

The Impact of the Jordan Cove Energy Project Construction Personnel on Coos County Housing and Schools

An Analysis Prepared for the
Jordan Cove Energy Project, LP

ECONorthwest

ECONOMICS • FINANCE • PLANNING

888 SW Fifth Avenue
Suite 1460
Portland, Oregon 97204
503-222-6060
www.econw.com

By: Robert Whelan

November 15, 2006

Introduction

The Jordan Cove Energy Project, L. P. retained ECONorthwest to estimate the impacts their project would have on housing and school enrollment in Coos County, Oregon during the project's construction. This white paper summarizes the findings of that analysis.

The Jordan Cove Energy Project ("JCEP") entails the construction of a liquefied natural gas ("LNG") import terminal on 170 acres of industrial land on the North Spit of Coos Bay. Construction would begin in January 2008 and take 36 months to complete.

During the construction phase, monthly employment on the jobsite would average 430 workers. However, in the peak month, June 2009, there would be 929 employees. Some would commute daily to the construction project from their permanent residences, but others would move, albeit temporarily, to the Coos Bay area to be closer to their workplace.

This report is an analysis that estimates the impact of the construction workers on housing and schools in Coos County. It is organized as follows:

- A review of the number and types of workers that would be employed during the construction phase begins on page 3.
- The analysis of where employees would come from starts on page 6.
- A baseline forecast was made for dwelling capacity—both permanent and temporary. This includes a forecast of Coos County housing in 2009, which is shown on page 13. A projection of the supply of hotel and motel rooms within a 35-mile radius of the job site was prepared and can be found on page 14. Finally, as construction crews also rely on other forms of temporary housing, there are estimates of the supply of recreational vehicle ("RV") sites and manufactured home parks in on pages 17 and 18, respectively.
- The impact of construction worker families on schools is discussed in Section IV, which begins on page 20.

Major Findings

The analysis used data from various industry and government sources in conjunction with work plans provided by the construction-engineering firm that would build the JCEP terminal. From this analysis, the following major conclusions were made:

- Over the 36-month course of construction, an estimated 1,100 jobs lasting an average of 14 months would be created. With normal turnover taken into account, the average employee at the jobsite would work there for about 10.4 months.
- There is a large qualified labor supply living within a four hour driving distance from the jobsite. Most craft unions report that they would have adequate supplies of members available for the JCEP. Furthermore, a decline in major nonresidential construction activity is forecast for Oregon. As a consequence, the number of available workers in the region is going to increase as construction activity at the JCEP ramps up.
- An analysis of housing and temporary lodging capacity in Coos County indicates that there is ample supply and that the communities closest to the jobsite, North Bend and Coos Bay, would easily be able to accommodate the influx of workers.
- JCEP is within the North Bend School District. It and other nearby districts would see less than a one-percent increase in enrollment during the construction phase. The North Bend District has ample capacity to accommodate the additional students. It would receive direct contributions from the JCEP and additional funding from the State of Oregon to more than fully pay for the increased enrollment.

Employment

The first step of the analysis is to forecast the employment pattern at the construction jobsite and then ascertain how many workers would move to the Coos Bay area.

Construction Project

Black & Veatch will oversee the building of the LNG terminal for the JCEP. It would be built under a labor agreement with the local building trades, using local union labor to the greatest extent possible.

Black & Veatch is a global engineering and construction firm, which specializes in large-scale energy and infrastructure projects including some in Oregon. For example, they built a 500-megawatt cogeneration plant in Klamath Falls, Oregon in 1999 – 2001¹ and are working on a 400-megawatt plant in Columbia County, Oregon,² which is under construction presently.

Employment Forecast

For the JCEP, Black & Veatch provided their employment schedule for management, staff, and various construction trades that would be working at the JCEP jobsite. They also provided notes on their conversations with trade unions regarding their capacity to provide skilled workers to the jobsite.

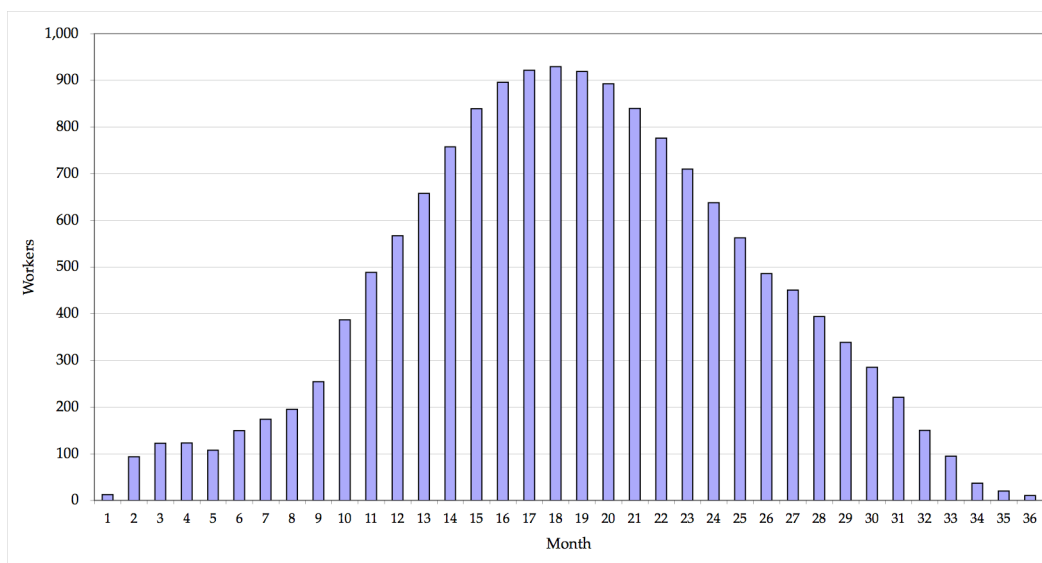
Monthly Average Employment

It is anticipated that the entire project would run 36 months starting in January 2008 and concluding in December 2010. As shown in Figure 1, employment at the JCEP would start with twelve employees in the first month and then rise to a peak of 929, which, according to the current schedule, would occur in June 2009. Employment would then decline until its conclusion 18 months later. This bell-shaped pattern of employment is normal for large, complex construction projects.

¹ Kuenzi, M. and Vasey, T. Cogen project fueled by innovation and collaboration, Power Engineering. July 1, 2001. Page 51.

² Culverwell, W. Black & Veatch leads effort on Clatskanie Power Plant. Portland Business Journal. August 5, 2005.

Figure 1: Monthly Workforce at the JCEP Jobsite, January 2008 Through December 2010



Source: Black & Veatch analysis dated September 14, 2006 and updated construction start date provided by the JCEP on November 9, 2006.

As is typical of such projects, many different job skills would be necessary at the JCEP, but virtually none would be needed over the entire course of construction. As shown in Table 1, there is a wide range of crafts involved. Although an average of 430 people would be working onsite each month, workers of different crafts would be needed at different times.

Table 1: Employment by Occupation, Average Number of Workers per Month of Construction

Occupation or Craft	Monthly Avg. # of Workers
<u>Direct craft labor:</u>	
Site work	11
Concrete	90
Piping	50
Arch & Metals	12
BOP/Mechanical Equipment	22
LNG tank erection	111
Electrical/I&C	40
Insulation	6
Subtotal, direct craft labor	342
Indirect support craft labor	51
Const. management & staff	37
Total average employment	430

Source: Black & Veatch.

Indeed some jobs would be required for only a few months. While the demand for workers in different crafts may overlap, the employment of others will not. Those engaged in site preparation work, for example, would be long gone by the time pipefitters come onto the job. Consequently, the employment pattern in Figure 1 reflects a series of new jobs starting and old jobs ending every month rather than continuous employment for several hundred people.

Employment is a measurement of the amount of work for a specific job and is not a count of individuals, which is what is relevant when forecasting the demand for housing and schools. Because of normal turnover, more than one person can work at one job during the months that it is needed at the construction project.

Average Length of Employment Per Individual

To calculate the length of time that the average person working at the jobsite would be employed, turnover from people quitting or otherwise leaving before their positions end must be considered. Such normal employee turnover results in the number of individuals, that would at one time or another work on the project, to exceed the total number of jobs.

Table 2 demonstrates this. Although during the average month of construction, 430 people would be working on the JCEP construction site, over the entire 36 months, an estimated 1,110 jobs at varying times would need to be filled and the average job would last 14 months. However, according to the most recent U.S. Department of Labor statistics, 2.1 percent of construction workers quit their jobs each month. That turnover rate, when applied to the data supplied by Black & Veatch, shows that the average individual taking a job at the construction site in Coos County would be there for 10.4 months—roughly 45 weeks.

Table 2: Labor Indicators

Indicator	Value	Unit
Time of construction at jobsite	36	Months
Minimum employment (December 2010)	10	Positions employed in month
Maximum employment (July 2009)	929	Positions employed in month
Average employment	430	Positions employed in month
Number of jobs	1,110	Unique positions over entire construction period
Average length of each job	14.0	Months of work on jobsite per position
Monthly quit rate	2.1%	Percent of positions held*
Forecast length of stay per employee	10.4	Months at the jobsite for average employee

* Average quit turnover rate of construction jobs in the United States.

Sources: Analysis by ECONorthwest of Black & Veatch workbook and the U.S.

Department of Labor, Bureau of Labor Statistics “Job Openings and Labor Turnover: August 2006.”

Source of Construction Employees

Normally, on large construction projects in Oregon, workers will commute to the jobsite from their homes. If commuting times are exceptionally long, workers will take up weekday residency in transient lodging such as motels, RV parks, rental housing, and the like, and then commute on weekends.

If the required job skills call for bringing in hard-to-find specially trained workers, such as field staff, managers, tank welders, and crafts experienced in marine projects, it is common to have employees temporarily relocate from out of state. However, because the average job would last only 10.4 months, it is anticipated that non-local employees overwhelmingly would prefer not to move their families to Coos County.

This was the experience during the construction of the 60-mile Coos Bay pipeline project in 2003, which employed 350 during its peak. Pipeline work is specialized and there is comparatively little of it in Oregon. Half the workers for the Coos Bay pipeline came from out of state.³ This was reflected in population statistics for Coos County, which showed an anomalous rise in 2003. However, although the construction extended into the school year, public school enrollment in Coos County fell by 155—indicating that few, if any, traveling construction workers brought their families to the County. According to Black & Veatch, their major construction projects in Klamath Falls and Columbia County (previously cited on page 3) have had negligible impacts on schools.

Although there is a relative dearth of construction labor, especially for industrial projects, in Coos County, there are deep labor pools in surrounding areas. Many capable construction workers reside in Oregon and are less than a four-hour drive from of the JCEP jobsite.

Table 3 illustrates the potential. In May 2005, the Bureau of Labor Statistics reported that there were 71,970 people employed in Oregon in construction occupations—both labor and management. In Lane County alone, which is within daily commuting distance of Coos Bay, there were 6,440.

³ [Coos County wants union firm to finish gas pipeline](#). Northwest Labor Press. June 4, 2004.

Table 3: Employees in Construction Occupations by Location in Oregon, May 2005

Oregon Counties	Major City	Travel Time to Coos Bay	Employed
Deschutes	Bend	4:26	4,510
Benton	Corvallis	2:53	920
Lane	Eugene	2:03	6,440
Jackson	Medford	3:27	3,480
Marion and Polk	Salem	3:12	7,480
Multnomah, Yamhill, Columbia, Clackamas & Washington*	Portland	3:56	40,480
Elsewhere in Oregon	-	-	8,660
Total Employees	-	-	71,970

Sources: U.S. Bureau of Labor Statistics occupational wage survey, May 2005.
Travel times from Mapquest.

* Note: Portland metro area employment estimated by ECONorthwest by assuming 90 percent of the total employment was on the Oregon side of the metro area.

Availability of Union Labor

Construction labor markets in Oregon in 2006 are very tight, especially in some of the highly skilled trades, which are in great demand in bridge, factory, utility, and high-rise building construction.

Black & Veatch called area unions and asked about current and projected work levels of their members. Table 4 summarizes what they were told. All but one that responded said that their members were busy, yet would still be able to staff the LNG project in Coos County. Evidence from another source suggests that the pace of heavy construction would be slowing in Oregon just when the JCEP project begins gearing up. This bodes well for in-state labor availability.

Table 4: Labor Union Survey, September 2006

Union	Active Members	Currently Working	Current & Upcoming Work
Asbestos Workers Local 36	200	180	No report
Boilermakers Local 500	200	150	No report
PNWRC of Carpenters	4,000	#N/A	Currently busy
PNWRC--Millwrights	250	180	Busy now, but would have no problem staffing LNG project
Iron Workers Local 29	200	186	Busy now, but would have no problem staffing LNG project
Laborers Local 121	500	340	Currently not busy
Operators Local 701	2,600	1,560	Would be available
Painters Local 1277	#N/A	#N/A	Currently busy
Pipefitters and Plumbers Local 290	4,000	3,760	Busy now, but would have no problem staffing LNG project
Cement Masons Local 555	450	450	Busy now and would have problem staffing LNG project
Sheet Metal Workers Local 16	#N/A	#N/A	No report
IB Electrical Workers Local 932	#N/A	#N/A	Busy now and could have problem staffing LNG project
Teamsters Local 206	#N/A	#N/A	No report

Source: Black & Veatch.

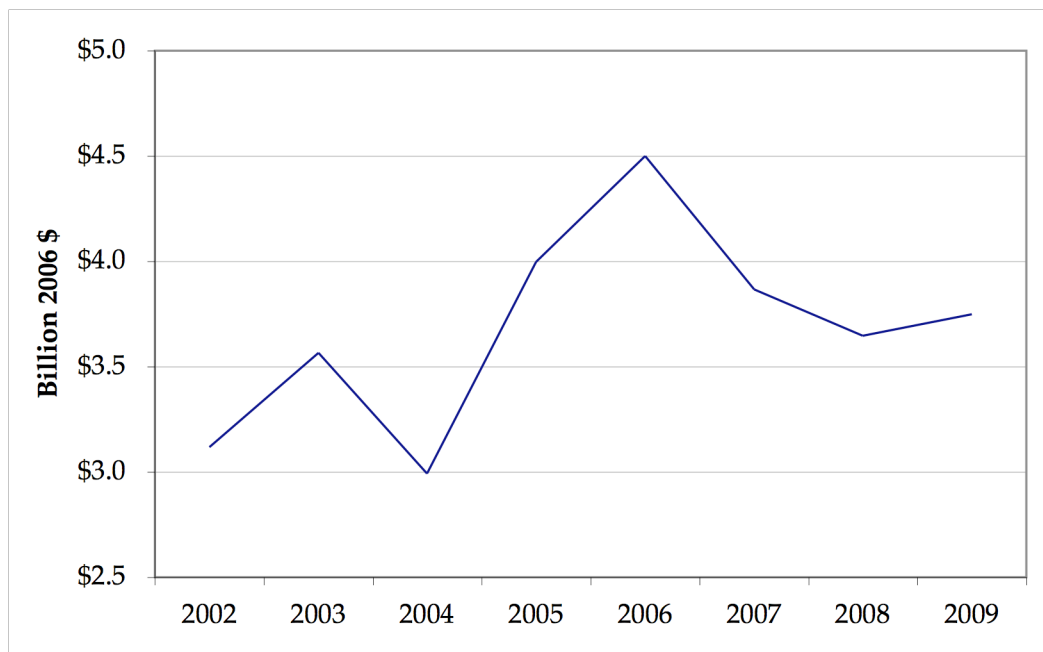
Outlook For Nonresidential Construction

To assess the likely degree of competition for workers, data from F.W. Dodge, which is a nationally recognized and respected source of construction contract data and forecasts, was assembled.

The JCEP project would draw labor primarily from crafts that work on infrastructure and nonresidential building construction. As such, nonresidential construction projects elsewhere in Oregon would compete for the available skilled labor supply. The greater the competition, the further out from Coos County the JCEP project would have to go to get workers.

Shown in Figure 2, is data on the value of nonresidential construction in Oregon, adjusted for inflation, for the last five years and the next three years. The data indicate that nonresidential construction in Oregon during 2006 is running at a high rate of \$4.5 billion dollars—\$1.5 billion greater than just two years ago. As a result, skilled construction labor in Oregon for large projects is tight.

Figure 2: Nonresidential Construction in Oregon, 2002 – 2009, in Billions of 2006 \$



Sources: F.W. Dodge construction data adjusted for inflation using the Engineering News Record construction and building cost indices with forecast by ECONorthwest for 2009.

Although construction work is plentiful now, the data also show a near-term easing in the market. According to F.W. Dodge, nonresidential construction spending in the State is going to decline in 2007. By 2008, competition for workers from other projects (the Dodge data exclude the JCEP) would be 19 percent less than what it is currently.

Although a slight improvement is expected in 2009, the forecast indicates that the JCEP would have an easier time attracting local and regional commuting workers in 2009 than if the project was at peak construction today in 2006. The improved outlook for construction labor as indicated by a slowing in construction spending in Oregon suggests that the JCEP would be able to find many workers that could commute to the jobsite, thus, lessening the demand for dwelling units in Coos County.

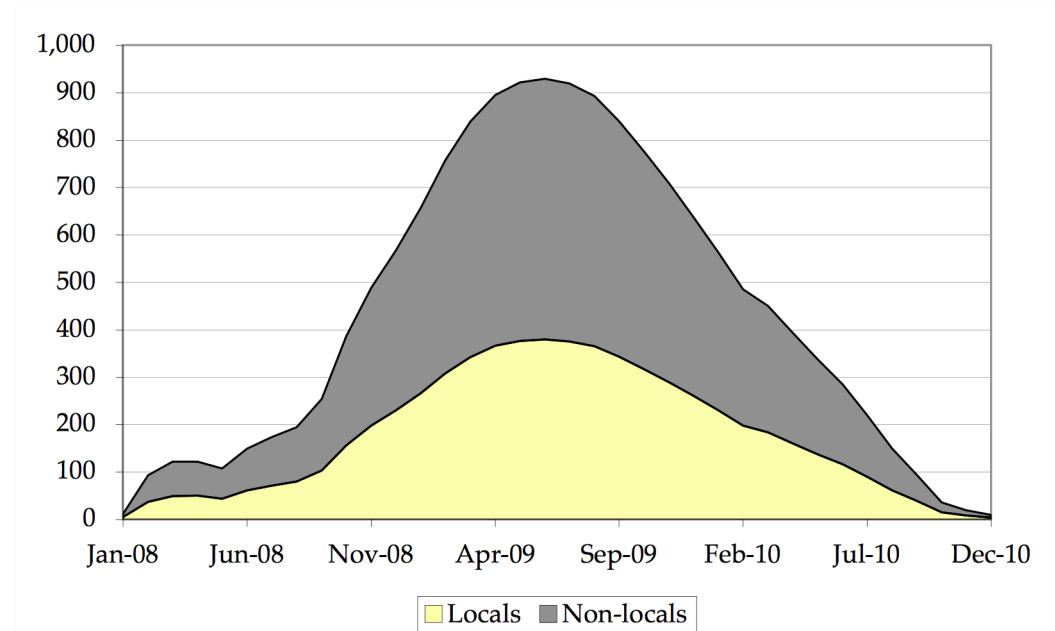
Number of Non-Locals

This analysis expects that the JCEP would be able to find about 41 percent of all its employees living close enough to Coos County to be able to commute daily between their homes and the jobsite. The others, which are described here as “non-locals,” would either move to the Coos Bay area temporarily or take-up overnight lodging on weekdays while commuting in from their permanent residences on Sunday nights and returning to their homes on Fridays.

Based on its extensive experience with similar projects in mid-sized Oregon markets, Black & Veatch expects 60 percent of the craft workers and half the staff employees would be non-local and would require places to stay in Coos County.

An analysis of the JCEP staffing schedule finds that the number of non-local workers would average 255 a month during construction. As shown in Figure 3, peak employment of non-locals, totaling 549, would be reached in June 2009.

Figure 3: Monthly Local and Non-Local Employment at the JCEP



Sources: ECONorthwest analysis of employment data from Black & Veatch and the JCEP.

Over the entire course of the project, the analysis finds that 656 non-local individuals would work at the construction site and make use of transient lodging at some time in Coos County. The average length of stay, as noted from Table 2, would be 10.4 months.

Given the short duration of the work, the proximity of the area to more populous cities with larger construction markets (Table 3), and the paucity of heavy construction projects on the southern Oregon coast, few employees would move their families to Coos County for the construction jobs at the JCEP.

Forecast Influx of Non-Local Households

The U.S. Census defines a household as a place where one or more people lives in a housing unit. If a household has two or more people related by birth, marriage, or adoption, it is called a family. Generally, a person living in a place without a separate eating area occupies a “group-quarters” unit, according to the Census, and is not considered a household.

Workers moving to Coos County that would stay in motels, bed & breakfast places, and rented rooms in private housing would not be classified as households, but rather individuals living in group-quarters. Thus the title of Table 5 describes both households and those living in group-quarters.

Table 5: Household & Group Quarters Forecast

<u>Living Arrangements of All Workers:</u>	
Commute to jobsite daily	454
Move to Coos County with family	66
Move to Coos County alone	590
Total employees	1,110
<u>Workers moving families to Coos County:</u>	
Number of workers over 36 months	66
Unique family households*	64
Average households per month	24
Peak month (June 2009)	53
<u>Workers moving without families:</u>	
Number of workers over 36 months	590
Unique households & group quarter units*	572
Avg. households & group units per month	223
Peak month (June 2009)	479

* Six percent of workers would share places to stay.

Source: ECONorthwest.

The analysis assumes that six-percent of all workers moving to the area would share living quarters with other JCEP employees, and that ten percent would also bring their families. Thus, over the entire construction period, 66 workers would move with their families, but this would result in slightly fewer (64) new family households in Coos County.

During the average month of construction there would be 24 additional family households in the County because of the JCEP. In the peak month of June 2009, there would be 53.

The analysis estimates that 590 workers would move, but not bring their families, to Coos County. Because some workers would double-up in their accommodations, the region would have to have places to temporarily house 572 over the 36-month period, albeit not at the same time. In the peak month, 479 places would be needed for non-families. These households and individuals in group-quarters mostly would occupy motels, RV parks, seasonal rental housing, apartments, and campgrounds.

Housing

Construction projects of the scale and specialization of the proposed LNG terminal draw workers from a wide area and, in doing so, place demand for dwelling units. Construction projects of this type are episodic and continuing work of similar pay in the area is speculative. Therefore, few workers coming to build the LNG terminal would permanently relocate to Coos County.

Since it is often impractical to buy housing that one would live in for less than a year, the average non-local worker is apt to rent existing housing units, stay in transient lodging, or use an RV or mobile home as a dwelling.

In Coos County, and especially in the towns and cities within a 35-mile radius of the JCEP job site, there are many temporary lodging choices. This is a direct consequence of the highly seasonal demand for places to stay along the Oregon coast. Coos County is a summertime outdoor recreation destination and has a large stock of seasonal and rental housing. It has an abundance of RV sites, campgrounds, and hotels and motels.

Furthermore, because of a severe contraction in manufacturing and timber industry employment that Coos County sustained in the past 25 years, there is an overhang of excess housing in the market. The County's population is less today than what it was 26 years ago. This unusual phenomenon of declining population has led to persistently high vacancy rates in housing, which means the area around the JCEP has ample housing capacity for most craft workers, construction managers, and staff.

Housing Forecast

The analysis reviewed the housing data for Coos County. The housing stock of the county is concentrated in the communities in close proximity to the JCEP project. Almost two-thirds of all the housing units in the County, according to the 2000 Census, were in the Coos Bay and North Bend Zip codes.

Housing forecasts were made using projections from Claritas, Inc., which is a nationally recognized leader in demographic forecasts, in combination with Coos County assessor, and F.W. Dodge construction data. The Claritas and Dodge forecasts were made for the year 2009, which would be the year of the highest potential impact.

The 2009 data in Table 6 is described as a "baseline forecast" because it describes what housing conditions would be like given expected economic events excluding JCEP construction.

Table 6: Coos County Housing Stock, Occupancy, and Vacancy Levels, 2000 Census and 2009 Baseline Forecast

Housing Characteristics	2000	2009
<u>Housing Units by Occupancy:</u>		
Occupied*	26,213	27,391
Vacant or vacant part-year:		
Seasonal use	843	1,024
Rented/sold, unoccupied	163	171
For rent, sale or other	2,028	1,658
Vacant subtotal	3,034	2,853
Total housing units	29,247	30,244
<u>Housing Units by Type:</u>		
Single family, built on-site	20,033	21,305
2, 3, or 4 family homes	1,774	1,887
Multi-family, 5 or more units	2,361	2,633
Mobile homes	4,706	4,096
RVs, boats, other housing	373	323
Total housing units	29,247	30,244
<u>Vacancy Rates:*</u>		
Single family, built on-site	9.4%	8.6%
2, 3, or 4 family homes	10.5%	9.6%
Multi-family, 5 or more units	15.9%	14.4%
Mobile homes	10.7%	9.8%
RVs, boats, other housing	20.4%	19.5%
All housing units	10.4%	9.4%

* The baseline forecast excludes the impact of LNG terminal construction employees
Sources: Claritas, Inc. and ECONorthwest

Coos County has been experiencing increases in retiree households and non-resident, seasonal homeowners, but this is mostly backfilling losses in working-age families that have been leaving for communities with better employment opportunities. Thus, the resident population and school enrollments have been declining.

Between 2000 and 2005, the population of Coos County fell by 84 residents making it only one of six counties in Oregon to experience a population loss.⁴ Many second and retirement homebuyers are building units more suitable to their needs and interests, leaving older, family housing empty, thus, fueling the persistently high vacancy rates in the County.

⁴ According to the Portland State University Population Research Center at <http://www.pdx.edu/prc/>.

The forecast calls for 30,244 housing units in 2009 and 9.4 percent vacancies. There would be 2,853 vacant units in the established housing stock for construction workers. Of these homes, 1,658 would be non-seasonal vacancies available to workers.

It would appear that the existing housing stock alone in 2009 would be more than ample for the anticipated peak need of 532 non-local households and individuals. The workers would also have a large selection of motels, RV parks, and other forms of temporary lodging to choose from.

Hotel and Motel Capacity

Being a summer vacation destination, the area from Florence to Bandon on the Oregon coast—for which the JCEP is about at the midpoint—has an abundance of hotels and motels. Within 35 miles of the JCEP there are over 50 commercial lodging properties.

As shown on Table 7, in 2009 the commercial lodging properties would be able to supply 2,358 rooms a day. In addition to these, there are about 250 rooms available in small motels and bed & breakfast places. The total supply, not including vacation rental housing, is 2,608 rooms a day.

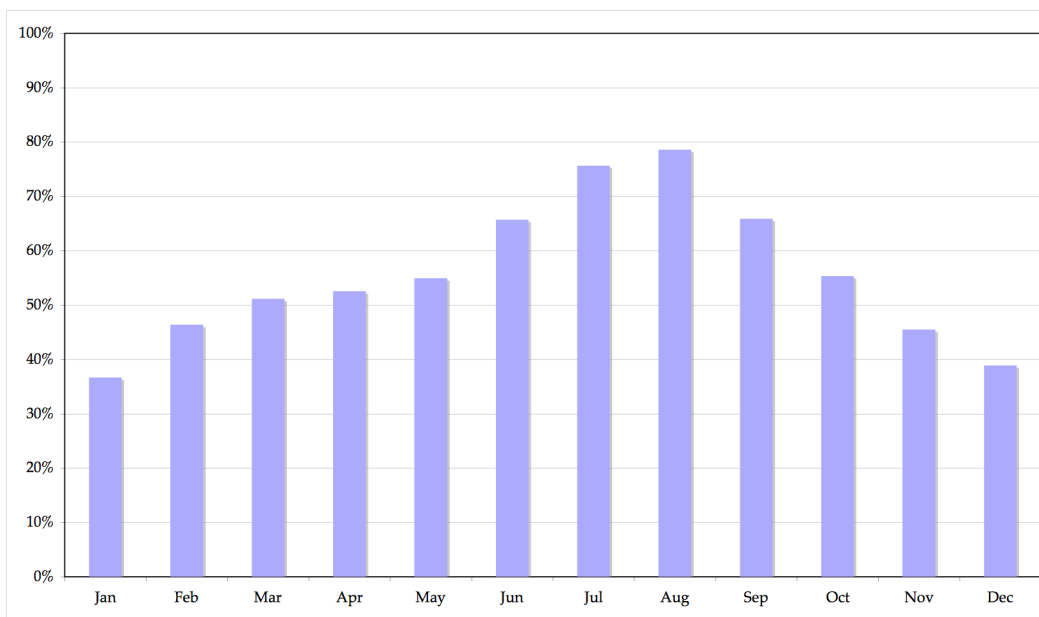
Table 7: Hotel and Motel Supply Near Proposed Terminal, 2009

Property	City	Rooms	Property	City	Rooms
Anchor Bay Inn	Reedsport	21	Lakeshore Lodge	Lakeside	20
Bandon Wayside Motel	Bandon	10	Lamplighter Motel	Bandon	16
Bandon Dunes	Bandon	144	Lighthouse Inn	Florence	26
Bay Bridge Motel	North Bend	16	Mill Casino Hotel	North Bend	200
Bayshore Motel	Coos Bay	34	Motel 6 Coos Bay	Coos Bay	94
Best Budget Inn	Reedsport	23	Myrtle Lane Motel	Coquille	25
Best Western Holiday Motel	Coos Bay	83	Myrtle Trees Motel	Myrtle Point	29
Best Western Inn @ Face Rock	Bandon	74	Old Town Inn	Florence	40
Best Western Pier Point Inn	Florence	55	Pacific Empire Motel	Charleston	50
Best Western Salbasgeon Inn	Reedsport	57	Park Motel	Florence	16
Caprice Motel	Bandon	15	Parkside Motel	North Bend	16
Captain Johns Motel	Charleston	44	Plainview Motel	Coos Bay	9
City Center Motel	North Bend	18	Red Lion Hotel Coos Bay	Coos Bay	143
Comfort Inn North Bend	North Bend	96	River House Motel	Florence	40
Driftwood Motel	Bandon	22	Sea Psalm Motel	Coos Bay	8
Driftwood Shores Resort	Florence	136	Shooting Star Motel	Bandon	15
Economy Inn	Florence	29	Silver Sands Motel	Florence	50
Economy Inn	Reedsport	41	Southside Motel	Coos Bay	11
Edgewater Inn	Coos Bay	82	Sunset Motel	Bandon	71
Fir Grove Motel	Reedsport	16	Table Rock Motel	Bandon	24
Gorman Motel	Bandon	28	Three Rivers Hotel	Florence	90
Harbor View Motel	Bandon	57	Timber Inn	Coos Bay	53
Holiday Inn Express	Florence	52	Villa West	Florence	22
La Chateau Motel	Florence	49	Winchester Bay Inn	Winchester Bay	51
La Kris Motel	Bandon	12	Windermere By The Sea	Bandon	25

Sources: ECONorthwest and Smith Travel Research

The average occupancy rate of the properties shown in Table 7 has averaged 57.7 percent in the last year. However, the pattern is very seasonal. Because of the cool dry summers and wet climate throughout much of the rest of the year, lodging demand on the Oregon coast is high in the summer, but suffers from protracted weakness in the shoulder and off-seasons. This is illustrated in Figure 4

Figure 4: Average Monthly Occupancy Rates in Commercial Lodging, Coos County Area, 5-Year Monthly Averages Through August 2006



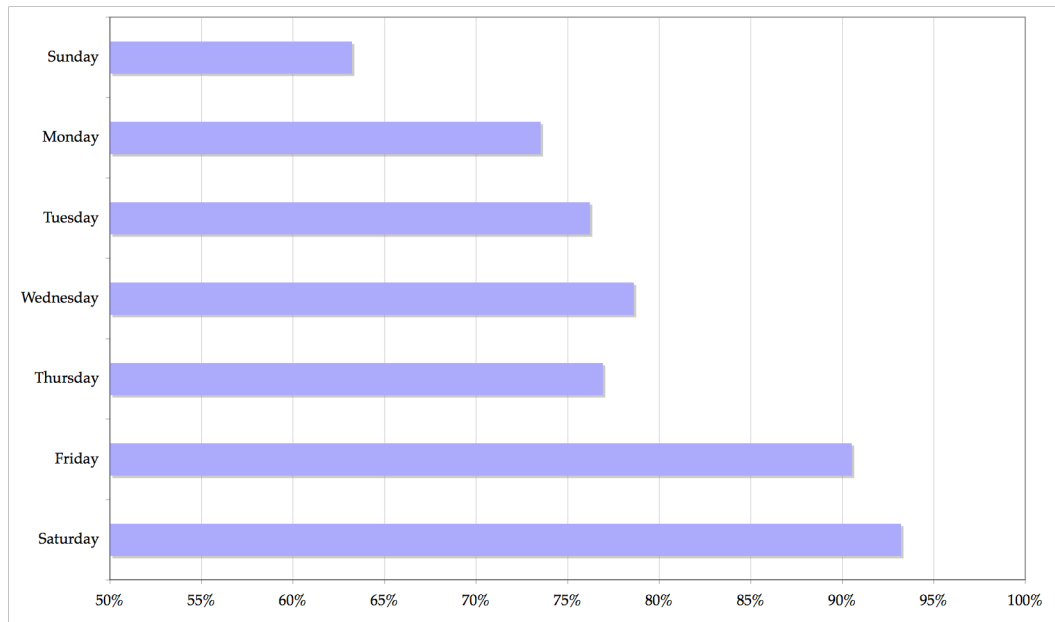
Source: Smith Travel Research and ECONorthwest.

January is the slowest month. Occupancy rates average only 36.7 percent, which implies 1,492 rooms are unsold every day—far more than what the construction workers would need. In the peak month of August, conditions are tight. August 2006, for example, occupancy averaged 79.4 percent, which means there were 494 unsold rooms a day—about a thousand fewer than in January.

There is also a strong weekly pattern, which works in favor of construction workers. The Oregon Coast is so close to major cities that it attracts many weekend travelers. In August 2006, average occupancy on Sunday nights, which is the slowest day of the week, was only 63.2 percent. There were an average of 868 unsold rooms on the average Sunday night.

The peak, as illustrated on Figure 5, occurs on is Saturday. The average Saturday occupancy this August was 93.2 percent, which implies that there were only 160 unsold lodging rooms available. However, other than Fridays and Saturdays, when many non-local construction workers would not need rooms, occupancy rates even in the peak month of August run well below 80 percent.

Figure 5: Average Daily Occupancy Rates in Commercial Lodging, Coos County Area, August 2006



Source: Smith Travel Research.

Overall, there is a large supply of commercial lodging within a 35-mile radius of the construction jobsite. Except for holidays, Spring Break week, and the summertime months of July and August, there is in excess of 800 unsold rooms a day in the market. Even during the peak month of August, there are in excess of 500 unsold rooms from Sunday through Thursday nights.

Thus, JCEP workers commuting to and from home on weekends would be able to secure accommodations even at such times. For those seeking continuous residence extended over the summer months, other accommodations would be more practical. For them, there is a supply of 1,658 housing units in Coos County that are not used seasonally, and many RV sites.

RV Park Capacity

Coos County has ample RV site capacity in places close to the JCEP construction project. The analysis shows that there would be at least 1,864 RV sites amounting to 666,059 days of supply in 2009. The locations and capacities of various RV parks in the County are listed on Table 8. In addition to these, there are well over a thousand near Florence, which is about a half hour drive from North Bend.

Table 8: Recreational Vehicle Site Supply in Coos County, 2009

Type, Name of RV Park & Season if Not Full Year	Place	Spaces	Supply in 2009
<u>Private Parks:</u>			
Robbins Nest RV Park	Bandon	50	18,300
Bandon Loop	Bandon	21	7,686
Bandon by the Sea	Bandon	43	15,738
Bandon RV Park	Bandon	46	16,836
Charleston Marina RV Park	Charleston	108	39,528
Oceanside RV Park	Charleston	70	25,620
Plainview RV Park	Charleston	46	16,836
Kelley's RV Park	Coos Bay	38	13,908
Alder Acres RV Park	Coos Bay	38	13,908
Midway RV Park	Coos Bay	45	16,470
Lucky Logger	Coos Bay	78	28,548
Arbe's RV Park	Coos Bay	15	5,490
North Lake Resort (8 Mo. Season)	Lakeside	110	26,840
Osprey Point RV Resort	Lakeside	132	48,312
Oregon Dunes KOA	North Bend	63	23,058
The Firs RV Park	North Bend	88	32,208
The Mill Casino	North Bend	102	37,332
<u>Publicly Owned Parks:</u>			
Bullards Beach State Park	Bandon	185	67,710
Umpqua Lighthouse State Park	Coos Bay	20	7,320
William M. Tugman State Park	Coos Bay	102	37,332
Sunset Bay State Park	Coos Bay	63	23,058
Bastendorff Beach County Park	Coquille	56	20,496
La Verne	Coquille	46	16,836
West La Verne	Coquille	22	8,052
Sixes River	North Bend	19	6,954
Powers County Park	Powers	70	25,620
Eel Creek	Reedsport	52	19,032
Spinreel	Reedsport	36	13,176
Wild mare Horse Camp	Reedsport	12	4,392
Bluebill (7 Mo. Season)	Reedsport	18	3,843
Horsfall	Reedsport	70	25,620
Total Public and Private		1,864	666,059

Source: ECONorthwest

As with hotels, RV space demand is highly seasonal and greatest on the weekends. Therefore, non-local construction personnel commuting in for weekday stays generally would find space available. Currently, nearly 65 percent all RV sites have full hookups and the annual average occupancy rate for RV parks in the County is about 47 percent. During the inclement winter months, occupancy rates fall below 30 percent.

Manufactured Home Parks

Oregon law prohibits communities from zoning out manufactured (mobile) housing. They can be found in any community, although they are more prevalent in rural areas, such as Coos County, because in such places it is often uneconomic to construct stick-built, moderately priced housing.

About 70 percent of manufactured homes in the Coos County are located in general communities or as standalone properties. The other 30 percent are in managed manufactured home parks that are set up for permanent and also temporary residents who move in mobile homes, and sometimes RVs, onto established sites.

The most recent inventory by the State of Oregon found 51 manufactured housing parks inside Coos County. Those parks had 1,405 spaces. Although it is unclear how many spaces are currently unoccupied, data from the tax assessor shows a decline of 680 property tax accounts for improved manufactured housing structures in the County in the past six years. The implication is that many homes have been moved and that there is ample site capacity available for construction workers seeking a temporary residence near the JCEP jobsite.

Table 9: Coos County Manufactured Dwelling Parks, 2006

Name	Location	Spaces	Name	Location	Spaces
Alder Acres	Coos Bay	48	Little Valley	Coquille	27
Aseere	Coos Bay	7	M'Ocean	Coos Bay	39
Bay Ridge	Myrtle Point	37	Mount Terrace	Coos Bay	23
Bayway	Coos Bay	40	North Bayshore	North Bend	58
Beach Loop Junction	Bandon	15	North Lake Resort	Lakeside	12
Blue Spruce	Lakeside	22	Pine Cove	Coos Bay	9
Brite Forest	Myrtle Point	44	Pine Mobile Court	Coos Bay	7
Bunker Hill	Coos Bay	14	Plainview	Coos Bay	24
Cedar Point	Coquille	15	Powers Valley	Powers	25
Chard's Mobile Home Court	Coos Bay	6	Puerto Vista	Coos Bay	146
Charleston Trailer Park	Coos Bay	8	Remote Outpost	Myrtle Point	6
Coos Bay Heights	Coos Bay	40	Saint's Mobile Home Park	Coos Bay	30
Country Living	Bandon	25	Sandbar	North Bend	16
Driftwood	Coos Bay	9	Sand-N-Wood	North Bend	30
Dunes Mobile Ranch	North Bend	66	Shady Lane	North Bend	6
East Bay Drive	North Bend	6	Shorb's	Powers	16
Firs Trailer Park	North Bend	24	Shorepines	Coos Bay	236
Flora Grove	Myrtle Point	7	Sleepy Hollow	Myrtle Point	7
Gateway	Coos Bay	17	Springtide	Coos Bay	18
Haga's Mobile Park	Bandon	12	Tower's Bay Crest Estates	Coos Bay	14
Hilltop	Bandon	19	Valley View Mobile Court I	Coquille	43
Huckleberry Hill	Coos Bay	28	Valley View Mobile Court II	Coquille	16
Jacobson's	Coos Bay	6	Vista Verde Estates	Coquille	7
La Playa	Lakeside	6	Wildwood Estates	North Bend	45
Libby Meadows	Coos Bay	6	Wildwood Trailer Park	North Bend	12
Lil Acres	Myrtle Point	6	Total		1,405

Source: Oregon Housing and Community Services, October 2006.

Conclusion on Housing and Other Lodging

An analysis of the stock of housing, hotel and motel rooms, RV park sites, and manufacture dwelling parks indicates that the market could comfortably accommodate the anticipated influx of non-local JCEP construction personnel.

At its peak, June 2009, the JCEP would stimulate demand for 53 housing units for families, and for a mix of housing units and group-quarters establishments by 479 others. The forecast indicates that there would be 1,658 housing units, about 574 lodging units, and numerous RV park spaces available in that peak month. Although the supply of RV sites and lodging units would be tighter on weekends, labor supply data strongly suggest that many of the JCEP workers would come from the Eugene and Portland labor markets. By commuting home on weekends they would free-up places for the Friday and Saturday overnight stays by tourists.

JCEP construction personnel would have a beneficial economic impact on the owners of lodging, RV and mobile home parks, and vacation housing properties in Coos County by filling rooms in the otherwise slow shoulder and off season months.

The JCEP terminal would lie entirely within the boundaries of North Bend School District. Its schools could be affected in two ways by the construction project. First, the project could help fund the local school district. Second, the project would have an impact on enrollment.

Direct Fiscal Impact

When completed, the JCEP terminal would greatly increase the property tax base of Coos County and various local taxing districts.

One such district is the North Bend Urban Renewal Agency, first initiated in October 1986 with the intent to eliminate blighted areas and stimulate industry by providing tax money for improvements. The site of the proposed terminal lies completely within the boundaries of the Agency.

Under normal circumstances, the amount of money designated for schools equals 44 percent of every property tax dollar collected after exemptions and rate limits have been accounted for. However, almost all of the \$8 million in estimated annual property taxes that would be paid by the finished JCEP terminal would be placed in the Urban Renewal fund.

When the Urban Renewal district was first initiated, the assessed value of the proposed terminal site was \$36.9 million. This is known as the “frozen value;” only property tax collected on assessed value above this point is placed in the Urban Renewal fund. Since that time, the Weyerhaeuser paper mill that had been operating on the site closed, causing the assessed value to decrease to \$14 million. When the JCEP project is completed, the assessed value of the site will rise past the “frozen value.” The difference in the past and current assessed values—\$22 million—will be taxed as if the Urban Renewal district did not exist.⁵

Of this \$22 million, the normal property tax rate will be levied, of which 44 percent would be designated for schools. Much of that benefit, however, would be shared with other districts around Oregon.

In an effort to treat all students in Oregon fairly, property taxes for schools are aggregated by the State and distributed to all of the districts in Oregon based on an equalization formula tied primarily to enrollments. Therefore, the direct fiscal benefit to the North Bend School District from property taxes paid by the JCEP would be diluted by equalization.

⁵ Phone interview with Barbara Foord, Chief Deputy Assessor of Coos County, October 30, 2006.

The amount of excess money that reaches the North Bend School District due to increased property taxes will be quite small. The North Bend City Code provides no dispensation for school funding within the Urban Renewal district when the assessed value of a development is higher than the “frozen value”; the schools would receive no benefits from an increased property tax base due to the JCEP development.⁶

Since the JCEP development will be built in an area that has long had an Urban Renewal designation, it will not have a harmful effect on school funding. The net effect of the development on funding could be positive in the future when the Urban Renewal designation is lifted.

Whether or not the Urban Renewal district is in effect, the North Bend School District is likely to benefit from the JCEP indirectly in two ways.

First, the addition of the JCEP to the tax base is going to reduce the tax rates of homeowners in North Bend for their school bond levy. This, according to the District Superintendent, would enhance the likelihood that voters would pass needed future bond measures for the schools.⁷ It would also make a local option property tax more plausible.

Second, the analysis estimates that the JCEP, once in operation, is going to directly and indirectly provide wages for almost 400 households in Coos County and over 40 percent of them are apt to live in the North Bend District. This would cause a rise in enrollments.

For every new student, roughly \$5,500 a year in extra funding would be handed down from the State to the North Bend School District. While these new students would necessitate higher operational spending, they would have a minimal impact of capital budgets because the schools are presently running well below capacity. Thus, nearly all of the incremental State dollars would go to classroom instruction.

According to the District Superintendent, the influx should not be a problem; enrollment has been trending down and two schools have been consolidated but space remains. Furthermore, the District projects that high school enrollment will decrease in three years, at roughly the same time construction of JCEP would be complete. In the 1999-2000 school year the North Bend School District had 2,682 students. In 2004-2005, there were 2,319—a 14 percent drop in just five years.

⁶ North Bend Municipal Code, Chapter 2.52.

⁷ Phone interview with B.J. Hollensteiner, North Bend School District #13 Superintendent, October 31, 2006.

During construction and in its first three operating years, the JCEP may have an enterprise zone exemption, which would relieve it from paying property taxes. However, the JCEP has agreed to contribute in lieu of taxes an amount equal to what the County, School District, and other districts had received when the Weyerhaeuser paper mill had been operating on the North Spit site, which the JCEP would occupy. It is believed that the share of this donation that would go directly to the North Bend School District would not be subject to the State equalization formula nor would it be affected by the urban renewal district designation.

The Coos Bay School District is outside of the North Spit. It would receive additional State revenues in proportion to the projected increase in enrollment during the construction of the JCEP, which is detailed in the following analysis. Coos Bay schools, like those in North Bend, have experienced declining enrollments.

In the last five years, according to the Oregon Department of Education, the number of students in the Coos Bay School District has fallen nine percent. Likewise, the District probably has the physical capacity and operational funding increases from the State to accommodate the small increase in students expected because of the JCEP construction employment.

Enrollment Analysis

As noted on Table 5, although most construction workers would arrive as singles and not move their families, it is expected that 64 families would, at least temporarily, relocate to Coos County at some point during the 36-month construction period. At the peak month, there would be 53 family households, but on average there would be just 24. Most of these households would have school age children.

Residency and Commutation Behavior

To measure the impact of these family households on the school districts of Coos County, it is necessary to first estimate where in the County they would take-up residency. This was accomplished by weighing the following two factors:

- (1) The distribution of where workers in Coos County live.
- (2) What their commutation behaviors are like.

Data for this analysis came from the 2000 Census, which is the most recent source available on a geographic level fine enough to allow for school district estimates. The analysis is restricted to workers employed outside of the home, as this would be the characteristic of those working at the JCEP.

The Census data used appear on Table 10. It shows that 50 percent of workers traveled less than 15 minutes to their jobs and 69 percent lived in either the Coos Bay or North Bend Zip codes.

Table 10: Coos County Residents Employed Outside of Their Homes, Commutation Times and Home Zip Codes, and Forecast Distribution by School District of Where JCEP Family Households Would Live

Persons Employed Outside of Home	Number	% of Total
<u>Commutation time:</u>		
Less than 10 minutes	7,058	29.8%
10 to 14 minutes	4,651	19.6%
15 to 19 minutes	4,103	17.3%
20 to 24 minutes	2,257	9.5%
25 to 29 minutes	811	3.4%
30 to 34 minutes	2,086	8.8%
35 to 44 minutes	717	3.0%
45 to 59 minutes	824	3.5%
60 to 89 minutes	515	2.2%
90 or more minutes	699	2.9%
<u>Worker home Zip code:</u>		
97411 Bandon	2,296	9.7%
97414 Broadbent	39	0.2%
97420 Coos Bay	10,533	44.5%
97423 Coquille	2,469	10.4%
97449 Lakeside	465	2.0%
97458 Myrtle Point	1,741	7.3%
97459 North Bend	5,956	25.1%
97466 Powers	192	0.8%
<u>Where JCEP workers would live:</u>		
Bandon SD 54		1.9%
Coos Bay SD 9		49.2%
Coquille SD 8		1.8%
Myrtle Point SD 41		1.4%
North Bend SD 13		45.5%
Powers SD 31		0.2%

Sources: 2000 Census and ECONorthwest analysis.

Because of the proximity and size of the cities, JCEP construction employees would be far more likely to live in North Bend and Coos Bay than in other parts of Coos County. The jobsite would be closest to these two cities. Drive time estimates using Map Quest indicate that the average commute to the jobsite from homes in North Bend would be less than ten minutes and from Coos Bay, less than 15 minutes. Other communities are much further away. In addition, 65 percent of all the housing in the County is in North Bend and Coos Bay.

For these reasons, the analysis finds that nearly 95 percent of the family households of JCEP construction workers would reside in either the North Bend or Coos Bay school districts.

Characteristics of Family Households

Also needed for this analysis are the household demographics of those that would move their families to Coos County. For this, the 2006 Current Population Survey of Oregon and the 2000 Census were used.

The average Oregon household has 0.62 related children under the age of 18. This statistic, however, is irrelevant to this analysis because many households in the State, and in Coos County in particular, are either non-family households or the homes of retirees that generally do not have school age children living with them.

What is important is the number of school children living in the typical home where the head of the household has a full time job. This would be characteristic, by definition, of the households of the JCEP construction employees that would move to the area.

To estimate the number of children, a special table of the 2006 Current Population Survey was run for this analysis on statewide Oregon data. From this, it was determined that the average non-single household headed by a person with a full-time job had 1.202 children. Furthermore, by applying the 2000 Census data for Coos Bay, the analysis concludes that such households have an average of 0.915 children enrolled in public schools. This is shown in Table 11.

Table 11: School Enrollment of Children in Non-Single Households Headed by Full-Time Workers in Oregon, 2006

Household Data	Number
Oregon:	
All households	1,433,000
Related children* per household	0.62
Single person households	504,000
Related children per household	-
Households with 2 or more people:	
Total non-single households in Oregon	929,000
Related children per household	0.95
Those with a full-time worker	521,000
Related children per household	1.155
Unrelated children	0.046
<hr/>	
Total children per working household	1.202
Coos County:	
Children per working, non-single household:	
School enrollment:	
Enrolled in K-12 public school	0.915
Enrolled in K-12 private school	0.033
Enrolled in Preschool	0.073
Home schooled (est.)	0.045
Not in school	0.137
<hr/>	
Total children per working household	1.202

* Children under 18 years of age.

Sources: ECONorthwest analysis of data from the U.S. Census Bureau, "Current Population Survey Annual Social and Economic Supplement, 2006."

Impact of JCEP Construction Worker Families

Tying the location of worker families (Table 10) with the estimate of the average number of students enrolled in public schools per household (Table 11) yields a forecast of how many children of JCEP construction employees, that move their families into Coos County, would enroll in the various public school districts in Coos County. This is shown on Table 12.

Table 12: Forecast of Where JCEP Construction Worker Families Would Live in Coos County and Their Impact on Public School Enrollments

School District	Enrollment 2004-05 School Year	Average Month		Peak Month	
		JCEP Families	Public School Enrollment	JCEP Families	Public School Enrollment
Bandon SD 54	807	-	-	1	1
Coos Bay SD 9	3,681	13	12	26	24
Coquille SD 8	1,026	-	-	1	1
Myrtle Point SD 41	740	-	-	1	1
North Bend SD 13	2,319	11	10	24	22
Powers SD 31	147	-	-	-	-
Total	8,720	24	22	53	49

Sources: Oregon Department of Education and ECONorthwest.

In the average month during the 36-month construction phase, the analysis estimates that there would be 24 family households living in the County and that they would be almost evenly distributed between the Coos Bay and North Bend school districts. In total, these households would add 22 students to the public schools, which is less than one-half of one-percent of the last published enrollment figures for the districts reported by the Oregon Department of Education.

Even when considering the peak month, there would only be 53 additional family households and 49 more public school students spread over five of the County's six school districts.

In conclusion, the impact of the construction workers on enrollments at the public schools would appear to be very modest.