

The Economic Contributions of the Kenai Peninsula Borough School District

By
Kim Pitney
Alexandra Hill

For the Kenai Peninsula Borough School District

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Table of Contents

Summary of Findings.....	3
Introduction.....	4
Economy of the Kenai Peninsula	4
Methodology.....	6
District Overview.....	7
Revenue and Expenditures	8
Economic Significance of the KPBSD	9
Other School District Related Spending	11
Conclusion	11
References.....	12
Appendixes	13

Summary of Findings

The Kenai Peninsula Borough School District is the largest single employer in the borough, providing over 1,200 jobs in the 2009-2010 school year. In addition to employment, school district purchases of goods and services directly supported an additional 250 jobs (Direct employment in Table 1). Those 1450 jobs supported over 600 more jobs (indirect and induced impact in Table 1) when employed households spent their income locally. The total payroll from district, direct, indirect and induced employment is almost \$100 million.

Table 1. Kenai Peninsula Borough School District Economic Significance, 2009-2010 School Year

	District	Direct	Indirect and Induced	Total
Payroll	\$64,154,347	\$11,026,875	\$22,683,347	\$97,864,569
Employment	1217	251.4	628.6	2097

This paper (and the numbers in Table 1) report on the *economic significance* of the KPBSD. Economic significance analysis models how money is spent and re-spent within the economy, and how much leaks out of the economy (e.g., money spent while on vacation in Hawaii). Based on this modeling, the analysis calculates how much economic activity in the borough can be traced to the school district, as the district and the borough economy currently exist.

This report does not calculate the *economic impact* of the school district, which would measure how the borough's economy would be affected if the school district did not exist. It also does not consider many important but more difficult to quantify impacts such as producing an educated citizenry, capable workforce, and individuals committed to lifelong learning.

Introduction

The Kenai Peninsula Borough School District (KPBSD) is by far the largest expenditure category in the Kenai Peninsula Borough's budget – but the district is also a major part of the borough economy. In 2008 the district employed about 7% of the borough's wage and salary workers¹, and the average wage was higher than the overall borough average. Since almost half of the school district's budget goes to salaries, much of the money that borough taxpayers contribute to the district is re-spent within the borough by the households that receive it. Locally funded education is considered a support industry in economic analyses, contributing to the economy by re-circulating money that was already there, rather than by bringing in new money. However, about two thirds of the district's funding comes from state and federal governments, so from the borough economy perspective, the district is partially a basic industry, and brought about \$97 million new dollars into the borough in 2010.

To better understand the role of the district within the borough economy, the KPBSD approached ISER to do some analyses. This project was conducted as an undergraduate research project through the ISER Policy Research Award, funded by ISER and the Office of Undergraduate Research and Scholarship at UAA. It was intended to describe the district's role in the economy and to calculate the direct, indirect, and induced payroll and employment benefits of KPBSD expenditures.

Economy of the Kenai Peninsula

The Alaska Department of Labor describes the Kenai Peninsula Borough's employment as diverse. In some ways, the borough's economy mirrors that of the state as a whole (Table 2) – government accounts for more than one in five jobs; oil and gas, fishing and tourism are important basic sector industries. (Since many commercial fishers are self-employed, Table 2, which shows wage and salary employment, excludes much of the fishing industry.) Jobs in commercial fish harvesting are relatively constant from year to year but the harvest and the value of the harvest are quite variable, causing processing employment to vary². Petroleum related employment is more stable than fisheries employment. However, Cook Inlet oil production has been declining since 1996, and gas production since 2005, so oil and gas jobs have been modestly declining as well³. Tourist related employment is highly seasonal and for much of this decade, grew as the number of tourist visitors to the borough increased. Visitor numbers from 2009, however, indicate that the national recession has hurt Kenai's tourism sector⁴.

Most of the other jobs in the borough are dependent either upon state government spending supported by oil income or on federal dollars flowing into the borough. State government

¹ Shanks and Rasmussen, 2010

² Goldsmith et al 2005

³ Shanks and Rasmussen, 2010

⁴ *ibid*

directly provides many services to borough residents, helps fund local government and is the source of the annual Permanent Fund dividend.

Finally there is a net inflow of income into the borough from residents who work in other parts of Alaska, most often either in the oil fields on Alaska's North Slope or in commercial fisheries in other parts of the state⁵. This inflow of income more than compensates for the income earned but taken out of the borough by non-local residents who work in commercial fishing and tourism (although the number of these non-resident workers probably exceeds that of residents working outside the borough).

Table 2. Wage and Salary Employment by Industry, Kenai Peninsula Borough and Alaska, 2008

Industry	Kenai Peninsula Borough		Alaska	
	Employment	%	Employment	%
Oil & Gas, & mining support	1,151	6.2%	130,44	4.1%
Construction	985	5.3%	17,262	5.4%
Manufacturing	1,022	5.5%	12,986	4.0%
Retail	2,500	13.4%	36,228	11.3%
Health Care	1,877	10.1%	35,486	11.0%
Leisure & Hospitality	1,468	7.9%	32,183	10.0%
Transportation & Warehousing	794	4.3%	20,175	6.3%
Government	5,116	27.4%	80,932	25.2%
All Other	3,750	20.1%	73,428	22.8%
Total	18,663		321,724	

Source: Alaska Department of Labor and Workforce Development, Quarterly Census of Employment and Wages, 2008

⁵ Bureau of Economic Analysis, Regional Economic Accounts, table CA05N - Personal income by major source and earnings by NAICS industry for the Kenai Peninsula Borough

Methodology

For this study, we use an Alaska-specific Input-Output (I-O) model created by Dr. Scott Goldsmith of ISER. This model is custom designed for the Alaska economy to “measure the...economic importance of selected activities on the Alaska economy and to measure the economic impact of changes in the level of these activities.”⁶ I-O models trace how expenditures in one part of the economy create demand in other parts as money is spent and re-spent in multiple rounds to provide goods and services. For example, the school district may pay a bill for garbage collection. The solid waste company spends some of that money on salaries, some on fuel for their trucks, some on landfill fees, and some on office supplies. The solid waste company employees may spend some of their salary on groceries, some fishing supplies, some on piano lessons for their children. The money spend on groceries may be spent by the grocery store on local produce, imported produce, salaries, and utility bills. I-O models compile data across the economy to model how money spent in one industry affects all the other industries after multiple rounds of spending. At each round, some money leaves the economy (it’s spent outside Alaska, or saved) so each round is smaller than the last. The first round of effects are called direct effects, and later rounds are indirect and induced effects.

To estimate the economic significance of KPBSD in the KPB, we start with all district expenditures, as reported in the *Kenai Peninsula Borough School District 2009-2010 Budget*. We group the expenditures by the commodity that was purchased, and then allocate the dollars to the industries that produce those commodities, to households (in the case of salaries and other payments to households), or to “out of state” – money that flows out of the Alaska economy to purchase goods or services produced elsewhere. This list of expenditures by industry is the change in final demand that is the input data for the I-O model.

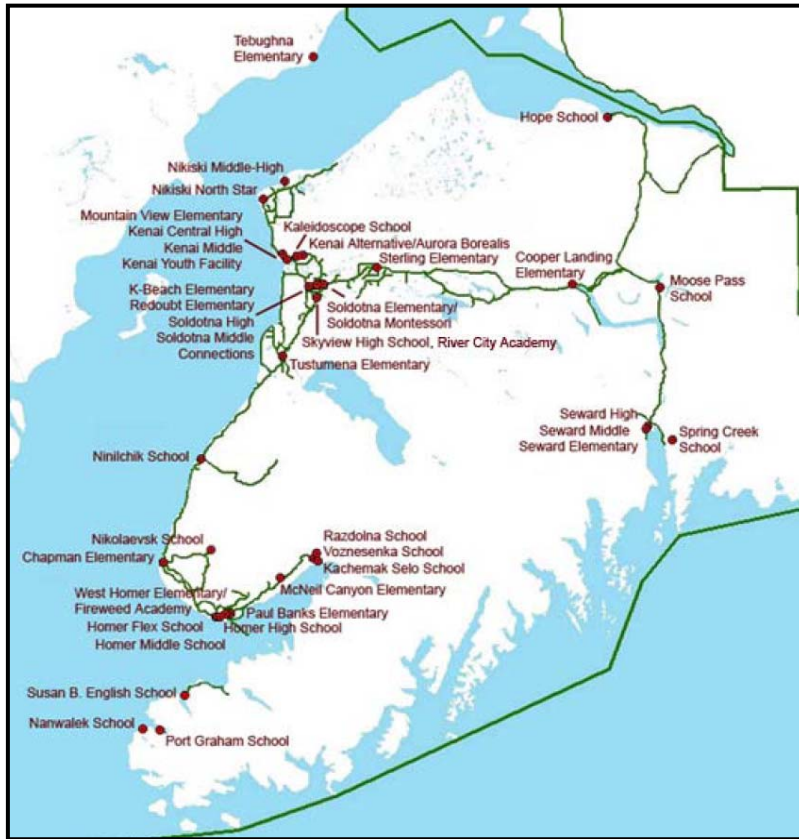
The I-O model we are using divides Alaska into four regions; both Anchorage and the Kenai Peninsula Borough are in the Southcentral Region. Some school district expenditures occur in Anchorage, as does some of the re-spending of dollars still in Alaska. The model doesn’t have the capability to distinguish between different parts of the Southcentral region, so some of the direct, indirect and induced spending, payroll and jobs occur in Anchorage. There is very little leakage of spending into other regions of the state.

This was a study of the economic *significance* of expenditures of the KPBSD, not their economic *impact*. This difference, although subtle, is important. Economic significance calculates how much economic activity can be traced to the school district, as it currently exists. Economic impact would estimate how much smaller the Kenai Peninsula Borough economy would be if the school district were not there, taking into account that some other entity may fill the void left by the absence of the district. For the school district, this latter exercise would not make sense, as the state is constitutionally required to educate Alaska's children.

⁶ Goldsmith, 1998

Finally, this study is meant only as a quantitative study, and does not explore either the non-economic or the qualitative economic impacts of the school district on the borough. To determine economic significance, we were able to rely on the budget report provided by the school district, clarifications provided by Dave Jones and Laurie Olson of the district's finance department, and publicly available economic data about the borough and Alaska.

District Overview



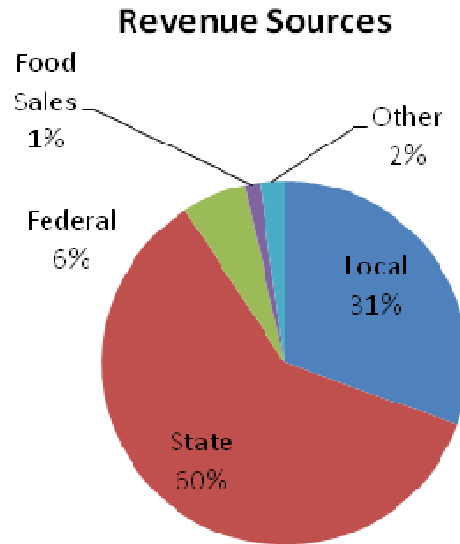
The Kenai Peninsula Borough School District covers 26,500 square miles and operates 14 elementary schools, four middle schools, 11 high schools, and 15 small K12 schools.

In 2010, the 44 total schools were home to over 9,000 students from Pre-Kindergarten (Pre-K) to twelfth grade. There were 2,724 from Pre-K to third grade, 2,022 from fourth to sixth grade, 1,408 in seventh and eighth grade, and 3,016 in grades nine through twelve.⁷

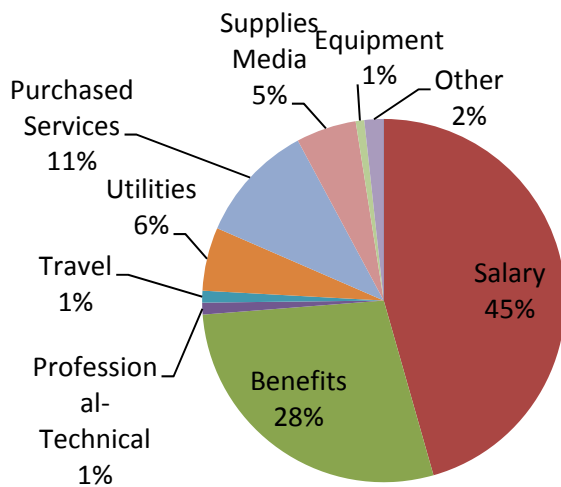
⁷ Fast Facts 2009-20s10 Kenai Peninsula Borough School District

Revenue and Expenditures

The KPBSD receives 60 percent of its revenue from the state of Alaska, and another 30 percent from the Kenai Peninsula Borough. The federal government provides about 6 percent, and a few other sources add about three percent more.



Expenditure Percentage by Object



In the 2009/2010 school year, the KPBSD budgeted \$142 million in expenditures, including salaries, benefits, and purchased goods and services. Almost three quarters of that total—over \$100 million—went to salaries and benefits. After salaries and benefits, purchased services were the biggest expenditure at \$14,980,788. Following that, utilities and supplies media each made up about five percent of spending at \$7,953,845 and \$7,540,785 respectively. All other expenditures combined equaled less than five percent of the total budget at \$6,455,445.

Economic Significance of the KPBSD

The first step in the analysis is to determine what portion of these expenditures flows out of state and how much stays in Alaska, and allocate the in-state money to the industries that produce the commodities purchased, and to households. We estimated that just under \$109 million was spent in Alaska, the great majority of which was in the borough (rather than in Anchorage). Payroll accounted for 89% (see table 3), and while the salary portion of payroll spending stays in the economy, much of benefits cost (health insurance and retirement) at least initially leaves the economy. However, much of this returns to the borough eventually. Health insurance spending returns to the economy as employees use the benefits, to the extent that they obtain their health care locally. Retirement spending returns to the economy if retirees choose to continue to live in the borough after retirement. We compared the total of Teachers Retirement System (TRS) payments sent to borough residents with the district’s TRS contributions, and the amounts were similar. In addition, we know anecdotally that many retired KPBSD teachers continue to live in the borough. Therefore, we’ve made the simplifying assumption that the outflows for each year’s benefit contributions are balanced by later inflows of retirement pension payments.

We couldn’t allocate 100 percent of district spending to industries. For example, allocating travel was not efficient due to the myriad of transportation methods, destinations, and student versus staff differences. We were able to allocate over 90% of the district’s total spending. Table 3 shows which expenditures were allocated to industries for this analysis.

Table 3. Allocation of Kenai Peninsula Borough School District Expenditures to Location

	Instate	Out of State	Total
Salaries	\$64,154,347	\$0	\$64,154,347
Benefits	\$31,956,528	\$26,690,865	\$58,647,393
Professional-Technical	\$1,791,876	\$0	\$1,791,876
Utilities	\$7,336,050	\$553,821	\$7,889,871
Purchased Services	\$3,313,441	\$0	\$3,313,441
Supplies Media	\$21,104	\$13,697	\$34,801
Other	\$92,672	\$0	\$92,672
Total	\$108,666,018	\$27,258,383	\$92,672

Households, rather than industries, receive most (77 percent) of the allocated expenditures, as we would expect, since payroll is the district’s largest expense. Health Services, at 11 percent, is the second largest category, reflecting the high costs of health care for employees. Table 4 shows how in-state expenditures were allocated to industries—the final demand data for the I-O model.

Table 4. Allocation of Kenai Peninsula Borough School District In-State Expenditures to Industry

Industry	Dollars	Percent
Households	\$83,414,062	77%
Health Services	\$12,230,758	11%
Business Services	\$5,889,990	5%
Electric, Gas, Water, and Sanitary	\$5,675,165	5%
Retail Trade	\$735,655	1%
Chemicals and Petroleum Processing	\$461,745	0.4%
Wholesale Trade	\$205,719	0.2%
Transportation	\$52,923	0.05%
Total	\$108,666,018	100%

The model calculates that in addition to the 1217 school district jobs and \$64 million in payroll, district spending on goods and services directly supported an additional 251.4 jobs with \$11 million of associated payroll throughout the economy, for a total of 1468.4 direct jobs and \$75 million payroll.

Table 4. Total Employment and Payroll Attributable to Kenai Peninsula Borough School District Expenditures, 2010

	Jobs	Payroll	Average Annual Wage
KPBSD employees	1217	\$ 64,154,347	\$ 52,715
Other Direct Employment supported by KPBSD spending	251.4	\$ 11,026,875	\$ 43,862
Total Direct Employment	1468.4	\$ 75,181,222	\$ 51,199
Indirect and Induced Employment	628.6	\$ 22,683,347	\$ 36,086
Total	2097	\$ 97,864,569	\$ 46,669

As households re-spend that \$75 million in payroll, and businesses from which the district purchased goods and services re-spend the non-payroll parts of those sales dollars as well, the money supports an additional 628.6 jobs with \$22.7 million in payroll. So each *direct* job resulting from district expenditures (district employment plus those jobs directly supported by district spending) supports 0.43 additional jobs throughout the economy. Table 5 (next page) shows the industries that employ the 2097 jobs (1217 district jobs and 880 non-school district jobs). In the Kenai Peninsula Borough as a whole, the average 2010 wage (excludes proprietors) was \$42,290 (Alaska Department of Labor). Both school district employment and the jobs that district spending directly supports are above this average wage, while the indirect and induced employment averages somewhat lower. On the whole, employment attributable to the district pays slightly better than the borough average.

Table 5. Employment and Payroll Attributable to Kenai Peninsula Borough School District Expenditures by Industry, 2010

Industry	Jobs	Payroll
KPBSD	1217	\$64,154,347
Non-School District Total	880.0	\$ 33,479,128
Health Services	238.8	\$ 9,948,611
Trade	217.1	\$ 6,938,101
Leisure & Hospitality	122.0	\$ 2,318,792
Business Services	104.2	\$ 4,852,890
Other Services	81.8	\$ 2,680,390
Finance, Insurance, & Real Estate	34.6	\$ 1,674,306
Transportation	20.0	\$ 1,011,321
Utilities	14.2	\$ 983,026
Construction, Maintenance & Repair	13.5	\$ 829,483
Communication	12.7	\$ 878,644
Manufacturing	12.6	\$ 582,953
Other Industries	8.5	\$ 780,612

Other School District Related Spending

There are two main areas of annual spending we did not include in this analysis. In addition to the \$142 million spent by the district the Kenai Peninsula Borough spent approximately \$9.87 million on behalf of the school district. In addition, the district has capital spending each year. Both were beyond the scope of this analysis.

Conclusion

The Kenai Peninsula Borough School District is an important part of the Kenai economy. The district provides employment to 1,217 people with a payroll of \$64,154,347, making them the largest employer in the borough. Through the direct jobs and payroll created by the district an additional 880 jobs are created leading to \$33,710,222 of additional payroll.

References

Goldsmith, S., & Hill, A., Dugan, D., Goldsmith, A. (2005). The Kenai National Wildlife refuge: Economic Importance, 2004., Anchorage, AK: Institute of Social and Economic Research, University of Alaska Anchorage.

Shanks, A. & Rasmussen, D.,(2010). The Kenai Peninsula Borough. *Alaska Economic Trends*, April 2010, pp11-15.

Goldsmith, S., (1998). The ISER Alaska Input-Output Model. ., Anchorage, AK: Institute of Social and Economic Research, University of Alaska Anchorage.

Appendixes

Table A-1. Employment Significance of the Kenai Peninsula Borough School District by Industry, 2010

Industry		Total	District	Direct Effect	Indirect & Induced Effect
Total		2,097.0	1,217.0	251.4	628.6
Agriculture and AFF Services	1	1.0	0.0	0.0	1.0
Forestry	2	0.0	0.0	0.0	0.0
Fishing	3	0.3	0.0	0.0	0.3
Crude Petroleum and Natural Gas	4	2.2	0.0	0.0	2.2
Other Mining	5	2.1	0.0	0.0	2.1
New Construction	6	0.0	0.0	0.0	0.0
Maintenance and Repair	7	13.5	0.0	0.0	13.5
Food and Kindred Products	8	3.6	0.0	0.0	3.6
Paper and Allied Products	9	0.2	0.0	0.0	0.2
Chemicals and Petroleum Processing	10	2.5	0.0	0.2	2.3
Lumber and Wood Products	11	0.2	0.0	0.0	0.2
Other Manufacturing	12	6.1	0.0	0.0	6.1
Railroads	13	1.1	0.0	0.1	1.0
Local and Interurban Transit	14	0.9	0.0	0.0	0.9
Motor Freight and Warehousing	15	3.1	0.0	0.1	3.0
Water Transportation	16	0.5	0.0	0.0	0.5
Air Transportation	17	13.0	0.0	0.0	13.0
Pipelines	18	0.4	0.0	0.0	0.4
Transportation Services	19	1.0	0.0	0.0	1.0
Communication	20	12.7	0.0	0.0	12.7
Electric, Gas, Water, and Sanitary	21	14.2	0.0	6.5	7.7
Wholesale Trade	22	24.3	0.0	1.6	22.7
Retail Trade	23	192.8	0.0	11.6	181.2
Finance	24	19.3	0.0	0.0	19.3
Insurance	25	8.9	0.0	0.0	8.9
Real Estate	26	6.3	0.0	0.0	6.3
Hotels, Lodging, Amusements	27	22.0	0.0	0.0	22.0
Personal Services	28	24.2	0.0	0.0	24.2
Business Services	29	104.2	0.0	65.4	38.8
Eating and Drinking	30	100.0	0.0	0.0	100.0
Health Services	31	238.8	0.0	165.7	73.1
Miscellaneous Services	32	57.6	0.0	0.0	57.6
Federal Government Enterprise	33	2.5	0.0	0.0	2.5
State & Local Government Enterprise	34	0.4	0.0	0.0	0.4
Households	35	0.0	0.0	0.0	0.0
State and Local Government	36	1,217.0	1,217.0	0.0	0.0

Table A-2. Payroll Significance of the Kenai Peninsula Borough School District by Industry, 2010

Industry		Total	District	Direct Effect	Indirect & Induced Effect
Total		\$ 97,864,569	\$ 64,154,347	\$ 11,026,875	\$22,683,347
Agriculture and AFF Services	1	\$50,106	\$ -	\$ -	\$ 50,106
Forestry	2	\$ 1,849	\$ -	\$ -	\$ 1,849
Fishing	3	\$15,653	\$ -	\$ -	\$ 15,653
Crude Petroleum and Natural Gas	4	\$ 374,055	\$ -	\$ -	\$ 374,055
Other Mining	5	\$ 166,080	\$ -	\$ -	\$ 166,080
New Construction	6	\$ -	\$ -	\$ -	\$ -
Maintenance and Repair	7	\$ 829,483	\$ -	\$ -	\$ 829,483
Food and Kindred Products	8	\$ 122,516	\$ -	\$ -	\$ 122,516
Paper and Allied Products	9	\$ 5,978	\$ -	\$ -	\$ 5,978
Chemicals and Petroleum Processing	10	\$ 231,019	\$ -	\$ 18,638	\$ 212,380
Lumber and Wood Products	11	\$ 6,240	\$ -	\$ -	\$ 6,240
Other Manufacturing	12	\$ 217,200	\$ -	\$ -	\$ 217,200
Railroads	13	\$78,986	\$ -	\$ 9,676	\$ 69,310
Local and Interurban Transit	14	\$21,517	\$ -	\$ -	\$ 21,517
Motor Freight and Warehousing	15	\$ 102,738	\$ -	\$ 2,233	\$ 100,505
Water Transportation	16	\$37,013	\$ -	\$ 1,690	\$ 35,323
Air Transportation	17	\$ 698,390	\$ -	\$ -	\$ 698,390
Pipelines	18	\$28,332	\$ -	\$ -	\$ 28,332
Transportation Services	19	\$44,344	\$ -	\$ -	\$ 44,344
Communication	20	\$ 878,644	\$ -	\$ -	\$ 878,644
Electric, Gas, Water, and Sanitary	21	\$ 983,026	\$ -	\$ 452,518	\$ 530,508
Wholesale Trade	22	\$ 1,200,909	\$ -	\$ 79,801	\$1,121,109
Retail Trade	23	\$ 5,737,192	\$ -	\$ 345,470	\$5,391,722
Finance	24	\$ 1,000,851	\$ -	\$ -	\$1,000,851
Insurance	25	\$ 462,739	\$ -	\$ -	\$ 462,739
Real Estate	26	\$ 210,716	\$ -	\$ -	\$ 210,716
Hotels, Lodging, Amusements	27	\$ 529,038	\$ -	\$ -	\$ 529,038
Personal Services	28	\$ 525,927	\$ -	\$ -	\$ 525,927
Business Services	29	\$ 4,852,890	\$ -	\$3,047,593	\$1,805,296
Eating and Drinking	30	\$ 1,789,754	\$ -	\$ -	\$1,789,754
Health Services	31	\$ 9,948,611	\$ -	\$6,904,673	\$3,043,938
Miscellaneous Services	32	\$ 2,154,463	\$ -	\$ -	\$2,154,463
Federal Government Enterprise	33	\$ 156,990	\$ -	\$ -	\$ 156,990
State & Local Government Enterprise	34	\$15,879	\$ -	\$ -	\$ 15,879
Households	35	\$ 231,094	\$ -	\$ 164,582	\$ 66,513
State and Local Government	36	\$ 64,154,347	\$ 64,154,347	\$ -	\$ -