

APPENDIX C: Bear Tooth TIGER Grant Application - Construction Jobs

Sources:
A.L. Politano and Carol J. Roadifer, Regional Economic Impact Model for Highway Systems (REIMHS), Transportation Research Record 1229, Transportation Research Board, Washington D.C., 1989. (Model adjusted to reflect inflation.)

Multipliers from REIMHS for Rural Areas				
Rural Ratios	original 86	1.66	0.43	19.044
Multipliers	2011	No adjustment needed 1.66	Adjusted for inflation 0.43	9.33

Millions of 2011 \$

Economic Impact of Bear Tooth Highway Construction Investment and Resulting Travel Benefits (Millions of 2011\$)

Alternative	Construction Value including Engineering	Regional Economic Output	Total Earnings	Total Jobs (Person Years of Employment)
Full Project	\$46.1	\$76.53	\$19.82	400

Model for Highway Systems, Transportation Research Record 1229, Transportation Research Board, Washington D.C., 1989. (Model adjusted to reflect inflation.)
Atkins, 2011.

Inflation adjustment 1986 to 2011

US CPI, All Urban Consumers, not adj

109.6 1986 annual
215.303 2008 annual
1.964443 2008/1986

215.303 2008 annual
2.072214 2008/1984

To midpoint (half year of 2011 from 2008)
223.598 2011 half year

1.038527 2011 half/2008

Multipliers from REIMHS before adjusting jobs for inflation

Original jobs per \$10 million (total)

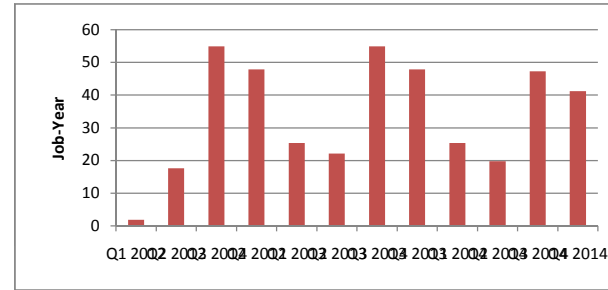
- 203 urban interstate
- 224 urban primary rehab
- 159 bridge
- 190 rural secondary construction (here for reconstruction)
- 191 rural bridge (multipliers are 1.50 and 0.44, so assume ave of 1.78 and 1.50 = 1.64)

Weighted Averaging of highway and bridge multipliers (conservative on output since bridges likely lower %)

	Assume % Output	Earnings	Jobs	
Highway	0.56	1.78	0.43	190
Structures	0.44	1.5	0.44	191
Average	1	1.66	0.43	190.44

Quarterly Job Creation*

				Total by		Distributed by quarter				Distributed
				Initial Quarter	First	Second	Third	Chk tot		
Q1 2012	2 \$	400,000	January - March	4	1.9	1.2	0.6	3.7	1.9	
Q2 2012	18 \$	3,500,000	April - June	33	16.3	10.9	5.4	32.7	17.6	
Q3 2012	55 \$	9,300,000	July-September	87	43.4	28.9	14.5	86.8	54.9	
Q4 2012	48 \$	2,900,000	October - December	27	13.5	9.0	4.5	27.1	47.9	
Q1 2013	25 \$	400,000	January - March	4	1.9	1.2	0.6	3.7	25.4	
Q2 2013	22 \$	3,500,000	April - June	33	16.3	10.9	5.4	32.7	22.1	
Q3 2013	55 \$	9,300,000	July-September	87	43.4	28.9	14.5	86.8	54.9	
Q4 2013	48 \$	2,900,000	October - December	27	13.5	9.0	4.5	27.1	47.9	
Q1 2014	25 \$	400,000	January - March	4	1.9	1.2	0.6	3.7	25.4	
Q2 2014	20 \$	3,000,000	April - June	28	14.0	9.3	4.7	28.0	19.8	
Q3 2014	47 \$	8,000,000	July-September	75	37.3	24.9	12.4	74.7	47.3	
Q4 2014	41 \$	2,500,000	October - December	23	11.7	7.8	3.9	23.3	41.2	
Q1 2015	20 \$	-	January - March	0	0.0	0.0	0.0	0.0	20.2	
Q2 2015	4 \$	-	April - June	0	0.0	0.0	0.0	0.0	3.9	
Q3 2015	0 \$	-	July-September	0	0.0	0.0	0.0	0.0	0.0	
Q4 2015	0 \$	-	October - December	0	0.0	0.0	0.0	0.0	0.0	
	430 \$	46,100,000		430				430	430.3	



*Based on 1/2 jobs in quarter of expenditure, 1/3 in following quarter, and 1/6 in quarter after that per President's Council of Economic Advisors, 2009.

