

Minnesota Recovery and Reinvestment Act: Was the money worth it?

INTRODUCTION

Following the greatest collapse of the economy since the Great Depression, America found itself with astronomical unemployment rate and needed a change before it was too late. On February 13th 2009, U.S. Congress passed the American Recovery and Reinvestment Act of 2009. This bill was to first create new jobs and save those who were facing peril, and also upstart the troubled economy both in the short and long term. Because of the massive \$787 billion price tag, it is important that transparency remains a priority and that this money is kept track of so we can hold those accountable in our government. By summarizing this data by State Agency and Congressional District, we are able to find both trends and anomalies that would otherwise be hidden. From here we can accurately determine the usefulness of this monumental act to Minnesota's economy.

The first thing worth noting that many people don't understand about the Recovery Act is that as of March of 2012, only \$227 billion nationwide has been paid out in the form of contracts, grants, and loans. The remaining money has been paid in the form of tax benefits or entitlements. For this project, I am solely interested in the money used in direct fiscal injection like the contracts and grants. These projects range from areas of the government like Education and Transportation to Family and Health. When a project is approved a prime recipient of the funds is issued. According to the Office of Management and Budget from the White House, a prime recipient is defined as, "A non-Federal entity that receives Recovery Act funding awards directly from the Federal Government and is responsible for the quarterly reports on the status of the project including payments made and jobs created and or retained." These payments by prime recipients are made to either sub-recipients or vendors. A sub-recipient is an entity that expends Federal awards received from a prime recipient to carry out a Federal program. Lastly, a vendor is a seller providing goods or services required for the completion of a Federal program. For the purpose of this project, we will focus only on the prime and sub recipients of a Federal program.

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DATA

This data was obtained through Recovery.MN, sponsored by the Minnesota Management and Budget. The data used in this analysis is as of March 30th, 2011. The data includes information from Prime Recipients, Sub Recipients, and Vendors. In particular, my summaries will be based on Prime Recipient data. Each project listed is supplied with an Award Date, State Agency, Amount Awarded, Amount Received, and Congressional District among many other variables. The ones listed above are the primary focus of this project. Before starting the analysis, the data had to be cleaned by removing unnecessary columns and ensure that nothing was missing. Upon further investigation, a significant portion of the Department of Transportation money was summed to one line of about \$554 million dollars with no Award Date given. The solution was to combine the DoT (Department of Transportation) specific money from an additional file with the original data set to ensure every dollar awarded was attached with an Award Date. The main software used in this project was Microsoft Access to create/run queries and JMP to obtain useful graphics.

SUMMARIES PROVIDED BY RECOVERY.MN

Prior to starting my project, the summaries available through Recovery.MN were extremely basic. As an example, Table 1 below shows a text table of dollars awarded and expended per State Agency. Though the information is clearly laid out, it is not very informative to the reader wondering things like why certain agencies only spent about half of their money awarded.

| Agency totals | award | expenditure |
|-------------------------------------|-------------|-------------|
| Agriculture | \$69 | \$69 |
| Department of Labor and Industry | \$167 | \$123 |
| Public Utilities | \$883 | \$249 |
| State Arts Board | \$316 | \$316 |
| University of Minnesota | \$89,323 | \$80,662 |
| State Board on Aging | \$2,154 | \$1,676 |
| Veterans Affairs | \$6,177 | \$4,190 |
| Health | \$31,028 | \$7,938 |
| Pollution Control Agency | \$6,714 | \$5,728 |
| Military Affairs | \$5,593 | \$5,564 |
| Public Safety | \$21,718 | \$12,835 |
| Corrections | \$38,000 | \$38,000 |
| MnSCU | \$79,166 | \$61,266 |
| Housing Finance | \$90,548 | \$82,300 |
| Met Council | \$71,677 | \$70,690 |
| Commerce | \$208,946 | \$136,208 |
| Public Facilities Authority | \$107,141 | \$102,320 |
| Transportation | \$556,612 | \$466,515 |
| Department of Education | \$1,017,519 | \$754,233 |
| Employment and Economic Development | \$1,200,480 | \$1,177,301 |
| Department of Human Services | \$2,443,875 | \$2,387,844 |
| Sum | \$5,977,106 | \$5,396,027 |

Table 1 – Recovery.MN Summary of Dollars Awarded/Expended by Agency

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Table 2 is similar output created and was shown on the Recovery.MN website prior to starting this project displaying jobs created based on broad categories where the money was spent. It is important to note that Jobs Created/Retained is calculated by dividing the total number of job hours by the hours in a typical work week, explaining the fact that some categories created one fifth of a job. Looking at this table, we see that Education creates the most jobs but we are given no more information, such as how it varies across time. It is for these reasons that this project will better enable us to understand the data and attempt to find patterns as time continues across State Agencies or Congressional Districts.

Table 2 - Recovery.MN Summary of Jobs Created and Maintained by Category

| Jobs Created/Maintained by Category | |
|-------------------------------------|---------|
| Education | 2124.42 |
| Energy & Environment | 672.48 |
| Health & Human Services | 96.57 |
| Transportation | 43.77 |
| Public Safety | 133.48 |
| Workforce and Economic Development | 113.76 |
| Housing | 17.95 |

ADDITIONAL SUMMARIES

In order to better understand this data, it is necessary to observe subsets based on a few different categories. Time obviously is an important variable as well as State Agency and Congressional District. By looking at these, we will be able to compare projects and decide where the money should continue being spent and if there are certain areas that are being underutilized.

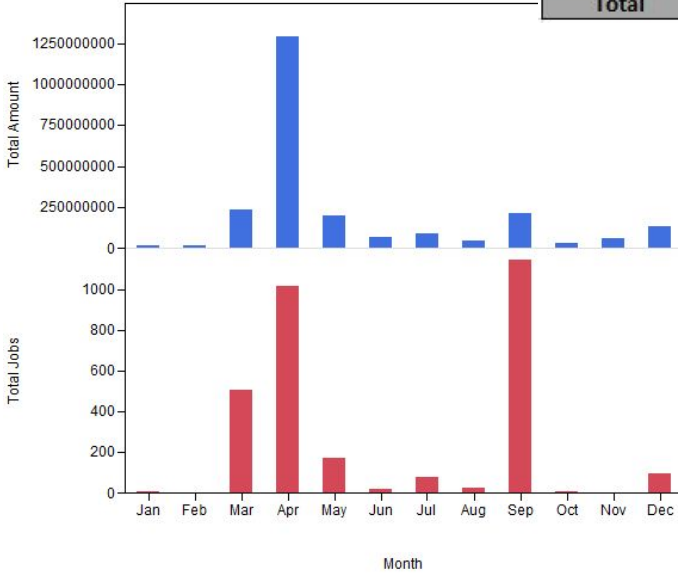
One interesting item to look at in this data is whether or not the amount spent on projects changes over time. Below, Table 3 lists the month the awards were given in along with the total amount. We can see that April is unusual compared to the other months in Amount Awarded.

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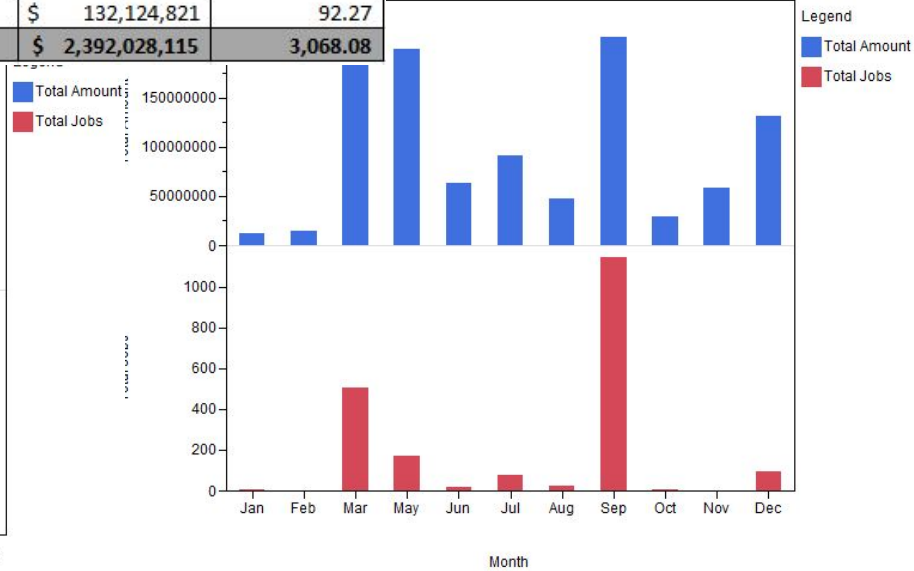
Table 3 - Dollars Awarded and Jobs created across Time

| Award Month | Amount of Award | Number of Jobs |
|--------------|-------------------------|-----------------|
| Jan | \$ 12,246,986 | 3.54 |
| Feb | \$ 14,145,630 | 0.15 |
| Mar | \$ 237,249,664 | 507.75 |
| Apr | \$ 1,294,992,291 | 1,019.67 |
| May | \$ 200,547,720 | 169.77 |
| Jun | \$ 62,983,610 | 18.43 |
| Jul | \$ 90,881,418 | 78.79 |
| Aug | \$ 47,083,431 | 23.83 |
| Sep | \$ 212,552,192 | 1,146.63 |
| Oct | \$ 28,745,772 | 6.28 |
| Nov | \$ 58,474,580 | 0.97 |
| Dec | \$ 132,124,821 | 92.27 |
| Total | \$ 2,392,028,115 | 3,068.08 |

Figure 4 – Graph of Dollars and Total Amount & Total Jobs vs. Month



Jobs vs. Month (Not including April)



Jobs across Time by District (Including and Excluding District 4)

Figure 4 above shows a similar story and these differences are easier to see. Because April is so much larger in the Amount Awarded there is a version of this graphic on the right without April included to compare money spent and jobs created. By plotting both the Amount of the Award and number of Jobs Created across time we are able to see surprising results. Overall, more money spent in a particular month led to more jobs in the same time period. However, close to \$1.3 trillion was spent in April versus only about \$213 million in September when in fact over 100 more jobs were created or retained. Upon closer investigation, April was so high because of block payments to the Department of Human Services and Transportation which tend to be agencies that do not produce a lot of jobs but require a large amount of money to run.

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| Name of Recipient State Agency | Total Amount Awarded | Total Amount of Funds Received/Invoiced | % Received / Awarded |
|---|-------------------------|---|----------------------|
| Board on Aging | \$ 1,554,895 | \$ 1,554,895 | 100% |
| Department of Agriculture | \$ 69,494 | \$ 69,494 | 100% |
| Department of Commerce | \$ 209,829,212 | \$ 136,392,376 | 65% |
| Department of Education | \$ 1,185,406,692 | \$ 891,103,874 | 75% |
| Department of Employment and Economic Development | \$ 21,004,727 | \$ 13,058,862 | 62% |
| Department of Health | \$ 6,997,851 | \$ 3,662,373 | 52% |
| Department of Human Services | \$ 186,702,735 | \$ 182,973,934 | 98% |
| Department of Labor and Industry | \$ 166,945 | \$ 123,328 | 74% |
| Department of Military Affairs | \$ 5,593,456 | \$ 5,505,504 | 98% |
| Department of Public Safety | \$ 21,718,086 | \$ 20,945,393 | 96% |
| Department of Transportation | \$ 554,767,104 | \$ 464,653,077 | 84% |
| Department of Veterans Affairs | \$ 6,177,058 | \$ 4,039,298 | 65% |
| Housing Finance Agency | \$ 28,434,123 | \$ 28,199,223 | 99% |
| Metropolitan Council | \$ 68,724,956 | \$ 67,800,711 | 99% |
| Pollution Control Agency | \$ 4,983,600 | \$ 3,997,675 | 80% |
| Public Facilities Authority | \$ 107,141,000 | \$ 102,324,613 | 96% |
| State Arts Board | \$ 316,200 | \$ 316,200 | 100% |
| Total | \$ 2,409,588,134 | \$ 1,926,720,830 | 80% |

Table 5 - Summary of Dollars Awarded/Expended by Agency

State Agencies vary widely across a state. Similar to Table 1, Table 5 above also includes the percentage of dollars expended to date per State Agency. Investigating further to the Agencies that have utilized less than 65% of their overall awarded amount, we can see in Table 6 below the exact projects that have not yet invoiced their allotted money.

Table 6 – Low Invoiced Projects

| Name of Recipient State Agency | CFDA Number | Total Amount Awarded | Total Amount Received/Invoiced | Project Count | Award Date |
|---|-------------|----------------------|--------------------------------|---------------|------------|
| Department of Commerce | 81.122 | \$ 678,986.00 | \$ 13,089.75 | 1 | 8/14/09 |
| Department of Employment and Economic Development | 17.275 | \$ 6,000,000.00 | \$ 281,000.00 | 16 | 1/29/10 |
| Department of Health | 93.717 | \$ 652,728.00 | \$ 141,941.29 | 2 | 8/30/09 |
| Department of Employment and Economic Development | 84.398 | \$ 199,189.00 | \$ 48,343.00 | 11 | 3/31/09 |
| Department of Commerce | 81.122 | \$ 883,060.00 | \$ 249,326.38 | 1 | 12/4/09 |
| Department of Health | 93.712 | \$ 540,700.00 | \$ 165,477.96 | 8 | 8/31/09 |
| Department of Commerce | 81.128 | \$ 10,644,100.00 | \$ 3,718,942.90 | 150 | 9/14/09 |
| Department of Health | 93.712 | \$ 155,975.00 | \$ 63,759.50 | 8 | 9/15/09 |
| Department of Employment and Economic Development | 17.275 | \$ 1,155,488.00 | \$ 506,000.00 | 16 | 12/1/09 |
| Department of Commerce | 81.041 | \$ 54,172,000.00 | \$ 25,096,463.68 | 90 | 4/20/09 |
| Department of Health | 93.414 | \$ 107,775.00 | \$ 50,944.76 | 1 | 9/15/09 |
| Department of Commerce | 81.117 | \$ 349,985.00 | \$ 174,261.63 | 2 | 11/16/09 |
| Department of Health | 10.578 | \$ 2,935,346.00 | \$ 1,573,152.36 | 1 | 10/29/09 |
| Department of Health | 93.717 | \$ 404,863.00 | \$ 217,052.02 | 2 | 8/28/09 |

Many of these projects falling under the Department of Commerce, Health, and Employment are not one-time projects, but rather on-going projects that will continue to use their money over the next few years. This explains why projects like those from the Department of Education and Transportation have invoiced a large portion of their money already since these projects are paid out at one-time and end relatively quickly, for example road construction and hiring of teachers.

One state agency in particular, Department of Transportation, demands more attention. Since this money is spread out across the state fairly equally, it is interesting to observe the trends of each Congressional District; this is what is shown in Figure 7 below.

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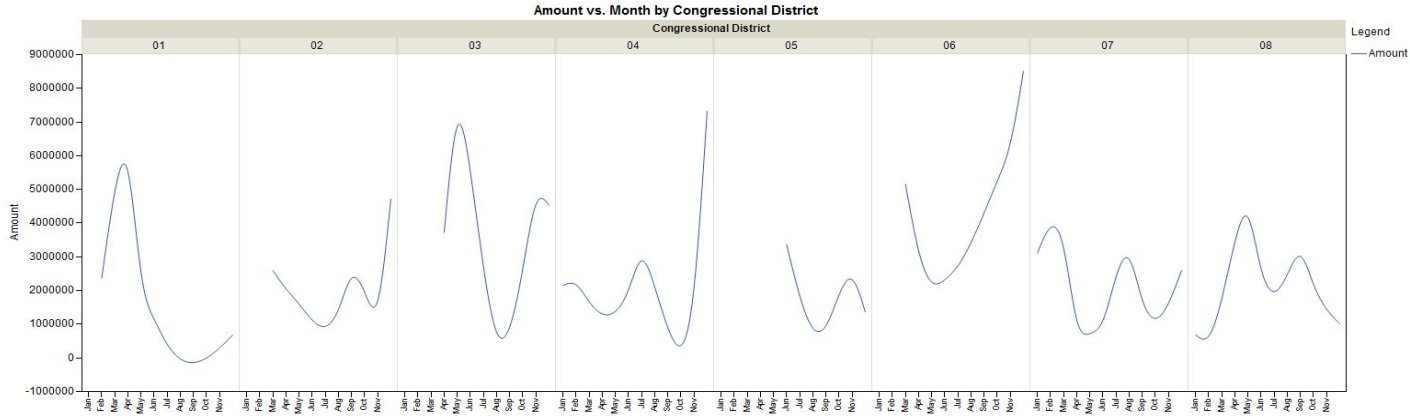
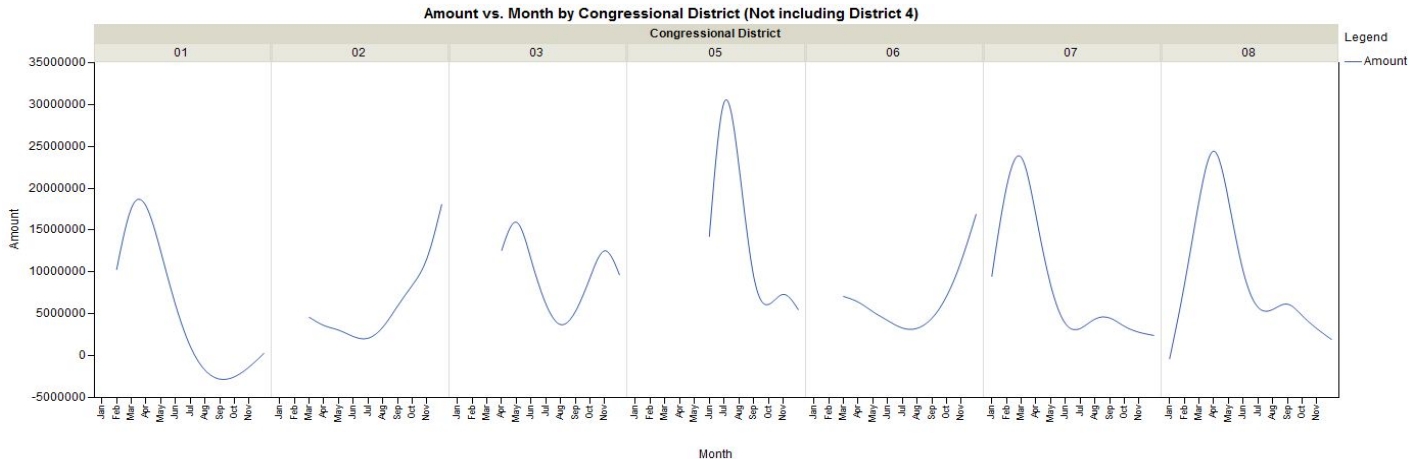


Figure 7 – Department of Transportation Spending Patterns across Congressional District

Looking at the trends, we see a clear pattern in Districts 2, 3, 4, and 6. These districts tended to spend money at the end of the year. However there are some districts that also spend a large amount of money in the first few months, Districts 1 and 4 in particular. It is not known why different districts have different spending patterns; however, reasons such as mandating that money be spent or else returned could be a major cause of such patterns. Since we see interesting trends just in DoT as time goes on, the next logical step would be to look at how Congressional Districts use all money across time, not limiting ourselves to just the Department of Transportation.

Congressional District could be a very important classifier that identifies trends and similarities. Since District 4 includes a good share of the biggest cities in the state its money spent is significantly higher than the other districts. Because of this fact it will be treated separately. First, we will observe the graphs of awards over time for all State Agencies across each district.

Figure 8 – Congressional District Spending Pattern by Month (District 4 separate)



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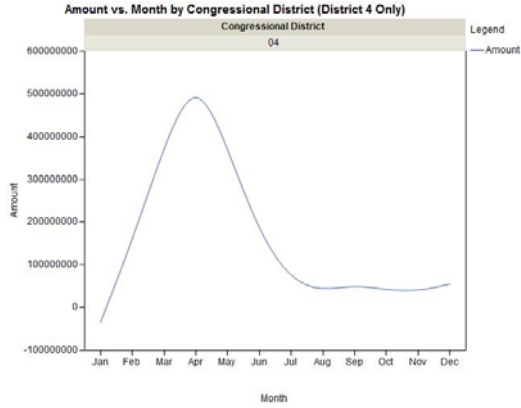
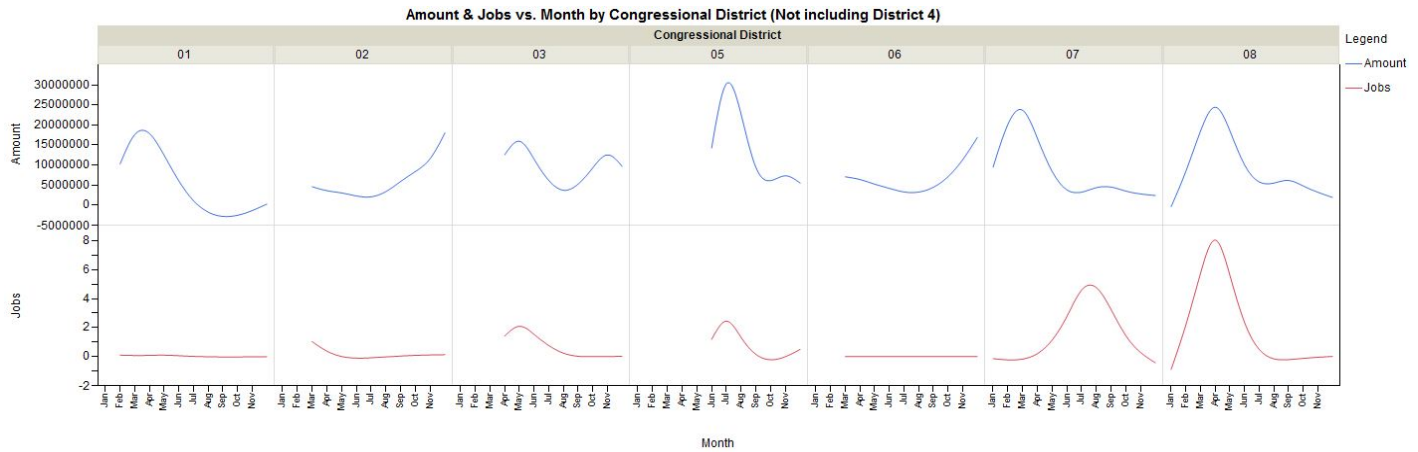


Figure 8 above shows the trend of how each Congressional District spent their overall Recovery Act money. Comparing this graphic to Figure 7 before, there is clearly a similar pattern that is similar to the Department of Transportation. Districts 1, 7, and 8 all seem to spend their money early in the year compared to Districts 2 and 6 which seem to wait until the end. District 3 is interesting because of its bimodal nature, 2 big payments were given throughout the year. District 4 is shown below and we see a related pattern similar to that of Districts 1, 7 and 8. Although it's interesting to compare money spent by each Congressional District, comparing the amount spent against jobs created/retained can give us even more insight on how effective the Recovery and Reinvestment dollars are for the state of Minnesota.

Figure 9 – Congressional District Spending and Jobs Created Patterns by Month



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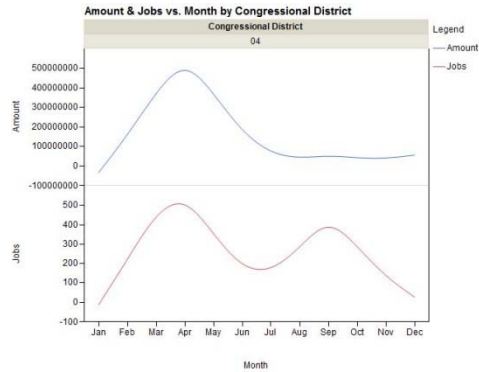


Figure 9 above includes both trends of amount of money spent as well as jobs created/retained below. The overall trend is more dollars spent creates more jobs, however there exist some instances where this does not hold. Examples of this include Districts 1, 2, and 6. Also interesting to see is District 7, where although the spike in money spent happened from January to March, the jobs did not start to spike until about July and August. In Districts 1, 2, and 6, most of the money awarded was to the Department of Transportation, which we now know is one of the least job-producing State Agencies.