The Economics of Land Use

Final Report

Montrose County Socioeconomic Impact Study

Prepared for:

Montrose County
Department of Community Development &
The Board of County Commissioners

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1. INTRODUCTION

Purpose of Study

The purpose of this study is to quantify Montrose County's economic base, identify economic drivers, and estimate their effects on future residential and commercial demand. Economic modeling has been used to identify several project-specific economic drivers and demand estimates associated with the increased economic activity generated by those drivers, such as the proposed Energy Fuels uranium mill and corresponding network of mines. In addition, the study addresses and estimates increases in economic activity to several of the County's other economic drivers, such as manufacturing, aviation, healthcare, household non-labor income (retiree population), as well as natural gas exploration. Moreover, spillover effects are estimated quantitatively and qualitatively resulting from improved access between the East and West End across the Uncompahgre Plateau via a transportation link that significantly reduces travel time. These effects are identified in terms of the expanded visitation and tourism activity, increased potentials for in-County retail sales capture, enhanced supply chains to the manufacturing sector, and import substitution potentials.

The analysis includes multiple components in order to document the Montrose County economy, its economic drivers, the relationships between them, and the resulting demand from an increased labor force and residential base. The report is broken up into multiple parts to delineate the issues.

- **Economic and Demographic Framework** – This chapter documents the baseline economic and demographic conditions and trends of the County.
- **County Energy Context** – This chapter gives an overview of the influence of natural resources, such as uranium, natural gas, and coal on the County's economy.
- **Economic Drivers and Corresponding Impacts** – This chapter defines the County's major economic drivers, including uranium mining and milling, natural gas exploration, tourism, one-time events such as the uranium mill construction, manufacturing, medical care, the transportation link, and other indirect potentials involving import substitution and enhanced commerce.
- **Socio-Economic Demand Estimates** – This chapter estimates the labor force and residential demand that results from the increased economic activity of project-specific drivers identified previously.
- **Fiscal Impacts** – This chapter documents the revenue and expenditure generating activities that are anticipated to occur as a result of many of the ongoing economic drivers, which culminates in the estimation of the County's fiscal balance.

Summary of Findings

The following is a brief overview of the major findings of this study, including a summary of the baseline economic conditions and projections of the County's expanded economy resulting from the economic drivers identified in the analysis.

1. ***The Montrose County economy has grown at a strong rate since 2001 and totals 24,517 jobs as of 2007.***

   During this time period, job growth has expanded by 3.3 percent annually, which translates to an annual increase of more than 700 jobs per year. The core sector in the economy, services, accounts for 42 percent of the total. Data show that construction has accounted for another significant portion of the total, as it has been the third largest sector; however, recent contractions in the national and local economies, particularly in construction, have resulted in a net loss of jobs over the past two years.

2. ***Reflecting national and international trends, future growth is expected to be lower.***

   Baseline condition forecasts completed by the Colorado Department of Local Affairs (DOLA) project future growth to increase by 1.9 percent per year through 2030, resulting in an additional 520 jobs per year. While a lower rate than the recent past, this future growth compounded over a 20-year planning horizon is substantial. It is also anticipated that the growth will occur cyclically, consistent with historic economic patterns and national and regional business cycles, recognizing that new job growth will occur as national economic conditions improve.

3. ***Montrose County provides unique opportunities for economic expansion.***

   There are a number of employment sectors that can expand, based on local conditions. Some of these include natural gas, tourism, manufacturing, and mining and milling. Over the planning horizon, the potential job growth from the expansion of these and other targeted employment sectors, annual average growth could be augmented to 2.1 percent growth through 2030 (above the baseline forecasts completed by DOLA), resulting in a net increase of 700 to 800 jobs overall. The ability of the county to exceed DOLA projections reflects locally based resources, alignment with market timing, and strategic efforts to maximize economic expansion. While a majority of these estimated jobs are related to mining and milling uranium (516 to 649 new jobs), other additional jobs are likely to result from the expansion of the tourism industry to accommodate increased visitation and access across the Uncompahgre Plateau on a new transportation link. Other employment prospects generating demands include manufacturing and the aviation industry, as well increasing demands from an increasing cohort of retirement age households.

4. ***The factors related to supply and demand for uranium indicate that pricing will increase to a level that mining and milling in Montrose County will be economically viable.***

   Part of the increase in demand is attributed to an increase in demand for domestic production, as more than 80 percent of the uranium feeding U.S. demand has been of foreign origin over the past 15 years. Historically, uranium prices have been volatile. Experts consider a realistic price in the long run to be $75 per pound in current dollars, compared to $41 presently, and much lower prices historically. The implications to the local economy are substantial. Given

the extent of uranium deposits in western Montrose County, as well as surrounding counties to the north, south, and west, the mutually supportive milling and mining activity is expected to increase significantly from its near dormancy over the recent past.

5. ***The anticipated expansion of the economy will generate a demand for labor and a corresponding demand for housing, services, and infrastructure. One of the primary applications of the findings from this study is to frame the magnitude of the demand and to enable local communities to plan for it.***

   A range of 516 to 649 new jobs are estimated to be generated by the scenario of uranium mining, milling, and trucking activity, depending on the assumptions made about the source of ore. Under these scenarios and accounting for an existing supply of labor that can be provided from current residents that are under- or unemployed, a total of 371 to 504 net new workers to the West End are anticipated. These net new workers can be translated into new households and new residents. In terms of households, these net new workers will generate between 190 and 275 new households, assuming a household formation of 1.5 net new jobs per household. In terms of population, these households, assuming the average household size of 2.3 persons, would translate to approximately 640 to 940 net new residents. Under the various scenarios evaluated in this report, a majority of these net new residents are anticipated to establish residency on the West End, which currently has a base population of 1,453 persons (the total population of Nucla and Naturita alone). The detailed capture of these net new residents by the West End are presented in the relevant section, but the net new residents to the West End represent an increase of 32 to 46 percent over the base population.

6. ***With the increased economic activity in the West End, there has been discussion of the benefits of a more direct transportation link to eastern Montrose County.***

   Assuming that funding for this important transportation project is available, there are many ongoing direct and indirect benefits that could materialize for the County in multiple industries. Enhanced access across the Uncompahgre Plateau would not only directly facilitate increased traffic for visitation and recreational purposes, but for other industry-related purposes, such as reduced travel time for commuters and, indirectly, a potential for increased capture of industry supply chains (import substitution), as well as increased capture of County resident retail sales expenditure potential. A significant one-time direct benefit of the transportation link would be the estimated 1,433 one-time construction related jobs. Over a five to 10-year construction period, the County would benefit from the daytime expenditure potential of the approximately 143 to 286 jobs annually. Additional benefits would also likely include a greater capture of the permanent resident base, in that a smaller portion of an expanded labor force would choose to commute from outside the county given improved access within the County. Overall, there is the potential for greater levels of commerce within the County, as the transportation link would allow more expenditure potential from existing and new residents to be captured within the county. By way of example, West End residents would be anticipated to make more retail goods and services purchases within the County rather than traveling outside to Grand Junction if a transportation link reduced the time necessary to obtain similar goods. Notwithstanding the potential for increased capture, it is important to recognize that the comparative size of the West End, relative to the rest of Montrose County, is relatively small. Assuming that approximately 40 percent of West End residents' expenditure potential is captured within the County, an increase to 60 percent capture of these 1,453 residents would result in an 1.6 percent overall expansion of County retail expenditures.

7. ***Other economic drivers in the County operate independently from the drivers estimated through economic modeling, but will benefit indirectly from their increased activity.***

   One of the County's strong economic drivers is manufacturing. There are numerous prospects that are poised to enhance the County's workforce, including the manufacturing of solar panels, prospects in the field of aviation, as well as the catalyst to development and economic activity that the airport functions as. Indirectly, the expanded economic activity in energy-related sectors, tourism, or the benefits and augmentation to various sectors as a result of the transportation link are likely to further facilitate expansion of commerce, enhancement of the local supply chain capture and import substitution potentials. As suggested in the last summary point below, facilitation of these other indirect benefits such as import substitution will be dependent upon policy directives and approaches.

8. ***The growth of the energy sector on the West End plus the Transportation Link will generate specific revenues to the County as well as expenses. The net fiscal balance is expected to be positive, with a range in surplus of approximately $157,000 to $356,000 annually.***

   The net revenues account for a number of changes to the economy, including an expansion of the energy sector, the potential benefits from a proposed transportation link, corresponding expansions to tourism, as well as expansions planned for other sectors, like aviation and manufacturing. Because the fiscal model reflects countywide revenues and expenditures, the net positive fiscal balance is a composite of anticipated changes across multiple sectors. Some of the specific additional revenue sources include property tax revenue contributions from the mill, property taxes from the influx of new residents and the corresponding net new housing units, sales tax revenues from net new residents and non-resident daytime workforce, an annual HUTF allocation for the increase in paved road from the transportation link, as well as other revenues for other government services. Expenditures include governmental service factors, including those generated by an increase on population and corresponding demand for countywide services, the increased usage of the roadway network, and the operations and maintenance specifically associated with the transportation link.

9. ***Given the fiscal net positive projected conditions, the County has the potential to use the anticipated surplus and identify policies and implementation measures to address anticipated needs.***

   The County faces policy questions and issues regarding ways to invest the anticipated resources to meet the demand placed on the County by increased economic activity in multiple sectors. These issues will include investment in the necessary infrastructure and services, including local police, sheriff, fire, medical, and school services, as well as water, wastewater treatment, and administrative and governance. Considering the analysis takes account for all estimated operations and maintenance associated with a new transportation link and that the resulting fiscal balance remains positive under the evaluated scenarios, there are other efforts the County may wish to identify, such as pertaining to economic development initiatives that benefit the energy sector economic activities. Some efforts may be directly related to ensuring the realization of increased economic activity of the County's non-energy sector related economic drivers—household non-labor income influences, healthcare, or tourism. And other efforts may be focused on encouraging and facilitating the development of indirect benefits of direct investment in drivers such as the road, i.e. the facilitation of increased commerce or import substitution. Overall, the County may wish to evaluate and take stock of its policies to ensure they are adequately positioned to facilitate each economic driver's growth and to aid in their development to the fullest potential.

2. ECONOMIC AND DEMOGRAPHIC FRAMEWORK

This chapter describes the overall economic and demographic conditions and trends of Montrose County. Many of the existing conditions presented here form the basis of further analysis in the study, such as use in the economic base analysis, economic drivers and multipliers analysis, labor force and population demand model, and the fiscal impact model.

Demographic Conditions

In 2008, the population of Montrose County was 41,302 up from 31,837 in 1998 as shown in **Table 1**. The County's population grew by approximately 850 residents per year over the time period, an increase of more than 8,500 residents. The growth rate in the City of Montrose exceeded that of the unincorporated parts of the County, growing at a rate of 4.3 percent per year, and has resulted in an increasing portion of the County's population residing in the urbanized and incorporated areas. In 1998, more than half of the County's population lived in unincorporated areas, and by 2008, less than half do. Choice of residency has not been limited to the larger City of Montrose. The Town of Naturita, while a smaller base population, grew at the highest rate, 6.5 percent annually during the time period.

Growth in other municipalities varied[1]. Similar to the unincorporated part of the County, the City of Olathe, starting from a 1998 base population of approximately 1,570, grew by approximately 25 persons per year over 10 years. The Town of Nucla, with a 1998 base population of approximately 730, gained slightly above 30 residents over the same time period. The Town of Naturita's population, however, increased from 365 in 1998 to 687 by 2008, an increase of more than 320 residents. The combined population base of Nucla and Naturita, referred to elsewhere in this report as representative of the West End population, is 1,453 residents.

The Colorado Department of Local Affairs (DOLA) currently projects the County population to reach 71,042 residents by 2030 and 76,710 residents by 2035[2]. This translates to a 2.3 percent rate of average annual growth for the County.

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[1] The Colorado Department of Local Affairs does not record population for Redvale or Paradox.

[2] This is a downward revision of forecasted population growth for the county, perhaps reflecting the economic slowdown of the past 18 months. In 2008, the State was forecasting a Montrose County population of 80,444 residents by 2035. This was based on growth rates that would have led to a doubling of county population by 2035, based on the county's 2007 estimated population. Nevertheless, the current State forecast for population growth implies a challenge for Montrose County its municipalities (BBC Research and Consulting 2008).

Table 1
Population Trends by Place, 1998-2008
Montrose County Socioeconomic Impact Study

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	1998-2008 Total	1998-2008 Ann. #	1998-2008 Ann. %
Montrose County														
Balance of County	17,409	17,825	18,146	18,100	18,137	18,316	18,418	18,675	19,205	19,669	20,185	2,360	236	1.5%
Olathe	1,571	1,572	1,573	1,623	1,633	1,652	1,666	1,688	1,764	1,789	1,830	258	26	1.5%
Montrose	11,758	12,093	12,344	13,498	14,075	14,740	15,272	16,025	16,470	17,369	17,834	5,741	574	4.3%
Naturita	365	524	635	648	654	656	656	655	674	679	687	163	16	6.5%
Nucla	734	734	734	745	740	737	732	731	752	757	766	32	3	0.4%
Total	**31,837**	**32,748**	**33,432**	**34,614**	**35,239**	**36,101**	**36,744**	**37,774**	**38,865**	**40,263**	**41,302**	**8,554**	**855**	**2.6%**

Source: DOLA; Economic & Planning Systems
H:\19841-Montrose County Socioeconomic Study\Data\[19841-LL-Montrose Socioeconomics Final Report figure.xls]Population

Economic Conditions

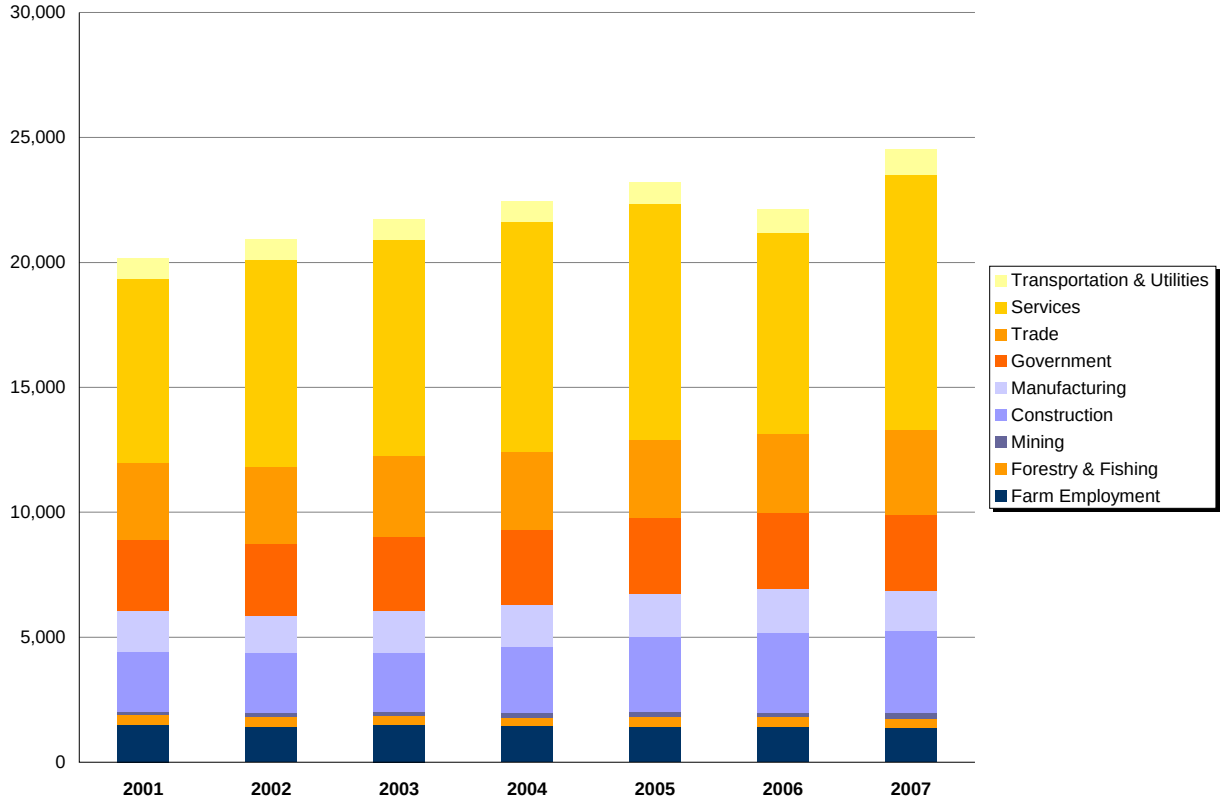
This section presents an overview of the overall economic conditions of Montrose County. A later section, detailing the baseline economic conditions, provides greater detail relevant to the relationships of each sector of the County's economy to one another. That section will also present findings of the economic driver analysis, in which the indirect and induced effects of direct jobs related to drivers of the economy are evaluated.

In general, however, the economies of the Western Slope and Central Mountains of Colorado rely on energy-related natural resources extraction, traditional tourism, and infusion of income related to second home development and occupancy. Quality of life attracts both residents and businesses. Montrose and other cities of the Western Slope share a reputation as places to go for quality of life. In many places on the Western Slope, natural gas development has caused jobs growth (and more recently, declines). Montrose County has experienced this cycle to some extent, but a lack of major, discovered natural gas resources limits the local effect (and exposure to the market's ups and downs).

Employment trends in the County by industry for 2001 through 2007 are illustrated in **Figure 1**, and indicate expansions of certain industries and slight contractions in others. Data from 2007 has been used as it is the most recent available for the economic modeling analysis. Industries showing the greatest increase during this period include services, construction, and trade. Over the seven-year period, the services industry, which includes a wide diversity of employment sectors such as professional, scientific, and technical to administrative, healthcare, retirement-oriented, and retail services, increased at 5.6 percent annually, or an overall increase of 2,455 jobs on a base of 7,361. The construction industry, which has since 2007 contracted as a result of national housing conditions and the recession, increased from 2,399 jobs to 3,298 in 2007. Industries showing the largest declines in employment in the County between 2001 and 2007, however, were farming and ranching, manufacturing, and forestry, fishing and related services. There were an estimated 1,485 jobs in Farming and ranching in 2001 and decreased to 1,383 by 2007. Manufacturing had an estimated 1,632 jobs in 2001 and in 2007 decreased slightly to a total of 1,595 jobs. It is important to note, however, that the most current data, through 2007, do not show declines in employment, particularly in construction, resulting from the national and international economic contraction beginning in 2008.

Employers in the West End important to Naturita's and Nucla's economies are construction, mining and utilities. Service jobs concentrate in accommodations, food service, educational services and health care. In Bedrock and Paradox, the data show that employed persons work in ranching, truck driving, the local charter school, state and local government, the U.S. Bureau of Reclamation desalination project, and small businesses[3].

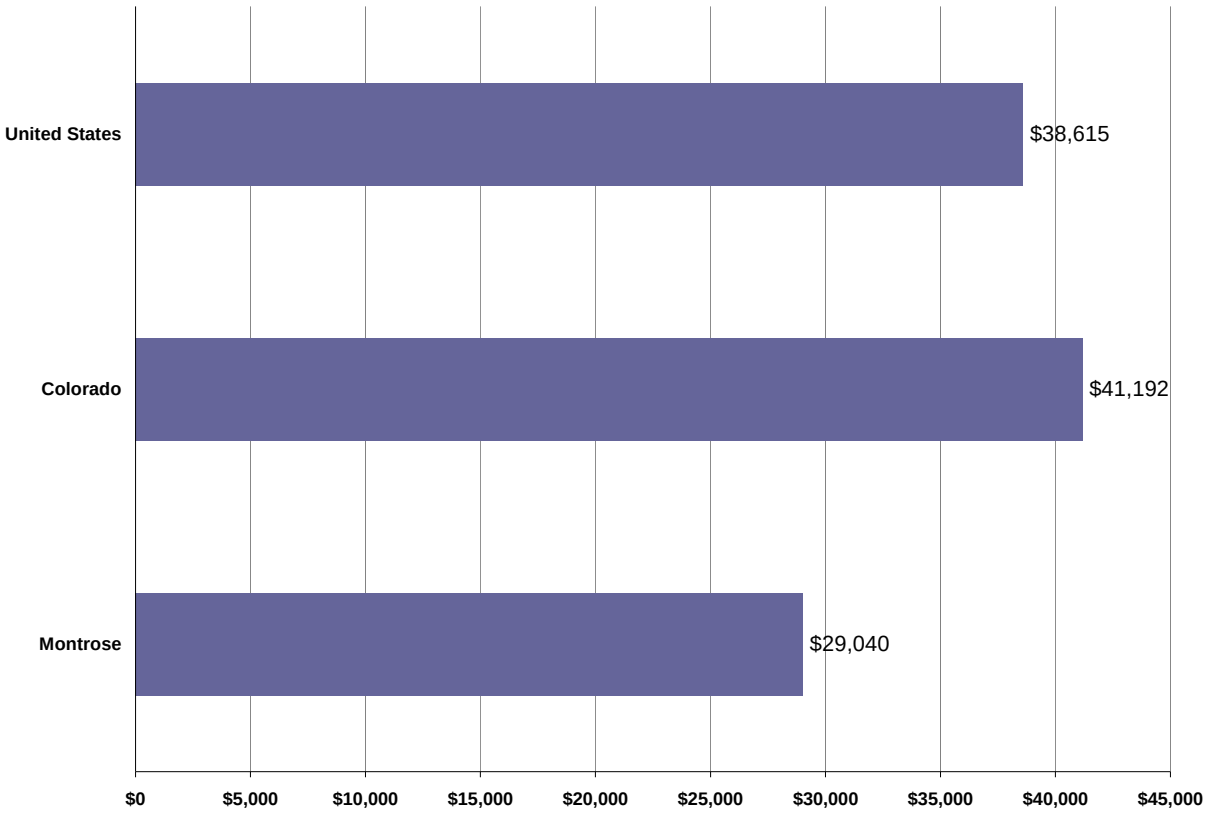
Figure 1
Employment Trends, 2001-2007
Montrose County Socioeconomic Impact Study



[3] As reported by the Louis Berger Group in its assessment of the Pinon Ridge Project.

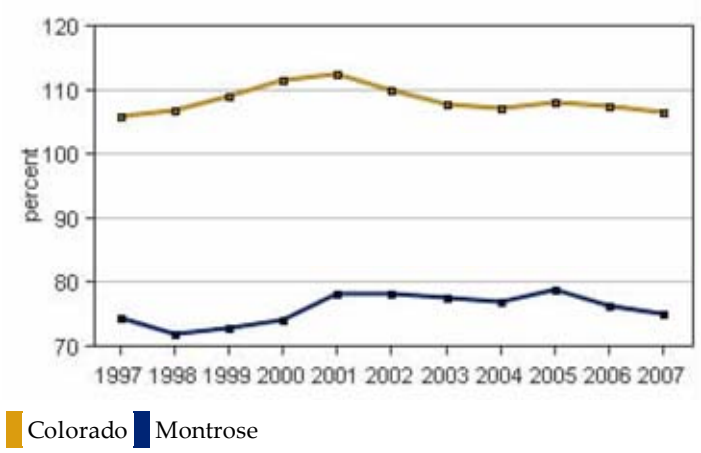
Montrose County has long targeted economic development as a priority to combat cyclical trends and improve performance related to local income and employment. According to the Bureau of Economic Analysis (BEA), the County's per-capita personal income (PCPI) is $29,040, as shown in **Figure 2**. This PCPI ranks 40th out of 64 counties in the state and was 70 percent of the state average, $41,192, and 75 percent of the national average, $38,615. The 2007 PCPI reflected an increase of 3.2 percent from 2006.

Figure 2
Per Capita Income Comparison
Montrose County Socioeconomic Impact Study



Montrose County PCPI has gained relative to other counties in Colorado over the past decade. In 1997 the PCPI of Montrose was $18,851 (nominal dollars) and ranked 48th in the state. There is, however, a continuing disparity between Montrose County's PCPI and state performance, despite a slight gain since 1997 relative to the U.S. as a whole. This is illustrated by **Figure 3**. The 1997 to 2007 average annual growth rate of PCPI in Montrose was 4.4 percent, and the average annual growth rate for the state was 4.4 percent versus 4.3 percent for the U.S. Conditions in the current economy suggest that incomes reported for the years 2008 through 2010 may decline.

Figure 3
Per Capita Income Trends Comparison
Montrose County Socioeconomic Impact Study



Baseline Economic Conditions

In general, county economies are relatively small but complex. Industries, households, and governments all engage one another to meet the demands for a vast array of goods and services. Computer modeling of local economies, as has been used for this study, is an effective tool to understand the complexities of these economies. Specifically, the approach taken to assess the baseline economic conditions of Montrose County is the use of the Impact Analysis for Planning (IMPLAN) modeling system.

Modeling Approach

IMPLAN was developed by the USDA-Forest Service in the late 1980s and was spun off to a private company in the mid 1990s. In Colorado, extensive use of IMPLAN has been made by Colorado State University, USDA-Forest Service, agencies of the State of Colorado, local governments, and numerous consulting firms.

IMPLAN is an input-output (I-O) economic model. An I-O model uses the relationships between purchasing and production activity a study area to estimate overall economic activity in response to a change. With the advent of modern computers, I-O modeling has become readily available and affordable to economists, regional planners, and economic development specialists engaged in both research and application.

The IMPLAN system makes data available down to the county level, and its dataset covers all 3,100 counties in the U.S. These data represent the relationships among employment and dollar values for purchasing and production activity in 440 industries, households in nine income brackets, and six levels of government.

IMPLAN is built from publicly available data obtained from the U.S. Census Bureau, Bureau of Economic Analysis, and Bureau of Labor Statistics, among other sources, which county-specific data reconciled to published national totals. In addition, the IMPLAN system uses statistical analysis to estimate county level data that would ordinarily be confidential to avoid disclosure of private information about firms in small economies.

The IMPLAN system is flexible and can incorporate local information when it is available. For this analysis, local data were incorporated from the following sources to calibrate the national data with local conditions as of 2008:

- The latest data for tourism and travel from studies completed for the Colorado Tourism Office.
- Employment numbers that have been reviewed with local officials and calibrated according to their input by the Colorado State Demography Office.
- Local government spending and employment data from the county, municipalities, school districts, and special districts.
- Values for new private construction activity based on data and their interpretation from the Montrose County Assessor's Office.
- Newspaper articles and other publicly available sources that reported on changes to employment by local businesses.

The customized model for Montrose County accommodates these local data within the framework of internal consistency and balances provided by the IMPLAN system.

Measures of Economic Activity

The IMPLAN model and analysis are based on data from 2007, the year for which complete information is available for all the required kinds of data. The result is an accurate snapshot of conditions and relationships for that year.

This analysis contains findings in terms of three key measures of economic activity: employment, labor income, and gross regional product (GRP). Employment is the average monthly job count taken for a period of one year. This measure counts full-time and part-time jobs equally, i.e. a twelve-month full-time job and a twelve-month part-time job are each once one job (a total of two jobs) for the year 2007 in IMPLAN terms[4].

Labor income, referred to in government reports as "earnings by place of work," is employee wages and salaries, plus employer contributions to government social insurance and to private pension and insurance funds. Labor income also includes the income of the self-employed,

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[4] Seasonal jobs are counted for the months they occur. For example, if a private campground was only open for four months a year and employed twelve people during those months, it would total 48 "job-months." The average monthly job count over the year would be twelve jobs. Seasonal patterns are built into the employment estimates, but they are not explicitly separated.

including farm owners. Labor income is based on the earnings paid out by firms in a given county location, so it differs from "personal income," which is based on the income of a variety of kinds received by persons regardless of their county of residence[5].

Gross regional product (GRP) is a dollar figure that measures the final value of all production activity in a county. As a measure of production, it is the dollar value of goods and services sold to final users. The value of goods and services sold to another business for use in their production process is not counted in GRP. As a measure of income, or "value added," GRP counts all income generated by all local production activity. The sub-categories of value added are labor income, property income (profits, rent, interest, and dividends), and "indirect business taxes," which are government receipts that are generally collected by businesses from consumers but are passed through to government[6].

Economic Effects and Multipliers

Three levels of economic effects, or impact, are used in regional economic analysis: direct, indirect, and induced.

- **Direct** – Those experienced by a firm or industry in the process of producing a good or service to meet the demand of final users.
- **Indirect** –Those experienced by all local firms in the supply chain of the initial firm.
- **Induced** – Those experienced by all local firms that produce and sell goods and services to the local households that are spending income earned at the initial firm and all other firms in the supply chain.

A specific example illustrates the three levels of impact: A manufacturing firm in Montrose County receives a large order originating in Denver, making it a Montrose County export. Filling the order requires 24 employees of the primary firm working for two months. Thus the direct employment effect is four jobs, the annual average derived from the 48 job-months of work involved in production. The manufacturer also buys material from other local firms, which in turn employ 12 workers for a month. The impact of the primary firm's purchasing from its suppliers is called the indirect effect. In this case the indirect employment effect is one job on an annual average basis. When the wages paid to the employees of the primary and supplier firms involved are spent at local businesses for household needs, the employment and income impact is called the induced effect. If these local businesses need a total of eight employees over three months to meet the household demand, the induced employment effect would be two jobs (average annual).

The multiplier effects inferred from these relationships are how economists describe the total effect of the primary action as compared to the direct effect. The total effect is the sum of the

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[5] Personal income is derived as follows: labor income, plus self-employed farm and non-farm income, minus the contributions of employers and the self employed to government social insurance programs, plus the net inflow of earnings from commuters in and out of the county, plus income payments to residents from the ownership of real and financial property, and, finally, plus transfer payments to local residents.

[6] More specifically, the "indirect business taxes" part of value added comprises payments by industry to governments for any reason (property taxes, excise taxes, severance taxes, fees, fines, licenses, turnover of sales taxes - by any industry that collects sales taxes) except for payroll taxes and end of year income/corporate taxes.

direct, indirect, and induced effects. In the example above, the direct employment effect was four jobs, and the total effect was seven jobs, implying an employment multiplier of 1.75. Multipliers are unique to each economic measure, each industry, each year, and each study area. Multipliers tend to be similar for the same industry found in small counties like Montrose County. However, multipliers differ across the economic measures, so, even within a single industry, the multiplier for employment will be different from the multiplier for labor income, which in turn will be different from the multiplier for GRP (value added).

Industry Structure of Montrose County

An industry-by-industry portrayal of the 2007 Montrose County economy appears in **Table 2**. The industries identified conform to the North American Industry Classification System (NAICS) two-digit codes. These standard classifications are commonly used by agencies such as the Colorado Department of Labor and Employment, the Bureau of Labor Statistics, and the Bureau of Economic Analysis in reporting industry level trends.

Employment, labor income, and gross regional product (GRP), which is a value that sums up business and personal income, plus taxes collected by businesses for government, are listed for each of the County's major industries. In 2007, comprising approximately 65 percent of the total workforce of 21,750 jobs, the top five of twelve sectors were Trade, Personal Services, Government, Construction, and the Health, Education and Social Services industries. These sectors represent 65 percent of all jobs, 62 percent of all labor earnings, and 52 percent of the County's GRP.

On a per job basis, labor income per job equates approximately to income from labor in the various industry sectors. On the basis of GRP per job, the labor income generated by a few sectors such as mining, utilities, and finance rank highest because of high profit components in addition to salaries and wages. As shown in **Table 2**, this distribution does not indicate how jobs are generated in a local economy; however the analysis that follows focuses on that question.

Table 2
Industry Employment: Labor and Income, 2007
Montrose County Socioeconomic Impact Study

	Employment	Labor Income (millions)	Gross Regional Product (GRP) (millions)	Labor Income per Job	GRP per Job
Industry					
Agriculture, Forestry, Fishing & Hunting	1,409	$26	$56	$18,453	$39,744
Mining	143	$23	$63	$160,839	$440,559
Utilities	216	$19	$62	$87,963	$287,037
Construction	2,675	$116	$141	$43,364	$52,710
Manufacturing	1,532	$62	$89	$40,470	$58,094
Wholesale & Retail Trade	3,261	$103	$164	$31,585	$50,291
Transportation, Warehousing & Information	969	$34	$54	$35,088	$55,728
Finance, Insurance, Real Estate & Rental Services	1,420	$48	$143	$33,803	$100,704
Professional, Management & Administrative Services	1,823	$75	$90	$41,141	$49,369
Educational, Health & Social Services	2,042	$64	$78	$31,342	$38,198
Arts, Entertainment, Lodging, Food & Personal Services	3,221	$59	$83	$18,317	$25,768
Government	3,040	$127	$130	$41,776	$42,763
Total	**21,750**	**$756**	**$1,152**	**$34,759**	**$52,966**

Source: IMPLAN; Lloyd Levy Consulting; Economic & Planning Systems

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Economic Drivers and Contribution to Employment

In the previous table, the County's employment is evaluated on the basis of NAICS two-digit industry codes. Evaluating the County's economy in those terms is useful in identifying the composition of the labor force in conventional employment and trade sectors. Because regional and local economies vary, and because multiple (and mutually dependent) employment sectors will often center around a region's particular resources to provide products, services, or technologies, a higher level analysis of baseline employment is invaluable. When one or more employment industries or sectors cluster around a unique regional activity or resource and contribute significantly to the economy's GRP, this agglomeration is called an economic driver. The economic driver produces measurable economic benefit in the form of jobs, labor income, and spending for a region.

The economic drivers identified for Montrose County are shown in **Table 3** and summarize each driver's job, income and GRP contribution to the total economy. When analyzing a local economy in this way, all of the jobs (direct, indirect, and induced) are tied back to their source driver. To clarify the driver concept, consider it to be a grouping of economic activities (transactions involving persons, firms and government entities) that brings outside money into the local economy. The point of a drivers analysis is to break down the economy into groups of activities that are oriented toward similar markets and sources of funds that are outside the boundaries of the current and local economy. Taking revenues as a starting point, the analysis estimates a driver's contribution to total employment, where total employment includes jobs generated by the direct revenues received by the driver, plus the ripple effects of those jobs. As noted, driver categories are groupings by markets and funding sources; they are not the same as the industry sectors used in **Table 2**, which are grouped around similar processes of production. Unlike industries, whose classification is standardized, the set of drivers to analyze is largely defined by local experience and information needs. When warranted, the focus can be on a single enterprise, such as the Nucla power plant and mine complex, or on more diverse industry groupings that serve a single market, like tourism. The focus on a driver's total employment contribution (direct, indirect and induced) explains why jobs are created, based on the primary employment sectors that inject dollars into the local economy.

A driver may be located in a single industry. One example is agriculture, which generates approximately 1,700 jobs, or approximately 8 percent of the workforce. Other drivers are grouped around a particular market segment, such as overnight tourism, which includes firms from different industry sectors that generate revenue by serving visitors from other areas. Many industries, however, are partly drivers and partly not. A manufacturer, for example, that exports some product but sells its remainder to local residents is one of these. A restaurant that serves both locals and visitors is another, and a retail store (such as that which falls in the shopper's goods category, as detailed later in the report) that attracts customers from a wide area, including customers from other counties, is another example.

Other drivers, such as household non-labor income, illustrate the magnitude of economic activity generated by non-labor influences such as retirement-related earnings. Retirement earnings, for example, are a major component of household non-labor income, accounting for more than 16 percent of the County's GRP, as shown in **Table 3**. Household non-labor income contains two major subcategories—dividends, etc., from various asset sources, and government payments. Government payments break down further into two categories—Social Security and other government payments, such as Medicare medical benefits.

As larger portions of the County's population approach retirement age, an increasing portion of economic activity will result from household non-labor income. Household non-labor income, including dividends, interest earnings on assets, and government payments such as Social Security and Medicare will produce increasing demands for products and services that rely on the direct, indirect, and induced jobs and technologies that support this large economic driver.

Table 3
Employment, Labor Income, and GRP by Economic Driver
Montrose County Socioeconomic Impact Study

	Employment	Labor Income (millions)	GRP (millions) $	GRP (millions) as %
Economic Driver				
Agricultural Exports	1,649	$37	$75	6.5%
Power Plant & Mine	193	$12	$32	2.8%
Other Mining Exports	229	$15	$33	2.9%
Construction	4,403	$174	$232	20.2%
Candy Manufacturing Exports	822	$28	$48	4.1%
Wood Products Manufacturing Exports	290	$11	$18	1.6%
Other Manufacturing Exports	1,185	$47	$67	5.8%
Overnight Tourism	352	$9	$15	1.3%
Export Sales of Other Goods & Services	4,131	$158	$182	15.8%
Operations of All Governments	4,476	$149	$257	22.3%
Household Non-Labor Income	3,921	$115	$187	16.2%
Commuter Income (net inflow)	105	$3	$5	0.4%
Total	**21,750**	**$756**	**$1,152**	**100.0%**

Source: IMPLAN; Lloyd Levy Consulting; Economic & Planning Systems
H:\19841-Montrose County Socioeconomic Study\Data\[19841-LL-Montrose Socioeconomics Final Report figure.xls]Driver Cont rpt

A county like Montrose County with a large city situated like Montrose also attracts retail customers from communities in other counties. These sales are made by firms across a range of trade, services and other industries within the local economic structure. These export sales across county lines account for the large driver called "Export Sales of Other Goods and Services" in **Table 4**, which accounts for a total of 4,131 jobs, or 19 percent of all jobs in the county. The smaller drivers within this grouping were not estimated separately for this study.

A driver's contribution to total employment includes direct jobs, plus the ripple effects from those jobs. **Table 4** breaks down the employment contribution of each driver into its direct, indirect and induced employment effect. Direct employment only includes the employment generated by the outside revenues earned in the first round of economic activity. Indirect effects are the revenues earned subsequently by other firms in the supply chain, and induced effects are all the revenues earned by selling to households who are spending the labor income earned working in direct or indirect jobs.

The column headed "Contribution Factor" presents the ratio of the total employment effect to the direct employment effect for each economic driver identified in the table. The contribution factor differs significantly from the similar concept of an economic multiplier. The contribution factor is a summary measure of the net effect of an economic driver's impact in terms of total employment. It is calculated after a complete multiplier analysis has been conducted for each industry responding to the direct effects of the outside revenues attracted to the region by the economic driver. The contribution factor is useful for planning purposes because it indicates the response of the region to economic development efforts targeted at the region's existing markets.

Table 4
Employment Contributions by Economic Driver
Montrose County Socioeconomic Impact Study

	Employment				Contribution
	Direct	**Indirect**	**Induced**	**Total**	**Factor**
Economic Driver					
Agricultural Exports	877	603	169	1,649	1.88
Power Plant & Mine	95	43	54	192	2.02
Other Mining Exports	64	91	74	229	3.58
Construction	2,518	1,057	829	4,404	1.75
Candy Manufacturing Exports	475	221	126	822	1.73
Wood Products Manufacturing Exports	127	115	48	290	2.28
Other Manufacturing Exports	655	315	214	1,184	1.81
Overnight Tourism	266	43	43	352	1.32
Export Sales of Other Goods & Services	3,299	109	722	4,130	1.25
Operations of All Governments	3,021	754	699	4,474	1.48
Household Non-Labor Income	3,007	139	774	3,920	1.30
Commuter Income (net inflow)	77	13	14	104	1.35
Total	**14,481**	**3,503**	**3,766**	**21,750**	

Source: IMPLAN; Lloyd Levy Consulting; Economic & Planning Systems

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3. COUNTY ENERGY CONTEXT

The following chapter gives an overview of the County context in the energy sector from a historical perspective.

Overview of Uranium

Colorado's uranium mining history dates back to the 1880s when uranium was produced as a byproduct of radium. That history was largely written in the mines and mills of the Uravan Belt, including the West End of Montrose County.

Today, national and international forces appear to trend toward uranium's resurgence as an energy fuel in the U.S. Of course such a trend always raises environmental and security concerns. Additionally the uranium market is worldwide and fiercely competitive. Still it could be said that as demand grows for uranium and vanadium (the latter an associated mineral in the West End's ore) so grows the market's interest in West End resources.

Supply and Demand

The annual United States demand for uranium, which is now all for power plants, is estimated at 52 million pounds of uranium oxide[7]. At current prices the oxide market alone is worth in the neighborhood of $2 billion a year.

For the past 15 years, at least 80 percent of the uranium feeding U.S. demand has been of foreign origin. During this period, foreign suppliers have often posted a price advantage of 10 percent or more. Canada and Australia, both closely aligned with the U.S., and Russia, an increasingly a stable player in international markets, are historically among the largest suppliers of uranium to U.S. markets.

Price and Trend Outlook

Uranium prices are volatile. The chart in **Figure 4** depicts the spot price and long-term moving average price for uranium oxide, the product of the proposed Energy Fuels mining and milling operation. Prices for the past year have hovered above $40 per pound of uranium oxide. Spot market indices in March of 2010 place the price of a pound of uranium oxide at $41.25 to $42.25 depending on the measurer, with the long-term average price posted by Cameco, a major Canadian producer, holding at $60 per pound (Wise Uranium 2010). Recent events causing prices to rise and fall are international re-use of decommissioned weapons material and shutdowns at dominant mines in Canada and Australia. Experts consider a realistic price in the long run to be $75 a pound in current dollars to assure long-term stability for producers (Burnell 2010).

[7] Source: Dr. Jim Burnell, Colorado Geological Survey, 2010.

Figure 4
Price Index for Uranium Oxide, 2006-2010
Montrose County Socioeconomic Impact Study

Resources in Uravan Belt and Montrose County

The Uravan mineral belt is the zone of uranium-vanadium deposits in San Miguel, Montrose, and Mesa counties in Colorado, and Grand County in Utah. About 1,200 mines were located within the Uravan mineral belt during the most active period, 1948 to 1978. At the peak of the cycle there were mills in Blanding, Moab, and the Lisbon Valley, in Utah, and the former Uravan in Montrose County. At that time the mills were processing 5,250 tons per day (Berger 2009), which is also at least a threshold measure of the production capability of mines in the vicinity. However, the Uravan Belt is not the only U.S. resource.

The combined of reserves of Colorado, Utah and Arizona are third in size to Wyoming and New Mexico, to consider just other U.S. uranium districts. The scale of the Wyoming and New Mexico reserves also rises relative to the Uravan Belt as prices rise (Burnell 2010). Uravan ores have the benefit of containing a large quantity of vanadium, a byproduct marketed as a steel alloy. Several flurries of mine activity in the district occurred in 1989 and 1997 when the price of vanadium increased, but these were short-lived (Berger 2009). Growth markets for vanadium in the future will most likely be China, India and other emerging industrial nations.

Mining Outlook

The legacy of uranium's 30-year historical run in the West End, as elsewhere in the Uravan Belt, is a mining infrastructure that is not far removed from productivity. The region is dotted with projects and recent outbreaks of claims filings. The Colorado Geological Survey identified more than 45 mining projects in the Colorado part of the Uravan District, scattered from Dove Creek to Gateway. The same discussion also noted that existing mill sites (only one of which is nominally in operation) are distant, ranging from 64 miles to 270 miles from the heart of the district in Colorado, centered on the historical Uravan site (Burnell 2010). Apart from prices, access to

milling is an issue that the Energy Fuels proposal purports to address. It is important to note in the analysis of mill capacity and location that the business models of the existing mill in Blanding and the proposed mill in the West End differ significantly. The former is based on the goal of full vertical integration (relying on ore solely produced by company mines) while the later is based on the approach that the milling activity generates sufficient revenue to accommodate ore from mines in the region regardless of ownership.

Overview of Natural Gas

Montrose County southwest of the Divide Road (Forest Road 402) is rated as having "moderate" potential for conventional natural gas discovery and "negligible" with pockets of "very low" potential for coalbed natural gas, according to the BLM (Krickbaum 2010). A moderate potential is defined as probably yielding an overall average of two to six wells per township. A township is an area of 36 square miles.

Many parts of this area were past targets for oil exploration with no success. As markets and technology shift to natural gas, prospects for discovery may have improved. Recent natural gas drilling occurred in 2007 and 2008 in the South Nucla Gas Field (SNGF)—an area accessed by County Highway 90, the proposed Transportation Link between the east and west ends. Two wells were productive but are now in "temporarily abandoned" status (sometimes called "shut in" or "capped"). Capped wells are technically capable of producing but are not presently producing for various reasons. Several reasons may contribute to these wells being capped: market conditions, financial stresses, and lack of transportation (i.e., pipeline) access.

The capped wells are among four SNGF wells—three on private and one on public land—drilled by a single operator, which has initiated a process with BLM to permit further exploration on public land. The proposal submitted to the BLM in January of 2009 envisioned development of 20 natural gas wells on up to 10 well pads. The proposal includes access roads, gas-gathering pipelines, gas processing and compression equipment, and a 6.8 mile-long pipeline to the major TransColorado Pipeline that runs to the east of the field. The resources being targeted are part of the 31,933 acre South Nucla Federal Exploratory Unit in Mailbox Park. Federal mineral leases that make up the South Nucla Unit were auctioned at previous federal oil and gas lease sales.

The SNGF proposal is still officially in progress but has been dormant for some time. It is reasonable, though, to consider resumed activity in the future would raise the possibility of development in the SNGF and elsewhere in the Mailbox Park unit. In a favorable scenario, markets would improve, relieving the financial stress on operators and attracting new capital. Additional drilling would have to yield positive results. With a critical mass of perhaps four producing wells, the pipeline project (costing in the range of $7 million to $10 million just for construction) could be rationalized, giving the SNGF and Mailbox Park access to the TransColorado Pipeline and motivating additional drilling. Nationwide, demand is expected to rise as part of a broad trend toward natural gas as a power generation fuel.

For this study, a scenario for natural gas development in Montrose County's West End was constructed to estimate the potential for effects to employment through 2030. This scenario is described in detail in the following chapter on the energy-related impacts.

Overview of Coal

The New Horizon Mine in Montrose County delivers about 400,000 tons of coal annually to the Nucla Station, 100-megawatt power plant in Nucla, Colorado. The presence of the mine makes coal mining one of the three important minerals activities in the West End of Montrose County, along with uranium-vanadium mining and gas exploration. Although the power plant-mine complex has a relatively assured future, other market, regulatory, and environmental forces suggest that there would be no growth of coal mining in the West End through 2030.

New coal development in the West End is possible but not envisioned for now. The Horizon Mine's life is tied to the power plant; coal production is expected to continue for the life of the plant, assuming no changes at the plant (Tri-State). No other coal projects were identified by Energy Fuels as occurring in Montrose County concurrent with the proposed mill (EFI 2009). Publicly-owned coal resources exist under BLM management in the West End of Montrose County. To date they have been developed to a lesser extent than the coal being mined under the federal leases related to coal mines in the valley of the North Fork of the Gunnison River near Paonia, Colorado (BLM 2010).

Several "global" trends identified by staff of the Colorado Geological Survey underscore the stagnant coal outlook. Total production of coal in Colorado has been stable long term and has even declined by 19 percent since 2004. Although some of the decline is attributable to technical problems at mines, longer term trends appear to have had an effect, particularly the implementation of permanent changes to midwest and southeast power plants, reducing the need to ship low-sulfur western coals long distances.

Other trends affecting coal demand are the fuel-switch to natural gas (despite its high cost relative to coal), the slow adoption of clean-coal technology, and environmental controls directly upon coal mines. Finally, pending climate legislation is discouraging generators from looking first to coal to fuel new plants (Carroll 2010).

4. ECONOMIC DRIVERS AND CORRESPONDING IMPACTS

Employment trends in the baseline-employment projection for Montrose County reflect momentum in the construction industry, which is investment driven, and in services industries such as transportation and warehousing that trade across county lines. These baseline trends are bolstered by continued growth in the segment of resident households receiving streams of non-labor income, such as property and investment income, pensions and social security, and distributions from savings.

Beyond these trends are four reasonably foreseeable economic changes that could significantly add to the county's employment base in the future. First and foremost there is the re-emergence of the uranium industry. This is embodied in the proposed Pinon Ridge Mill and the supporting activity it would require from the mining and transportation sectors. Second, trends in the oil and gas industry suggest an opportunity for continued exploration drilling and possible field development in the West End. Third, development of the transportation link would potentially trigger tourism growth.

Finally there is a reasonably foreseeable opportunity for the West End to leverage its attractive real estate values and appealing quality of life to enlist specific technology-driven and "foot-loose" firms. The following sections detail the potential economic effects of these four scenarios.

Uranium

A reasonably foreseeable scenario for a renewed uranium economy centers on the proposed Pinon Ridge Mill. The scenario is modeled around the EFI proposal, using values given in the applicant's mining operations plan (EFI 2009b) and the applicant's socioeconomic impact analysis (Berger 2009).

The scenario presumes that the project would be permitted by the State of Colorado and built as planned. Mining activity would follow, assuming a favorable ore price of around $70-75. The applicant's socioeconomic analysis suggests that operations would commence in 2012 (Berger 2009); however for this study, the assumption is that the mill, mining and ore haulage has reached a stable operating level in 2020. The throughput is as presented by the applicant in the socioeconomic analysis: 500 tons of ore per day, or 175,000 tons of ore per year (Berger 2009).

Other quantities assumed for the scenario are those presented by EFI or have been estimated specifically for this study (the latter are noted as they are described). The direct effects of the mill used for this analysis are those presented in the applicant's socioeconomic analysis: direct employment of 85, labor income of $7.9 million, and output (gross sales at producer prices) of $104 million (Berger 2009).

The mining activity entailed by the mill would be "approximately five to nine mines at any one time, some employing fewer than 10 people, with larger mines employing up to 60 people" spread over a six-county area, according to the socioeconomic analysis (Berger 2000). The applicant's mine operations plan identifies total mining employment of 210 jobs and ore haulage employment of 18 jobs (EFI 2009b), with these impacts (and their ripple effect) distributed by county as, Montrose County, 50 percent; San Juan County, Utah, 30 percent, and other counties (in Colorado and Utah) 20 percent.

This study, focused as it is on Montrose County, translates this information into an assumption that, as a default, 50 percent of the mining and ore haulage activity would be captured in Montrose County, with the potential for 100 percent capture to occur over time, depending on future circumstances. Using mill demand as an indicator and price data from published sources (Wise Uranium; Dennison), the direct effects of mining were modeled on the basis of $19 million in mine output (gross sales) per year and labor income of $9 million per year (in 2007 dollars, the year that is consistent with the latest available version of the IMPLAN database). A key assumption that underlies these amounts is that all mining and haulage activity has been modeled as if each is a separate enterprise selling and transporting raw uranium-vanadium ore to the mill at for a market rate, including an allowance for transportation distance in the price paid at the mill. In fact, as described in the mill application, 75 percent of the mining may be captive to EFI.

In total, the cumulative uranium industry scenario would contribute approximately 500 total jobs beginning in 2020, as shown in **Table 5**, assuming the default scenario of 50 percent of mining and ore haulage located in Montrose County. The cumulative uranium industry scenario with 100 percent of mining in Montrose County would contribute approximately 650 total jobs beginning in 2020, also as shown in **Table 5**. The effect of this scenario on the cumulative employment projections for Montrose County is shown later, in **Table 12**.

Table 5
Cumulative Impact of Uranium Industry
Montrose County Socioeconomic Impact Study

	Employment			
	Direct	**Indirect**	**Induced**	**Total**
Uranium Mining, Milling & Transportation [1]				
at 50 Percent Mining Activity	199	201	101	**501**
at 100 Percent Mining Activity	313	212	124	**649**

[1] These impacts are estimated as of 2020, 2025, and 2030.
Source: IMPLAN; Lloyd Levy Consulting; Economic & Planning Systems
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The likelihood of either scenario occurring depends on EFI's continued commitment to the project, which is evidenced so far by EFI's submitting its permit application to the Colorado Department of Public Health and Environment. Many variables within the company and in the overall environment could change what eventually occurs along many different dimensions of the proposal and its relationship to Montrose County. It is in the nature of the nuclear industry that all of the potential ramifications of how the EFI, other uranium players, and the West End may eventually relate, in the context of national and international events, are too complex to explore here.

Import Substitution

Impacts associated with the proposed uranium mill have been estimated, as described previously, using a customized IMPLAN model for the County. The model assumes that industries currently located in the Montrose County that supply necessary goods and services required by the mill will expand to meet this new demand. The rate of expansion by these supply industries, however, assumes they will maintain their current market share for the required products. In other words, neither non-local firms nor local firms will change their respective market shares to meet new demands by the mill.

Expansion of demand for goods and services, however, caused by the new mill may provide opportunities for local industries to grow beyond their current market shares, i.e. capture a greater portion of their respective markets. Local industries, for example, may seek to exploit any competitive advantage of being located in Montrose County, and this may take the form of new firms in existing industries or simply an expansion of current firms. When local industries expand their market share within a study area at the expense of non-local firms, it is called "import substitution".

Import substitution is often an important component of a comprehensive economic development strategy. While a comprehensive strategy is beyond the scope of this study, there are a few industries in Montrose County that are good candidates for modeling import substitution[8].

Furthermore, any discussion of industry growth in Montrose County must consider competition from neighboring areas. Grand Junction in Mesa County, for example, is the regional center for economic activity on the West Slope of Colorado and an immediate neighbor of Montrose County. Not only is Grand Junction a regional center, it has also become a center for mining-related industries. These industries were drawn to the area by the recent boom in energy minerals throughout western Colorado. This center of mining-related industries includes more extensive local supply chains so that local mining firms can reduce their need for imports. Because Mesa County is a regional center, a close neighbor of Montrose County, and contains more developed supply chains than found elsewhere in western Colorado, it might be regarded as a reference point for maximum local market shares for support industries to the mineral extraction industry.

A comparison of local market shares between Montrose and Mesa Counties among support industries to uranium milling and mining reveals that many of these industries indeed have higher local market shares in Mesa County. Another way of stating this is that the mineral extraction and associated industries generally require fewer imports in Mesa County than in Montrose. If market shares in Mesa County are considered a practical maximum, then the difference in market shares between Mesa and Montrose County for any given industry could be regarded as the expansion potential in Montrose County. With that premise in mind, an analysis of import substitution potential was conducted for this study. The industry groups in Montrose County, as shown in **Table 6**, are likely candidates for enhanced market shares and the potential for new employment.

[8] The candidates industries identified in this report should be regarded as a first step or initial input to a larger economic development effort that considers import substitution along with other development concepts within Montrose County.

These results indicate that there is modest potential for expanding employment through import substitution in the supply chain for the proposed mill. This does not suggest, however, that import substitution across the entire Montrose County economy might not be an important piece in a comprehensive economic development strategy, but only that the potential for this portion of the economy is small. Further consideration to this concept is given to the proposed transportation link, as described in a later section of this report.

Table 6
Import Substitution Related to Mill, Mine, and Haulage
Montrose County Socioeconomic Impact Study

	Jobs
Industry	
Professional, scientific, & technical services	3
Transportation & warehousing	1
Real estate, rental, & leasing	1
All other	3
Total	**8**

Source: Economic & Planning Systems
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Natural Gas

The following is a reasonably foreseeable scenario for natural gas in the West End is based on the events and trends described in the chapter on the county's energy context. These are recent drilling in SNGF, the related proposal for a BLM permit and overall trends in the industry. The scenario presumes resumed activity in the future in the SNGF and elsewhere in the Mailbox Park federal leasing unit.

A positive scenario for natural gas development in Montrose County's West End was constructed to estimate the potential for effects to employment through 2030. The scenario elements include exploratory drilling on a small scale—a total of 110 wells through 2030—and with success the establishment of 55 or so producing wells in the federal unit. The scenario drilling rate is two wells per year from 2011 through 2015 and six wells per year from 2016 through 2030. The higher rate in the future would be justified by successful completions, leading to pipeline construction in around 2015.

The scenario's assumptions for employment, earnings, spending by the industry, and the local capture of industry spending are derived from several sources. Drilling-related employment per well was set at 35 and extraction-related employment set at one job per six producing wells, with 50 percent of employees reporting to establishments in county; this follows the "Garfield County Socio-Economic Impact Study" (BBC 2007). Labor earnings were set at about $50,000 per drilling job and $129,000 per extraction job in 2007 dollars, following the Colorado Energy Research Institute's "Oil and Gas Economic Impact Analysis" (CERI 2007) after inflating the 2005 amounts published in the report. Scenario drilling, work over, and extraction costs also follow CERI 2007, which made estimates specific to the San Juan and Paradox basins using survey data.

The pace of drilling is the opinion of the writers of this report, arrived at after considering information from the Colorado Oil and Gas Commission's well data base (COGCC), the cumulative analysis submitted by Energy Fuels, Inc. in its Environmental Report on the Pinon Ridge Project (EFI 2009), and the "Oil and Gas Potential and Reasonable Foreseeable Development (RFD) Scenarios" published by the San Juan National Forest and BLM for the San Juan Public Lands forest plan revision (Gault 2006). The pace of drilling used for this analysis may or may not agree with the ultimate conclusions of the assessment of "reasonable foreseeable development" under way for the local BLM's resource management plan. The RFD for the Uncompahgre Field Office was not finished when this report was written.

In total, the SNGF development scenario would contribute approximately 35 total jobs in 2015, as shown in **Table 7**. The total employment contribution would rise to 69 total jobs in 2030.

Table 7
Employment Impact of Cumulative Gas Drilling Scenario
Montrose County Socioeconomic Impact Study

					2015-2030		
	2015	2020	2025	2030	Total	Ann. #	Ann. %
Employment							
Direct Jobs	31	52	56	61	30	2	4.6%
Indirect Jobs	2	3	4	4	2	0	4.7%
Induced Jobs	2	3	4	4	2	0	4.7%
Total	**35**	**58**	**64**	**69**	**34**	**2**	**4.6%**

Source: Economic & Planning Systems
H:\19841-Montrose County Socioeconomic Study\Data\[19841-Gas Drilling Scenario-032510.xls]Summary

The credibility of a SNGF development scenario is supported by broad trends: the long-term up-slope to oil and natural gas prices, rising domestic consumption, rig availability and improvement in exploration, drilling and completion techniques. All favor continued exploration for oil and gas nationally. Mitigating the scenario locally are the area's being of just moderate potential for conventional natural gas and the lack of an existing connection to the TransColorado Pipeline. In addition, the employment benefit to Montrose County to gas drilling and extraction activity would be limited—absent further economic development centered on exploration and development—because most spending associated with the scenario would leak out to the industry's services centers in the Four Corners region.

Tourism

These impacts are related to the general enhancement of the tourism industry as it could potentially result from increased accessibility between the east and west ends of the County. Activities the upgraded transportation link are likely to encourage include more recreational cycling, fishing, hiking, and sight-seeing.

The lodging industry in the County includes 17 establishments, described as hotels, motels, or bed and breakfasts. (One of the 17 establishments is situated outside of the general county service area called the Uncompahgre B & B approximately seven miles south of the City of Montrose.) There are 740 rooms in the inventory reporting an order of magnitude occupancy level of 70 to 75 percent annually, incidentally a very strong occupancy level for most markets on an annual basis. Current average daily rates are in the range of $75 to $80 per night.

One indication of the strength of the overnight tourism driver to the County is the relatively low volatility of its lodging tax revenue collections of the past several years. In 2007, the peak year reported by MVCB[9], lodging tax revenues totaled approximately $84,000, and declined to approximately $74.500 in 2008. In 2009, while most surrounding regional Visitors and Convention Bureaus have estimated nearly 20 percent drops in lodging tax revenues, MCVB reports that there was a decrease of only approximately 1.5 percent over 2008, for a total of approximately $73,100 in lodging tax revenues. After the lull associated with the national economic recession that began in December of 2007, the tourism and second homes markets in Colorado are expected to pick up again in 2010 (DeGroen 2009).

As shown in **Table 3** previously under the discussion of the County's economic drivers, the overnight tourism industry accounts for just more than 1 percent of the County's GRP. Representing more than 350 direct, indirect, and induced jobs in multiple industry sectors (including Accommodations & Food Services, etc.), this economic driver is crucial to Montrose County, as shown in **Table 8**. It has become increasingly important for the Montrose Visitors and Convention Bureau's (MVCB) recent branding efforts to promote and market the County's recreational tourism opportunities and resources. And there is evidence of unmet demand for recreational and overnight tourism that could be facilitated by the construction of a transportation link over the Uncompahgre Plateau. In 2008, the MVCB launched its new destination brand for the County based on recreational opportunities, resources, and amenities in the area, which ties heavily into the recreational activities that would be facilitated the transportation link.

Though undocumented, the MVCB reports regular if not daily phone calls from out-of-state and out-of-region tourists (most of which typically travel by RV) asking about the completion or status of an upgraded County Road 90. At a minimum, this identifies an amount of unmet demand for tourism that is in part unsatisfied because of current substandard conditions on County Road 90. While RV traffic generally would not contribute directly to lodging tax revenue collections, they would be assumed to contribute to restaurant and bar sales, as well as other retail establishments.

Scenic drives already figure prominently in MVCB's promotional efforts. A review conducted in 2001 of studies of scenic byway impacts found a range of roughly three to 20 percent increase in annual traffic due to byway designation. Visitor group spending effects were also associated with an increased number of tourist trips (EDRG 2001).

Impacts and components of the existing overnight tourism driver were estimated in Chapter 3. Using the 3- to 20 percent range as a reasonable benchmark increase in overnight tourism as a result of an improved and enhanced transportation link (equating the elevation of an existing road to "scenic byway" status with the actual improvement of a new scenic road), a 15 percent increase to the overnight tourism industry could translate into economic benefits in the form of more jobs and potentially higher GRP related to the overnight tourism driver. As shown in **Table 8**, a 15 percent increase in overnight tourism could facilitate the creation of approximately 50 more jobs in the County and generate additional GRP of an estimated $2 million.

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[9] The MVCB operates its tourism program with two major sources of revenue. Approximately one-third of its revenue for operations comes from the 0.9 percent portion of the lodging tax, and approximately two-thirds come from the 0.8 percent portion of the tax on restaurants.

Table 8
Impact of 15 Percent Increase in Overnight Tourism
Montrose County Socioeconomic Impact Study

	Overnight Tourism Jobs			
	Direct	**Indirect**	**Induced**	**Total**
Total Jobs				
Current (2007) Overnight Tourism	266	43	43	**352**
15% Increase (with Transportation Link) [1]	40	6	6	**52**
Gross Regional Product				
Current ($ millions)	---	---	---	**$15**
15% Increase (with Transportation Link) [1]	---	---	---	**$2**

[1] Estimated uppon completion of the proposed Transportation Link.
Source: IMPLAN; Lloyd Levy Consulting; Economic & Planning Systems
H:\19841-Montrose County Socioeconomic Study\Data\[19841-LL-Montrose Socioeconomics Final Report figure.xls]Tourism rpt

An expansion of 15 percent of the overnight tourism industry is estimated to generate an additional 40 direct jobs based on the base of approximately 270 in the County. Few quantitative benchmarks for estimating the expansion of the overnight tourism industry exist. Qualitatively, the MVCB's rebranding efforts to promote the County as a recreation destination, marketing the amenities of the West End specifically factor significantly into the potential. Moreover, interest surrounding greater access over the Uncompahgre Plateau is illustrative of the current unmet demand that exists in advance of the even the possibility of construction. The projected 15 percent expansion in the industry is therefore a minimum estimated possible expansion.

In the very near term, however, even an expansion of the lodging inventory related to increased demand and activity may not be fully realized. Trepidation in the marketplace for developers of residential, commercial, and lodging projects has been dictated by forces sometimes unrelated to the direct or local market fundamentals. In the recent past, a Courtyard Marriott was positioned to construct and open a 100-room hotel south of the City of Montrose, but did not pursue the project due to great uncertainty about current economic conditions.

Future prospects for an expansion of the tourism industry through increased jobs, room inventory, and visitor spending are positive. Considering that under the current level of overnight tourism activity, there was sufficient reason for one applicant to pursue development of a 100-room hotel increasing the lodging inventory by 15 percent, there is sufficient reason to believe that under better national and regional economic conditions, a similar project could be proposed assuming levels of demand do not decrease. Furthermore, an increase in overnight tourism related to increased recreational activity from a transportation link between the east and west ends of the County would be anticipated to create incrementally more demand for additional lodging inventory, jobs, and visitor spending.

Mill Construction

As described by Energy Fuels, the proposed mill construction is a two-year project. The direct effects of mill construction used for this analysis are those presented in the applicant's socioeconomic study[10]. Year one is estimated to involve total employment of approximately 30 jobs, followed by approximately 280 more in the second year of construction. Overall, as shown in **Table 9**, there are anticipated to be 309 jobs resulting from the construction of the mill.

Table 9
Impacts from Mill Construction
Montrose County Socioeconomic Impact Study

	Jobs			
	Direct	**Indirect**	**Induced**	**Total**
Mill Construction				
Direct Jobs	202	48	60	**309**
Total Personal Income	$6,740,633	$1,483,476	$1,323,783	**$9,547,892**
Average Per Capita Income	$33,369	$31,165	$22,174	**$30,869**

Source: IMPLAN; Economic & Planning Systems
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Manufacturing

The baseline economic analysis identified the County's major economic drivers, of which there are three in the manufacturing sector. In total, they account for approximately 10 percent of the County's workforce, and they include candy manufacturing, wood manufacturing, and other types. While not the largest sector of the economy, they contribute significantly to it. As such, their contribution factors, a representation of the number of total direct, indirect, and induced jobs generated by the direct jobs alone, are very high. Whereas the countywide multiplier of direct jobs is approximately 1.5, each candy manufacturing job generates a total of 1.7 jobs, wood manufacturing jobs generate a total of 2.3 jobs, and other manufacturing jobs have a contribution factor of 1.8.

According to the County's Office of Economic Development, there are a few substantial employment prospects that are poised to enhance the County's workforce, and as indicated by the analysis of this sector's contribution to the larger economy, would be anticipated to generate additional indirect and induced jobs.

The solar panel manufacturer Aquasoladyne, which currently employs fewer than 15, is scheduled to significantly expand its operations in the future. Aquasoladyne has identified in its business plan that it will ramp up its operations to approximately 40 workers in the first year of full operations, and will scale up to approximately 300 jobs by the fifth full year (the planned year of stabilized operations). By the point of stabilization, it is planning to employ approximately 50 workers in mid-level and managerial positions and the remaining 250 in general manufacturing positions. A contribution of 300 jobs to the local workforce would support an estimated 240 additional indirect and induced jobs in the County. Details regarding the

[10] Completed by the Louis Berger Group, 2009.

expansion cannot be disclosed at this time as negotiations are underway. The potential increase in direct jobs is expected to be less than the other prospects.

There is also an existing manufacturer in the County that is planning to expand its operations as a result of a substantial new contract. This employer is intending to hire additional workers to support this increased operations, which will also support the addition of additional indirect and induced jobs elsewhere in the County.

Airport as Economic Driver

The airport and the Aerospace Research Park which provides light industrial and service commercial tenant space is an important part of facilitating the County's economy. The airport's long runway, presence of important employers such as Western Skyways, and the amount of available space at the airport serve collectively as a significant draw to prospective aviation-related companies. In the recent past, the Montrose County OED has been in discussions with two prospects, one of which continues to date. This existing aviation-related prospect would stand to bring a substantial number of good-paying manufacturing positions to the County (expected to be more than 50) which will result in the addition of indirect and induced employment for the County.

Medical Care

The operations and services of Montrose Memorial Hospital contribute significantly to the County's economy through the direct employment of approximately 375 FTEs. The hospital provides services to a wide geography covering areas north to Olathe, south to Telluride, and west to the West End of the County, as well as the entirety of the City of Montrose. There are an estimated total of 520 part time (as needed) and full time staff on payroll at the hospital, and there are approximately 90 doctors on staff.

Annual activity and services at the hospital generates a net revenue of $65 million per year, of which approximately 45 percent is employee salaries and benefits. As with the relationship between the direct jobs of an economic driver and its supporting indirect jobs and suppliers, the hospital's basic jobs in the healthcare industry generate demand for additional (indirect) jobs in other industries as well as induced jobs through the spending on retail goods and services.

The hospital has continued to update its technologies, such as with purchases of a new MRI machine at $1.5 million in 2009 and an upgraded CT scan machine in 2008 at approximately $750,000. Given the current economic climate, the hospital does not have plans in the near future for any other major medical technology purchases or for any immediate expansions to the workforce. In fact, the hospital anticipates having to focus much of its future attention and resources on the cost implications of the Administration's new healthcare law. According to the CFO, there are an estimated 3,000 to 5,000 currently uninsured individuals in the hospital's service area that stand to benefit from the new law's provisions. Under the program, however, only 70 percent of the cost of services is covered, implying that the hospital must recover costs associated with the remaining unfulfilled portion.

Because there is to date no experience through practice and operations of how significantly the new law will affect the bottom line, the hospital's attitude is for the moment to wait and see what happens. Under ordinary circumstances, with an expansion of population, an aging population, or with expanded economic activity, Montrose Memorial would likely need to expand its

workforce and services. The new healthcare law potentially places a large cost burden on the hospital. To provide the most ideal solution, the hospital plans to carefully monitor its service lines and their costs per patient in an effort to right-size its operations without having to decrease its workforce.

Transportation Link

In addition to the one-time events described previously, there are considerable benefits to the construction and expanded accessibility opportunities of a transportation link joining State Highway 97 in the west with State Highway 90 on the east side of the County. The proposed transportation link will pass over the Uncompahgre Plateau and intersect multiple highways along the route, which will facilitate travel between the City of Montrose and the Town of Naturita in a distance of 57 miles, as opposed to the alternative travel route of 85 miles, which passes through two neighboring counties.

This section identifies the one-time and several of the potential ongoing impacts associated with the introduction of improved and expanded access between the two ends of the County. The one-time impacts include the direct, indirect, and induced employment generated by the construction of the transportation link. Other impacts include the potential for a greater capture of future residential growth vis-à-vis employment growth, as well as an expansion of commerce between Eastern Montrose County and the West End, i.e. in terms of an increased capture of the expenditure potential within the County from West End residents.

Employment

The transportation link is projected to cost approximately $100 million, based on an engineering study completed in 2008. Because timing of the project is open-ended, this study makes use of the timing of a recently-completed and comparable road improvement over Guanella Pass in Clear Creek County, in which the USDA Forest Service participated. That project, which also cost approximately $100 million, was phased and constructed over a 10-year time period. Overall, the cumulative impact of the construction of this project is more than 1,400 jobs over five to 10 years, or approximately 143 to 286 jobs per year for the period of construction, as shown in **Table 10**. These jobs are estimated to generate approximately $44 million in total personal income, which includes a wide range of jobs at high and low income levels. A large component of the direct jobs, however, is anticipated to be higher-paying positions for highway construction, as estimated by Davis Bacon wage determinations for Montrose County. Other indirect and induced jobs are likely to be also a wide range of positions, such as those in professional and technical services versus retail services.

Table 10
Impacts from Road Construction
Montrose County Socioeconomic Impact Study

	Jobs			
	Direct	**Indirect**	**Induced**	**Total**
Road Construction				
Direct Jobs	885	272	277	**1,433**
Total Personal Income	$29,080,310	$8,760,255	$6,142,617	**$43,983,181**

Source: IMPLAN; Economic & Planning Systems
H:\19841-Montrose County Socioeconomic Study\Models\[19841-Fiscal Model-033010.xls]Road One-Time Const

Labor Force

The dynamic between the County's labor force and its residential population is affected by a number of important factors, one of which is accessibility, i.e. proximity of goods, services, amenities, and housing to a worker's place of employment. Under the current conditions, the County's labor force and residential population, in terms of accessibility, are constrained by the lack of efficient accessibility between the West End and Eastern Montrose County. In particular, much of the economic activity as well as potential residential development that could occur within the County does not, because of the lack of accessibility to Eastern Montrose County.

In a section detailed later in this report on the socioeconomic demand estimates, demand factors are derived that identify the change in capture of the County's labor force in its residential population that result from the improved access between the ends of the County. Without this improved access, an estimated 75 percent of the labor force generated by increased economic activity in the future will choose to reside in Montrose County. Alternatively, the construction of a transportation link results in a larger portion, i.e. approximately 81 percent, of workers will choose to establish residency in the County. While the percentage shift in the residential capture of the labor force is relatively small, the socioeconomic implications are substantial. This increase in capture results not only in potentially increased property tax revenues to the County, but also potentially increased commerce in the form of import-substitution as well as capture of greater portions of residents' expenditure potential.

Expanded Commerce

Import Substitution

As discussed previously, impacts associated with the proposed uranium estimated using a customized IMPLAN model assumed that industries currently located in the Montrose County that supply the necessary goods and services required by the mill maintain their current market share for the required products. A further analysis using a technique called import substitution, which recalibrated market capture of these suppliers to increased levels, estimated a modest impact of new jobs to the County's economy in a few industries, including professional and technical services, transportation and warehousing, real estate and leasing, and other services.

This analysis, while it estimated a modest number of additional jobs to the local economy as a potential result of the project-specific economic activity, suggests the potential further positive impacts that could be associated with increased accessibility between the East and West End, if a

more complete countywide import substitution analysis were conducted. That is, there could be measurable and significant impacts associated with increased capture for local suppliers if access to Eastern Montrose County from the West End became a more feasible alternative to manufacturers and producers.

Sales Activity

As indicated, under the current circumstances, many of the residents in the West End travel outside of the County (mostly to Grand Junction) for many of their retail purchases. It is estimated that this represents a significant portion of these resident's expenditure potential lost to surrounding jurisdictions. With the construction of a transportation link, there is a strong likelihood that the West End residents will take advantage of the increased accessibility to Eastern Montrose County, i.e. the City of Montrose and its full spectrum of retail goods and services more frequently.

This is an analysis of the projected improved accessibility conditions, similar to the sales tax revenue case study detailed later in this report. It estimates the potential increased capture of retail sales expenditure of existing West End residents, including the Town of Nucla and the Town of Naturita. The analysis traces steps of a process also described in greater detail later in the report for two scenarios, as shown in **Table 11**. The scenarios depict the current conditions and the estimated capture of retail expenditure potential and the projected future conditions with enhanced rates of capture for different retail categories.

As indicated in the Executive Summary of this report, this analysis assumes that a majority of the West End residents' expenditure potential is flowing out of the County, as shown in **Table 11**. As estimated, the expenditure potential of these residents is approximately 40 percent, and it is assumed that with faster and easier access made possible by a transportation link, the capture of these residents' expenditure potential could reasonably be anticipated to increase to 60 percent. In other words, the resulting expenditure on retail goods and services for these residents could increase from approximately 13 percent of TPI to 20 percent of TPI as a result of the construction of the transportation link, also as shown in **Table 11**. In expenditure terms, this is an increase in retail spending of approximately $2.9 million that might otherwise have leaked outside of the County. This potential spending translates to a demand for an increase in the total supportable square feet of store area by approximately 14,000 square feet. Applying an industry standard of approximately 400 square feet per employee to this figure, 14,000 square feet of additional space would be staffed by approximately 35 jobs. The construction of a transportation link further increases the likelihood of import substitution as described above.

Table 11
Increased Retail Sales Potential from West End Residents
Montrose County Socioeconomic Impact Study

	Factor	Retail Expenditure Potential: No Transportation Link (A)	With Transportation Link (B)	Total Difference (B) - (A)
TPI Expenditure Capture by Category [2]		**Capture Rates**		
Convenience Goods	$3,586,585	40.0%	60.0%	20.0%
Shoppers Goods	$5,991,707	40.0%	60.0%	20.0%
Eating and Drinking	$2,194,146	50.0%	80.0%	30.0%
Building Material & Garden	$1,603,415	40.0%	60.0%	20.0%
TPI Expenditure Capture	**$13,375,853**	**13.2%**	**20.1%**	**6.9%**
Expenditure Capture				
Convenience Goods		$1,434,634	$2,151,951	$717,317
Shoppers Goods		$2,396,683	$3,595,024	$1,198,341
Eating and Drinking		$1,097,073	$1,755,317	$658,244
Building Material & Garden		$641,366	$962,049	$320,683
Total		**$5,569,756**	**$8,464,341**	**$2,894,585**
Supportable Square Feet by Category				
Convenience Goods	225 per sqft	6,376	9,564	3,188
Shoppers Goods	200 per sqft	11,983	17,975	5,992
Eating and Drinking	200 per sqft	5,485	8,777	3,291
Building Material & Garden	200 per sqft	3,207	4,810	1,603
Total		**27,052**	**41,126**	**14,074**

[1] The current per capita income in Montrose County is $29,040.

[2] For the Towns of Nucla and Naturita, a combined 1,453 persons, are estimated to generate expenditure potential at average state levels.

Source: Economic & Planning Systems

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In total, there is potential for greater levels of commerce within the County, as the link would allow expenditure potential from existing and new residents to be captured within its boundaries. Notwithstanding the potential for increased capture, it is important to recognize that the comparative size of the West End, relative to the rest of Montrose County, is relatively small. Assuming that approximately 40 percent of West End residents' expenditure potential is captured within the County, an increase to 60 percent capture of these 1,453 residents would result in an 1.6 percent overall expansion of County retail expenditures.

Cumulative Impacts

The cumulative impacts are shown in the following **Table 12,** which depicts impacts to total employment in Montrose County by economic driver. This table includes all of the scenarios described above and assumes that 100 percent of the mining activity supporting the proposed uranium mill operation. To illustrate the magnitude of each impact, **Figure 5** graphically illustrates the cumulative impacts scenario in the Montrose using projections from the scenario that includes 100 percent of uranium mining in Montrose County. These projections indicate a resulting higher employment projection for the County if it facilitates the expanded economic activity through policy and investment in the resources that will enable its full realization. If each of these projected economic drivers expands as anticipated, and assuming the transportation link facilitates quicker and easier access between the two ends of the County, other benefits such as increased commerce and import substitution may be indirectly realized but reinforced in part by policy and incentives.

Table 12
Cumulative Projection by Economic Driver
Montrose County Socioeconomic Impact Study

						2010 - 2030	
	2010	2015	2020	2025	2030	Total	Ann. %
Economic Driver							
Agriculture	1,639	1,738	1,810	1,889	1,966	327	0.9%
Mining (except coal & new gas development)	219	248	222	183	149	-70	-1.9%
New Gas Development	--	12	20	24	27	27	---
Power Plant & Coal Mine	193	193	193	193	193	0	0.0%
Manufacturing (except uranium & technology)	2,319	2,535	2,803	2,775	2,736	417	0.8%
Uranium Mill (operation and const.), Mining & Ore Haulage	--	--	930	649	649	649	---
Technology Manufacturing [1]	0	300	300	300	300	300	---
Overnight Tourism (with 15% increase)	356	408	456	570	618	262	2.8%
Construction (except Transportation Link)	4,571	5,159	5,575	6,051	6,519	1,948	1.8%
Transportation Link Construction (10 years)	--	144	144	144	0	---	---
Government Operations (all)	4,048	4,197	4,327	4,450	4,569	521	0.6%
Other Exports	4,667	5,249	5,691	6,162	6,609	1,942	1.8%
Household Non-labor Income	4,141	5,293	6,641	8,012	9,264	5,123	4.1%
Commuters (net in-flow)	100	100	100	101	101	1	0.0%
Total	**22,253**	**25,576**	**29,212**	**31,503**	**33,700**	**11,447**	**2.1%**
Baseline Projection	**22,253**	**25,119**	**27,817**	**30,310**	**32,643**	**10,390**	**1.9%**

[1] From discussions with Montrose Economic Development.

Source: IMPLAN; DOLA; Lloyd Levy Consulting; Economic & Planning Systems

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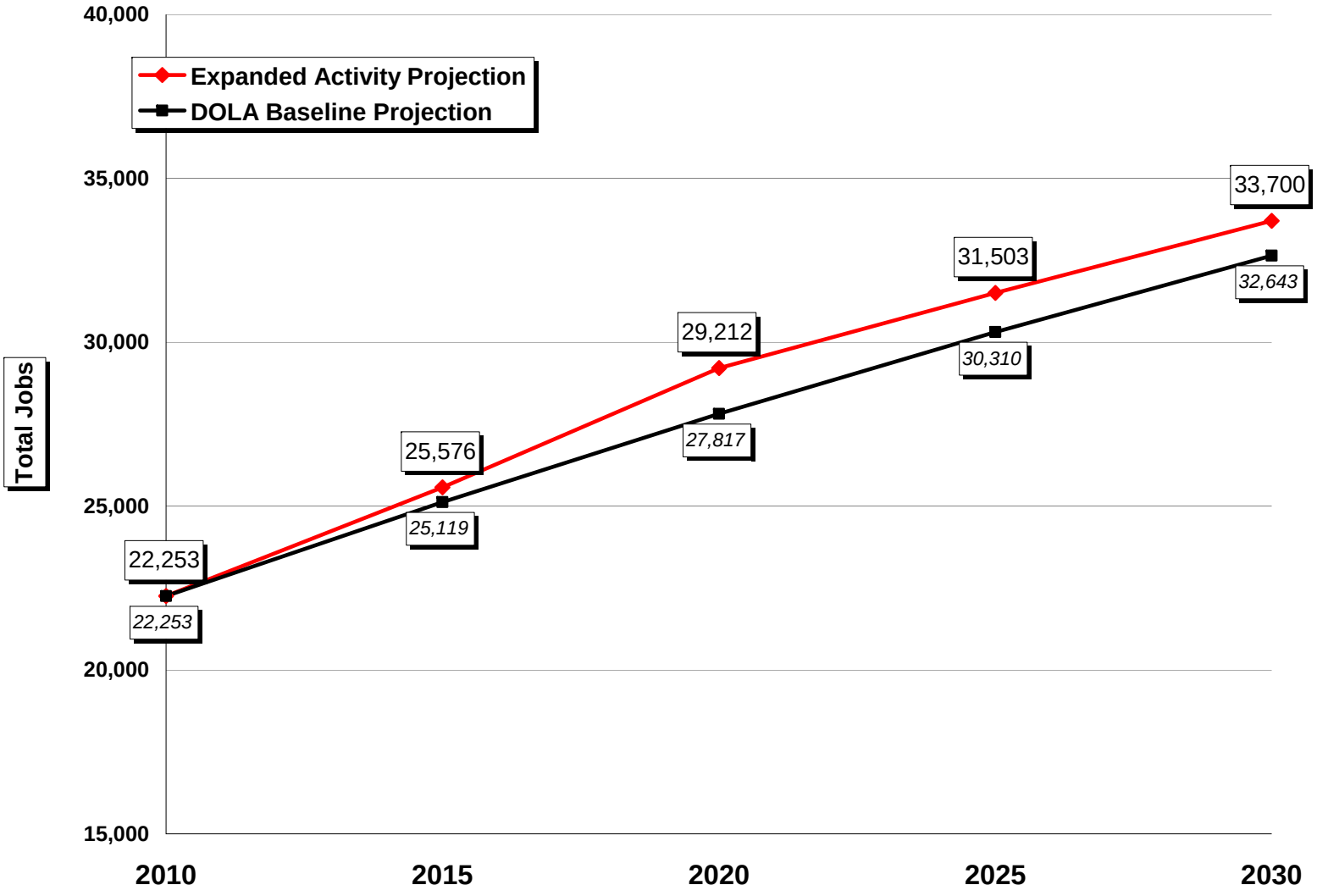
Figure 5
Employment Projection Comparison
Montrose County Socioeconomic Impact Study



5. SOCIOECONOMIC DEMAND ESTIMATES

This chapter presents findings related to the estimated socioeconomic impacts of an expansion to one of the County's core economic drivers—the energy sector, specifically as it relates to the direct, indirect and induced jobs that are generated by a new uranium mill, expanded mining activity, and truck haulage activity. An expansion of the energy sector involving increased activity related to a new uranium mill and expanded mining activity, as well as renewed interest in oil and gas exploration would generate significant socioeconomic impacts for the County.

The demand estimates presented in this chapter build on analysis completed in previous chapters, identifying the two major components of a socioeconomic impact analysis, concerning specifically the economics and demographics of Montrose County resulting from the increased economic activity generated of the energy sector economic driver. The two major components of demand quantified in this chapter are:

- **Labor force**: including direct, indirect, and induced jobs related to the economic drivers such as the operation of the uranium mill, network of mines, increased natural gas exploration, tourism, and manufacturing;
- **Population**: the number of new residents to the County and the formation of new households.

The primary application of this information is to document the projected increase in demand due to economic expansion. Demand, as used in the context of this report, has many facets and can be used by elected officials, local staff, and community residents to prepare for the anticipated growth in the community.

Scenario Modeling

The following is a brief overview of the three project-specific scenarios related to an expansion of the energy sector (a new uranium mill and mining activity) and construction of a transportation link. They illustrate and form the basis of understanding, documenting, and quantifying the socioeconomic and fiscal impacts associated with a limited expansion of the economy. For simplicity of analysis and presentation, the results presented do not include a cumulative countywide quantification of the benefits that would be realized from expansion to all the economic drivers discussed in Chapter 4—the manufacturing industry, aviation industry, healthcare, household non-labor income, or countywide import substitution. The results of these scenarios bring to light the impacts on the County (with particular attention give to the West End where the expansion would occur) associated with an expansion of the energy sector and construction of a transportation link.

Scenario A: Uranium Mill Stabilized Operations / Mines at Half Operations

This scenario depicts the stabilized conditions of the Energy Fuels uranium mill operations, supported by 50 percent of the mining operations in the surrounding network of uranium lease tracts and open-pit mines owned by Energy Fuels or other owners. This scenario assumes that no transportation link is constructed between the East and West Ends of the County.

Scenario B: Uranium Mill Stabilized Operations / Mines at Full Operations / Transportation Link is Constructed

This scenario depicts the stabilized conditions of the Energy Fuels uranium mill operations, supported by 50 percent of the mining operations in the surrounding network of uranium lease tracts and open-pit mines owned by Energy Fuels or other owners. This scenario assumes that the transportation link is constructed between the East and West Ends of the County.

Scenario C: Uranium Mill Stabilized Operations / Mines at Full Operations / Transportation Link is Constructed

This scenario depicts the stabilized conditions of the Energy Fuels uranium mill operations, supported by 100 percent of the mining operations in the surrounding network of uranium lease tracts and open-pit mines owned by Energy Fuels or other owners. This scenario assumes that the transportation link is constructed between the East and West Ends of the County.

Demand Components

A number of factors influenced the analysis of demand for both the quantification of the existing and new labor supply as well as the estimation of the resulting new permanent population and household formation. It is important to note that these results incorporate an important supply consideration, i.e. the number of jobs that could be occupied by currently un- or under-employed workers in the Montrose County labor force, which affects the resulting number of new Montrose County jobs that are generated. Findings also include the estimated number of residents and formation of new households.

Labor Force

Several considerations were made in estimating how many of the expected direct and indirect jobs (resulting from the operation of the uranium mill and supporting mines) will come from the existing labor force and how many jobs will be filled by new workers to the Montrose County labor force. To develop an estimate, panel of local business owners, local government staff, and community representatives were interviewed to document their experiences and understanding of the current labor force dynamics. Each provided his and her best estimates of what portion of the expected new jobs would be occupied by currently un- or under-employed workers.

Overall, approximately 145 employees are anticipated to originate from within Montrose County[11]. As shown in **Table 13**, the five individuals surveyed estimated a range of one-third to two-thirds of the workforce would originate from Montrose County's un- and under-employed labor force, and also that approximately one-third to two-thirds of the base workforce would be net new jobs to Montrose County's economy. The average of each surveyed indicates that, out of 300 workers, approximately 150 would come from the existing labor force and approximately 150 workers would be net new jobs.

[11] This assumption and the statistic 48 percent come from the averaging of the estimates given by the five individuals interviewed. This assumes only that 145 out of a base of 300 workers would come from the existing un- or under-employed workforce. Any direct, indirect, or induced jobs resulting from the increased activity are assumed to be net new to the Montrose County economy.

Table 13
Labor Force Origin
Montrose County Socioeconomic Impact Study

	Stakeholders					
	# 1	# 2	# 3	# 4	# 5	Average
MINE & MILL OPERATIONS [1]						
Workers (as percent)						
Existing Laborforce						
(i.e. under/unemployed)	59%	67%	33%	50%	33%	48%
Net New Labor	42%	33%	67%	50%	67%	52%
Total Mine Workforce	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

[1] Applies to direct jobs generated up to 300.
Source: Economic & Planning Systems
H:\19841-Montrose County Socioeconomic Study\Models\[19841-Fiscal Model-033010.xls]LABORFORCE FACTORS

As described previously, the three scenarios of economic drivers identify different levels of economic activity. As shown in **Table 14**, a range of 516 to 649 workers are estimated to be generated by the different levels of economic activity. Of these, applying the labor force origins factors from above (48 and 52 percent respectively), 145 workers are estimated to originate from the existing County labor force and 155 (of the base 300 workers) are estimated to be new to the County's economy. The number of workers (above 300) is also estimated to be new to the County's workforce. In total, 371 to 504 workers are estimated to be net new jobs to the County's workforce.

Table 14
Labor Force Distribution
Montrose County Socioeconomic Impact Study

	Factor	Scenario	
		A & B	C
Jobs in Total Laborforce		**516**	**649**
Laborforce Distribution			
Jobs from Existing County Laborforce [1]	48%	145	145
Workers New to County Laborforce [1]	52%	155	155
Subtotal [2]		**300**	**300**
Additional Workers New to County Laborforce [3]		216	349
Jobs in Total Laborforce		**516**	**649**
New Jobs to County Labor Force			
Workers New to Montrose County Laborforce [2]		155	155
Additional Workers New to Montrose County Laborforce [3]		216	349
Total Net New Jobs to County Laborforce		**371**	**504**

[1] Distribution of the first 300 workers in anticipated labor force.
[2] Established through interviews with stakeholders throughout the community as the number of hypothetical workers generated as direct mill/mine jobs for the purpose of identifying the number of workers that could come from the existing laborforce and the number of net new workers relocating to Montrose County. The 300-worker rule is applied when the threshold of 300 workers is reached; at that number, all new mine/mill employment will be net new for the County.

[3] Distribution of workers above the first 300.
Source: Economic & Planning Systems
H:\19841-Montrose County Socioeconomic Study\Models\[19841-Fiscal Model-033010.xls]Labor Force Rpt

Residence

Several considerations were made in estimating the number of new residents to the County that would result from the labor force adjustments made above. In calibrating the demand for new residents and households, consideration was give to the lifestyle preferences and tolerances of the workforce generated by the increased economic activity. Specifically, weight was given to:

- Commuting Tolerances
- Proximity to Services
- Capacity of Infrastructure
- Housing Stock Availability

Similarly, the panel was consulted for its understanding and familiarity with respect to each of these variables. Five residence options were determined to be the most reasonable and likely locations for new workers to establish residence including:

- **Nucla / Naturita**: determined to be the most logical place for new workers to establish residence, based largely on proximity to the mill and mine sites and the shortest commuting distance. While it was discussed that miners are used to rural locations and have higher commuting tolerances than most, the consensus was that employees in any sector will gravitate to housing that requires the shortest drive time to work.
- **Norwood**: determined to be a reasonable commute from the mill or mine, and based on the historical perspective that a portion of local employees will live in Norwood.
- **Dove Creek**: seen as one of the farthest commutes that could supply labor to the West End. Although more distant than other locations, one interview summarized the labor distribution as, "Dove Creek came in the past and they will come again."
- **Grand Junction**: Generally perceived to be too removed for most employees. It, nevertheless, provides an option for a small percentage of employees as it has the greatest availability of services, infrastructure, and housing stock; seen to be an option for higher-paying positions that may hold a significant preference for the presence of public and private services and amenities.
- **Montrose**: An unlikely option for West End employees, except for those with specialized skill sets that will seek out larger communities (similar to Grand Junction). As a source of labor, the community increases its contribution to the West End demand especially when considering the possibility of an upgraded transportation link between the East and West End; this option also presents new County workers with an option where great preference is given to a location with good proximity to services, good infrastructure, and a wide variety of housing stock available.

A summary of the labor force location of residence is provided below in **Table 15**. The consistency among local representatives is significant. Overall, it is anticipated that three-quarters of the labor force generated will reside in Montrose County, not including those that already have residence in the County. As shown in **Table 15**, a narrow range of estimates were made, from two-thirds to five-sixths of the labor force residing in the County with one-fifth to one-third choosing to establish residence outside the County. A further breakdown illustrates that, given the lifestyle preferences of the workforce, nearly all of the workers choosing to establish residency within the County[12] are estimated to find residence in the West End, with a nominal amount residing in the City of Montrose.

The alternate scenario, including the construction of a transportation link between the East and West End, results in a larger portion of workers establishing residency in the County than outside of the County, as well as in the City of Montrose than the West End. Overall, an estimated 81 percent of the labor force is anticipated to establish residence in the County. Using information collected from the five individuals surveyed, as discussed previously, of those workers choosing to reside in the County, approximately 72 percent are estimated to establish residency in the West End, followed by approximately 28 percent in the City of Montrose.

Table 15
Resident Distributions
Montrose County Socioeconomic Impact Study

	Stakeholders					
	# 1	**# 2**	**# 3**	**# 4**	**# 5**	**Average**
Laborforce Residence						
Montrose County	80%	67%	67%	83%	80%	75%
Outside County	20%	33%	33%	17%	20%	25%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Montrose County Residency						
Nucla / Naturita	94%	100%	100%	100%	100%	99%
Montrose	6%	0%	0%	0%	0%	1%
Laborforce Residence						
Montrose County	90%	67%	80%	90%	80%	81%
Outside County	10%	33%	20%	10%	20%	19%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Montrose County Residency						
Nucla / Naturita	63%	50%	81%	83%	81%	72%
Montrose	37%	50%	19%	17%	19%	28%

Source: Economic & Planning Systems
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[12] These are estimated to be 75 percent of the total labor force.

Overall, in the scenario without a transportation link, an estimated 279 jobs are estimated to establish residency in the County and approximately 91 outside the County. Because these represent direct, indirect, and induced jobs, one household is anticipated to form from a multiple number of jobs[13]. As such, 279 residents is anticipated to form approximately 186 new households in the County, as shown in **Table 16**. Similarly, in the scenario of 100 percent mining activity capture, 410 residents are anticipated to form approximately 273 new households.

Each household, as indicated above, includes a multiple number of jobs generated from the increased economic activity. It is also assumed that there are a certain number of persons per household, including children[14]. In total, each scenario of economic activity is estimated to generate between 643 and 942 new residents to Montrose County's population[15].

Table 16
Resident and Household Formation
Montrose County Socioeconomic Impact Study

	Factor	Scenarios		
		A	B	C
New County Resident Jobs				
Capture of Total Jobs as Residents (as %)				
Inside County		75%	81%	81%
Outside County		25%	19%	19%
Total Jobs		**100%**	**100%**	**100%**
Capture of Total Jobs as Residents				
Net New Resident Jobs		279	302	410
Outside County		91	69	94
Total Jobs		**371**	**371**	**504**
Household Formation & Net New Residents				
Net New Resident Jobs		279	302	410
Household Formation (Net New Households) [1]	1.5 jobs / hh	**186**	**201**	**273**
Net New Residents [2]	2.3 persons / hh	**643**	**694**	**942**

[1] Assumes that one household will occur as a result of the generation of any combination of 1.5 direct, indirect, or induced jobs.
[2] Assumes that each household will contain the average number of persons per household that exists currently in Montrose County.
Source: DOLA; Economic & Planning Systems
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[13] This analysis assumes that any combination of 1.5 direct, indirect, or induced jobs will form one household.

[14] The number of persons per household is assumed to be consistent with Montrose County's existing demographics, i.e. approximately 2.3 persons per household according to the Colorado Department of Local Affairs State Demographer's Office.

[15] These findings are distinguished from each other in the analysis in order to estimate retail sales tax revenues resulting from the new residents, and to estimate new property tax revenues resulting from the formation of new households.

On a countywide level, this increase of 643 to 942 residents amounts to an increase in population of approximately 1.5 to 2 percent, but on a sub-county level is a much more significant increase in the population base particularly for the West End. On a base of approximately 1,453 residents in the towns of Nucla and Naturita, as shown in **Table 17**, an increase of 643 to 942 persons equates to an estimated 34 to 47 percent increase in population.

Table 17
West End Population Increase
Montrose County Socioeconomic Impact Study

	Factor	Scenarios		
		A	B	C
Net New Montrose County Residents		**643**	**694**	**942**
Capture of Residents (as %)				
Nucla / Naturita		99%	72%	72%
Montrose		1%	28%	28%
Total		**100%**	**100%**	**100%**
Capture of Residents				
Net New Resident Jobs		635	498	676
Outside County		8	196	266
Total Jobs		**643**	**694**	**942**
Existing West End Population	A	**1,453**	**1,453**	**1,453**
Net New Residents	B	635	498	676
Increase Over Existing (as %)	{ B / A }	**44%**	**34%**	**47%**

Source: DOLA; Economic & Planning Systems
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6. FISCAL IMPACTS

The increased economic activity is estimated to generate the economic and demographic demands detailed in the previous chapter. This chapter details the fiscal impacts associated with the socioeconomic demands including estimates of revenues such as property tax, sales tax, as well as expenditures such as general fund per capita expenditures and case studies on road and bridge maintenance. This chapter provides a summary of the major anticipated expenditures and revenues associated with the increased economic activity. The findings of this chapter indicate that a fiscal surplus exists under each scenario outlined previously.

Assumptions

A part of the fiscal impact analysis is built on an application of the County's General Fund and other major governmental fund expenditures and revenues. A few of the major expenditures and revenues estimated in this fiscal analysis are calculated on a case study basis, but the remainder of expenditures and revenues are derived from estimating per capita factors.

One of the major assumptions in structuring this analysis is the total County population, as shown in **Table 18**. This statistic and others, as shown below, come from a variety of secondary state and national sources, including:

- **DOLA, State Demographer's Office**: DOLA is the state source used to provide an estimate of population for the County. This population statistic is applied to the estimation of General Fund and major governmental fund per capita expenditure and revenue factors.
- **DOLA, Division of Property Taxation**: This source is used to document the current residential assessment rate[16], which is applied to the estimate of property tax revenues.
- **BEA**: The Bureau of Economic Analysis (BEA) is used as the source of per capita income, as applied to the retail sales tax revenue case study
- **Montrose County**: The County's Finance Department and the Department of Public Works are used as the sources, which provide information on the sales and use tax rates, as well as the current County-specific property tax mill levy.

[16] Section 39-1-104.2, C.R.S., is amended by the General Assembly during years of general reassessment by the adoption of a new residential target percentage and residential assessment rate. Section 3(1)(b) of article X of the Colorado Constitution (commonly called the "Gallagher Amendment") and Section 39-1-104.2(5)(a), C.R.S., require that the assessment rate be adjusted up or down to achieve the residential target percentage (which was originally 44.6 percent), but TABOR requires voter approval for an increase. Though DOLA's Division of Property Taxation recommended an increase in the assessment rate to achieve the previous target percentage in April 2009, the General Assembly, avoiding the voter approval provision of TABOR chose to legislatively approve an adjustment to the residential target percentage via through passage of HB 09-1360, thus holding constant the assessment rate of 7.96 percent for residential property.

Table 18
Economic and Demographic Assumptions
Montrose County Socioeconomic Impact Study

	Value	Source	Year
Assumptions			
Population	41,302	State Demographer	2008
Per Capita Income	$29,040	Bureau of Economic Analysis	2007
County Lane Miles	1,378	Montrose County	2010
Public Safety Sales Tax	0.75%	Montrose County	2010
Road & Bridget Sales & Use Tax	1.00%	Montrose County	2010
County Property Tax Mill	18.039	Montrose County	2010
Residential	7.96%	DOLA, Div. of Property Taxation	2010
Commercial	29.00%		

[1] Per the Gallagher Amendment, these assessment rates are adjusted so that the portions of property tax revenue are 45 percent and 55 percent respectively for residential and commercial assessed property.

Source: BEA; DOLA; Montrose County Finance Dept.; Economic & Planning Systems

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Per Capita Impacts

This section of the study details the per capita expenditure and revenue estimates that result from major categories of government operations, maintenance, and service provision. The following tables show the countywide level of expenditure and revenue from the 2010 adopted County budget. Except for those major categories which are estimated on a case-by-case basis, the total allocated expenditure or revenue of each category divided against the population to derive a per capita factor.

Expenditures

Overall, the categories of expenditure represented in this analysis total approximately $35 million for the County's General Fund and other major governmental funds. The level of expenditure allocated to the estimation of per capita factors represents those funds where additional costs are incurred in proportion to the number of new residents.

Many of the funds, however, have different expenditure and service charge/user fee structures. These funds, such as the County's Planning Department, are structured on a cost-recovery basis. That is, the a majority, if not all, of the expenditures incurred by these type of departments or funds are covered by the cost of services, through user fees or charges for services, such as permitting and development applications. As such, the Planning Department and other cost-recovery funds are not included in this analysis.

Similarly, some levels of expenditure are covered by apportionments of state or federal revenues or grants. Some of these grant amounts do not change as population grows, and some are apportioned on a population basis. Others, like the Highway Users Tax Fund Tier III allocation, are determined by the issuing entity via a complex formula.

In total, as shown in **Table 19**, each resident is estimated to generate an expenditure related to various government services of $487, excluding debt service payments, charges for services or cost recovery items, internal transactions, and other costs that would not be anticipated to increase with the addition of residents. This per capita factor represents the cost of providing an additional allocation of the County's services to an additional resident.

Table 19
County Expenditure per Capita
Montrose County Socioeconomic Impact Study

Description	Budget Total [1]	Budget Less: Other [2]	Budget Allocated	Estimating Procedure	Impact Factor
Other Funds					
Capital Expenditures Fund	$2,424,765	$2,424,765	$2,424,765	Population	$59
Public Safety Sales Tax Fund (Sheriff)	$3,760,538	$798,101	$2,962,437	Population	$57
Public Safety Sales Tax Fund (Other Programs)	$1,304,176	$1,184,668	$119,508	Population	$0
Road & Bridge Fund	$10,189,630	$3,213,253	$6,976,377	Case Study	---
Social Services Fund	$6,316,000	$5,048,800	$1,267,200	Population	$6
Solid Waste Fund	$7,040,268	$2,346,960	$4,693,308	Population	$76
Other Fund Expenditures	**$20,845,747**	**$11,803,294**	**$11,467,218**		**$197**
General Fund					
Assessor	$605,329	$101,256	$504,073	Population	$10
Board of County Commissioners	$289,606	$50,443	$239,163	Population	$5
Clerk & Recorder	$1,222,008	$238,504	$983,504	Population	$19
County Attorney	$384,152	$21,301	$362,851	Population	$8
County Manager	$448,096	$39,750	$408,346	Population	$9
Engineering	$495,863	$8,650	$487,213	Population	$12
Fairgrounds	$604,516	$242,395	$362,121	Population	$5
Finance	$725,139	$223,324	$501,815	Population	$8
Human Resources	$292,122	$61,487	$230,635	Population	$4
Maintenance & Capital	$1,989,321	$2,736,512	$2,736,512	Population	$91
Non-Departmental	$544,900	$200,675	$344,225	Population	$5
Other Administration	$252,906	$79,282	$173,624	Population	$3
Public Trustee	$60,881	$514	$60,367	Population	$1
Sheriff	$7,057,983	$2,226,357	$4,831,626	Population	$80
Technology Services	$997,489	$83,668	$913,821	Population	$20
Treasurer	$252,001	$37,302	$214,699	Population	$4
Weed Management	$355,469	$129,990	$225,479	Population	$3
Total General Fund Expenditures	**$14,588,460**	**$3,744,898**	**$10,843,562**		**$290**
Total All Funds	**$35,434,207**	**$15,548,192**	**$22,310,780**		**$487**

[1] Based on 2010 Adopted budget figures.
[2] Includes debt service payments, charges for services, internal transactions, intergovernmental; Excludes capital expenditure associated with Road & Bridge Fund, which is a separate case study.

Source: Montrose County Finance Dept.; Economic & Planning Systems
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Revenues

The amount of revenue generated by each new resident, as shown in **Table 20**, is minor when isolating property and sales tax revenues, as has been done in this analysis. Each new resident generates approximately $27 of revenue per year for the county, exclusive of property and sales tax revenues[17]. This per capita factor, similar to the per capita expenditure factor, isolates the service fees from the federal and state grant revenues, intergovernmental transfers, revenues received from other governments, as well as all of the property, sales and use tax revenue collections reported in the County's budget.

Table 20
County Revenue per Capita
Montrose County Socioeconomic Impact Study

Description	Budget Total [1]	Budget Less: Other [2]	Budget Allocated	Estimating Procedure	Impact Factor
Other Funds					
Capital Expenditures Fund	$0	$0	$0	Case Study	---
Public Safety Sales Tax Fund (Sheriff)	$4,035,427	$4,035,427	$0	Case Study	---
Public Safety Sales Tax Fund (Other Programs)	$1,062,810	$1,062,810	$0	Case Study	---
Road & Bridge Fund	$10,586,789	$10,583,789	$3,000	Case Study	---
Social Services Fund	$7,069,043	$7,068,043	$1,000	Population	$0
Solid Waste Fund	$159,000	$29,000	$130,000	Population	$3
Other Fund Expenditures	**$12,326,280**	**$12,195,280**	**$131,000**		**$3**
General Fund					
Assessor	$3,050	$0	$3,050	Population	$0
Board of County Commissioners	$0	$0	$0	Population	---
Clerk & Recorder	$821,350	$31,350	$790,000	Population	$18
County Attorney	$138,315	$136,815	$1,500	Population	$0
County Manager	$0	$0	$0	Population	---
Engineering	$340,180	$325,030	$15,150	Population	$0
Fairgrounds	$190,100	$131,600	$58,500	Population	$0
Finance	$378,387	$378,387	$0	Population	---
Human Resources	$117,142	$117,142	$0	Population	---
Non-Departmental	$12,581,062	$12,581,062	$0	Population	---
Other Administration	$409,869	$407,694	$2,175	Population	$0
Public Trustee	$80,750	$0	$80,750	Population	$2
Sheriff	$1,811,939	$1,494,189	$317,750	Population	$1
Technology Services	$213,351	$202,351	$11,000	Population	$0
Treasurer	$1,030,209	$774,264	$255,945	Population	$2
Weed Management	$289,850	$269,850	$20,000	Population	$0
Total General Fund Expenditures	**$18,405,554**	**$16,849,734**	**$1,555,820**		**$24**

[1] Figures taken from the County's 2010 Adopted budget.
[2] Includes federal/state grants, internal resources, funds received from other governments, and tax revenues.
Source: Montrose County Finance Dept.; Economic & Planning Systems
H:\19841-Montrose County Socioeconomic Study\Models\[19841-Fiscal Model-033010.xls]Budget Rev Rpt

[17] The totals in the bottom half of the revenues table, showing rounded dollar figures to the nearest dollar do not add to the total shown ($24) because of the rounding occurring at the fund level. The figure $24, however, is correct.

Case Studies

In addition to the basic per capita expenditure and revenue factors identified above, the following case studies outline the expenditures and revenues generated from the increased economic activity on a case-by-case basis.

Revenue Generators

This section identifies case studies for the generation of major sources of revenue to the County. This includes property tax revenues from the formation of new households, as well as the property tax revenue coming from the valuation of the proposed uranium mill.

Property Tax

There are two major sources of property tax revenue for the County in this set of scenarios: the new households formed by the workers who choose to establish residency in the County, as well as from the market valuation of the uranium mill. Overall, between approximately $745,000 and $763,000 in property tax revenue is anticipated to be generated by the range of scenarios of economic activity, as shown in **Table 21**. Each household is assumed to occupy one housing unit of an average market valuation of approximately $130,000[18], and the uranium mill is estimated to be appraised at a market valuation of approximately $135 million.

Table 21
Property Tax Case Study
Montrose County Socioeconomic Impact Study

	Factor	Scenarios		
		A	B	C
Net New Households to Montrose County	{ A }	**186**	**201**	**273**
Ongoing				
Market Value				
Estimated Market Value per Residential Unit	{ B }	$130,000	$130,000	$130,000
Commercial Market Value per Unit		$150,000,000	$150,000,000	$150,000,000
Total Res. Market Value	{ A x B }	$24,215,649	$26,144,329	$35,498,204
Total Comm. Market Value [1]	10%	$135,000,000	$135,000,000	$135,000,000
Assessed Valuation				
Residential Assessed Value	7.96%	$1,927,566	$2,081,089	$2,825,657
Commercial Assessed Value	29.00%	$39,150,000	$39,150,000	$39,150,000
Total Assessed Value		**$41,077,566**	**$41,231,089**	**$41,975,657**
Annual Property Tax Revenues [2]	18.039 mills	**$740,998**	**$743,768**	**$757,199**

[1] Appraised value is typically not greater than or equal to the estimated construction cost; as such, a 10 percent reduction is taken to determine the appraised replacement cost.

[2] This property tax mill represents only the county's portion of the revenues.

Source: Montrose County; Economic & Planning Systems

H:\19841-Montrose County Socioeconomic Study\Models\[19841-Fiscal Model-033010.xls]PROPERTY TAXES

[18] The market value of $130,000 is one of a number of conservative estimates used in assumptions underlying the findings of this report that were chosen so as not to overstate potential revenues.

Sales Tax

This section details the methodology and the results of the sales tax revenue case study. Estimating retail expenditure potential and sales tax revenues are a function of population, per capita income, an estimate of expenditure capture, and a determined trade area. Sales tax revenues come from multiple sources, including the new residents to Montrose County's population and total persons per household resulting from household formation. Revenues are also anticipated to be generated from the daytime labor force. Though it is identified that a portion of the workforce, as detailed previously, will not reside in Montrose County, these non-resident workers are anticipated to spend some portion of their incomes on retail goods and services in the County while "on the job".

Retail expenditure potentials can be estimated based on the average percent of income spent by store category as outlined in the steps below:

- **Total Personal Income (TPI)** – Based on the *U.S. Census Bureau, Economic Census of Retail Trade* for the State of Colorado, the percent of total personal income (TPI) spent by store category is determined for the State as a whole. Some methodologies estimate store spending patterns at a level of geography large enough to negate the impacts of inflows and outflows of sales, and other methodologies, such as the one adopted for this study's purposes, account for inflow and outflow, i.e. the rates of sales capture or leakage.
- **Trade Area** – In a setting such as the West End of Montrose County, the trade area for goods and service can be considerably larger, encompassing an area extending beyond county limits and as far east as Montrose or as far north as Grand Junction. As was shown previously, trade area definitions rely heavily on transportation corridors and the Montrose trade area includes a greater capture of West End expenditures with the transportation link.
- **Inflow/Outflow** – The average percent of TPI spent by store category in the State is applied to the TPI of the resident and non-resident workforce with appropriate capture rates to estimate current expenditure potentials.
- **Supportable Square Feet** – The amount of retail space supported by the growth in trade area expenditures is estimated by dividing expenditure potential by average annual sales per square foot estimates for each store category.

The total personal income (TPI) of a trade area is determined by multiplying total population by average per capita income. The trade area is relevant specifically to the estimated new residential population and daytime workforce from each scenario on which this study is focused. There are, as shown in **Table 22**, between 643 and 942 new residents in the County and an additional 214 to 239 daytime jobs as a result of these scenarios. From the new residents and the non-resident daytime workforce, there is an estimated increase in total personal income of $26.3 million to $34.7 million.

Table 22
Sales Tax Case Study: Total Personal Income
Montrose County Socioeconomic Impact Study

	Scenarios					
	A		B		C	
	# / $	as %	# / $	as %	# / $	as %
Resident & Non-Resident Jobs						
Net New Resident Jobs to County	279	54%	302	58%	410	63%
Non-Resident Jobs (Daytime)	237	46%	214	42%	239	37%
Total Jobs in Laborforce	**516**	**100%**	**516**	**100%**	**649**	**100%**
Net New County Residents						
Net New Resident Jobs to County	279	43%	302	43%	410	43%
Residents from Household Formation [1]	363	57%	392	57%	532	57%
Total New County Residents	**643**	**100%**	**694**	**100%**	**942**	**100%**
Total Personal Income						
Total Net New Resident Jobs to County [2]	$19,053,184	73%	$20,570,694	76%	$27,611,272	80%
Non-Resident Jobs (Daytime Laborforce) [3]	$7,201,392	27%	$6,524,015	24%	$7,091,675	20%
Total	**$26,254,576**	**100%**	**$27,094,709**	**100%**	**$34,702,948**	**100%**

[1] Calculated from a two-step process: a) based on household formation of 1.5 jobs per household, and b) based on the average household size of 2.3 persons per household for Montrose County

[2] Based on the aggregate income of the number of direct, indirect, and induced jobs and their respective personal incomes; residents from household formation is calculated on the County's per capita income of $29,040.

[3] Based on the aggregate income of the number of direct, indirect, and induced jobs and their respective personal incomes.

Source: Economic & Planning Systems

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Residents spend, however, a portion of their total personal income on various categories of retail goods and services. At the state level, as reported by the U.S. Census Bureau, 2002 Economic Census of Retail Trade, residents of the state of Colorado spent approximately 31.7 percent of their total personal income on retail goods, as shown in **Table 22**. At a sub-state or regional level, market conditions, such as the presence of the full spectrum of retail goods and services, competition, and geographical constraint affect the balance of inflow and outflow within the trade area. Inflow occurs when a market or county, such as Montrose County, attracts a portion of the surrounding populations' expenditure potential. On the other hand, outflow occurs when expenditure occurs outside of the defined market area (such as the West End of Montrose County), i.e. at a level below the average state expenditure level.

For purpose of analysis, retail stores are categorized based on shopping and trade area characteristics listed below. Each is described with examples to clarify the types of retail stores included in each of the categories:

- **Convenience Goods** - This category includes supermarkets and other grocery stores, convenience stores, as well as liquor, drug, other specialty food stores, and coffee shops. In addition, this category includes convenience services such as laundry, mail, hair/barber, and copies. These stores generally sell frequently purchased, low cost items with little product differentiation. The primary locations for convenience goods stores are the supermarket-anchored neighborhood shopping centers and smaller convenience centers, as these items are most often bought close to home.
- **Shopper's Goods** - This category includes general merchandise, apparel, furniture, appliance, and specialty goods stores. General merchandise stores include traditional department stores (such as JCPenney) as well as discount department stores (such as Target). The product lines of these stores are generally more expensive, less frequently purchased items. In general, people are more likely to comparison shop for shopper's goods and are often more willing to travel farther to buy them. The primary locations for regional shopper's goods are traditional downtown shopping districts, regional shopping centers, free-standing discount department and membership warehouse stores, and power centers dominated by mass merchandise tenants.
- **Eating and Drinking Establishments** - This category covers restaurants including conventional sit-down, fast food, and bars. Businesses in this category exhibit some of the characteristics of convenience stores in that many restaurant expenditures are made at establishments close to home and on a frequent basis. However, some higher quality restaurants, unique in the marketplace, can have a regional draw.
- **Building Materials and Garden** - This category is made up of stores selling lumber, paint, glass, hardware, plants and garden supplies, and other retail items related to home improvement. Home improvement centers such as Home Depot and Lowe's are the largest stores in this category.

The West End and Eastern Montrose County differ substantially in the presence of the full spectrum of retail goods outlined above, and the West End in particular, has a significant lack of most of these. As such, the analysis assumes that a significant portion of expenditure potential flows out of the area into neighboring jurisdictions.

Overall, it is estimated that local capture of retail expenditure potential by the new residents (recognizing that a majority of them will choose to establish residence in the West End) will account for approximately 10.5 percent of total personal income, as shown in **Table 23**. This indicates a capture of approximately one-third of these residents' expenditure on retail goods and services within the County. Broken down by category, this amounts to a capture of approximately 50 percent of resident expenditure on convenience goods, 10 percent capture of shopper's goods, 75 percent capture of eating and drinking establishments, and 25 percent capture of expenditure on building materials and garden.

For the non-resident daytime workforce, the rate of capture is estimated to be smaller. Because of the likelihood that non-resident workers may choose to establish residency in locations such as Grand Junction, it is estimated that the capture of expenditure potential of daytime worker's total personal income will be approximately 1.7 percent, or a capture of approximately 5 percent of their expenditure on retail goods and services.

Table 23
Sales Tax Case Study: Capture of TPI
Montrose County Socioeconomic Impact Study

Store Type	Retail Expenditure % of TPI [1]	Percent Capture		Est. Retail Expenditure	
		Residents at Stab. [2]	Daytime [3] / One-Time [4]	Residents at Stab. [2]	Daytime [3] / One-Time [4]
Convenience Goods					
Supermarkets / Convenience	6.1%	50%	10%	3.1%	0.6%
Other Convenience Goods	2.4%	50%	10%	1.2%	0.2%
Total Convenience Goods	**8.5%**	**50%**	**10%**	**4.3%**	**0.9%**
Shoppers Goods					
General Merchandise					
Department Stores	1.1%	10%	2%	0.1%	0.0%
Discount Department Stores	1.6%	10%	2%	0.2%	0.0%
Whse. Clubs and Supercenters	3.5%	10%	2%	0.4%	0.1%
Total General Merchandise	**6.2%**	**10%**	**2%**	**0.6%**	**0.1%**
Other Shoppers Goods					
Clothing & Accessories	2.1%	10%	2%	0.2%	0.0%
Furniture and Home Furnishings	1.6%	10%	2%	0.2%	0.0%
Sporting Goods, Hobbies, Books, & Music	1.5%	10%	2%	0.2%	0.0%
Electronics and Appliances	1.3%	10%	2%	0.1%	0.0%
Miscellaneous Retail	1.5%	10%	2%	0.2%	0.0%
Total Other Shoppers Goods	**8.0%**	**10%**	**2%**	**0.8%**	**0.2%**
Total Shoppers Goods	**14.2%**	**10%**	**2%**	**1.4%**	**0.3%**
Eating and Drinking	**5.2%**	**75%**	**10%**	**3.9%**	**0.5%**
Building Material & Garden	**3.8%**	**25%**	**2%**	**1.0%**	**0.1%**
Total ($000s)	**31.7%**	**40%**	**6%**	**10.5%**	**1.7%**

[1] Based upon statewide expenditure of total personal income on retail goods and services.
[2] Under the following conditions: a) with the new road or without, and b) with 50% mining capture or 100% mining capture.
[3] This is the expenditure capture of workers living outside Montrose County; estimated at a fraction of the resident workers expenditure capture.
[4] Estimated only for the jobs resulting from the construction of the mill and transportation link; only affects the one-time impacts assessment.
Source: U.S. Census Bureau, 2002 Economic Census, Retail Trade; Claritas; Economic & Planning Systems
H:\19841-Montrose County Socioeconomic Study\Models\[19841-Fiscal Model-033010.xls]Exp Capture Rpt

Expenditure potential from residents and the non-resident daytime workforce is shown by general store category in **Table 24**. Overall, new residents are estimated to generate expenditure in the range of approximately $2.0 million to $2.9 million, which result in approximately $35,000 to $50,000 in sales tax revenue collections for Montrose County. The non-resident daytime workforce is estimated to generate expenditures on retail goods and services in the range of approximately $113,000 to $125,000, which result in the collection of approximately $2,100 in sales tax revenues for the County.

Table 24
Sales Tax Case Study: Expenditure Potential and Sales Tax Revenue
Montrose County Socioeconomic Impact Study

	Factor	Scenarios		
		A	B	C
Total Personal Income				
Net New Resident Jobs to Montrose County		$19,053,184	$20,570,694	$27,611,272
Non-Resident Jobs (Daytime Laborforce)		$7,201,392	$6,524,015	$7,091,675
Annual Total Expenditure Potential				
Net New Resident Jobs to Montrose County				
Expenditure Potential				
Convenience Goods	4.25%	$809,760	$874,255	$1,173,479
Shoppers Goods	1.42%	$270,555	$292,104	$392,080
Eating and Drinking	3.90%	$743,074	$802,257	$1,076,840
Building Material & Garden	0.95%	$181,005	$195,422	$262,307
Total Expenditure Potential	**10.52%**	**$2,004,395**	**$2,164,037**	**$2,904,706**
Retail Sales Tax Revenues	1.75%	$35,077	$37,871	$50,832
Non-Resident Jobs (Daytime Laborforce)				
Expenditure Potential				
Convenience Goods	0.85%	$61,212	$55,454	$60,279
Shoppers Goods	0.28%	$20,452	$18,528	$20,140
Eating and Drinking	0.52%	$37,447	$33,925	$36,877
Building Material & Garden	0.08%	$5,473	$4,958	$5,390
Total Expenditure Potential	**1.73%**	**$124,584**	**$112,865**	**$122,686**
Retail Sales Tax Revenues	1.75%	$2,180	$1,975	$2,147

Source: Economic & Planning Systems
H:\19841-Montrose County Socioeconomic Study\Models\[19841-Fiscal Model-033010.xls]TPI Exp Pot Rpt

Retail expenditures can be divided by the average sales per square foot level needed to support new commercial space to estimate the supportable store space. The total of expenditure potential estimated for new residents and the non-residential daytime workforce is shown below in **Table 25**, as ranging from $2.1 million to $3.0 million. Divided by $200 to $225 of sales needed per square foot to support store space, these expenditure amounts result in demand for between approximately 10,100 and 14,500 square feet of new retail development.

This report stops short of a full retail development strategy in that a few additional considerations are not made here. A full assessment of retail development potential would assess to what extent new retail development, if any, in the four categories might cannibalize (i.e. take away sales from) existing retail establishments. To a small extent, a comprehensive analysis might assess whether the inventory of retail establishments in a trade area, such as the West End, for example, is economically and financially viable and productive. The analysis would also suggest a certain mix of retail store categories is appropriate for the trade area so as not to cannibalize the existing store base.

Table 25
Sales Tax Case Study: Supportable Square Feet
Montrose County Socioeconomic Impact Study

	Factor	Scenarios		
		A	B	C
Expenditure Potential				
Convenience Goods		$870,972	$929,709	$1,233,758
Shoppers Goods		$291,007	$310,632	$412,220
Eating and Drinking		$780,521	$836,182	$1,113,716
Building Material & Garden		$186,478	$200,380	$267,697
Total Expenditure Potential [1]		**$2,128,979**	**$2,276,902**	**$3,027,392**
Supportable Square Feet by Category [2]				
Convenience Goods	$225 per sqft	3,871	4,132	5,483
Shoppers Goods	$200 per sqft	1,455	1,553	2,061
Eating and Drinking	$200 per sqft	3,903	4,181	5,569
Building Material & Garden	$200 per sqft	932	1,002	1,338
Total Square Feet		**10,161**	**10,868**	**14,452**

[1] The sum of expenditure potential for new residents and daytime workers.
[2] Applying industry standard factors of sales dollars per square feet by category.
Source: Economic & Planning Systems
H:\19841-Montrose County Socioeconomic Study\Models\[19841-Fiscal Model-033010.xls]Supportable Sqft Rpt

HUTF Allocation

The Highway Users Tax Fund (HUTF) was created[19] in 1953 to account for state highway revenue, including fuel excise tax, vehicle registrations, drivers' license fees, etc[20]. The Office of the State Treasurer manages the HUTF and provides annual calculations used to determine monthly distributions from the HUTF to recipient entities, such as Montrose County.

The Colorado Department of Transportation (CDOT) annually provides the State Treasurer with data on roadway mileage for each jurisdiction, which become statutory components in the HUTF distribution formula for county and municipality allocations. Revenue flows into the Fund based on statutorily-set timetables and amounts. Moneys flow out of the Fund for distribution to the recipient entities, also based on a formula prescribed in statute.

According to information provided by the State Treasurer, Colorado counties receive 26 percent of the first of two distribution streams and 22 percent of the second stream. Statutes further divide the counties' share of the Fund into three distribution tiers. This study estimates the revenues coming from the third tier (Tier III) of funding[21] resulting from the increase in paved highway miles in Montrose County, i.e. from the construction of the transportation link between the West End and Eastern Montrose County.

As described briefly above, the formulas and distributions governing the allocation of HUTF moneys to counties is complicated and subject to fluctuation not only in volatile HUTF revenue sources, such as fuel excise tax and vehicle registrations, but also in the sum of all paved roadway miles in the state and its counties. Each change in variable results in a slightly different allocation to recipient entities; decreases in fuel excise taxes or vehicle registrations and increases in roadway mileage elsewhere in the state can cause an allocation of HUTF money to one jurisdiction such as Montrose County decrease, in spite of the increase in the County's roadway miles under the transportation link scenario.

Two crucial assumptions have, therefore, been used in the estimation of HUTF revenue for the County under the scenario where a transportation link of 57 miles in length is constructed connecting the West End to the East End. First, an average allocation per mile of roadway is calculated that the County has received in the past based on the total roadway mileage of the County[22]. And second, that it is assumed that the inventory of roadway miles has not changed over this period. The average HUTF allocation, according to this methodology, is approximately $2,750 per roadway mile, as shown in Table 26. This allocation is the result of Tier III allocations to Montrose County over the past four years ranging from approximately $3.7 million to nearly $4.0 million.

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[19] According to Section 43-4-204, C.R.S., all moneys in the HUTF are appropriated for the acquisition of rights-of-way for, and the construction, engineering, safety, reconstruction, improvement, repair, maintenance, and administration of, the state highway system, the county highway systems, the city street systems, and other public roads and highways of the state.

[20] Also including court fines and fees, motor vehicle penalty assessments, passenger mile tax, and specialty license plate fees, motorist insurance identification database, and interest earned on the HUTF.

[21] The first tier of counties' funding share is allocated in the same percentage as the allocation made in Fiscal Year 1988. The second tier is allocated to 17 counties according to specifications in the HUTF statutes. The third tier is allocated on the basis of four factors: rural vehicle registrations - 15 percent; countywide vehicle registrations - 15 percent; square feet of bridge decking – 10 percent, and lane miles, adjusted for terrain type and surface type – 60 percent. The data used to establish this third tier of the county distribution are compiled and submitted to the Treasury by the Departments of Revenue and Transportation.

[22] EPS recognizes that the allocation formula is based on complicated formulas of surface types, etc., and that the inventory of roadway miles used in this analysis, 1,378 miles, as provided by the County's Public Works Department, includes not only highway miles, but also gravel surface types and native/dirt, bladed and drained surface types. The effect of this methodology, however, is to conservatively estimate (i.e. not over-estimate) the HUTF allocation to Montrose County.

Table 26
Estimated HUTF Allocation per Mile
Montrose County Socioeconomic Impact Study

	Allocation	Total Miles [1]	Allocation per Mile
Calendar Year			
2006	$3,777,770	1,378	$2,742
2007	$3,976,625	1,378	$2,886
2008	$3,730,839	1,378	$2,708
2009	$3,675,788	1,378	$2,668
Average	**$3,790,255**	**1,378**	**$2,751**

[1] HUTF allocations depend on mutliple factors, including the number of total paved miles in the County, as well as in the State. For this analysis, two crucial assumptions affecting the estimation of HUTF allocation have been made which reduce the estimated amount so as not to overestimate revenues: a) that the county mileage has not changed, and b) that the entire system is applied versus only the paved surfaces, which would result in an allocation determined to be too high for this study's purposes.

Source: Colorado Department of Treasury; Economic & Planning Systems
H:\19841-Montrose County Socioeconomic Study\Models\[19841-CO Dept Treasury HUTF Allocation History.xls]Summary

The transportation link connecting each end of the county is proposed to be 57 miles in length. For purposes of estimating revenues associated with the HUTF formula and allocations, the revenue factor derived above is applied to the total mileage of the new transportation link. In total, based on the average previous years' allocation amounts per roadway mile in Montrose County, there is estimated to be an additional $156,000 generated by 57 miles of paved roadway, as shown in **Table 27**.

Table 27
Estimated HUTF Allocation per Mile
Montrose County Socioeconomic Impact Study

	Factor	Scenarios		
		A	B	C
Lane Miles Upgraded		0.00	57.00	57.00
Revenues				
Allocation from HUTF [1]	$2,751 per mile	**$0**	**$156,817**	**$156,817**

[1] This number is based only on Tier III allocations of HUTF and is an average of Montrose County's allocations in the past four calendar years.
Source: Dept. of Transportation; Dept. of Treasury; Economic & Planning Systems
H:\19841-Montrose County Socioeconomic Study\Models\[19841-Fiscal Model-033010.xls]HUTF Rpt

Expenditure Generators

This section identifies case studies for the generation of major sources of expenditure, in addition to the estimated per capita expenditure factors described previously. Case studies include maintenance costs associated with the transportation link connecting the West and Eastern Montrose County, over and above levels of expenditure for maintenance already incurred by the County for a portion of this roadway, as well as the maintenance costs resulting from increased usage of the network of paved, gravel, and native surface roads on the West End by the truck haulage activity.

Transportation Link

The level of expenditure associated with this transportation link estimated for the purposes of this study are over and above any current level of expenditure incurred by the County. The County's Public Works Department estimates that, of the 57 miles, 12.78 miles would be maintained by the state[23] and the remaining 44.27 miles would be maintained by the County[24]. Currently, the County estimates it spends an average of $2,029 per mile of road on the applicable section of the road[25].

As shown in **Table 28**, it is estimated that there would be a net new cost of $5,630 per mile associated with the maintenance of the transportation link. Overall, this results in maintenance costs of approximately $249,000 per year.

Table 28
Road and Bridge Case Study: Maintenance of Transportation Link
Montrose County Socioeconomic Impact Study

	Factor	Scenarios		
		A	B	C
Lane Miles Upgraded (Transportation Link) [1]		0.00	44.27	44.27
Expenditures				
Paint Striping [2]	$1,056 per mile	$0	$46,749	$46,749
Pothole Patching	$375 per mile	$0	$16,601	$16,601
Winter Maintenance [3]	$1,120 per mile	$0	$49,582	$49,582
Shoulder / ROW Maintenance [4]	$525 per mile	$0	$23,242	$23,242
Crack & Seal	$250 per mile	$0	$11,068	$11,068
Seal Coat	$4,333 per mile	$0	$191,822	$191,822
Subtotal	**$7,659 per mile**	**$0**	**$339,064**	**$339,064**
Less: Current Average Maintenance Costs	$2,029 per mile	$0	$89,824	$89,824
Total Cost per Mile [5] [6]	**$5,630 per mile**	**$0**	**$249,240**	**$249,240**

[1] The total miles associated with the upgrading of the transportation link is 57 miles, of which 44.27 miles are maintained by the County.
[2] Paint striping is based on four solid four inch stripes at $0.05 / lineal foot (2.5 white and 1.5 yellow).
[3] Winter maintenance is based on the cost of one truck three days per week for seven months.
[4] This includes culvert repair and maintenance.
[5] No cost has been estimated for sign or guardrail maintenance.
[6] No cost has been estimated for culvert replacement. It is assumed that culverts were replaced before the road is paved.
Source: Montrose County Public Works Department; Economic & Planning Systems
H:\19841-Montrose County Socioeconomic Study\Models\[19841-Fiscal Model-033010.xls]Trans Link Maint Rpt

[23] In a detailed analysis, the Public Works Department provided documentation of mileage maintained by the County and State. The following segments of the transportation link are maintained by the State: 1) 4.65 miles of State Hwy 97; and 2) 8.13 miles of State Hwy 90.

[24] This is distinguished from the basis for estimating HUTF revenue allocations. While the County is presumed to be responsible for maintaining the 44.27-mile section of this transportation link, the HUTF allocation is estimated to be based on the entire 57-mile length, which is assumed to be net new paved roadway miles to the County.

[25] In an analysis of current roadway maintenance costs for this section of the roadway, the Public Works Department provided the estimate of $2,029 per mile based on multiple factors: 1) 12.75 miles of mag chloride surface at a cost of $4,825 per mile from Hwy 90 west to Forest Boundary (2009 Maintenance Costs); 2) 5.59 miles of pavement from Nucla City Limits northeast to Forest Boundary at $2,400 /mile (2007 cost prior to reconstruction); 3) 15.75 miles of gravel road within the forest boundaries at $842/ mile (2009 maintenance costs); 4) 10.18 miles of native surface within the forest at $160/mile (3 year average cost).

Existing Network for Haulage

Numerous county roads serve as the collector routes from the uranium lease tracts and open-pit mines to the state highways which connect to the proposed uranium mill site. Typically, these collector routes, leading from the lease tracts to the various paved highways, such as Highway 90 and Highway 141, were used extensively for ore-transportation activities in the past, particularly during the last uranium boom in the late 1970s and early 1980s. This study anticipates that, similar to the previous expansion of the energy sector in this end of the County, there will be increased usage of the roadway networks surrounding the proposed uranium mill and mines under each of the stabilized scenarios.

As such, this study takes several important factors into consideration in order to generate estimates for the maintenance expenditure from increased truck haulage on county roads in the vicinity of the mill and mines within the County.

- **Existing County Roadway Network** – There is a network of 578.7 miles of paved, gravel, and native surface county roads that are likely to be used by trucks serving lease tracts, mines, and the proposed mill site[26].
- **Increased Traffic Volumes** – This consideration incorporates two factors: existing traffic volumes and projected traffic volumes. The existing traffic volume for the network is assumed to be approximately 340 average daily trips (ADT)[27], and the projected traffic volume is estimated to be approximately 96 ADT[28]. Overall, this represents a 28 percent increase in traffic volume for the network of roads in the vicinity of the mill and mines.[29]

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[26] This number is provided by the County Public Works Department, which is the sum of 8.7 miles of paved road that could be affected by truck haulage traffic, and 124 miles of gravel roads and 446 miles of native surface roads in the zones 1 and 2 of the Public Works Department's Geographic Information System.

[27] This traffic volume statistic comes from CDOT records from 2008, published in May of 2009. This statistic represents traffic volume at the junction of CO-141 and CO-90 (Vancorum) for a segment of approximately two miles in length. Average daily traffic on this segment is recorded as 340 ADT, including 10 single trucks, and 40 combination trucks. This is chosen as the basis for the study's estimate of increased traffic because EPS recognizes that traffic volumes on the network of 578.7 miles of roadway identified are most likely not to exceed this volume of traffic within the County.

[28] This statistic comes from a Final Traffic Assessment conducted by TurnKey Consulting, completed in March 2008. This statistic represents the projected traffic volume from truck haulage (ore hauling, chemical, and large material deliveries) on CO-90 at milepost 23, which is in the vicinity of the access point to the proposed mill.

[29] EPS recognizes that this methodology conservatively estimates, if not over-estimates, the anticipated expenditure associated with increased traffic on the county's roadway network. In the absence of comprehensive traffic volumes from CDOT (which does not estimate traffic volumes on all of the County's paved, gravel, and native surface roads, such as those applicable to this analysis), and in the absence of more perfect projected truck haulage numbers on each of the applicable paved, gravel, and native surface roads (such as the those projected truck haulage ADTs provided by TurnKey Consulting), EPS is estimating this expenditure level assuming that existing ADT equals that of the segment identified above and that the projected increased ADT related to truck haulage equals that identified above.

Overall, the expenditure resulting from this increased traffic volume totals approximately $127,000 annually for the County, as shown in **Table 29**. Including the assumptions footnoted above, this estimate also assumes that the County would incur expenses associated with the winter maintenance of these roads. A reasonable assumption might be that currently undeveloped roadways might need to be upgraded in the future, and that they would be identified and dealt with on a case-by-case basis through the County's conditional use permit process[30].

Table 29
Road and Bridge Case Study: Increased Maintenance of Roads for Haulage
Montrose County Socioeconomic Impact Study

	Factor	Factor	Scenarios		
			A	B	C
County Road Miles to/from Mines & Mill					
Paved			8.70	8.70	8.70
Native Surface			446.00	446.00	446.00
Gravel Surface			124.00	124.00	124.00
Total			**578.70**	**578.70**	**578.70**
Expenditures					
Maintenance for Increased Usage of County Roads in Vicinity of Mill					
Paved					
Paint Striping at 28% increase	$1,056 per mile	28%	$2,572	$2,572	$2,572
Pothole Patching at 28% increase	$375 per mile	28%	$914	$914	$914
Winter Maintenance at 28% increase	$1,120 per mile	28%	$2,728	$2,728	$2,728
Shoulder / ROW Maintenance at 28% increase	$525 per mile	28%	$1,279	$1,279	$1,279
Crack Seal at 28% increase	$250 per mile	28%	$609	$609	$609
Seal Coat at 28% increase	$4,333 per mile	28%	$10,555	$10,555	$10,555
Subtotal Paved Surface			$18,657	$18,657	$18,657
Native Surface	$280 per mile	28%	$34,966	$34,966	$34,966
Gravel Surface	$2,100 per mile	28%	$72,912	$72,912	$72,912
Total			**$126,536**	**$126,536**	**$126,536**

Source: Montrose County Public Works; Economic & Planning Systems
H:\19841-Montrose County Socioeconomic Study\Models\[19841-Fiscal Model-033010.xls]Incrd Cty Rd Usage Rpt

[30] This assumption was also noted in the Department of Energy Environmental Assessment Uranium Leasing Program Final Programmatic Environment Assessment (July 2007).

Ongoing Fiscal Balance

This section synthesizes the findings of the revenue and expenditure generators associated with each scenario. In total, there is anticipated to be a fiscal surplus under each of the scenarios, ranging from approximately $157,000 to approximately $356,000, as shown in **Table 30**.

First Scenario

In the first scenario, the uranium mill is operating at stabilization, and mining capacity is operating at 50 percent but there is no improved transportation link between the East and West Ends of the County. Revenues are approximately $795,000 per year, including a significant contribution from the mill and net new housing units' property tax revenues. The sales tax revenues generated by the net new residents and the non-resident daytime workforce are approximately $37,000 per year, and the miscellaneous revenues for other government services accounted for through the General Fund per capita revenue factors total approximately $17,000.

In total, expenditures under this scenario amount to approximately $440,000 per year. These include expenditures estimated by the General Fund and other governmental fund expenditure factors, and one of the case studies. The expenditure generated by the increased usage of the roadway network in the vicinity of the mill and mines amounts to approximately $127,000 per year. This expenditure estimate is the same for each of the scenarios, as it is assumed that the truck haulage activity for each of the scenarios will hold constant. The fiscal balance under this scenario is approximately $356,000 per year.

Second Scenario

In the second scenario, the uranium mill is operating at stabilization, and mining capacity is operating at 50 percent and the transportation link between the East and West Ends of the County is assumed to be in place. Revenues are estimated at approximately $959,000 per year, including a similar contribution from the mill and net new housing units' property tax revenues as in the first scenario. The only difference is that there are estimated to be more housing units resulting from an increase in workers and their households choosing to establish residence in the County. The sales tax revenues generated by the net new residents and the non-resident daytime workforce are approximately $40,000 per year, a slight increase over the first scenario as a result of the increased number of households. Miscellaneous revenues for other government services accounted for through the General Fund per capita revenue factors total approximately $19,000, slightly higher than the first scenario. The major difference between this and the first scenario is the revenue associated with the estimated HUTF allocation from the increased number of paved roadway miles of the transportation link. This amount is approximately $157,000 per year, under the assumptions as outlined previously.

Expenditures, similar to the revenues, under this scenario are also higher. They amount to approximately $714,000 per year. These include slightly higher expenditures estimated by the General Fund and other governmental fund expenditure factors, as well as both case studies. The expenditure generated by the increased usage of the roadway network in the vicinity of the mill and mines, $127,000 per year, is the same as in the first scenario. The new expenditure estimated by a case study, however, is the annual maintenance associated with the transportation link. This expenditure amounts to approximately $249,000 per year, and is documented by discussions in the previous chapter. The fiscal balance under this scenario is approximately $245,000 per year.

Third Scenario

In the third scenario, the uranium mill is operating at stabilization, and mining capacity is operating at 100 percent and the transportation link between the East and West Ends of the County is assumed to be in place. Revenues under this scenario are estimated at approximately $992,000 per year, including a similar contribution from the mill and net new housing units' property tax revenues as in the first and second scenarios. Again, there are still more residents and households estimated under this scenario, which generate incrementally more property tax revenues. Similarly, the sales tax revenues generated, approximately $53,000 per year, represent also incrementally more retail expenditure by the additional residents and non-resident daytime workforce from the additional mining capacity. Miscellaneous revenues through the General Fund per capita revenue factors total approximately $25,000. This scenario includes the same estimate of HUTF allocation from the increased number of paved roadway miles of the transportation link as in the second scenario.

In this scenario as well, expenditures are higher than the first or the second scenarios. They amount to approximately $835,000 per year. These include higher expenditures from governmental expenditure factors, but the same level of expenditure from the case studies. Expenditure generated by the increased usage of the roadway network is approximately $127,000 per year, and annual maintenance associated with the transportation link is also the same, at approximately $249,000 per year. The fiscal balance under this scenario, while incrementally smaller, is still positive, at approximately $157,000 per year.

Table 30
Ongoing Fiscal Impact
Montrose County Socioeconomic Impact Study

	Factor	Scenarios		
		A	B	C
Revenues				
Property Taxes [1]	Case Study	$740,998	$743,768	$757,199
Sales Taxes (Residents Alone)	Case Study	$35,077	$37,871	$50,832
Sales Taxes (Daytime Workers Alone)	Case Study	$2,180	$1,975	$2,147
HUTF Tier III Allocation [2]		$0	$156,817	$156,817
General Fund	$24	$15,305	$16,524	$22,435
Miscellaneous Funds	$3	$1,915	$2,068	$2,808
Total Revenues		**$795,475**	**$959,021**	**$992,238**
Expenditures				
Case Study: Road & Bridge	Case Study	$0	$249,240	$249,240
Case Study: Increase Usage of County Roads in Vicinity	Case Study	$126,536	$126,536	$126,536
General Fund	$290	$186,408	$201,254	$273,259
Miscellaneous Funds	$197	$126,849	$136,952	$185,950
Total Expenditures		**$439,792**	**$713,982**	**$834,985**
Fiscal Surplus / Deficit		**$355,683**	**$245,039**	**$157,253**

[1] Property taxes based solely on county portion of total mill levy; excludes revenues associated with school district and other uses such as rural fire district.
[2] Based on allocations from previous four calendar years.
Source: Dept. of Local Affairs; Dept. of Transportation; Dept. of Treasury; Economic & Planning Systems
H:\19841-Montrose County Socioeconomic Study\Models\[19841-Fiscal Model-033010.xls]ONGOING

In summary, the evaluation of each scenario and its estimated revenue and expenditure generators indicate that the projects and economic drivers evaluated in this study provide the County with estimated fiscal surpluses. To the extent that the case studies evaluated here have intentionally and conservatively estimated levels of expenditure and underestimated revenue, the projected fiscal surpluses presented here could be larger.