3.17 Social and Economic Resources

The section describes social and economic conditions and assesses the temporary and long-term effects in the geographic area that could be affected by the Project. The region of study for socioeconomics encompasses 23 counties across 4 states – Wyoming, Colorado, Utah, and Nevada. Information is provided for population and demographics, economic conditions, and social conditions including environmental justice. Socioeconomic conditions and resources addressed include short-term and long-term effects on economic conditions, population, housing, public facilities and services, and tax revenues.

3.17.1 Regulatory Framework

Social and economic conditions are not subject to direct regulation or management, although the NEPA requires they be addressed. Social and economic conditions also are commonly recognized and addressed as a concern in a wide variety of federal, state, and local planning and management processes. Two such planning processes that are particularly relevant to the proposed project are the land use management planning processes conducted by the BLM and the Forest Service for the public lands under their respective management. Guidance regarding consideration of social and economic conditions in those processes is provided by the following:

- BLM, Land Use Planning Handbook, H-1601-1
- U.S. Forest Service, Land Management Handbook, FSH 1909.12

Additional information regarding local land use planning is found in Section 3.14, Land Use.

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, published in the Federal Register in 1994, tasks “each Federal agency [to] make achieving environmental justice part of its mission.”

3.17.2 Data Sources

This analysis relies heavily on published information available from federal and state governmental agencies, supplemented by information from academic and private sources. The key data sources include the following:

- Federal agencies: Census Bureau, Bureau of Economic Analysis, Bureau of Labor Statistics, U.S. Department of the Interior and U.S. Department of Agriculture
- State agencies: respective economic, demographic, labor and revenue/taxation departments.

3.17.3 Analysis Area

The geographic extent of the analysis area for social and economic conditions, including environmental justice, is comprised of the 23 counties in which one or more of the alternative routes are located and the communities within those counties that are likely to host non-local construction workers associated with the project. The counties included in the analysis area, and their respective county seats, are listed in **Table 3.17-1**.

Table 3.17-1 Counties and County Seats in the Analysis Area

State	County	County Seat
Wyoming	Carbon	Rawlins
	Sweetwater	Green River
Colorado	Garfield	Glenwood Springs
	Mesa	Grand Junction
	Moffat	Craig
	Rio Blanco	Meeker
	Routt	Steamboat Springs
Utah	Beaver	Beaver
	Carbon	Price
	Duchesne	Duchesne
	Emery	Castle Dale
	Grand	Moab
	Iron	Parowan
	Juab	Nephi
	Millard	Fillmore
	Sanpete	Manti
	Sevier	Richfield
	Uintah	Vernal
	Utah	Provo
	Wasatch	Heber City
	Washington	St. George
Nevada	Clark	Las Vegas
	Lincoln	Pioche

The socioeconomic assessment is focused on the counties in which one or more alternative routes are located based on the following considerations:

- Most of the construction on linear projects in rural areas, such as pipelines, transmission lines, and even highways, is accomplished by a series of construction crews that move along the corridors as the project progresses,
- Many of the direct jobs are filled by workers with specialized skills who relocate temporarily for the express purpose of working on a specific project,
- Few of the non-local workers are accompanied by friends, relatives or other household members, so most of the population influx are workers directly associated with the project
- The non-local workers shift their temporary place of residence (i.e., motels, a private RV, or other accommodations) over time, to reduce commuting time and costs,
- The size of the project-related workforce and availability of temporary housing capacity within the analysis area is such that it is unlikely that many workers would need or choose to commute to communities outside of the affected counties
- With the exception of some basic construction materials, such as sand and gravel, most of the sources of the materials and equipment would be sourced from far outside the region.

The net result of these factors is that the effects on most communities would be of relatively short-duration, typically involve less than the total workforce associated with the project at any one time, have lower secondary employment effects than would be expected for a comparably sized more conventional large-scale construction project at a single location, and result in a relatively low temporary population influx. The effect on local employment and unemployment would be limited in most communities.

3.17.4 Baseline Description

This section uses selected economic and demographic data and narrative to provide a general description of socioeconomic conditions in the analysis area, focusing on conditions potentially affected by construction of the proposed transmission line project.

All 23 counties in the analysis area gained population during the last decade. Between 2000 and 2010, the combined population of the 23 counties increased by 871,054 residents, to 3,158,560; the change represents a net increase of 38.1 percent (**Table 3.17-2**). The largest share of the total growth occurred in the Las Vegas metropolitan area (Clark County, Nevada). Substantial net growth also occurred in the Utah portion of the analysis area between 2000 and 2010. The main drivers of the population growth included retirement migration, natural resource development, and migration associated with other economic development and a broad range of lifestyle factors.

Table 3.17-2 Population in the Social and Economic Analysis Area, 2000 and 2010

State / (Number of counties included)	2000 Population	2010 Population	Population Change, 2000-2010	
			Absolute	Percent
Wyoming (2 counties)	53,252	59,691	6,439	12.1
Colorado (5 counties)	198,825	247,082	48,257	24.3
Utah (14 counties)	655,499	895,173	239,674	36.6
Nevada (2 counties)	1,379,930	1,956,614	576,684	41.8
Analysis Area Total	**2,287,506**	**3,158,560**	**871,054**	**38.1**

Source: U.S. Census Bureau, 2011a.

The analysis area is predominately rural. Seventeen of the counties in the analysis area had fewer than 30,000 residents, with the least populous county having just 4,165 residents in 2010. Four urban counties, containing one or more metropolitan areas, also are included in the analysis area; Grand Junction, Colorado; Provo-Orem and St. George, Utah; and Las Vegas, Nevada; the latter with a 2010 population of more than 1.95 million residents (**Figure 3.17-1**). Population densities ranged from less than 1.0 to 257.8 persons per square mile in 2010, compared to the national average of 87.4 (U.S. Census Bureau 2001b).

There are six Indian Reservations located in the analysis area: the Uintah and Ouray Indian Reservation (Utah), Paiute Indian Reservation (Utah), Moapa Indian Reservation (Nevada), Snow Mountain Indian Reservation (Nevada), Las Vegas Colony (Nevada), and a portion of the Fort Mojave Indian Reservation (Nevada).[1] The largest of these is the Uintah and Ouray Indian Reservation in northeast Utah.

[1] The Snow Mountain Indian Reservation, Las Vegas Colony, and Fort Mojave Indian Reservation are located at considerable distance from any proposed facilities associated with the TWE project.

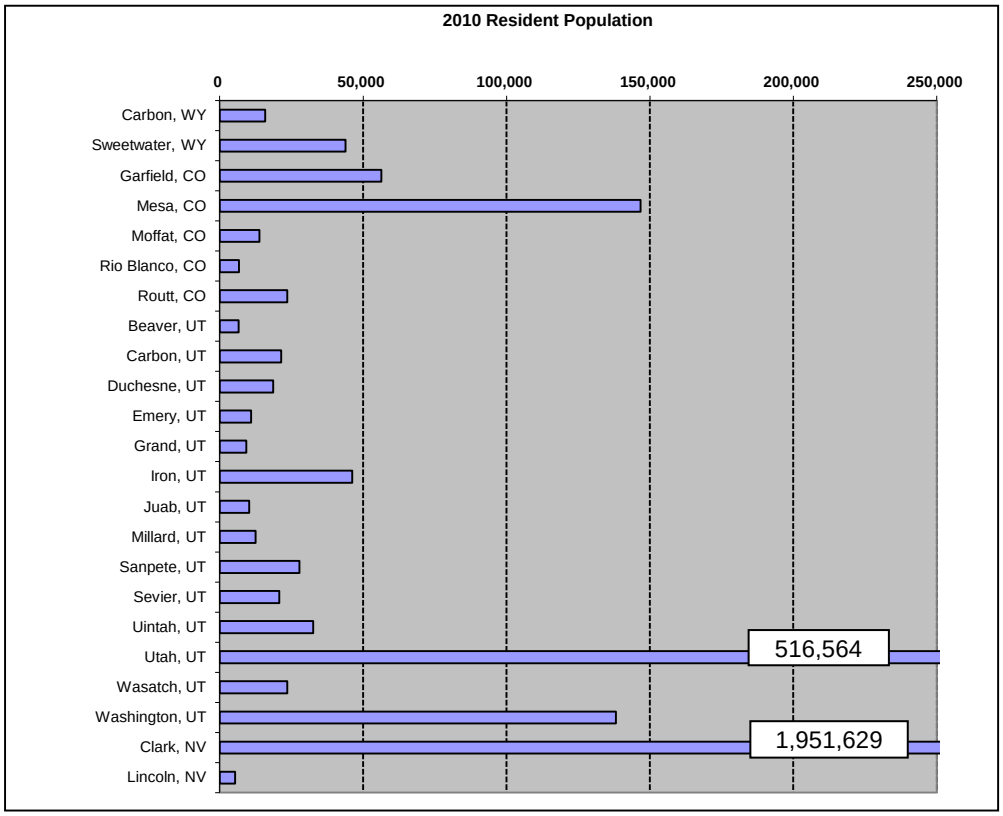


Figure 3.17-1 2010 Population of Counties in the Social and Economic Analysis Area

Prior to the recent national recession, the analysis area had experienced a period of economic growth. Total employment across the analysis area in 2009 was over 1.7 million jobs. That total was nearly 332,000 above the total in 2001, but more than 111,000 fewer jobs than existed at the outset of the national recession. Private sector non-farm jobs accounted for nearly 1.52 million, or 87.6 percent, of the 2009 total. Public sector employment totaled nearly 196,000 jobs, with farm jobs accounting for the remainder. The construction industry, which lost 60,000 jobs between 2007 and 2009, continued to account for more than 127,000 jobs in the analysis area. The accommodations and food industries provided more than 283,000 jobs in 2009, the bulk of which were based in the Las Vegas area (U.S. Bureau of Economic Analysis 2011).

Unemployment rates increased across the analysis area during the national recession that began in late 2007, in some instances dramatically. In 2007, prior to the full weight of the recession becoming apparent, an average of more than 58,000 residents, representing 3.8 percent of the labor force, were unemployed. As the recession continued, average unemployment across the analysis area approached 197,000 in 2010, representing 12.7 percent of the labor force. Average annual unemployment among the counties in the analysis area during 2010 ranged from 5.1 percent to 15.2 percent, with a median rate of 8.8 percent. National unemployment averaged 9.6 percent for the same period (U.S. Bureau of Labor Statistics 2011).

Social conditions and lifestyles in the analysis area vary considerably, reflecting the influences of factors including the economic and geographic setting, the state in which the area is situated, cultural backgrounds, land use and ownership, and climate, among others. Natural resources, the “outdoors,” and public lands, whether in the form of national parks or natural gas resources, play important roles in social conditions and lifestyles across the rural areas. In general, rural residents exhibit a relatively high degree of self-reliance, often looking to local government to focus primarily on the provision of essential public administration,

infrastructure, and services. Over the past 10 to 20 years, economic development and growth have contributed to substantial change in social conditions in much of the rural portions of the analysis area.

Natural resources, the "outdoors," and public lands also influence social conditions in the more urban portions of the analysis area, but the influence is less pronounced. In contrast to the rural areas, growth and development have been a dominant influence shaping social conditions in the metropolitan areas across the analysis area. Immigration of many new residents has been both a cause and an effect associated with the growth.

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, tasks "each Federal agency [to] make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high adverse human health and environmental effects of its programs, policies, and activities on minority populations and low-income populations." Along with most of the country, racial and ethnic diversity has been increasing across the analysis area in recent years. However, with the exception of Clark County, minorities account for smaller shares of the respective county populations in the analysis area than they do at the nation level. Poverty rates across the analysis area also tend to be below the national average, which is reflected in **Table 3.17-3**.

Table 3.17-3 Selected Social Characteristics in the Social and Economic Analysis Area, As Reported in the 2010 Census

	Racial or Ethnic Minority Population		Percent of Total Population in Poverty – 2009	Population Density – Persons/Square Mile (range)
	Number of Resident	Percent of Total Population		
United States	111,927,986	36.3	14.3	87.4
Wyoming (2 counties)	11,576	19.4	7.8	2.2 – 4.2
Colorado (5 counties)	47,876	19.4	10.1	2.1 – 44.1
Utah (14 counties)	133,701	14.9	11.7	1.5 – 257.8
Nevada (2 counties)	1,015,961	51.9	12.4	0.5 – 247.3

Source: U.S. Census Bureau 2011b,c.

As described in Section 2.4.2, the overall analysis area is subdivided into four regions. Selected socioeconomic information and descriptions, with pertinent tallies and sub-totals for each of the four regions, are presented below. **Table 3.17-4** lists the constituent counties associated with each of the four regions. Population change in the analysis area between 2000 and 2010, when examined on a regional basis, ranged from 12.7 percent in Region I to 41.9 percent in Region III. Region I is predominately rural, whereas Region III includes the rapidly growing St. George, Utah, and Clark County, Nevada, urban areas. In absolute terms, the former change equates to a net increase of 10,950 residents, while the latter represents more than 637,000 additional residents. In all regions, the population growth was concentrated in and around the larger communities in each county.

Table 3.17-5 lists the incorporated and unincorporated communities of 2,000 or more residents in each region. These communities tend to be those with the most governmental services, short-term lodging accommodations, and retail trade and service establishments that may be affected by short-term demands. However, not all of those communities would experience short- or long-term growth in association with the project. At the same time, there are many smaller communities within the analysis area, which are not listed in **Table 3.17-5** that may experience some socioeconomic effects associated with the project, primarily

related to hosting temporary workers as the construction moves along the corridor. The table is followed by a brief discussion of key economic and social trends for each region.

Table 3.17-4 Counties in the Social and Economic Analysis Area, by Region[1]

Region I	Region II	Region III	Region IV
Carbon, Wyoming Sweetwater, Wyoming Moffat, Colorado Routt, Colorado	Moffat, Colorado Rio Blanco, Colorado Garfield, Colorado Mesa, Colorado Uintah, Utah Duchesne, Utah Carbon, Utah Emery, Utah Wasatch, Utah Utah, Utah Sanpete, Utah Juab, Utah Millard, Utah Grand, Utah Sevier, Utah	Millard, Utah Beaver, Utah Iron, Utah Washington, Utah Lincoln, Nevada Clark, Nevada	Clark, Nevada

[1] Counties in each region generally are listed from east to west and north to south along the transmission line routing, i.e., from Wyoming to Nevada.

Table 3.17-5 Population in the Social and Economic Analysis Area 2000 and 2010, by Region

Region*	2000 Pop. (Census)	2010 Pop. (Census)	Net Change	Percent Change	Communities with 2,000 or more Residents**
I	86,045	96,995	10,950	12.7	Rawlins, North Rock Springs CDP, Rock Springs, Green River, Craig, and Steamboat Springs.
II	704,577	927,839	223,262	31.7	Carbondale, Glenwood Springs, New Castle, Rifle, Silt, Battlement Mesa CDP, Clifton CDP, Fruitvale CDP, Grand Junction, Fruita, Orchard Mesa CDP, Palisade, Redlands CDP, Maeser CDP, Vernal, Roosevelt, Helper, Price, Huntington, Moab, Heber City, Midway, Park City, Alpine, American Fork, Cedar Hills, Draper, Eagle Mountain, Elk Ridge. Highland, Lehi, Lindon, Mapleton, Orem, Payson, Pleasant Grove, Provo, Salem, Santaquin, Saratoga Springs, Spanish Fork, Springville, Ephraim, Gunnison, Manti, Mount Pleasant, Nephi, Richfield, Salina, Delta, Fillmore.
III	1,522,473	2,160,024	637,551	41.9	Beaver, Cedar City, Enoch, Parowan, Hildale, Hurricane, Ivins, LaVerkin, Saint George, Santa Clara, Washington, Boulder City, Enterprise CDP, Henderson, Las Vegas, Laughlin CDP, Mesquite, Moapa Valley, Nellis AFB CDP, North Las Vegas, Paradise CDP, Sandy Valley CDP, Spring Valley CDP, Summerlin South CDP, Sunrise Manor CDP, Whitney CDP, and Winchester CDP.

Table 3.17-5 Population in the Social and Economic Analysis Area 2000 and 2010, by Region

Region*	2000 Pop. (Census)	2010 Pop. (Census)	Net Change	Percent Change	Communities with 2,000 or more Residents**
IV	1,375,765	1,951,269	575,504	41.8	Boulder City, Enterprise CDP, Henderson, Las Vegas, Laughlin CDP, Mesquite, Moapa Valley, Nellis AFB, North Las Vegas, Paradise CDP, Sandy Valley CDP, Spring Valley CDP, Summerlin South CDP, Sunrise Manor CDP, Whitney CDP, and Winchester CDP.

* The geographic definition of the regions results in some double-counting of population between regions. The double-counting is most pronounced between Regions III and IV due to inclusion of Clark County, Nevada, in each region.

** The list includes incorporated cities and towns and unincorporated communities with more than 2,000 residents that are recognized as Census Designated Places (CDPs) by the U.S. Census Bureau. CDPs are closely settled, named, unincorporated communities that generally contain a mixture of residential, commercial, and retail areas similar to those found in incorporated places of similar sizes. Each CDP contains an identifiable core encompassing the area that is associated strongly with the CDP name and contains the majority of the CDP's population, housing, commercial structures, and economic activity. Not included in the list are the numerous smaller communities and settlements located with the analysis area.

Source: U.S. Census Bureau 2011a.

3.17.4.1 Region I

Region I is comprised of four counties in south-central Wyoming and northwestern Colorado. In 2010, the total population of the region was 96,995, a net increase of 12.7 percent compared to the 2000 population (**Table 3.17-5**).

The region's economy is heavily dependent on energy-resource development, including oil and gas, coal, trona and other mineral mining, and electrical generation and transmission. Due in large part to that reliance, the contemporary history of the region is characterized by periods of economic expansion and contraction. Tourism and outdoor recreation also are important contributors to the regional economy – portions of the I-80 corridor, Flaming Gorge National Recreation Area (NRA), Dinosaur National Monument, the Medicine Bow and Ashley national forests, and extensive public lands managed by the BLM are located in Region I. Hunting and fishing, by residents and visitors alike, are important outdoor activities in much of this region. Farming and ranching, the latter heavily reliant on grazing on BLM and USFS lands, is important to the region from an economic, land use, and cultural perspective.

Oil and gas development, including substantial pipeline and other ancillary infrastructure development, has been a dominant factor influencing socioeconomic conditions across the region in recent years. That development has supported economic expansion, low unemployment, and higher wages and income for residents, along with population immigration, new housing development, expansion of the retail trade and service industries, and expansion and improvements of public community infrastructure and services in many communities within the region, including Rawlins, Wamsutter, Rock Springs, Vernal, and Rangely. Several wind energy projects also have been built and are operating in the region.

The national economic recession and sharp declines in natural gas prices (among other potential factors) slowed the pace of energy development in the region dramatically. As a result, employment declined and unemployment increased. Nonetheless, more than 69,675 jobs were reported in the region in 2009, with nearly 6,500 construction jobs reported as reflected in **Table 3.17-6**. Unemployment rates, estimated at 8.0 percent across the region in 2010, more than double the rates of a few years earlier, remained substantially below the national average of 9.6 percent.

Table 3.17-6 Selected Economic Characteristics in the Social and Economic Analysis Area, by Region

Region	Total Employment - 2009 (REIS)	Total Construction Employment 2009 (REIS)	Total Farm Employment 2009 (REIS)	Annual Avg. Unemployment No. and Rate - 2010
I	69,675	6,487	1,805	6,614 / 8.0% (est.)
II	475,996	43,371	12,088	36,568 / 8.5% (est.)
III	1,187,353	77,955	3,086	156,393 / 14.7% (est.)
IV	1,082,964	75,809	241	147, 510 / 15.2%

Sources: U.S. Bureau of Economic Analysis, 2011 and Bureau of Labor Statistics, 2011.

The economic downturn had far reaching consequences for social conditions in the region as well. Many households were affected by declining incomes, many unemployed left the area, new home construction virtually stopped, local governments adjusted to declining revenues by trimming staff and services, and businesses closed. These changes affected social relationships and the lifestyles of individuals and households. Social institutions and organizations also were affected.

One legacy of energy development and tourism and outdoor recreation travel in recent years is the expansion of the hospitality industry and the bolstering of the retail trade sector across the region, According to the U.S. Census Bureau County Business Patterns, there were a total of 353 motels, hotels, private RV/campgrounds, restaurants and other eating and drinking locales in Region I (**Table 3.17-7**). Together the motels, hotels, and RV/campgrounds offer nearly 9,500 rooms and spaces (**Table 3.17-8)**. Most of those establishments are located in the larger towns, such as Rawlins, Rock Springs, and Vernal that also function as regional trade and service centers.

Table 3.17-7 Retail Trade and Hospitality Oriented Establishments and Employment in the Social and Economic Analysis Area, County Business Patterns 2009[1]

Region	Retail Trade		Accommodations and Food Services	
	Number of Establishments	Estimated Total Employees	Number of Establishments	Estimated Total Employees
I	583	5,878	353	7,320
II	3,718	51,867	315	6,522
III	5,943	98,213	330	158,635
IV	5,644	94,865	287	158,186

[1] The geographic definition of the regions results in some double-counting of establishments and employees between regions. The double-counting is most pronounced between Regions III and IV due to inclusion of Clark County, Nevada, in each region.

Source: U.S. Census Bureau 2011d.

Table 3.17-8 Temporary Overnight Housing Capacity (Motel/Hotel Rooms and RV/Campground Spaces) in the Social and Economic Analysis Area[1,2]

Region	Motel/Hotel Rooms	RV/Tent Sites	Total Short-term Lodging Capacity
I	7,383	2,115	9,498
II	26,265	10,127	36,392

Table 3.17-8 Temporary Overnight Housing Capacity (Motel/Hotel Rooms and RV/Campground Spaces) in the Social and Economic Analysis Area[1,2]

Region	Motel/Hotel Rooms	RV/Tent Sites	Total Short-term Lodging Capacity
III	143,101	7,278	150,379
IV	140,740	6,206	146,946

[1] The geographic definition of the regions results in some double-counting of rooms and RV/tent sites between regions. The double-counting is most pronounced between Regions III and IV due to inclusion of Clark County, Nevada, in each region.

[2] The total rooms and RV/tent sites does not include bed and breakfasts or spaces at public campgrounds on the National Forest, public lands, or state parks.

Sources: Colorado Tourism Office 2011; Nevada Commission on Tourism 2011; Utah Office of Tourism 2011; Wyoming Tourism 2011.

Energy development continues in Region I, albeit at a slower pace than occurred prior to the recession, a period characterized by higher natural gas prices. Currently known resources will sustain oil and gas development for the foreseeable future. Higher energy prices for natural gas could foster an increase in new development, although the oil and gas industry is presently focusing new investments in the Bakken, Niobrara, Marcellus, and Barnett shale plays in other parts of the country.

3.17.4.2 Region II

This region encompasses 15 counties in west-central Colorado and the central tier of Utah, including the Grand Junction and Provo-Orem metropolitan areas. Region II includes the Uintah and Ouray Indian Reservation. Like Region I, energy development is a vital element of the region's economy. Such development includes active oil and gas development in the Uintah Basin, coal mining in central Utah counties, and electrical generation in multiple locations. Tourism and outdoor recreation also are important contributors to the regional economy – portions of several national forests, Arches and Capitol Reef (part) national parks and the Colorado and Dinosaur national monuments, numerous state parks, and the I-70 and I-15 corridors are located in Region II. Hunting and fishing, by residents and visitors alike, along with hiking, camping, mountain biking, OHV use, and watching wildlife are important outdoor activities in much of this region. Farming and ranching, supported by grazing on BLM and USFS lands, are important to the region from an economic, land use, and cultural perspective. As compared to the other three regions, farming accounts for a larger share of the total agricultural output in Region II. Region II includes the Uintah and Ouray Indian Reservation (Utah).

In 2010, Region II had 927,839 inhabitants, a net increase of more than 223,000 residents or 31.7 percent compared to the 2000 population (**Table 3.17-5**). The population gains were concentrated in the two metropolitan areas, in particular Provo-Orem (Utah County, Utah). The non-metropolitan counties have populations ranging from 6,666 (Rio Blanco County, Colorado) to 56,389 (Garfield County, Colorado). The Provo-Orem metropolitan area has been recognized for a high-quality of life for residents and is characterized by a relatively diverse economy, while that portion of Region II comprised of Colorado and eastern Utah are more dependent on natural resource development, tourism and outdoor recreation, and agriculture.

In 2009, employment in Region II totaled nearly 476,000 jobs, including 43,371 jobs in the construction industries. More than 3,700 retail establishments employed nearly 52,000 people to serve the needs of household and business consumers. There were 315 motels and hotels, restaurants and other eating and drinking places in Region II. The former category offers more than 36,000 rooms and RV/camping sites to meet travel and tourism needs. While many of these establishments and the associated overnight lodging capacity are located in the Provo-Orem area, recent energy development promoted expansion of the lodging base in the eastern portion of the Region.

Unemployment across Region II ranged from 6.6 percent to 10.8 percent on a county level in 2010, with an average of 8.5 percent. Although higher than unemployment in Region I, most areas in Region II continued to fare better than the nation as a whole.

3.17.4.3 Region III

Among the four regions, Region III is the most diverse in terms of socioeconomic setting, encompassing six counties in southwestern Utah and southern Nevada. The region includes Beaver County, Utah and Lincoln County, Nevada, both of which are quite rural and sparsely populated, but also the Las Vegas metropolitan area in Clark County and the St. George metropolitan area in Washington County. Clark County also is home to Nellis Air Force Base. Portions of several national forests, Zion National Park, Cedar Breaks National Monument, and Lake Mead NRA, Valley of Fire State Park (Nevada) and portions of the I-15 corridor also are located in Region III. The Paiute Indian Reservation (Utah), Moapa Indian Reservation (Nevada), Snow Mountain Indian Reservation (Nevada), Las Vegas Colony (Nevada), and a portion of the Fort Mojave Indian Reservation (Nevada) are located in Region III.

In 2010, the total population of the region was 2.16 million, a net increase of 637,551 residents (41.9 percent) over the 2000 population (**Table 3.17-5**). The population gains and the economic data for Region III are dominated by those for Clark County, among the fastest growing metropolitan areas in the nation over the past 20 years. Washington (St. George) and Iron (Cedar City) counties in Utah also realized substantial growth during the decade. The remaining three counties are sparsely populated, ranging from 5,345 to 12,503 residents in 2010.

Over time, economic development efforts in Clark County had some success in recruiting and fostering expansion of financial services, technology-oriented manufacturing, and professional services in an effort to diversify the economy and reduce its dependency on entertainment and to a lesser extent, the federal government. That success, along with climate, a reasonable cost of living, relatively abundant job opportunities, and other factors, stimulated strong migration into the area, not only by retirees, but younger, working age adults and families. At the same time, the entertainment and gaming industries set out on a dramatic expansion, fueled by general economic prosperity across the nation and in overseas areas that accounted for many international travelers to Las Vegas. The net result was a boom in residential and commercial construction. Retirement and lifestyle migration also was a major contributor to the growth in southwestern Utah. Similar to Clark County, that growth was accompanied by an increase in residential and commercial construction, and expansion of the local trade and services industries. Unemployment across the region was substantially below the national average.

Economic conditions changed rapidly in response to the economic recession, combined with the fallout of the housing mortgage crisis. Total employment in Region III was 1,187,353 jobs in 2009, over 90 percent of which were based in Clark County. The total employment in 2009 reflects a loss of more than 95,000 jobs as compared to 2007, nearly 88,000 of which had been based in Clark County, with much of that job attrition coming from the construction and related industries. Job losses in Iron and Washington counties during the same 2-year period totaled more than 7,300. Unemployment climbed to record high levels of 15.7 percent in Clark County and to double-digit levels elsewhere in Region III. Unemployment across the region averaged 14.7 percent for 2010, representing more than 156,000 unemployed.

Not surprisingly, Region III supports an extensive base of more than 150,000 hotel and motel rooms and RV/camp sites. The majority of these are in Clark County; however, nearly 3,500 rooms and RV/camp sites exist elsewhere in Region III, primarily in the St. George and Cedar City areas. The region also hosts a large base of retail trade establishments.

Some signs of economic improvement are evident in the Las Vegas area, i.e., small year-over-year increases in the overall number of visitors and overall gaming revenues. However, the timing and scale of a

broader economic recovery are highly uncertain. Although slowed, new construction and growth continue in the St. George area; that too is expected to continue for the foreseeable future.

3.17.4.4 Region IV

This region is comprised solely of Clark County, Nevada. Lake Mead NRA, Valley of the Fire State Park, and the I-15 corridor, and the area serves as a major gateway to Grand Canyon and Death Valley National Parks. As described earlier, the Las Vegas metropolitan area was among the fastest growing metropolitan areas in the nation prior to the recent economic recession, gaining more than 575,000 residents between 2000 and 2010 (**Table 3.17-5**). Approximately 40 percent of the net population growth in Clark County over the past decade occurred in Henderson in the southeast portion of the Las Vegas Valley. Boulder City is approximately five miles southeast of Henderson and the Las Vegas Valley, separated by Railroad Pass, which carries U.S. Highway 93/95. Boulder City saw virtually no growth in population between 2000 and 2010, registering a net increase of just 57 residents. The Moapa Indian Reservation, Snow Mountain Indian Reservation, Las Vegas Colony, and a portion of the Fort Mojave Indian Reservation are in Region IV.[2]

In contrast to the high-energy entertainment and casino/resort image that many associate with Las Vegas, Henderson is a suburban bedroom community, characterized by vast tracts of newer residential and consumer oriented development, interspersed with areas of light industry. Steep, hilly terrain, including the approach to Railroad Pass, constrains Henderson's expansion to the south. Henderson experienced a sharp decline in construction activity, loss of jobs for residents, declining property values, and reduced tax revenues due to the recession and housing financing crisis.

Boulder City, which served as the primary staging area for the construction of the Hoover Dam, today is a combination of bedroom, retirement, and recreation gateway community. U.S. Highway 93, which serves as the primary highway access to the Hoover Dam, crosses the recently completed Mike O'Callaghan-Pat Tillman Bridge over the Colorado River to Arizona, and an important access to the Lake Mead NRA passes through Boulder City. Retail trade and services, much of it geared toward travelers and outdoor recreational pursuits, and federal employment, are important elements of the community's economy. More so than by the recession, the Boulder City economy has been buffeted by the continuing effects of the epic, drought-related drop in water levels in Lake Mead that dramatically reduced recreation visitation and associated economic benefits for the area.

3.17.5 Impacts to Socioeconomic Conditions

This section addresses potential impacts to socioeconomic conditions in the region of study associated with the Project and the Alternative Routes, Alternative Variations and Alternative Connectors during project construction, operations and decommissioning. Socioeconomic conditions and resources addressed include short-term and long-term impacts on economic conditions, population, housing, public facilities and services, and tax revenues.

The following socioeconomic issues and concerns were identified during the agency and public scoping:

- Potential effects on local tax revenues and short-term economic benefits from temporary employment opportunities;
- Potential effects on local agricultural output (e.g., a reduction in cultivated cropland and pastureland, increased management costs, or effects on grazing on public lands due to reduction in forage quality);

[2] The Snow Mountain Indian Reservation, Las Vegas Colony, and Fort Mojave Indian Reservations are located at considerable distance from any proposed facilities associated with the TWE project.

- Potential effects to private property values, especially for agricultural lands and residential development;
- Potential economic and social effects due to project-related effects on outdoor recreation opportunities and activities, including big game hunting, camping, hiking and OHV use;
- Concern regarding potential effects on long-term economic and community development and growth based on proximity of the power line corridors to communities;
- Concern regarding the use of eminent domain and associated economic and social effects; and
- Potential effects on quality of life and other social values of residents of the regions crossed by project-related effects on land use, visual, and outdoor recreation.

Table 3.17-9 lists important assumptions and other considerations for the socioeconomics analysis.

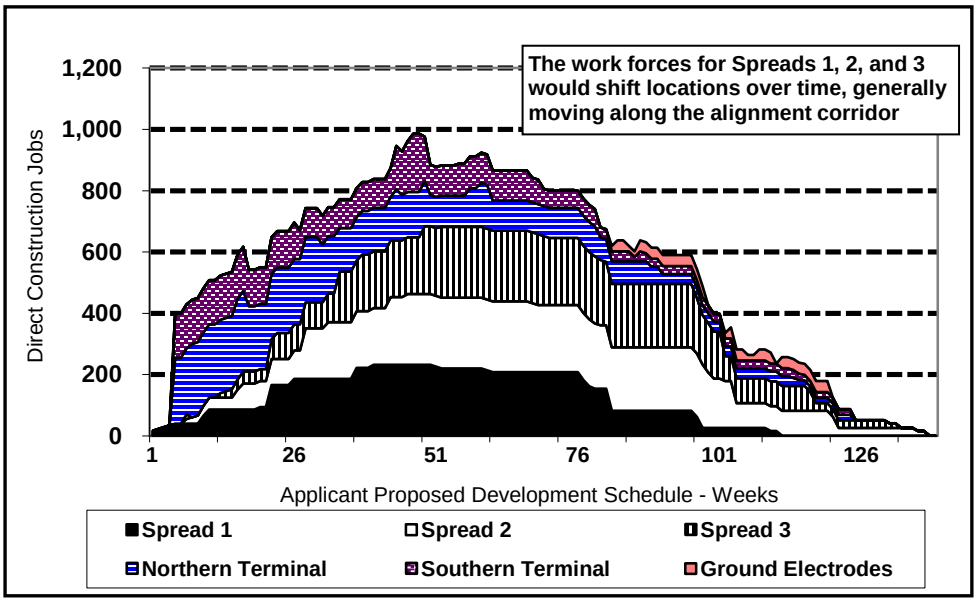
Table 3.17-9 Analysis Considerations Relevant to Socioeconomics

Resource Topic	Analysis Considerations and Relevant Assumptions
Permitting	The Project will be subject to permitting through the Wyoming Industrial Siting Administration, one topic of which will be an assessment of housing needs, resources, and project-related effects.
Economic Impacts	The direct employment requirement and construction schedule for the project would be as outlined in the PDTR. Communities in the vicinity of the common end points for Spreads 1 and 2 and Spreads 2 and 3 would not be affected concurrently by the construction workforces for two spreads. For Alternatives B and C, it is assumed that additional direct labor would be added to complete each spread within the same amount of time proposed to complete Alternative A. Delivery of non-locally procured materials and equipment to staging areas for the project is assumed to be via truck, or rail delivery to an existing rail loadout facility, with materials then trans-loaded for delivery to the site by truck.
Public Sector Revenues	Estimates of sales and use tax are derived based on the estimated project development costs provided by TransWest. Ad valorem tax revenues are addressed qualitatively.
Effects on Private and Public Lands	Based on GIS coverage and analysis of land use surface ownership. Assessment to be coordinated with Land Use (see Section 3.15)
Environmental Justice Considerations	Would there be disproportionately high human health and environmental effects of the Project on minority populations and low-income populations.

In addition to the Alternative Routes, which determine the general proximity of construction activity to nearby potentially affected communities, three other important parameters affecting the socioeconomic effects of the Alternatives are the schedule/pace of development, the direct employment requirements, and the estimated capital outlays for materials and equipment.

Construction Schedule and Estimated Direct Employment

TransWest's preliminary project development schedule calls for completion of the entire project over a 137-week period (approximately 32 months or just over 2½ years). The beginning and end of the schedule is defined by the planned construction of the transmission line, with the schedule for construction of each of the terminals and ground electrodes occurring within that timetable. **Figure 3.17-2** summarizes the overall project development schedule and direct employment, by major component, for the Project.



Source: TWE, PDTR. May 2011.

Figure 3.17-2 Projected Direct Construction Employment During Development

Direct employment associated with the construction of each spread would average approximately 140 jobs over the 2-plus year construction schedule, with a temporary peak of approximately 230 jobs. However, the work force for each spread will be distributed in different locations along the corridor such that the number of temporary nonlocal workers located at any one time, in any given location/community, would likely number fewer than 100. Although local contractors and workers could fill some of the direct needs, particularly in locations near larger communities such as Las Vegas, Grand Junction, and Provo/Orem, non-local workers would be needed in the more rural areas and to complete some of the more specialized tasks.

Not apparent in **Figure 3.17-2** is the spatial dimension of the project whereby construction on multiple components would occur concurrently, but the nexus of construction on each component would be spatially separated by substantial distances (e.g., the Northern Terminal in Wyoming, the Southern Terminal in Nevada) and move along the corridor over time. Construction of the Project under Alternative A would occur in three "spreads," each representing a major segment of the overall 725+ mile-long transmission corridor as follows:[3]

- Spread 1 for Alternative A covers approximately 221 miles, extending from the northern terminal near Rawlins, Wyoming, to a point between Vernal and Roosevelt, Utah. Spread 1 spans all of Region I and a portion of Region II. The development schedule calls for completion of Spread 1 in 111 weeks. Construction activity is anticipated to occur somewhere within Spread 1 throughout the year (i.e., timing limitations related to wildlife considerations would not result in a temporary cessation of activity across the entire spread).
- Spread 2 covers approximately 235 miles, extending across central Utah from the western end of Spread 1 to a point in the vicinity of the IPP, approximately 25 miles west of Fillmore, Utah. The proposed schedule to complete Spread 2 spans 131 weeks, commencing 7 weeks after the

[3] Note that the geographic segmentation of the spreads does not correspond directly with the four regions (see **Figures 2-21** through **2-24**).

beginning of work on Spread 1. Spread 2 covers the western portion of Region II and northern portion of Region III.

- Spread 3 covers the remainder of Region III not covered by Spread 2, and all of Region IV, extending approximately 269 miles through western Utah into Nevada, continuing to the north and west of Lake Mead, then south to the southern terminal. The schedule to complete construction of Spread 3 is 120 weeks. Construction of Spread 3 is planned to commence concurrently with Spread 2.

The lengths of the three spreads would vary for the alternative routes, resulting in corresponding changes in the development schedule and/or changes in the level of construction employment to complete the respective spreads. The differences would not be expected to substantively alter the assessment or conclusions regarding potential socioeconomic effects of the project.

A separate contract, potentially with different contractors, would govern construction in each spread. The use of three spreads allows concurrent construction in multiple locations across the overall route. In fact, due to the linear nature of the corridor and multiple activities involved (e.g., surveying, transmission tower pad construction and erection, and transmission line stringing), construction activities would occur concurrently in multiple locations in any given spread. Moreover, some construction activities can be quickly repositioned to different locations in response to weather, BLM-imposed limitations on construction for wildlife protection, or unanticipated events. The movement and distribution of the construction workforce across the spread strongly influences the scale and duration of short-term socioeconomic effects on communities in proximity to the corridor. Separate contracts also would be developed for construction of each terminal and each ground electrode system.

The overall length of the transmission line corridors for the Agency Preferred Alternative and Alternatives B and C are longer than that for Alternative A, by 100 and 173 miles, respectively (**Table 3.17-10**). The Alternative D corridors in Regions I and II are 5 miles longer than the corresponding corridors for Alternative A, and the Alternative E corridor in Region II is 9 miles longer than that in Alternative A.

Table 3.17-10 Approximate Length of the Transmission Line Corridor by Alternative Route and Region

Alternative	Miles of Transmission Line					Difference Compared to Alternative A	
	Region I	Region II	Region III	Region IV	Total	Miles	Percent
Agency Preferred	172	270	311	39	795	65	8
Alternative A	155	257	276	39	727	--	--
Alternative B	159	345	282	41	827	100	14
Alternative C	186	365	308	45	904	173	24
Alternative D	172	262	311	NA	783	56	2
Alternative E	NA	266	NA	NA	266	9*	<1**
Alternative F	NA	270	NA	NA	270	13*	<1**

Notes: NA = not applicable because the alternative corridor is not defined in the particular region.

* Difference in Regions I and II only

** The percent difference is derived by combining the alterative corridors with the corridors from Alternative A for the other regions.

Sources: TWE and AECOM 2011.

In contrast to the transient nature of construction activity along the transmission line corridors, each of the terminals and ground electrodes involve construction at a defined location over a period of time. Construction of each terminal would require approximately 28 months, with work forces to be based in the Rawlins/Sinclair area for the northern terminal and the Las Vegas Valley/Boulder City area for the southern

terminal. Construction of each of the ground electrodes, one in Region I and the other in Region III, would require about 9 months, scheduled such that completion coincides with the completion of the transmission lines and terminals. Because of their fixed location, the short-term socioeconomic effects associated with the terminal and ground electrode facilities would be similar to those with many other traditional fixed-location construction projects.

Project Development Cost and Public Sector Revenues

Construction and operation of the electrical power transmission system would generate a variety of tax and fee revenues to state and local governments. The primary sources of tax revenues associated with the construction and operation of the project would include sales and use taxes levied on taxable purchases of materials, supplies and equipment by the applicant and contractors during construction, local consumer purchases by construction workers employed on the project, including lodging expenses, and the annual ad valorem/property taxes on the transmission line and other infrastructure following completion.

The estimated project development costs for the alternatives range from approximately $2.47 billion for Alternative A to $2.78 billion for Alternative C (**Table 3.17-11**); the cost range reflecting the difference in length of transmission line. Implementation of one or more of the alternative variations, collectors or ground electrode locations could result in additional differences in development costs; however, such differences would likely be minor in comparison to the base cost of Alternative A or cost differences associated with the alternative routes.

Table 3.17-11 Approximate Project Construction Cost, By Alternative Route

	Transmission Lines**	Terminals and Ground Electrodes	Project Total	Difference Compared to Alternative A
Agency Preferred	$1 42 billion	$1.17 billion	$2.59 billion	+ $0.12 billion / 5%
Alternative A	$1.30 billion	$1.17 billion	$2.47 billion	--
Alternative B	$1.48 billion	$1.17 billion	$2.65 billion	+ $0.18 billion / 7%
Alternative C	$1.61 billion	$1.17 billion	$2.78 billion	+ $0.31 billion / 13%
Alternative D	$1.40 billion	$1.17 billion	$2.57 billion	+ $0.10 billion / 4%
Alternative E	$1.32 billion	$1.17 billion	$2.49 billion	+ $0.02 billion / 1%
Alternative F	$1.33 billion	$1.17 billion	$2.50 billion	+ $0.03 billion / 1%

** Approximate costs for transmission lines assume the same average per mile construction cost, regardless of topography, geology or other factors.

Sources: TWE (Alternative A) and AECOM (Alternatives B – F) 2013, 2012, 2011.

The capital investment associated with the project would generate sales and use tax proceeds for state and local governments during construction and become the basis for long-term ad valorem/property taxes for local governments, public education, and other special service entities with taxing jurisdiction covering the facilities. The tax generation for a specific jurisdiction would be a function of the levels of spending within the jurisdiction and applicable tax rates. Tax regulations and rates vary between the states and among jurisdictions within a state. **Table 3.17-12** summarizes the sales and use tax rates that would apply to project construction.

Based on the preliminary construction cost estimates, an assumed value of taxable material and equipment purchases equivalent to 40 to 50 percent of the total project cost and the applicable state tax rates, construction of the entire project would generate sales and use taxes on the order of $45 million to $60 million. An estimated 45 to 55 percent of that total would accrue to the state and local governments in Nevada. Taxable purchases made by the applicant and contractors in local jurisdictions that levy sales taxes, would generate additional sales and use taxes, but the amount of revenue would likely be limited in comparison to the material purchases for the transmission line, terminals and ground electrodes.

Table 3.17-12 State and Local Sales and Use Tax Rates Associated with New Industrial Construction in the Analysis Area, by State

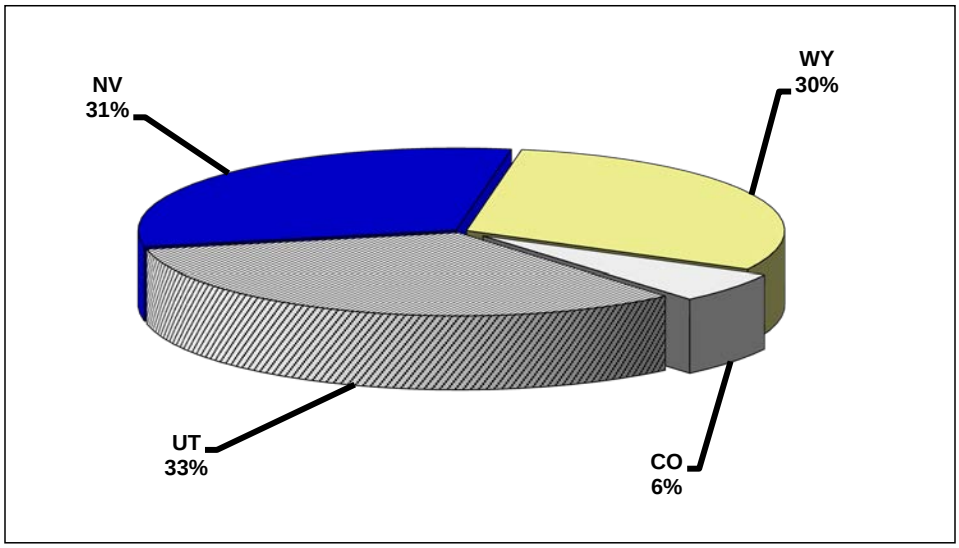
State	State Sales and Use	Local Sales and Use (Range)	Lodging Tax (Range)
Wyoming	4.0%	Local option, up to 2%	Local option, up to 4%
Colorado	2.9%	Local option, up to 4.75%	Local option, up to 2%
Utah	4.0%	Local option, up to 2.05%	State 1%, plus local option up to 5.25%
Nevada	6.85%	Local option, up to 1.25%	Local option, Up to 2%

Note: The local rates reflect tax rates for cities, counties, or a combination of the two.

Sources: Wyoming Department of Revenue; Colorado Department of Revenue; Utah State Tax Commission; Nevada Department of Taxation.

Consumer spending by construction workers also would generate sales taxes, along with lodging and other assorted taxes and fees. Again, tax rates and the application to specific types of purchases vary across the states and local jurisdictions.

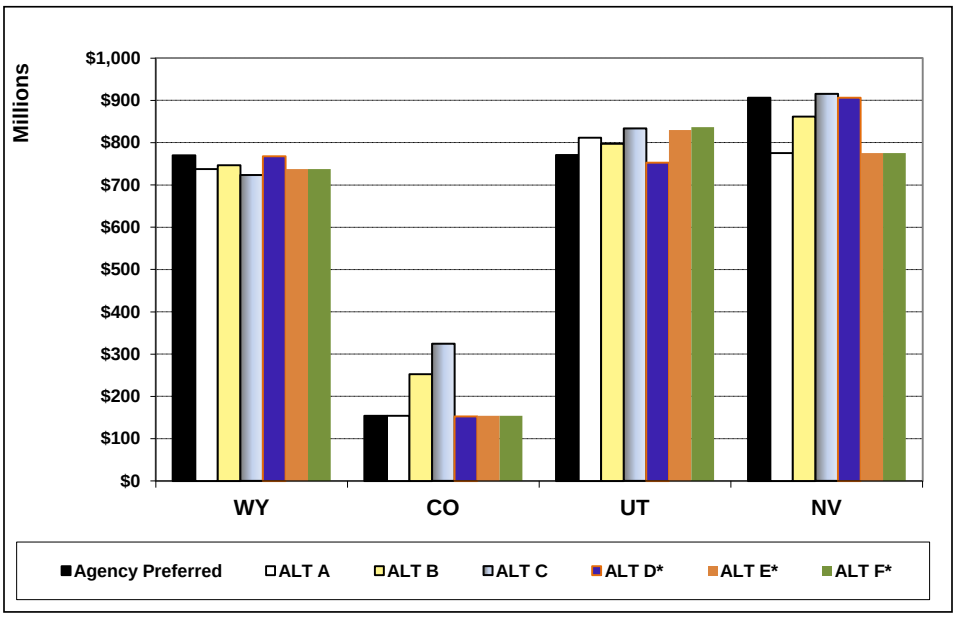
For ad valorem/property tax purposes, interstate transmission lines are assessed by the respective state revenue/taxation agencies, rather than by local assessors. The assessed valuations are determined using multiple valuation approaches, the derivation of which typically relies on information that complies with industry data reporting standards established by the Federal Energy Regulatory Commission. Project cost would likely serve as the initial basis for assessment; each state assessing the share of the total project value contributed by the facilities located within the state. Utah, Nevada, and Wyoming would each benefit from approximately one-third of the total investment, with about 6 percent located in Colorado (**Figure 3.17-3**). Virtually all of the proposed facilities would be located in unincorporated areas, limiting the future accrual of property tax revenues to local cities and towns.



Sources: TWE and AECOM 2011.

Figure 3.17-3 Approximate Geographic Distribution of $2.47 Billion Capital Investment for the Project – Alternative A

Implementation of either Alternative B or C would increase the level of investment and valuation in Colorado and Nevada, with offsetting reductions in relative terms in Utah and Wyoming (**Figure 3.17-4**). With Alternative C the share of the total capital investment in Colorado would climb to 12 percent, double that with Alternative A.



* The shifts in geographic distribution reflect the differences in costs associated with the Alternatives D, E, and F corridors in Regions I, II, and III, assuming they would be paired with the Alternative A alternatives in Region IV.

Sources: TWE and AECOM 2012, 2011.

Figure 3.17-4 Geographic Distribution of Project-related Capital Investment for the Alternatives

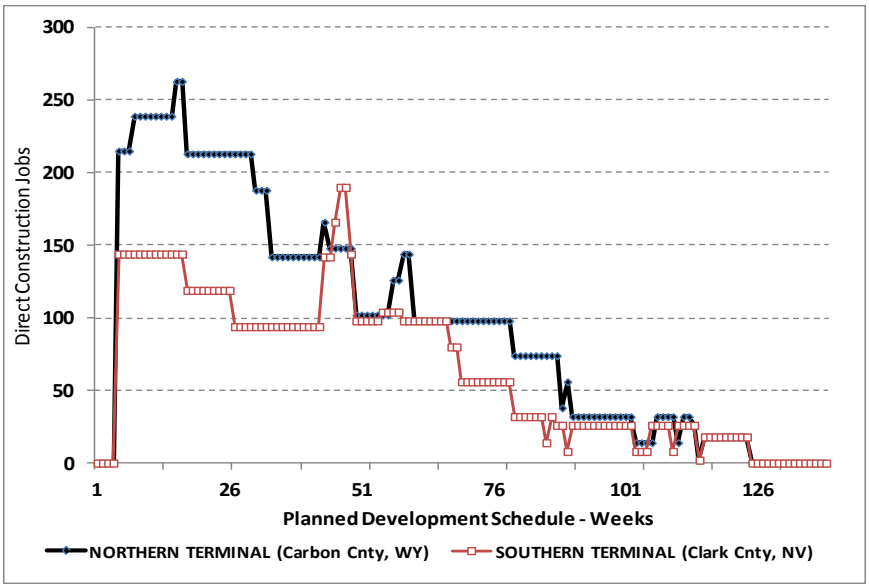
Estimates of the annual ad valorem/property tax revenues during operations were not prepared due to the a lack of information needed to project the future assessed value of the transmission system, the multiplicity of individual taxing jurisdictions affected and the respective tax rates that would apply.

3.17.5.1 Impacts to Socioeconomic Conditions from Terminal Construction, Operation, and Decommissioning

This section addresses the short and long-term social and economic effects that would arise in conjunction with the construction of the two terminals. Such impacts would include short-term increases in direct and indirect employment, and demands on temporary housing, public facilities, and public services in and near Rawlins/Sinclair and in the Las Vegas metropolitan area. Short-term effects would occur over a 27- to 28-month period for construction of each terminal. Construction activity on the terminals would occur on a year-round basis. Each of the terminals would involve construction activity at a fixed site/location, unlike the transmission line construction that would involve multiple work crews moving along the route.

Construction of the two terminals likely would involve a combination of local and non-local contractors, employing resident and non-resident workers. The local work force in Clark County, Nevada, likely would supply most of the specialized skills and trades needed to complete the terminals whereas there would be a greater reliance on non-local workers in Carbon County, Wyoming. In either instance, the non-resident workers temporarily would relocate to the respective communities given the 27- to 28-month construction period.

The work force requirements for each terminal would be highest during the first 8 to 9 months of construction, declining over time. According to the labor requirement estimates by TransWest, construction of the northern terminal is projected to require approximately 50 percent more labor than that for the southern terminal. **Figure 3.17-5** shows projected direct employment for construction of the two terminals, assuming concurrent development, illustrating the similarity in labor requirements over time as well as the higher labor needs associated with the northern terminal.



Note: Although the labor requirements for the two terminals appear together on the above figure, the two locations are approximately 580 air miles apart.

Figure 3.17-5 Direct Construction Employment for the Northern and Southern Terminals Assuming Concurrent Development Schedules

Employment: TransWest estimates that up to 263 jobs would be involved directly with construction of the northern terminal, with a peak employment of 190 jobs for the southern terminal. Peak employment associated with northern terminal could occur concurrently with the period of highest employment associated with Spread 1 (**Figure 3.17-2**). Average direct construction employment for the northern and southern terminals would be 113 and 76 jobs, respectively. Firms supplying goods and services to the project and contractors involved in construction, and those serving temporary lodging and consumer needs of workers also would benefit economically from the project. Benefits would include increases in sales, possible new business starts, and hiring additional employees or increased hours worked for existing owners and employees. It is estimated that an average of 0.7 indirect and induced jobs (together referred to as secondary jobs hereafter) would be generated in the Rawlins/Carbon County and Las Vegas Valley economies for each direct job associated with the project.[4] The labor requirements associated with each terminal are summarized in **Table 3.17-13**.

[4] Secondary employment includes two types of non-direct employment: indirect and induced. Indirect employment includes jobs supported by company and contractor purchases of goods and services from local and regional businesses. Induced employment includes jobs supported by employee spending of Project-related income and by business, local government, and school district spending in response to increased demand. Induced employment would occur across many economic sectors. The 0.7 secondary jobs multiplier is an assumption based on economic data and estimated multipliers for energy development and industrial construction projects in the Rocky Mountain/Intermountain West.

Table 3.17-13 Short-Term Employment Effects Associated with Construction of the Terminals

	Northern Terminal	Southern Terminal
Direct Construction Jobs – Peak	263	190
Direct Construction Jobs - Average over 28 months	113	76
Secondary Jobs - 0.7 x average direct	79	54
Total Direct and Secondary Jobs - Average	192	130
Total Average Employment as a Percent of 2010 Total County Employment	2%	<0.2%

Sources: TWE and AECOM.

Population and Demographics: The influx of non-resident workers to meet demand for specialized labor would result in a temporary population influx into the Rawlins and Sinclair communities (northern terminal) and Las Vegas Valley, including Boulder City (southern terminal). The size and relative scale of the population influx would depend on the availability of local residents to fill direct, indirect, and induced jobs. In the Rawlins/Sinclair area, the population influx could be upwards of 200 to 300 depending on the time of year when construction begins, the level of oil and gas development in the region at the time, and labor needs generated by other projects. Many of the non-resident construction workers relocating to the area temporarily would not be accompanied by other family members. Consequently local schools would see little increase in enrollments, and any such increase would only be over one or two school years.

Local labor likely would fill a majority of all jobs associated with construction of the southern terminal near Boulder City, Nevada, due to the larger size and mix of skilled workers available in the local labor force. Consequently, little project-related population influx would be expected in the Las Vegas Valley.

Temporary Housing: Construction of the terminals would increase demand for temporary housing in affected communities, with the timing and magnitude of demand corresponding to the influx of non-resident workers. Overall demand would be comprised of a combination of a few ownership units, conventional single family and apartment rentals, RV/camper parking spots, and motel rooms. Rental property owners and local lodging establishments who meet the needs of construction workers would realize increased revenues.

Project-related demand for temporary housing in Rawlins and Sinclair could compete with the needs from other energy development projects, including the Chokecherry-Sierra Madre wind energy project, and seasonal demands associated with business travel and tourism. The supply of temporary lodging is constrained. Thus, construction of the terminals would contribute to temporary shortages and may result in work force commuting to/from other communities. Because construction of the terminals would involve increased demand for a moderately long period, the project may stimulate investment in new temporary housing.

Little population influx is anticipated in the Las Vegas Valley in conjunction with the project. Any increase in demand could likely be accommodated by existing supply in Henderson, Boulder City, and elsewhere. Demand for RV/campground spots may compete with other tourism demands in Boulder City area, and there would be potential competition for space at the Lake Mead NRA campground, although individual visitors staying overnight are limited to 30 days per visit, 90 days total within 12 months.

Public facilities and services in Rawlins, Sinclair, and Las Vegas Valley: Public facilities and services most likely to be affected by construction of the terminals include law enforcement, emergency medical services, water, wastewater, road and bridge, and general administration. Potential effects include an increase in the number of calls on local police and sheriff departments and EMS related to motor vehicle accidents, traffic enforcement, and altercations. The incremental demand on water and wastewater systems would be similar in nature to the demands associated with tourists and travelers, which are already being

accommodated. As mentioned earlier, local school districts would not be expected to experience a significant increase in enrollments or other effects on facilities and services.

Based on recent local experience with major construction projects and the seasonal tourism and travel demand, the scale of the project-related short-term demand in Rawlins would generally be within the capacity of local service providers. Although no need for capacity expansion is foreseen at this time, following severe cutbacks in capacity during the recent recession, the City of Rawlins may interpret the project-related demand as contributing to a general need to expand service capacity.

Accounting for the available capacity and demands from tourism and travel in the metro area, the limited population influx from project related demands at the southern terminal would be well within the capacity of local service providers.

Fiscal effects for affected units of government – primarily local: Each terminal would involve an estimated $550 million investment. This investment would result in substantial short-term sales and use taxes generated by purchases of materials and supplies and sales taxes on consumer purchases by construction workers.

The tax revenue benefits of this spending for the northern terminal would accrue primarily to the State of Wyoming, Carbon County, and city of Rawlins. Additional impact assistance revenues may accrue to local governments through the future siting process of the WISD. Once operational, the terminal would become a substantial long-term increment to the ad valorem tax base for Carbon County, Carbon County School District #1, and some special districts. Ad valorem tax benefits to Rawlins would be indirect, that is, through the effect of the project in supporting or raising the valuation of homes and commercial property in the city.

Construction of the southern terminal would generate substantial short-term sales and use taxes on purchases of materials and supplies and sales taxes on consumer purchases by construction workers. The tax revenues would accrue primarily to the State of Nevada and Clark County. Long-term increases in ad valorem tax base would benefit Clark County, Clark County School District, and special districts. Ad valorem revenue benefits to Boulder City, Henderson and other communities would be indirect.

Effects on social values and quality of life: In the Rawlins area, construction and operations of the terminals could contribute to an incremental increase in dissatisfaction for some residents in Carbon County because of location and concentration of industrial construction activity in proximity to the community and construction-related traffic. Others would view the temporary activity in a favorable light given the effects associated with the recent economic recession. In the Las Vegas Valley, due to the terminal's proposed location in a sparsely populated area, construction of the terminal would generate little impact on social values and quality of life.

Due to their location, access and surrounding land uses, the completion of the terminals would have little impact on outdoor recreation, agriculture, or tourism as they relate to quality of life. The terminal may be visible from locations in the Sloan Canyon NCA.

At the northern terminal, the institutionalized population incarcerated at the Wyoming State Penitentiary potentially qualifies for consideration under EO 12898. The status of the inmate population relative to EJ is unclear. The minority/racial make-up of the population tends to be relatively high and the income status of the prison population is not material. Moreover, the state assumes some responsibility for the health and welfare of the inmates. However, the inmate population generally has less access to information and little opportunity to participate in scoping relative to land use and health and safety issues. In some instances, for instance, during the development of an RMP, such issues may not warrant much concern because of the lack of site specific development proposals and a tendency to look to prison officials to address potential concerns. In this particular instance involving a potentially hazardous, industrial use, it is unclear whether EJ concerns exist. However, no high impacts to human health or environmental quality have been identified in

conjunction with construction of the northern terminal. Potential EJ concerns do not arise in conjunction with the southern terminal due to its location in a sparsely populated rural area.

Summary: Construction of the two terminals would result in temporary increases in local employment, generating increased labor income, and sales revenue for local retail, service and other businesses in Carbon County, Wyoming, and Clark County, Nevada. The total direct and secondary employment associated with construction of the terminals would be equivalent to 2.0 percent of total 2010 employment in Carbon County and less than 0.2 percent in Clark County. The economic stimulus associated with construction would extend over approximately 28 months. Demand for specialized labor skills is likely to result in some population influx, more so in Carbon County than in the Las Vegas Valley, with corresponding demands on public facilities and services. Due to the limited scale of the population influx, no major increases in local government staffing, facility capacity, or increase in public expenditures would be anticipated to serve these demands. The states of Wyoming and Nevada, the two counties and local communities would realize one-time increases in sales and use tax revenues in conjunction with construction. In conclusion, no significant socioeconomic effects have been identified in conjunction with construction of the two terminals.

Operations Impacts

Long-term operation and maintenance of the terminals would create a small number of permanent jobs in Rawlins/Sinclair and Las Vegas Valley/Boulder City. The operations work force would be augmented by temporary contract workers, to conduct both scheduled and unscheduled maintenance and repairs. Ongoing operations of the terminals would indirectly support other jobs in the community.

The long-term operations and maintenance jobs would result in limited scale population increases, along with demands on housing and public facilities and services, including a few students in public schools. However, in and of itself, the anticipated scale of the demand would unlikely require additional capacity or staffing.

Completion of the terminal could contribute to long-term effects on social values and quality of life for some area residents. In the Rawlins area, the project could contribute to an incremental increase in dissatisfaction for some residents in Carbon County because of location and concentration of industrial activity along the southern boundary of the community. In the Las Vegas Valley, completion of the terminal may contribute to increased dissatisfaction for some residents and visitors due to concentration of development and visibility from U.S. 93/95 and the Sloan Canyon NCA.

Due to their location, access and surrounding land uses, operation of the terminals would have little impact on outdoor recreation, agriculture, or tourism as they pertain to quality of life.

Long-term fiscal effects would include the incremental addition to local ad valorem tax base, both directly and indirectly, additional fees, and incremental sales and use taxes. Carbon County, Wyoming, and Clark County, Nevada, would be the primary beneficiaries of such revenues.

Due to their location in proximity to other major electrical transmission, railroad, and other industrial and municipal facilities, the construction and operations of the two terminals would have little or no direct or indirect effect on property values in the respective communities.

Decommissioning Impacts

Decommissioning impacts would result in temporary economic and population effects in Rawlins, Sinclair, and Las Vegas Valley similar to those during construction; temporary direct and secondary job gains, short-term population influx with demands on housing and local facilities and services. These impacts would likely be of much shorter duration and smaller scale than those associated with construction.

Decommissioning would not generate sales and use taxes from the purchases of materials and equipment to the same extent as initial construction would.

Differences in Effects to Socioeconomic Conditions from Design Options or Alternative Location for the Southern Terminal

Design Option 2 – DC from Wyoming to IPP; AC from IPP to Marketplace Hub

Implementing this design option would have the following implications for socioeconomic impacts.

- The socioeconomic effects in Regions I and II would be the same as those for Alternative A.
- An increase in short-term construction impacts in Millard County due to the construction of a new AC/DC converter station. Additional investments would result in additional local tax revenues.
- An increase in short-term construction impacts in Millard or Juab counties in conjunction with the construction of a ground electrode.
- Minor temporary socioeconomic effects in Region III (Iron or Lincoln counties), over approximately a 1-year duration, associated with the construction of a series compensation station in the AC portion of the transmission line.
- Little, if any, incremental impact on long-term employment and population in Millard or Clark counties.
- Potential temporary differences in social and economic impacts (i.e., minor differences in employment) due to changes in the transmission line from DC to AC between IPP and the Eldorado Valley.
- Elimination of impacts associated with construction and operation of a ground electrode in the southern portion of Region IV (Clark County).
- Changes in short-term construction effects and long-term ad valorem tax revenues in Clark County due to the construction of a substation rather than the more costly AC/DC converter station.
- Decommissioning impacts for Design Option 2 would be similar as those for Alternative A.

Design Option 3 – Phased Build

Implementing this design option would result in short and long-term social and economic effects similar to those described above for the Applicant Proposed design, with the following differences:

- Short-term construction impacts could occur in several phases, over a more extended period. The period of time over which the phased construction would be completed is uncertain.
- The overall level of short-term employment and population influx, and the level of capital investment likely would be higher due to phased construction, with some communities experiencing a second “round” of effects. Incrementally higher short-term social and economic effects would occur in the Rawlins, Wyoming, and Delta, Utah, areas.
- Additional capital investments would result in additional tax revenues.
- Short-term effects associated with substation construction in the Rawlins area would be lower than those for the northern terminal under Alternative A, but with a second series of short-term effects occurring with the future conversion to a full converter station during Phase 2. Anticipated effects would include short-term job opportunities, demand for temporary housing, increases in business and tax revenues, increases in local traffic and demands for some services.
- Short-term socioeconomic effects would occur in northwestern Utah during Phase I in conjunction with the construction of a compensating station. The socioeconomic effects anticipated during

Phase 2 would be comparable in type, magnitude, severity, and duration to those associated with Alternative A.

- The timing of socioeconomic effects in Regions III and IV would be delayed until Phase 2, with the timing contingent upon when the phased build out is completed. Most of the anticipated effects would be comparable to those associated with Alternative A.
- Short-term socioeconomic effects, similar to those associated with Alternative A would occur in Regions I and II as construction and rigging crews convert the system from 1,500 kV AC to 600 kV DC operations.
- Demand for temporary housing and the indirect and induced demands on public facilities and services and beneficial effects on local business in the Delta area would be higher due to the construction of a substation.
- The short term socioeconomic effects associated with construction of the ground electrodes would be delayed until Phase 2.
- Fiscal benefits associated with facilities to be completed in Phase 2 would be deferred.
- Little, if any, incremental impact on long-term employment and population.
- Decommissioning impacts would likely be similar for Alternative A and Design Option 3.

Alternative Location of the Southern Terminal

Implementing this option would locate the southern terminal slightly north of the proposed location. As a result, some realignment of the transmission line would occur, which could in turn result in minor differences in temporary employment, spending, taxes, demands on housing and local facilities and services. However, the differences would be negligible in terms of the effects on local social and economic conditions.

Additional Mitigation

Additional mitigation has been prescribed to lessen the impacts described above.

SOCIO-1*: TWE must address temporary housing needs in conjunction with a Wyoming Industrial Siting Permit that must be obtained prior to the commencement of construction. That plan should address the combined housing needs during construction of the northern terminal, ground electrode, and Spread 1, particularly given potential competition for housing from other development in the area. Local officials should be consulted in the development of that plan. The housing plan should address housing needs associated with construction related indirect and induced jobs that would be supported.*

Effectiveness: Implementation of a pro-active housing plan could substantially reduce the potential for temporary housing shortages to become a source of adverse socioeconomic impacts within the analysis area, particularly during the period of peak employment. Such impacts would extend from housing to community services, public sector revenues, and social effects for workers and residents alike. The effectiveness of the plan will be contingent upon the specific elements, strategies, and programs used.

SOCIO-2*: TWE should encourage its contractors, to the maximum extent practicable, to purchase materials, equipment and supplies locally, have construction materials delivered on an FOB basis to the counties in which the materials will be utilized, and complete all reports regarding taxable purchases in a timely manner so that proper attribution of sales and use tax payments can occur.*

Effectiveness: Maximizing local purchases and promoting the correct attribution of purchases to the appropriate local governments is highly effective in insuring that local governments receive the maximum tax revenue benefit during the construction of the project. Such taxes are vital for local governments to address the temporary demands on public facilities and services.

SOCIO-3: *TWE should conduct annual coordination meetings with local emergency management officials (law enforcement, fire, health care, state prison. etc.) to review and update emergency coordination and situation management.*

Effectiveness: Such information and coordination is vital for local governments to plan public services and address public safety.

3.17.5.2 Impacts to Socioeconomic Conditions Common to All Alternative Routes and Associated Components from Construction, Operation, and Decommissioning

This section addresses the short-term and long-term socioeconomic impacts associated with construction and operation of the two ground electrode systems and the transmission line. A general overview of the short-term effects associated with construction is presented first, followed by a discussion of the long-term effects of operation. That is followed by a comparison of impacts by region and alternative.

Construction Impacts

Implementation of Alternative A would affect social and economic conditions in 16 counties in the analysis area. Social and economic conditions in many, but not all, of those counties would be affected by the selection of one of the other Alternatives or one or more routing variations. The numbers of counties affected under Alternatives B through F are 16, 15, 15, 9, and 9, respectively (**Table 3.17-14**).

Table 3.17-14 Potentially Affected Counties, by Alternative and Region

Region County, State	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**	**Alternative E**	**Alternative F**	**Routing Variations**
Region 1							
Carbon, Wyoming	**XXXX**	**XXXX**	**XXXX**	**XXXX**	**-----**	**-----**	**XXXX**
Sweetwater, Wyoming	**XXXX**	**XXXX**	**XXXX**	**XXXX**	**-----**	**-----**	**XXXX**
Moffat, Colorado	**XXXX**	**XXXX**	**XXXX**	**XXXX**	**-----**	**-----**	-----
Routt, Colorado	**-----**	**-----**	**XXXX**	------	**-----**	**-----**	**------**
Region 2							
Moffat, Colorado	**XXXX**	**XXXX**	**XXXX**	**XXXX**	**XXXX**	**XXXX**	-----
Rio Blanco, Colorado	**XXXX**	**XXXX**	**XXXX**	**XXXX**	**XXXX**	**XXXX**	-----
Garfield, Colorado	-----	**XXXX**	**XXXX**	-----	-----	-----	-----
Mesa, Colorado	-----	**XXXX**	**XXXX**	-----	-----	-----	-----
Uintah, Utah	**XXXX**	-----	-----	**XXXX**	**XXXX**	**XXXX**	-----
Duchesne, Utah	**XXXX**	-----	-----	**XXXX**	**XXXX**	**XXXX**	-----
Grand, Utah	-----	**XXXX**	**XXXX**	-----	-----	-----	-----
Carbon, Utah	-----	-----	-----	**XXXX**	**XXXX**	**XXXX**	**XXXX**
Emery, Utah	-----	**XXXX**	**XXXX**	**XXXX**	-----	-----	**XXXX**
Wasatch, Utah	**XXXX**	-----	-----	-----	-----		-----
Utah, Utah	**XXXX**	-----	-----	-----	**XXXX**	**XXXX**	-----
Sanpete, Utah	**XXXX**	**XXXX**	-----	**XXXX**	**XXXX**	**XXXX**	-----
Juab, Utah	**XXXX**	**XXXX**	-----	**XXXX**	**XXXX**	**XXXX**	**XXXX**
Sevier, Utah	-----	-----	**XXXX**	-----	-----	-----	-----
Millard, Utah	**XXXX**	**XXXX**	**XXXX**	**XXXX**	**XXXX**	**XXXX**	**XXXX**

Table 3.17-14 Potentially Affected Counties, by Alternative and Region

Region County, State	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Routing Variations
Region 3							
Millard, Utah	**XXXX**	**XXXX**	**XXXX**	**XXXX**	-----	-----	-----
Beaver, Utah	**XXXX**	**XXXX**	**XXXX**	**XXXX**	-----	-----	-----
Iron, Utah	**XXXX**	**XXXX**	**XXXX**	**XXXX**	-----	-----	**XXXX**
Washington, Utah	**XXXX**	**XXXX**	-----	-----	-----	-----	**XXXX**
Lincoln, Nevada	**XXXX**	**XXXX**	**XXXX**	**XXXX**	-----	-----	-----
Clark, Nevada	**XXXX**	**XXXX**	**XXXX**	**XXXX**	-----	-----	**XXXX**
Region 4							
Clark, Nevada	**XXXX**	**XXXX**	**XXXX**	**XXXX**	-----	-----	**XXXX**
Total Number of Counties (duplicates eliminated)	**16**	**16**	**15**	**15**	**9**	**9**	**9**

Note: **XXXX** indicates that some portion of the corridor is located in the designated county.

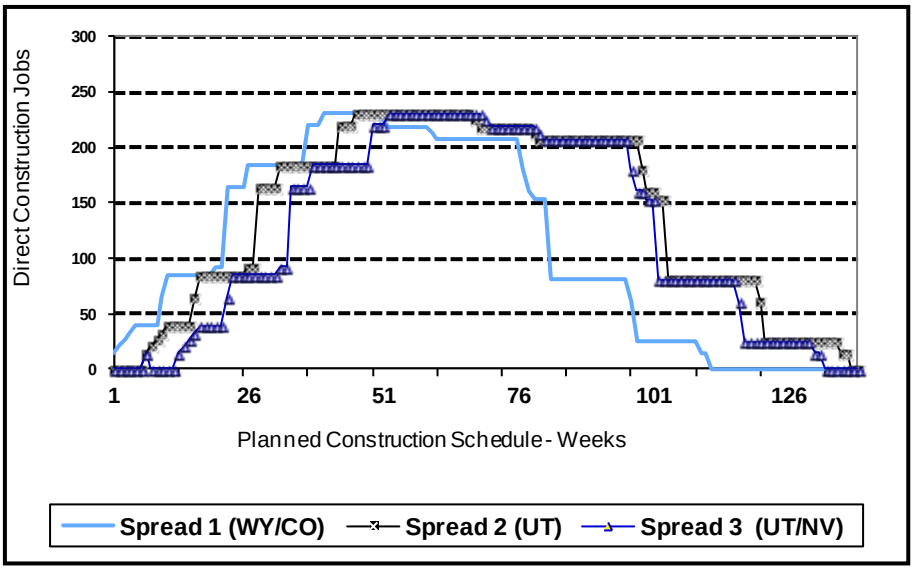
Source: TWE, 2011 through 2013.

As previously discussed, short-term construction of the transmission line would be completed using three "spreads", each comprising more than 200 miles of the overall route, and each with its own work force, fleet of construction equipment, and schedules. The use of multiple spreads means that construction activity would occur concurrently in multiple locations across the overall project route affecting different communities.

Under Alternative A, Spread 1 covers approximately 221 miles in 2 states from the northern terminal, including all of Region I and a portion of Region II. Spread 2 covers approximately 235 miles in Utah, including the portion of Region II not included in Spread 1, and a portion of Region III. Spread 3 extends approximately 269 miles through western Utah and southern Nevada to the southern terminal. Construction activity typically proceeds in a sequential fashion along a segment of the corridor, although not necessarily moving continually from one end to the other, as the total corridor could be divided into sub-segments to account for seasonal weather conditions or timing restrictions on public lands. Thus, construction activity may be occurring over 100 miles or more of the spread during the period of peak direct employment, resulting in a dispersal of the temporary effects across multiple communities.

Figure 3.17-6 portrays the project direct employment associated with each spread over time. As shown, the direct employment increases incrementally over time as new activities, including surveying, access road construction, staging area development, material and equipment deliveries, tower pad development, tower erection, stringing and reclamation are initiated, until eventually peaking at 230 jobs. Direct employment would average approximately 140 jobs for each of the three spreads over the 2-plus year construction schedule, increasing to more than 200 jobs over the "middle" 60-to-70 weeks during which most construction activity is concentrated.

Most of the temporary impacts of transmission line construction, including temporary population influxes, increased business volume for local merchants and increased sales tax revenues, would be similar in type to those associated with development of the terminals and ground electrodes. The primary differences would stem from the movement of the construction activity along the corridor over time and the associated implications for temporary housing and potential demands on emergency response as construction proceeds away from the larger towns and into more rural areas.



Source: TWE (PDTR 2011).

Figure 3.17-6 Projected Direct Construction Jobs for the Transmission Line Components of Alternative A

Due to the mobile nature of transmission line construction and the length of each segment, virtually all of the direct construction workers would qualify as non-resident and relocate temporarily for some portion of construction, relying on private RV/campgrounds and motels for housing. When available, some public campgrounds may be used, although these tend to have length of stay limits. One-way commutes of 30 to 50 miles from the place of lodging to the active work site are not uncommon for transmission line and other linear projects. In rural areas or smaller communities, contractors sometimes include parking spaces for RVs in staging areas, or ranchers and other private landowners provide parking spaces. The combination of construction activity occurring over an extended corridor, expansion and contraction of the workforce during the mid-portion of the schedule, and geographic dispersion of temporary residency, would result in lower secondary job and income generation for the transmission lines than for the terminals. Based on an employment multiplier of 0.44 secondary jobs and an average of 200 direct jobs[5], the equivalent of 89 secondary jobs are projected to be generated for each spread under construction. Like the direct jobs, the secondary jobs would be temporary, geographically dispersed along each spread, and filled through a combination of temporary hiring and extended hours for existing employees and proprietors. Many of the secondary jobs would be associated with eating and drinking places, motels and RV campgrounds, convenience stores/fueling stations, and grocery stores.

The progression of construction activity along the corridor would result in temporary population influxes in communities along the corridor. The peak population influx associated with each spread would likely be less than 250 persons, with the total generally dispersed across more than one community. Typically, the initial influx associated with surveying, staking, and road construction would be on the order of 10 to 20 workers. These tasks progress rapidly and workers commonly shift their temporary place of residence to the next community within days or weeks. The influx would climb as pad construction, tower assembly and erection

[5] The 0.44 multiplier is an assumption based on economic data and estimated multipliers for energy development and industrial construction projects in the Rocky Mountain/Intermountain West. It is lower than that used for the terminals to reflect the more temporary presence of the work force in a community, the likelihood of that work force being geographically dispersed along the corridor, and the limited availability of goods and services in the rural areas of the analysis area.

and stringing activities occur, declining thereafter. Few non-employed spouses, family members, or friends typically accompany transmission line construction workers. Given the proximity of the corridors to nearby communities, the existing highway access to/from those communities, and the pace of construction, a peak population influx of approximately 100 to 125 workers in any given community would be anticipated. Because the work sites are commonly in rural areas away from the communities, the presence of the construction work force is most apparent during the evenings.

The limited duration and scale of the temporary population influx in any community would generally not be significant when considered in the context of the current population, the number of communities in the region offering lodging, retail, and public services capable of meeting needs associated with the construction workers, and widespread experience with seasonal and other temporary demands associated with tourism and energy development. In 2010, the combined population of counties crossed by one or more of the alternatives ranged from 2.90 million for Alternative A to 2.35 million for Alternative C (**Table 3.17-15**). The combined population for Alternative D across regions I and II is lower than those for Alternatives A, B, or C, while that for Alternative E in Region II would be only slightly lower than that for Alternative A. Region I, with 73,486 residents in 2010, is the least populated. Regions III and IV, both of which include the Las Vegas metropolitan area, have the highest population.

Table 3.17-15 2010 Census Population, by Region and Alternative

Region County, State	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**	**Alternative E**
Region I	73,486	73,486	96,995	73,486	NA
Region II	694,909	317,854	256,277	154,606	683,724
Region III	2,160,024	2,021,909	2,021,909	NA	NA
Region IV	1,951,269	1,951,269	1,951,269	NA	NA
Total Population in Directly Affected Counties**	**2,902,121**	**2,386,951**	**2,348,883**	**228,092**	**683,724**

** Total adjusted to avoid double-counting of Clark County.

Source: U.S. Census Bureau 2011.

The availability of temporary lodging and essential retail and traveler services are two important indicators of the capability of local communities to accommodate a temporary population influx (**Tables 3.17-16** and **3.17-17**). Such resources are relatively abundant across the region; that abundance stemming from a combination of resident demand, past or current energy resource development, a history of outdoor recreation and tourism, and locations on a major intra or interstate highway corridor. **Table 3.17-16** lists the communities in each county having 2,000 or more residents in 2010, a population threshold defined for this assessment as indicative of a size adequate to offer essential convenience retail and consumer services to attract many temporary construction workers and accommodate them without undue stress on facilities and services and local social conditions. **Table 3.17-17** summarizes the inventory of available temporary housing in each county.

Table 3.17-16 Communities with Population of 2,000 or More, by County

County	Communities with a Resident Population of 2,000 or more
Carbon, Wyoming	Rawlins
Sweetwater, Wyoming	North Rock Springs CDP, Rock Springs, Green River,
Moffat, Colorado	Craig
Routt, Colorado	Steamboat Springs

Table 3.17-16 Communities with Population of 2,000 or More, by County

County	Communities with a Resident Population of 2,000 or more
Uintah, Utah	Maeser CDP, Vernal
Rio Blanco, Colorado	Meeker, Rangely
Garfield, Colorado	Carbondale, Glenwood Springs, New Castle, Rifle, Silt
Mesa, Colorado	Clifton CDP, Fruitvale CDP, Grand Junction, Fruita, Orchard Mesa CDP, Palisade, Redlands CDP
Duchesne, Utah	Roosevelt
Carbon, Utah	Helper, Price
Grand, Utah	Moab
Emery, Utah	Huntington
Wasatch, Utah	Heber, Midway, Park City
Utah, Utah	Alpine, American Fork, Cedar Hills, Draper, Eagle Mountain, Elk Ridge, Highland, Lehi, Lindon, Mapleton, Orem, Payson, Pleasant Grove, Provo, Salem, Santaquin, Saratoga Springs, Spanish Fork, Springville
Sanpete, Utah	Ephraim, Gunnison, Manti, Mount Pleasant
Juab, Utah	Nephi
Sevier, Utah	Monroe, Richfield, Salina
Millard, Utah	Delta, Fillmore
Beaver, Utah	Beaver
Iron, Utah	Cedar City, Enoch, Parowan
Washington, Utah	Hildale, Hurricane, Ivins, LaVerkin, Saint George, Santa Clara, Washington
Lincoln, Nevada	- None -
Clark, Nevada	Boulder City, Enterprise CDP, Henderson, Las Vegas, Laughlin CDP, Mesquite, Moapa Valley, Nellis AFB CDP, North Las Vegas, Paradise CDP, Sandy Valley CDP, Spring Valley CDP, Summerlin South CDP, Sunrise Manor CDP, Whitney CDP, Winchester CDP

Note: CDP refers to Census designated places. CDPs are closely settled, named, unincorporated communities that generally contain a mixture of residential, commercial, and retail areas similar to those found in incorporated places of similar sizes. Each CDP will contain an identifiable core encompassing the area that is associated strongly with the CDP name and contains the majority of the CDP's population, housing, commercial structures, and economic activity.

Source: U.S. Census Bureau, 2011a.

Table 3.17-17 Temporary Housing (Motel Rooms and RV/Campground Spaces), by County[1]

	Number of Hotels/Motels	Number of RV/ Campgrounds	Total Rooms/ Space	Communities with 200 or More Rooms or RV/Camping Spaces
Carbon, Wyoming	18	20	1,896	Rawlins
Sweetwater, Wyoming	28	13	2,813	Green River, Rock Springs
Moffat, Colorado	10	8	886	Craig
Routt, Colorado	23	2	3,672	Steamboat Springs
Uintah, Utah	16	16	1,139	Vernal
Rio Blanco, Colorado	19	13	575	None
Garfield, Colorado	34	12	2,583	Carbondale, Glenwood Springs, Rifle
Mesa, Colorado	42	24	4,186	Fruita, Grand Junction
Duchesne, Utah	6	22	535	None

Table 3.17-17 Temporary Housing (Motel Rooms and RV/Campground Spaces), by County[1]

	Number of Hotels/Motels	Number of RV/ Campgrounds	Total Rooms/ Space	Communities with 200 or More Rooms or RV/Camping Spaces
Carbon, Utah	10	4	711	Price
Grand, Utah	30	22	4,457	Moab
Emery, Utah	16	10	1,068	Green River
Wasatch, Utah	47	6	5,327	Heber, Midway, Park City
Utah, Utah	37	27	4,013	Lehi, Orem, Provo
Sanpete, Utah	13	7	429	None
Juab, Utah	6	12	942	None
Sevier, Utah	19	7	1,006	Richfield
Millard, Utah	10	7	596	None
Beaver, Utah	13	3	659	Beaver
Iron, Utah	22	12	1,839	Brian Head, Cedar City
Washington, Utah	68	23	5,581	Hurricane, Springdale, Saint George
Lincoln, Nevada	8	8	339	None
Clark, Nevada	272	32	146,930	Boulder City, Henderson, Las Vegas, Laughlin, Mesquite
Total Analysis Area	770	335	193,201	

[1] An unknown number of the units or spaces are available only on a seasonal basis.

Sources: Colorado Tourism Office 2011; Nevada Commission on Tourism 2011; U.S. Census Bureau 2011b;Utah Office of Tourism 2011; Wyoming Tourism 2011.

There are many smaller communities and settlements across the analysis area that may host temporary construction workers associated with the project due to their location relative to the project work sites and larger communities, highway accessibility, availability of motels and RV/camper campgrounds, or other less formal capacity to accommodate RVs/campers. The temporary population influx could represent a substantial increase as compared to the permanent population. Local businesses would see short-term activity, which can have both upside and downside effects, for instance, increases in motor fuel sales but also non-paying drive offs. Some local residents may be discomforted by the changes in the pace of life, increases in local traffic, and other effects on lifestyles.

The location of the communities in eastern and central Utah relative to the various corridors and the availability of temporary housing accommodations suggest the potential for competition between project-related housing demand and that associated with other energy development, tourism, and outdoor recreation. Such competition could temporarily strain available resources, resulting in higher costs, longer daily commutes for workers seeking housing in other locations, increased demand on local public services, and various social problems associated with informal parking and camping where not permitted. The communities affected by such competition would vary over time as project construction progresses.

Construction of the transmission line and associated component facilities would result in temporary increased demand on law enforcement and emergency medical responders across the region. Response time to accidents or other calls for service in rural locations could be lengthy, and demands could stress the capabilities of volunteer-based responders, reduce service coverage in other portions of a responder's service area. Much of the burden for law enforcement would fall to the respective state patrols and county sheriffs. Due to the short-term nature of the increases, increases in staffing would be unlikely.

Depending on existing highway access, the increase in light and heavy duty traffic associated with project construction could result in short-term demand for additional highway, road and bridge maintenance for the respective states, counties, and municipalities. Project-related traffic volume following the completion of construction would be very low, contributing little incremental demand for maintenance. Following the completion of construction few, if any, project-related access roads would become permanent roads to be maintained by the respective states or local governments.

Construction of the transmission line would generate short-term sales and use taxes associated with the purchases of materials and supplies associated with the transmission line system and sales and lodging taxes on purchases by construction workers. Estimates of the magnitude of these revenues are not available, but these tax revenues would accrue primarily to the three state treasuries and the counties in which the facilities would be located, and the counties and cities temporarily hosting workers. Additional impact assistance revenues may accrue to local governments in Wyoming as a result of the required ISA process.

Other socioeconomic effects related to construction of the transmission lines could include the following:

- Temporary and limited long-term demand for state and local road maintenance could increase on roads relied upon for access to more remote areas by workers, movement of construction equipment, and construction material deliveries (see Section 3.16, Transportation).
- Farming and ranching operations with grazing permits on BLM and USFS lands could experience temporary and long-term economic effects associated with reductions in grazing forage quantity and quality, need for increased management effort and cost, livestock injury, or adverse effects on animal weight gain. Although the overall effects would be limited in scale given the scale of projected disturbance relative to the total rangeland in the affected area, some individual operators could experience a disproportionate share of the economic effects (see Section 3.14, Land Use).
- Farmers and ranchers operating on private lands could experience short and long-term economic effects associated with isolated incidences of temporary and long-term disruption of established farming and grazing practices due to construction activities and the locations of transmission line and other facilities. The magnitude of such effects would be mitigated through design features and mitigation (see Section 3.14, Land Use) and by financial payments for right-of-way easements to affected property owners.
- Temporary effects to outdoor recreation use and experience, including hunting, OHV use, camping and hiking may occur near active construction and along key road access corridors.
- Temporary indirect economic effects on local communities resulting from effects on outdoor recreation, potentially including disruption of access, routes, or other types of conflicts with special OHV and other scheduled recreation events, and big game hunting as construction proceeds along the corridor. The extent of such conflicts would be addressed through coordination between TransWest and the BLM FOs and **REC-4**, **REC-5**, and **REC-7** (see Section 3.13, Recreation Resources).

<u>Real Estate Property Values</u>

Concerns regarding the potential direct and indirect effects of new transmission lines on real estate values, particularly residential and agricultural properties, are common.

Direct effects attributed to changes in land use associated with the development of physical facilities and access, constraints on development associated with right-of-way easements, or the effect of an easement with respect to the efficiency and cost of agricultural operations have been widely recognized. Such effects are typically addressed during the easement acquisition process on public lands, and in negotiations with private landowners. Over the years, procedures and methods for determining the compensation or value of

the change in values have been established. These procedures, based heavily on real estate appraisal practice and economic and accounting practices, consider the existing and foreseeable highest and best use of a property, its size, location, access, shape, zoning, the portion of a parcel affected, and other factors.[6]

Direct effects can be either short-term, for example, disruption of agriculture grazing or crop production during construction, or long-term, for example, the loss of production due to lands associated with the transmission tower. The compensation provided in return for an easement or fee simple acquisition of property theoretically reflects the economic value of the short and long-term changes in land use from a market perspective. Negotiated settlements also may account for non-economic factors as well. Direct effects on private property values are generally recognized and limited to the ROW corridor or lands used or acquired for purposes of construction of long-term support facilities.

Potential direct or indirect effects on public lands are not captured by changes in market values, but rather represent potential trade-offs in use or effects on other resources. In some instances, the potential for impacts is recognized in land management plans and those plans limit where transmission lines can be built.

Conversely, once in place, the location of transmission lines, pipelines and other facilities on public lands can affect future land management or land uses, including the marketability and desirability of public lands designated for potential future disposal to support community development.

Concerns regarding the indirect effect focus on nearby properties. Historically, the term “nearby” referred to properties immediately adjacent to, or within a very short-distance of the right-of-way. In part, that focus reflected concerns regarding potential electro-magnetic field (EMF) related health effects on humans and livestock. More recently, interest in the visual effects has tended to expand the potential area of concern for powerlines, particularly for high voltage lines. The studies reviewed, while having some inconsistencies in their detailed results, generally pointed to small or no effects on sales price due to the presence of electric transmission lines. Some studies found an effect but this effect generally dissipated with time and distance (i.e., with little effect beyond 0.25 mile), even when views are completely unobstructed. The effects that were found ranged from approximately 2 to 9 percent. Most studies found no effect and in some cases a premium was observed. This was attributed to the additional open area usually behind the residence created by the transmission line easement. These relatively small effects are somewhat in contrast to concerns and perceptions expressed in the surveys reviewed here (Jackson and Pitts 2010). The Jackson and Pitts review goes on to conclude that perceptions, even if erroneous, still matter as the perception that a property value has declined, or might decline, can be a real social effect on an individual’s sense of well-being.

At least one study noted an improvement in market prices, suggesting that the effects of a corridor in limiting other nearby development, was a type of amenity. However, most studies suggest caution in generalizing their findings, noting that other factors, including the specifics of a particular market and the intervening topography are more important in determining values. Another factor that does not appear to have been addressed in empirical studies is the potential influence on property values of the presence of one or more existing lines, as is common along much of the proposed corridors. Existing empirical studies also do not account for potential effects on personal use or enjoyment of existing owners.

Based on the literature review cited, the potential for effects would be the highest, albeit very limited even then, in communities and locations with substantial residential development where the corridor is in close proximity to such development. The more rural and less developed the area, the lower the potential for property value impacts (Jackson and Pitts 2010).

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[6] See the Gateway West Transmission Line Draft EIS (Pgs. 3.4-55 to 57) for a discussion of property value impacts.

Environmental Justice

Environmental justice is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies (USEPA 1998). Implementation of EO 12898 for NEPA requires the following steps:

1. Identification of the presence of minority and low-income populations and Indian Tribes in areas that may be affected by the action under consideration.
2. Determination of whether the action under consideration would have human health, environmental, or other effects on any population.
3. Determination of whether such environmental, human health or other effects would be disproportionately high and adverse on minority or low-income populations or Indian Tribes.
4. Provision of opportunities for effective community participation in the NEPA process, including identifying potential effects and mitigation measures in consultation with affected communities and improving the accessibility of public meetings, crucial documents, and notices (CEQ 1998).

With respect to the first criteria, there are three Indian Reservations located near one or more of the alternatives: the Uintah and Ouray Indian Reservation, a segment of the Paiute Indian Reservation in southwestern Utah, and the Moapa Indian Reservation near the Las Vegas Valley in southeastern Nevada. The largest of these is the Uintah and Ouray Indian Reservation in northeast Utah. Alternative A would cross a small portion of the Reservation, paralleling an existing line through an area of semi-rural development characterized by a combination of energy resource development, agriculture, and scattered residential and industrial development. Note that the Reservation is not a large, contiguous area, but a series of larger and smaller tracts, some of which are contiguous to others, while many others are surrounded by non-Reservation lands. Alternatives II-D, II-E, and II-F also would cross small portions of the Uintah and Ouray Reservation (see Section 3.14, Land Use). No lands that are part of the Paiute Reservation would be crossed by any of the alternative routes. Alternative B would cross approximately 14 miles of the Moapa Indian Reservation in southern Nevada, paralleling several other linear projects through an established utility corridor, as well as I-15 and the Union Pacific Railroad ROW. The crossing of the Moapa Reservation must be negotiated between TransWest and the Moapa Tribe. The Tribe has the authority to negotiate the location, management, and compensation for the transmission line across the Reservation and could choose to deny the application to cross their Reservation.

A detailed analysis of household income in proximity to the corridors is beyond the scope of this analysis. Nonetheless, given the variations in personal income among the counties, communities, and rural areas across the length of the alternative corridors, there are may be localized areas with higher shares of low income population than characterizes the corresponding county or state as a whole. However, consideration of the overall length of the corridors, combined with the avoidance of concentrated population such that the numbers of residences in close proximity to the reference lines are small (see Section 3.14); that the Moapa Tribe has authority to negotiate location and other conditions for the line to cross the Reservation; and, that no high and adverse effects to human health or other environmental resources have been identified as part of this assessment, effectively minimizes the potential for disproportionate affects to low-income populations or members of the three affected tribes or Reservations.

Additional Mitigation

Additional mitigation has been prescribed to lessen the impacts described above.

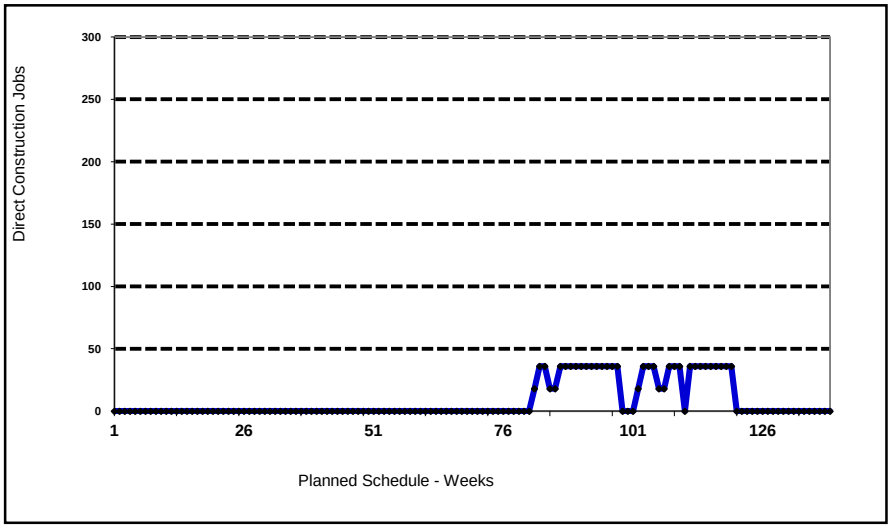
SOCIO-3: *See Section 3.17.5.1, Impacts from Terminal Construction and Operation.*

***SOCIO-4**: If not required by existing regulations or included in the various operations plans to be developed (see Section 2.4), TWE should develop and implement a plan for on-going communications with local county and municipal governments to inform them of construction progress, specifically as it relates to the anticipated timing of activity across each spread.*

Effectiveness: Advanced and on-going coordination and communication with local officials has been shown to be a key element to reducing frictions between communities and construction projects, working to the benefit of all parties.

3.17.5.3 Impacts to Socioeconomic Conditions from the Construction and Operation of the Ground Electrode Systems

Temporary socioeconomic impacts also would occur in conjunction with construction of the two ground electrodes, one in the general vicinity of the Northern Terminal (i.e., near Rawlins, Wamsutter, or in north-central Moffat County, Colorado), and the other in Region III northeast of the Las Vegas Valley. These impacts would be short-duration and limited in scale because construction of each electrode would involve fewer than 20 direct workers for a period of 7 to 8 months as depicted in **Figure 3.17-7**, with the activity occurring following the peak employment associated with the two terminals and the peak employment associated with the two transmission line spreads that would be built in the same area (**Figure 3.17-2**).



Source: TWE, PDTR, 2011.

Figure 3.17-7 Direct Construction Jobs for the Ground Electrode Components

Six alternative locations have been identified for the northern ground electrode site, three for the southern site. The duration of construction could vary slightly between alternative locations due to terrain and the length of the access road required for access from existing highways or the access road built to support transmission line construction. The differences would not affect the fundamental conclusions of the assessment.

The economic stimulus associated with construction of the ground electrodes would support approximately 10 additional secondary jobs in nearby communities. Some of the jobs may be filled by non-residents, but because construction is scheduled to occur following the peak activity on the terminals, some of those workers may already be in the area, limiting the potential incremental population influx or other noticeable socioeconomic effects.

Due to the locations and size of area required, there would be limited impacts on outdoor recreation and agriculture associated with the ground electrode construction, but could involve temporary disruption of current rangeland use.

Operation Impacts

There would be limited direct long-term economic impacts, characterized by a few direct jobs and limited taxable purchases. Communities near the ground electrodes would be largely unaffected because the management and operation of such facilities relies heavily on technology that allows the operations workforce to be located in a few select communities. Direct employment would be augmented occasionally be temporary contract maintenance employees, providing temporary economic stimulus to the local economy.

Potential long-term indirect economic impacts would be on agriculture and recreation opportunities and experience, although the degree would depend in large part on current agricultural activities and the character of the recreational setting.

Very limited or no long-term population effects would be anticipated across most of the corridor. Most communities would be unaffected. Population related effects, including impacts on school enrollment, housing, and demands for facilities and services, would be minimal.

Completion of the transmission lines would result in long-term increases in ad valorem tax base for the counties where the line is located. Some special districts and school districts also may realize tax revenue from the project. Because few if any increases in long-term expenditures would be required in conjunction with the transmission line, the long-term effects on public sector fiscal conditions would be positive, but modest in scale.

On balance, there would be long-term social impacts in some locations, due to effects on open space, recreation, agriculture, and sense of place.

Decommissioning Impacts

Decommissioning would result in short-term employment and population effects similar to those during construction. Decommissioning impacts would occur across all regions, and could occur concurrently in multiple locations.

Temporary demands on housing and public facilities and services would be a function of the size of workforce and duration of the decommissioning activities.

Demand on local/regional solid waste disposal facilities could increase to accommodate disposal of solid waste. However, a substantial quantity of the materials may be recycled, which would result in those materials being transported from the region.

State and local governments would see some sales and use tax revenues from decommissioning in conjunction with work force spending. Local governments would lose benefits of the associated ad valorem tax base.

Decommissioning could result in another iteration of changes in land use, recreation, and agriculture, or conversion to a ROW for another purpose. The type, timing, and effects of the change are uncertain.

3.17.5.4 Region I

This section summarizes the temporal and geographic distribution of impacts as construction moves along the alternative routes, and the implications of that movement for affected communities.

Key Project Parameters of the Project Affecting the Assessment

Transmission Lines

- Approximate time to complete transmission line components in Region I: 80 weeks.
- Direct Construction Employment: Range: 15 to 231, Average: 203. The total consists of multiple distinct crews (survey, clearing, foundation construction, stringing, etc.) that will be spaced out at multiple geographically dispersed locations along the ROW. At times, the spacing, when combined with limited availability of temporary housing, would result in multiple communities being affected simultaneously.
- Operations Employment: few direct permanent jobs over the operating life of the line.
- Secondary Employment: the equivalent of approximately 89 jobs, based on the average direct employment. Very few during operations. The secondary jobs related to construction would be temporary and geographically dispersed across the region based on the location of construction activities and residency patterns of the temporary construction workers.

Ground Electrode

- Approximate time to complete the ground electrode in Region I: 9 months. Completion of the ground electrode expected to follow the completion of the construction of the transmission line in Region I. This work force is independent of that for the transmission line, but activity would be concurrent with construction of the northern terminal.
- Direct Construction Employment: Range – 12 to 18.
- Operations: few, if any, direct permanent jobs over the operating life of the ground electrode.
- Secondary employment: Approximately 10 jobs during construction. Temporary effects likely concentrated in one or two communities, depending on the final site selection.

Decommissioning Impacts

- Temporary employment impacts, along with impacts on temporary housing. Sales and use tax based primarily on work force spending, because of limited purchases of materials. See discussion under terminals above.

Summary of Impacts

Table 3.17-18 compares the impacts associated with the alternative routes in Region I after consideration of BMPs, design features, and mitigation measures.

Four alternative connectors have been defined in Region I, all located between I-80 and the Wyoming-Colorado state line. **Table 3.17-19** summarizes impacts associated with the alternative connectors in Region I.

Table 3.17-20 provides a comparison of alternative electrode bed locations proposed near the northern terminal. Some locations might serve multiple alternatives, while others are only associated with a single alternative. Differences in effects primarily reflect proximity to other land uses and outdoor recreation opportunities.

Table 3.17-18 Summary of Region I Alternative Route Impacts for Socioeconomics

Parameter	Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
Geographic distribution (differences carry through other parameters)	Direct effects in Wyoming and Colorado	Same as Alternative I-A	Same as Alternative I-A	Same as Alternative I-A
Approximate length of corridor (miles)	155	159	186	171
Approximate duration of construction: 80 weeks				
Direct and secondary jobs	Short-term: 292 average Short-term jobs would be distributed among multiple work sites and communities. Long-term: < 20 (assumed)	Short-term: Slightly higher than Alternative I-A Long-term: Same as Alternative I-A	Short-term: 10% to 20% higher than Alternative I-A. Long-term: same as Alternative I-A	Short-term: 5% to 15% higher than Alternative I-A. Long-term: same as Alternative I-A
Population influx	Short-term: Less than 250 (peak) Short-term population influx likely would be dispersed among several communities at any time. Primary communities affected include Rawlins, Wamsutter, Baggs, Dixon, Craig, and Rangely. Long-term: little, if any	Short-term: Essentially the same magnitude as Alternative I-A Long-term: Same as Alternative I-A	10% to 20% higher than Alternative I- A Slightly longer and higher effects in Rawlins, Baggs/Dixon and Craig, lesser impact in Wamsutter	5% to15% higher than Alternative I- A Slightly longer and higher effects in Rawlins and, Baggs/Dixon and lesser impact in Wamsutter
Short-term housing demand	Good supply in Carbon and Sweetwater counties, but some locations require longer commutes to access temporary housing opportunities. Short-term housing availability more limited in Moffat County.	Same as Alternative I-A	Higher demand than Alternative I-A. Commuting to housing may be easier because of highway access.	Higher demand than Alternative I-A. Commuting to housing may be easier because of highway access.
Short-term effects on public facilities and services	Minor short and long-term effects on road maintenance, law enforcement, and emergency response. Much of the area accessible via oil and gas roads.	Comparable to Alternative I- A	Lesser impact on local road maintenance. Access reduces potential effects on emergency services.	Comparable to Alternative I- A

Table 3.17-18 Summary of Region I Alternative Route Impacts for Socioeconomics

Parameter	Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
Effects on public sector revenues	Short-term: Substantial sales and use taxes accrue to states and counties. Not quantified, but in the millions Sales and lodging taxes from worker spending, primarily in Carbon and Sweetwater (WY) and Moffat (CO) counties Long-term: Increase in ad valorem/ property taxes benefitting primarily counties, public education and some special districts. Federal and perhaps state governments would realize ROW rental/ lease revenues.	Comparable to Alternative I-A	Direct: 10% to 20% higher than Alternative I-A Larger share in CO, lower share in WY Worker spending taxes higher	Direct: 5% to 15% higher than Alternative I-A Larger share in WY, lower share in CO Worker spending taxes higher
Potential effects on private agricultural production, including grazing on public lands	Impacts to agriculture primarily associated with grazing on public lands	Comparable to Alternative I-A	Less impact on public grazing, higher potential for impact on irrigated farming and ranching	Comparable to Alternative I-A
Potential economic effects due to conflicts with outdoor recreation	Much of the area already affected by oil and gas development	Comparable to Alternative I-A	Less impact due to proximity to improved highway	Comparable to Alternative I-A
Effects on social values	Most of the corridor either co-located near other linear development or remote and sparsely populated	Comparable to Alternative I-A	Highest potential impact due to proximity and visibility from highways and private lands	Comparable to Alternative I-A
Effects on Property Values	Limited due to location relative to private property	Limited due to location relative to private property	Higher than Alternative I-A, but still limited due to location relative to private property	Limited due to location relative to private property
Potential Environmental Justice concerns	None, although facilities located near the Wyoming State Penitentiary	Same as Alternative I-A	Same as Alternative I-A	Same as Alternative I-A

Table 3.17-19 Summary of Region I Alternative Connector Impacts for Socioeconomics

Alternative Connector	Analysis	Advantages
Mexican Flats Alternative Connector	The connector is located in a rural, unpopulated area. Thus, there would be no appreciable differences in socioeconomic effects, despite minor differences in route length and construction costs.	This connector could reduce impacts on private lands, agriculture production, and social values in Baggs/Dixon area and Moffat County. However, would result in trade-offs as more of corridor in remote, harder to access and service areas.
Baggs Alternative Connector	Same as the Mexican Flats Alternative Connector above.	This connector could reduce impacts on private lands, agriculture production, and social values in Baggs/Dixon area (but not to the extent of the Mexican Flats Alternative Connector) and Moffat County. Trade-off would be more of corridor in remote, harder to access and service areas.
Fivemile Point North Alternative Connector	Same as the Mexican Flats Alternative Connector above.	Similar to the Baggs Alternative Connector, with slightly more benefit in Baggs/Dixon area, and same benefits in Moffat County.
Fivemile Point South Alternative Connector	Same as the Mexican Flats Alternative Connector above.	Similar to the Baggs Alternative Connector, with slightly more benefit in Baggs/Dixon area, and same benefits in Moffat County. Could be combined with portions of the Baggs Alternative and the Fivemile Point North Connectors.

Table 3.17-20 Summary of Region I Alternative Ground Electrode System Location Impacts for Socioeconomics

Alternative Ground Electrode System Locations	Analysis (Qualitative)
Separation Flat – All Alternative Routes	Relatively close to Rawlins. Within the “checkerboard” and CD-C oil and gas area, increasing the potential for isolated effects on other land uses and agriculture.
Shell Creek (Alternatives I-A, I-B, I-D)	More distant from communities and temporary housing. Within the “checkerboard” and CD-C oil and gas area. Limited fiscal differences for Sweetwater County. Potential differences in economic effects associated with big game hunting – see Section 3.14, Recreation.
Little Snake East (Alternatives I-A, I-B, I-D)	More distant from communities and temporary housing. Changes in fiscal effects because of location in Colorado rather than Wyoming. Potential differences in economic effects associated with big game hunting – see Section 3.14, Recreation.
Little Snake West (Alternative I-A)	More distant from communities and temporary housing. Changes in fiscal effects because of location in Colorado rather than Wyoming. Potential differences in economic effects associated with big game hunting – see Section 3.14, Recreation.
Eight Mile Basin – All Alternative Routes	Closest location to Rawlins, with easy highway access via State Highway 71. Located within the “checkboard” but outside of the more active oil and gas development areas located further west and also to the south. Located near Rawlins water treatment plant. Chokecherry-Sierra Madre wind project proposed for development in areas to the east and south of the site.
Separation Creek – All Alternative Routes	The Sweetwater-Carbon county line divides the site, which is relatively close to Rawlins, south of the I-15 corridor and adjacent to the Union Pacific Railroad ROW. Located within the “checkboard” but outside of the more active oil and gas development areas located further west and also to the south.

The Tuttle Easement micro-siting options provide options for realigning a short segment of the transmission line to avoid locating it in an area covered by a conservation easement that precludes utility easements. One of the options would cross approximately 200 feet of NPS-managed lands and the other would require two additional crossings of Highway 40. Either routing would not substantively alter the project costs, construction schedule, or temporary employment requirements. Hence, implementation of either option would not affect the overall assessment regarding temporary or long-term socioeconomic effects.

Differences in social and economic effects between the Alternative transmission line routes and other facilities to be located in Region I would be minor. Differences in short-term jobs creation, sales and use taxes, consumer spending, and demands on local housing and government facilities would generally be anticipated to correlate directly to the length and costs of the segments. Alternatives I-C and I-D are 20 percent and 10 percent longer than Alternative I-A, respectively, and hence more costly to build, while supporting more short-term employment opportunities. However, Alternative I-C would affect more private property and at the same time have more of its length located near established highway corridors and communities, which would facilitate worker commuting to nearby communities with temporary housing opportunities. None of the alternatives would have any substantial long-term effects on social and economic conditions in the region.

3.17.5.5 Region II

This section addresses the temporal and geographic distribution of effects as construction moves along the alternative routes, and the implications of that movement for affected communities. The assessment in Region II also considers differential effects due to differences in the existing environment (energy development, forest lands, and public/private landownership) for Alternative II-A and the I-70 corridor for Alternatives II-B and II-C.

<u>Key Project Parameters Affecting the Assessment</u>

Transmission Lines

- Approximate time to complete transmission line components in Region II: 131 weeks.
- Direct Construction Employment: Range: 15 to 231, Average: 203. The total consists of multiple distinct crews (survey, clearing, foundation construction, stringing, etc.) that would be working at multiple locations along the ROW. At times, the spacing, when combined with limited availability of temporary housing, would result in multiple communities being affected simultaneously.
- Operations Employment: few direct permanent jobs over the operating life of the line.
- Secondary Employment: the equivalent of approximately 89 jobs, based on the average direct employment. Very few during operations. The secondary jobs related to construction would be temporary and would be geographically dispersed in communities located near the route based on the location of construction activities and residency patterns of the temporary construction workers.

Ground Electrode

- No ground electrode would be located in Region II.

Decommissioning Impacts

- Temporary direct and secondary employment impacts and impacts on temporary housing. Sales and use tax based primarily on work force spending, because of limited purchases of materials. Like the construction effects for the transmission line, the effect would shift location over time.

Summary of Impacts

Table 3.17-21 provides a comparison of impacts associated with the alternative routes in Region II. **Table 3.17-22** summarizes impacts and advantages associated with the alternative connectors in Region II.

Four alternative connectors have been defined in Region II; two of the connectors are on the eastern side of the Manti-LaSal National Forest, providing facilities to crossing between Alternatives II-B, II-C, and II-D that access different routes through the Forest. Two other alternative connectors are located in the proximity of Lynndyl just east of the IPP connection. Each is relatively short in length and would result in minimal differences in socioeconomic effects, the differences essentially constituting trade-offs involving shifts in location on public and private lands that may have minimal effects on agriculture or reductions in effects to one group of landowners and uses at the expense of increased effects to another group of owners. **Table 3.17-22** summarizes impacts associated with the alternative connectors in Region II.

Two micro-siting options have been identified in Region II: the Strawberry IRA (Alternative I-A) and the Cedar Knoll IRA (Alternative II-A). Each option provides for the possible realignment of relatively short segments of the transmission line in order to avoid or reduce the length of line located within an IRA. The net effects on project cost, construction schedule or temporary employment associated with either the Strawberry IRA or Cedar Knoll IRA micro-siting options would not be substantively different than the comparable metrics for the corresponding base Alternative, I-A and II-A, respectively. Hence, selection of either option would not affect the overall assessment or conclusions regarding socioeconomic effects.

Alternative Variation in Region II

Emma Park Alternative Variation

A single alternative variation is defined in Region II – the Emma Park Alternative Variation (see **Table 3.17-23**). The variation generally follows an east-west routing, in the vicinity of an existing road that connects U.S. Highways 191 and 6. The area is mostly grassland/rangeland, rural and undeveloped, although there is some existing energy development nearby.

None of the alternatives would have any substantial long-term effects on social and economic conditions in the region. Differences in the type and scale of social and economic effects between the Alternative transmission line routes and other facilities located in Region II would be minor. As in Region I, the differences in short-term job creation, sales and use taxes, and other factors would generally correlate directly to the differences in segment length and cost. However, in Region II an important difference would be in the communities and counties affected and corollary differences in nearby land use, potential conflicts with recreation uses, and amounts of private lands potentially affected. Alternatives II-A, II-D, and II-E would cross through Uintah and Duchesne counties, which have extensive energy resource development. Substantial portions of the Uintah and Ouray Indian Reservation also are located in these counties. These alternatives continue westward, crossing areas that tend to be relatively more populated and then continuing across USFS lands. In contrast, Alternatives II-B and II-C traverse southward through western Colorado, then westward across central Utah, which is primarily rural but also includes areas with a history of coal mining and power generation, before crossing USFS lands to the IPP area.

Table 3.17-21 Summary of Region II Alternative Route Impacts for Socioeconomics

Parameter	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
Geographic distribution (differences carry through all parameters)	Some direct effects in Colorado, but primarily in Utah. Effects in Utah would occur across north central Utah, then south to the IPP. Land use and economies characterized by energy development, Uintah and Ouray Reservation, National Forest lands. Western portion of the corridor is more heavily populated.	Additional direct effects in Colorado and in Utah. Effects in Utah mostly along I-70 Corridor and the Green River, then jogs to northwest through central Utah to IPP. Less current energy development than Alternative II-A, trade-offs in potentially affected private lands between Duchesne and Sevier.	Additional direct effects in Colorado and in Utah. Effects in Utah mostly along I-70 Corridor and the Green River, jogs north and then south, with more corridor through USFS and less private land	Some direct effects in Colorado, but primarily in Utah. Effects in Utah would occur across north central and central Utah, jogging south to the IPP. Land use and economies characterized by energy development, Avoids much of Uintah and Ouray Reservation and more of National Forest (compared to Alternative II-A). More of corridor in Carbon County (Utah), less in Duchesne	Some direct effects in Colorado, but primarily in Utah. Effects in Utah would occur across north central Utah, jogging south to the IPP. Land uses and economies characterized by energy development, Uintah and Ouray Reservation, National Forest lands. Less effect on National Forest lands. More effect in Utah County, less in Wasatch County.	Some direct effects in Colorado, but primarily in Utah. Effects in Utah would occur across north central and central Utah, jogging south to the IPP. Land use and economies characterized by energy development, Avoids much of Uintah and Ouray Reservation and more of National Forest (compared to Alternative II-A). More of corridor in Carbon County (Utah), less in Duchesne
Approximate length of corridor (miles)	257	345	364	262	266	270
Approximate duration of construction: 131 weeks						
Direct and secondary jobs	Short-term: 292 average Short-term jobs would be distributed among multiple work sites and communities. Long-term: < 20 (assumed)	+20% to 30% as compared to Alternative II-A	+ 20% to 30% as compared to Alternative II-A	Essentially the same as Alternative II-A	Slightly higher than Alternative II-A	Slightly higher than Alternative II-A
Population influx	Short-term: Less than 250 (peak). Short-term population influx likely would be dispersed among several communities at any time. Primary communities affected include Vernal, Ballard, Roosevelt, Duchesne, Provo, Nephi, Lynndyl, Delta Long-term: little, if any	+20% to 30% compared to Alternative II-A Primary communities affected include Rangely, Fruita, Grand Junction, Moab, Green River, Castle Dale, Mount Pleasant, Nephi, Lynndyl, Delta	+ 20% to 30% as compared to Alternative II-A Primary communities affected include Rangely, Fruita, Grand Junction, Moab, Green River, Castle Dale, Ferron, Emery, Salina, Scipio, Delta	Essentially the same as Alternative II-A. Primary communities affected include Vernal, Ballard, Roosevelt, Price, Castle Dale, Manti, Lynndyl, Delta Long-term: little, if any	Slightly higher than Alternative II-A. Primary communities affected include Vernal, Ballard, Roosevelt, Duchesne, Price, Nephi, Lynndyl, Delta Long-term: little, if any	Essentially the same as Alternative II-A. Primary communities affected include Vernal, Ballard, Roosevelt, Price, Castle Dale, Manti, Lynndyl, Delta Long-term: little, if any

Table 3.17-21 Summary of Region II Alternative Route Impacts for Socioeconomics

Parameter	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
Short-term housing demand	Good supply in Uintah County. However, competing demands from sources may limit availability. Other communities in central Utah have more limited availability.	Areas in northwestern Colorado and central Utah with limited temporary housing availability, requiring long commuting distances, e.g., when construction occurring along I-70 and on portions of the Manti-LaSal National Forest. +20% to 30% higher demand than Alternative II-A.	Substantial stretches in western Colorado and central Utah with limited temporary housing availability (Manti-LaSal) + 20% to 30% higher demand than Alternative II-A. Commuting may be easier because of highway access.	Good supply in Uintah and Carbon counties. However, a number of stretches in central Utah with limited housing availability.	Good supply in Uintah and Utah counties. However, a number of stretches in central Utah with limited housing availability.	Good supply in Uintah and Carbon counties. However, a number of stretches in central Utah with limited housing availability.
Short-term effects on public facilities and services	Minor short and long-term effects on road maintenance, law enforcement, and emergency response.	Higher incremental demand than Alternative II-A, but effects still minor. Similar to Alternative II–A, but affect different communities, those communities generally smaller than along Alternative II-A.	Higher incremental demand than Alternative II-A, but effects still minor. Similar to Alternative II – A, affecting different, generally smaller communities, than along Alternative II-A. Access along I-70 provides an advantage	Effects comparable to those under Alternative II-A, More of corridor length crosses remote rural areas. Affects different communities in central Utah, including Price, which is larger and provides expanded service capacity.	Effects comparable to those under Alternative II-A. Corridor cross relatively less private lands and Ashley National Forest, rather than Uinta-Wasatch-Cache National Forest. Affects different communities in central Utah, including Price.	Effects comparable to those under Alternative II-A, More of corridor length crosses remote rural areas. Affects different communities in central Utah, including Price, which is larger and provides expanded service capacity.

Table 3.17-21 Summary of Region II Alternative Route Impacts for Socioeconomics

Parameter	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
Effects on public sector revenues	Substantial sales and use taxes, accruing to the Utah and Colorado treasuries and to local counties. Sales and lodging taxes from worker spending, primarily in Uintah, Duchesne, Wasatch, Juab and Millard counties (Utah). Long-term increase in ad valorem taxes that primarily benefit counties, public education, and special districts. Federal and perhaps state governments would realize ROW rental/ lease revenues.	Minor differences in sales, use and ad valorem taxes compared to Alternative II-A. Sales and lodging taxes from worker spending would be higher than under Alternative II-A and would accrue primarily to Rio Blanco and Mesa counties in Colorado, and Grand, Emery, Sanpete, Juab and Millard counties in Utah. Federal and perhaps state governments would realize ROW rental/ lease revenues.	Minor differences in sales, use and ad valorem taxes compared to Alternative II-A Additional sales, use and lodging taxes from worker spending, accrue primarily to Rio Blanco and Mesa counties in Colorado, and Grand, Emery, Sevier, and Millard counties in Utah. Federal and perhaps state governments would realize ROW rental/ lease revenues.	Minor differences in sales, use and ad valorem taxes compared to Alternative II-A Sales and lodging taxes from worker spending would be slightly higher than under Alternative II-A and would accrue primarily to Rio Blanco County in Colorado, and Uintah, Carbon, Sanpete, Juab and Millard counties in Utah. Federal and perhaps state governments would realize ROW rental/ lease revenues.	Minor differences in sales, use and ad valorem taxes compared to Alternative II-A Sales and lodging taxes from worker spending would be higher than under Alternative II-A and would accrue primarily to Rio Blanco County in Colorado, and Uintah, Duchesne, Carbon, Sanpete, Juab and Millard counties in Utah. Federal and perhaps state governments would realize ROW rental/ lease revenues.	Minor differences in sales, use and ad valorem taxes compared to Alternative II-A Sales and lodging taxes from worker spending would be slightly higher than under Alternative II-A and would accrue primarily to Rio Blanco County in Colorado, and Uintah, Carbon, Sanpete, Juab and Millard counties in Utah. Federal and perhaps state governments would realize ROW rental/ lease revenues.
Potential effects on private agricultural production, including grazing on public lands	Impacts to agriculture primarily associated with grazing and farming. Short-term increases in timber harvest associated with construction within national forest.	Impacts to agriculture primarily to grazing in eastern Utah and farming in western Utah. More public land affected than under Alternative II-A. Short-term increases in timber harvest associated with construction within national forest.	Comparable to Alternative II-B.	Comparable to Alternative II-A, but higher share of BLM land affected and lesser effects on National Forest lands.	Comparable to Alternative II-A.	Comparable to Alternative II-A, but higher share of BLM land affected and lesser effects on National Forest lands.
Potential economic effects due to conflicts with outdoor recreation	Some conflict potential, primarily short-term in the Ashley National Forest and Uinta-Wasatch-Cache National Forest.	Some conflict potential, primarily short-term in Manti LaSal National Forest. The Old Spanish National Historic Trail located in the area.	Some conflict potential, primarily short-term in Fish Lake National Forest.	Some conflict potential. Lowest among the alternatives.	Some conflict potential, primarily short-term in the Ashley National Forest and Uinta-Wasatch-Cache National Forest.	Some conflict potential. Lowest among the alternatives.

Table 3.17-21 Summary of Region II Alternative Route Impacts for Socioeconomics

Parameter	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
Effects on social values	General familiarity with such development as much of the corridor is near other linear development or passes through areas affected by other energy development. Potential for higher dissatisfaction in some locations due to proximity to second-home/recreational development. Closest to Provo-Orem metro area.	More of routes in western Colorado – area affected by oil and gas, also crosses area of oil shale resources. Close to Grand Junction metro, and I-70 corridor across Utah. Relative lack of existing linear facilities in eastern Utah may increase perceived impact on quality of life.	More of routes in western Colorado – area affected by oil and gas. Also crosses area of oil shale resources. Close to Grand Junction metro, and I-70 corridor across Utah. Relative lack of existing linear facilities in eastern Utah may increase perceived impact on quality of life.	Comparable to Alternative II-A.	Comparable to Alternative II A.	Comparable to Alternative II-A.
Effects on Property Values	Much of the corridor would be located near other linear development or through areas affected by energy development. Crosses through area of substantial private land and development in central Utah.	Corridor longer and with more public land than in corridor Alternative II-A. Corridor does not pass through any highly developed areas, thus little net difference.	Corridor longer and with more public land than in corridor Alternative II-A. Corridor does not pass through any highly developed areas, thus little net difference.	Corridor longer and with more public land than in corridor Alternative II-A. Corridor does not pass through any highly developed areas, thus little net difference.	Comparable to Alternative II-A, but character of affected lands in Carbon and Utah counties differs from that in Duchesne and Wasatch counties.	Corridor longer and with more public land than in corridor Alternative II-A. Corridor does not pass through any highly developed areas, thus little net difference.
Potential Environmental Justice concerns	Although the corridor crosses part of Uintah and Ouray Reservation, no disproportionate effects to minority or low-income populations identified.	None	None	Comparable to Alternative II-A	None	Comparable to Alternative II-A

Table 3.17-22 Summary of Region II Alternative Connector Impacts for Socioeconomics

Alternative Connector	Analysis	Advantages
Highway 191 Alternative Connector	Area is rural, with energy and transportation use (Highway 191).	Little difference from a socioeconomic perspective, although transmission line would be visible from a stretch along Highway 191.
Castle Dale Alternative Connector (Alternatives II-B and II-C)	Area is rural, with a combination of agriculture, energy, and industrial development evident.	Would avoid more forest and state lands, resulting in potential reduced conflicts with recreation. Creates shorter option compared to Alternative II-C
Price Alternative Connector (Alternatives II-B and II-D)	Area is rural, with a combination of agriculture, energy, and industrial development evident.	If connects Alternative II-B to II-C, would avoid more forest and state lands, resulting in potential reduced conflicts with recreation. None from a socioeconomic perspective if connect II-D to II-B.
Lynndyl Alternative Connector (Alternatives II-B and II-C)	Area is rural, but alternative would be more visible for I-15 travelers.	Would avoid more forest and state lands, resulting in potential reduced conflicts with recreation
IPP East Alternative Connector (Alternatives II-A and II-B)	The differences essentially constitute trade-offs involving shifts in location on public and private lands that may have minimal effects on agriculture	Little or none from a socioeconomic perspective.

Table 3.17-23 Summary of Region II Alternative Variation Impacts for Socioeconomics

Alternative Variation	Analysis
Emma Park Alternative Variation (Alternative II-F)	This alternative variation would likely have both supporters and detractors based on the potential effects on outdoor recreation, including hunting, and the fact that the alternative variation would be through an area that has more existing disturbance, affords easier road access to support construction, and carries motor vehicular traffic. The alternative variation would not substantively affect project costs, schedule, or temporary employment effect. Hence the differences in socioeconomic effects would be negligible.

3.17.5.6 Region III

This section addresses the temporal and geographic distribution of effects as construction moves along the alternative routes, and the implications of that movement for affected communities. The assessment in Region III also considers differential effects due to differences in the existing environment and public/private landownership in western Utah and southern Nevada.

<u>Key Project Parameters Affecting the Assessment</u>

Transmission Lines

- Approximate time to complete transmission line components in Region III: 120 weeks.
- Direct Construction Employment: Range: 15 to 231, Average: 203. The total consists of multiple distinct crews (survey, clearing, foundation construction, stringing, etc.) that would be working at

multiple locations along the ROW. At times, the spacing, when combined with limited availability of temporary housing, would result in multiple communities being affected simultaneously.

- Operations Employment: few direct permanent jobs over the operating life of the line.
- Secondary Employment: the equivalent of approximately 89 jobs, based on the average direct employment. Very few during operations. The secondary jobs associated with construction would be temporary and geographically dispersed across the region based on the location of construction activities and residency patterns of the temporary construction workers.

Ground Electrode

- Approximate time to complete ground electrode in region III – northeast of the Las Vegas urbanized area: about 9 months. Completion of the ground electrode expected to follow the completion of the construction of the transmission line in Region III. Thus, this work force is independent of that for the transmission line, but would be concurrent with construction of the southern terminal, although these two components would be separated by a considerable distance and intervening development.
- Direct Construction Employment: Range – 12 to 18.
- Operations: very few, if any, direct permanent jobs over the operating life of the ground electrode.
- Secondary Employment: Approximately 10 jobs. Temporary effects likely would be concentrated in one or two communities, depending on the final site selection.

Decommissioning Impacts

- Temporary direct and secondary employment impacts, along with impacts on temporary housing. Sales and use tax based primarily on work force spending. Like the construction effects for the transmission line, the effect would shift location over time.

Summary of Impacts

Table 3.17-24 provides a comparison of impacts associated with the alternative routes in Region III.

Three alternative variations are defined in the southern portion of Alternative III-A in Region III. The proposed corridor routing is in the vicinity of an existing highway, in an area with an existing transmission line. However, the Old Spanish Historic Trail passes through the area. There also is a Forest Service Road that provides motorized access into a portion of the Dixie National Forest. Two of the alternative variations would locate a portion of the corridor routing through the Dixie National Forest from east of Route 18 to west side in the vicinity of Enterprise, with the two differentiated by the location at which the corridor routing crosses Route 18. The third alternative variation would locate a portion of the corridor routing further to the east, but still within the Dixie National Forest. **Table 3.17-25** provides a comparison of impacts associated with the alternative variations in Region III.

Two alternative connectors have been identified in Region III. The Avon connector would transit an area of little development other than a Union Pacific rail line and local roads. The Moapa connector would cross to the north of I-15 in the vicinity of Dry Lake, then parallel I-15 to the south before re-crossing I-15 to the west of the I-15/U.S. 93 intersection. **Table 3.17-26** summarizes impacts and advantages associated with the alternative connectors in Region III.

Table 3.17-27 provides a comparison of seven alternative electrode bed locations proposed near the southern terminal. Some locations might serve multiple alternative routes, while others would only be associated with a single alternative route.

Table 3.17-24 Summary of Region III Alternative Route Impacts for Socioeconomics

Parameter	Alternative III-A	Alternative III-B	Alternative III-C
Geographic distribution (differences carry through all parameters)	Direct effects in western Utah (Delta, Milford, Minersville, Cedar City, Enterprise, St. George) and Mesquite, Moapa and the Las Vegas Valley.	Direct effects in western Utah (Delta, Milford, Minersville, Enterprise) and Mesquite, Moapa and the Las Vegas Valley in Nevada.	Direct effects in western Utah (Delta, Milford, Minersville, and Enterprise) and Caliente, Alamo, Moapa and Las Vegas Valley in Nevada.
Approximate length of corridor (miles)	275	282	308
Approximate duration of construction:	120 weeks		
Direct and secondary jobs	Short-term: 292 average Total short-term jobs would be distributed among multiple work sites and communities. Long-term: < 20 (assumed)	Comparable to Alternative III-A	Approximately + 10% higher than Alternative III-A
Population influx	Short-term: Less than 250 (peak) Short-term population influx likely would be dispersed among several communities at any time. Primary communities affected include Delta, Milford, Minersville, Cedar City, St. George, Mesquite, Moapa, and Las Vegas Valley. Long-term: little, if any	Comparable to Alternative III-A Primary communities affected would include Delta, Milford, Minersville, and Cedar City, in Utah and Mesquite, Moapa and Las Vegas Valley, Nevada.	+ 10% to 20% higher than Alternative III-A Primary communities affected are Delta, Milford, Minersville in Utah and Caliente, Alamo, Moapa, and Las Vegas Valley in Nevada.
Short-term housing demands	Temporary housing inventory thought to be adequate for Alternative III-A in much of this Region	Temporary housing availability more constrained and distant from the corridor for Alternative III-B in this Region, especially in Lincoln County, Nevada.	Higher demand than Alternative III-A. Temporary housing inventory is more limited in the western segment of Alternative III–C.
Short-term effects on public facilities and services	Effects on road maintenance, law enforcement, and emergency response.	Comparable to Alternative III–A, but different communities affected.	Less capacity in western segments of Alternative III-C.

Table 3.17-24 Summary of Region III Alternative Route Impacts for Socioeconomics

Parameter	Alternative III-A	Alternative III-B	Alternative III-C
Effects on public sector revenues	Substantial sales and use taxes, likely in the millions, accruing to the states of Utah and Nevada and local counties. Sales and lodging taxes from worker spending, accruing primarily in Millard, Beaver, Iron and Washington counties in Utah and Clark County, Nevada. Long-term increase in ad valorem taxes benefitting primarily counties, public education, and special districts. Federal and perhaps state governments would realize ROW rental/ lease revenues.	Minor differences in sales and use taxes compared to Alternative III-A. Additional sales and lodging from worker spending, to accrue primarily in Millard, Beaver, Iron and Washington counties in Utah and Lincoln and Clark counties, Nevada. Long-term increase in ad valorem taxes benefitting primarily counties, public education, and special districts. Higher Federal ROW rental/ lease revenues than under Alternative III-A.	Minor differences in sales and use taxes compared to Alternative II-A. Additional sales and lodging from worker spending, to accrue primarily in Millard, Beaver, Iron and Washington counties in Utah and Lincoln and Clark counties, Nevada. Long-term increase in ad valorem taxes benefitting primarily counties, public education, and some special districts. Higher Federal ROW rental/ lease revenues than under Alternative III-A.
Potential effects on private agricultural production, including grazing on public lands	Impacts to agriculture primarily associated with grazing, but also farming in Millard, Beaver, Iron, and Washington counties.	Impacts to agriculture primarily associated with grazing, but possibly also farming in Millard, Beaver and Iron counties.	Impacts to agriculture primarily associated with grazing, but also farming in Millard, Beaver, and Iron counties.
Potential economic effects due to conflicts with outdoor recreation	Potential for conflict in portions of the Dixie National Forest and Snow Canyon State Park. Segments of the Old Spanish National Historic Trail also located in the area.	The corridor is more distant from cities, and avoids Dixie National Forest and Old Spanish Trail.	The corridor is more distant from cities, and avoids Dixie National Forest and Old Spanish Trail. But more visual awareness along highways in Lincoln and Clark counties.
Effects on social values	Residents of the area generally familiar with such development. Potential dissatisfaction among some residents, particularly in Washington County, due to proximity to recreational development and visibility.	This corridor has most length in undeveloped areas and in BLM approved utility corridors	This corridor has most length in undeveloped areas and in BLM approved utility corridors
Effects on Property Values	Most of this corridor passes through undeveloped rural areas. However, some potential affect based on proximity to rural and semi-rural development in Washington County.	Virtually the entire corridor is located in undeveloped rural areas of predominately public lands. Therefore, little if any impact.	Virtually the entire corridor is located in undeveloped rural areas and predominately public lands. An exception is in the area of the Coyote Springs Planned Development in Lincoln and Clark Counties. Therefore, slightly higher potential for impacts than III-B, but less than III-A.
Potential Environmental Justice concerns	None	More, although the route passes through the Moapa Reservation, in an area that already has substantial industrial infrastructure in place.	None, although the routing comes close to the Moapa Reservation

Table 3.17-25 Summary of Region III Alternative Variation Impacts for Socioeconomics

Alternative Variation	Analysis
Ox Valley East Alternative Variation (Alternative III-A)	The alternative variation would likely have both supporters and detractors based on potential effects to recreation experience. However, the alternative does not result in substantial differences in socioeconomic effects.
Ox Valley West Alternative Variation (Alternative III-A)	The alternative variation would likely have both supporters and detractors based on potential effects to recreation experience. However, the alternative does not result in substantial differences in socioeconomic effects.
Pinto Alternative Variation	The alternative variation would likely have both supporters and detractors based on potential effects to recreation experience. However, the alternative does not result in substantial differences in socioeconomic effects.

Table 3.17-26 Summary of Region III Alternative Connector Impacts for Socioeconomics

Alternative Connector	Analysis	Advantages
Avon Alternative Connector	The area is very sparsely populated, and with little economic activity in the area. The variation would not remove the transmission line from visibility nor appreciably affect land use.	The connector would not provide any substantial advantage with respect to socioeconomic effects.
Moapa Alternative Connector	The area is unpopulated, with substantial industrial infrastructure already existing in the area. The variation would not remove the transmission line from visibility in the area, nor affect land use.	The connector would not provide any substantial advantage with respect to socioeconomic effects.

Table 3.17-27 Summary of Region III Alternative Ground Electrode System Location Impacts for Socioeconomics

Alternative Ground Electrode System Locations	Analysis
Mormon Mesa- Carp Elgin Rd (Alternative III-A)	Short-term construction effects over a period of up to 9 months. Overall scale of the impacts would be limited.
Halfway Wash- Virgin River (Alternatives III-A and III-B)	Socioeconomic effects essentially the same as for the proposed site.
Mormon Mesa- Carp Elgin Rd (Alternative III-B)	Socioeconomic effects essentially the same as for the proposed site.
Halfway Wash East (Alternatives III-A and III-B)	Socioeconomic effects essentially the same as for the proposed site.
Meadow Valley 2 (Alternatives III-C and III-D)	Socioeconomic effects essentially the same as for the proposed site. Minor differences may result from the fact that this site is north of I-15, further from Mesquite and closer to the small communities of Moapa and Logandale.

None of the alternatives would have any substantial long-term effects on social and economic conditions in the region. The differences in social and economic effects associated with the Alternatives in Region III would manifest themselves primarily in terms of the communities and counties affected in the southern extent of the region. Whereas Alternative III-A is routed through southern Utah in the general vicinity of the St. George area, then into Clark County, Alternatives III-B and III-C shift into Nevada, traversing rural areas of Lincoln County, before the routes converge north of the Las Vegas Valley. As a result, Alternative A is routed closer to communities with established highway access and relatively abundant temporary housing opportunities, while Alternatives III-B and III-C are routed through rural areas. The latter could result in short-term effects on public facilities and services for Lincoln County.

3.17.5.7 Region IV

Construction Impacts

Construction effects similar to those described above. However, the scale and incidence of impacts associated with Region IV would be tempered by the project's location within a major metropolitan area with a substantial inventory of temporary housing, good transportation accessibility, and the existing linear systems already in place. The differences between the Alternatives would arise principally in connection with the corridor locations relative to the Lake Mead NRA, and residential and commercial development in Henderson and Boulder City.

Key Project Parameters Affecting the Assessment

Transmission Line

- Approximate time to complete transmission line components in Region IV: 24 to 32 weeks.
- Direct Construction Employment: 15 to 231 Direct, Average: 203. Total consists of multiple distinct crews (survey, clearing, foundations, stringing, etc.) that would be working at multiple locations along the ROW. At times the spacing, when combined with limited availability of temporary housing, would result in multiple communities being affected simultaneously.
- Operations Employment: few direct permanent jobs over the operating life of the line
- Secondary Employment: the equivalent of approximately 89 jobs, based on the average direct employment. Very few during operations. The secondary jobs would be temporary and geographically dispersed based on the location of construction activities and residency patterns of the temporary construction workers.

Ground Electrode

- There would be no ground electrode located in Region IV.

Decommissioning Impacts

- Temporary employment impacts, along with impacts on temporary housing. Sales and use tax based primarily on work force spending, because of limited purchases of materials. See discussion under terminals above.

Summary of Impacts

Table 3.17-28 provides a comparison of impacts associated with the alternative routes in Region IV.

There is a single Alternative Variation in Region IV – the Marketplace Alternative Variation. The variation is more closely aligned with the boundary between BLM public lands and private lands in the area east of US 95 near Marketplace. As noted in **Table 3.17-29**, there are no substantial differences in socioeconomic effects associated with this variation.

Table 3.17-28 Summary of Region IV Alternative Route Impacts for Socioeconomics

Parameter	Alternative IV-A	Alternative IV-B	Alternative IV-C
Geographic distribution (differences carry through all parameters)	Direct effects in Las Vegas Valley and Boulder City.	Comparable to Alternative IV-A	Comparable to Alternative IV-A
Approximate length of corridor (miles)	39	41	43
Approximate duration of construction: up to 32 weeks			
Direct and secondary jobs	Short-term: 292 average Most workers come from resident labor force. Long-term: < 20 (assumed)	Same as Alternative IV-A	Same as Alternative IV-B
Population influx	Little, if any, due to the availability of local labor. Generally not noticeable.	Same as Alternative IV-A	Same as Alternative IV-A
Short-term housing demands	Temporary housing availability adequate to meet any demands.	Same as Alternative IV-A	Same as Alternative IV-A
Short-term effects on public facilities and services	Little project-related impact. Adequate capacity to meet demand based on current seasonal demand already served.	Same as Alternative IV-A	Same as Alternative IV-A
Effects on public sector revenues	Substantial sales and use taxes, likely in the millions. Will accrue to the state of Nevada and local counties. Minor increase in sales and lodging taxes from worker spending in Clark County, Nevada. Long-term increase in ad valorem taxes benefitting primarily Clark County, public education, and special districts. Federal government would realize ROW rental/ lease revenues.	Same as Alternative IV-A	Same as Alternative IV-A
Potential effects on private agricultural production, including grazing on public lands	Little, if any impacts, as most of area is urbanized.	Same as Alternative IV	Same as Alternative IV-A
Potential economic effects due to conflicts with outdoor recreation	Little if any impact.	Yes, corridor located along highway corridor within Lake Mead NRA.	Yes, corridor located along highway corridor within Lake Mead NRA.
Effects on social values	Potential public dissatisfaction among Henderson residents due to the location near residential development	Potential for considerable public dissatisfaction due to the location within the Lake Mead NRA	Potential for considerable public dissatisfaction due to the location within the Lake Mead NRA
Effects on Property Values	Potential effects because of location in urbanized area	Lower potential effects because of location in less heavily developed area	Lower potential effects because of location in less heavily developed area
Potential Environmental Justice concerns	None	Same as Alternative IV-A	Same as Alternative IV-A

Table 3.17-29 Summary of Region IV Alternative Variation Impacts for Socioeconomics

Alternative Variation	Analysis
Marketplace Alternative Variation (Alternative IV-B)	Due to the concentration of existing industrial development in the area, and lack of residential development and agriculture, differences associated with this variation would be minor with respect to socioeconomic effects.

Five alternative connectors have been identified in Region IV. Four of the five connectors are located adjacent to or at least partially within the Lake Mead NRA and result in routing options that shift the corridors relative to urbanized development and public lands. The fifth alternative connector is located on the west side of Boulder City and would move the corridor further from the Railroad Pass area. **Table 3.17-30** summarizes impacts and advantages associated with the alternative connectors in Region IV.

Table 3.17-30 Summary of Region IV Alternative Connector Impacts for Socioeconomics

Alternative Connector	Analysis	Advantages
Sunrise Mountain Alternative Connector	This connector is located near the northern perimeter of the Lake Mead NRA, and represents an optional connection to enter or bypass the NRA.	Allows for trade-offs between corridor routing through the Lake Mead NRA and those through the more urbanized areas of the Las Vegas Valley, particularly Henderson, and in the vicinity of Boulder City.
Lake Las Vegas Alternative Connector	This connector is located south of Las Vegas Wash and Lake Mead Parkway, allowing for trade-offs between corridor routing through the Lake Mead NRA and those through the more urbanized areas of Henderson, and in the vicinity of Boulder City.	Reduces potential impacts in urbanized portions of the Las Vegas Valley north of Las Vegas Parkway and potential impacts to recreation areas in Lake Mead along Lakeshore Road.
Three Kids Mine Alternative Connector	This connector is located south of Las Vegas Wash and Lake Mead Parkway, allowing for trade-offs between corridor routing through the Lake Mead NRA and those through the more urbanized areas of Henderson, and in the vicinity of Boulder City.	Reduces potential impacts in urbanized portions of the Las Vegas Valley north of Las Vegas Parkway and potential impacts to recreation areas in Lake Mead along Lakeshore Road.
River Mountains Alternative Connector	This connector avoids Railroad Pass and River Mountain, shifting the corridor routing into the Lake Mead NRA in the general vicinity of developed recreation facilities and the visitor center, and also Boulder City.	There are no advantages to this connector from a socioeconomics perspective.
Railroad Pass Alternative Connector (Alternatives IV-A and IV-B)	This connector moves the transmission line corridor out of the National Conservation Area. The area is largely undeveloped and unpopulated.	Any differences associated with this variation would be minor with respect to socioeconomic effects.

None of the alternatives would have any substantial long-term effects on social and economic conditions in the region. There would be relatively few differences in social and economic effects associated with the transmission line project in Region IV because of the short-length, availability of a

large resident work force, and availability of temporary housing to house any workers who find employment on the project. The differences that would arise would primarily affect social conditions related to corridor routing through or around the Lake Mead NRA.

3.17.5.8 Residual Impacts

From a social and economic perspective, any residual effects would primarily be long-term in nature and localized within the affected counties and communities. Residual long-term socioeconomic impacts associated with the Proposed Project or other action alternatives would include effects on fiscal resources (e.g., property tax revenue), local land use affecting community development, and the social setting. The former would likely be viewed as beneficial. The latter two types of effects would be even more localized to areas in proximity to the corridor. Residual social effects would be associated with the change in character of the landscape in and near the project area, which could be viewed as adverse for some local residents and other users of these lands. The transmission line would become a factor influencing future land use development decisions along the corridor. That influence and the resulting land use patterns would be a residual impact with social and economic implications.

3.17.5.9 Impacts to Socioeconomic Conditions from the No Action Alternative

Under the No Action Alternative, the short and long-term social and economic impacts associated with the construction and operation of the transmission line, terminals, and ground electrodes would not occur. Local businesses, including retail stores, motels, and eating and drinking establishments would not realize the benefits of the economic infusions associated with the capital investment and construction labor. State and local governments would not need to respond to demand on public facilities and service, nor realize the incremental sales, use, lodging, and ad valorem taxes associated with the project. Changes in land use, including the indirect effects on agriculture would not occur. Project-related effects on social values, outdoor recreation would not occur. Future short-term effects associated with decommissioning would not occur.

3.17.5.10 Irreversible and Irretrievable Commitment of Resources

Construction and operation of the proposed TWE transmission line would require the commitment of natural, human, engineered, and monetary resources. Once completed, most of the resource investments would be irretrievable and their use/application for this project would preclude or foreclose their use for other purposes. The latter characteristic serves to make these resource commitments largely irreversible from a social and economic perspective, although, some reuse may occur following decommission.

3.17.5.11 Relationship Between Local Short-term Uses and Long-term Productivity

Construction and operation of the proposed TWE transmission line would involve a series of temporary use of land and other resources, as well as long-term influences on land use, economic activity, and social setting along the corridor. Siting the project would result in some reductions in agricultural production and perhaps displacement of some dispersed recreation use. The economic effects would include supporting jobs and incomes for local households. Communities would benefit from additional investments, and public entities, including the federal, state, and local governments, would derive revenues from the economic activities. Once operational, maintenance of the line itself would contribute to local long-term productivity, and the application of the energy transmitted via the line would contribute to substantial long-term productivity gains, albeit primarily outside of the region.