

Coeur d’Alene Airport Sustainability Plan

SUSTAINABILITY BASELINE INVENTORY

This Sustainability Plan was developed with the purpose of integrating sustainable values and goals into the Airport’s vision and plans for meeting existing and future demand. The Airport is using this Sustainability Plan to take initiative to proactively increase net environmental, operational, economic, and social benefits both for the Airport and the region it serves. A philosophy that values sustainability will enable the Airport to run more efficiently, reduce its environmental footprint, and elevate the Airport’s reputation as an industry leader, all without sacrificing its high standards for safety and dependability.

A baseline inventory identifies existing conditions and trends at the Airport. The purpose of identifying a baseline is to be able to track and compare data over time, and measure how well the Airport is meeting its sustainability goals in the future. This chapter provides current data that help to define existing conditions for the sustainability categories identified by the Airport and its stakeholders.

As a unique component of the Coeur d’Alene Sustainability Plan, the Sustainable Business Plan defines the Airport’s existing financial conditions and identifies potential measures that can be taken to improve the Airport’s economic standing. Specifically, the Sustainable Business Plan summarizes the Airport’s operating revenues, expenses, assets and liabilities, and provides a projection of revenue generation and expenses. Therefore, while general existing economic data are discussed below, the Sustainable Business Plan provides a detailed baseline inventory for the Airport’s financial conditions.

3.1 Population and Economic Growth

The Airport primarily serves the northern Idaho region and is located mostly in an unincorporated area of Kootenai County, with a few parcels of property located in the City of Hayden. The area has historically experienced steady population growth. Historical population and employment data for several jurisdictions within the Airport’s service area are shown in **Table 3-1**. The four cities shown have experienced slightly faster population growth since 2000 than Kootenai County overall. The cities of Hayden and Post Falls had the lowest unemployment rates in 2013 at 8.5%.



Table 3-1: Historical Population and Employment Data

Jurisdiction	Population 2000	Population 2013	Average Annual Population Growth Rate (2000-2013)	Unemployment Rate ¹ 2013
City of Hayden	9,159	13,432	3.6%	8.5%
City of Rathdrum	4,816	6,934	3.4%	14.9%
City of Coeur d’Alene	34,514	45,045	2.4%	9.8%
City of Post Falls	17,247	28,236	4.9%	8.5%
Kootenai County	108,685	140,785	2.3%	9.6%

Source: U.S. Census; American Community Survey 5-Year Estimates.

¹ Percentage of the population in the labor force (16 years and over)

According to the Idaho Department of Labor, the primary employment sectors in Kootenai County in 2013 included trade, utilities and transportation (10,480 jobs), government (9,942 jobs), leisure and hospitality (7,409 jobs), educational and health services (6,653 jobs), and professional and business services (5,658).¹ Among the major employers in northern Idaho are Kootenai Health (hospital), Coeur d’Alene Resort, Coeur d’Alene Casino, the Center Partners call center, Silverwood Theme Park, North Idaho College, Esterline Advanced Input Systems, and U.S. Bank.²

3.2 Summary of Aircraft Operations

The information contained in this section is a brief summary of aircraft operations at the Airport. Note that the Terminal Area Forecast provides a generalized view of operations, often repeating values if no actual update is conducted. The overall operations at the Airport have increased between 2003 and 2013, while enplanements have fluctuated over the past 10 years. According to the 2012 Coeur d’Alene Airport Master Plan, general aviation operations, both local and itinerant, declined from 2005 to 2008. This was similar to trends observed across the country, where GA activity had declined in the wake of the financial crisis and increased fuel prices. Aviation activity data is shown in **Table 3-2**.

In addition to normal operations, Coeur d’Alene Airport continues to support aerial firefighting activity during the fire season. Fire season 2015 was very active in the states of Washington and Idaho, and the airport saw an increase in the number of firefighting operations, compared to previous years. The magnitude of use is dictated by the severity of the fire season and the proximity of the fire to the airport. Both helicopter and fixed wing firefighting aircraft currently use the airport for firefighting operations. Support of aerial firefighting activity is critical to the overall health and well-being of the community.

¹ “Kootenai County Workforce Trends,” <https://labor.idaho.gov/publications/lmi/pubs/KootenaiProfile.pdf>, May 2015.

² The Guide to North Idaho website, “North Idaho Facts,” <http://www.fyinorthidaho.com/resources/facts/>.



Table 3-2: Aviation Activity, 2003-2013

Year	Enplanements	Operations			
		Air Taxi/ Commuter	General Aviation	Military	Total
2003	84	90	94,794	1,400	96,284
2004	0	90	98,522	1,400	100,012
2005	0	90	102,381	1,400	103,871
2006	5	90	105,250	1,400	106,740
2007	78	90	108,223	1,400	109,713
2008	0	27,200	94,420	1,428	123,048
2009	0	27,200	94,420	1,428	123,048
2010	1	27,200	94,420	1,428	123,048
2011	0	27,200	94,420	1,428	123,048
2012	0	27,200	94,420	1,428	123,048
2013	4	27,200	94,420	1,428	123,048

Source: FAA Terminal Area Forecast (TAF), issued January 2015.

3.3 Local and Regional Economic Impact

Because the Airport represents a valuable local and regional economic asset within the northern Idaho region, it is important to ensure that it functions sustainably. One of the most vital components of the Sustainability Plan is the preparation of a financial baseline for the airport. Section 3.4 discusses a general airport-specific financial baseline and, as mentioned previously, a detailed baseline inventory for financial conditions is included in the Sustainable Business Plan.

On a more general level, a financial baseline inventory should account for the Airport’s effect on the surrounding communities. According to the Idaho Transportation Department Division of Aeronautics 2010 *Idaho Airport System Plan*, the total annual economic impacts of the Airport were as follows: a total employment of 1,058, with a total payroll of \$40,736,400. The total annual economic output of the Airport was \$129,778,500. These total impacts include both 1) “first-round” impacts, which include both direct and indirect impacts associated with aviation services, as well as 2) “secondary,” or induced, impacts that include “recirculated” impacts resulting from the first-round spending.

It is important to note, however, that the 2010 *Idaho Airport System Plan* was conducted at a time of low-level activity in general aviation. The country was experiencing an economic downturn and the recession had significant negative impacts on GA airports. Since that time, there are more corporate aircraft that use the Coeur d’Alene Airport, more tenants, expanded business, and more jobs generated.



The economic impact of the Airport provides insight as to how the Airport provides value to its local and regional environment. By implementing sustainable practices, the Airport could potentially increase its economic impact, thereby providing an even greater value to its neighbors and users.

3.4 Financial Baseline

Sustainability aims to balance environmental, social and economic aspects. Understanding the airport economic and financial characteristics is a crucial aspect of this Sustainability Plan to ensure the long-term viability of the Airport. Increasing annual revenues may also allow the Airport to undertake more sustainable initiatives as funds become available. This section provides a baseline on existing financial conditions at Coeur d’Alene Airport. Additional detailed data for fiscal year 2014 is included in the Appendix, Sustainable Business Plan.

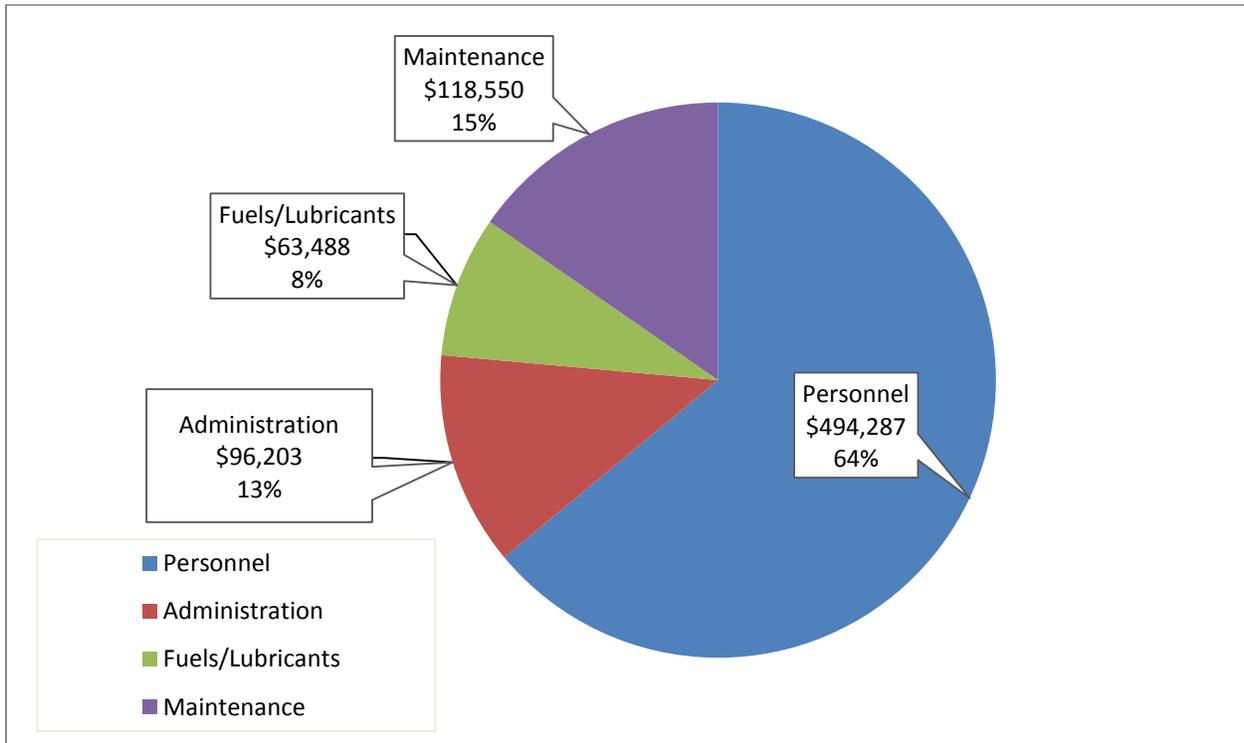
3.4.1 Expenses

Regular expenses at Coeur d’Alene Airport are classified in four broad categories: Personnel (salaries, insurance, etc.); Administration (printing, office supplies, fees, etc.); Maintenance (direct expenses related to maintenance of the airport property, including snow removal, mowing, small infrastructure improvements, etc.); and Fuel and Lubricants (in direct support of maintenance activities, this expense is significant and is tracked separately). The different expense categories are illustrated in **Figure 3-1**.

Note that these expenses do not include capital expenditures needed to improve the infrastructure and equipment, or the grant match necessary when receiving Airport Improvement Program (AIP) funds. As grant revenue and expenses vary widely from year to year, they are left out of this analysis. It should also be noted that AIP funds are used to maintain the large scale infrastructure of the airport (primarily pavements).



Figure 3-1: Expense Categories (2014)



Source: Airport records.

3.4.2 Future Capital Projects

As an airport included in the National Plan of Integrated Airport Systems (NPIAS), Coeur d’Alene is eligible to receive \$150,000 per year of AIP entitlement funds for qualifying projects. Per the requirements of the AIP program, an appropriate match is necessary using airport or local funds.

It is anticipated that the Airport will face high expenditures and significant funds will be needed in the coming years to maintain the existing airport infrastructure. Future proposed projects include: land acquisition, taxiway, runway and apron rehabilitation, as well as pavement maintenance, taxiway construction and snow removal equipment building construction. While it is anticipated that federal funds will be available for these projects, a local match will also be necessary.

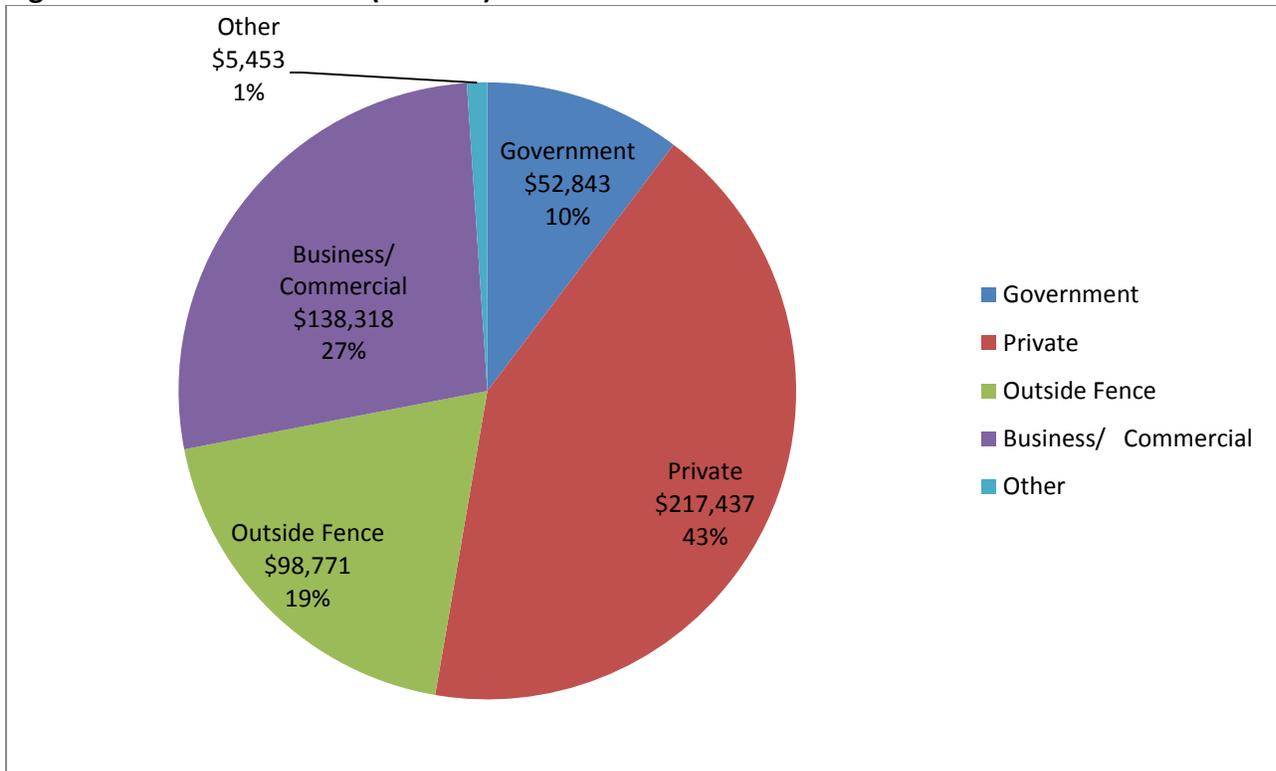
3.4.3 Revenues

Revenues available at the Coeur d’Alene Airport include lease revenues, and fees such as fuel flowage fee and tie-down and ramp fees. AIP funds are used to implement capital expenditure projects needed to improve the infrastructure and equipment at the airport.



Lease Revenues. Lease Revenues include leases paid by private entities, government, and business and commercial leases, as well as outside-the-fence leases. Based on calendar year 2014 data, approximately 43 percent of the lease revenues come from private entities. Business and commercial account for 27 percent of the lease revenues, outside-the-fence accounts for 19 percent, and government leases account for 10 percent. The lease revenues percentages are shown in **Figure 3-2**.

Figure 3-2: Lease Revenues (FY 2014)

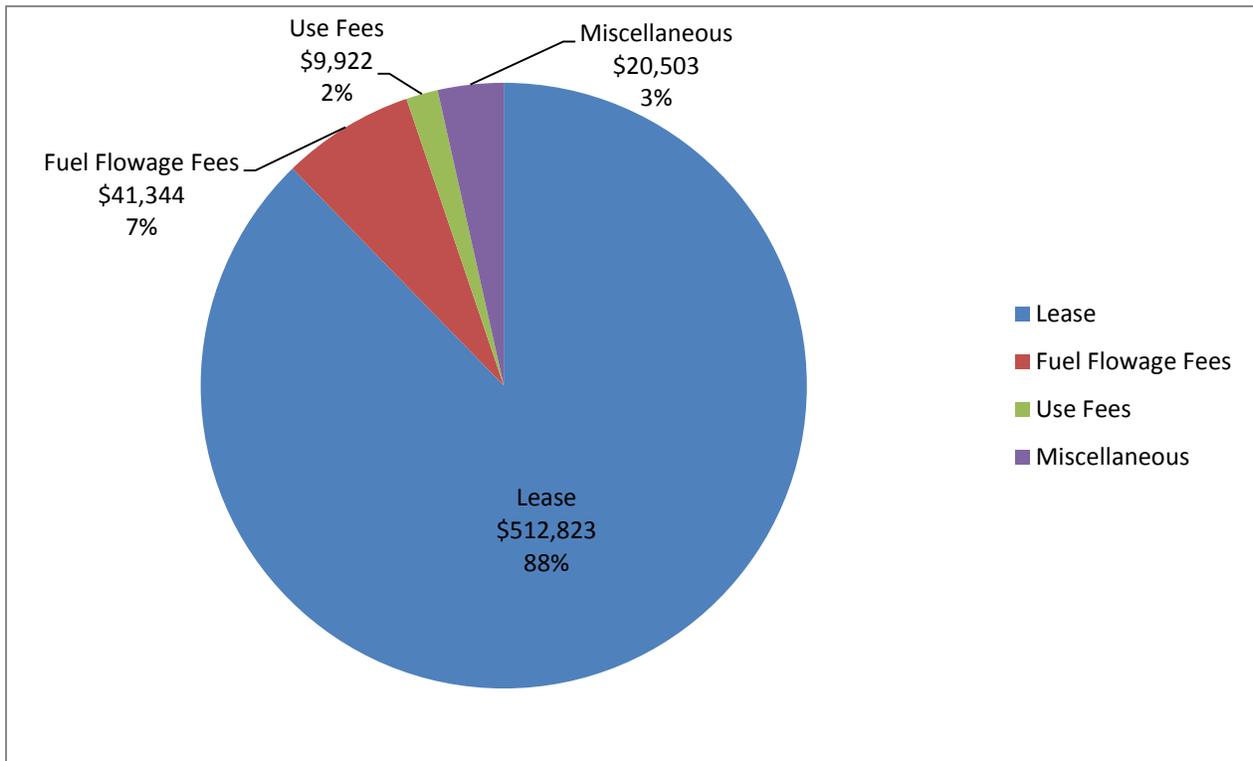


Source: Airport records.

Fees and Other Sources of Revenues. Other current sources of operational revenues include tie-down/ramp fees and fuel flowage fees. There are several sources of “miscellaneous” revenue as well, including insurance proceeds and interfund transfers. Fees and other sources of revenues during calendar year 2014 are illustrated in **Figure 3-3**.



Figure 3-3: Other Sources of Revenues (FY 2014)



Source: Airport records.

Personal property tax paid by lessees is not included in this analysis. Personal property tax collected on property at the airport (primarily hangars on leased ground) goes into the Kootenai County general fund and is not shown in the airport revenue. Lessees at the airport paid \$262,873 in personal property tax in 2014.

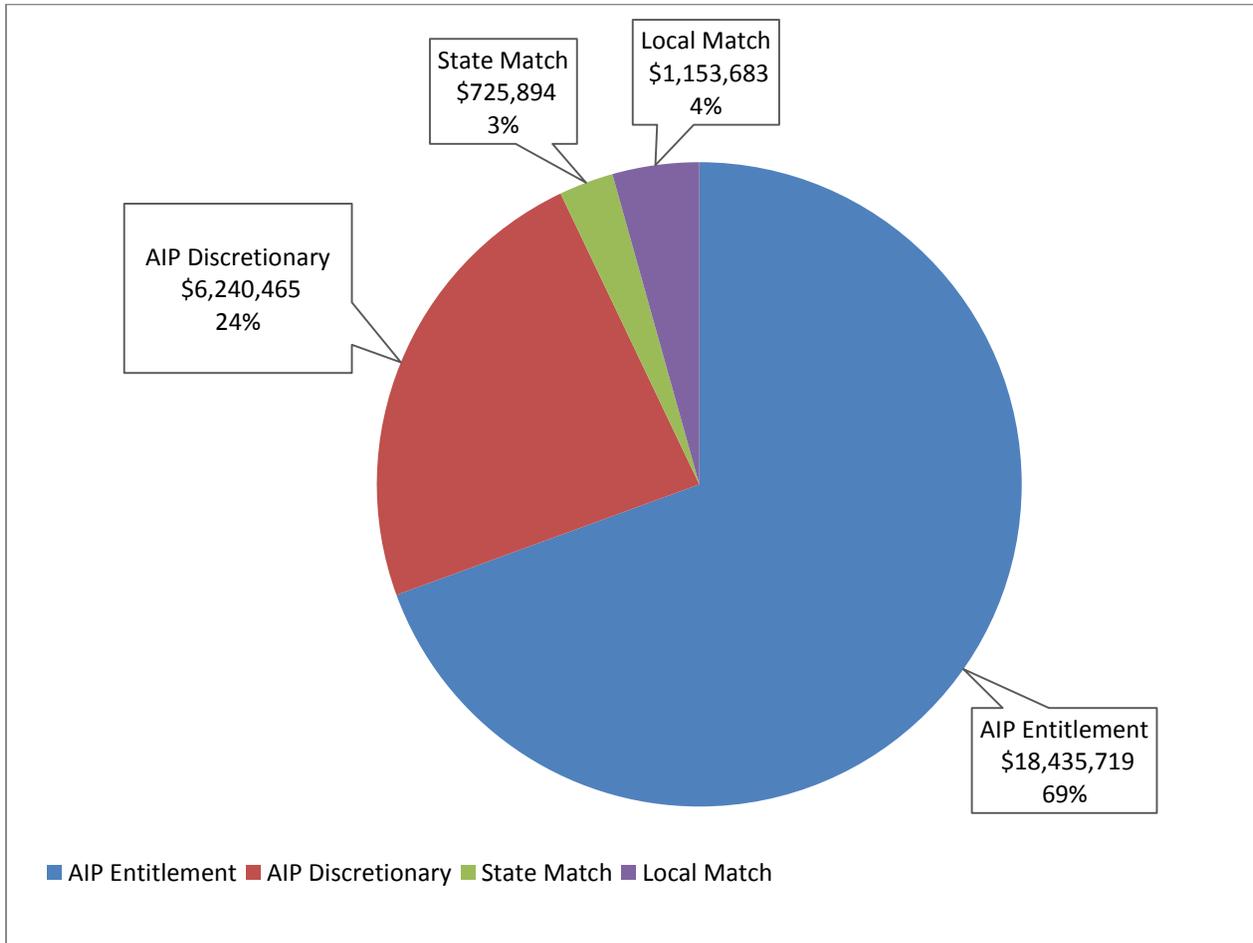
AIP Grants. As previously mentioned, as an airport included in the NPIAS, Coeur d’Alene is eligible to receive \$150,000 per year of AIP entitlement funds for qualifying projects. In addition, the Airport has successfully worked with FAA to receive both state apportionment AIP funds, and discretionary AIP funds.

Since 1983, the Airport has received a little over \$20 million of entitlement and state apportionment funds and nearly \$12.5 million of discretionary funds, to fund multiple projects such as pavement rehabilitation, runway extension and lighting, airport master plan and planning studies, as well as apron construction, taxiway rehabilitation, Snow Removal Equipment and ARFF. **Figure 3-4** illustrates the breakdown of capital improvement projects utilizing federal funds (including AIP entitlement and AIP discretionary), state funds and local match since 1997. Since



1997, the airport has expended \$26,555,762 on capital improvement projects with federal assistance; local match accounted for \$1,153,683, state match for \$725,894, and federal funds for \$24,676,185. Federal funds have represented on average 93 percent of the funds used for construction and airport improvement projects. Local match and state match have represented respectively three and four percent on average.

Figure 3-4: Funds breakdown for airport improvement projects since 1997



Source: Airport records.



Table 3-3 summarizes the grants received for the years 2004-2013. During this period, the Airport received nearly \$9 million in entitlement funds and more than \$6.1 million in discretionary funds.

Table 3-3: AIP Grants, 2004-2013

Fiscal Year	Description	Entitlement	Discretionary	Economic Recovery	Total
2004	Construct Taxiway	\$1,100,000.00	\$1,300,000.00	\$0.00	\$2,400,000.00
2005	Construct Apron Construct Taxiway Install Perimeter Fencing Conduct Airport Master Plan Study	\$559,365.00	\$2,119,135.00	\$0.00	\$2,678,500.00
2006	Construct Apron	\$1,876,210.00	\$0.00	\$0.00	\$1,876,210.00
2007	Extend Taxiway Install Perimeter Fencing	\$300,000.00	\$0.00	\$0.00	\$300,000.00
2008	Rehabilitate Taxiway Install Perimeter Fencing Extend Taxiway	\$573,238.00	\$0.00	\$0.00	\$573,238.00
2009	Rehabilitate Apron Install Perimeter Fencing Install Airfield Guidance Signs Construct Taxiway Conduct Airport Master Plan Study	\$1,421,232.00	\$55,000.00	\$0.00	\$1,476,232.00
2010	Acquire Snow Removal Equipment Collect airport data for Airports Geographic Information Construct Aircraft Rescue & Fire Fighting Building	\$572,600.00	\$425,000.00	\$0.00	\$997,600.00
2011	Construct Aircraft Rescue & Fire Fighting Building Rehabilitate Runway Rehabilitate Taxiway	\$1,790,458.00	\$30,500.00	\$0.00	\$1,820,958.00
2012	Rehabilitate Runway Rehabilitate Taxiway Install Miscellaneous NAVAIDS	\$496,355.00	\$2,250,000.00	\$0.00	\$2,746,355.00
2013	Rehabilitate Taxiway	\$278,808.00	\$0.00	\$0.00	\$278,808.00
	Total	\$8,968,266.00	\$6,179,635.00	\$0.00	\$15,147,901.00

Source: FAA.



3.4 Capital Improvement Plan

The current Airport Capital Improvement Plan (CIP) identifies future use of funds for specific projects. Generally, the Airport uses a formula to determine which funds and the amount of capital that will be dedicated to particular projects. A key part of the master planning process for the Airport is the preparation of a long-term financial plan that considers capital expenditure needs, as well as operational income and expenses. The purpose of CIP is to develop a program of funding for projects and to identify the sources of funds necessary for financing them. **Table 3-4** shows a number of the projects included in the CIP for Coeur d’Alene Airport, as approved by Idaho Transportation Department (ITD) Division of Aeronautics, and **Figure 3-5** shows the allocated amount of funding. As illustrated with **Figure 3-6**, it is important to note that these projects are planned to be mainly funded through the AIP program and outside revenue sources. The average local and state match are expected to be respectively seven and three percent, respectively, between 2016 and 2024.

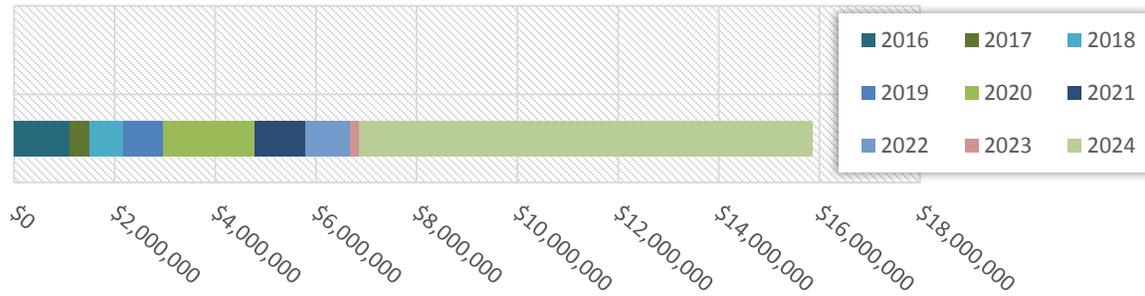
Table 3-4: COE Capital Improvement Plan 2016-2024

Year	Project/Phase	Estimated Total Projects Cost
2016	• Rehabilitate Taxiway	\$486,111
	• Acquire Land/Easement for approaches	\$625,000
2017	• Conduct/Update Airport Master Plan or Airport Layout Plan	\$388,889
2018	• Acquire Land/Easement for approaches	\$680,000
2019	• Rehabilitate Runway	\$166,667
	• Acquire Land/Easement for approaches	\$608,889
2020	• Rehabilitate Runway	\$1,833,333
2021	• Rehabilitate Taxiway	\$150,000
	• Construct/Expand/Rehabilitate SRE Building	\$850,000
2022	• Rehabilitate Taxiway	\$900,000
2023	• Construct Taxiway	\$166,667
2024	• Construct Taxiway	\$4,000,000
	• Acquire Land/Easement for approaches	\$5,000,000

Source: COE CIP, ITD.

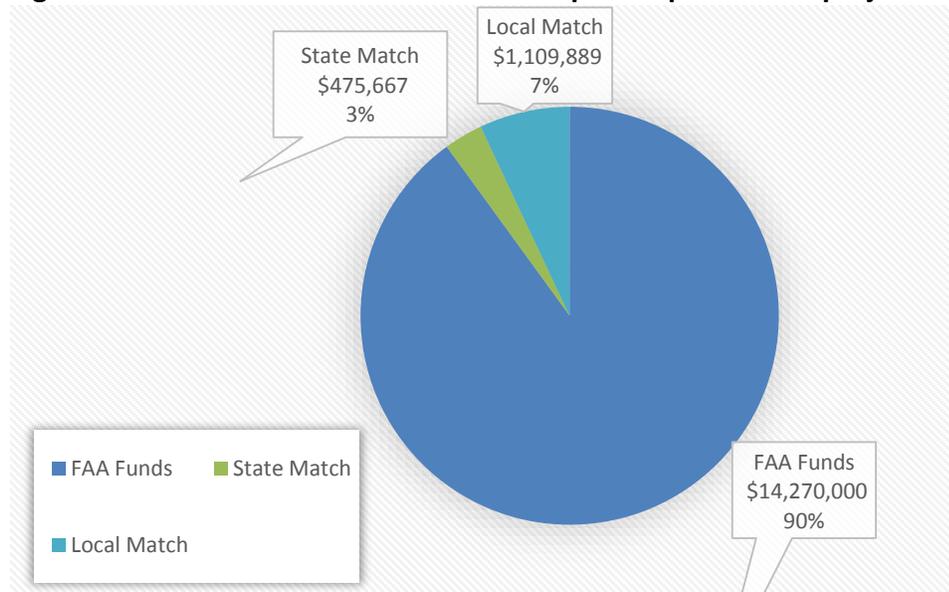


Figure 3-5: CIP Projects described in the 2016-2024 CIP



Source: COE CIP, ITD.

Figure 3-6: Funds breakdown for future airport improvement projects



Source: COE CIP, ITD.

3.5 Energy Utilities

The energy use examined in this Inventory includes only those facilities that are owned and controlled by the Airport (i.e., facilities that are leased are not included). These facilities include the Airfield, Aircraft Storage Related Lighting (hangar and ramp lighting), Street Lighting, the Airport Shop/Maintenance Building, Airport Office, and ARFF (Aircraft Rescue and Firefighting) building. Two years of historical data (2013-2014) were available for electricity and for natural gas usage (separately), and three years of historical data (2012-2014) were available for combined energy costs (natural gas and electricity) for use in this inventory. (Separate electricity and natural gas billings were not available.)



Electricity uses generally include cooling systems and interior and exterior lighting. Natural gas uses generally include HVAC equipment, heating systems, and hot water heaters. Other than day to day usage, energy is expended as a result of Airport projects. The Airport has undergone several development projects in recent years, including a runway and taxiway rehabilitation, pavement sealing, and a taxiway extension. The Airport is planning to shift Taxiway A and construct a new Taxiway P in the near future. The Airport is also planning to construct a formal passenger terminal building and terminal apron in 2023. Although the terminal construction would increase total electricity use, usage in the terminal and Airport overall (i.e., usage per square foot) would ideally be as efficient as possible through implementation of the recommendations identified in the Energy Audit that was conducted for this Sustainability Plan as well as other initiatives developed as part of the sustainability planning process.

3.5.1 Energy Consumption: Airport Office, Airport Shop/Maintenance Building, and ARFF Building

Avista Utilities provides both electricity and natural gas to the Airport. While some airport owned/controlled facilities use only electricity, the Airport Shop/Maintenance Building, ARFF Building, and Airport Office use both electricity and gas. Because these facilities consume much of the energy at the Airport, this section discusses electricity and natural gas use specifically for these three facilities.

3.5.1.1 Airport Office

Historic monthly electric and gas utility data for the Airport Office from calendar years 2013 and 2014 are shown in **Figure 3-7** and **Figure 3-8**. As seen in **Figure 3-7**, electricity usage is slightly higher in the summer than in the winter. This could be due to increased cooling loads during the spring and summer months; however, the difference in summer electricity usage is not substantially higher than usage during the colder months. This lack of large seasonal fluctuation typically indicates that much of the electricity is being used by lighting, fans, and other such non-seasonal uses. Therefore, there are likely to be opportunities for reducing electrical consumption in the office building because changes in electricity usage would not have a great impact on the indoor temperature comfort level.

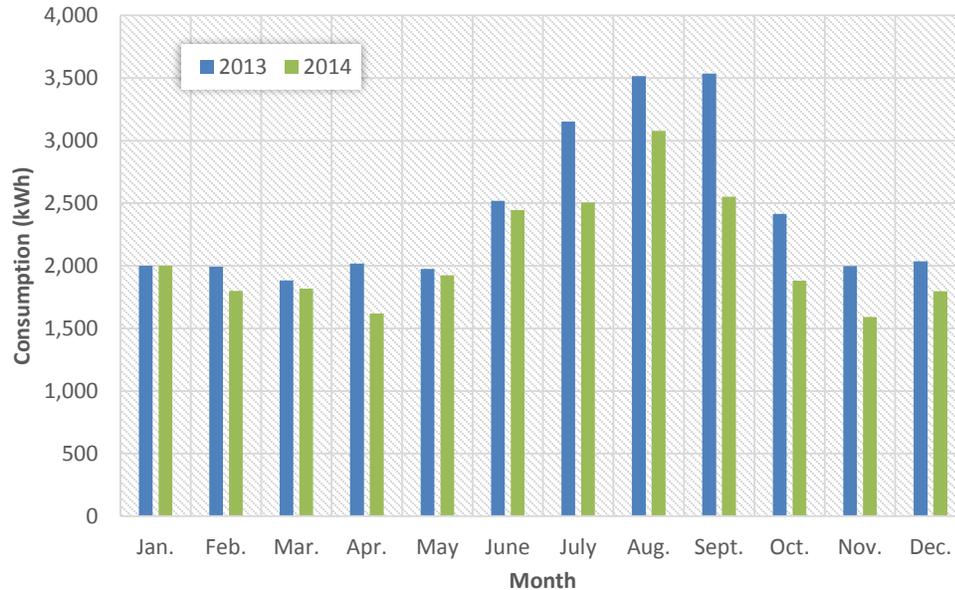
In contrast, natural gas consumption is greater in the winter months due to increased heating loads met by the gas furnaces, which is typical for a colder climate such as northern Idaho (see **Figure 3-8**). The seasonal fluctuation in consumption of natural gas is much greater than for electricity.

According to the Energy Audit conducted for this Sustainability Plan, it was noted that the temperature set point in the Airport Office was 66° F during the site visit at about 7:45 am in July; this temperate was cooler than normally expected. However, due to the structure of the building



and location of windows, the building can get very warm due to sunlight. While observations indicate that there is significant potential for reduction of heating and cooling costs through adjustment of the set points, it is important to ensure the comfort of staff and guests in the building.

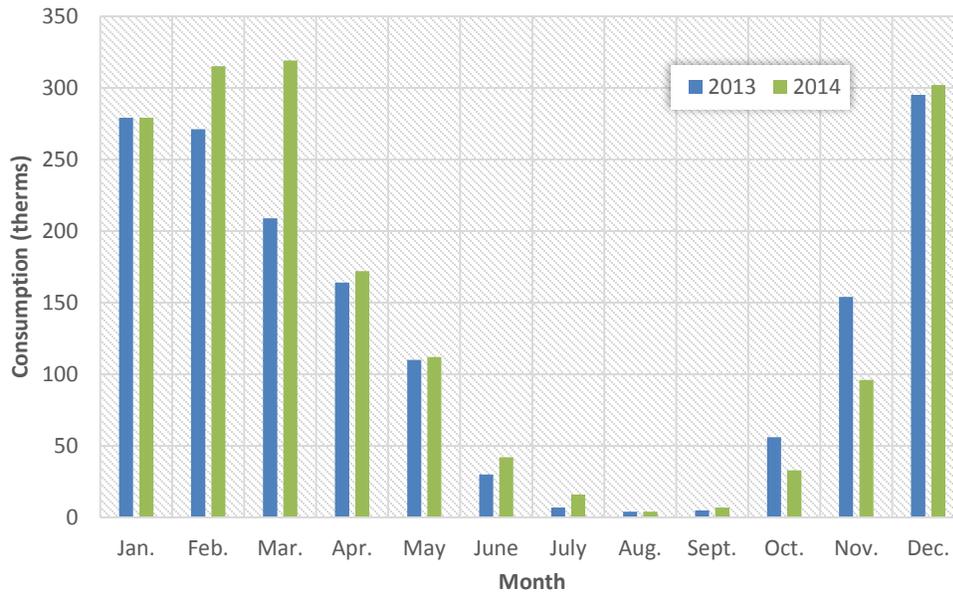
Figure 3-7: Electricity Usage for the Airport Office



Source: Airport records.



Figure 3-8: Natural Gas Usage for the Airport Office



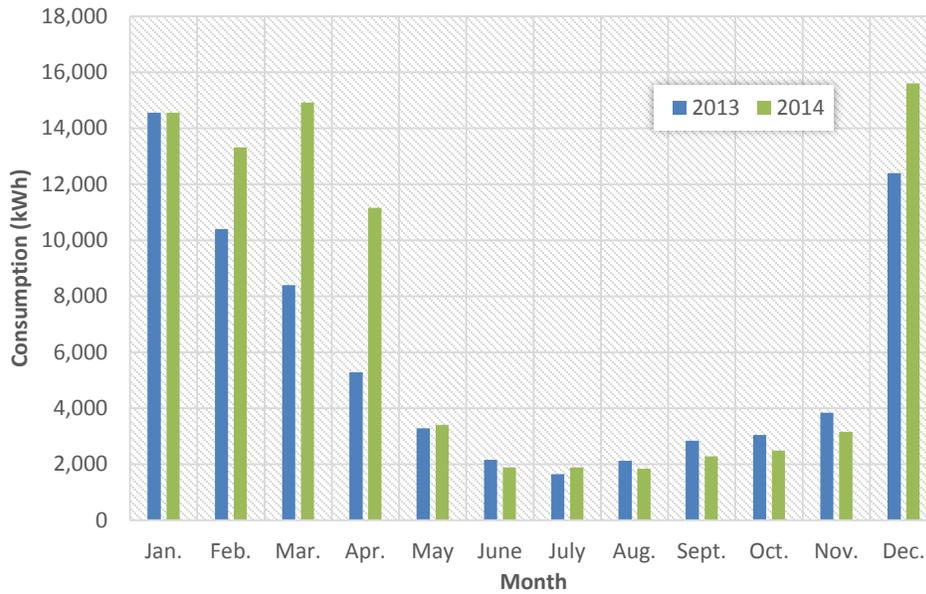
Source: Airport records.

3.5.1.2 Airport Shop/Maintenance Building

Historic monthly electric and gas utility data for the Airport Shop/Maintenance Building from calendar years 2013 and 2014 are shown in **Figure 3-9** and **Figure 3-10**. Unlike the Airport Office, electrical consumption for the Shop/Maintenance Building is more seasonal, meaning consumption of both electricity and natural gas is higher during the colder months. One reason for this could be due to shorter days (and therefore less light) in the winter months, and the need to use more electricity in the shop for lighting and other uses. Alternatively, there could be a loss of energy due to the doors of the Airport Shop/Maintenance Building being left open relatively frequently to move equipment. It was noted that several of the maintenance areas utilize gas unit heaters for open areas with overhead doors. According to the Energy Audit, the use of radiant heaters has the potential to reduce energy consumption, thereby decreasing heating costs.

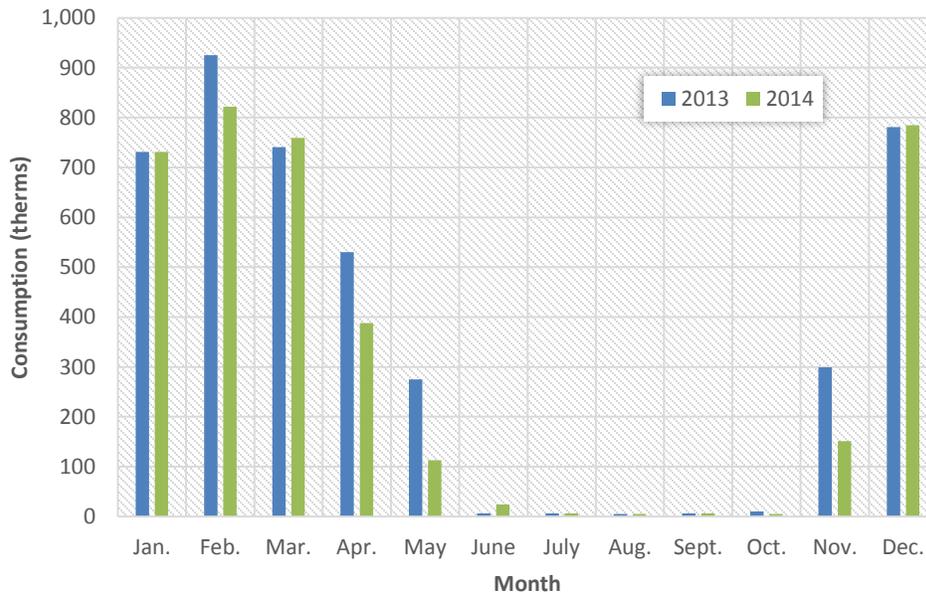


Figure 3-9: Electricity Usage for the Airport Shop/Maintenance Building



Source: Airport records.

Figure 3-10: Natural Gas Usage for the Airport Shop/Maintenance Building



Source: Airport records.

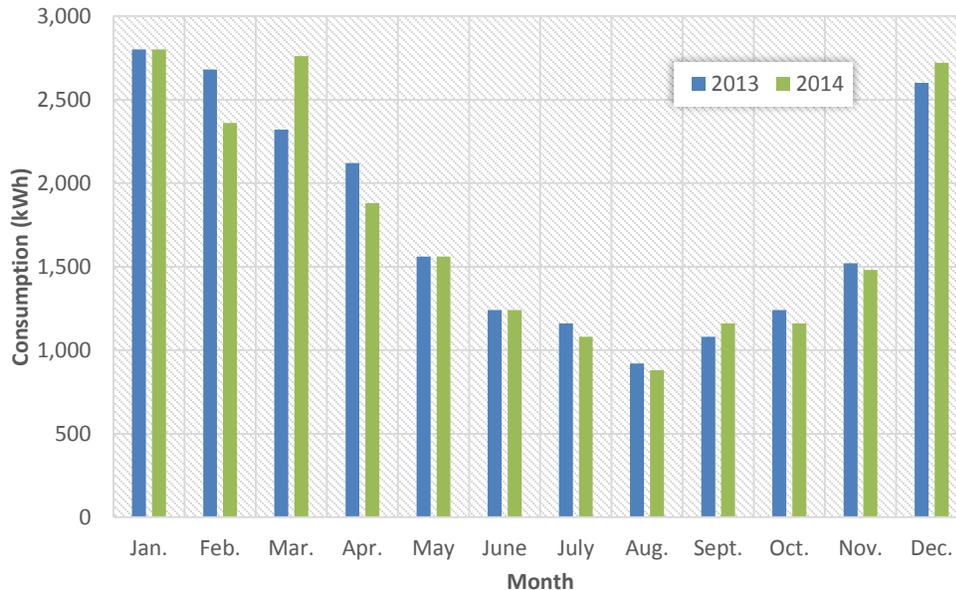


3.5.1.3 ARFF

Monthly gas and electricity usage for the ARFF follow a similar pattern to the Airport Shop/Maintenance Building. Energy consumption rates are higher in the winter months and lower in the summer months. Utilities consumption for the ARFF is shown in **Figure 3-11** and **Figure 3-12**. As discussed previously, fluctuations in natural gas usage is often an indication that natural gas usage is for heating uses in the winter months, which is typical for a colder climate such as northern Idaho. Similar to the Airport Shop/Maintenance Building, higher electricity usage in the winter months may reflect the need to use more electricity for lighting and other uses during short days.

Whether or not anyone is staying in the building, the ARFF must be kept ready for use (with regard to heat and light). Because of this according to the Energy Audit, the ARFF building is thought to operate somewhat inefficiently, especially in the winter, given the amount of time that it is utilized. This could be a combination of several factors, specifically the size of the space required to keep above freezing, the block construction that does not allow for maintaining the temperatures desired, and the systems not being very adaptive to lower usage. For these reasons, the ARFF building presents significant potential for increasing cost efficiencies.

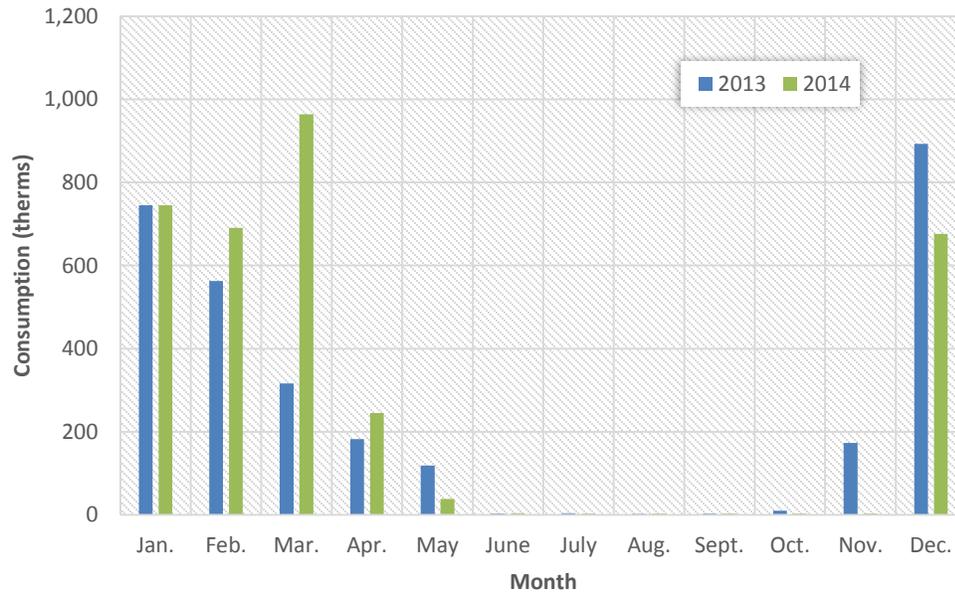
Figure 3-11: Electricity Usage for the ARFF



Source: Airport records.



Figure 3-12: Natural Gas Usage for the ARFF



Source: Airport records.

3.5.2 Energy Consumption for all Airport Facilities

3.5.2.1 Electricity Consumption

A summary of electricity consumption for all airport owned/controlled facilities is included in this section. While the previous sections discussed the Airport Shop/Maintenance Building, ARFF Building, and Airport Office in particular, this section analyzes those facilities in addition to the Airfield, Aircraft Storage Related Lighting (hangar and ramp lighting) and Street Lighting. Average monthly and yearly (2013-2014) electricity usage for each airport facility is shown in **Table 3-5**. A visual comparison of the annual usage is illustrated in **Figure 3-13**.



Table 3-5: Electricity Use Averages by Facility (2013-2014)

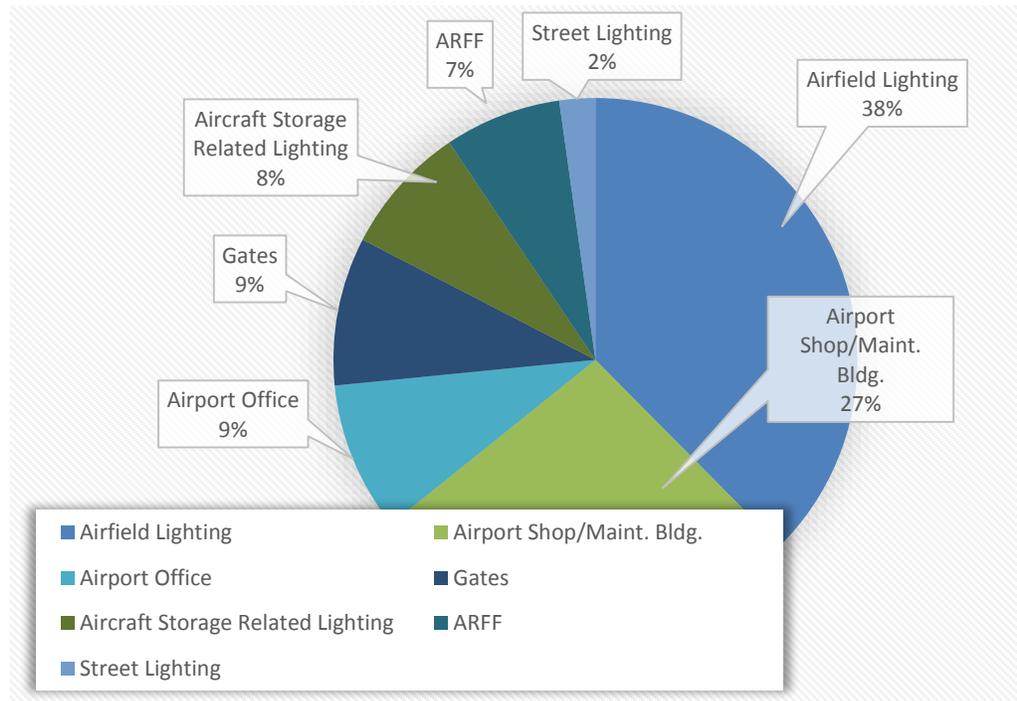
Facility	Usage (kWh)
Airport Office	
<i>Average per month</i>	2,252
<i>Average per year</i>	27,023
Airport Shop/Maint. Bldg.	
<i>Average per month</i>	6,518
<i>Average per year</i>	78,220
Airfield Lighting	
<i>Average per month</i>	9,192
<i>Average per year</i>	110,309
Aircraft Storage Related Lighting	
<i>Average per month</i>	1,955
<i>Average per year</i>	23,459
Gates	
<i>Average per month</i>	2,241
<i>Average per year</i>	26,886
Street Lighting	
<i>Average per month</i>	541
<i>Average per year</i>	6,491
ARFF Building	
<i>Average per month</i>	1,763
<i>Average per year</i>	21,160

Source: Airport Records.

Notes: Two of the ten electrical service accounts classified under “Gates” were identified as Gate/Lift Stations but were included in the “Gates” category for analysis purposes. January 2013 usage data was unavailable; usage for that month was assumed to be the same as in January 2014.



Figure 3-13: Annual Average Electricity Use by Facility (2013-2014) (kWh)



Source: Airport records.

With 37.6% of total usage, the Airfield Lighting had the highest electrical usage, and therefore, the highest costs of the facilities examined here. This is primarily due to the duration and intensity of usage during inclement weather during daytime hours, as well as during the nighttime hours. The Airport previously tried to implement LED upgrades in the pedestal lighting located along the runways in an effort to reduce airfield lighting costs, but was not pleased with the performance. The LED products did not produce enough heat to keep lenses clear in the winter and the quality of light was not deemed adequate. However, the Airport does use LED lighting for the taxiway.

The airport has already started to implement energy saving measures. According to the Energy Audit, it appears that all T-12 fluorescent lighting has been upgraded with T-8 fluorescent lighting in recent years. Additionally, of approximately eight older generation street lights noted around the facility, two are scheduled to be upgraded.



3.5.2.2 Natural Gas Consumption

Although all of the facilities use electricity, only the Airport Office, Airport Shop/Maintenance Building, and ARFF Building use natural gas. Natural gas uses at the Airport include the heating, ventilating, and (HVAC) systems. As seen in **Table 3-6**, the Airport Shop/Maintenance Building had the highest overall use of natural gas at 4,055 therms on average per year. The second highest use of natural gas was in the ARFF Building with 2,823 therms, followed by the Airport Office with 1,501 therms. A visual comparison of this information is presented in **Figure 3-14**.

Table 3-6: Natural Gas Use Averages by Facility (2013-2014)

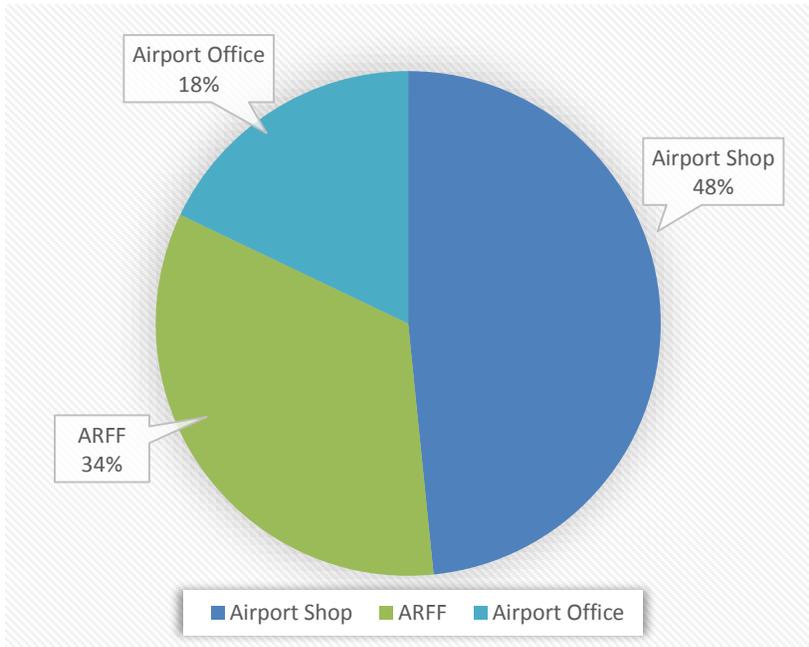
Facility	Usage (Therms)
Airport Office	
<i>Average per month</i>	125
<i>Average per year</i>	1,501
Airport Shop/Maint. Bldg.	
<i>Average per month</i>	338
<i>Average per year</i>	4,055
ARFF Building	
<i>Average per month</i>	235
<i>Average per year</i>	2,823

Source: Airport Records.

Note: January 2013 usage data was unavailable; usage for that month was assumed to be the same as in January 2014.



Figure 3-14: 2013-2014 Annual Average Natural Gas Use by Facility (therms)



Source: Airport records.

Figure 3-15 shows the average total natural gas use for Airport-owned and -controlled facilities during each month of the year for 2013-2014. This figure shows that overall Airport natural gas consumption follows the expected profile, where there is a higher use in the colder months (December, January, February, and March), than during the warmer months.



Figure 3-15: 2013-2014 Average Natural Gas Use by Month



Source: Airport records.

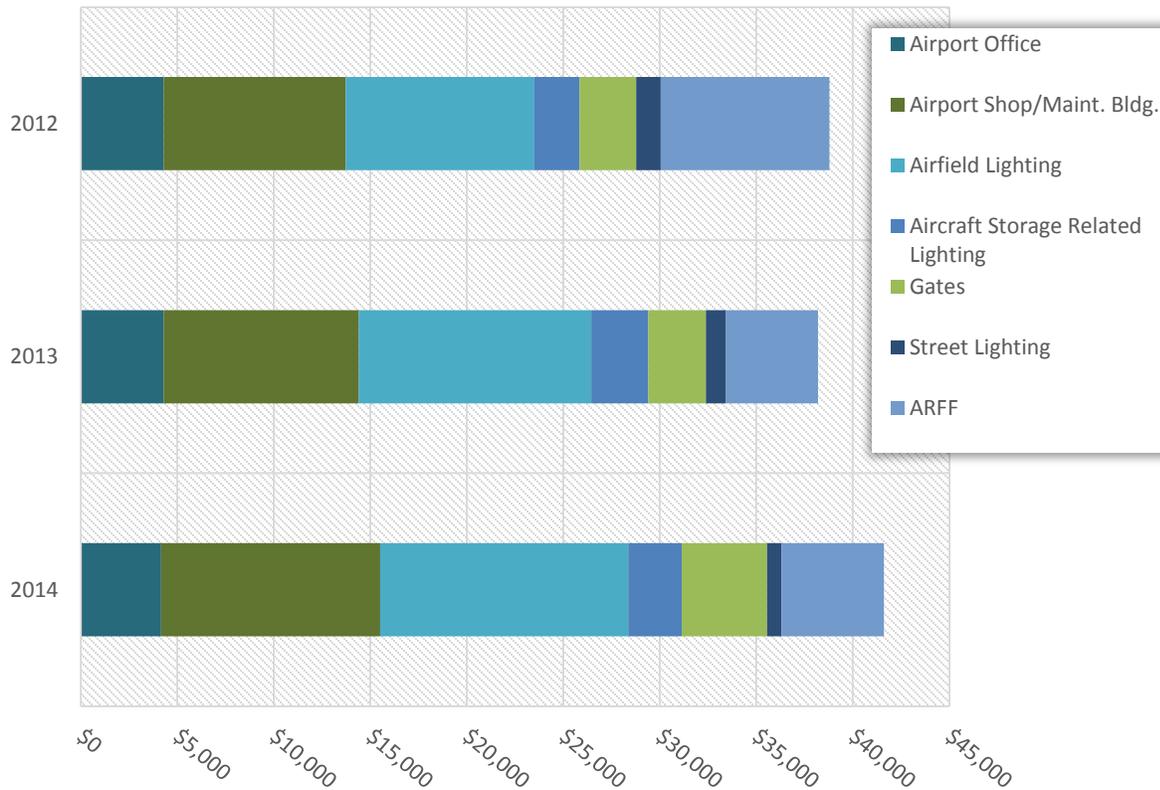
3.5.3 Energy Costs

Historical trends show that electricity costs tend to be more constant throughout the year, while natural gas costs can vary depending on the season. This is likely because the use of lighting, fans, appliances, and other similar uses at the Airport are run on electricity, and tend to not be related to seasonal weather changes.

However, because Avista Utility billing accounts show combined electricity and gas costs, it was not possible to fully break out one utility cost from the other. Therefore, **Figure 3-16** illustrates the overall cost of energy (electricity and natural gas) for each airport facility for the years 2012 through 2014. The facilities identified with the highest energy costs include the Airport Shop/Maintenance Building, Airfield Lighting, and the ARFF.



Figure 3-16: Energy (Natural Gas and Electricity) Costs (2012-2014)



Source: Airport records; Avista Utilities natural gas and electricity bills.

Utilities (\$41,614) accounted for approximately 6.9% of the total operating expenses (\$606,162) for the Airport in 2014. As shown in **Figure 3-16**, the majority of energy used in the Airport is driven by the Shop/Maintenance Building, Airfield Lighting, and ARFF. Although all facilities at the airport contribute to the cost of energy, these facilities contribute substantially more than the Airport Office, Aircraft Storage Related Lighting, Gates, and Street Lighting. Energy expenses for these facilities include air distribution systems (HVAC systems), heating, cooling, water heating, and lighting.

3.5.4 Energy Summary

Because gas and electricity are expressed in different units of energy (therms for natural gas and kWh for electricity), it is useful to combine them into one unit to normalize overall energy usage for a building area. The standard unit for this is kBtu, and is included in **Table 3-7**. One kBtu is equal to 1,000 BTUs, 3.41 kWh, or 100 therms. This is then converted into energy use intensity by dividing the total annual kBtus by the total area (in square feet). The relative use of the ARFF and Airport Office facilities in terms of energy per square foot is low in comparison to the Airport Shop



and Maintenance Building. For the most part, energy in these facilities is used for heating, cooling, water use, and electricity.

The average total energy used by the Airport totals to 1,839,527 kBTU, combining electricity and natural gas for each of the facility areas. Comparing these numbers, Airfield Lighting and the Airport Shop/Maintenance Building are the two largest sources of energy usage. However, the amount of usage for each type of utility tends to vary by time of year. **Figure 3-17** depicts the percent of total energy use (natural gas and electricity combined) by facility.

Table 3-7: Total Energy (Electricity and Natural Gas) Use/Cost Averages by Facility

Facility	Total Site Energy			
	Total Cost (\$)¹	Total Energy (kBTU)²	\$/ft²	kBTU/ft²
Airport Office				
<i>Average per month</i>	\$354.26	20,184	\$0.10	5.6
<i>Average per year</i>	\$4,251.12	242,306	\$1.18	67.3
Airport Shop/Maint. Bldg.				
<i>Average per month</i>	\$858.24	56,040	\$0.17	10.9
<i>Average per year</i>	\$10,298.87	672,398	\$2.00	130.5
Airfield Lighting				
<i>Average per month</i>	\$962.59	31,364	N/A	N/A
<i>Average per year</i>	\$11,551.10	376,390	N/A	N/A
Aircraft Storage Related				
Lighting				
<i>Average per month</i>	\$224.23	6,671	N/A	N/A
<i>Average per year</i>	\$2,690.71	80,045	N/A	N/A
Gates				
<i>Average per month</i>	\$287.13	7,647	N/A	N/A
<i>Average per year</i>	\$3,445.50	91,739	N/A	N/A
Street Lighting				
<i>Average per month</i>	\$85.03	1,846	N/A	N/A
<i>Average per year</i>	\$1,020.31	22,148	N/A	N/A
ARFF Building				
<i>Average per month</i>	\$522.88	29,516	\$0.10	5.9
<i>Average per year</i>	\$6,274.54	354,501	\$1.25	70.9

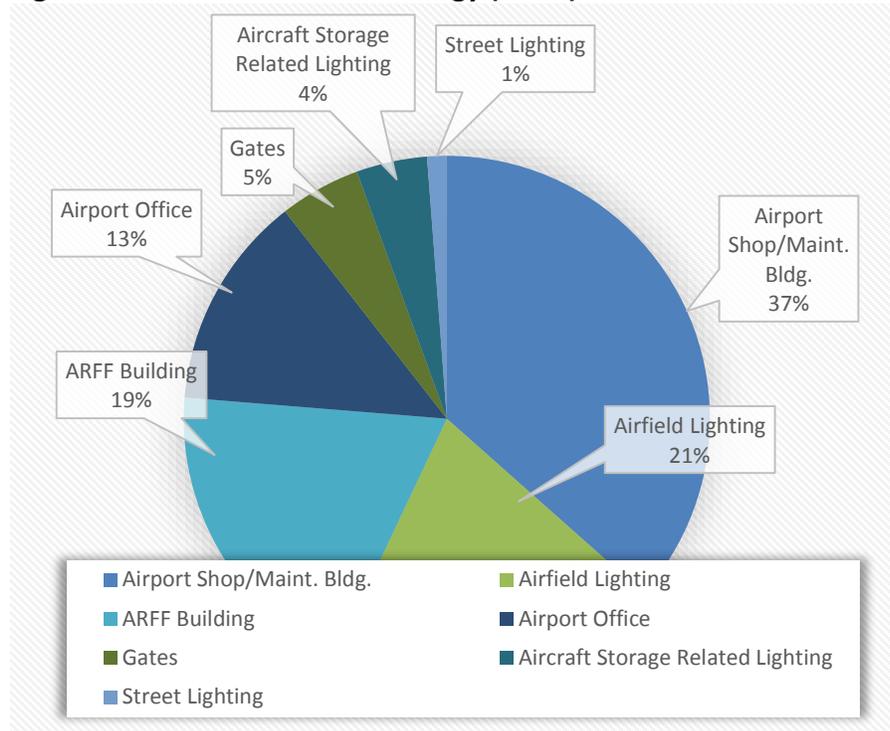
Source: Airport Records.

Notes: Total Cost averages over three years (2012-2014), whereas only two years of historical data (2013-2014) was available for usage (Total Energy). Two of the ten electrical service accounts classified under “Gates” were identified as Gate/Lift Stations but were included in the “Gates” category for analysis purposes. January 2013 usage data was unavailable; usage for that month was assumed to be the same as in January 2014.

1. Average costs for 2012-2014. 2. Average usage for 2013-2014.



Figure 3-17: Percent of Total Energy (kBtu)



Source: Airport Records.

3.6 Employee Commuting Habits

The Airport currently employs eight active employees. In order to better understand employee commuting, a survey of Airport employees was conducted on employee travel to and from work during the year 2014. The survey covered topics such as commuting distance, city/town of origin, and mode of travel to work. Completion of the surveys was voluntary, and the surveys were available to all employees working at the Airport. All eight surveys, or 100%, were returned.

100% of airport employees traveled by car to work 100% of the time during 2014. No employees travelled by bus, train, bicycle, or another model of transportation. Thus, the single occupancy vehicle was the primary means that employees used to travel to work.

The average round trip commuting distance was approximately 16.5 miles. No parking fees are charged for employees or passengers, as all parking at the Airport is free. The results of the employee survey are included in **Table 3-8**.



Table 3-8: COE Employee Commuting Survey Results for the Year 2014

Employee Survey Item	Average/ Percentage
Number of Days Worked at Airport	186.3
Distance Travelled to Work (Round Trip Miles)	16.5
Percentage of Employees Surveyed Who Carpool	0%
Typical Modes of Travel to Work	
<i>Car (Single Occupancy)</i>	100%
<i>Bike</i>	0%
<i>Bus</i>	0%
<i>Train</i>	0%
<i>Carpool</i>	0%
<i>Other</i>	0%

Source: *Employee Survey*, Mead & Hunt (2015).

Note: "Other" generally included motorcycling, vanpool, or other methods not identified.

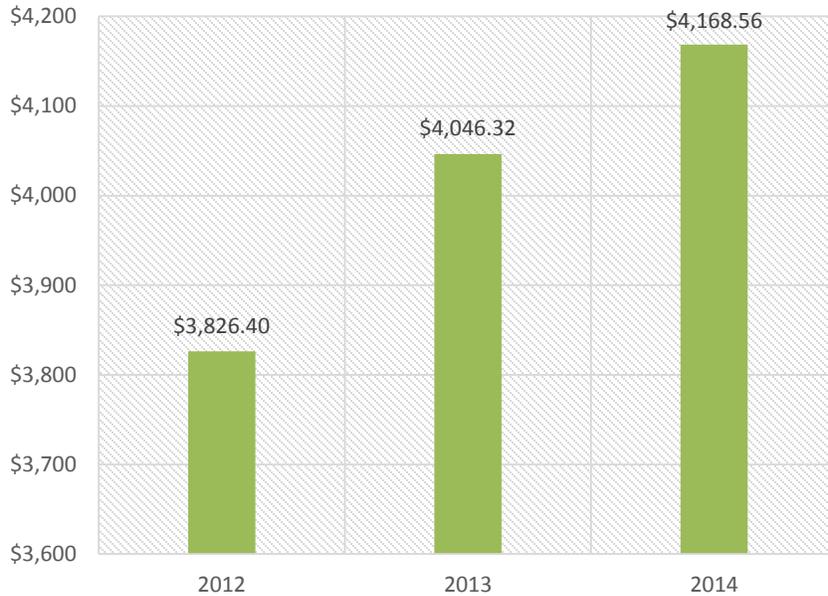
3.7 Water Resources

3.7.1 Water Expenses

Water for Coeur d’Alene Airport is provided through the Avondale Irrigation District and the Hayden Lake Irrigation District. Water costs were available in annual totals for the years 2012-2014. Water used for Airport facilities, as well as for tenants at the Airport, comes from the same water lines. Therefore, water usage costs for all of these entities are included on the same bill (for each irrigation district), which the Airport pays in full. **Figure 3-18** depicts water costs at the Airport over these years. Total annual water costs have increased slightly at approximately the same rate over each of the past three years.



Figure 3-18: 2012-2014 Annual Water Costs



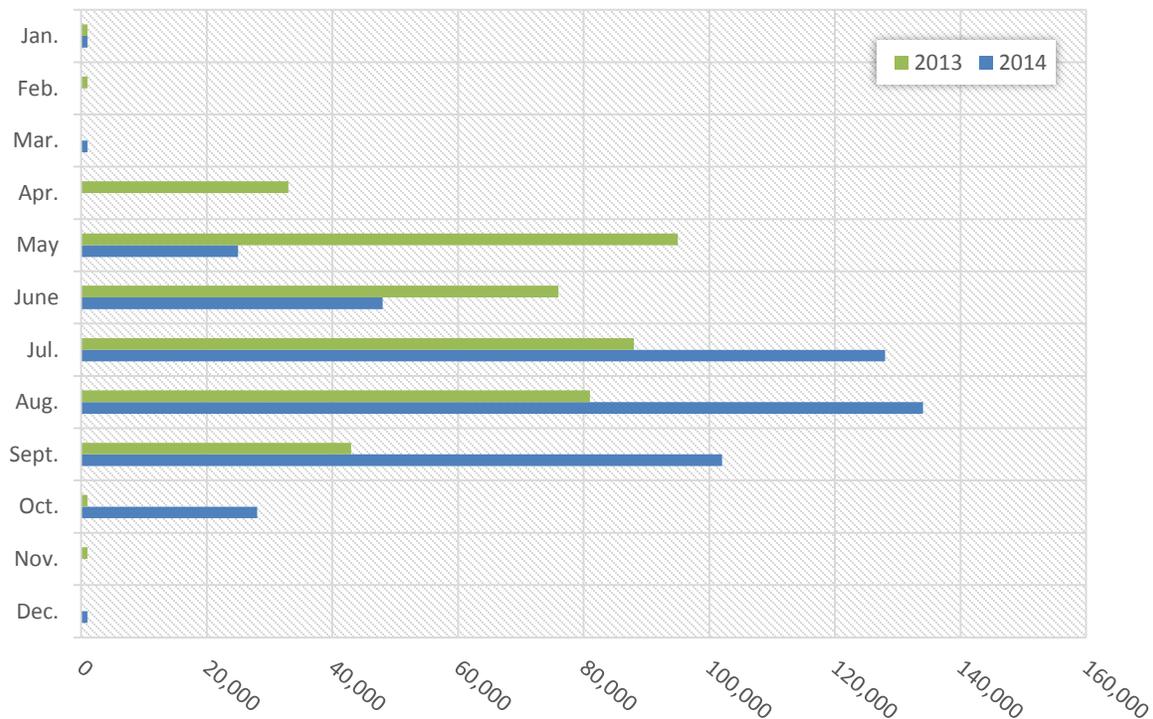
Source: Airport records.

3.7.2 Water Use

Water usage was available for the years 2013 and 2014. Usage by month for 2013 is shown in **Figure 3-19**. Water usage can peak during the summer due to the additional demand during the hottest months and use for landscaping. The month of May had the highest usage of the year at about 95,011 gallons in 2013. In 2014, the peak water usage month was August, with 134,015 gallons used. Weather variability often accounts for the difference, but the overall trend was consistent, with higher water use during the warmer months.



Figure 3-19: 2013-2014 Water Usage in Gallons by Month



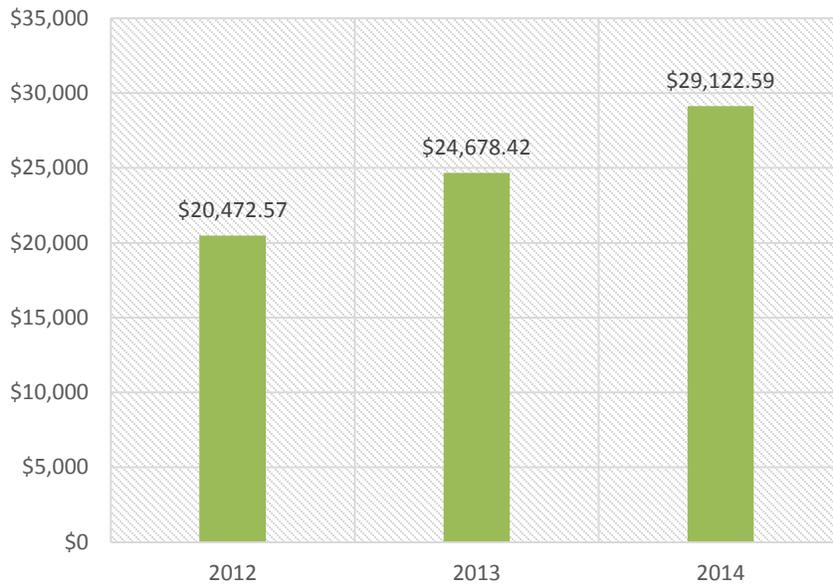
Source: Coeur d'Alene Airport water usage reports for Hayden Lake Irrigation District and Avondale Irrigation District (2013-2014).

3.7.3 Sewer Expenses

The Hayden Area Regional Sewer Board provides sewer services for the Airport. As with water usage, sewer usage for both the Airport facilities and tenants at the Airport is all tied into the same line. Therefore, sewer usage costs for all of the meters are included on the same bill. The total costs for sewer in 2012-2014 are shown in **Figure 3-20**.



Figure 3-20: 2012-2014 Annual Sewer Costs



Source: Airport records.

3.7.4 Surface Water and Storm Water

There are no significant surface water drainages near the Airport. There are a number of lakes in the region, including Hayden Lake, which is partially surrounded by the Coeur d’Alene National Forest and is located 2.5 miles east of the Airport. The 2012 Coeur d’Alene Airport Master Plan recommended a number of procedures and policies to prevent stormwater pollution from Airport activities. According to the Master Plan, “Coeur d’Alene Airport is not required to obtain an NPDES permit, formally prepare a Stormwater Pollution Prevention Plan (SWPPP), or maintain a Spill Prevention Control and Countermeasures plan (SPCC) because no runoff directly interacts with U.S. water bodies.” However, the Master Plan recommended that the Airport actively pursue stormwater pollution prevention measures in support of state and local regulations and to protect the underlying Rathdrum-Prairie Aquifer from potential contamination via drywells on airport property (2012 Coeur d’Alene Airport Master Plan Appendix A).

3.8 Waste and Recycling

Waste removal and recycling at Coeur d’Alene Airport is performed by Waste Management, Inc. There are two dumpsters on the Airport, a 1-yard and a 6-yard dumpster, located in two separate areas of the Airport. Dumpsters are emptied weekly. Tenants and hangar lessees are responsible for their own waste disposal and costs. The Airport does not currently have a waste reduction or recycling program. However, the Airport recycles construction waste from construction projects



and includes waste recycling standards in its construction contracts. The Airport Office also recycles newspaper. Because the Airport’s solid waste service can also handle single-stream recyclables, there is substantial opportunity for expanding the types of materials collected for recycling at the Airport.

3.9 Natural Habitats

The closest water bodies to the Airport are Hayden Lake, Avondale Lake, and Tottens Pond, located approximately 2.3 to 3.5 miles to the east and southeast, as well as Alpine Lake, located approximately 2.8 miles to the northeast. According to the National Wetlands Inventory, there are no wetlands on Airport property; the nearest wetlands are approximately 1.5 miles northeast of the Airport. Areas north and west of the Airport are primarily agricultural land, whereas areas to the south and east are more urbanized.

There are four species of concern located within Kootenai County. According to the U.S. Fish and Wildlife Service (USFWS), there are four federally listed endangered, threatened, or candidate species known to occur within Kootenai County (see **Table 3-9**). There have been no reported incidents on airport property associated with these species.

Table 3-9: Kootenai County Threatened, Endangered and Candidate Species

Group	Common Name	Scientific Name	Status
Fishes	Bull Trout	<i>Salvelinus confluentus</i>	Threatened
Flowering Plants	Spalding’s Catchfly	<i>Silene spaldingii</i>	Threatened
Mammals	Gray wolf	<i>Canis lupus</i>	Recovery
Mammals	Canada Lynx	<i>Lynx canadensis</i>	Threatened

Source: U.S. Fish & Wildlife Service, Federally Listed, Proposed, Candidate, Threatened and Endangered Species and Species of Concern within Kootenai County, Idaho (accessed March 20, 2015).

3.10 Land Use and Noise

3.10.1 Land Use

The Airport is located mostly in unincorporated Kootenai County with a few parcels in the City of Hayden. Kootenai County has jurisdiction over the Airport property. The Airport has two runways: Runway 06-24 is 7,400 feet long by 100 feet wide, and Runway 2-20 is 5,400 feet long by 75 feet wide. The three most recent airport master plans completed in 1981, 2000, and 2008 recommended runway lengths of 9,500, 7,400, and 9,170 feet, respectively. Recommended runway lengths are highly dependent on the critical aircraft expected to use the airport over a twenty-year period. Runway lengths are also determined by anticipating future needs. The three airport master



plans recommend different runway lengths because anticipated demand and aircraft types projected to use the airport have fluctuated over the years and were different at the time these studies were completed. In addition, runway length computations are highly dependent on the individual performances of each aircraft, as well as aircraft operators’ procedures. Future studies may recommend different lengths based on the evolution of the type of aircraft and fleet mix.

Land use surrounding the Airport falls primarily under the jurisdiction of the City of Hayden. Surrounding land uses include light industrial to the south and northeast, single- and multi-family residential, commercial, and light industrial to the east, and agricultural to the north and west. Other communities in the region include Hayden Lake, Dalton Gardens, Coeur d’Alene, Post Falls, and Rathdrum.

Effective compatible land use planning aims to protect both the airport and the surrounding communities from height, safety and noise concerns. Effective land use plans incorporate both height restrictive and basic land use restrictions via zoning. It is important to point out there is a very distinct difference between height restriction zoning and basic land use zoning. Height restriction zoning generally conforms to CFR Part 77 with the intent of protecting the airspace around an airport from objects or structures which may pose hazards to aircraft operators. The intent of the land use zoning is to prevent incompatible land uses from being allowed near an airport where the impacts of airport operations, such as noise, dust, and/or fumes can have a potentially negative impacts on that land use, or the impact of the incompatible land use can have a potentially negative impact on the airport. Further, effective land use planning takes into consideration not only height protections and noise and environmental issues, but also aircraft and airport safety.

The City of Hayden and Kootenai County have adopted Zoning Ordinances that, when combined with existing land uses, indicate the direction of future land use in the vicinity of the Airport. The Airport is located within the County’s Light Industrial Zone (LI). Some of the other County zoning districts surrounding the Airport include the Agricultural Zone (A) and Agricultural Suburban Zone (AS) to the west and northwest, as well as the City of Hayden Agricultural Zone (A), Light Industrial Zone (L-I), Residential Zone (R-1), Residential Suburban Zone (R-S), and Commercial Zone (C).

The Kootenai County Zoning Ordinance contains an Airport Overlay District that uses Federal Aviation Regulations (FAR) Part 77 surfaces as a basis for determining height limitations. It also contains marking and lighting, storage, landscaping, and setback requirements. The City of Hayden does not currently have an airport overlay district. Currently, Kootenai County has a Draft Interim Development Code that discusses the details of an Airport Overlay Zone. This draft went out for public comment on February 24, 2015.



Proactive land use planning protects the airport, the community and its citizens from future incompatible growth. In many instances, a community’s willingness to take a proactive approach in addressing compatible land use planning can prevent the need to be reactive and can preclude more severe conflicts down the road. According to the Master Plan, it is recommended that the government stakeholders, primarily Kootenai County and the City of Hayden, develop a comprehensive overlay to support compatible land use development. The Airport will continue to work with local and regional governments and entities to prevent non-compatible land uses.

3.10.2 Land Use Planning in Idaho

Idaho Senate Bill 1265 effective July 1, 2014 aims at more proactive land use compatibility planning around the state’s airports by city and county entities through the local comprehensive planning process. The new legislation requires closer collaboration between local zoning authorities, local airport authorities and ITD in the interest of flight and community safety. Political subdivisions must now include a separate section “q” in their comprehensive plans specifically addressing Public Airport Facilities within their jurisdiction or if impacted by an airport outside their jurisdiction.

In addition, planning and zoning commissions (and their governing boards) have to notify the local airport manager (or person in charge) when recommending, adopting, amending, repealing their comprehensive plan. The notification requirement pertaining to the local airport manager (or person in charge of the airport) also applies to other land use actions that require public notice (i.e. Special Use Permits, Conditional Use Permits, Transfer of Development Rights, Variances, etc.) when encroaching on the airport or which may create an aviation hazard.

ITD is currently updating the Idaho Airport Land Use Guidelines. In the future, this document will be an appropriate resource and reference to better address compatible land use planning around airports. This guidebook will recommend techniques and mechanisms to develop and implement effective land use measures that will protect the health, safety and welfare of airport’s users and surrounding neighbors.

3.10.3 Noise

Existing (2008) and future (2028) noise contours were created for the 2012 Coeur d’Alene Airport Master Plan. Both 65 DNL and 55 DNL contours were created. The 65 DNL is the federal noise significance threshold, meaning this contour defines what is considered a significant impact. The 55 DNL was also included because it helps identify properties that will be subject to aircraft noise and overflight outside of airport property; however, the 55 DNL contour is not considered significant by the FAA. The 2008 65 DNL contour was largely contained within airport property,



with some areas within the contour being outside of the property boundary beyond Runway Ends 02 and 20. No land use compatibility issues were identified within the 65 DNL contour.

There is little potential for an increase in noise compatibility issues around the Airport in the near term, as the majority of surrounding land uses are agricultural, commercial and industrial areas. These types of land uses would not have significant potential to create noise compatibility issues because they would be unlikely to contain large numbers of noise-sensitive uses such as housing or schools. The main areas where land use compatibility issues could develop in the future would be in the residential areas to the south and east of the Airport in the City of Hayden, or if there is a potential for future housing development to the north or west in areas currently classified as agricultural.

3.11 Community Relations

COE is owned and operated by Kootenai County. Though a county facility, a significant portion of land adjacent to the airport is under the jurisdiction of the City of Hayden. In general, increased community growth is expected around the Airport. As growth around the Airport continues, communication, careful planning and coordination between the county and surrounding jurisdictions/stakeholders is critical.

Key to this planning and coordination effort is developing and maintaining positive relationships between all primary stakeholders. Over the course of the past few years, these relationships have been strained. A primary source of disagreement between the county and some stakeholders is the most recent Airport Master Plan. Adopted by the Kootenai County Board of County Commissioners (BOCC) in 2012, the FAA-approved Airport Layout Plan (ALP) (2013) developed as part of the Master Plan shows growth of the Airport over the 20 year planning horizon. Areas of contention include potential land use and surface transportation impacts to Runway 6 on the west end of the airport (from a proposed runway extension) and Runway Protection Zone (RPZ) impacts on the east end. Recommended land use planning zones and associated use restrictions in the recommended zones have also been a source of contention.

Some community representatives and agencies in the vicinity of the Airport have expressed concern that the proposed Runway 6 extension would have a negative impact on existing land use and transportation plans. Further, some community representatives believe that the basic assumptions in the Master Plan are overly optimistic and that a future runway extension is not warranted. Some also believe the 2012 Master Plan process did not allow for adequate agency and community coordination to provide comment on the planning recommendations.



Conversely, county and airport representatives believe the 2012 Master Plan and associated 2013 approved ALP accurately reflect realistic future Airport growth, including the runway extension. As such, the need for the county and surrounding jurisdictions/stakeholders to plan for Airport growth as identified in the Master Plan and on the 2013 approved ALP is critical to the future economic viability of the airport. Following the land use planning recommendations included in the Master Plan is also critical to protecting the health, safety, and welfare of both Airport users and surrounding neighbors now and into the future. In accordance with Idaho Senate Bill 1265 (see Section 3.10.2), the Airport will continue to coordinate closely with local authorities and the community to address land use issues.

On December 17th 2014, a stakeholder meeting was organized by the Board of County Commissioners (BOCC) and attended by several key stakeholder representatives including Kootenai County, City of Hayden, KMPO, Post Falls, City of Rathdrum, Idaho Department of Transportation – Division of Aeronautics (ITD), FAA Helena Airports District Office, and members of the public. The main goal of the meeting was to gather local stakeholders in one room to discuss concerns and brainstorm ways to move forward in a manner beneficial to all involved. The meeting was successful in that all parties heard the viewpoints of the others and shared an exchange of dialogue. Further, all parties agreed to move forward with future coordination and collaboration efforts.

There has been some progress since the December 17th meeting. Several formal and informal meetings and conversations between the BOCC, the Airport Director, and stakeholder representatives have taken place in an effort to reestablish lines of communication and relationships, and positive results are being realized.

From a land use planning standpoint, the county has undertaken a good faith effort to address a land use conflict on the east end of the Airport. The City of Hayden is considering a realignment of Ramsey Road on this end of the Airport. This project is of particular importance to the city, but also to the overall transportation system in the county. Protection of a precision approach RPZ as shown on the 2013 approved ALP would have resulted in the preferred Ramsey Road alignment being located in the future Runway 24 RPZ. Roadways in RPZs are not acceptable per current FAA policy. The county hired an airspace planning consultant to analyze future instrument approach feasibility to the Runway 24 end. The analysis concluded future precision approach capabilities were not feasible to this runway end. As a result, the size of the RPZ to be protected can be reduced in size while not negatively affecting future utility of the Airport. With concurrence from the FAA, the Airport has revised the ALP to reflect a smaller RPZ for Runway 24. This change in the size of the Runway 24 RPZ has made it possible for the preferred Ramsey Road alignment to be accommodated.



In addition, the BOCC and the City of Hayden issued a Memorandum of Understanding (MOU) in August 2015. The objectives of the individual stakeholders applicable to the Airport are not mutually exclusive. All objectives can be achieved provided the individual stakeholders are willing to collaborate with one another to develop an agreement on how to move forward. Due to the recent history of strained communication and coordination, a formal but not binding agreement among the parties would be helpful to formalize the commitments that individual stakeholders make toward each other. To that end, this MOU would identify specific actions that each stakeholder would agree to take and the estimated timelines for commitments. Initial feedback from the City of Hayden regarding the MOU indicated some concerns with the language. However, elected officials from both the county and city are actively working to produce a document agreeable to both sides. It is expected the MOU will be coordinated with additional stakeholders such as the Kootenai Metropolitan Planning Organization, Post Falls Highway District and Lakes Highway District after details are smoothed out with the City of Hayden.

In general, there is substantial work to be done in order to strengthen relationships amongst the stakeholders. The land use compatibility and community relations elements of this Sustainability Plan are not intended to ultimately solve existing issues. Rather, the results of this process will be one step in a series of meaningful steps aimed at identifying an agreeable, sustainable path forward for all stakeholders as it relates to land use planning and future community relations related to the Coeur d'Alene Airport.

