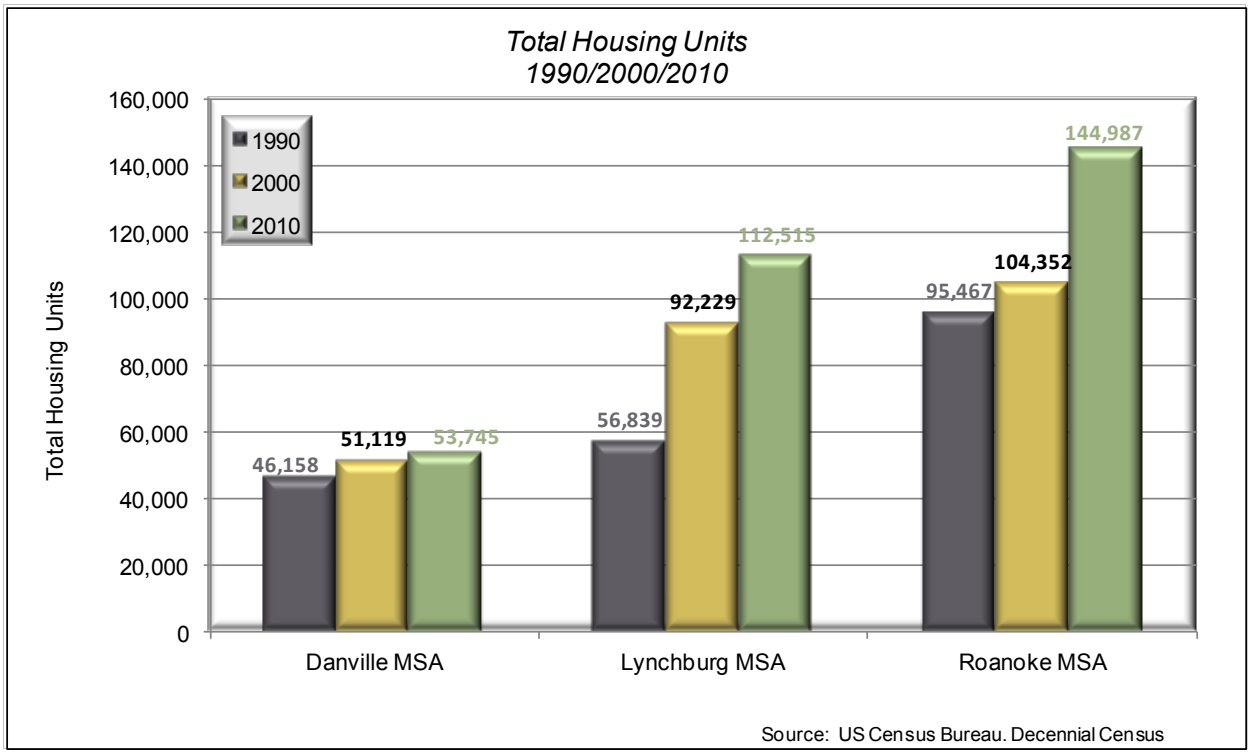
Source: Natural Conservation Resources Service (US Dept of Agriculture)

The satellite photos on the following pages show the extent of the rural character around the Coles Hill site (the second photo is a closer look at the immediate vicinity).

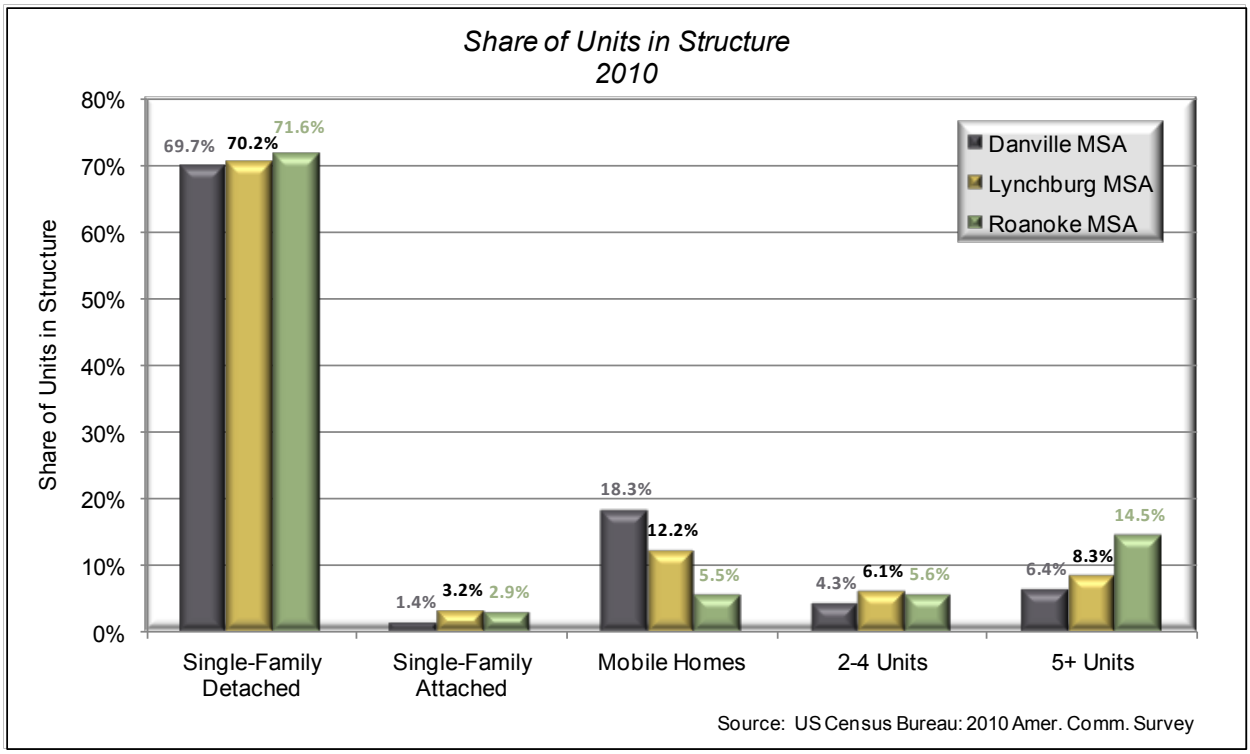
Housing Supply Characteristics

Housing Stock

Between 1990 and 2000 the Danville MSA added 4,961 housing units for an annual growth rate of 1.1 percent. Between 2000 and 2010, growth slowed to .5 percent with 2,626 units. By contrast, growth in the Lynchburg MSA slowed from an annual growth rate of 6.2 percent between 1990 and 2000 to only 2.2 percent between 2000 and 2010. Roanoke, on the other hand, increased from a .9 percent annual growth rate to 3.9 percent in the last decade. According to local officials in Pittsylvania County and the city of Danville, the housing stock is not expected to increase significantly over the next decade.

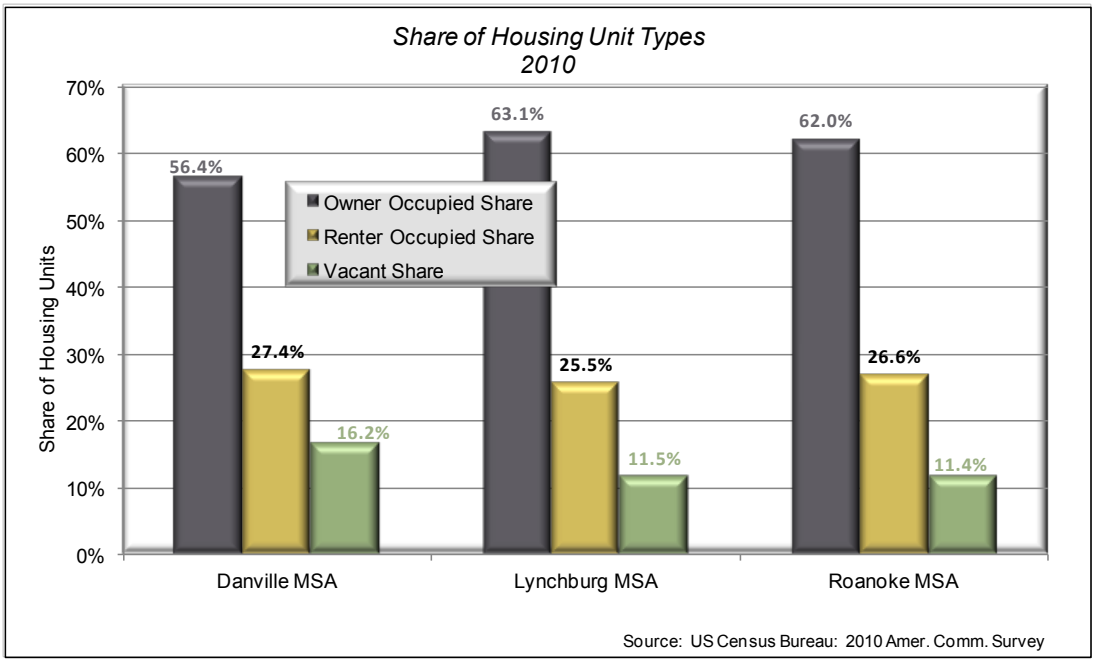


As shown on the following graph, the housing stock is dominated by single-family detached homes (roughly 70 percent) in all three regions. The Danville MSA stands out though for its high percentage of mobile homes compared to the Lynchburg and Roanoke MSAs. Over 18 percent of the Danville MSA housing stock is a mobile home compared to about 12 percent in the Lynchburg MSA and only 5.5 percent in the Roanoke MSA.



The share of housing stock that is classified as vacant1 amounted to 16.2 percent in the Danville MSA in 2010. Compare that to 11.5 percent in the Lynchburg MSA and 11.4 percent in the Roanoke MSA. Renter-occupied housing is also highest in the Danville MSA at 27.4 percent.

[1] *Seasonal, recreational or occasional housing units are included in the vacant category. In 1990, these units accounted for 21 percent of the vacant housing in the Danville MSA. The share declined from 19 percent in the 2000 census to 12 percent in the 2010 census. The share remained unchanged from 2000 to 2010 at 22 percent in the Lynchburg MSA but increased dramatically in the Roanoke MSA from 11 percent to 32 percent of vacant housing.*



The city of Danville conducted a drive-by survey of the entire housing stock located within city limits in the summer of 2010. The condition of roofs, windows, paint/siding, foundations and any outbuildings was evaluated on a scale of good, fair or poor. Homes were also tagged as occupied, vacant, boarded or abandoned. The end result was that 59.2 percent of the residences were in good condition, 26.6 percent were in fair condition, and 14.2 percent were in poor condition. The area with the highest share of vacant, abandoned or boarded properties was in the heart of the historic downtown where it is evident that the city's former prosperity has evaporated as stores are closed, buildings are in disrepair, and pedestrian activity is light. In fact, roughly 34 to 37 percent of the housing stock in this area was rated "poor". This same survey identified 340 abandoned properties and 452 boarded properties among the 1,180 vacant properties in Danville. As a result of the survey, the Derelict Structure Ordinance has been drafted to help the city take action against structures with declining conditions. [2] This suggests that even though housing is available in the city, a significant portion of it is uninhabitable at this point.

[2] *"Citywide Building and Property Condition Analysis", city of Danville, 2010."*

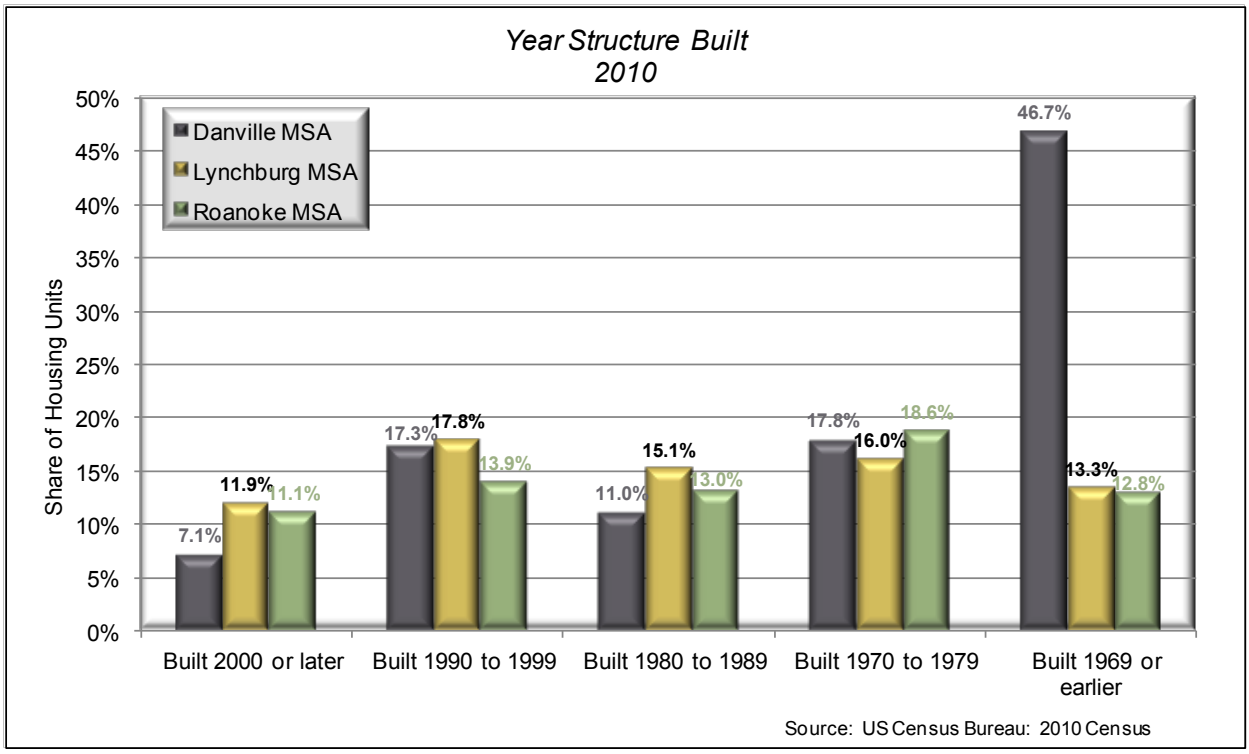
Property Condition Analysis

Condition of Residence	Count	Share of Total
Good	9,694	59.2%
Fair	4,356	26.6%
Poor	2,325	14.2%
Total	16,375	100.0%

Status of Residences	Count	Share of Total
Occupied	15,195	92.8%
Vacant	1,180	7.2%
Abandoned	340	28.8%
Boarded	452	38.3%

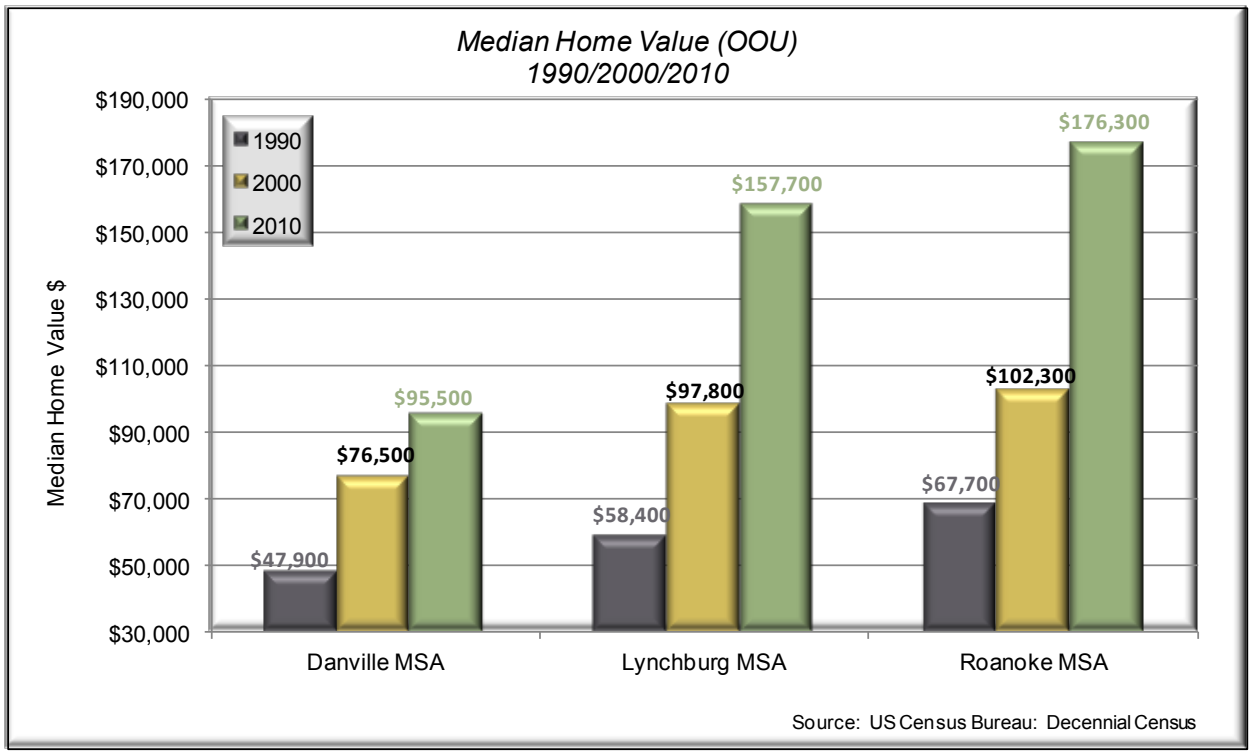
Source: City of Danville, 2010

The overwhelming majority of housing structures in the Danville MSA, 46.7 percent, were built before 1970. Compare that to only 13.3 percent in the Lynchburg MSA and 12.8 percent in the Roanoke MSA. While the Lynchburg MSA added almost 12 percent of its housing stock during the housing boom years over the last decade and Roanoke added 11 percent, the Danville MSA's share of housing stock built between 2000 and 2010 only amounted to 7.1 percent. Over 71 percent of housing stock in four census tracts within the city of Danville was built before 1960.

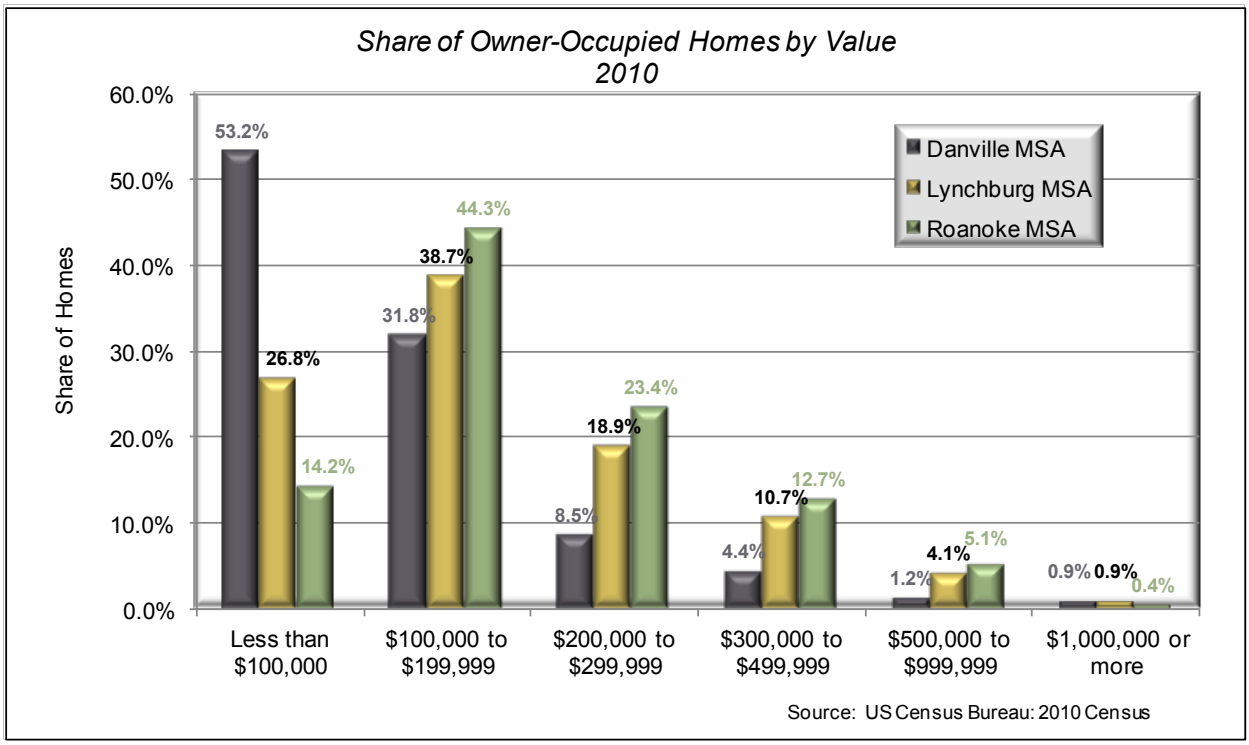


Housing Values and Rents

The 2010 median home value of owner-occupied units in the Danville MSA is considerably lower than the medians in the Lynchburg or Roanoke MSAs at $95,500. The median home value grew at an annual pace of 6 percent from 1990 to 2000 in the Danville MSA, a lower rate than in the Lynchburg MSA over the same period but higher than the annual rate in Roanoke. However, the annual growth rate declined to 2.5 percent from 2000 to 2010, considerably lower than the 6.1 percent annual growth rate in the Lynchburg MSA and the 7.2 percent annual increase in the Roanoke MSA.



With a median home value of $95,500, it is not surprising that the majority of owner-occupied homes in the Danville MSA, 53.2 percent, are valued below $100,000 and 85 percent are valued below $200,000. Significantly, 65.5 percent of homes in the Lynchburg MSA and 58.5 percent of the homes in the Roanoke MSA are valued below $200,000. Homes valued above $1,000,000 make up less than 1 percent of the housing units in any of these regions.



Rentals are also a factor in the total housing picture in the Danville MSA. The table on the right summarizes the fair market rent established by the Department of Housing and Urban Development (HUD) for 2011 in the MSAs under analysis. The fair market rent in the Danville MSA is lowest among its neighbors in every category and the Roanoke MSA has the highest rent amounts.

2011 HUD Fair Market Rent

MSA	Efficiency	1 BR	2 BR	3 BR	4 BR
Danville MSA	$410	$471	$608	$758	$814
Lynchburg MSA	$529	$543	$654	$806	$900
Roanoke MSA	$532	$567	$732	$929	$1,014

Source: Department of Housing and Urban Development

Housing Affordability

It is generally assumed that a household which spends 30 percent or more of its gross income on housing is cost burdened. Of those housing units with a mortgage, roughly 34 percent spend something more than the 30 percent threshold on housing in the Danville MSA. It's about the same ratio in the Lynchburg MSA but over 39 percent in the Roanoke MSA. Not

surprisingly, the share of housing units without a mortgage who spend more than 30 percent on housing costs is dramatically lower in all three MSAs.

Monthly Owner Costs as a Percentage of Household Income

Housing Units with a Mortgage	Danville MSA	Lynchburg MSA	Roanoke MSA
< 20%	37.1%	36.3%	33.5%
20% to 24.9%	13.1%	16.1%	14.9%
25% to 29.9%	15.9%	13.6%	12.3%
Cost Burdened			
> 30%	33.9%	34.0%	39.3%

Source: US Census Bureau, 2010 Census

Monthly Owner Costs as a Percentage of Household Income

Housing Units without a Mortgage	Danville MSA	Lynchburg MSA	Roanoke MSA
< 10%	38.6%	48.1%	42.7%
10% to 14.9%	22.5%	19.3%	20.4%
15% to 19.9%	10.1%	10.3%	11.6%
20% to 24.9%	11.9%	6.2%	6.6%
25% to 29.9%	4.1%	6.3%	6.1%
Cost Burdened			
> 30%	12.7%	9.8%	12.7%

Source: US Census Bureau, 2010 Census

According to Census Bureau, a whopping 53.9 percent of the renters in the Danville MSA are cost burdened. Compared to the Danville MSA, a larger percentage of Lynchburg MSA renters and a smaller share of Roanoke MSA renters is cost burdened but in all three MSAs, the share of cost burdened renters significantly outpaces the share of cost burdened owners.

Gross Rent as a Percentage of Household Income

	Danville MSA	Lynchburg MSA	Roanoke MSA
< 15%	14.4%	8.9%	16.9%
15% to 19.9%	9.3%	16.9%	13.1%
20% to 24.9%	11.4%	11.4%	13.3%
25% to 29.9%	11.0%	7.4%	12.0%
Cost Burdened			
>30%	53.9%	55.4%	44.8%
Median Rent	$557	$679	$704

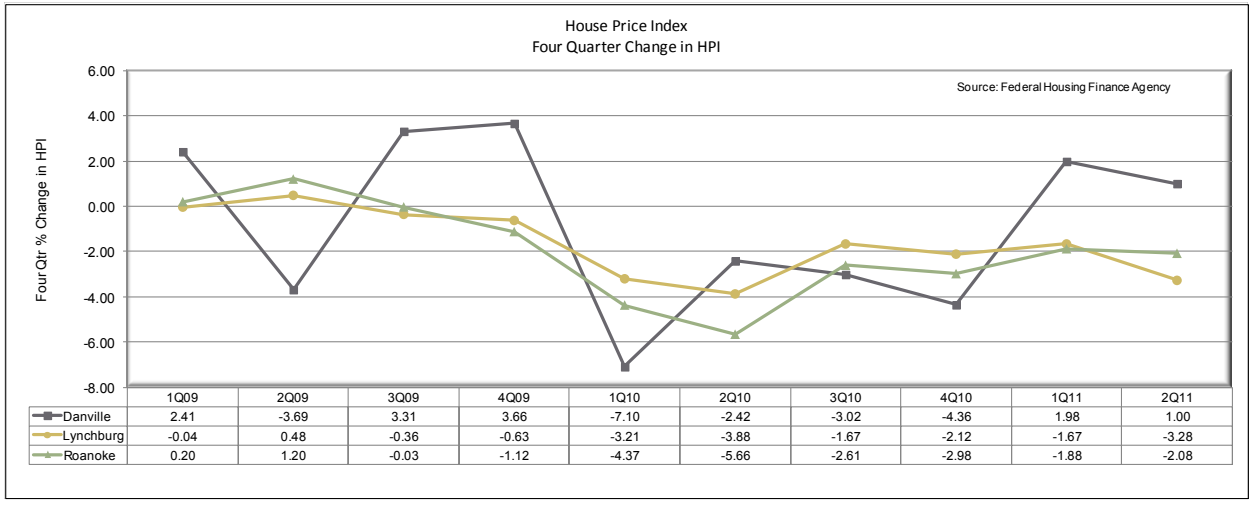
Source: US Census Bureau, 2010 Census

The median gross rent in the Lynchburg MSA is $679 per month and it is $704 in the Roanoke MSA (22 and 26 percent higher than the Danville MSA median respectively).

House Price Index

The Federal Housing Finance Agency (FHFA) measures house prices across the country on a quarterly basis with its House Price Index (HPI). The Index is a broad measure of the changes in single-family home prices. It is a weighted, repeat-sales index measuring average price changes

in repeat sales or refinancings on the same properties with conventional mortgages purchased or securitized by Fannie Mae or Freddie Mac (since January 1975). The graph below illustrates the four-quarter (quarter over the year) change in home prices from the first quarter of 2009 to the second quarter of 2011 in the Danville, Lynchburg and Roanoke MSAs. It is evident that the Danville MSA experienced a higher degree of volatility over the period with higher swings in housing values from quarter to quarter than was seen in the other two MSAs. Another contradiction though is that while the HPI in the Lynchburg and Roanoke MSAs was negative since the third quarter of 2009 (eight consecutive quarters), it was positive in the Danville MSA for the last two consecutive quarters.



	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10	4Q10	1Q11	2Q11
Danville	2.41	-3.69	3.31	3.66	-7.10	-2.42	-3.02	-4.36	1.98	1.00
Lynchburg	-0.04	0.48	-0.36	-0.63	-3.21	-3.88	-1.67	-2.12	-1.67	-3.28
Roanoke	0.20	1.20	-0.03	-1.12	-4.37	-5.66	-2.61	-2.98	-1.88	-2.08

Building Permits

The table on the following page summarizes annual building permit activity in the Danville MSA compared to the Lynchburg and Roanoke MSAs from 2001 to 2010. Over the ten-year period, the Danville MSA issued an average of 343 building permits per year, roughly one-third of the permits issued in both the Lynchburg and Roanoke MSAs. Additionally,

- Total permits issued reached a peak of 415 units in 2002 but quickly followed in 2003 with the lowest number of permits issued on an annual basis (198 units);
- Roughly 81 percent of the average number of annual permits issued in the Danville MSA was for single-family units. The average share of single-family units in the Lynchburg MSA, by contrast, was 72 percent and it was 74 percent in the Roanoke MSA;

- Very few 2-4 unit buildings were built in the last decade, only 12 on average, considerably lower than the averages in neighboring MSAs; and
- In 2010, no buildings with five or more units were issued permits in the Danville MSA. Over the decade, twice as many were issued in the Lynchburg MSA and four times as many were issued in the Roanoke MSA.

Building permit average values in the Danville MSA did not vary widely from average values in neighboring MSAs from 2001 to 2010.

- The average building permit value in the Danville MSA from 2001 to 2010 was $43,148, less than $1,000 lower than the average in the Lynchburg MSA and less than $1,000 higher than the average in the Roanoke MSA; and.
- Average values reached a peak in the Danville and Lynchburg MSAs in 2010 while the average value peaked in the Roanoke MSA in 2009.

Building Permits Issued
MSAs

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	'01-'10 Avg	Trough to Peak
TOTAL UNITS PERMITTED												
Danville MSA	413	415	198	360	354	316	359	365	351	299	343	-52.3%
Lynchburg MSA	1,379	832	658	1,004	1,125	986	1,060	1,103	1,079	990	1,022	-52.3%
Roanoke MSA	1,110	624	517	1,026	1,158	1,325	1,522	1,375	983	1,091	1,073	-66.0%
% Annual Change Danville	-	0.5%	-52.3%	81.8%	-1.7%	-10.7%	13.6%	1.7%	-3.8%	-14.8%		
% Annual Change Lynchburg	-	-39.7%	-20.9%	52.6%	12.1%	-12.4%	7.5%	4.1%	-2.2%	-8.2%		
% Annual Change Roanoke	-	-43.8%	-17.1%	98.5%	12.9%	14.4%	14.9%	-9.7%	-28.5%	11.0%		
SINGLE-FAMILY UNITS												
Danville MSA	349	212	162	259	268	264	341	321	323	293	279	-53.6%
Lynchburg MSA	837	580	364	738	817	529	812	836	952	866	733	-61.8%
Roanoke MSA	709	543	401	821	928	926	1,113	924	814	788	797	-64.0%
% Annual Change Danville	-	-39.3%	-23.6%	59.9%	3.5%	-1.5%	29.2%	-5.9%	0.6%	-9.3%		
% Annual Change Lynchburg	-	-30.7%	-37.2%	102.7%	10.7%	-35.3%	53.5%	3.0%	13.9%	-9.0%		
% Annual Change Roanoke	-	-23.4%	-26.2%	104.7%	13.0%	-0.2%	20.2%	-17.0%	-11.9%	-3.2%		
2-4 FAMILY UNITS												
Danville MSA	2	20	6	24	4	19	10	18	14	6	12	-91.7%
Lynchburg MSA	194	182	119	100	153	100	84	87	47	68	113	-75.8%
Roanoke MSA	28	18	13	32	86	70	62	88	76	85	56	-85.2%
% Annual Change Danville	-	900.0%	-70.0%	300.0%	-83.3%	375.0%	-47.4%	80.0%	-22.2%	-57.1%		
% Annual Change Lynchburg	-	-6.2%	-34.6%	-16.0%	53.0%	-34.6%	-16.0%	3.6%	-46.0%	44.7%		
% Annual Change Roanoke	-	-35.7%	-27.8%	146.2%	168.8%	-18.6%	-11.4%	41.9%	-13.6%	11.8%		
5+ FAMILY UNITS												
Danville MSA	62	183	30	77	82	33	8	26	14	0	52	-100.0%
Lynchburg MSA	348	70	175	166	155	357	164	180	80	56	175	-84.3%
Roanoke MSA	373	63	103	173	144	329	347	363	93	218	221	-83.1%
% Annual Change Danville	-	195.2%	-83.6%	156.7%	6.5%	-59.8%	-75.8%	225.0%	-46.2%	-100.0%		
% Annual Change Lynchburg	-	-79.9%	150.0%	-5.1%	-6.6%	130.3%	-	9.8%	-55.6%	-30.0%		
% Annual Change Roanoke	-	-83.1%	63.5%	68.0%	-16.8%	128.5%	5.5%	4.6%	-74.4%	134.4%		
								Trough		Peak		

Source: US Census Bureau and Real Estate Center at Texas A&M

Building Permits Average Value
MSAs

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	'01-'10 Avg	Trough to Peak
TOTAL UNITS PERMITTED												
Danville MSA	$32,975	$29,972	$31,952	$41,054	$38,175	$43,041	$46,962	$48,810	$55,475	$63,067	$43,148	-52.5%
Lynchburg MSA	$33,787	$37,263	$35,734	$43,267	$45,722	$36,173	$51,206	$51,933	$54,356	$55,835	$44,528	-39.5%
Roanoke MSA	$31,029	$36,992	$35,408	$38,648	$40,358	$43,126	$44,174	$48,880	$56,607	$53,167	$42,839	-45.2%
% Annual Change Danville	-	-9.1%	6.6%	28.5%	-7.0%	12.7%	9.1%	3.9%	13.7%	13.7%		
% Annual Change Lynchburg	-	10.3%	-4.1%	21.1%	5.7%	-20.9%	41.6%	1.4%	4.7%	2.7%		
% Annual Change Roanoke	-	19.2%	-4.3%	9.1%	4.4%	6.9%	2.4%	10.7%	15.8%	-6.1%		
SINGLE-FAMILY UNITS												
Danville MSA	$34,900	$36,200	$37,300	$44,200	$44,400	$47,900	$48,400	$53,000	$57,900	$64,000	$46,820	-45.5%
Lynchburg MSA	$41,000	$44,800	$46,900	$49,500	$52,500	$46,600	$57,000	$58,900	$58,400	$59,900	$51,550	-31.6%
Roanoke MSA	$37,600	$39,200	$39,700	$42,500	$43,900	$50,400	$52,000	$59,500	$61,900	$64,600	$49,130	-41.8%
% Annual Change Danville	-	3.7%	3.0%	18.5%	0.5%	7.9%	1.0%	9.5%	9.2%	10.5%		
% Annual Change Lynchburg	-	9.3%	4.7%	5.5%	6.1%	-11.2%	22.3%	3.3%	-0.8%	2.6%		
% Annual Change Roanoke	-	4.3%	1.3%	7.1%	3.3%	14.8%	3.2%	14.4%	4.0%	4.4%		
2-4 FAMILY UNITS												
Danville MSA	$12,500	$18,600	$7,800	$13,700	$14,200	$17,800	$19,500	$18,300	$29,600	$17,500	$16,950	-73.6%
Lynchburg MSA	$20,400	$21,000	$25,600	$32,900	$28,700	$28,400	$36,400	$28,300	$29,400	$30,200	$28,130	-44.0%
Roanoke MSA	$26,200	$18,300	$14,800	$19,000	$23,500	$24,100	$22,200	$20,200	$22,200	$22,500	$21,300	-43.5%
% Annual Change Danville	-	48.8%	-58.1%	75.6%	3.6%	25.4%	9.6%	-6.2%	61.7%	-40.9%		
% Annual Change Lynchburg	-	2.9%	21.9%	28.5%	-12.8%	-1.0%	28.2%	-22.3%	3.9%	2.7%		
% Annual Change Roanoke	-	-30.2%	-19.1%	28.4%	23.7%	2.6%	-7.9%	-9.0%	9.9%	1.4%		
5+ FAMILY UNITS												
Danville MSA	$22,800	$24,000	$7,900	$39,000	$19,000	$18,700	$20,000	$18,200	$25,400	$0	$19,500	-100.0%
Lynchburg MSA	$23,900	$17,100	$19,400	$21,800	$26,800	$22,900	$30,100	$31,000	$20,900	$24,100	$23,800	-44.8%
Roanoke MSA	$18,900	$23,300	$21,300	$24,000	$27,600	$26,700	$23,000	$28,800	$38,400	$23,800	$25,580	-50.8%
% Annual Change Danville	-	5.3%	-67.1%	393.7%	-51.3%	-1.6%	7.0%	-9.0%	39.6%	-100.0%		
% Annual Change Lynchburg	-	-28.5%	13.5%	12.4%	22.9%	-14.6%	-	3.0%	-32.6%	15.3%		
% Annual Change Roanoke	-	23.3%	-8.6%	12.7%	15.0%	-3.3%	-13.9%	25.2%	33.3%	-38.0%		
								Trough		Peak		

Source: US Census Bureau and Real Estate Center at Texas A&M

So far in 2011, the average number of building permits issued in the Danville MSA through August is roughly 11 per month. At the current pace, the number of building permits issued this year will be the lowest total since before 2001, 36 percent lower than the trough in 2003. This situation though is prevalent in the region; both the Lynchburg and Roanoke MSAs face similar declines. However, there has been a sharp increase in the number of building permits issued for buildings with 5+ units this year in the Danville MSA. At a projected pace of 60 units, the Danville MSA may issue the highest number of permits for 5+ unit buildings since 2005.

Building Permits Issued

	2011 Thru 8/31	2011a*	2010	2011a vs. 2010	2001-2010 Trough	2011a vs. Trough	2001-2010 Peak	2011a vs. Peak
TOTAL UNITS PERMITTED								
Danville MSA	84	126	299	-58%	198	-36%	415	-70%
Lynchburg MSA	321	482	990	-51%	658	-27%	1,379	-65%
Roanoke MSA	214	321	1,091	-71%	517	-38%	1,522	-79%
SINGLE-FAMILY UNITS								
Danville MSA	44	66	293	-77%	162	-59%	349	-81%
Lynchburg MSA	225	338	866	-61%	364	-7%	952	-65%
Roanoke MSA	182	273	788	-65%	401	-32%	1,113	-75%
2-4 FAMILY UNITS								
Danville MSA	0	0	6	-100%	2	-100%	24	-100%
Lynchburg MSA	2	3	68	-96%	47	-94%	194	-98%
Roanoke MSA	6	9	85	-89%	13	-31%	88	-90%
5+ FAMILY UNITS								
Danville MSA	40	60	0	-	0	-	183	-67%
Lynchburg MSA	96	144	56	157%	56	157%	357	-60%
Roanoke MSA	32	48	218	-78%	63	-24%	373	-87%

Source: US Census Bureau and Real Estate Center at Texas A&M

*2011 Annualized

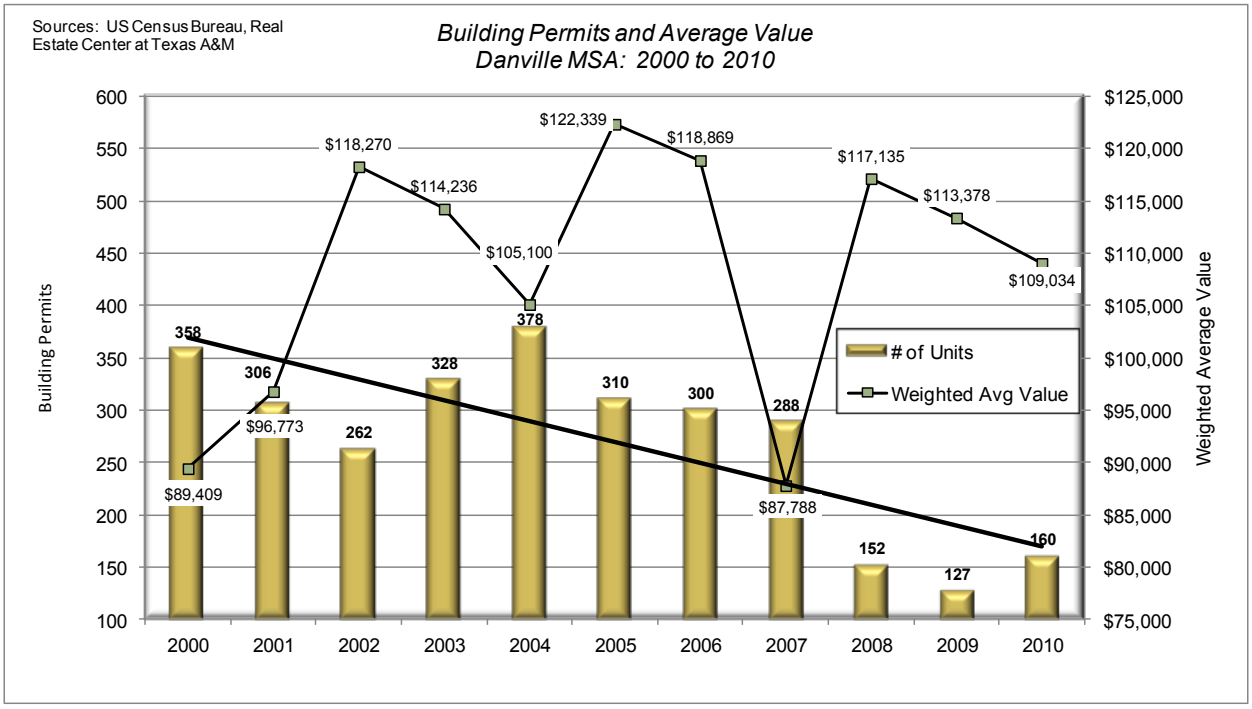
The average value of building permits was on the rise in the region in 2011. All three MSAs posted average value increases through August 2011. The average value increased 48 percent in the Danville MSA, 173 percent in the Lynchburg MSA, and 283 percent in the Roanoke MSA compared to the 2010 average value.

Building Permit Average Value

	2011 Thru 8/31	2010	2011 vs. 2010	2001-2010 Trough	2011 vs. Trough	2001-2010 Peak	2011 vs. Peak
TOTAL UNITS PERMITTED							
Danville MSA	$93,152	$63,067	48%	$29,972	211%	$63,067	48%
Lynchburg MSA	$152,260	$55,835	173%	$33,787	351%	$55,835	173%
Roanoke MSA	$193,108	$53,167	263%	$31,029	522%	$56,607	241%
SINGLE-FAMILY UNITS							
Danville MSA	$124,200	$64,000	94%	$34,900	256%	$64,000	94%
Lynchburg MSA	$207,750	$59,900	247%	$41,000	407%	$59,900	247%
Roanoke MSA	$193,163	$64,600	199%	$37,600	414%	$64,600	199%
2-4 FAMILY UNITS							
Danville MSA	$0	$17,500	-100%	$7,800	-100%	$29,600	-100%
Lynchburg MSA	$67,500	$30,200	124%	$20,400	231%	$36,400	85%
Roanoke MSA	$133,300	$22,500	492%	$14,800	801%	$26,200	409%
5+ FAMILY UNITS							
Danville MSA	$59,000	$0	-	$0	-	$39,000	51%
Lynchburg MSA	$20,800	$24,100	-14%	$17,100	22%	$31,000	-33%
Roanoke MSA	$211,600	$23,800	789%	$18,900	1020%	$38,400	451%

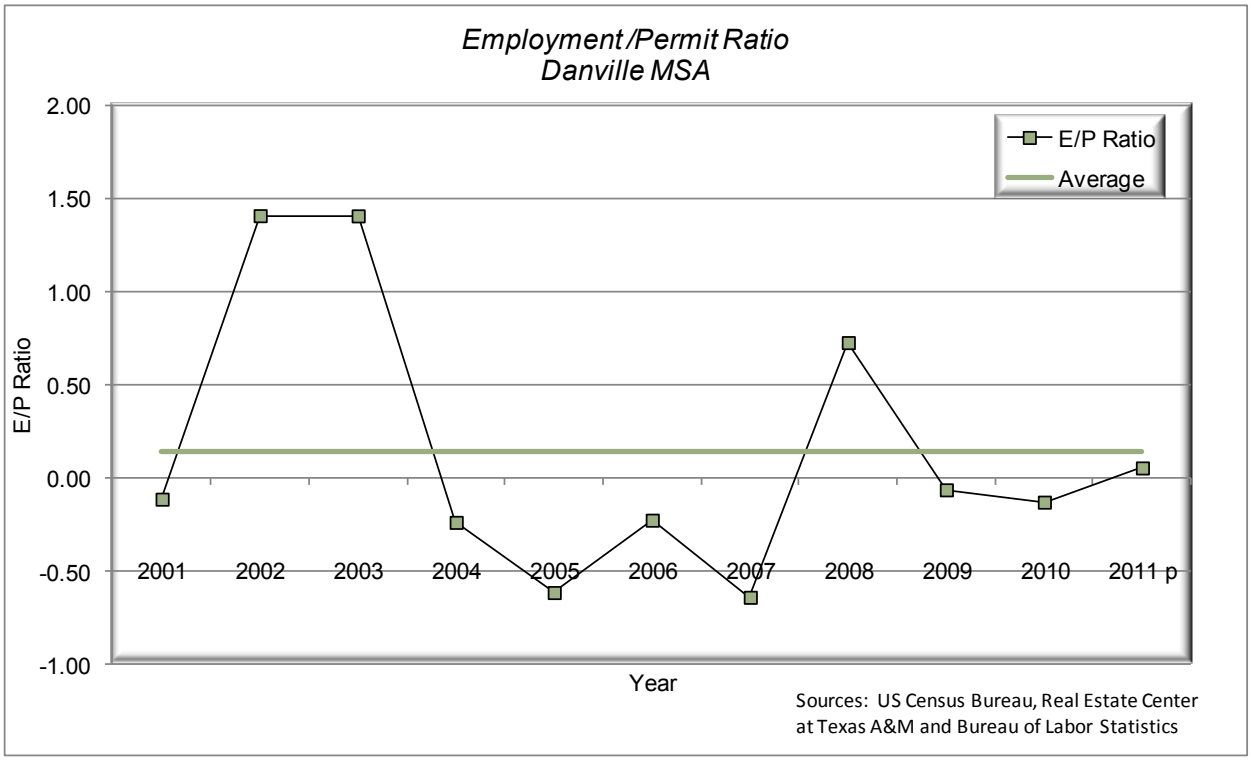
Source: US Census Bureau and Real Estate Center at Texas A&M

The information on the following page presents Danville MSA building permit figures and average values in graphical form.



Housing Demand

The homebuilding industry generally accepts the Employment/Permit Ratio as a reliable measure of a housing market's demand/supply balance. It is a calculation of total building permits divided by 12-month job growth. The graph below shows the annual E/P Ratio in the Danville MSA since 2001 and preliminary results for 2011. When most of the Commonwealth was enjoying a housing boom in the middle of the last decade, the Danville MSA had both declining employment and building permits. The 84 building permits issued so far this year in the MSA represents the lowest total in at least eleven years. The ten-year average E/P Ratio is .14 as a result of the negative employment growth. However, the preliminary ratio for 2011 (.05 over 8 months) indicates that one building permit has been issued in the Danville MSA for every 20 new jobs introduced into the market (1,589) this year – a positive sign. However, an E/P Ratio this low indicates that demand for and the supply of new homes is very low in the Danville MSA.

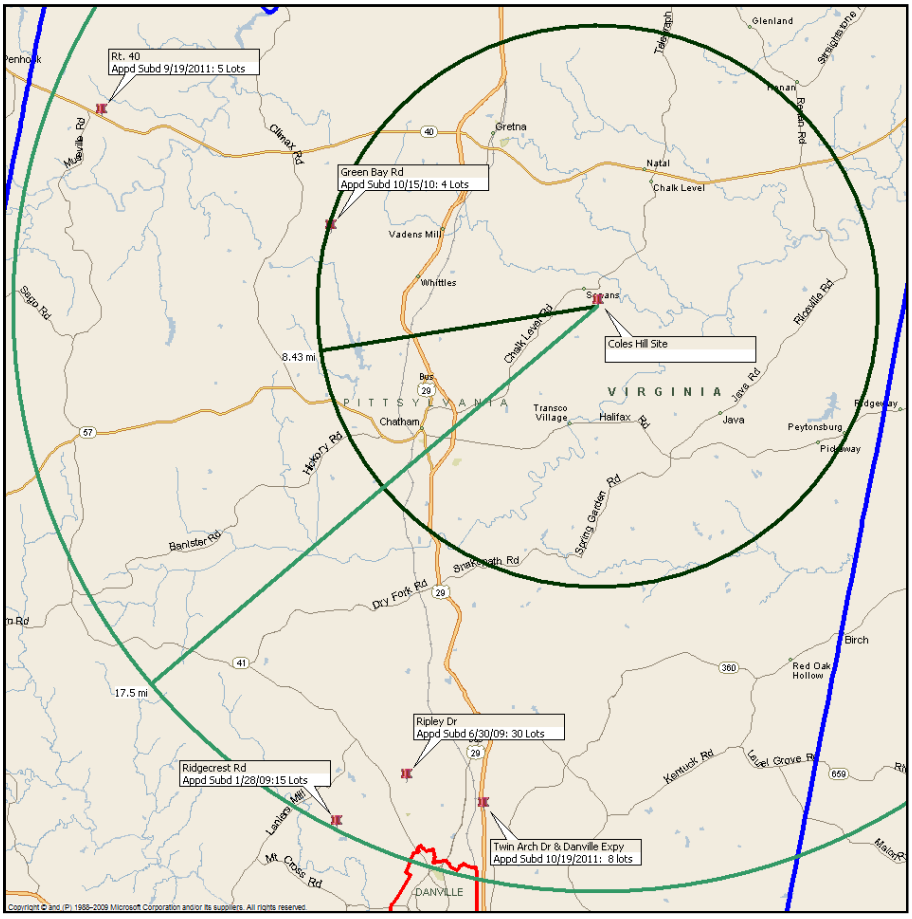


Residential Development Pipeline

Renee Blair, Associate Planner at the city of Danville, confirms that there is very little housing development in the city. The last subdivision approved by the city was for a 35-unit affordable unit community with a clubhouse that was finished in the summer of 2011. Currently, there are no subdivision applications in the city of Danville development pipeline.

Approved Subdivisions in Pittsylvania County

The same can be said for Pittsylvania County. Subdivision applications are rare; only five subdivision applications have been approved by the County since June 30, 2009 and the total lot count only amounts to 62 single-family detached lots. As of yet, construction has not begun in any of the approved subdivisions found on the map to the right. Three of the subdivisions, with the majority of the planned lots (53), are located over 17 miles from the Coles Hill mine site, near Danville. The planned subdivision closest to the mine site is almost 8.5 miles west.[3]



Like the city of Danville, there are no pending subdivision applications in Pittsylvania County (over ten lots). With this dearth of subdivision applications, there is little or no new home sales activity in the MSA.

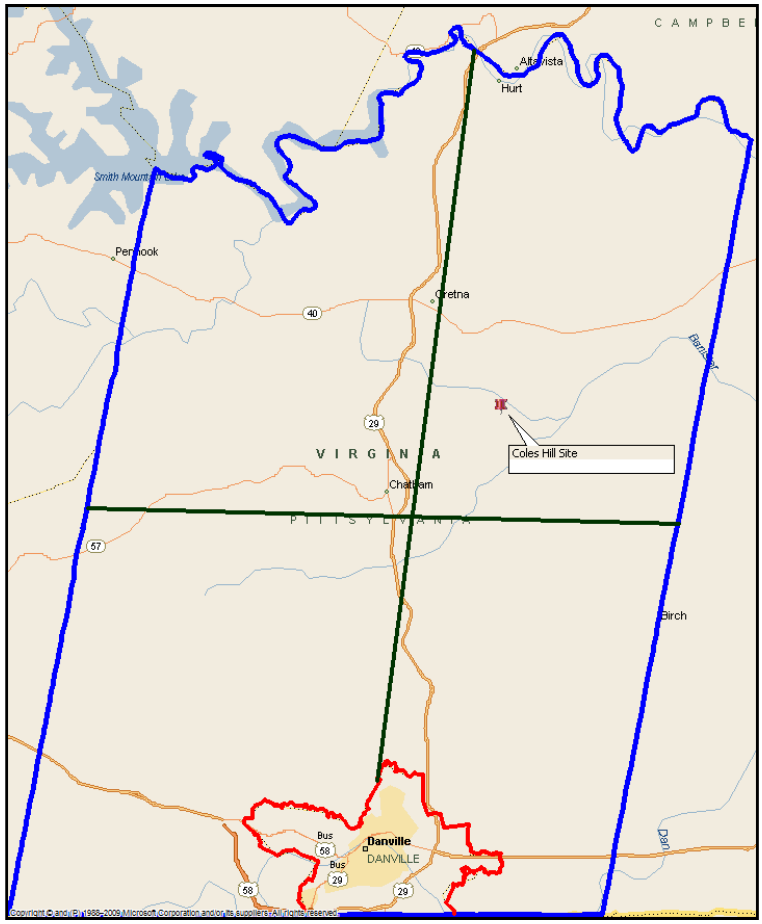
Property Listings

[3] *Department of Economic Development, Pittsylvania County, VA*

To analyze property listings in the Danville MSA, it was divided into five submarkets (four submarkets and the city of Danville) according to the map on the right. The proposed mine at Coles Hill is located in the northeast submarket. All of the data in this section were gathered from the Realtor.com web page, a service of the National Association of Realtors that compiles listings in a central location to make it easy for consumers to find homes for sale. However, it may not include every property for sale in a particular area and it surely excludes "for sale by owner" properties. Of note, the Smith Mountain Lake recreational area is on the county's northwestern border and properties near the lake are considerably higher priced than others in the MSA.

Active Existing Home Listings

As of September 13, 2011 there were a total of 699 active listings for residential properties in the Danville MSA. Of those, 68 percent were located in the city of Danville and the remaining 32 percent were in the county. The northwest submarket had the second highest share of total listings, followed by the southeast submarket, the northeast submarket, and the smallest share of active listings was in the southwest submarket.



Existing Home List Price Summary by Submarket

Submarket	*Listings*		*Median List Pride*	*Avg List Price*
DV	475	68%	$98,500	$138,781
NE	52	7%	$132,900	$169,434
NW	71	10%	$149,900	$215,785
SE	61	9%	$134,900	$161,092
SW	40	6%	$109,900	$132,762
TOTAL	699	100%	$114,900	$150,485

Median list prices vary considerably from a low of $98,500 in Danville to $149,900 in the northwest submarket. Average list prices are significantly higher in each submarket; the southwest submarket posted the lowest average list price and the northwest submarket had the highest average list price. The table below summarizes list prices by price levels. As shown in bold type, the largest share of listings (27 percent) in Danville was priced below $50,000. In the northwest, southeast, and southwest submarkets the largest share of listings was priced between $50,000 and $99,999 (25 to 38 percent). Alone in this group, the largest share of listings in the northeast submarket was priced from $100,000 to $149,000 (27 percent).

Active Listings Price Stratification Share by Submarket

List Price	*DV*	*NE*	*NW*	*SE*	*SW*	*Total*
< $50,000	**27%**	12%	6%	7%	5%	21%
$50,000 to $99,999	25%	21%	**25%**	**33%**	**38%**	**26%**
$100,000 to $149,999	15%	**27%**	20%	28%	28%	18%
$150,000 to $199,999	11%	12%	14%	16%	18%	12%
$200,000 to $249,999	8%	12%	13%	7%	8%	8%
$250,000 to $299,999	5%	6%	6%	2%	0%	5%
>= $300,000	8%	12%	17%	8%	5%	9%

Most listings in the Danville MSA had three bedrooms, two full baths and some had half baths. A little over half had garages. The average lot size (acres) ranged from .7 in Danville to 13.1 acres in the northeast submarket. The average lot size exceeds four acres in every submarket (excluding Danville) and clearly illustrates the rural nature of Pittsylvania County. The average age of the homes in the entire market was a remarkable 44 years, with the oldest listings found in Danville and in the northwest submarket. The youngest listings were in the southeast submarket but the average age there was still 28 years old.

Existing Home Listings Summary

Submarket	*Avg # Bedrms*	*Avg # Full Baths*	*Avg # Half Baths*	*Avg # Garages*	*Avg Lot Size (Acres)*	*Avg Age (Years)*	*Avg Days on Mkt*
DV	3.2	1.8	0.3	0.6	0.7	48	267
NE	3.1	2.1	0.2	0.5	13.1	33	203
NW	3.4	2.0	0.2	0.7	9.6	49	220
SE	3.2	2.0	0.2	0.7	4.3	28	227
SW	3.1	1.8	0.1	0.5	10.2	30	159
TOTAL	3.2	1.9	0.3	0.6	3.5	44	248

The average days on market was 248 days in the entire market (as of September 13, 2011). Homes had been on the market a shorter length of time in the southwest submarket compared to other submarkets.

As shown on the table below, the least expensive properties did not necessarily sell at the fastest pace. Albeit over six months, homes priced between $150,000 and $199,999 were on the market the shortest number of days in the entire market (as of September 13, 2011). The price categories with the highest number of days on market were 1) those priced between $250,000 and $299,999 (459 days), 2) those priced below $50,000 (335 days), and 3) listings priced above $300,000 (281 days).

Days on Market by Price Stratification and Submarket

List Price	*DV*	*NE*	*NW*	*SE*	*SW*	*Total*
< $50,000	353	197	178	102	102	335
$50,000 to $99,999	224	148	210	122	122	210
$100,000 to $149,999	191	144	290	290	194	199
$150,000 to $199,999	176	351	184	158	214	190
$200,000 to $249,999	166	190	341	141	106	191
$250,000 to $299,999	522	135	208	792	NA	459
>= $300,000	312	347	193	216	178	281
OVERALL AVERAGE	267	203	220	227	159	248

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>= $300,000	312	347	193	216	178	281
OVERALL AVERAGE	267	203	220	227	159	248

Given the unusually long average days to sell in this market, it is not surprising that over one-third of the homes have seen price cuts while still active listings. Over half of the listings in the northwest submarket have had price decreases.

Share of Price Drops

Submarket	*Listings*	*Price Drops*	*Share*
DV	475	163	34%
NE	52	19	37%
NW	71	38	54%
SE	61	18	30%
SW	40	14	35%
TOTAL	699	252	36%

Land Listings

As of September 15, 2011, there were 191 active listings in the National Association of Realtors (NAR) database for land in the Danville MSA. This list disregards zoning classifications so some of the land may be situated in commercial, industrial or retail areas.

Land Listings Summary

Submarket	*Listings*	*Median List Price*	*Avg List Price*	*Avg Size (Acres)*	*Avg List Pr/Acre*
DV	25	$172,900	$283,167	34.2	$8,270
NE	34	$79,500	$146,648	64.1	$2,286
NW	43	$59,900	$139,504	35.4	$3,941
SE	30	$44,900	$165,973	40.6	$4,088
SW	59	$48,000	$125,648	22.4	$5,604
TOTAL	191	$75,900	$159,457	37.3	$4,272

The highest concentration of land listings was in the southwest submarket. The highest median and average list prices in the Danville MSA were found in the city of Danville where the average price per acre was $8,270. The large size of these parcels is significant; the average land listing contained over 37 acres in this MSA. The largest parcels were found in the northeast submarket and the smallest average size of parcels available was not in the city of Danville but in the southwest submarket.

The median size of land parcels in the Danville MSA was 14 acres. The median size varied from 6 acres in both the northwest and southeast submarkets to 29 acres in the northeast submarket. As shown in bold type in the table (below, right), the majority of land listings were less than 10 acres in all but the northeast submarket where the majority was between 51 and 100 acres. Somewhat surprising was that seven of the 25 land listings in Danville were greater than 50 acres in size.

Land Listings Median Size Summary

Submarket	*Listings*	*Median List Price*	*Median Size (Acres)*
DV	25	$172,900	17
NE	34	$79,500	29
NW	43	$59,900	6
SE	30	$44,900	6
SW	59	$48,000	11
TOTAL	191	$75,900	14

Land Listings Size Stratification

Size (Acres)	DV	NE	NW	SE	SW
<= 10	**44%**	15%	**56%**	**50%**	**47%**
11 - 20	12%	18%	9%	3%	17%
21 - 30	16%	18%	0%	7%	10%
31 - 40	0%	6%	2%	3%	7%
41 - 50	0%	6%	2%	0%	3%
51 - 100	16%	**21%**	14%	23%	7%
>= 100	12%	18%	16%	13%	5%
NA	0%	0%	0%	0%	3%

The table below summarizes the share of active land listings by list price. About 45 percent of

land parcels for sale in the Danville MSA were priced below $50,000 and only 5 percent in the entire MSA were priced above $600,000. The majority of land parcels in the city of Danville were priced between $200,000 and $399,999 but most of the parcels in the other submarkets were priced below $50,000.

Land Listings Price Stratification

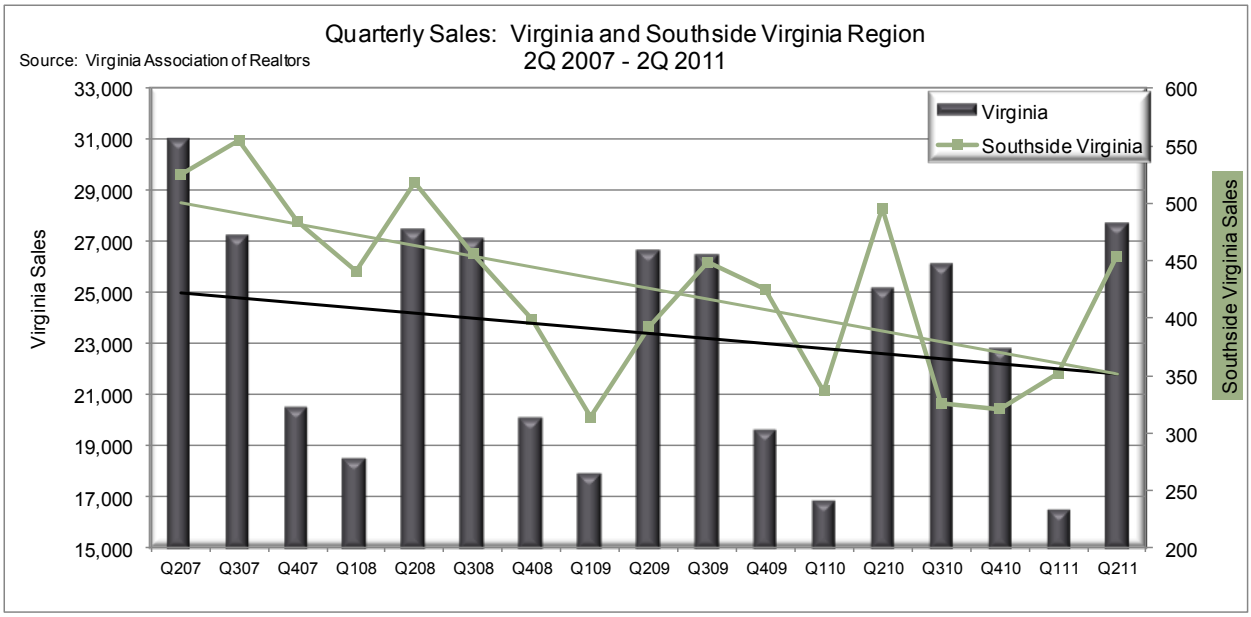
Price Range	DV	NE	NW	SE	SW	TOTAL
<= $50,000	24%	**35%**	**49%**	**50%**	**54%**	**45%**
$50,000 - $99,999	16%	21%	16%	13%	10%	15%
$100,000 - $199,999	12%	29%	7%	17%	24%	18%
$200,000 - $399,999	**32%**	3%	21%	10%	5%	13%
$400,000 - $599,999	4%	9%	5%	3%	5%	5%
$600,000 - $999,999	8%	3%	2%	3%	0%	3%
>= $1,000,000	4%	0%	0%	3%	2%	2%

Existing Home Sales

Sales

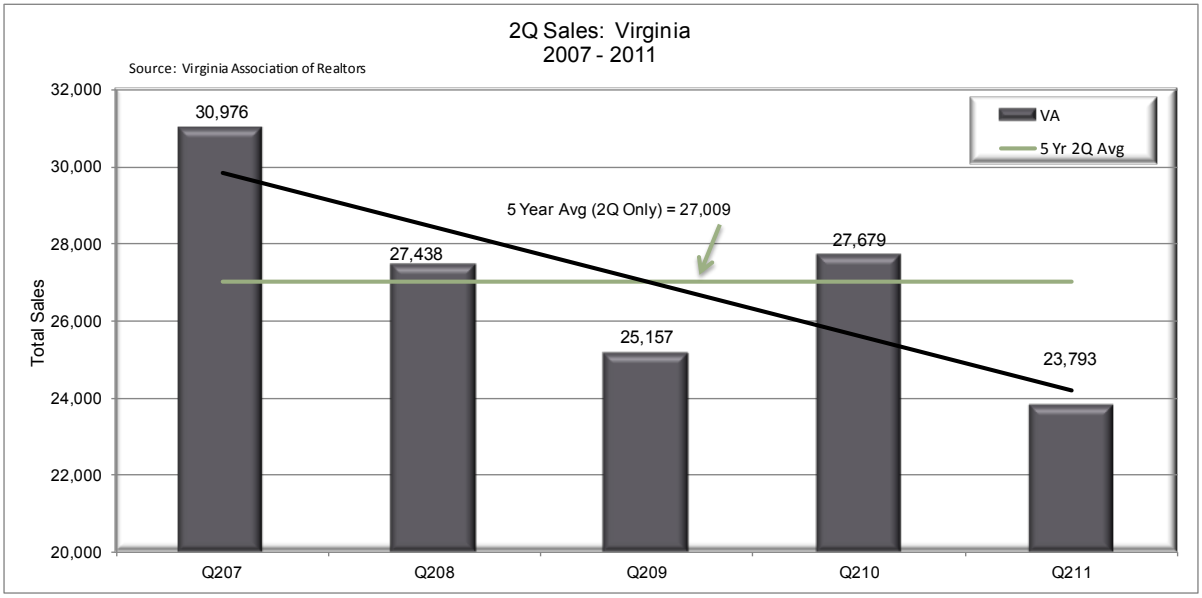
According to data provided by the Virginia Association of Realtors[4], quarterly sales in the state of Virginia and the Southside Virginia region (where the Danville MSA is grouped) followed normal cyclical patterns (i.e., the highest sales activity occurred in the second quarter of each year with declining activity in the third through first quarters) since 2007. The straight lines on the graph below indicate five-year trends on a regional and statewide basis. Sales in both Virginia and the Southside region declined since 2007 as a result of the national housing downturn with a steeper decline occurring in the Southside region. The increase in the third quarter of 2010 was due to the influence of the government's First Time Buyer's Credit program.

[4] *The VAR changed the way it reports Danville MSA housing statistics over the last decade. Beginning in 2009, statistics were reported on a regional rather than an association basis and data for some localities now a part of the Southside Region was unavailable prior to 2007. Please see the Appendix for the current definition of the Virginia Association of Realtors' Southside Virginia Region.*

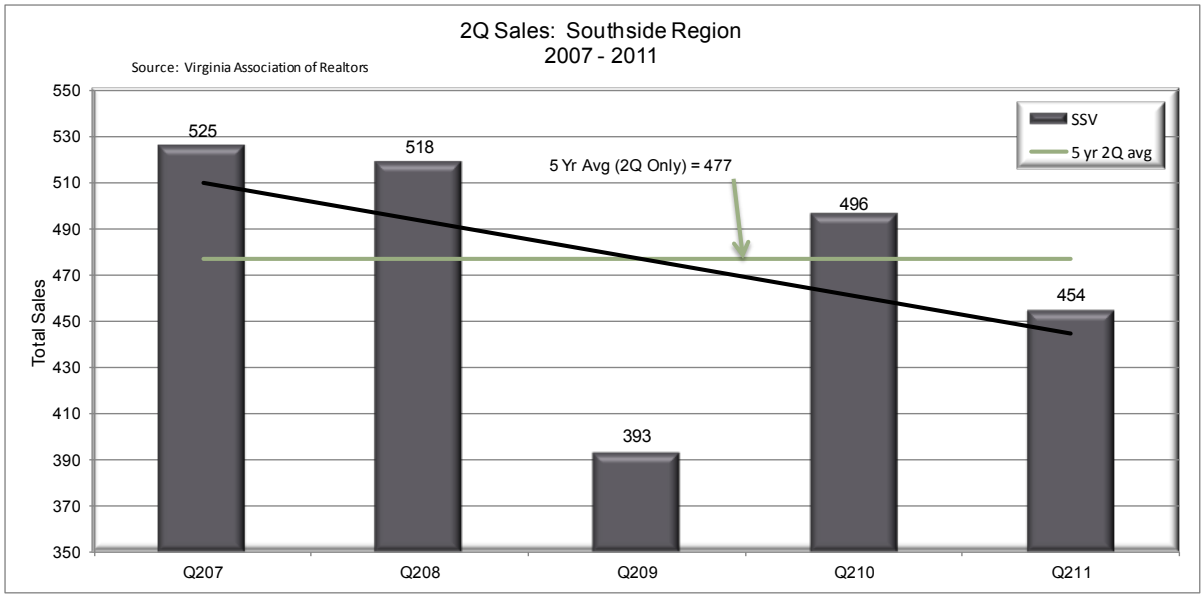


As mentioned, housing sales are highly cyclical. Therefore, it is important to look at a quarter-over-year basis to accurately capture the prevailing trends in a particular market.

The graph on the top right illustrates the second quarter sales activity for the last five years across the state. The black line indicates the downward trend over the period. The green line represents the five-year average sales (in the second quarter only). The bars clearly show the decline as a result of the nationwide recession. The spike in 2010 was probably a result of the government's First Time Home Buyer's credit program. The decline from the second quarter of 2007 to the second quarter of 2011 measured 23 percent.

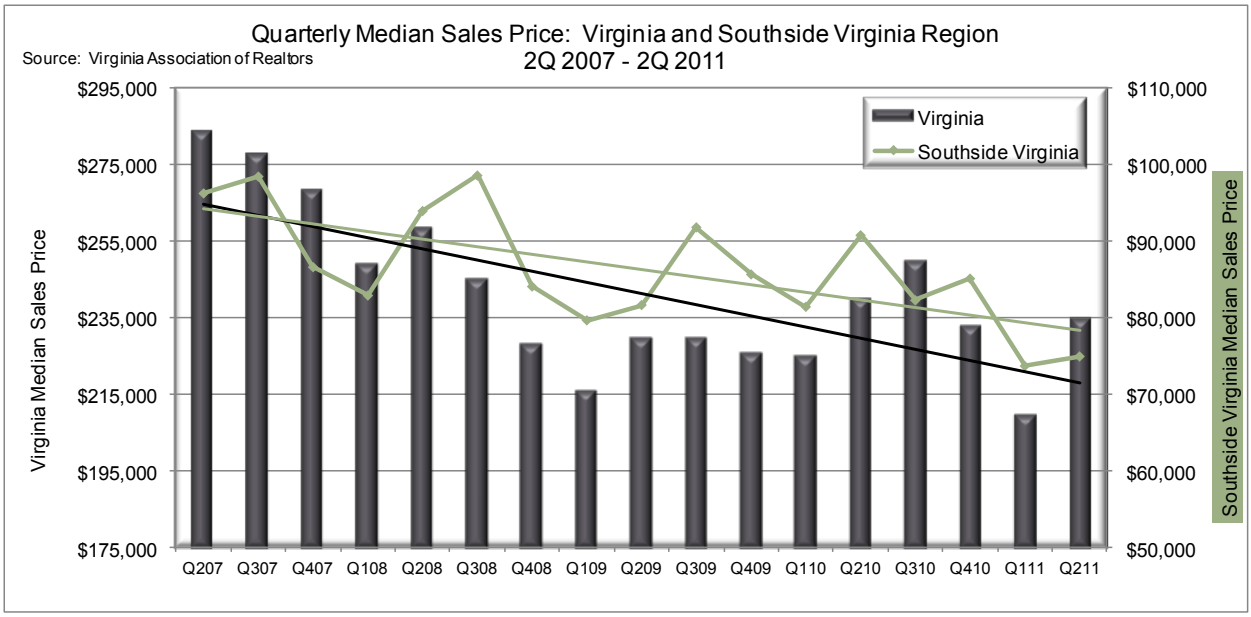


The Southside region has performed similarly but on a much smaller scale. Like the state, activity is also trending down with a tremendous drop from the second quarter of 2008 to the second quarter of 2009 (-24 percent). Total sales in the second quarter of 2011 amounted to 454 units, 8 percent behind the total sales in the second quarter of 2010 and 14 percent behind the total in the second quarter of 2005.



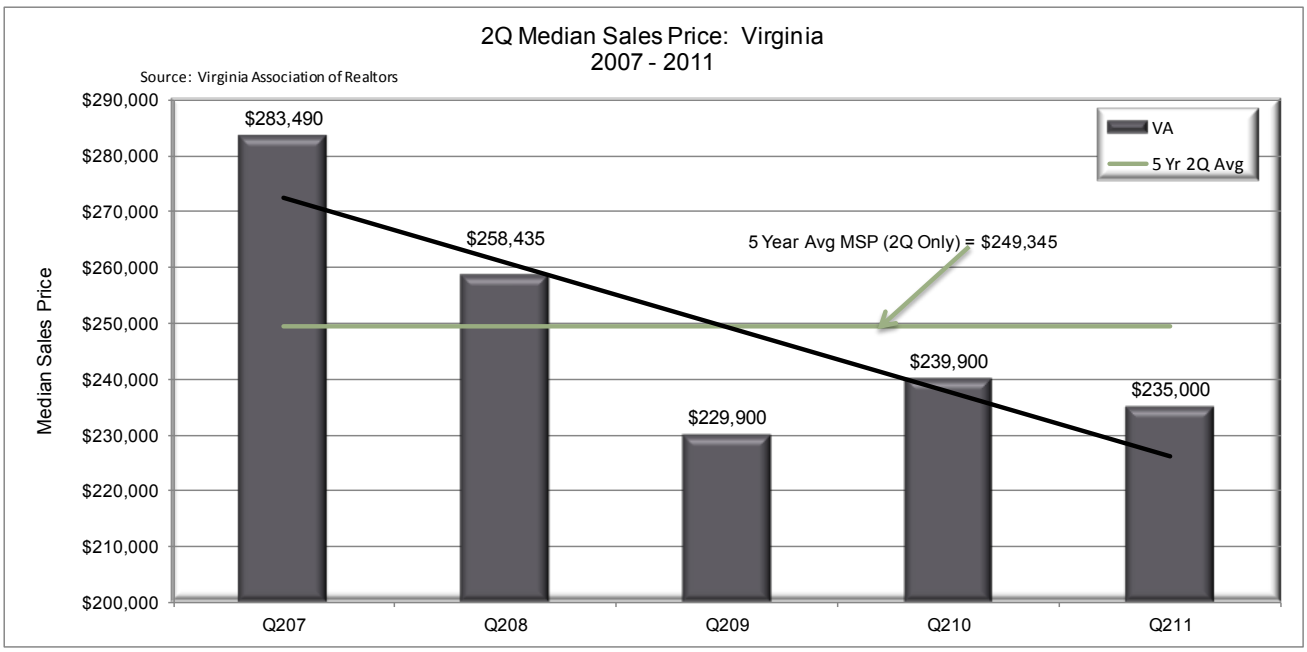
Median Sales Prices

Median sales prices in the state of Virginia and the Southside region were both trending down in the last five years. Prices were especially low in the first quarter of 2011 ($210,000 in Virginia and $75,000 in the Southside region) when the Virginia median was about equal to the median in the first quarter of 2003 and the median in the Southside region was at the lowest point since the first quarter of 2004. It is interesting that median sales prices in both areas normally follow the same cyclical patterns as sales activity with the highest prices typically occurring in the second quarter of the year.

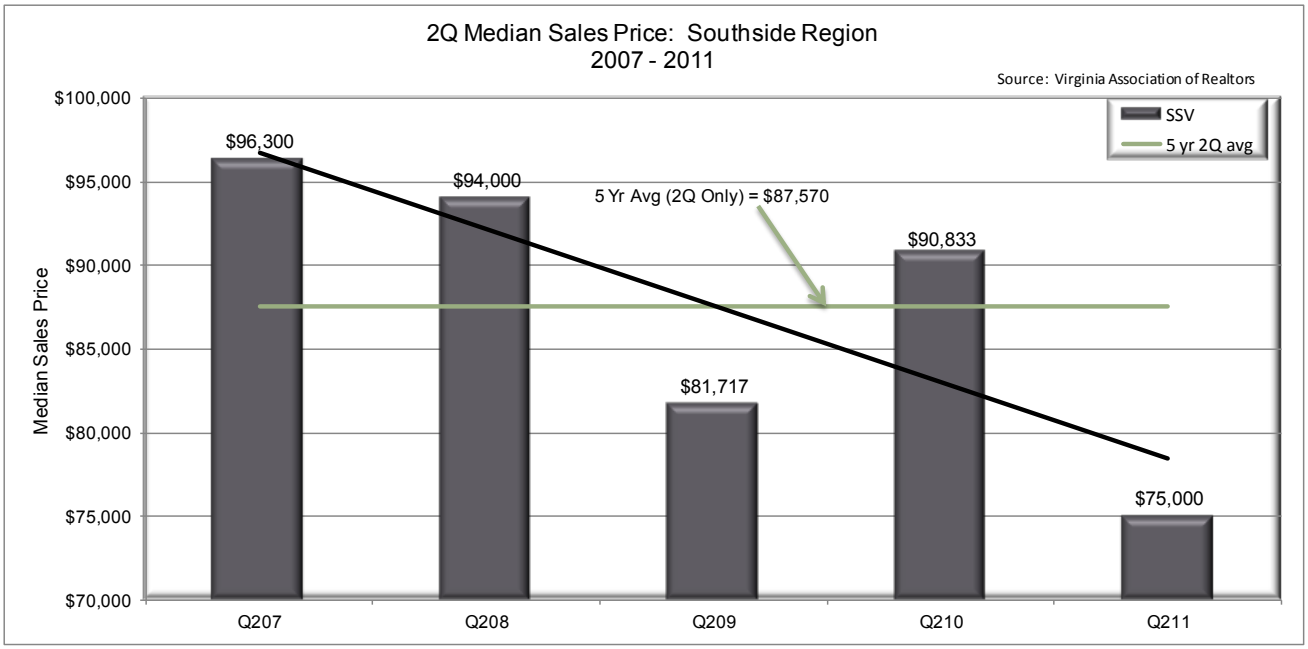


As before, the graphs on the right show the median sales prices in the second quarter of every year since 2007 with the green line illustrating the five-year, second quarter average and black line illustrating the trend.

In the state of Virginia, the median was $235,000 in the second quarter of 2011, representing a 17 percent decline in the last five years and a 2 percent decline from the second quarter of 2010.



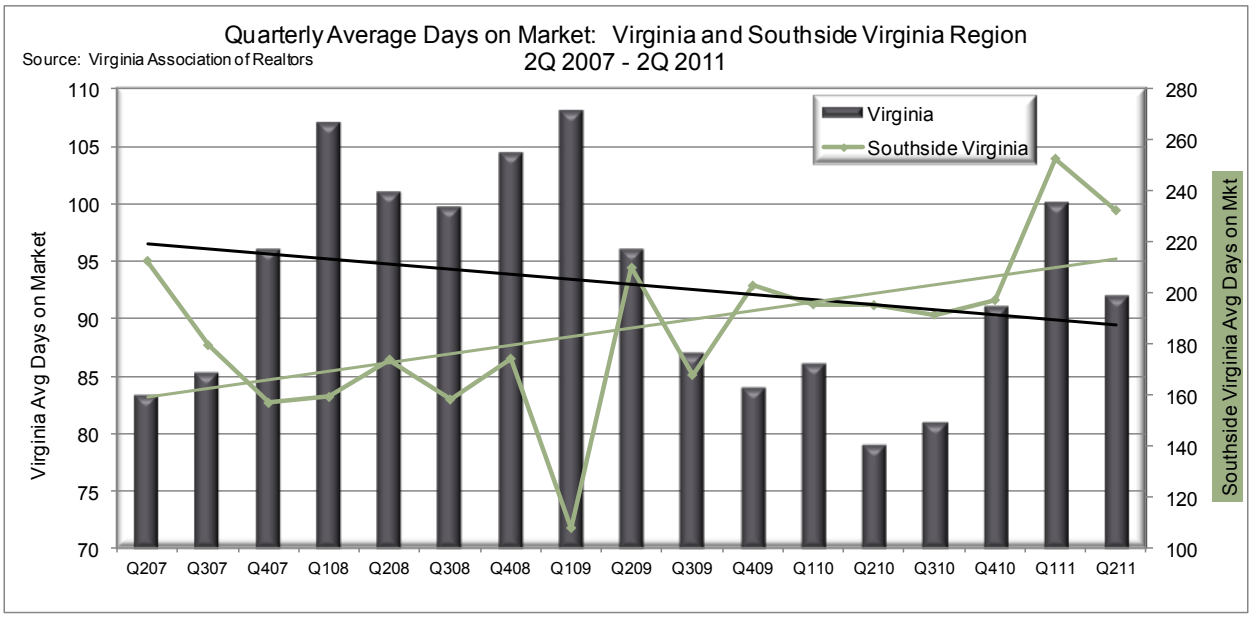
Prices were also trending down in the Southside region but to a larger degree. The second quarter 2011 median of $75,000 represented a 22 percent decline from the $96,300 median in the second quarter of 2007. Like the state, the largest quarter-over-year decline occurred in 2009 (-11 percent across the state and -13 percent in the Southside region). But as recently as September 2011, prices were still headed down with a quarter-over-year decline in the second quarter of 2011 that amounted to over 17 percent.



Average Days on Market

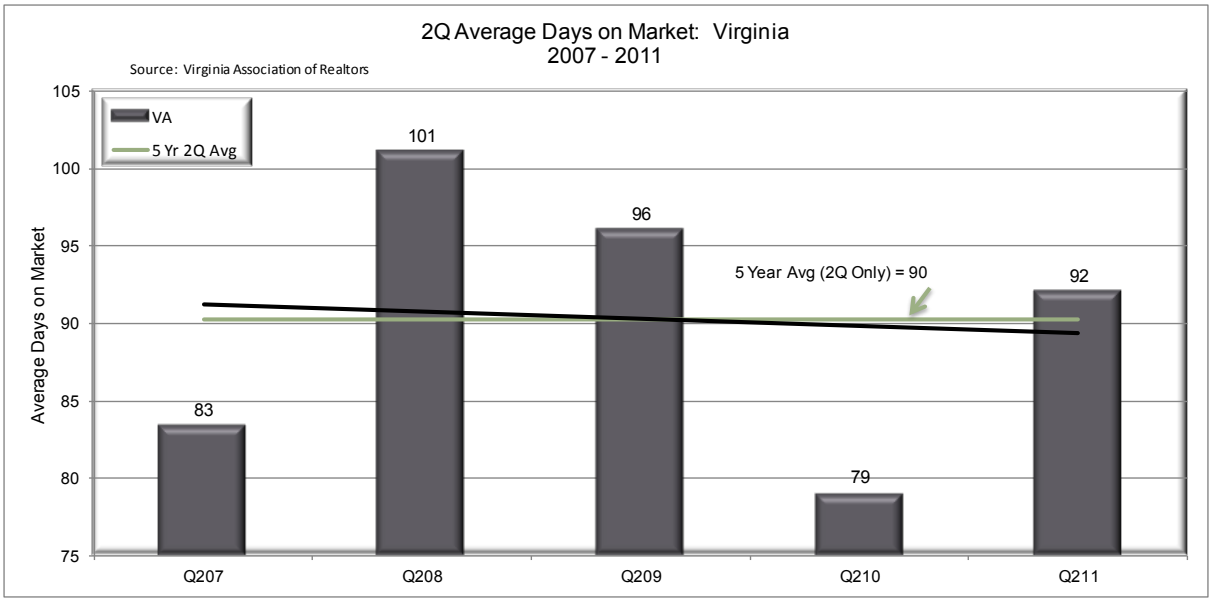
The average days on market statistic is used as an indicator of market demand. The graph below illustrates the quarterly average days on market in the Commonwealth of Virginia and in the Southside region since the second quarter of 2007. Virginia's five-year low point occurred in the second quarter of 2010 when the First Time Buyer's Credit expired.

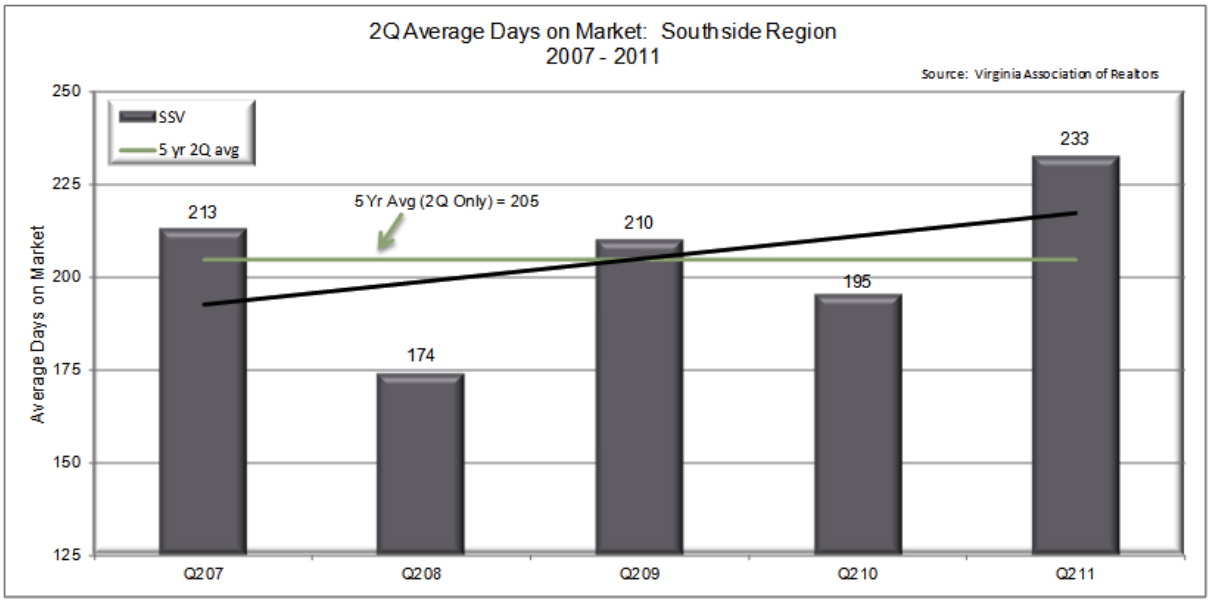
While the average in Virginia reached a peak in the first quarter of 2009, the peak in the Southside region occurred in the first quarter of 2011. In fact, at 253 days the Southside average days on market was at its highest quarterly point since at least the first quarter of 2000. As a result, the average was still trending up in the Southside region since 2007 (green trend line) while the statewide average days on market was trending down (as shown by the black trend line).



While the Virginia average days on market indicator has improved since 2008 and 2009, it was still 11 percent higher in the second quarter of 2011 than it was in the second quarter of 2007. The graph on the right also shows the profound effect the First Time Buyer's Credit had on demand across the state, decreasing the average from the previous second quarter by 18 percent. However, the average rebounded though in the second quarter of 2011 by 16 percent to land at over 90 days again. For the sake of comparison, the lowest average over a sustained period was from the second quarter of 2004 to the third quarter of 2005 when the average ranged from 40 to 50 days every quarter.

Since 2007, the average days on market has trended up significantly in the Southside region, posting a 9 percent increase since the second quarter of 2007. While the First Time Buyer's Credit probably contributed to the quarter-over-year decrease from 2009 to 2010, the help only amounted to 7 percent. Within a year, the average reached 233 days, the highest point since the third quarter of 2002. The lowest average, 136 days, occurred in the second quarter of 2006.





Existing home sales statistics at the city and county level in the Southside Virginia region are only available from the second quarter of 2009 to the fourth quarter of 20105, and they are preliminary figures. Estimates of the share of regional sales attributable to the Danville MSA, the city of Danville and Pittsylvania County over that period are summarized below.

[5] *Dan River Region Association of Realtors' data, as opposed to regional data, was collected by the Virginia Association of Realtors through 2008 and much of it is missing. The existing home sales statistics for the other areas now included in the Southside Virginia region are unavailable making it necessary to limit some data analysis to 2007-2011.*

- The MSA accounted for almost 35 percent of the region's sales with roughly two thirds of that share of sales occurring in the city of Danville;
- The average days on market in the Danville MSA is 10 percent lower than the average in the region and it is even lower in Pittsylvania county; and
- The median sales price in the Danville MSA is roughly equal to the regional median for this period with prices in the city of Danville commanding almost 4 percent higher prices than the regional median. County medians were 4 percent lower than the regional medians, on average.

	Southside Virginia Region			Danville MSA				Danville city				Pittsylvania County			
	Total Sales	*Avg Days on Mkt*	*Median Sales Price*	*Total Sales*	*Share of SSV Region*	*Avg Days on Mkt*	*Median Sales Price*	*Total Sales*	*Share of SSV Region*	*Avg Days on Mkt*	*Median Sales Price*	*Total Sales*	*Share of SSV Region*	*Avg Days on Mkt*	*Median Sales Price*
2Q09	411	203	$83,500	135	32.8%	160	$84,168	94	22.9%	167	$88,250	41	10.0%	143	$79,050
3Q09	478	187	$94,000	146	30.5%	155	$97,342	101	21.1%	160	$103,500	45	9.4%	144	$89,900
4Q09	425	195	$86,000	155	36.5%	161	$89,784	111	26.1%	159	$95,000	44	10.4%	167	$83,750
1Q10	351	179	$82,975	121	34.5%	178	$68,938	87	24.8%	197	$61,900	34	9.7%	130	$76,950
2Q10	504	209	$89,000	182	36.1%	208	$100,424	121	24.0%	232	$108,500	61	12.1%	162	$91,398
3Q10	326	169	$82,250	121	37.1%	160	$82,530	87	26.7%	145	$85,000	34	10.4%	199	$79,750
4Q10	321	203	$87,400	112	34.9%	191	$82,699	81	25.2%	181	$85,000	31	9.7%	218	$80,000
Average	402	192	$86,446	139	34.6%	173	$86,555	97	24.4%	177	$89,593	41	10.2%	166	$82,971

Source: Virginia Association of Realtors; totals may not match statistics gathered at a later date

Foreclosures

Over the eight-quarter period from the first quarter of 2009 to the fourth quarter of 2010, foreclosures in the Danville MSA represented 65 percent of the total in the Southside Virginia region and less than 1 percent of the total across the state. As shown on the summary tables below, about 68 percent of MSA foreclosures were located in the city of Danville and the other 32 percent were located in Pittsylvania County.

Foreclosures by Area

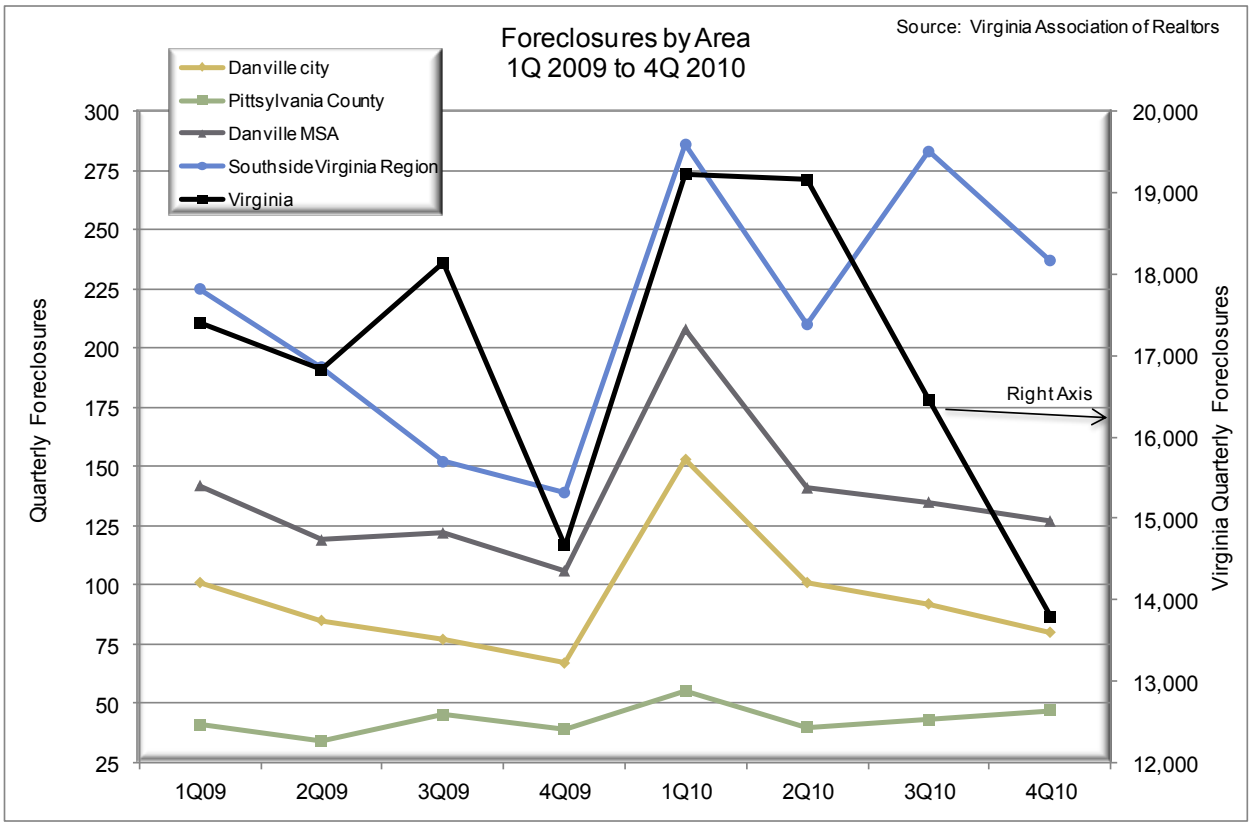
Quarter	Danville city	Pittsylvania County	Danville MSA	Southside Virginia Region	Virginia
1Q09	101	41	142	225	17,394
2Q09	85	34	119	192	16,827
3Q09	77	45	122	152	18,135
4Q09	67	39	106	139	14,668
1Q10	153	55	208	286	19,231
2Q10	101	40	141	210	19,162
3Q10	92	43	135	283	16,457
4Q10	80	47	127	237	13,793
Average	95	43	138	216	16,958

Share	Danville MSA		Danville city			Pittsylvania County		
	of Region	of Virginia	of MSA	of Region	of Virginia	of MSA	of Region	of Virginia
1Q09	63.1%	0.8%	71.1%	44.9%	0.6%	28.9%	18.2%	0.2%
2Q09	62.0%	0.7%	71.4%	44.3%	0.5%	28.6%	17.7%	0.2%
3Q09	80.3%	0.7%	63.1%	50.7%	0.4%	36.9%	29.6%	0.2%
4Q09	76.3%	0.7%	63.2%	48.2%	0.5%	36.8%	28.1%	0.3%
1Q10	72.7%	1.1%	73.6%	53.5%	0.8%	26.4%	19.2%	0.3%
2Q10	67.1%	0.7%	71.6%	48.1%	0.5%	28.4%	19.0%	0.2%
3Q10	47.7%	0.8%	68.1%	32.5%	0.6%	31.9%	15.2%	0.3%
4Q10	53.6%	0.9%	63.0%	33.8%	0.6%	37.0%	19.8%	0.3%
Average	65.3%	0.8%	68.2%	44.5%	0.6%	31.8%	20.9%	0.3%

Source: Virginia Association of Realtors

The graph below illustrates foreclosure activity in these areas. The sharp drop in foreclosures in the third and fourth quarter of 2010 in the state of Virginia (black line) was a result of the dramatic decrease in the Northern Virginia region at the time. Northern Virginia has the highest share of housing stock in the state so foreclosures in that region have a tremendous effect on the state totals. Also, housing trends tend to start there; the foreclosure crisis hit Northern Virginia first and began to wane there first as well. Although the Southside Virginia region (blue line) was experiencing volatile foreclosure activity in the latter part of 2010, the Danville MSA was trending down. This was a function of declining foreclosures in the city of

Danville. Foreclosure decreases in the city of Danville more than made up for the slight increases in Pittsylvania County at the end of 2010.



Survey of Realtors: Housing Market

To further understand the real estate market, a phone survey was conducted in late September 2011 of 20 representative active Realtors in the Danville MSA to gauge their perceptions about the proposed uranium mine in Pittsylvania County. Another phone survey of 20 Realtors was conducted in the Kingsville, Texas, area in early October 2011 where, after 23 years[6], a uranium mine project is nearly finished. The results are summarized below and on the following pages.

[6] *www.uraniumresources.com*

Please describe the changes in your housing market since 2008.

	Danville MSA		Kingsville, TX	
Significant improvement	0	0.0%	0	0.0%
Slight improvement	2	10.0%	2	10.0%
No change	1	5.0%	1	5.0%
Slight decline	6	30.0%	13	65.0%
Significant decline	11	55.0%	3	15.0%
No answer	0	0.0%	1	5.0%
Total	20	100.0%	20	100.0%

According to the responses above, the housing market in Kingsville, Texas, was apparently somewhat less affected by the national recession than the Danville MSA. In Danville, 85 percent of the Realtors surveyed believed the housing market has experienced a decline in the last three years; 55 percent believed it was significant. The Realtors in Kingsville, Texas, though, described a less drastic decline. While 80 percent believed the market declined, a noteworthy 65 percent believed the decline was merely slight with only 15 percent describing it as a significant decline.

A potential reason for this discrepancy is that the Kingsville, Texas, market is sustained by two fairly stable employers, the United States Navy operates a Naval Air Station in the region and a branch of the Texas A&M is also located in the vicinity. On the other hand, the Danville MSA has experienced population and job declines since 2008.

Have any of the following factors contributed to your previous answer?

Although both regions are low-growth areas, the Realtors' perceptions of the causes for changes to the housing market varied by market. In Danville, the majority of Realtors (48.1 percent) attributed the condition of the housing market to changes in local job growth, presumably job losses. While job fluctuations also played a role in Kingsville, Texas, changes in lending standards were cited most often (48.3 percent) as the predominant reason for housing market declines.

	Danville MSA		Kingsville, TX	
Changes in lending standards	11	40.7%	14	48.3%
Changes in government programs (like FTBC)*	0	0.0%	7	24.1%
Changes in local job growth	13	48.1%	4	13.8%
Changes in mortgage rates	0	0.0%	3	10.3%
Foreclosures	3	11.1%	1	3.4%
Total	27	100.0%	29	100.0%

What effect do you believe the proposed/existing uranium mine will/has have/had on housing demand and values?

	Danville MSA		Kingsville, TX	
Large negative effect	5	25.0%	0	0.0%
Small negative effect	5	25.0%	2	10.0%
No effect	4	20.0%	17	85.0%
Small positive effect	0	0.0%	0	0.0%
Large positive effect	0	0.0%	0	0.0%
No answer	6	30.0%	1	5.0%
Total	20	100.0%	20	100.0%

It is remarkable that the largest share (30 percent) of the Realtors in the Danville MSA could or would not comment on how they expected the proposed mine to affect local housing demand and values. However, one half of the Danville respondents believed the mine will negatively affect the housing market while 20 percent believed the mine will cause no change to the market at all.

When prompted for comments, 30 percent of Danville Realtors either don't know about the mine or are waiting to form an opinion later.

Do you think job growth associated with the proposed/existing mine will/has provided a boost to the local economy?

Half of the Realtors surveyed in the Danville area believed that jobs associated with the proposed mine will boost the local economy but another 40 percent either refused to comment or did not want to venture a guess. By contrast, 65 percent of Kingsville, Texas, Realtors believed their mine provides no boost to the local economy while 20 percent had no opinion.

	Danville MSA		Kingsville, TX	
Yes	10	50.0%	3	15.0%
No	2	10.0%	13	65.0%
No answer	8	40.0%	4	20.0%
Total	20	100.0%	20	100.0%

Danville Realtors felt ill-equipped to answer questions about the mine and its pros and/or cons; six mentioned they just don't know enough about it. In Kingsville, Texas, though, 40 percent of respondents believed the mine has had no effect on the local economy in recent years since the mine itself is nearing completion.

Do you have any other thoughts on how the proposed/existing mine will/has affected your business?

Ten of the 14 Realtors in Danville who opted to make a closing comment; half of them believed they don't have enough information to form an opinion on the mine and its economic impact, two believed the impact will be positive and three believed the mine will have a negative impact on the housing market. Of the 14 Realtors in Kingsville, Texas, who had further comments, 12 (86 percent) believed the mine is inconsequential to the local housing industry.

Please see comments from the survey in the Appendix.

Conclusion

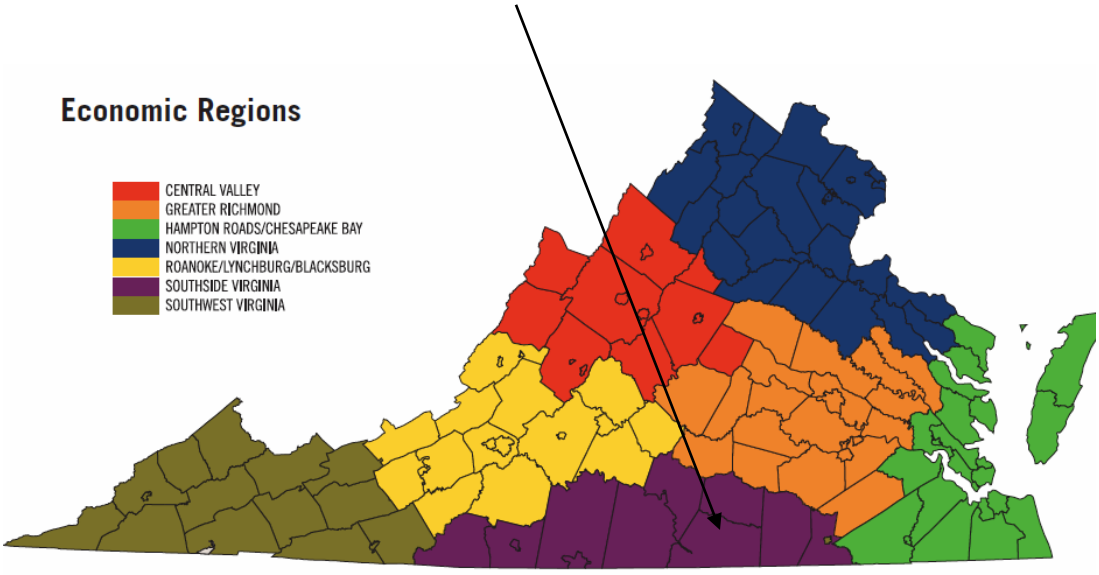
Depending on when the mine opens and how many of the employees to be hired currently live in the Danville MSA, the housing market in the Danville MSA will more than likely be unaffected by the opening of the Coles Hill mine in Pittsylvania County. There is adequate housing supply to satisfy potential increases in demand. According to some of the local Realtors, property values surrounding the mine may be negatively affected for a time but because the land around the mine site is heavily rural, demand for those properties is low. The remoteness of the mine site, limiting visibility from adjoining properties, will limit complaints and awareness of it. Property values outside a five-mile radius will be largely unaffected by mine operations.

It can be assumed that the general population in the Danville MSA is as uninformed about the pros and cons of the proposed Coles Hill mine as the Realtors who were surveyed for this study were. It is therefore necessary to better inform the public of what they might expect.

Housing Analysis Appendix

Virginia Association of Realtors, Definition of Southside Virginia Region

- Brunswick County
- Charlotte County
- Danville city
- Emporia city
- Galax city
- Greensville County
- Halifax County
- Henry County
- Lunenberg County
- Martinsville city
- Mecklenburg County
- Norton city
- Patrick County
- Pittsylvania County



Survey Comments: Danville Area Realtors

Have any of the following factors contributed to your assessment of the local housing market?

- Lack of jobs led to foreclosures
- We didn't have quite the decline here that other areas had. We've benefitted from new small businesses, doctors moving to the area and Goodyear.
- High number of foreclosures has spurred investors to buy.
- Our area doesn't have the highs and lows that other areas experience but lending standards have made it more difficult.
- We've lost so much industry, there are no jobs

What effect do you believe the proposed uranium mine will have on housing demand and values?

- I don't know
- Too early to tell
- Nobody knows enough about it yet
- I can't say. Some people feel very strongly it will have a large negative impact but others believe the mining will create a need for housing. I'm not 100% sure the impact will be negative.
- Everyone is scared even though there is no real danger.
- Who knows?
- Will balance out because people will come to the area for jobs and need houses. They will make up for the people who choose to leave.
- Not qualified to answer
- Once people find out that the proposed mine is in the area, they back away from deals. There is a general lack of knowledge along with fear and apprehension. Homeowners there now think their property will lose value if the mine opens.
- It's already had a big effect on my business. People walk away from deals when they find out about the mine.
- I lost a land deal customer when she found out the mine might be built
- I would rather not comment

Do you think job growth associated with the proposed mine will provide a boost to the local economy?

- I don't know yet
- Not sure. Probably limited. I haven't looked into it yet.
- I'm leaning toward the benefit outweighing the risk. Jobs lead to housing demand which increases values.
- Any job growth benefits will be offset by negative effect on housing market.
- A small one.
- If it happens it should be a boost.
- Not qualified to answer
- I don't know
- Minimal
- If it creates jobs it will be a boost
- No comment

Do you have any other thoughts on how the proposed mine will affect your business?

- I don't have enough information. I've heard pros and cons but I haven't formed an opinion yet.
- We are still studying the potential outcomes associated with the mine and I do not have enough information yet to build an opinion.
- I'm on the fence either way. Obviously, I don't want any thing to come to the area that is a hazard. On the other hand if there's no risk to the environment, I'm all for new jobs in the area.
- I don't know enough about it to have an opinion. All you ever hear is the negative.
- I've not made a study of it. I think others are better informed to predict how the mine will affect our area.

- The mine will have a positive effect if it's deemed to be safe.
- I don't think the mine will be positive for the area and radon concerns will become more prevalent.
- We as Realtors try to stay away from politics.
- I've been to meetings both pro and con and I'm on the fence.
- I don't personally have enough information but what I have is negative. The last thing we need to do is run people out of the county and unfortunately, that's what's happening.
- I would like to hear the end result of this study. Our area can use additional income and more jobs but only if it's safe.
- I support economic growth and development and only hope that the politicians will be sure the mine is safe if it is allowed to open.
- I hope the moratorium is not lifted. I think it will be terrible for houses in the area.
- I hope it never happens.
- No comment

Survey Comments: Kingsville, Texas, Area Realtors

Have any of the following factors contributed to your assessment of the local housing market?

- As an appraiser, I've seen a lot of refis recently because of the low mortgage rates.
- All of them but mostly it's the uncertainty in the market, everyone wants to rent.
- These are pretty small towns, not much building going on so no real change in the market.
- The most significant factor here is that people can't sell their previous homes. They end up renting here. Prices have been stable but we've had a 25% decrease in sales.
- This is not a big growth area. The military base and college provide most activity.

What effect do you believe the existing uranium mine has had on housing demand and values?

- The mine has no influence over housing.
- I don't even know about it!
- The mine is basically in an uninhabited area; the homes that are there have a rural water supply so wells don't provide drinking water. Where they don't have community water, small land parcels don't sell and large farmland cannot be subdivided.
- The mine has not had a huge effect but not a little affect either.
- The mine is not in Kingsville, Texas, it is close to Ricardo. It is constantly in the news for safety and water issues. We have to disclose that there is a uranium mine and the water has above-normal levels of harmful substances.
- There are very few houses around that area.
- It's in a rural area.
- A few people live nearby but its way out in the country. I do know that they are concerned about the water quality.
- I didn't even know there was a mine.
- There is little growth in that area and the mine doesn't employ many. We got a new, controversial windmill farm but only two new homes were built for the workers.

Do you think job growth associated with the existing mine has provided a boost to the local economy?

- I haven't seen any effect, either way.
- Not now, not in the last 3-4 years. It used to when it had more employees.
- Everything that gives us some jobs helps the economy. I do know that there's a lot of traffic out there.
- The mine is really not an issue.
- There's been very little boost, just a few people work there.
- I don't think it has but I don't know for sure.
- Mining been going on for a long time so it hasn't provided a boost to our economy in a while.
- When the mine first opened it was helpful, then it was dormant for a while. It must have added jobs since operations have resumed. The nearby landowners have benefited monetarily from it.
- None of my customers are employees, may be a small number of employees.
- I know it did when it opened but I don't know that it's helping now.
- I have no clue.
- The mine helps out-of-towners. The bulk of money goes elsewhere although local land owners get a small boost.

Do you have any other thoughts on how the existing mine has affected your business?

- Mine management keeps saying they're going to do things like clean up the area and move on. They never finish what they say they're going to do. For political reasons, the mine doesn't have do what they say they are going to do…like leave.
- I sell residential property in town, don't do much land.
- The mine is not an issue here. In fact, between Bishop and Kingsville, Texas, there is a chemical plant. Those folks coming to work at the chemical plant can't buy because they can't sell their previous houses.
- The mine has not affected my business at all.
- The mine hasn't really affected my business.
- Our brokerage always discloses the mine's location and sometimes people are concerned that the mine is affecting the water supply.
- The mine brought jobs to the community but workers don't qualify for homes. I haven't heard of any water issues. We don't sell many houses near it though (it is about 10 miles from town).
- There are so many other things going on and all I hear is the constant fighting and negative news about it. The Naval Air Station and university fuel our housing industry. The mine is 6-7 miles out of town.
- People complain about it but I don't even know what they are complaining about. I don't understand the controversy. People who have lived next to it have no complaints. If there were a beautiful property adjacent to the mine I would build on it.
- The mine hasn't affected my business in any way, it's out in the middle of nowhere. It is unsightly though with lots of pipes on the ground. In a residential area it would be unsightly and undesirable for homeowners.
- The mine has never been a problem to potential buyers.

- The mine hasn't affected my business at all but I feel for those who live close to it who believe their water is affected by the mine
- I'm sure there are environmental concerns but from a purely economic perspective, it's hard to turn down industry because of the new jobs and general growth it brings.
- Within a 5 mile radius only 1 or 2 houses have been built because the mine affects the drinking water in the immediate area and uranium gets in the aquifer.

SECTION IV: Economic Effects

Findings on the Economic Effects of Uranium Operations in Select Communities

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Executive Summary

This report addresses the ways uranium mining and milling have affected the economies of a set of communities in the United States that have a history of uranium operations.

For this effort, we sought to obtain answers to questions we had about the possible impact of uranium facilities on business attraction/retention opportunities, the vitality of other economic sectors such as tourism and agriculture, and whether the indirect and induced impacts suggested by economic models actually occurred.

Given the small number of comparable uranium facilities in the US, our sample is necessarily limited. Still, we believe the insights gained from our interviews and review of third-party economic analyses and impact reports are a useful complement to other economic impact studies addressing uranium operations in Virginia.

The primary finding is that the *majority of respondents believe the uranium operations are positive for their community's economy.* Specifically:

- *The direct impacts – especially the jobs created by the mines and mills – are the most important economic impacts for the communities.*
- *The indirect and induced effects of uranium operations are real, but modest.*
- *Uranium operations have neither hindered nor helped overall business attraction and retention efforts.*
- *There is no evidence that uranium operations decrease tourism and outdoors activities, although concerns linger.*
- *Ranching operations do not appear to experience negative economic impacts from the uranium facilities, but water quality and availability are monitored.*
- *Downsides accompany the economic benefits generated by uranium mines and mills.*
    - The most commonly cited downside is the boom-and-bust nature of the uranium business. Most interviewees expect the industry to remain cyclical but are eager to gain the benefits from the "boom" portion of the cycle.
    - Most respondents also acknowledged either environmental or health problems in their communities from past uranium operations. However, most interviewees were also quick to note that current regulations would not allow a repeat of past practices in mines, mills or in the treatment of tailings, stressing that it is not appropriate to judge the industry based on operations that shut down decades ago.

- Everyone agreed that strong regulation is necessary, and most – but not all – of these interviewees expressed satisfaction with the level of regulation in their state to protect their community's health and the environment.

Review of Findings

This paper is one of a series prepared by the Center for Regional Analysis (CRA) at George Mason University on the potential economic impacts of a proposed uranium mine and mill in Pittsylvania County, Virginia. Virginia Uranium, Inc. has contributed funds to CRA to support research on this topic.

This report addresses the ways uranium mining and milling have affected the economies of a set of communities in the United States that have a history of uranium operations. Since Virginia itself has no direct experience from which to draw a comparative analysis, it is useful to look to other places that have a longer history of extracting and processing uranium in order to understand the economic effects.

The objective of the report is to determine if these operations have generated the direct, indirect and induced benefits that economic impact models typically forecast, as well as to understand whether uranium operations have altered the community image, business attraction/retention potential, and health of other economic sectors in each location.

Comparison Communities

CRA selected a set of counties that we believe provide several perspectives on the economic impacts of uranium operations while still serving as useful (if not perfect) comparison points for Pittsylvania County. These counties have decades-long experience with uranium operations in different forms and stages. One challenge in selecting comparison locations is that most ongoing uranium recovery operations involve in-situ recovery (ISR) techniques, which are not comparable to the conventional mine and mill proposed in Pittsylvania County. In fact, there is only one active and operating conventional uranium mill in the country today, though others are on "standby," and only one new conventional mill has been permitted in the last 25 years.

Accordingly, the two counties in which the operating and the proposed mill are located were the focus of our efforts. We also selected a third county that has a history of conventional mining and milling, has a mill on standby, and has an in-situ recovery (ISR) facility in the

permitting stage. The fourth location also has a history of conventional mining and milling and now has only ISR facilities. The counties and the rationales for selecting them are:

San Juan County, UT: The White Mesa mill, located near Blanding, Utah, is the only conventional uranium mill currently operating in the United States. San Juan County also contains uranium mines that are operated separately from the mill. A remediated disposal and processing site is located in Monticello, the county seat. San Juan County has an extensive history with uranium that makes its views on the economic impacts very valuable.

Montrose County, CO: The proposed Piñon Ridge mill would be located in the west end of Montrose County near Naturita, Colorado. The Colorado Department of Public Health and Environment approved its application in 2011; however, a lawsuit has been filed asking for the state license to be revoked. There have been many uranium mines in Montrose County, though it appears that most are not active now. Lawsuits have been filed to stop or slow mining activity on public land. The county also has experience with uranium site decommissioning and remediation, including the evacuation and demolition of the town of Uravan. For these reasons, the views of Montrose County on the economic implications of past activity as well as the proposed mill are also very valuable.

Sweetwater County, WY: Wyoming reportedly leads the country today in uranium production through its in-situ recovery (ISR) operations. Sweetwater County has a proposed ISR facility and a conventional mill that is licensed but not currently operating. There is reportedly a decommissioned site in the county, but no officials with whom we spoke were familiar with it. Sweetwater County looked good on paper as a comparison point for these reasons. However, their current focus on ISR makes Sweetwater a less meaningful comparison point in terms of understanding the economic impact of conventional mines and mills. Still, their inputs on past experience with uranium operations and views on ISR facilities were interesting and useful.

Karnes County, TX: Karnes County was selected because it is a uranium producer not located in the western states and because it has a history of conventional milling, although it too has now turned to ISR operations along with most of Texas. It has multiple decommissioned or remediated sites, which made it appear to be a good case study for the long-term economic implications of uranium operations. However, the economic development organizations we contacted either did not return our calls or declined to speak to us. We were able to speak with three organizations in the region (two in San Antonio and one in Karnes County) and include their comments here.

We also took demographic and economic factors, such as population, income, and employment by industry, into consideration when choosing these locations, again striving to select those that would give us insights that would be relevant to Pittsylvania County. It is important to note that most places in which uranium mining or milling occurs are rural communities with small populations and large land areas compared to Pittsylvania County. While sections of Pittsylvania County may appear rural, it is part of the Danville Metropolitan Statistical Area and so, by definition, is not "rural" in economic terms.

Still, we did try to include locations that were adjacent to metropolitan areas under the assumption that the economic impacts could be different in rural, isolated communities than in rural and less-isolated places. Montrose County is adjacent to the Grand Junction, CO, MSA, and Karnes County is adjacent to the San Antonio, TX, MSA.

Approach

Our approach to this project involved 1) researching economic studies of past and current uranium operations, drawing on federal and state regulatory agency data as well as several economic impact analyses, 2) obtaining demographic and economic data, primarily from the American Community Survey from the US Census and the Bureau of Economic Analysis, and 3) identifying and interviewing local, regional and state economic development professionals.

In the course of our research and interviews, we also tried to identify and speak with others who could address specific economic impacts related to tourism, outdoors activities, and farming and ranching. In three of the four locations we also spoke with environmental advocacy groups, which were in each case located outside the county of interest, but were knowledgeable about the uranium projects.

Findings

This section summarizes the findings from our interviews and review of other economic impact studies. To begin, a few words are necessary about the economic context for these counties. First, most of these counties are much larger geographically but have smaller populations than Pittsylvania County. Most of the counties, including Pittsylvania, have median household and per capita personal income levels well below the US average. With only one exception, Pittsylvania County has a lower percentage of residents that have at least a bachelor's degree than the other counties. Finally, Pittsylvania County has a much higher level of manufacturing employment and a lower level of agriculture, forestry, fishing and hunting and mining employment and mining earnings than the other counties. More information about each county's economy is available in Appendix 2 and Appendix 3.

While Pittsylvania County is economically different from these locations, we believe the findings are still relevant to understanding the potential effects of the uranium operations themselves, although Pittsylvania's size would likely either mitigate or enhance several of the impacts, as described below.

The direct impacts – especially the jobs created by the mines and mills – are the most important economic impacts for the communities.

There are few major employers and few substantial economic opportunities for the communities where conventional mills and mines have been located. The jobs they provide and the wages they pay are or will be especially meaningful for the locations in San Juan County and western Montrose County. By contrast, the ISR facilities tend to employ fewer people and rely more heavily on workers from outside the region with specialized skills, so the economic impact is lower in ISR-focused communities.

The jobs created by the mine and mill, including those created during the construction phase, would also likely be the most important economic impact from the uranium operation in Pittsylvania County.

The indirect and induced effects of uranium operations are real, but modest.

Trucking ore from mines to mills was the most frequently cited supplier or indirect effect. Companies that provide mining equipment, other industrial and mining supplies, equipment maintenance and repair services, and some metal fabrication related to equipment were also cited as most likely to gain business from the uranium operations. Some economic impact analyses also included mining as an indirect effect since the mill operations in their communities did not include mines.

Induced effects, which are related to goods and services that households would purchase with their wage income, were also described by interviewees and cited in studies. Retail trade, hospitality (especially restaurants and lodging), and real estate either had or were expected to benefit. Communities generally expected to gain some new businesses in these categories.

The level of benefits captured by each community varied based on their existing economic base (often very small) and their proximity to other communities that offered greater levels of goods and services. Pittsylvania could be expected to capture a greater percentage of the induced benefits given its larger size and economic base. On the other hand, it may not capture as many indirect benefits because, at least on paper, it does not have a mining heritage that would suggest a larger base of specialized mining supply companies – although Virginia as a whole

may. The combined mining/milling operation might mean a lower requirement for trucking services than in other locations. General supply and maintenance and repair requirements could create an opportunity for local businesses.

Uranium operations have not hindered overall business attraction and retention efforts.

Beyond understanding the business growth opportunities related to the mining and milling operation, we also wanted to know if a uranium operation would affect the perception of each community as a place to do business. In other words, would past or present uranium operations preclude other economic development opportunities? The answer was consistently "no." There were no examples provided of businesses that left a location to avoid being near the uranium operation in the communities considered here.

Further, regional and state economic development allies confirmed that from their perspectives, uranium operations were not a factor affecting business development or business attraction opportunities in each county. By contrast, uranium was seen as providing a substantial number of quality jobs in locations that, because of their isolation, infrequently saw such opportunities. Accordingly, economic development allies at the state and regional levels tended to be supportive.

There is no evidence that uranium operations decrease tourism and outdoors activities, although concerns linger.

In addition to their mining heritage, the counties in Wyoming, Colorado and Utah all have tourism promotion efforts and tout their natural resources in their economic development and visitor programs. They are eager to increase tourism and visitor opportunities, while recognizing that they are not currently major tourist destinations and have limited support infrastructure for visitors.

Interviewees within these counties generally agreed that uranium operations had not or would not decrease tourism in their communities, nor would it hurt tour operators, guides or outfitters. Several mentioned that the increase in jobs and the number of new people coming to their communities were actually expected to benefit their hospitality and outdoors-activity businesses either permanently or temporarily.

To buttress their arguments regarding their own communities and nearby tourist destinations, they pointed out that tourism and outdoor recreation activities have increased significantly in other places with a history of uranium operations, such as Moab and Telluride. As the

environmental impact analysis prepared by the Colorado Department of Public Health and Environment for the Piñon Ridge project noted,

> "Mining and milling has been alleged to have a negative impact on tourism and local development, but data supporting this assertion has not been found. Areas with tourism as a major part of the economy have existed with uranium and other mineral mines and mills for years. For example, in Telluride, extensive tourism-related development exists adjacent to the Idarado tailings impoundment . . . . In Moab, the Atlas mill operated on the edge of town, and contaminated soils and tailings are stored in a repository on the major highway into town on the bank of the Colorado River. Each of these communities relies on tourism as a major component of the local economy." (Environmental Impact Analysis 2011, p. 140)

Still, concerns exist about whether tourism *could* be affected. These concerns were primarily voiced by individuals from other counties, not the sites of the uranium operations that are the focus of this report. Their concerns center primarily around image – especially in locations that tout pristine environments and wide open spaces. This concern is not limited to the impact of uranium mining, but also extends to other extractive industries and even the visual impact of wind turbines. "Operational conflicts" such as bikers sharing roads with trucks, deterring new residents and second home owners, and impacts on scenic views, habitat and water quality have also been raised as possible problems that could in turn affect the tourism sector.

In addition to the lack of evidence of a negative economic impact on the tourism industry, the location of the Coles Hill operation on private land makes it seem unlikely to create operational conflicts, affect viewsheds, or deter outdoors activities in other areas of Pittsylvania County.

Ranching operations do not appear to experience negative economic impacts from the uranium facilities, although water quality and availability are monitored.

As background, the counties considered here all have more acreage of farmland (mostly pasture as opposed to cropland) than Pittsylvania County, but Pittsylvania's agricultural products have a higher market value than most of the other locations. Montrose County, Colorado is most similar to Pittsylvania County on this measure, although it too has a higher percentage of pasture than cropland.

We interviewed six individuals, including two with ranching operations in the regions of interest, about the effect of uranium facilities on ranches and farms, and those respondents indicated that there was no concern about a negative impact on ranching operations. In

addition, other economic impact studies do not indicate a negative economic impact on farms or ranches.

A few respondents noted that ranchers do pay close attention to water use and water quality in specific locations. However, their points were not that uranium operations would by definition create a problem, but that it was important to understand, watch and monitor sites to make sure problems did not develop. Since this study is about economic impacts, not environmental impacts, this aspect of the topic is better addressed by experts in the environmental field.

Downsides accompany the economic benefits generated by uranium mines and mills.

Respondents were also thoughtful and forthcoming on the economic downsides and risks associated with uranium facilities, while still largely agreeing that the benefits to their communities of modern uranium mining and milling operations were greater than the risks.

The most commonly cited downside is the boom-and-bust nature of the uranium business. Each of these counties has decades of uranium mining and processing experience, and each has been hurt during down cycles, when hundreds or even thousands of direct and indirect jobs have been lost in their regions. Most interviewees expect the industry to remain cyclical but are eager to gain the benefits from the "boom" portion of the cycle.

Since the economies of these communities are smaller and are more dependent on extraction industries than Pittsylvania County, it seems unlikely that an operation the size of the proposed mine and mill would have a devastating effect on the overall Pittsylvania County economy during a down cycle.

Most respondents also acknowledged either environmental or health problems in their communities from past uranium operations, whether they were run by the federal government or the private sector. However, most interviewees were also quick to note that current regulations would not allow a repeat of past practices in mines, mills or in the treatment of tailings, stressing that it is not appropriate to judge the industry based on operations that shut down decades ago.

Everyone agreed that strong regulation is necessary, and most of these interviewees expressed satisfaction with the level of regulation in their state to protect their community's health and the environment. However, the regulatory structure varies from state to state, and the level of comfort also varies. For example, during our limited number of interviews in Texas, regulatory programs were praised, but press articles and past studies indicate real past problems in enforcement and ongoing concerns regarding ISR operations. In Colorado, strong regulation is

a condition of support for the proposed mill for many in Montrose County, and several interviewees explained that support for the mill would fade if real risks to the environment were anticipated.

It is important to note that not everyone agreed that the regulations are sufficiently stringent or well-enforced in each state. Regulatory concerns across jurisdictions include the fact that most regulations have not been updated for years, a lack of expertise within regulatory agencies, lack of resources for enforcement, inadequate reclamation requirements, the need for perpetual care of tailings impoundments, and rules that allow operations to stay "open" but dormant for years without remediation activity.

The majority of respondents believe the uranium operations are positive for their community's economic development.

Most of the respondents stated that uranium operations have been positive for their economies. In Colorado, the lack of other major opportunities in the western end of the county coupled with confidence in the regulatory environment bolstered the positive sentiment. In Utah, there was strong agreement that uranium remained a positive overall factor in the local economy along with acknowledgment of the past risks and downsides. Respondents in Wyoming were more likely to be neutral in their responses since there are not any currently operating uranium facilities in Sweetwater County and the proposed ISR operation would have a relatively small impact in the context of their overall economy.

Appendix 1. Interview List

Interviews were completed with the following individuals. We thank them for their time and willingness to speak with us.

Bruce Adams, County Commissioner, San Juan County (Monticello, UT)

Jenissa Bartlett, Executive Director, Sweetwater County WY Travel & Tourism (Rock Springs, WY)

Cleal Bradford, San Juan County. Past executive director of Utah Navajo Development Council, San Juan Resources, White Mesa Ute Council, Blue Mountain Dine, Inc. and Nations of the Native West. Utah Tourism Hall of Fame recipient. Former Mayor, Blanding, UT. (Blanding, UT)

Ken Charles, Regional Manager, Colorado Department of Local Affairs (Durango, CO)

Charlie DeLorme, Director, Economic Development Department, San Juan County (Monticello, UT)

Jeff Edwards, President & CEO, Economic Development Corporation of Utah (Salt Lake City, UT)

Sarah Fields, Program Director, Uranium Watch (Moab, UT)

Paul Gray, Executive Director, Region 10 League for Economic Assistance and Planning (Montrose, CO)

David Hanks, CEO, Rock Springs Chamber of Commerce (Rock Springs, WY)

Sandy Head, President/Executive Director, Montrose County Economic Development Corporation)(Montrose, CO)

Steve Jones, Watershed Protection Program Attorney, Wyoming Outdoor Council (Lander, WY)

Leah Kristin, Nucla-Naturita Area Chamber of Commerce and Visitors Center (Naturita, CO)

Harold Limon, Manager, Blanding Visitors Center (Blanding, UT)

Steve Raabe, Director of Technical Services, San Antonio River Authority (San Antonio, TX)

Joe Ramos, Alamo Area Council of Governments (San Antonio, TX)

Diana Reams, CFO, Tomcat Mining and Reams Construction and President, Nucla-Naturita Chamber of Commerce (Naturita, CO)

Paul Robinson, Research Director, Southwest Research and Information Center (Albuquerque, NM)

Patricia Robbins, South Central Region, Wyoming Business Council (Rock Springs, WY)

Hugh Ruckman, President, Karnes County National Bank and Board of Directors, Karnes County Economic & Community Development Corporation (Karnes City, TX)

Jennifer Thurston, Uranium Campaign Coordinator, Sheep Mountain Alliance (Telluride, CO)

Cindy Walls, Executive Director, Carbon County Economic Development Corporation (Rawlins, WY)

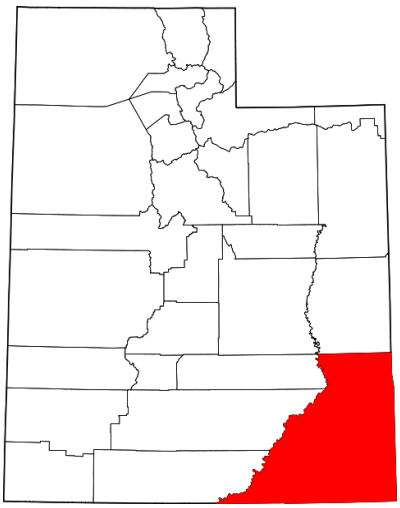
Chris Webb, City Manager, Blanding (Blanding, UT)

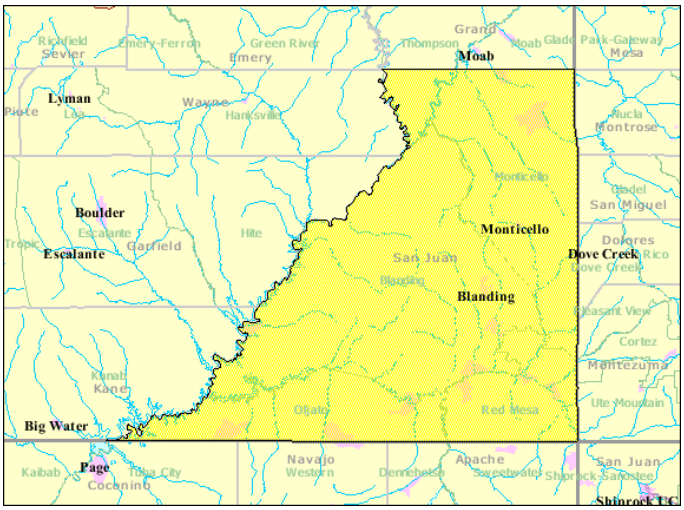
Appendix 2. Community Information

San Juan County, UT

San Juan County, located in southeastern Utah, is a rural county covering 7,820 square miles (approximately the size of New Jersey) with a 2010 population of 14,746. Its population density is 1.9 persons per square mile. The County overlaps with a large segment of the Navajo Nation, and over half the County's population is Native American.

Maps





Uranium Operations

San Juan County is home to the only currently operating conventional mill in the United States. The mill was developed in the 1970s, but it has not operated continuously since that time. The mill is on a 500 acre site located 6 miles south of the town of Blanding (2010 population of 3,375) and 3-6 miles north of the White Mesa Ute Community (2010 population of 242). The nearest resident is 3 miles away. Wells for stockwatering and irrigation and a few for domestic water supply are nearby. The San Juan River, a tributary of the Colorado River, is 18 miles south of the mill site.[7]

The mill is licensed to process 2,000 tons per day of ore. The mill employs 150 people when at full operation, and the annual operating budget is reported to be $31 million.[8] It is able to process alternate feed stocks in addition to ore, and it also produces vanadium. Yellowcake is shipped to Illinois for further processing.

Denison Mines, owner of the White Mesa Mill, is in the process of renewing its radioactive materials license with the Utah Department of Environmental Quality, Division of Radiation Control. (http://www.radiationcontrol.utah.gov/). Additional documents related to the White Mesa Mill are available here: http://www.radiationcontrol.utah.gov/Uranium_Mills/IUC/Denison_IUC/UGW_renewal.html.

[7] *Environmental Assessment for International Uranium (USA) Corporation's Uranium Mill Site White Mesa, San Juan County, Utah. 2002*

[8] *"White Mesa mill is an economic juggernaut in San Juan," San Juan Record, February 16, 2011.*

Uranium mining also occurs in San Juan County, including the Pandora and Beaver mines near La Sal, some of which are also owned by Denison Mines and others by a private producer. More information on the La Sal Mines Complex is available here: http://www.blm.gov/ut/st/en/fo/moab/more/minerals/LaSalMines.html, and information on the Daneros mine is available here: http://www.blm.gov/ut/st/en/fo/monticello/daneros_mine.html.

Sites with past uranium operations include the following:

The Nuclear Regulatory Commission lists the Rio Algom Uranium Mill (San Juan County, UT) as an Agreement State-Regulated Recovery Site Undergoing Decommissioning. More information is available here: http://www.nrc.gov/info-finder/decommissioning/uranium/rio-algom.html.

A remediated disposal and processing site is located in Monticello, UT. This was a uranium/vanadium processing mill operated by the federal Atomic Energy Commission from 1948 to 1960. More information is available here: http://www.lm.doe.gov/land/sites/ut/monticello/monticello.htm. Monticello is home to the Victims of Mine Tailings Exposure group, which tracks illnesses among people who lived in the community during and after the years of mill operation, during which time "open tailing piles spread dust over the city every time the wind blew from the south. People used tailings for fill in construction and landscaping. Children played on the large piles and swam in the ponds on the abandoned mill site."[9]
More information is available here: http://www.monticellovmte.com.

Nearby Moab in Grand County is also home to one of the most well-known uranium tailings piles at the Atlas Mill site, 3 miles northwest of the city. Information on this Uranium Mill Tailings Remedial Action (UMTRA) Title I project can be found here: http://www.gjem.energy.gov/moab/index.htm.

Notes on the Local Economy

San Juan County's economy is classified as "federal/state government-dependent" by the US Department of Agriculture Economic Research Service. It is considered to be a "high out-migration" county based on 1988-2008 figures. It is also classified as having "high natural amenities" and is "recreation-dependent" relative to other counties. It is not a retirement destination.

[9] *"Impacts of uranium industry in San Juan: past and future," San Juan Record. April 9, 2008.*

Rural-Urban Continuum Code	Urban Influence Code
7 = urban population of 2,500-19,999 and is not adjacent to a metropolitan area	11 = noncore location not adjacent to a metropolitan or micropolitan area and contains a town of at least 2,500 residents

Note: Rural-Urban Continuum Code: scale of 1-9, with 9 referring to the most rural locations. Urban Influence Code: scale of 1-12, with 1 referring to large metropolitan areas and 12 referring to the most rural counties. Source: US Department of Agriculture.

Approximately 60% of county land is federally-owned. About 25% of the county is Native American land owned by the Navajo Nation or Ute Tribe. A 2002 environmental assessment notes that the primary land uses in the county are livestock grazing, wildlife range, recreation, and exploration for minerals, oil and gas.[10]

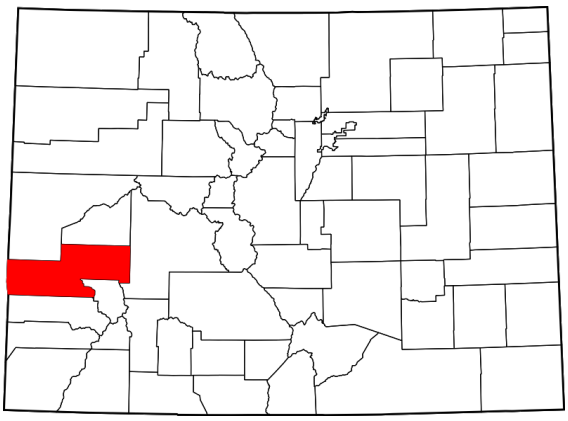
There were 758 farms containing 1.6 million acres in San Juan County in 2007. 88% of this farmland was pasture, while 9.3% was cropland. The market value of agricultural products sold was $10.3 million.[11]

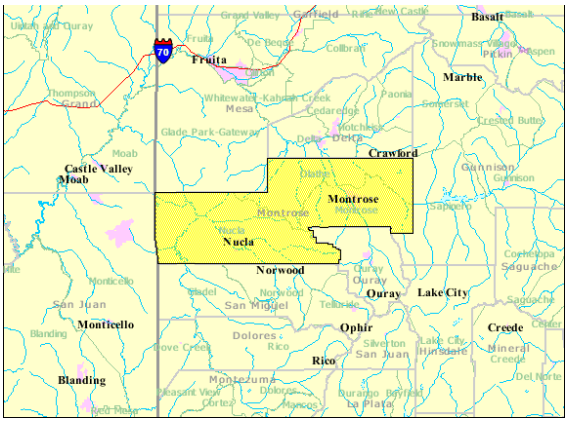
The poverty rate in 2009 was 28.3%, while the unemployment rate in 2010 was 13.3%.[12]

Montrose County, CO

Montrose County, located in western Colorado, is a rural county covering 2,240 square miles (approximately the size of Delaware), with a 2010 population of 41,276. Its population density is 18.4 persons per square mile. It is near the Grand Junction Metropolitan Statistical Area.

Maps





[10] *Environmental Assessment for International Uranium (USA) Corporation's Uranium Mill Site White Mesa, San Juan County, Utah. 2002*

[11] *County Profiles, U.S. Department of Agriculture. 2007.*

[12] *"Atlas of Rural and Small Town America," U.S. Department of Agriculture, Economic Research Service.*

Uranium Operations

The proposed Piñon Ridge mill in Montrose County would be the first uranium mill constructed in the US in nearly 25 years. The Piñon Ridge mill application has been approved by the Colorado Department of Public Health and Environment's (CDPHE) Radiation Control Division. The mill's application is now with the US Environmental Protection Agency.[13] Documents on the CDPHE website related to Piñon Ridge are available here: http://www.cdphe.state.co.us/hm/rad/rml/energyfuels/index.htm.

The mill would be located on an 880-acre site in the west end of Montrose County, 7 miles from Bedrock and 12 miles from Naturita (population 546). The nearest residence would be 3 miles from the site.

The mill facilities would include an administration building, a 17-acre mill, 90 acres of tailing cells, 40-80 acre evaporation ponds, a 6-acre ore storage pad, and access roads. Its proposed initial capacity is 500 tons per day, with the potential for 1,000. It is expected to have a 20-40 year operating life. The mill is expected to employ 85 people.[14]

Mines are not specifically part of this project, although mining occurs in the region. It appears that production has been halted in most if not all of the county's uranium mines. While they were operating, the ore was shipped either to the Canon City, CO mill (now on standby) or the White Mesa mill in Blanding, UT. The new mill is reported to be desirable to avoid shipping ore to either location for processing.[15]

In October 2010, the Montrose Economic Development Corporation (MEDC) passed a resolution supporting the license request for the Piñon Ridge mill based on the proposed job creation as well as the need for alternative energy sources in the country. In explaining its support, the MEDC also quoted the Colorado Department of Public Health and Environment from a press release dated January 2011 that, "Energy Fuels has demonstrated it can build and operate the mill in a manner that is protective of both human health and the environment."[16]

By contrast, the Sheep Mountain Alliance, based in Telluride, CO, in nearby San Miguel County has filed a suit against the CDPHE asking for the state license for the mill to be revoked. More

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[13] *"Uranium Mining in Colorado," Colorado Department of Natural Resources, Division of Reclamation, Mining & Safety. June 2011*

[14] *Socioeconomics Baseline and Impact Analysis for the Proposed Piñon Ridge Uranium Mill, Montrose County, Colorado. The Louis Berger Corporation. 2009.*

[15] *A Socioeconomic Analysis of the Proposed Pinon Ridge Uranium Project on Western Mesa, Montrose and San Miguel Counties, Colorado. Power Consulting. 2010.*

[16] *Montrose Economic Development Corporation Report for the 2011 Annual Meeting.*

information about this lawsuit is available here: http://www.sheepmountainalliance.org/Latest/index.php.

Separately, a lawsuit was filed against the US Department of Energy (DOE) to require a comprehensive rather than piecemeal analysis of the environmental impacts of uranium mining and milling on public lands in southwestern Colorado.[17] In October 2011, the DOE was ordered to stop uranium exploration and mining activities on federal lands in southwestern Colorado until a more thorough environmental analysis is undertaken, a process currently underway. The action was prompted by the Colorado Environmental Coalition (Denver, CO), Information Network for Responsible Mining (Glendale, Arapahoe County, CO), Rocky Mountain Wild (Denver, CO), Center for Biological Diversity (Tucson, AZ) and the Sheep Mountain Alliance (Telluride, San Miguel County, CO).[18] This decision does not directly affect the mill.

Sites in Montrose County with past uranium operations include the following:

The Nuclear Regulatory Commission lists Umetco Uravan in Uravan, CO (Montrose County) as an Agreement State-Regulated Recovery Site Undergoing Decommissioning. More information is available here: http://www.nrc.gov/info-finder/decommissioning/uranium/umetco-uravan.html.

The Uravan mill reportedly operated from 1912 until 1984. The mill and the town were evacuated and demolished in 1986, when it was designated a Superfund site. The site underwent a $120 million, 25 year remediation process, although most of the cleanup was completed by 2001. This process included capping and revegetating 10 million cubic yards of uranium tailings, pumping and treating contaminated water, securing 12 million cubic yards of tailings along the San Miguel River, and excavating and disposing contaminated soil.[19]

Information on Department of Energy Legacy Management sites in Montrose County is available here: http://www.lm.doe.gov/Naturita/.

Local Economy

Montrose County is classified as a "non-specialized" economy by the US Department of Agriculture Economic Research Service. It is not considered a "high out-migration" county

[17] *"Colorado: Feds agree to study impacts of uranium mining," Summit County Citizens Voice, July 27, 2011.*
[18] *"Courts halt federal uranium program," Telluride Daily Planet, October 21, 2011.*
[19] *"Uranium – It's Hot!! And Back by Popular Demand," Rock Talk (Colorado Department of Natural Resources. 2006.*

based on 1988-2008 figures. It is classified as having "high natural amenities," but it is not "recreation-dependent" relative to other counties. It is categorized as a retirement destination.

Rural-Urban Continuum Code	Urban Influence Code
7 = urban population of 2,500-19,999 and is not adjacent to a metropolitan area	8 = includes a micropolitan statistical area (Montrose, CO) not adjacent to a metropolitan area

Note: Rural-Urban Continuum Code: scale of 1-9, with 9 referring to the most rural locations. Urban Influence Code: scale of 1-12, with 1 referring to large metropolitan areas and 12 referring to the most rural counties. Source: US Department of Agriculture.

Approximately 70% of county land is federally-owned. The Dolores and San Miguel rivers run through Montrose County. It is home to the Uncompahgre National Forest and the Black Canyon of the Gunnison National Park. Most tourism in the county relates to recreational cycling, fishing, hiking and sight-seeing. [20]

The west end of the county, where the proposed mill would be located, is physically separated from the eastern portion of the county by the Uncompahgre Plateau. It is not accessible by paved road within the county. Accordingly, the west end is yet more rural and remote than the county as a whole. One study reported the 2007 population of this portion of the county as 2,300.[21] The region's main towns of Nucla and Naturita had 2010 population counts of 711 and 546 respectively.

Employment in Nucla and Naturita is primarily related to construction, mining and utilities, plus some accommodation and food services, education and healthcare facilities. A 100 megawatt coal-fired power plant in Nucla is the west end's major employer. The New Horizon Mine in Montrose County supplies 400,000 tons of coal per year to the plant.[22] There is very limited retail, and many west end residents shop in Grand Junction, which is approximately 100 miles away.[23]

There were 1,045 farms containing 321,000 acres in Montrose County in 2007. 56% of this farmland was pasture, while 29% was cropland. The market value of agricultural products sold was $67.2 million.[24]

The poverty rate in 2009 was 12.8%, while the unemployment rate in 2010 was 11.1%.[25]

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[20] *Montrose County Socioeconomic Impact Study (Draft Report). Economic & Planning Systems, Mike Retzlaff and Lloyd Levy Consulting. 2010.*

[21] *A Socioeconomic Analysis of the Proposed Pinon Ridge Uranium Project on Western Mesa, Montrose and San Miguel Counties, Colorado. Power Consulting. 2010.*

[22] *Montrose County Socioeconomic Impact Study (Draft Report). Economic & Planning Systems, Mike Retzlaff and Lloyd Levy Consulting. 2010.*

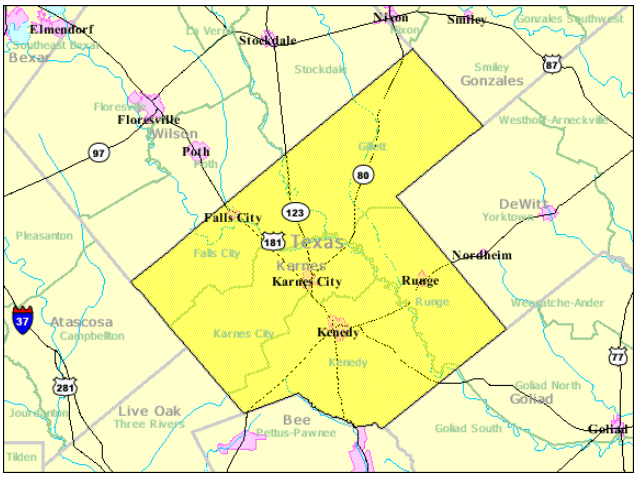
[23] *A Socioeconomic Analysis of the Proposed Pinon Ridge Uranium Project on Western Mesa, Montrose and San Miguel Counties, Colorado. Power Consulting. 2010.*

[24] *County Profiles, U.S. Department of Agriculture. 2007.*

Karnes County, TX

Karnes County, located in southern Texas, is a rural county covering 748 square miles, with a 2010 population of 14,824. Its population density is 19.8 persons per square mile. Karnes County is adjacent to the San Antonio Metropolitan Statistical Area.

Maps



Uranium Operations

Texas has a history of conventional uranium mining and milling, but most, if not all, uranium operations in the state today are in-situ recovery (ISR) facilities. One recent report notes that 28 ISR mines have been developed in the state, but only two are active (in Kleberg and Brooks counties).[26] However, another study reports significant ISR activity from five major companies doing business in 10 counties in southern Texas.[27]

Karnes County is home to the Hobson ISR facility owned by Uranium Energy Corp. It is also the site of much past mining and milling activity. The specific employment associated with the

[25] *"Atlas of Rural and Small Town America," U.S. Department of Agriculture, Economic Research Service.*

[26] *Uranium Mining in Texas: Why Is It Done That Way?" Ronald L. Sass. 2011.*

[27] *Uranium Mining in Texas: Economic and Fiscal Impacts. Paul Hendershot and Terry L. Clower. 2011.*

Hobson ISR is not clear, but the company's estimated total employment impact for operations in 6 counties is only 165 people.[28]

Citizens in neighboring Goliad County have been fighting an ISR facility in their county because of fears of groundwater contamination. Separate reports note that some well water became undrinkable just following exploration activity in the county, and that the Texas Commission on Environmental Quality has "routinely" relaxed water quality standards while the industry has "failed to restore water quality to baseline levels."[29]

There have also been serious criticisms of past regulatory practices affecting conventional mines and mills. For example, the scathing Texas Senate Subcommittee on Health Services Interim Report on "Regulation of Uranium Mill Tailings and Wastes with Similar Radiological Characteristics" released in 1989, "found serious deficiencies in the regulation of radioactive wastes," "a serious lack of information on the effects of uranium mining and related activities on human health, agriculture and other economic land use," and "that several general reforms are needed to restore the credibility of the state's regulatory process . . . ."

Sites with past uranium operations include the following:

The Nuclear Regulatory Commission lists ConocoPhillips Company in Falls City, TX (Conquista site, where uranium operations ceased in 1982) as an Agreement State-Regulated Recovery Site Undergoing Decommissioning. More information is available here: http://www.nrc.gov/info-finder/decommissioning/uranium/conoco-phillips-company.html and here: http://www.lm.doe.gov/falls/Sites.aspx.

The Nuclear Regulatory Commission also lists Rio Grande Resources Corporation, TX (Panna Maria site, where processing operations appear to have ceased in 1993) as an Agreement State-Regulated Recovery Site Undergoing Decommissioning. More information is available here: http://www.nrc.gov/info-finder/decommissioning/uranium/rio-grande-resources-corp.html.

The Texas Commission on Environmental Quality lists two conventional uranium mills/tailings impoundments Karnes County: the Conquista facility in Falls City operated by Conoco Phillips and the Panna Maria facility operated by Rio Grande Resources. Limited information is available here: http://www.tceq.texas.gov/permitting/radmat/uranium/impoundments.html.

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[28] *Ibid.*

[29] *Background Information: Uranium Mining in Texas. Alliance of Texans for Uranium Research & Action, Dec. 2010, citing "Report on Findings related to the Restoration of In Situ Uranium Mines in South Texas," by B.K. Darling, 2008.*

Uranium-related Superfund sites in Karnes County include Butler Ranch (http://www.tceq.texas.gov/remediation/superfund/state/butler.html),

Further, the Susquehanna-Western facility, which ceased operations in 1973, was designated a national priority cleanup site under the Uranium Mill Tailings Radiation Control Act, with joint responsibility between the state and federal government. It is not clear to us whether contaminated groundwater associated with this facility has been or will be cleaned, or cleaned to enable use for drinking water. More information can be found here: http://www.em.doe.gov/bemr/bemrsites/faci.aspx.

Local Economy

Karnes County's economy is classified as "federal/state government dependent" by the US Department of Agriculture Economic Research Service. It is not considered a "high out-migration" county based on 1988-2008 figures. It does have "high natural amenities" but is not "recreation-dependent" relative to other counties. It is not a retirement destination.

Rural-Urban Continuum Code	Urban Influence Code
6 = urban population of 2,500-19,999 and is adjacent to a metropolitan area	4 = noncore location adjacent to a large metropolitan area

Note: Rural-Urban Continuum Code: scale of 1-9, with 9 referring to the most rural locations. Urban Influence Code: scale of 1-12, with 1 referring to large metropolitan areas and 12 referring to the most rural counties. Source: US Department of Agriculture.

Major land uses in the county are rangeland and cropland. The San Antonio River flows through the county. Agribusiness and petroleum production are the major industries.[30] Drilling in the Eagle Ford Shale for shale oil, shale gas and gas have created what is expected to be a temporary but welcome economic development boom in county.[31]

There were 1,208 farms containing 417,000 acres in Karnes County in 2007. 61% of this farmland was pasture, while 25% was cropland. The market value of agricultural products sold was $24.6 million.[32]

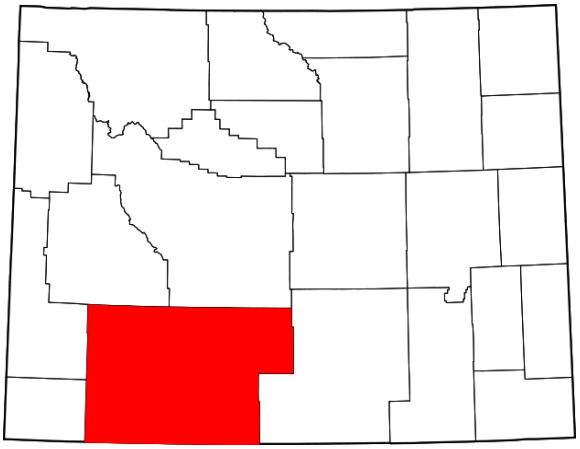
The poverty rate in 2009 was 25.8%, while the unemployment rate in 2010 was 9.4%.[33]

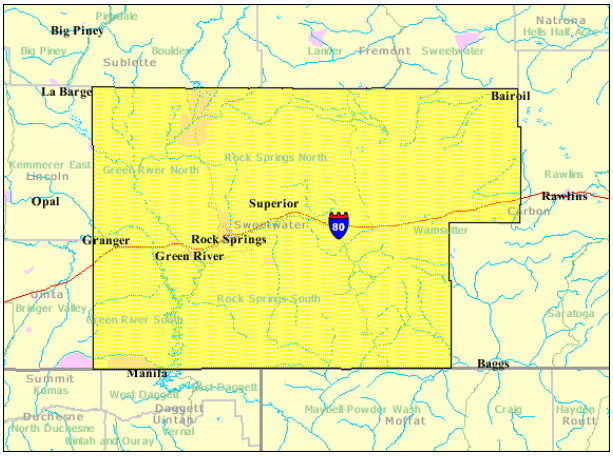
[30] *Soil Survey of Karnes County, Texas. US Department of Agriculture, Natural Resources Conservation Service. 1999.*
[31] *"Eagle Ford windfall carries pluses and minuses," Houston Chronicle, November 19, 2011.*
[32] *County Profiles, U.S. Department of Agriculture. 2007.*
[33] *"Atlas of Rural and Small Town America," U.S. Department of Agriculture, Economic Research Service.*

Sweetwater County, WY

Sweetwater County, located in southwestern Wyoming, is a rural county covering 10,427 square miles (approximately the size of Maryland), with a 2010 population of 43,806. Its population density is 4.2 persons per square mile.

Maps





Uranium Operations

While Wyoming has a long history of uranium mining and conventional milling, most current and proposed uranium operations in the state are ISR facilities.

As recently as 1980, Wyoming had 9 uranium mills employing 5,300 people. Most of those jobs were lost during the bust years beginning in the early 1980s. A frequently cited example of the boom-bust nature of the industry in Wyoming is Jeffrey City, which lost 95% of its population between 1979 and 1982 and is now often described as a ghost town. Even so, since 1995,Wyoming has reportedly led the country in uranium production with just two licensed in-situ recovery facilities.[34]

One of these is the Smith Ranch-Highland ISR site, which employs 147 people and has 50 full-time contractors. In 2009 this operation in Converse County had a $10.5 million payroll (300 direct jobs), paid $3.7 million in taxes and royalties, spent $26.1 million with Wyoming vendors

[34] *An Overview of Uranium Production in Wyoming. School of Energy Resources, University of Wyoming. July 2010.*

(out of an estimated $40 million total annual spending), with indirect jobs estimated at 143.[35] The facility has been subject to DEQ penalties in the past but is reported to have "met its requirements under the agreement, and was released from the conditional $400,000 fine in 2010."[36]

Permits for additional facilities are under review with the Wyoming DEQ, including a proposed ISR facility in Sweetwater County. The proposed Lost Creek ISR facility, located on public land in the northeast section of the county, received NRC approval in August 2011.[37] More information on the Lost Creek ISR site is available here: http://www.nrc.gov/info-finder/materials/uranium/licensed-facilities/lost-creek.html.

Sweetwater County also has a conventional mill that is either in standby mode, which means it is licensed but not currently operating, or in reclamation. The Sweetwater Mill is located 5 miles away from the proposed Lost Creek ISR site and 42 miles from Rawlins, WY. The mill site is 1,432 acres, including a 60-acre tailings impoundment. The facility was constructed in 1980 but has been on standby since 1983. Reclamation activity did occur from 2005 to 2007 in response to a catchment basin leak that contaminated groundwater. More information on the Sweetwater conventional mill site is available here: http://www.nrc.gov/info-finder/materials/uranium/licensed-facilities/sweetwater.html.

Sites with past uranium operations include the following:

The Nuclear Regulatory Commission lists Bear Creek in Rock Springs, WY (Sweetwater County) as an NRC-Regulated Recovery Site Undergoing Decommissioning. However, another document lists the location as Converse County. The decommissioning and reclamation of this uranium mill is listed as completed in 1999. A summary of the site status is available here: http://www.nrc.gov/info-finder/decommissioning/uranium/bear-creek.html.

Local Economy

Sweetwater County is classified as a "mining-dependent" economy by the US Department of Agriculture Economic Research Service. It is considered to be a "high out-migration" county based on 1988-2008 figures. It is also classified has having "high natural amenities" but is not "recreation-dependent" relative to other counties. It is not a retirement destination.

[35] *Economic Impact of Cameco Resources in Wyoming. Presented at The Future of Uranium Production in Wyoming: A Public Forum on In-Situ Recovery. August 2010.*

[36] *An Overview of Uranium Production in Wyoming. School of Energy Resources, University of Wyoming. July 2010.*

[37] *Environmental Impact Statement for the Lost Creek ISR Project in Sweetwater, Wyoming. US Nuclear Regulatory Commission, Office of Federal and State Materials and Environmental Management Programs. June 2011.*

Rural-Urban Continuum Code	Urban Influence Code
5 = urban population of 20,000 or more and is not adjacent to a metropolitan area	8 = includes a micropolitan statistical area (Rock Springs, WY) not adjacent to a metropolitan area

Note: Rural-Urban Continuum Code: scale of 1-9, with 9 referring to the most rural locations. Urban Influence Code: scale of 1-12, with 1 referring to large metropolitan areas and 12 referring to the most rural counties. Source: US Department of Agriculture.

Sweetwater County's economy is extraction-based, but driven more by oil and gas, petrona, and natural gas than by uranium. Uranium is considered a "nice addition" to the mix, but it represents small operations compared to these other extraction industries.

The primary land use in the area surrounding the Lost Creek ISR project (and therefore the Sweetwater mill) is cattle grazing, and there are no roads, farms or residences in the ISR project area. Other land uses are industry, wildlife habitat, hunting, recreation, off-road vehicle use, gas and carbon dioxide pipelines and transmission lines.[38]

There were 244 farms containing 1.5 million acres in Sweetwater County in 2007. 97% of this farmland was pasture. The market value of agricultural products sold was $14.5 million.

The poverty rate in 2009 was 7.3% while the unemployment rate in 2010 was 6.7%.[39]

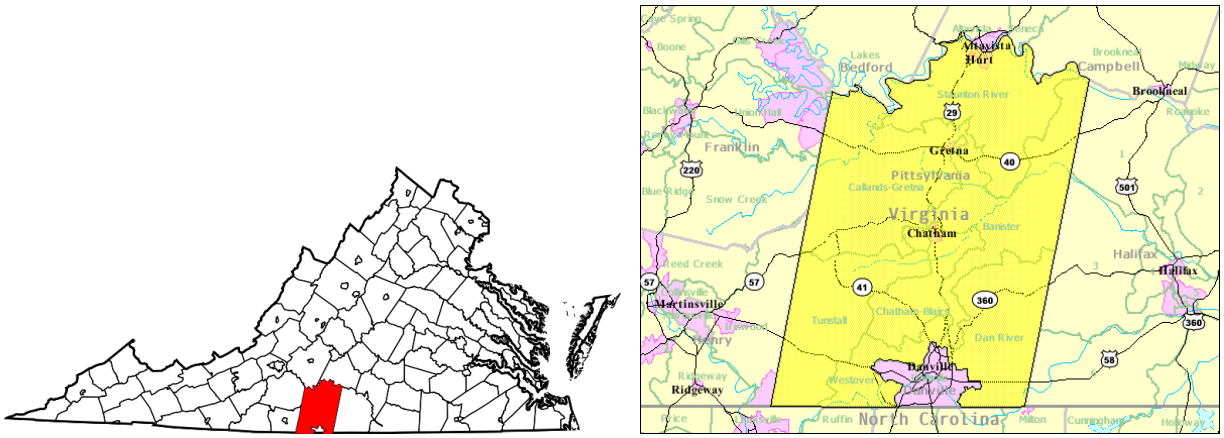
Pittsylvania County, VA

Pittsylvania County is in the south central portion of Virginia and borders North Carolina. It covers 969 square miles with a 2010 population of 63,506. Its population density is 65.5 persons per square mile. The largest city is Danville. The Danville Metropolitan Statistical Area is defined as Pittsylvania County plus the city of Danville, so Pittsylvania is not considered a rural county.

[38] *Ibid.*

[39] *"Atlas of Rural and Small Town America," U.S. Department of Agriculture, Economic Research Service.*

Maps



Uranium Operations

The proposed mine and mill at Coles Hill in Pittsylvania County would involve underground mining and operation of a conventional mill with a capacity of 3,000 tons per day. The proposed site encompasses 2,940 acres and is located 5-6 miles northeast of Chatham, Virginia (2010 population 1,269) and approximately 25 miles from Danville. 175 residences are located in a two-mile radius of the site and 2,700 people live within five miles. The operations would include 325 permanent jobs. One study suggests the annual economic impact of the operations would be $135 million, supporting 1,000 total jobs.[40]

Local Economy

Pittsylvania County is classified as a "manufacturing-dependent" economy by the US Department of Agriculture Economic Research Service. It is not considered to be a "high out-migration" county based on 1988-2008 figures. It does not have "high natural amenities" nor is it "recreation-dependent" relative to other counties. It is not a retirement destination.

Rural-Urban Continuum Code	Urban Influence Code
3 = metropolitan area of fewer than 250,000 population	2 = small metropolitan area of less than 1 million residents

Note: Rural-Urban Continuum Code: scale of 1-9, with 9 referring to the most rural locations. Urban Influence Code: scale of 1-12, with 1 referring to large metropolitan areas and 12 referring to the most rural counties. Source: US Department of Agriculture.

[40] *The Socioeconomic Impact of Uranium Mining and Milling in the Chatham Labor Shed, Virginia. Chmura Economics & Analytics. 2011.*

For many years, the region's economy was dominated by tobacco and textiles.[41] While Pittsylvania County still has a relatively high level of manufacturing employment as a percentage of total employment, that share has been shrinking dramatically. Still, textiles, wood products and furniture remain areas of relative specialization.

The dominant land uses in Pittsylvania County are forests (43%) and farm land (44%). Only 13% of the county's land is developed property.[42]

There were 1,356 farms containing 274,000 acres in Pittsylvania County in 2007. 20% of this farmland was pasture, while 38% was cropland and 36% was woodland. The market value of agricultural products sold was $62.6 million.[43]

The poverty rate in 2009 was 15.6% while the unemployment rate in 2010 was 10.4%.[44]

[41] *Assessing the Economic Competitiveness of the Danville, Virginia Region. Urban Investment Strategies Center, Frank Hawkins Kenan Institute of Private Enterprise, Kenan-Flagler Business School, University of North Carolina at Chapel Hill. 2008.*

[42] *Coles Hill Housing Analysis. Danville, Virginia Region. Center for Regional Analysis, George Mason University. 2011.*

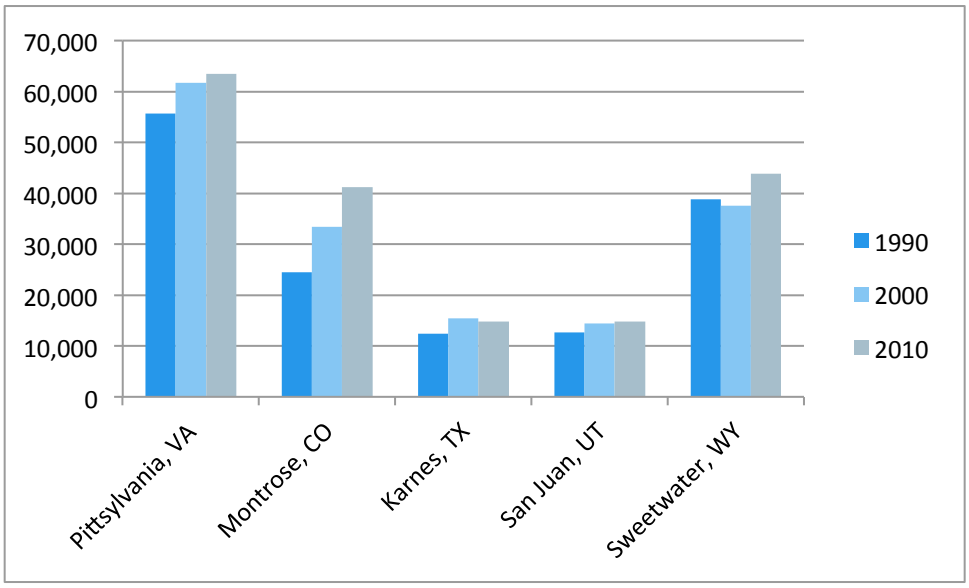
[43] *County Profiles, U.S. Department of Agriculture. 2007.*

[44] *"Atlas of Rural and Small Town America," U.S. Department of Agriculture, Economic Research Service.*

Appendix 3. Demographic and Economic Data: Comparison Charts and Tables

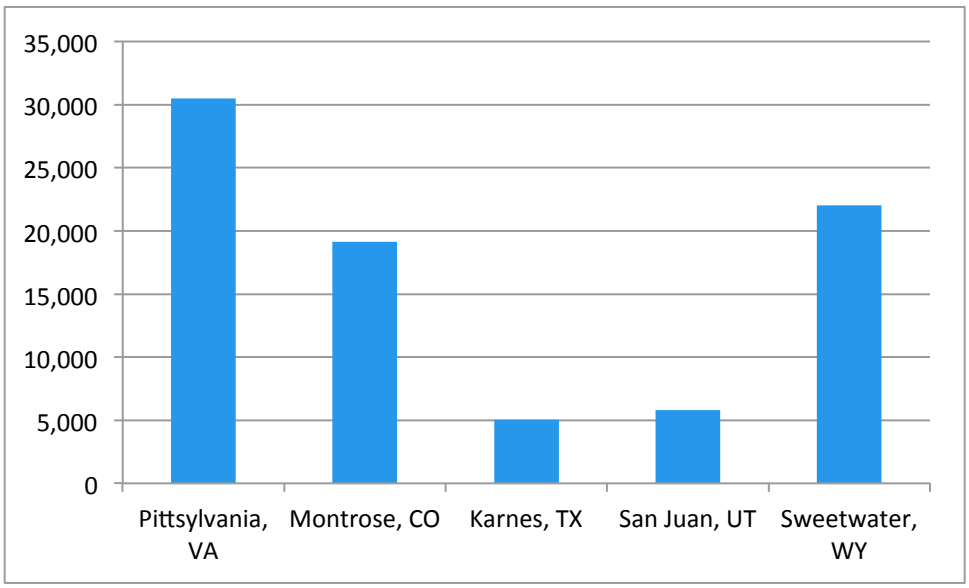
Population and Labor Force

Figure 1. Population by County



Source: U.S. Census Bureau

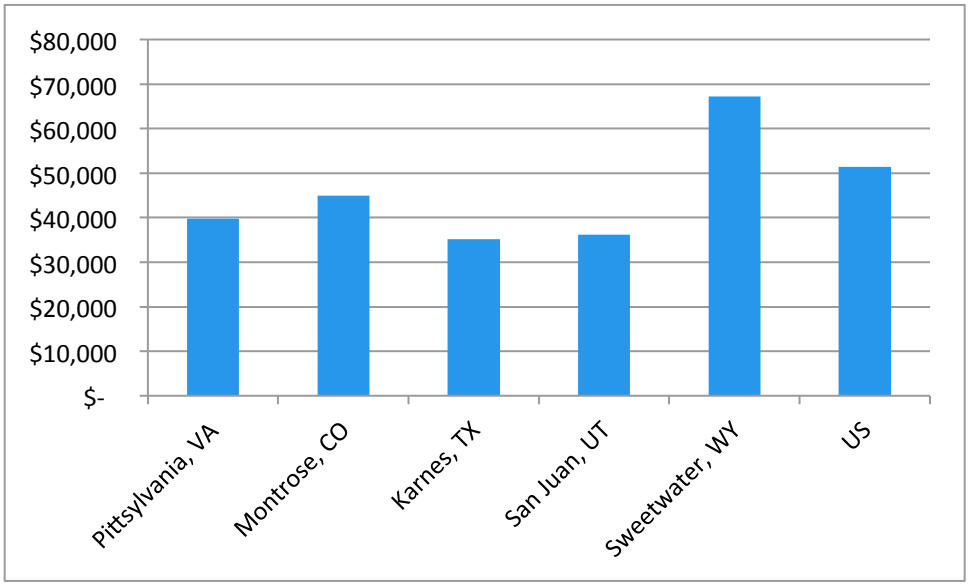
Figure 2. Civilian Labor Force, 2005-2009 Average



Source: US Census, American Community Survey

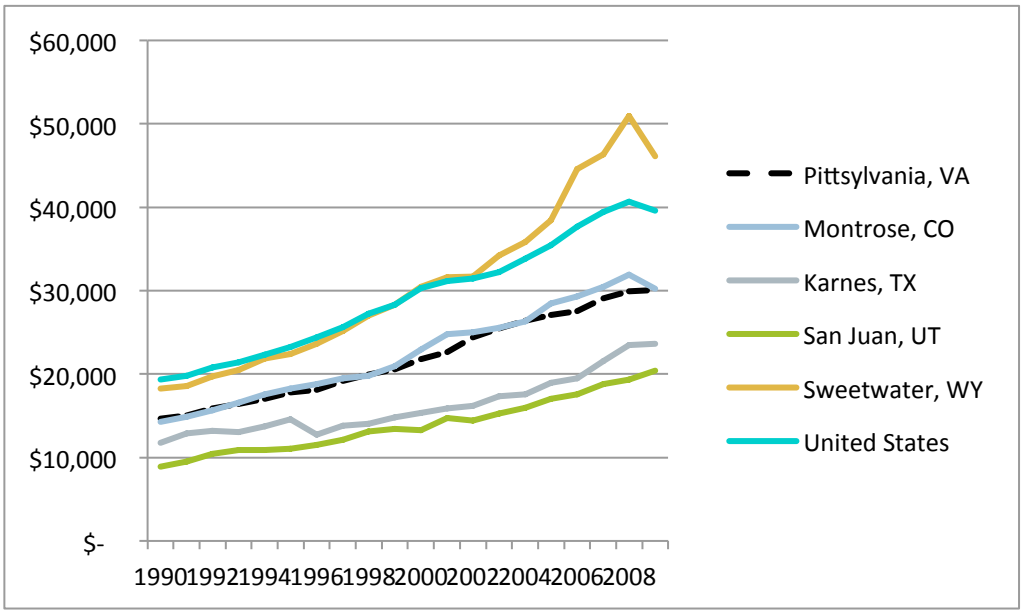
Income

Figure 3. Median Household Income, 2005-2009 Average



Source: US Census, American Community Survey

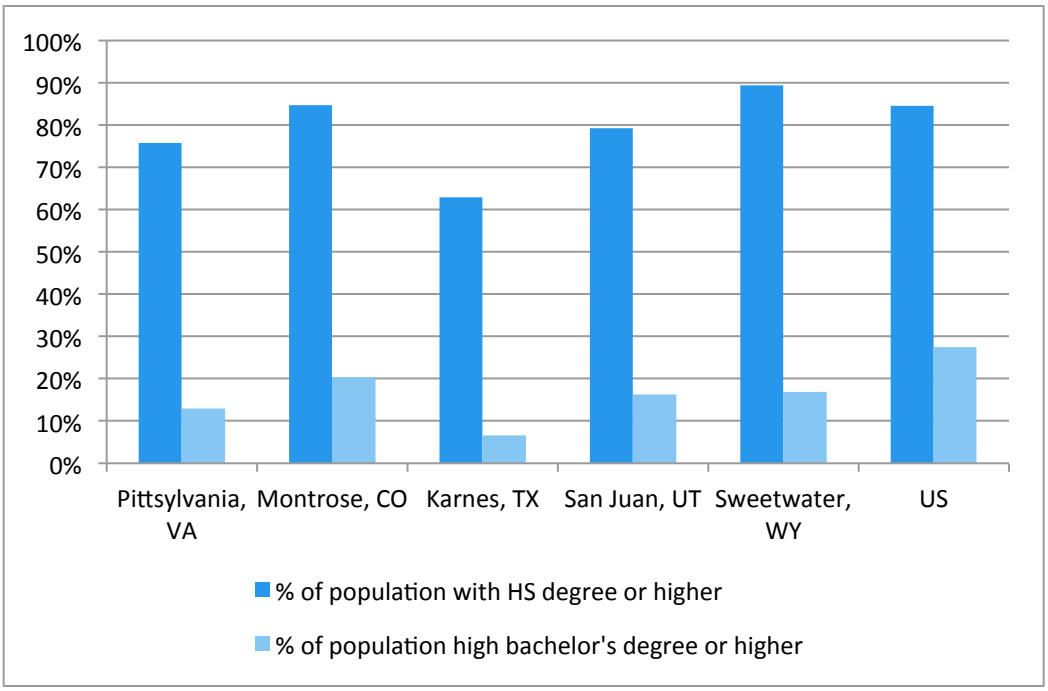
Figure 4. Per Capita Personal Income, 1990-2009
(current dollars; not adjusted for inflation)



Source: Bureau of Economic Analysis

Education

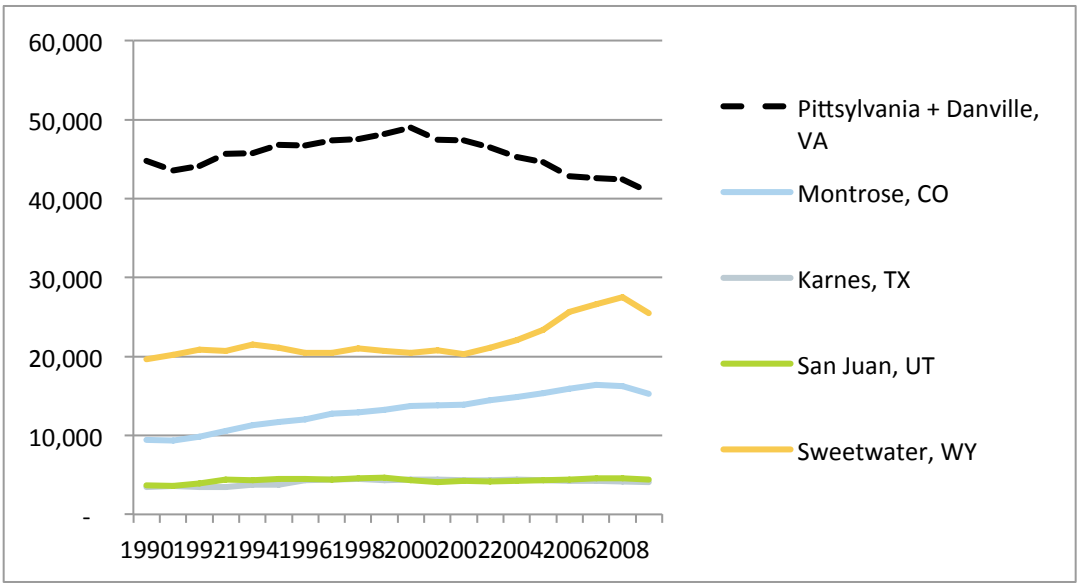
Figure 5. Educational Attainment, 2005-2009 Average



Source: US Census, American Community Survey

Employment and Earnings

Figure 6. Wage and Salary Employment, 1990-2009



Source: Bureau of Economic Analysis.

Figure 7. Resident Employment by Occupation (percentage of total employment) 2005-2009 Average

	Management, professional, and related occupations	Service occupations	Sales and office occupations	Farming, fishing, and forestry occupations	Construction, extraction, maintenance, and repair occupations	Production, transportation, and material moving occupations
Pittsylvania, VA	23%	15%	23%	3%	13%	24%
Montrose, CO	25%	18%	25%	2%	18%	13%
Karnes, TX	27%	21%	22%	2%	14%	14%
San Juan, UT	28%	23%	20%	1%	18%	11%
Sweetwater, WY	24%	17%	22%	0%	19%	18%
US	35%	17%	26%	1%	10%	13%

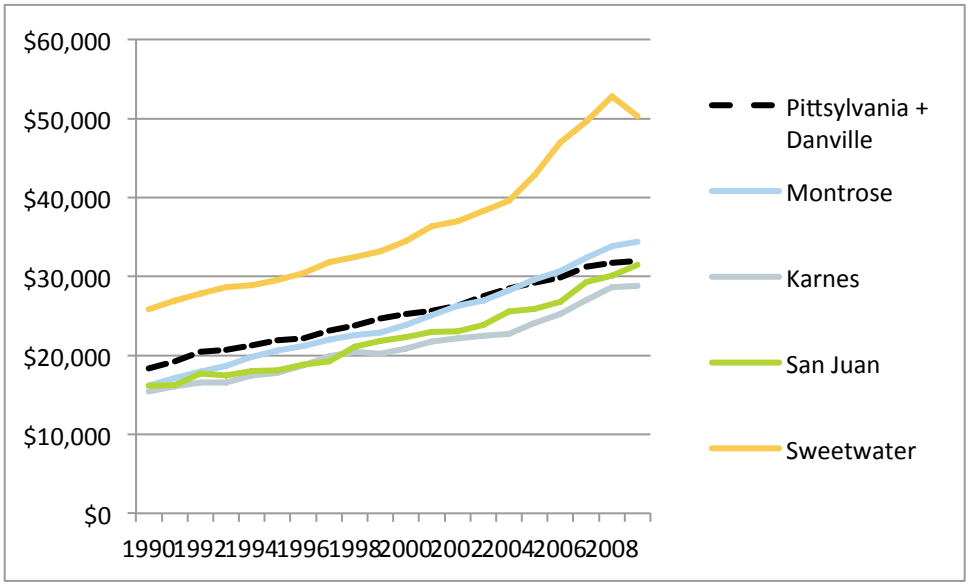
Source: US Census, American Community Survey

Figure 8. Resident Employment by Select Industry (percentage of total employment) 2005-2009 Average

	Agriculture, forestry, fishing and hunting, and mining	Construction	Manufacturing	Retail trade	Transportation and warehousing, and utilities	Arts, entertainment, and recreation, and accommodation and food services
Pittsylvania, VA	3.8%	8.3%	23.2%	11.1%	5.0%	5.6%
Montrose, CO	5.1%	16.0%	7.2%	12.9%	6.4%	7.9%
Karnes, TX	9.0%	7.9%	6.7%	10.8%	4.6%	6.7%
San Juan, UT	8.9%	10.1%	3.9%	12.4%	4.2%	12.9%
Sweetwater, WY	19.1%	6.3%	6.3%	11.2%	9.1%	9.9%
US	1.8%	7.4%	11.2%	11.5%	5.1%	8.8%

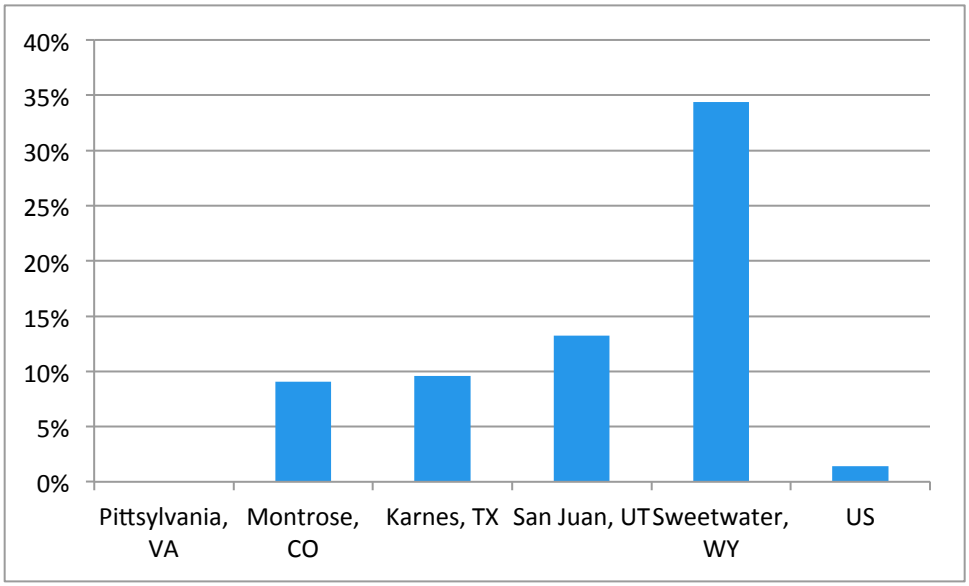
Source: US Census, American Community Survey

Figure 9. Average Wage per Job, 1990-2009 (current dollars; not adjusted for inflation)



Source: Bureau of Economic Analysis.

Figure 10. Mining as a Percentage of Total Nonfarm Earnings, 2009



Source: Bureau of Economic Analysis. Note: includes oil and gas extraction, mining (except oil and gas), and mining support activities

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SECTION V: Impact on Business Climate

The Impact of the Proposed Coles Hill Uranium Mine and Processing Facility on the Business Climate in Pittsylvania County, Virginia

By Stephen S. Fuller, Ph.D.

Dwight Schar Faculty Chair and University Professor

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July 2012

Introduction

The GMU Center for Regional Analysis has conducted three independent research analyses over the past year examining the potential economic impact of constructing and operating the proposed Coles Hill Uranium Mine and Process Facilities in Pittsylvania County. The first of these analyses examined the fiscal impact of the proposed uranium mine and processing facility on Pittsylvania County's budget—its locally generated revenues and expenditures demand for county-provided services to local residents and non-residential activities. The second research report examined the housing market in Pittsylvania County, its supply and demand trends dating from the market peak prior to the 2008-2009 recession and its post-recession performance through 2011. This report was updated in July 2012. The focus of the third research report was the economic impact of uranium mining in other communities in the U.S. to determine their experiences during the years these mines were active and afterwards.

This fourth report is an extension of these earlier reports. The findings developed in these three research reports are included in this fourth report to further inform the analyses and conclusions. The primary focus of this fourth report is to address the consequences of uranium mining on the broader economy and the business base of the host jurisdiction; that is, Pittsylvania County's ability to attract business investment and to grow and diversify its economy so while it is benefitting from the development and operation of the Coles Hill Uranium Mine and Processing Facility the County it also is simultaneously developing its future economy, an economy that may benefit from the presence of uranium mining activities and the economic activity this will support but will not become dependent on this industry alone for its future economic growth.

The economic impacts of the proposed Coles Hill Uranium Mine and Processing Facilities include: (1) a contribution to the local economy during the construction phase reflecting a multiplier of 1.50; (2) the generation of on-site construction jobs and jobs elsewhere in the county, state and nation reflecting a multiplier of 12.8 jobs per $1 million of direct construction outlay; and (3) local income effects (new personal earnings accruing to workers residing in Pittsylvania County of $487,900 per $1 million in direct construction outlays). By these measures, the initial outlays associated with the construction of the mine and its processing facilities would constitute a large and significant impact t on Pittsylvania County.

Following the completion of the construction phase, the operating phase of the mine and on-site processing activities are projected to generate 324 year-round jobs with a payroll of $19 million and other non-payroll outlays to the benefit of the County to total an estimated $24 million or more annually. These annual outlays would generate additional economic benefits as these initial outlays are re-spent within the local economy in support of retail sales and consumer services as well as other supporting business and government-supported activities (the fiscal benefits have been shown to be significantly positive). The multipliers associated with these operating outlays would depend on their specific nature and will have multipliers reflecting the local economy's ability to provide these services; e.g., mining operations @ 1.42; retail @ 1.44, food services @1.43. These multipliers are provided by the U.S. Bureau of Economic Analysis from its RIMS II Model for Pittsylvania County inclusive of Danville.

Beyond these easily identified and measured economic benefits that would directly accrue to Pittsylvania County as a result of the construction and operation of the proposed Coles Hill uranium mine and processing facilities are other collateral economic benefits that the presence of this investment would have on the local economy—generating new housing demand with resultant price effects, attraction of new related or coincidental business investment, and the support of short- and long-term economic growth trends in the County.

These collateral benefits, beyond the jobs and payroll associated with the uranium mine and its processing activities, could be important sources of impacts within the local economy. Generally, business investment is considered a positive force in the economy because it attracts additional investment (agglomeration benefits) as a sign of economic vitality and business confidence. However, uranium mining is often perceived to carry a stigma that could have a negative impact on business confidence that might be detected by disinvestment within the County's economy.

Additionally, these impacts could result from the income effects generated by the new jobs associated with the mine and its operations as seen in increased demand for goods and services that could support new business formation or expansion to better serve local residents. This increased demand may be reflected in the local housing market by increased housing sales and rising housing values. Or, as suggested by some, the presence of the uranium mine and processing facilities at Coles Hill could have an adverse effect on housing sales and values.

This report will explore these potentials for collateral economic impacts, both positive and negative, based on current investment and related economic trends in Pittsylvania County. It should be noted that the isolated location of the proposed Coles Hill mine could limit its positive economic benefits within the County beyond the payroll and employment effects that

have already been noted. Similarly, this same isolation of the mine and the self-contained nature of the product (its being trucked out of the County to subsequent processing) could also limit its potential for negative economic impacts.

Community Economic Impacts in Other Uranium Mining Cases

Analyses of four counties in the U.S. (San Juan County, UT, Montrose County, CO, Karnes County, TX, and Sweetwater County, WY) that have had uranium mines and processing facilities are presented in "Findings on the Economic Effects of Uranium Operations in Selected Communities" by Ellen Harpel, Ph.D. (December 2011). This research, including interviews with economic development officials in these jurisdictions, found the following:

- The most important local direct benefits were the jobs and payroll generated by the uranium mines and processing facilities;

- The indirect economic benefits were real but modest largely due to the isolation of the mines and the counties within their larger regional economies; trucking, equipment maintenance and repair, construction and metal fabrication services were the most common types of local businesses benefiting from the mining activities.

- Uranium mining and processing activities did not help or hinder the overall attraction or retention of businesses to their host counties; no examples were cited of businesses moving out of their counties due to the presence of the uranium mines and neither were the mines cited by economic development officials as having been a negative factor in business development or business attraction; and,

- There was no evidence that uranium operations had any impact (positive or negative) on tourism or outdoor activities in the host counties; all of these case study counties had a mining heritage that may have tarnished their images as attractive destinations but this was seen as a larger challenge than the presence of a uranium mine and was being addressed by efforts to more effectively promote the counties' natural resources and outdoors attractions and by providing the infrastructure needed to support a growing hospitality sector.

The consensus of interviewees was that the uranium operations in their respective counties had a positive impact on local economic development with the largest concern being the loss of these economic benefits after the uranium mining operations ceased.

Recent Business Investment Trends in Pittsylvania County

The findings of the case study analyses of other uranium mining centers provide a framework for assessing the nature of economic impacts that may accrue to Pittsylvania County as a result of developing the Coles Hill uranium mine. Of course, this is still a proposal so that at this time the only factual basis for this assessment can be current investment and business development trends in the County, the performance of the housing market, and other economic measures that might in some way already be experiencing (1) the positive or negative effects of the potential opportunities that would be realized as a result of the approval for uranium mining at Coles Hill or (2) from the negative image that the consideration of uranium mining at Coles Hill may have already had on the local economy.

One measure of Pittsylvania County's economic condition is the assessed value of its real estate and other capital equipment as reported by residents and businesses for tax purposes. While these measures might be considered as symptomatic, they would be sensitive to a major boost or threat to the County's economic health. Their sensitivity can be seen relative to the consequences of the Great Recession that gained momentum in 2008 and bottomed out in 2009 followed by a weak and uneven recovery in 2010 and 2011. These trends are shown in Table 1.

Table 1

Trends in Assessed Value of Taxable Property,
Pittsylvania County, FY 2004-2011
($s in millions)

Fiscal Year	Real Estate	Personal Property	Machinery and Tools
2005	$2,548.463	$111.656	$34.479
2006	2,711.571	118.411	31.223
2007	3,283.464	124.123	31.212
2008	3,340.200	126.996	30.406
2009	3.441.026	116.284	27.960
2010	3,658.961	111.213	30.662
2011	$3,703.464	$112.840	$34.298

Source: Comprehensive Annual Financial Report,
Pittsylvania County, Virginia, FY 2010-2012

- Real estate assessment values (at 100% of fair market value) defied the impacts of the 2008-2009 Recession and reflected gains in each year over the 2007 to 2011 period (this positive trend extends back before 1999);

- the total value of personal property (cars and trucks) followed the business cycle and increased during FY 2011 after declining during the two previous years; and,

- the assessed value of machinery and tools, a measure of business investment, peaked in FY 2005, well before the recession started (December 2007), declined for four years, turned positive in FY 2010, and experienced a sharp increase in value (12%) in FY 2011 almost regaining its previous peak value.

Another measure of the County's economic health and of business confidence in its future economic vitality is investment in new construction. The number of residential building permits issued during the year provides insight into current and anticipated market conditions. These market conditions are also influenced by numerous specific factors such as the cost of money (interest rates) and the availability of construction financing, the inventory of existing and new (never occupied) housing units, price stability, and employment trends and prospects. As the residential real estate market has come through its deepest business cycle since the Great Depression, its current performance provides further insight regarding emerging demand patterns and market trends.

New residential construction has lagged the recovery in the resale market across the Commonwealth due to the competitive pricing of existing units compared to new construction and the difficulties associated with securing construction financing. Also, it has taken the large inventory of residential units, new and resale, on the market after the peak (mid-2005) a long time to normalize. The continuing flow of foreclosed housing units to the inventory and units whose values are lower than their mortgages (short sales) have further impacted local housing prices as they have throughout the Commonwealth and nationally. As the local economy has regained positive momentum, the number of building permits increased in 2011 for the first time since 2005 (permits declined more than two-thirds during this period) as shown in Table 2. Permits issued in 2012 during the first quarter are pointing to a slowdown in future new residential growth in spite of increased first quarter resales.

The residential market in the Southside Region, inclusive of Pittsylvania County, reflects the housing boom/bust cycle that was experienced throughout the Commonwealth and nation since 2007. The full recovery of the residential market is still not underway and will not occur until the large number of foreclosed units and short sales that have dominated the resale market decrease to their normal share of the market. The increase in the number of sales in 2011 after three years of declining sales does point to emerging stabilization within the market place. Still, prices that appeared to be firming up in 2010 slipped 4% in 2011 in the face of a new wave of foreclosed housing units coming to market. A full residential market analysis is provided in "Coles Hill Housing Analysis," by Rosemary deButts (November 1, 2011) and "Update" by Ryan Price (July 17, 2012).

Table 2

Residential Market Activity in the Southside Region, 2005-2012-Q1

Year	Building Permits*	Housing Sales	Median Value
2005	280	1,705	$84,952
2006	242	1,738	$86,827
2007	158	2,045	$92,500
2008	101	1,814	$90,312
2009	92	1,581	$85,277
2010	90	1,484	$85,496
2011	118	1,560	$82,022
2012-Q1	21	378	$78,900

Sources: U.S. Census Bureau; "Coles Hill Housing Analysis"

GMU/CRA, November 2011; Virginia Association of Realtors

*Cumulative reported for Pittsylvania County; Southside Region includes: Brunswick, Charlotte, Danville City Emporia City, Galax City, Greenville, Halifax, Henry, Lunenberg, Martinsville City, Mechlenburg, Norton City, Patrick, and Pittsylvania.

Gains in the local labor market in 2011 helped to stabilize the housing market and should underpin gains in the coming year. As can be seen in Table 3, the County's severe unemployment situation began to moderate in 2011 with the annual average 2011

unemployment rate in Pittsylvania County declining almost 2 points, improving faster than the U.S. unemployment rate. These positive trends have carried over into 2012.

Furthermore, on a monthly over-the-year basis, the Danville metro area (including Pittsylvania County) has added payroll employment (full-time jobs) for 14 consecutive months through December 2011 (starting November 2010), adding approximately 1,000 jobs over the year (these data will be revised in mid-March by BLS).

In addition to the area economy generating net new jobs, the number of County residents who have gained employment either in the County or elsewhere each month has also been positive for 19 months. As the number of County residents being added to the employment rolls has exceeded the number of new jobs being added within the County economy, it appears that County residents are being increasingly successful in finding new jobs outside of the County and bringing those earnings back to Pittsylvania County to spend. As job growth accelerates in 2012 and personal income increases, the housing market should experience increasing demand pressures that have been absent over the past three years.

Job growth is directly linked to housing demand. As the County's economy strengthens, so will its housing market with increases in the number of sales accompanied by higher prices.

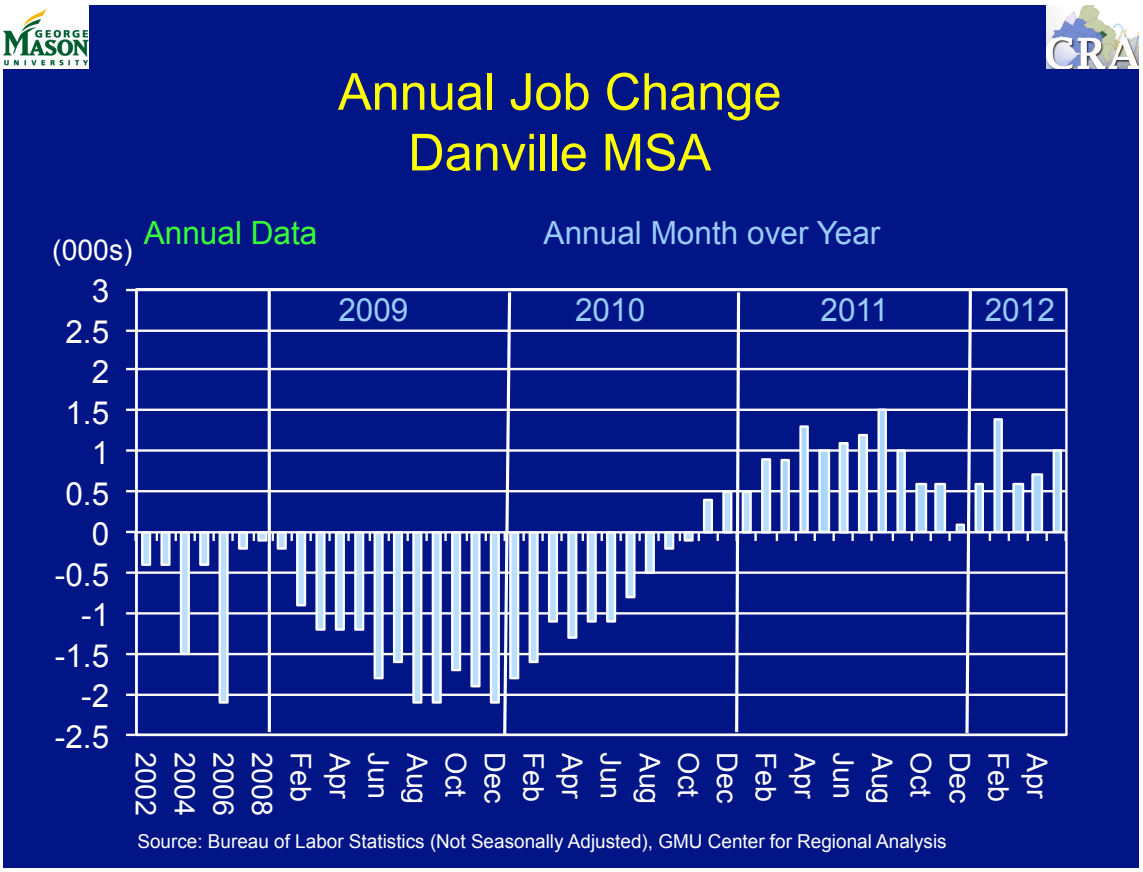
Table 3

Unemployment Trends in Danville and Pittsylvania County

2007-May 2012

Year	Danville	Remainder of County	Total
2007	7.4	5.8	6.4
2008	9.3	6.7	7.7
2009	13.8	10.8	12.0
2010	13.7	10.2	11.5
2011	11.9	8.3	9.7
May 2012*	10.4	6.7	8.1

Source: U.S. Bureau of Labor Statistics. *Preliminary


Annual Job Change
Danville MSA
(000s)
Annual Data
Annual Month over Year
3
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
2009
2010
2011
2012
2002
2004
2006
2008
Feb
Apr
Jun
Aug
Oct
Dec
Feb
Apr
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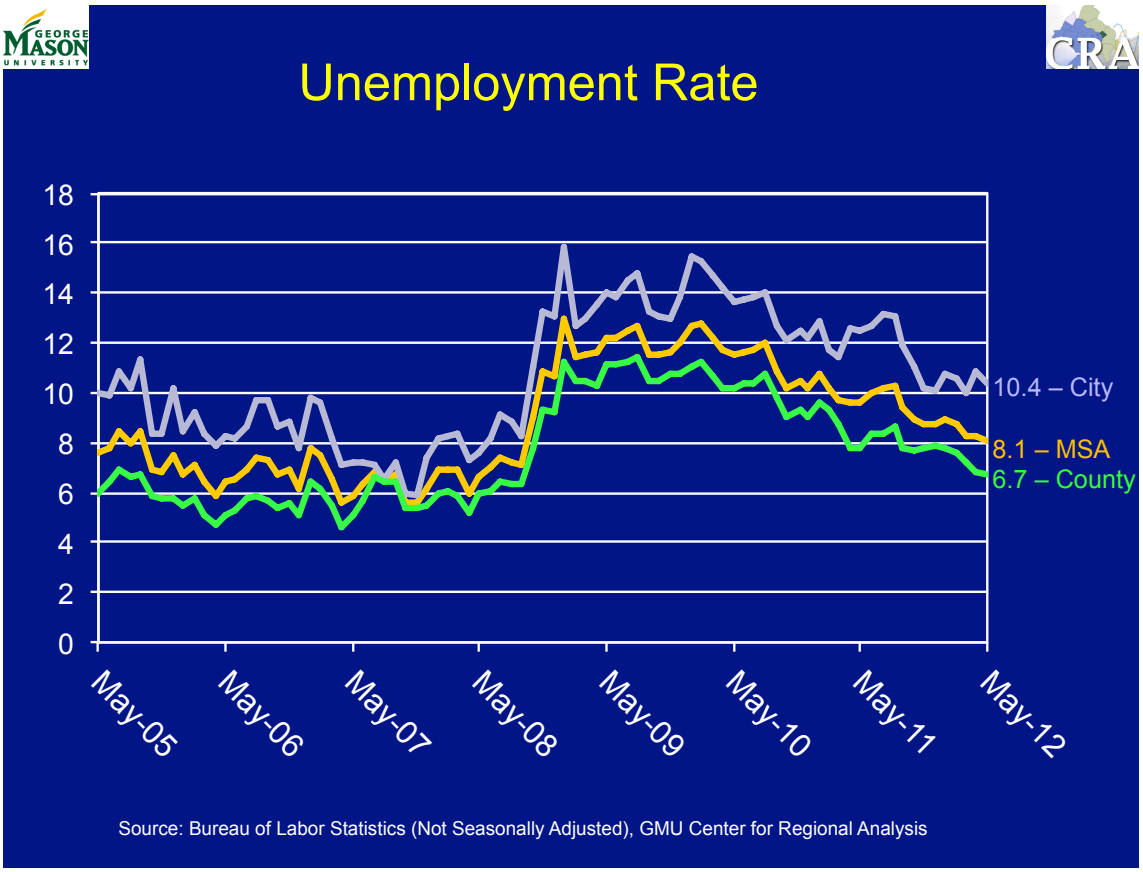
Apr
Source: Bureau of Labor Statistics (Not Seasonally Adjusted), GMU Center for Regional Analysis



Recent Business Investment in Pittsylvania County

Business investment in Pittsylvania County has shown gains in recent years. These recent successes in attracting new business to the County would suggest that its reputation as a good place to locate and do business has not been undermined by the presence of Coles Hill uranium deposit and its potential mining activities. Given the nature of these new and expanded businesses—their customers and markets—there is also no apparent linkage between them and the potential uranium mine or processing facilities. That these businesses selected Pittsylvania County for their location and investment would suggest that the County's business reputation has not been diminished by the development potential of Coles Hill uranium deposits.

Businesses continue to locate or expand in Pittsylvania County and Danville, indicating that the area's economic development efforts are yielding results but also suggesting that the proposed uranium mine will not necessarily hinder potential business investment in the region. Several companies, including Nestlé, EIT LLC, Noblis, GSO Aviation, and Virginia Candle, have recently

chosen Pittsylvania County or Danville for new or expanded operations. These companies have most often cited community support, workforce factors, location, incentives/investments or facility availability in explaining their decisions to invest in the region. These factors should not change with the proposed uranium operation, as operating needs are likely to continue to drive most business investment decisions.

A few local executives have directly addressed the issue of the uranium operation. For example, Del. Joe May, Chairman and Founder of EIT, LLC, said of his firm's recent expansion in Danville, "If I thought it was going to jeopardize things, I wouldn't have my business there."[45] GSO Aviation opened its new Danville facility earlier this year and Ray Rodriguez, Founder and CEO, noted, "We haven't looked into it, but I don't know that it will affect our business."[46]

Others note the potential for growth that the mine and mill may bring. The uranium operation is "a growth opportunity that would be good for everyone" and "would encourage support industries and other businesses to come into the area," stated Kenton Stewart, Partner/Owner, Hampton Inn Gretna.[47]

A partial listing of recent business locations and expansions includes:

1. United States Green Energy Corporation announced it would move its headquarters and operations to Cane Creek Centre in 2010. The company would be relocating from Fredericksburg.

Current status: United States Green Energy is behind schedule in developing its Cane Creek Centre facility, but company officials say they succeeded in implementing the company's relocation. The company and local economic development officials estimate the company is a year behind on investing $30 million and creating 372 full-time jobs as announced in October 2010. Finishing the 27,000-square-foot building in Cane Creek Centre was put on hold, as the owner of the new facility seeks to secure financing. U.S. Green Energy's original plan to finish its facility using a new market tax credit fell through. The company spent $600,000 grading and improving the Cane Creek site. The building would cost between $1 million and $3.2 million depending on whether or not a large-scale solar roof is installed. After completing the facility,

[45] *"On statewide tour, Bob McDonnell visits Joe May's company," Washington Post, May 7, 2012. (Accessed online, June 2012).*
[46] *Telephone interview, June 25, 2012.*
[47] *Telephone interview, June 21, 2012.*

the company can receive $400,000 over five years in a local technology grant that had been awarded. U.S. Green Energy is a private company categorized as a Solar Energy Equipment Manufacturer.

2. GSO Aviation, Inc. announced its relocation from Greensboro, NC to Airside Industrial Park in Danville in August 2011. The city of Danville and its Industrial Development Authority will construct a building to be occupied by the firm under a lease/purchase agreement starting in January 2012. The firm is going to hire 15 individuals within 36 months of starting its operations in Danville. GSO Aviation is a Federal Aviation Administration-certified company specializing in the repair and overhaul of hydraulic components for Boeing, Airbus, and Bombardier regional aircraft. The company also works on aircraft motors, pumps and electronics.

3. IKEA located in Pittsylvania County—the 930,000 square-foot Swedwood (the industrial group within IKEA) furniture-manufacturing facility was built on 209 acres in Cane Creek Centre, a joint industrial park for the City of Danville and Pittsylvania County. The factory is the Swedish company's first furniture production location in the United States and produces a variety of wood-based IKEA products. As of April 2011, there were 335 workers employed at the plant up from 200 in 2008.

4. EIT (Electronic Instruments and Technology) announced plans in late 2010 to expand its existing operations by adding a 60,000 square foot building on five acres in the Danville Pittsylvania County Cyber Park investing $5 million over five years. This additional space would permit EIT to add 50 new full-time jobs to its current workforce. Mr. Joe May, who owns EIT, has stated that his confidence in the local economy's future has been enhanced by the potential development of the Coles Hill Uranium Mine.

5. Intertape Polymer Group, producer of packaging materials, has been located in Pittsylvania County for more than 20 years. Over this period the company has expanded its operations five times.

6. Berry Hill Road Industrial Mega Park is being developed in Pittsylvania County. In November it was reported that the Board of Supervisors had decided to apply for Virginia Tobacco Commission money for site grading and marketing. The Commission approved this grant application for $6.2 million in January 2012. This grant would leverage contributions of $750,000 each from the County and City of Danville. This site work would begin as soon as the Park's master plan is completed and would level about 230 acres of the 3,500-acre Park making it immediately ready for development. American Electric Power announced in November (2011) that it would provide power to the site.

7. White Oak Mountain Meadery, a family owned business located in Shockoe, is the county's fourth winery and third to open commercially in the County in two years/ The business announced its opening in January 2012 with production to begin in May. White Oak Mountain Meadery is currently awaiting state approval for its bottle labels. Originally a tobacco farm, the business started to diversify its activities in 2005. Recently, it has focused on honey production to be processed into mead or honey wine. This would be the County's first full-fledged meadery.

Conclusions

The evidence provided by the analyses of four communities and their host counties in which uranium mining has taken place confirms that the local economies benefitted from the job and income growth associated directly with the construction and operation of the uranium mines and processing activities. Additionally, there were other economic benefits generated locally in the form of related business development—transportation, equipment maintenance and repair services, construction and fabrication. In these cases, much of the muted indirect economic impact could be attributable to the counties' isolation or the isolation of the uranium mines within the counties.

The economic development officials in these case study counties agreed that the uranium mining activities had a positive economic development impact overall and that they could not identify any business investment that was lost or businesses that relocated as a result of the uranium mining activities. However, these counties did experience business expansion attributable to the job and income growth generated by the uranium mining activities.

Concerns in Pittsylvania County that the potential for uranium mining at Coles Hill would result in damaging the County's reputation as a good place for business development or place to reside, or for tourism are informed by the results of these case studies of counties having already experienced the development of uranium mining facilities. Business investment was not negatively affected and housing demand and prices were strengthened due to the job growth generated by the uranium mining operations. Tourism was not impacted negatively as the uranium mines were not located in proximity to tourist attractions and since the natural resources and supporting infrastructure related to tourism were more essential determinants to the success of tourism. To that end, the improved retail and restaurant services supported by the increased incomes of local workers at the uranium mines can be seen as reinforcing and supporting tourism spending in these case study counties.

There is no current local evidence that the announcement that VA Uranium, Inc. was seeking approval of mining and processing activities at the Coles Hill site has negatively impacted Pittsylvania County's economy. The County's economy is in the middle stages of recovery from the nation's deepest recession in 70 years and the County's economy performed better in 2011 than in 2010. Even though local economic conditions have not yet returned to pre-recession levels, the County's job base grew and unemployment declined in 2011 compared to 2010 with these gains continuing in 2012 through the current period. Several major business location and expansion announcements have occurred in the past two years and the housing market has stabilized and experienced a recent upward trend in sales activity.

The County's economy experienced the national recession more deeply than many Virginia counties due to its manufacturing-based economic structure that was in decline before the recession struck and its distant location relative to major growth centers in Northern Virginia and North Carolina that places it at a significant disadvantage in connecting to and benefiting from the development of technology intensive and knowledge-based professional and business services. Still, as the local economy has begun to recover, the supply of unsold housing units has declined and prices have stabilized. This market adjustment will accelerate as the County's job base grows. With the addition of the new construction jobs associated with developing the Coles Hill uranium mine and its 324 post-construction, year-round on-site jobs, housing demand can be expected to increase and, with this growing demand, housing values will rise.

County-level data for 2011 show real estate assessment values, business investment, and economic performance to be trending higher. No current causality, positive or negative, can be identified with the proposed Coles Hill uranium mining and processing facilities.

As to future economic benefits, evidence from other counties that have been impacted by past uranium operations confirms that these economic impacts were positive overall but not substantial beyond: (1) the jobs and new income that were generated; (2) the location or expansion of select businesses directly serving or supplying the mining operations; and (3) the increased sales experienced by local-serving businesses in response to the area's job and income gains. No evidence was found that the presence of uranium mining and milling operations had a negative impact on the economies of their host counties in terms of business attraction and retention, but cyclicality in the uranium market that has led to the temporary or permanent closing down or reduction of mining and milling operations, with the resultant loss of jobs and income, was a concern. That economic development offices have noted the losses of these economic benefits is a good measure of their positive contribution during the life of the uranium mine.