

## Misunderstanding Economic Stimulus Multipliers

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With the passage of the federal stimulus bill and the proposal of an infrastructure bonding plan in Iowa to address the state's looming infrastructure needs, there have also been many announcements from state and federal elected officials about the job impacts that the state will expect. The federal stimulus, it was announced, would boost jobs in Iowa by 37,000, and the Iowa Governor's Office indicated that a \$750 million bonding plan would boost jobs by 30,000. It would be good news if the jobs materialized, but they will not. In Iowa, the job impacts will be much more modest.

The announcements of huge job impacts from state or federal spending belie fundamental misunderstandings about jobs multipliers. First, any implied multiplier only applies for the year in which the measurement (or the public spending) took place. The jobs that are supported by whatever is being measured are annual estimates, not cumulative estimates over an indefinite funding time period. Second, it is inappropriate to use a national multiplier when you are describing a statewide or a sub-state job impact as state's economies are unable to capture all of the economic impacts due to trade and supply leakages. As there is no evidence of state specific analyses beyond the ones conducted in this study, one must assume that a national impact summary has been apportioned to the various states by virtue of the spending shares. Models must be configured to reflect the economy that is being studied, but many people will inappropriately or unknowingly apply national multipliers to states or localities. Last, the boosted jobs only last so long as funding exists. When the funding goes away, so do the jobs. Construction impacts of this nature are therefore temporary, not durable and sustained. Table 1 lists state of Iowa job multipliers for several categories of construction related spending.

**Table 1. Job Economic Impacts Per \$100 Million of Spending Per Year**

	Construction Jobs	+	All Other Jobs	=	Total Jobs	Multiplier
Roads, bridges, infrastructure	925	+	570	=	1,495	1.62
Infrastructure maintenance and repair	1,116	+	627	=	1,743	1.56
New commercial	885	+	536	=	1,421	1.61
New manufacturing	922	+	464	=	1,386	1.50
New residential	565	+	658	=	1,223	2.16

These job estimates are from an input-output model of the Iowa economy. This model is updated annually, and has been maintained continuously at ISU by this researcher since the early 1990s. The construction jobs vary from 565 for new residential construction per \$100 million in spending, to 1,116 in infrastructure maintenance and repair jobs. The indirect jobs subsume all Iowa-based suppliers to the construction firms

plus all of the jobs that are generated by construction and supplying firm job holders converting their spending into purchases to support their households as residents of Iowa. These jobs range from 464 in new manufacturing to 658 in new residential construction. The sum of the construction plus all other jobs gives us our total job impact. New residential construction had the lowest at 1,223, and infrastructure maintenance and repair had the most at 1,743. The table also lists multipliers per construction job. The multiplier tells us how many total jobs get supported per initial construction job created from the spending. The lowest multiplier is for new manufacturing construction at 1.50. That means for every manufacturing construction job there is 5/10ths of a job in the rest of the Iowa economy. The highest is in new residential construction at 2.16, which means that for every residential construction job, there are 1.16 jobs in the rest of the economy.

Knowing all of this, we can use our findings to estimate the annual job creation values of some type of stimulus activity as it makes its way to the state of Iowa level. If we assume, for example, that the current Iowa proposal is to spend \$750 million over three years on infrastructure creation and repair, then we can compile the following estimate of annual job impacts.

**Table 2. Total Jobs Impacts for a Hypothetical Spending Stream of \$250 Million Annually**

	Amount Spent	X	Jobs Multiplier Per \$100 Million	=	Total Annual Jobs
New roads, bridges, & infrastructure	\$125 million	X	1,495	=	1,869
Infrastructure maintenance and repair	\$125 million	X	1,743	=	2,179
Total Jobs Supported	\$250 million			=	4,048

If the spending were split half and half, then \$250 million in state spending would support 4,048 jobs. The feasible range in this example is from 3,738 jobs were all the spending on new roads and bridges, to an upper estimate of 4,358 were all spend on maintenance and repair.

If the state spent another \$250 million the second year the same way, we would expect that \$250 million to support 4,048 total jobs as well. But the first year's jobs would have disappeared as the spending was exhausted. So on a continuing basis, the state's spending initiative is supporting about 4,048 jobs annually, not 8,096 jobs over the two year period as many mistakenly presume. The first year's jobs are gone and now move into the second year. And so on into the third year or until all of the stimulus funding is exhausted.

Accordingly, if the state of Iowa spends an average of \$250 million per year for three years, it will sustain about 4,050 jobs per year for the duration of the spending. That is the annualized expected job value. And that value is much less than the 30,000 jobs announced.

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