

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	2012	1.66	0.43	9.13

No adjustment needed Adjusted for inflation

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	420

Model for Highway Systems, Transportation Research Record 1229, Transportation Research Board, Washington D.C., 1989. (Model adjusted to reflect inflation.) Atkins, 2012.

Inflation adjustment 1986 to 2012
US CPI, All Urban Consumers, not adj
 109.6 1986 annual
 224.939 2011 annual
 2.052363 2011/1986

 224.939 2011 annual
 To midpoint (half year of 2012 from 2011)
 Assume inflation in 2012 = 2011:
 1.016 2012 half year = 2011 half year

 1.016 2012 half/2011

Multipliers from REIMHS before adjusting jobs for inflation

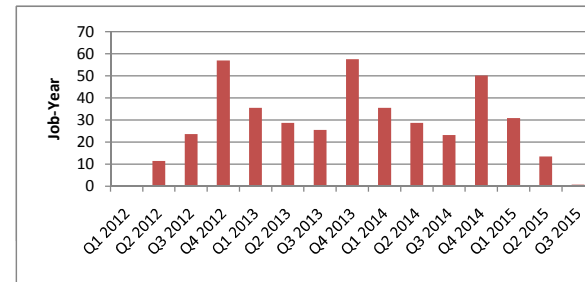
Original jobs per \$10 million (total)
 203 urban interstate
 224 urban primary rehab
 159 bridge
 190 rural secondary construction (here for reconstruction)
 191 rural bridge (multipliers are 1.50 and 0.44, so assume ave of 1.78 and 1.50 = 1.64)

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 Initial Quarter	Distributed by quarter			Chk tot	Distributed
					First	Second	Third		
Q1 2012	0	\$ -	January - March	0	0.0	0.0	0.0	0.0	0.0
Q2 2012	11	\$ 2,500,000	April - June	23	11.4	7.6	3.8	22.8	11.4
Q3 2012	24	\$ 3,500,000	July-September	32	16.0	10.7	5.3	32.0	23.6
Q4 2012	57	\$ 9,300,000	October - December	85	42.5	28.3	14.2	85.0	56.9
Q1 2013	35	\$ 400,000	January - March	4	1.8	1.2	0.6	3.7	35.5
Q2 2013	29	\$ 2,900,000	April - June	26	13.2	8.8	4.4	26.5	28.6
Q3 2013	25	\$ 3,500,000	July-September	32	16.0	10.7	5.3	32.0	25.4
Q4 2013	58	\$ 9,300,000	October - December	85	42.5	28.3	14.2	85.0	57.5
Q1 2014	35	\$ 400,000	January - March	4	1.8	1.2	0.6	3.7	35.5
Q2 2014	29	\$ 2,900,000	April - June	26	13.2	8.8	4.4	26.5	28.6
Q3 2014	23	\$ 3,000,000	July-September	27	13.7	9.1	4.6	27.4	23.1
Q4 2014	50	\$ 8,000,000	October - December	73	36.5	24.4	12.2	73.1	50.1
Q1 2015	31	\$ 400,000	January - March	4	1.8	1.2	0.6	3.7	30.8
Q2 2015	13	\$ -	April - June	0	0.0	0.0	0.0	0.0	13.4
Q3 2015	1	\$ -	July-September	0	0.0	0.0	0.0	0.0	0.6
Q4 2015	0	\$ -	October - December	0	0.0	0.0	0.0	0.0	0.0
	421	\$ 46,100,000		421				421	421.1



*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.

