Economic Impacts Technical Report

Fort Carson Regional Growth Plan

January 11, 2008

Pikes Peak Area
Council of Governments
Communities Working Together

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A. BACKGROUND

Summary of Demographic Impacts

New troops, civilians, and dependents are beginning to arrive at Fort Carson as a result of directives on troop movements due to Base Realignment and Closure (BRAC), Integrated Global Presence and Basing Strategy (IGPBS), and Army Modular Force (AMF). An estimated 12,600 military personnel were authorized for Fort Carson at the end of FY 2006, with an estimated 23,000 dependents living within the region. Thus, the population of the Fort Carson community at the beginning of FY 2007 was approximately 36,000 persons.

A range, which establishes an "upper" and a "lower" number for the projected increase in military personnel, was established, referred to as the "Expected Growth Scenario" and the "Alternative Growth Scenario." The "Expected Growth Scenario" assumes 11,400 additional troops will be assigned to Fort Carson. A second scenario, referred to as the "Alternative Growth Scenario", assumes a reduction to 75% of the "Expected Growth Scenario" in troop assignments each year. The "Expected Growth Scenario" was based on information provided by officials at Fort Carson, and will function in this document as the projected total number of troops that will be authorized for the installation through FY 2011. Thus, total population growth associated with the troop increase at Fort Carson is expected to be roughly 33,800, consisting of approximately 11,400 newly authorized troops, 21,300 military dependents, 430 civilians, and 690 civilian dependents (see the Demographic Technical Report).

Two large surges of troop arrivals are anticipated through FY 2011. The first increase in troops, currently underway, is expected to add 4,700 troops by the end of Fiscal Year (FY) 2007, which is equivalent to the end of September, 2007. The second increase, expected to occur before the end of FY 2009, will add an additional 5,200 new troops. FY 2008, 2010, and 2011 are expected to add 100, 700, and 700 new soldiers, respectively.

New population growth associated with the forecast troop increases (including military personnel, civilians, and all dependents) will add approximately 33,800 new persons to the study area population as shown in Table 1, and the total Fort Carson related population will make up over 8% of the total study area population by FY 2011.

These new residents will impact all aspects of the regional community, including the housing market, local school systems, state and local municipal services, quality of life, etc. The demographic forecasts provide the base assumptions used to create the Fort Carson Regional Growth Plan.

Table 1. Summary of Population Impacts

Population	Population as of 2006	Population Increase (2007 to 2011)	Population by 2011
Military Personnel (1)	12,600	11,400	24,000
Military Dependents (estimated)	23,000	21,287	44,287
Civilians Working On-Post (2)	3,119	430	3,549
Civilians Dependents (estimated)	5,022	693	5,715
Total Fort Carson Related Population	**43,741**	**33,810**	**77,551**
Non-Military Related Population (3)	723,709	91,182	814,891
Total Regional Population	**767,450**	**124,992**	**892,442**

(1) The current Military Personnel Population used in this analysis differs from the FY 2006 Statistical Data Card and represents information provided by Fort Carson personnel.
(2) Includes DA and NAF Civilian Employees.
(3) Based on Colorado DOLA forecast information as of Spring 2007.
Source: Fort Carson Garrison Command, End FY 06 Fort Carson Statistical Data Card, RKG Associates, Inc.

Summary of Housing Impacts

New housing under construction, in anticipation of the increase in demand from Fort Carson troop arrivals, will provide a significant increase in the local construction economy. Several thousand for-sale units could be built over the next few years in response to an increase in housing demand from the Fort Carson troop increase, as will several hundred new housing units on-post. By comparison, limited new multi-family product is slated for development.

The local real estate market, building in anticipation of troop increases at Fort Carson, is realistic about the growth potential and has taken a conservative approach of getting development plans approved and making some infrastructure improvements, but has held off from offering final housing product. Most builders believe they can construct homes within 3 to 6 months with finalized lots and the majority of infrastructure in place. Over the past few years, El Paso County has built several thousand new units, primarily in northern Colorado Springs. Thus, the regional construction community has become somewhat efficient in terms of its ability to produce units at a high rate. No shortages of labor, subcontractors, or materials have been reported.

As of spring 2007, it is estimated there are approximately 800 residential units built or under construction, approximately 6,400 lots with infrastructure to be completed by end of year, and over 14,000 lots undergoing the development approval process. Thus, over 21,000 for-sale units, including both single-family units and townhome units, could potentially be in the pipeline for the next decade.

For-sale unit demand is projected to be just over 12,500 homes by 2012. These units will be located primarily in southern Colorado Springs, Fountain, and unincorporated El Paso County. It is likely that between 5,200 and 8,600 new units will be built by FY 2009, which would match the demand for new units.

The rental market has remained relatively flat over the past few years, and forecast demand is approximately 8,700 units, which is slightly above the number of vacant units, future units, and on-post units. Thus, the majority of demand for rental product will likely be met by existing units, which are primarily located within Colorado Springs.

It is projected that the majority of all new housing growth will occur primarily in southern Colorado Springs, Fountain, and unincorporated El Paso County (Security and Widefield). Approximately 97% of population growth is forecast to occur within this limited area.

Regional and State Economy

The State of Colorado's Gross Domestic Product (GDP), as estimated by the U.S. Bureau of Economic Analysis (BEA) was $198,683 million (or $198.7 billion) in FY 2006. GDP is defined by the BEA as the inflation adjusted measure for the goods and services being produced within the state. In comparison, the GDP of the nation is $11.3 trillion, with Colorado the 20th highest state in terms of GDP. Per capita GDP, however, is $41,798 per person, which is the 7th highest nation wide.

Table 2 presents current and future operating budgets of Fort Carson, as well as current and future disposable income of Fort Carson personnel. Direct impacts of operating budgets plus disposable income are estimated to be $1.1 billion annually, assuming all troops are added to Fort Carson by FY 2011. Additional output, or the indirect impact on the local economy, is estimated to be $1.5 billion. Thus, total ongoing impacts of current and future operating budgets and disposable income are expected to be approximately $2.6 billion annually. Comparing this to the State's GDP of $198.7 billion, ongoing impacts of Fort Carson make up approximately 1.3% of the total State of Colorado's GDP.

Table 2. Ongoing Impacts Compared to State Annual GDP ($2007) Assuming FY 2011 Staffing Levels

Impact	Direct Impacts	Additional Output	Total Direct and Indirect Output
Operational Budget			
Current Operational Budget	$204,288,433	$362,638,623	**$566,927,056**
Future Operational Budget	$109,607,336	$194,567,323	**$304,174,660**
Disposable Income			
Current Disposable Income of Fort Carson Personnel	$513,197,367	$605,624,213	**$1,118,821,580**
Future Disposable Income of Fort Carson Personnel (2011)	$266,205,890	$314,149,571	**$580,355,461**
Total	**$1,093,299,027**	**$1,476,979,730**	**$2,570,278,757**
State GDP (rounded) [1]			**$198,683,000,000**
Total Direct and Indirect Output as a percent of State GDP			**1.29%**

Source: RKG Associates, Inc.
[1] BEA, 2006 GDP By State

The study area for this analysis includes El Paso, Fremont, and Pueblo. RIMS II multipliers are used for the three-county area, and while it is difficult to extract exactly what portion will be allotted to each county, it would be reasonable to assume that the majority of impacts will be in El Paso County. Multipliers supplied by RIMS II for El Paso County are almost as large as the multiplier for the three-county area. While the size of the multiplier should not be used to determine what percentage of impact can be allocated between the counties, similarity in multipliers does suggest that the regional economy and the economy of El Paso County are similar. Anecdotal evidence suggests that Fremont County and Pueblo County are driven by different economic forces.

In addition, the majority of growth is expected to occur in El Paso County, and there are limited economic linkages between El Paso, Pueblo, and Fremont Counties. No measures of economic linkages could be determined for this study; however, anecdotal evidence suggests that each of the three counties' economies operate somewhat independently. Commuting to work data indicate that less than 5% of employed individuals residing in Pueblo population commute to El Paso County, and less than 8% of individuals living in Fremont County commute to work in El Paso County. Less than 0.5% of employed persons residing in El Paso County commute to work in Fremont and Pueblo Counties combined[1].

It should be noted that this analysis includes all three counties, and any impacts are assumed to be unallocated between the counties, but instead represent a regional impact.

While GDP is not measured by county in the State of Colorado, sales for each county are provided, and can be used as a proxy for GDP. Data were provided by the Colorado Governor's Office of State Planning and Budgeting as follows:

- El Paso County sales – $12.0 billion
- Fremont County sales – $600 million
- Pueblo County sales – $3.1 billion

Thus, using rounded numbers, the study area's approximate product would be $15.7 billion, 16% of which represents the economic contribution of Fort Carson with the region.

B. ONE-TIME IMPACTS

One-time impacts for this analysis include both construction on-post and housing growth off-post. On-post construction will be conducted from FY 2007 to FY 2013, which is two years after the troop increase is expected to end. Thus, construction items listed below included initiatives other than BRAC, IGPBS, and AMF, but are included here to show the total impact on the construction sector of the economy[2]. Off-post housing, also a one-time cost, is calculated assuming average housing prices based on data available in FY 2007. Each house built is assumed to have a one-year impact, and are expected to be built along demand assumptions based on troop arrival schedules.

Fort Carson On-Post Construction

Approximately $945.2 million will be spent from BRAC, GDPR, and AMF initiatives, $80.0 million from MCA/MCD funding, $133.8 million in new on-post housing and facilities, $114.7 million in transportation related funding, and $51.5 million on other on-post improvements. By 2013, approximately $1.3 billion will be spent for on-post construction, which is summarized in Table 3.

[1] US Census, 2000, Journey To Work Data for El Paso, Fremont, and Pueblo Counties.
[2] This analysis does not include expansion related to Piñon Canyon.

Table 3. Fort Carson Related Construction Spending FY 2007 – FY 2013 ($2007)

Category	Total Cost	Start	End	Category	Total Cost	Start	End
Construction Supporting BRAC & Global Defense Posture Repositioning				**Community and Housing Facilities**			
4ID Div HQ Complex - Phase 1	$84,000,000	2007	2007	Child Development Center	$19,500,000	2008	2013
4ID Div HQ Complex - Phase 2	$20,000,000	2008	2008	Chapel	$9,500,000	2012	2012
Light BCT Facilities - Phase 1	$88,000,000	2011	2011	Child Development Center	$6,500,000	2008	2008
Light BCT Facilities - Phase 2	$86,000,000	2012	2012	Housing Units	$80,200,000	2007	2009
Evans Army Community Hospital Alteration	$25,000,000	2008	2008	Physical Fitness Facility	$17,500,000	2008	2008
Consilidated Clinic	$50,000,000	2008	2008	Executive Quarters	$600,000	2007	2009
Heavy Brigade Facilities	$381,200,000	2006	2008	**Subtotal Community and Housing**	**$133,800,000**		
Subtotal Construction from BRAC and GDPR	**$734,200,000**						
Construction Supporting AMF and "Grow the Army"				**Strategic Mobility**			
Brigade, EOD Group, Spec. Troop, 3 Co. HQs	$37,500,000	2008	2008	RTA Academy Blvd. Expansion	$22,500,000	2007	2008
Barracks	$47,500,000	2008	2008	Rail Yard Repair and Expansion (MCA Project)	$7,500,000	2010	2010
Medical Clinic Addition	$12,500,000	2008	2008	Colorado DOT I-25 and SH16 Interchange Upgrad	$60,000,000	2008	2008
EAB/EOD Complex	$12,500,000	2007	2007	Defense Access Road	$8,000,000	2008	2008
2 Company HQ and Maint Facility	$11,000,000	2008	2008	Arrival/Departure Air Control Group Complex	$16,666,667	2007	2007
Battalion HQ 12 Company HQ	$52,500,000	2008	2008	**Subtotal Strategic Mobility**	**$114,666,667**		
Military Intelligence Battalion	$37,500,000	2009	2009				
Subtotal Construction from AMF and GTA	**$211,000,000**						
Regular MCA/MCD Funded Construction				**Other Improvements**			
Barracks/Company HQ	$22,500,000	2007	2007	Range and Training Improvements	$38,500,000	2008	2013
10th SFG Support Battalion	$22,500,000	2007	2007	Museum	$13,000,000	2010	2010
Regional Training Support Center	$12,500,000	2010	2010	**Subtotal Other Improvements**	**$51,500,000**		
Battle Command Training Center	$22,500,000	2011	2011				
Subtotal Construction from MCA/MCD	**$80,000,000**			**Total Construction**	**$1,325,166,667**		

Source: Fort Carson Department of Public Works, 2007.

These estimated construction facilities and improvements will provide output, salaries, and jobs within the construction sector of the study area's economy. The $1.3 billion will "ripple" through the construction sector of the regional economy, and provide induced impacts as outlined in Table 4. Approximately $2.6 billion in induced output will be created from Fort Carson construction, $887.5 million in wages, and 23,142 one-year employment increments. Because these are one-time impacts, each year will have a different impact. Impacts are not cumulative; however, total spending is presented for the period between 2007 and 2012.

Table 4. Direct and Indirect Impacts from Fort Carson Construction Spending by Year ($2007)

Category	2007	2008	2009	2010	2011	2012	Total
Direct Impact:							
Annual Construction Spending	$316,350,000	$445,683,333	$275,633,333	$42,000,000	$139,500,000	$106,000,000	**$1,325,166,667**
Indirect Impacts:							
Output ($)	$627,100,605	$883,478,072	$546,387,957	$83,256,600	$276,530,850	$210,123,800	**$2,626,877,883**
Earnings ($)	$211,859,595	$298,474,128	$184,591,643	$28,127,400	$93,423,150	$70,988,200	**$887,464,117**
Employment (jobs)	5,525	7,783	4,814	733	2,436	1,851	**23,142**

Source: Fort Carson, BEA 2007.

Multipliers:	
Final Demand Multiplier	1.982
Earnings Multiplier	0.670
Employment Multiplier	17.464
Source of Multipliers: RIMS II, 2007.	

These indirect impacts are for one-year only and do not represent new total jobs, but make up the sum of the impacts over a six-year period. For example, in FY 2007, 5,525 jobs will be supported by the construction for a one-year time frame, and $211.9 million in wages (earnings) will be added to the economy for a one-year time frame.

Housing Construction

New housing within the region will also stimulate the construction sector of the regional economy. All housing in this analysis will be off-post, and is based on a demand schedule driven by the arrival of new troops and civilians.

Direct impacts are estimated to be $1.5 billion in housing, assuming an average new home price of $225,000, and a total of 6,487 homes built in response to troop increases at Fort Carson. As these units are built, they will stimulate additional economic activity for each year. The sum of all indirect economic impacts related to new home construction is $2.9 billion, $977.6 million in wages, and 25,491 in one-year employment increments. Table 5 provides an overview of direct and indirect impacts related to new home construction.

Table 5. Direct and Indirect Impacts from New Home Construction by Year ($2007)

Rank	Estimated Housing Cost	2007	2008	2009	2010	2011	Total [1]	Annual Average
Houses Purchased		2,616	110	2,888	437	437	6,487	1,081
Housing Spending	$225,000	$588,516,081	$24,770,207	$649,792,807	$98,302,277	$98,302,277	$1,459,683,650	$243,280,608
Total Output		**$1,166,615,428**	**$49,101,981**	**$1,288,084,281**	**$194,864,605**	**$194,864,605**	**$2,893,530,899**	**$482,255,150**
Total Earnings		**$394,129,220**	**$16,588,608**	**$435,166,243**	**$65,833,035**	**$65,833,035**	**$977,550,140**	**$162,925,023**
Total Employment		**10,278**	**433**	**11,348**	**1,717**	**1,717**	**25,491**	**4,249**

Source: RKG Associates, Inc.
[1] All impacts are for one year only.

Multipliers:	
Final Demand Multiplier	1.982
Earnings Multiplier	0.670
Employment Multiplier	17.464
Source of Multipliers: RIMS II, 2007.	

The indirect economic activity is assumed to be a one-year timeframe, so that homes built in FY 2007 will also induce the indirect activity to occur within the same year. For example, in 2007, an estimated 2,616 new homes will be built, adding $588.5 million in spending to the regional economy. New home construction in FY 2007 will stimulate total output of $1.2 billion, with $394.1 million in wages (earnings), and will support 10,278 construction related jobs.

C. ONGOING IMPACTS

Ongoing impacts are related to spending that occurs on a consistent, annual basis. For example, each year Fort Carson is expected to expend $17.4 million for utility services[3]. This amount stimulates approximately $24.0 million in additional economic activity related to utilities within the regional economy. Personnel and their families also spend a portion of their earnings in the local economy on day-to-day living expenses. This spending, referred to as "disposable income," injects money into the regional economy and also stimulates output and supports additional jobs and wages.

Fort Carson Operational Expenditures

It is assumed that as Fort Carson adds new personnel, these costs will increase on a pro rata share. Thus, if there are currently 20,000 civilian and military personnel[4] on-post, and an additional 11,830 military and civilian personnel are added, operational costs should increase by roughly 55%.

Fort Carson operational expenditures, provided by the Garrison Resource Management staff, include several annual expenditures. Local purchases and contracts, which represent payments to regional companies for services and other ongoing operational costs, TRICARE payments to

[3] Source: Fort Carson Statistical Data Card, 2006.
[4] This number is based on data from the Fort Carson Statistical Data Card, 2006 and differs slightly from other demographic projections. It is used here only to allocate a share of cost to new personnel.

regional health care facilities, utility payments, tuition assistance and rent/lease payments. Current estimates for total Fort Carson 2006 operational expenditures are approximately $204.3 million.

If this $204.3 million were adjusted on a pro rata share for an additional 11,830 troops and civilian personnel, then an additional $109.6 million would be spent annually. This annual expenditure is referred to as the direct impact for Fort Carson operations, and would create an indirect impact of $194.6 million, additional earnings of $60.8 million, and support an additional 1,546 full time equivalent (FTE) jobs annually. Detail for annual expenditures and indirect growth is presented in Table 6.

Table 6. Direct and Indirect Impacts from Fort Carson Operational Expenditures ($2007)

	Amount	Pro Rata Share	Additional Direct Impact Spending	Multiplier	Output	Multiplier	Earnings	Multiplier	Employment
New Troops		**11,830**							
Fort Carson Expenditures									
Local Purchases and Contracts	$132,489,294	$6,009	$71,084,782	1.728	$122,862,936	0.529	$37,589,632	12.079	859
Tricare	$46,201,137	$2,095	$24,788,401	2.012	$49,879,220	0.729	$18,068,265	21.738	539
Utilities	$17,362,586	$787	$9,315,588	1.384	$12,896,500	0.246	$2,289,771	4.480	42
Tuition Assistance	$5,267,000	$239	$2,825,915	2.034	$5,747,347	0.725	$2,047,658	30.197	85
Rent & Lease Payments	$2,968,416	$135	$1,592,651	1.998	$3,181,320	0.504	$802,218	13.315	21
Total	**$204,288,433**		**$109,607,336**		**$194,567,323**		**$60,797,546**		**1,546**

Source: Fort Carson Garrison Resource Management, 2007, RKG Associates, Inc.

Disposable Income

Currently, Fort Carson provides over $1.0 billion in payroll to military and civilian personnel on an annual basis. The additional 11,830 personnel will increase the total amount of payroll by approximately $526.8 million, which is injected into the regional economy for a total Fort Carson impact of $1.52 billion annually.

The additional military and civilian personnel will spend a portion of their income within the regional economy. Disposable income removes taxes, housing/rental payments (referred to by BEA as "shelter"), pensions/insurance, savings and debt payments. Thus, roughly 60% of pre-tax income is spent as disposable. Data collected from local real estate firms suggest that approximately 55% of married individuals have working spouses and 52% of personnel are married, which is also factored into disposable income estimates. It is assumed the soldier or civilian is the head of household and represent a "household" unit in this analysis.

Assumptions for disposable income are:

- E1-E3 personnel have an annual disposable income of just under $16,000.
- E4-E6 personnel have an annual disposable income of just over $20,000.
- E7-E9, Warrant Officers and Officers have an annual disposable income of roughly $32,000.
- Civilians have an annual disposable income of just over $28,000.

This income is then used to drive a cumulative disposable income value, as presented in Table 7.

Table 7. Direct and Indirect Impacts from Disposable Income ($2007)

		Additional Personnel				
Rank	**Estimated Disposable Income**	**2007**	**2008**	**2009**	**2010**	**2011**
E7-Officers		1,097	23	1,213	163	163
E4-E6		2,791	59	3,088	416	416
E1-E3		812	17	899	121	121
Civilians Personnel		86	86	86	86	86
Subtotal New Personnel		**4,786**	**186**	**5,286**	**786**	**786**
Cumulative Personnel		**4,786**	**4,972**	**10,258**	**11,044**	**11,830**
E7-Officers	$31,940	$35,031,688	$745,355	$38,758,463	$5,217,485	$5,217,485
E4-E6	$20,344	$56,775,318	$1,207,985	$62,815,245	$8,455,898	$8,455,898
E1-E3	$15,918	$12,933,073	$275,172	$14,308,932	$1,926,202	$1,926,202
Civilians Personnel	$28,269	$2,431,097	$2,431,097	$2,431,097	$2,431,097	$2,431,097
Subtotal Disposable Income		$107,171,176	$4,659,610	$118,313,738	$18,030,683	$18,030,683
Cumulative Disposable Income		**$107,171,176**	**$111,830,786**	**$230,144,523**	**$248,175,207**	**$266,205,890**
Total Output [1]		**$126,472,705**	**$131,971,510**	**$271,593,552**	**$292,871,561**	**$314,149,571**
Total Earnings [1]		**$36,791,865**	**$38,391,509**	**$79,008,615**	**$85,198,548**	**$91,388,482**
Total Employment [1]		**1,220**	**1,273**	**2,620**	**2,825**	**3,030**

[1] Impacts are cumulative.

Multipliers:	
Final Demand Multiplier	1.180
Earnings Multiplier	0.343
Employment Multiplier	11.382
Source of Multipliers: RIMS II, 2007.	

Source: RKG Associates

Disposable income is estimated to be $107.2 million in FY 2007 and $266.2 million by FY 2011 on a cumulative basis. For 2011, approximately 11,830 direct jobs will be in place which will drive approximately $266.2 million in disposable spending. Disposable spending will, in turn, stimulate $314.2 million in output, $91.4 million in earnings, and support 3,030 jobs.

Employment Training Needs

The expansion of Fort Carson will result in a demand for additional workers as well as growth within the labor force. Currently demand for additional employees primarily involves construction activities at Fort Carson. By FY 2011 Fort Carson is anticipating an additional 430 new civilian positions to be added to support the troop growth. During the next several years, however, other employment opportunities will also be created as the regional economy expands.

In order to meet some of these future employment needs the Pikes Peak Workforce Center (PPWFC) provides assistance to businesses in solving workforce problems, as well as assists individuals in career transition. For example, the Workforce Center, in addition to other activities, has traditionally provided transition assistance to veterans, as well as programs for military spouses seeking employment within the region.

In the fall of 2007, the Pikes Peak Workforce Center received approximately $1 million to provide funding for education and training, including tuition, books, necessary equipment, and credentialing and licensing fees in nationally identified high-growth career fields, such as education, health care, information technology, construction trades and financial services. It is anticipated that this program will be initiated in January of 2008 and could assist military spouses in their efforts to find employment in key areas such as child care, education, and healthcare. This type of program, as well as other employment training activities in areas such as child care will become increasingly important during the expansion of Fort Carson.

D. RECOMMENDATIONS

Fort Carson provides significant economic benefits to the region. The increase of soldiers, civilians, and dependents from on-going operations and incomes will add to the economy of the region, and on- and off-post construction to accommodate growth will be a major economic driver in surrounding communities over the next several years. Fort Carson growth will also impact workforce issues in the study area. In order to further the region's understanding of Fort Carson's impacts on the local economy and prepare for that growth effectively, this report recommends the actions listed below.

Regular Reporting of Economic Data

Issue: Data related to the economic impact of Fort Carson on the region should be regularly updated, examined, and reported.

Recommendation: Define and evaluate the economic impact of Fort Carson in more detail through an economic forecasting model to examine direct and indirect economic impacts, such as Fort Carson spending, local economic capture rates, employment, workforce training, economic diversification options, and other economic indicators. Provide regular reports on economic impacts of Fort Carson on the region.

Workforce Training

Issue: Several employment opportunities exist for military spouses in key areas, such as education, healthcare, and childcare.

Recommendation: Increase the level of workforce training available for military spouses through continued pursuit of grant monies and expanded programs.