

Development Impact Analysis:

Reserve at Pagosa Peak

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Archuleta County, Colorado

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INTRODUCTION

Development impact reports enable Towns and Counties to make *full cost accounting* of the impacts of new growth and development on local economies, public infrastructure, fiscal resources, revenues, land use/physical attributes, and some environmental and social resources.

This development impact report analyzes the proposed Reserve at Pagosa Peak.

RPI's reports may be accompanied by an on-site presentation of all findings at a publicly noticed meeting if requested by community staff or elected officials.

Conducting development impact analysis is a complex and time-consuming endeavor. However, the payoff for determining the costs of growth will outweigh the up front effort and expense.

Development impact reports are a useful tool for local governments and citizens alike because they allow communities to engage the following issues:

1) Calculate the incremental costs of growth.

Understanding the costs of growth at its fundamental level is the most flexible way to calculate the true costs of growth both now and in the future. This report contains the building blocks with which to understand and track future growth in your community. Once the costs generated by a single residence or commercial / industrial land use are known, simple arithmetic can be used to determine the cost of any number of units. Within this report costs are broken down into residential / non-residential units, population, and vehicle trips. Each is thoroughly explained in the appropriate section of this report.

2) Link land uses to fiscal realities

One of local governments most powerful tools is the ability to exert influence over land uses. Because of the variable costs associated with different types of land use, governments can, given quality information, perform cost and benefit analysis of proposed uses. Cost benefit analysis is equally important when considering comprehensive planning, zoning and/or rezoning of land.

We know that certain types of land use are more intense than others and consequently we expect them to have greater impacts. For example, the average large grocery store generates far more vehicle trips, public safety calls, and solid waste than virtually any single family home. Clearly, this is a high intensity land use. On the other hand, large grocery stores can produce significant amounts of tax revenue, perhaps offsetting their costs. If our criterion is simple fiscal contributions, a grocery store may come out far ahead of single-family homes in a cost-benefit analysis. Of course, the financial “bottom line” is not always the single determinate in community decisions concerning land use. However, in many ways, development impact reports help us to quantify some quality of life issues.

Many people would agree that traffic jams, high crime rates, or not having enough clean drinking water represent serious quality of life issues. Unfortunately, many of these conditions arise when Counties or counties grow faster than public, and often even private, services and infrastructure can service them. Consequently, services and infrastructure tend to degrade, quickly creating backlogs, which are difficult to rebound from. Another common phenomenon in the rural west (that is by no means new) is the dis-aggregation of industrial, residential, and commercial sectors between municipalities. In other words, houses are found in one County, shopping in another, and the jobs in yet another. An example of this might be the relationship between Ridgway, Cortez, and Telluride or Aspen, Carbondale, and Glenwood . These sprawling economies foment a host of varying impacts that are unique to each community—not the least of which is increased traffic—all of which affect our everyday lives.

Frequently, planning and zoning takes place using only experience and intuition. While these are certainly important components of quality planning, RPI believes that comprehensive and accurate information is a critical element that is often missing. Ultimately, community involvement, and sound judgment combined with accurate, objective information will yield the best results for long-range County and county planning.

3) Establish baseline information

In order to chart a course for the future, a County or county must know where it is right now. An extremely useful component of RPI’s analysis is the establishment of current Level of Service (LOS) information concerning local government services and infrastructure. Typically, service levels are established on a per capita basis. For example, parks may be related in terms of acres per capita or library items as volumes per capita. While as numbers these may seem somewhat abstract and dry, they serve two important functions. First, they are an absolute, quantitative description of

the service a typical citizen receives from any public good. Clearly, a library with 100 books serving a population of 10,000 is providing poor service to the community. Alternately, a library that holds 10,000 books for every citizen is going to provide a tremendous level of service. Likewise with parks and open spaces, or fire protection. Higher levels of service in administrative departments often lead to better capacity to deal with day- to-day issues as well as the ability to make long range plans and freeing up staff to generate funding for ambitious community goals.

This report not only reveals existing conditions in the community now, but also makes comparisons to other localities and/or national standards--- providing some context of where it is now and where it may go in the future.

4) Lay the groundwork for fees and services

RPI's analysis and numbers are meticulously generated from the most current and accurate information available. When the cost of growth is realized, local government may want to take steps to mitigate some of the impacts through fees and taxes. Because RPI is demonstrating the *incremental* costs of growth, not all of the per unit cost numbers can, or should, be converted into fees and taxes. To do so requires an additional step that involves identifying: who is going to bear the tax burden, for what, how much is being contributed by other mechanisms, and for how long. However, given the establishment of the base numbers found in this report, this step is a relatively simple one for many departments and services. Please be aware, that road and street costs are an exception to this rule and often require significant additional work and analysis.

Important Concepts to Understand

It is imperative that two simple concepts be thoroughly understood prior to examining the results of this report.

1) Level of Service (LOS)

The idea of level of service will recur throughout this report. A simple analogy serves to illustrate the concept. Suppose that you entered a restaurant with a small kitchen, two tables, and two waiters; you sit at one of the tables and begin dinner. You would expect, given the ratio of waiters to tables, that the service be good. Now consider that you enter the same restaurant a week later, with the same kitchen and the same two waiters, to discover that they have added one hundred additional tables and that the restaurant is packed with people. Certainly, after having been seated, you would expect a significantly decreased level of service from the two waiters. Of course, the same happens with provision of government services and infrastructure. If new growth is not accounted for in police, fire, health, sewer and a host of other services while population is being added, we should expect to see a decrease in our overall level of service. Meaning, that perhaps we are stuck in traffic more often, our parks are more crowded, we must wait weeks to see a doctor, or that our water use is limited to certain times of day.

Level of service also allows the community to see where it stands in relation to other communities or even against national standards. It is a measuring stick from which the community can decide to increase or decrease its existing service. For example, your community has police service that is higher than the national standard, but your park system does not equal that of other, similar sized communities. You may decide to de-emphasize funding priorities for law enforcement and instead focus on growing a park system, while imposing a fee structure that ensures that new growth and development will not degrade the law enforcement that you currently have.

2) Projections vs. Forecasting

Projections and forecasts are often mistaken for the same, however this is inaccurate, and a distinction between the two is particularly important when considering development impact analysis.

The Rural Planning Institute always uses projections in its methodology. Projections are essentially an if-then statement about the future. If variable *x* grew at ten percent over the last ten years *and* the next ten years are relatively similar *then* variable *x* will continue to grow at 10 percent. Strictly speaking, projections are never wrong because they simply make

the assumption that a trend observed over time will continue into the future. In fact, projections are often extremely accurate, particularly over 5-15 year periods. Because projections are based on historical trends, they take into account the typical ups and downs over time. For example, unemployment observed over the last ten years would have been high in the late eighties and early nineties, and quite small in the late nineties – a typical business cycle. An average taken between 1985 and 2000 would reflect this and the consequent projection into the next fifteen years would reasonably predict the same.

Forecasts represent a significantly different concept. They are a judgmental statement that represents a best guess about future conditions. Forecasts typically utilize a wide array of disparate variables and then combine them with the forecasters expertise and experience to generate a “prediction” of future conditions. In certain situations, forecasts can certainly be useful, however, they are inappropriate for fiscal forecasting. Why? Would Archuleta County be wise to gear all of its current budgeting toward servicing a ski resort that may or may not develop? Probably not, there are simply too many variables involved and it would be impossible to make an accurate prediction. Furthermore, forecasting methodologies may vary widely, making it difficult for third parties to understand how results are achieved.

Virtually all of RPI’s numbers are predicated on projections. In some cases the projections are modified.

This report represents a useful tool for evaluating future developments in Archuleta County. The numbers for incremental costs may be applied to many housing units within the county. Of course, this study does possess some limitations, including the in-applicability of traffic results to other projects and the absence of a commercial costs component. Please do not hesitate to call Rural Planning Institute for clarification or with questions concerning any element of this project.

GENERAL METHODOLOGY

The methodology used by RPI Consulting to conduct development analysis consists of the following five steps:

1. Demand Unit Measurement and Projection
2. Determining the Proportionate Share
3. Determining the Current Level of Service
4. Calculating the Cost of Maintaining the Current Level of Service Given the Projected Demand Units
5. Revenue Comparisons and Fiscal Summary

This basic approach applies to each department or special district included in this analysis. Following is a more detailed explanation of each step.

Demand Unit Projection

Demand units are the units of growth that generate additional demand for public facilities and services. Demand units are different for different departments and/or special districts, depending on the nature of the service and facilities provided. For example, housing units are used for calculating increased demand on schools. School districts will usually experience marked increases in the number of students when there are increases in dwellings for families, that is to say, housing units. Similarly, increased demand for library services, materials, and facilities is related to the overall population. More people translates into more library users, so population is a demand unit for calculating additional costs on the library. Non-residential demand units are typically defined in terms of square footage, but there are some minor exceptions.

In general, the process involves 1) choosing a demand unit, 2) measuring the current number of demand units, and 3) projecting the demand units generated by the proposed development.

Proportionate Share

RPI development impact analyses assign the cost of development to specific land uses. This requires a determination of what proportions the residential and non-residential portions of the projected growth will cost various departments and districts and to subtract out portions of the cost that are not directly related to the development. For example, a police department responds to calls in specific places, some of which are residential, others that are commercial or institutional, and others still that are simply on the highway

cutting through County and have no tangible connection to specific development. Accurate projection of the increased demand generated by a development with a certain amount of residential and non-residential development first requires a known proportion of how the department or special district's resources get directed to residential, non-residential land uses, as well as to areas unrelated specifically to land use (such as highway pass-through traffic). Establishing these numbers represents the proportionate share.

Calculating the Level of Service

Level of Service (LOS) calculations are dependent on having the current demand units for a department or special district and the breakdown of how its resources get divided between residential and non-residential units (i.e. proportionate share). The level of service (LOS) is defined as the amount of resources (employees, dollars, sq. ft., library items, etc.) per demand unit, and is expressed both in terms of day-to-day operations and maintenance and in terms of capital facilities (buildings, equipment, library circulation items, etc.). After the proportionate share has been applied to the resources, LOS can be expressed as a cost, number of employees, sq ft. of space, etc. per demand unit. This is the fundamental measure of the incremental cost of growth. For example, the LOS for administration operations for a given jurisdiction's administration employees is X per 1000 population and XX employees per 100,000 sq. ft. of non-residential space. These employees can also be converted into simple dollar costs.

Projecting the Cost of Maintaining the Current Level of Service Given the Projected Demand Units

The incremental cost of growth, that is, the cost per demand unit, is multiplied by the projected demand units to obtain projected cost of maintaining the current level of service for the projected demand units.

Revenue Projections and Fiscal Summary

In the final step, revenues generated by the projected or proposed development are projected and compared to the costs. Revenue projections are all specific to the type of revenue and methodologies are explained throughout. At this stage it becomes evident whether the development will pay its way to maintain the current level of service or if the LOS will inevitably decline unless additional funding mechanisms are engaged.

EXISTING CONDITIONS: ARCHULETA COUNTY AND SPECIAL DISTRICTS

Having an accurate measurement of the current demand units (or growth units) is essential for establishing the current or target levels of service for County Departments and the Special Districts under consideration in this analysis. For example, in order to calculate the level of service for the Sheriff's Department, (i.e. the number of law enforcement officers per capita), we must first know the population for the base year (2000). Since different departments are affected by different types and dimensions of growth, RPI measures and tracks several types of demand units. For example, the Fire District is charged primarily with protecting structures in the District, thus, as structures increase, so does the demand for fire protection. On the other hand, County Administration is affected by both residential and non-residential development and thus requires a measurement of both residential and non-residential development units (e.g. housing units and non-residential square footage). **Figure 1** summarizes the demand units for the County and **Figure 2** summarizes the demand units for special districts.

Figure 1. Archuleta County Population, Housing, Employment, and Other Pertinent Land Use Data

Demand Units	2000	1990	% Change	Source
Entire County Population	9,898	5,345	85%	Census
Unincorporated County Population	8,307	4,138	101%	Census
Entire County Peak Residential Population	15,406	na		Census
Unincorporated County Peak Residential Population	13,556	na		Census
Entire County Housing Units	6,212	3,951	57%	Census
Unincorporated County Housing Units	5,466	3,408	60%	Census
County % Seasonal Housing Units	23.4%	na		Census
Entire County Jobs	4,765	2,885	65%	CO Dept. of Local Affairs
Estimated Unincorporated County Jobs	2,686	na		CO Dept. of Local Affairs
Unincorporated County Non-Residential Sq. Ft.	1,021,130	na		Archuleta County Assessor
Entire County Non-Residential Sq. Ft.	1,811,325	na		Archuleta County Assessor
Unincorporated County Non-Residential Structures	406	na		Archuleta County Assessor
Entire County Registered Vehicles	10,546	na		CO Dept. of Local Affairs
County Registered Vehicles/Housing Unit	1.7	na		CO Dept. of Local Affairs

Figure 1 includes demand units for 1990 (where available) and a growth rate. The population in the unincorporated population more than doubled during the 1990's and housing units and jobs are close behind. This remarkable rate of growth has an immediate tangible impact on County services and facilities. This analysis looks at the impact of a single subdivision on County services

and facilities. In the process, RPI will identify the incremental cost of growth, which should give County officials and informed locals some useful tools for analyzing growth and development in Archuleta County, which shows no signs of abatement.

Figure 2. Special Districts Land Use Data and Demographics

	2000	Source
Library District Population	9,870	Archuleta County Assessor & Census
Fire District Housing Units	5,338	Archuleta County Assessor
Fire District Non-Residential Structures	711	Archuleta County Assessor
School District Housing Units in Archuleta County	5,846	Archuleta County Assessor
School District Housing Units in Hinsdale County	61	Hinsdale County Assessor

OVERVIEW: RESERVE AT PAGOSA PEAK SUBDIVISION

The Reserve at Pagosa Peak Subdivision includes 239 acres of land located 5.7 miles north of Highway 160 on Piedra Road. The proposal includes 140 residential lots, resulting in 140 residential units¹ at buildout.

The Census Bureau reports that in 2000, 23.4% of the units in Archuleta County are seasonal units. Assuming that this proportion applies to the 140 units in The Reserve at Pagosa Peak Subdivision (referred to as “the Reserve throughout this report) 33 of the units are projected to be seasonal residences or part-time residences, and 107 are expected to be primary or full-time residences. Given the average household size of 2.5 per residential unit in Archuleta County (U.S. Census 2000), the peak residential population of The Reserve including both full-time and part-time residents is projected to be 347. The breakdown between full-time and part-time residences in the reserve means that 76.6%, or 265 of the peak residential population are projected to be full-time residents, while 23.4%, or 82 people are projected to be part-time residents.

¹ While an accessory unit is allowed per lot under the Archuleta County land use code, any potential accessory units in the Reserve at Pagosa Peak subdivision are assumed to function as a part of the main residence, not as a separate unit.

Figure 3. Reserve Residential Unit Projections and Demographics

Total Residential Units	140
Part-Time Residences	33
Full-Time Residences	107
Reserve Peak Residential Population	347
Reserve Permanent Population	265
Reserve Part-Time Residents	82

A fully built-out Reserve would result in approximately a 2.6% increase in housing units and peak residential population in unincorporated Archuleta County and 3.2% increase in full-time population.

Figure 4. Percentage Increases of Reserve Project on Key Indicators

	Percent Increase Over Current Number in Unincorporated Archuleta County
Housing Units	2.6%
Full-Time Population	3.2%
Peak Residential Population	2.6%

Depending on the nature of the County department or special district, the increase growth units is assumed to be accompanied by an increase in demand for the services and facilities provided by the department or special district. That is why they are referred to as *demand units* throughout the report.

COUNTY GENERAL FUND DEPARTMENTS

The County budget is separated into 25 separate funds, the largest of which is the General Fund. General Fund expenditures are organized into over 30 separate, but often related, County functions. RPI analysts sorted these functions into 5 broader, but functionally distinct categories:

1. **Administration**, which includes the following:

- County Manager/Commissioner's Office
- Finance
- Planning and Building
- County Clerk
- Assessor

- Treasurer
- Surveyor
- Coroner
- D.A.

2. **Sheriff**, which includes:

- Law Enforcement
- Dispatch
- Emergency Services
- Fire Control

3. **Jail**

4. **Land Management**, a relatively minor category, includes:

- Extension Office
- Weed Management

3. **Other Miscellaneous General Fund Departments** includes several unrelated, difficult to classify general fund functions:

- Building and Grounds
- Contributions/Memberships
- Health Care
- Senior Fund Transfers
- Airport Subsidy

Classifying the general fund expenditures into these categories provides a framework from which to establish levels of service as they relate to demand units (e.g. housing units, population, non-residential sq. ft., etc.). Such classifications allow RPI analysts to project the cost *to the entire general fund* of maintaining service levels based on the proposed demand units in the Reserve at Pagosa Peak subdivision (housing units and population, in this case). Cost estimates for the entire general fund can then be compared to the total projected general fund revenue from The Reserve in a fiscal summary of general fund departments. This total general fund fiscal analysis is crucial because the revenues have sub-classifications, which do not relate line by line to the expenditures.

COUNTY ADMINISTRATION

Introduction

Incremental growth has impacts on County administration that are less obvious than those on other departments and districts, nonetheless impacts on administration are just as real and can affect the quality and efficiency of County services in significant ways. County administration is the headquarters for all County operations, and drops in service levels from the headquarters will ultimately affect the entire County. Undoubtedly more people and business activity create more demand for County administrative services. This increased demand translates into more staff, facilities, and equipment. We know that larger Counties, such as La Plata or Mesa County's, have larger administration staffs than smaller Counties (e.g. Mineral County or Dolores County). The key to maintaining a quality service level for administration is for the County to increase administration resources in proportion to the growth in population and business activity. Failure to maintain this proportionate increase will degrade the service levels for the entire County.

Methodology

The first step is to determine in what proportion the County's administrative resources are expended on the residential and non-residential sectors respectively. Having determined the residential and non-residential sector demand units, residential population and non-residential square footage are divided into the existing operational expenditures and capital facilities values to obtain an existing Level of Service (LOS) per demand unit.

Proportionate Share

Since administration expenditures consist of 9 sub-categories, calculating the proportionate share for administration required a conglomeration of several separate proportionate share calculations. See **Appendix** for a detailed derivation of the following proportionate shares for administration.

Figure 5. Administration Proportionate Share

Non-Residential Share of Demand	17%
Residential Share of Demand	83%

Administration Operations

Administration operations costs consist of the day-to-day tasks and materials needed to manage all of the County's services and facilities. The level of service is expressed in terms of administration staff and associated costs per 1,000 of peak residential population in the unincorporated county, and administration staff and associated costs per 100,000 sq. ft. of non-residential floor area in the unincorporated county.

Given the 37 person administration staff, the current demand units², and the 83/17 proportionate share between residential and non-residential demand for administration respectively, the County currently staffs .6 employees for each 100,000 sq. ft. of non-residential property in the unincorporated County and 2.3 employees per 1,000 full-time residents in the unincorporated County

The average annual cost of staffing one administration employee is \$54,931 when all costs including salary, benefits, supplies, and overhead are included.

Figure 6. Administration Operations LOS

2000 Administration Operations Cost	\$ 2,032,457
2000 Administration Employees	37
Cost per Administration Employee	\$ 54,931
2000 Administration Employees/1000 Residents	2.3
2000 Administration Employees/100k sq. ft. of Non Residential Development	0.6

In order to maintain this LOS for County administration for the projected 347 residential peak population in the Reserve at Pagosa Peak subdivision the Administration staffing will need to be increased by .8 FTEs, or just less than a full-time person, at a cost of \$43,085 annually.

Figure 7. Employees and Annual Cost to Maintain Current LOS for Administration Operations

Administration Employees Needed	Annual Cost
0.8	\$ 43,085

² See **Figure XX** in the section entitled Existing Conditions in Archuleta County and Special Districts for summary of year 2000 demand units.

Administration Capital Facilities

Capital facilities for administration consist primarily of the office space and associated public facilities necessary to manage the government. The most obvious way to determine space needs is by establishing a Level of Service in terms of space needed and cost per staff member. The larger the demand on the administration, the larger the staff and demand for public spaces, and consequently the more space is needed. Appendix II discusses in detail the method RPI used for establishing a Target Level of Service for administration facilities. Briefly, a consultant recently hired by the county generated a facilities master plan³ that evaluates county facilities needs and develops a program for achieving these needs. This thorough document formed the basis of the following Target LOS for administration capital facilities.

Figure 8. 2020 Target Facilities LOS

	Sq. Ft./Employee	\$/Employee
Administration	326	\$ 97,407

RPI established a target LOS based on the facilities master plan instead of a current LOS because, according to this facilities master plan, the current general fund facilities are inadequate and County officials aim to improve the current situation.

Given the target LOS for facilities per staff member and the .8 FTEs needed to maintain the current LOS for operations, The Reserve at Pagosa Peak's share of the cost of the necessary improvements to administration facilities is just over \$76,000.

Figure 9. Administration Capital Facilities

Target 2020 Sq. Ft./Employee	326
Target 2020 Facilities Cost per Employee	\$ 97,407
Cost of Facilities for Administration Employees Needed for Reserve at Pagosa Peaks Peak Residential Peak Residential Population	\$ 76,400

³ Archuleta County Government Center Facilities Master Plan, 2000, Daniel C. Smith and Associates, Denver.

Conclusions

- Maintaining the current level of service for administration for the proposed Reserve at Pagosa Peak at buildout will take two additional administration employees for an estimated cost of \$150,000 per year.
- The 'buy-in' cost for County Hall space for those employees is almost \$160,000.
- Failure to increase administration resources as Reserve at Pagosa Peak develops will result in a decline in the level of service for administration for the entire community.

ARCHULETA COUNTY SHERIFF'S DEPARTMENT

Introduction

The Archuleta County Sheriff's department, like other County services, must increase its resources as the County grows. The increase in demand for law enforcement is driven by two main trends: 1) growth in resident population and 2) growth in commercial activity. As the County develops and these demand units increase, the Sheriff's department will experience an increase in demand for law enforcement. If the number of officers and their support staff and facilities are not increased at a proportionate rate, the County will experience a decline in the Level of Service for law enforcement due to the fact that the department's resources will simply be spread too thin.

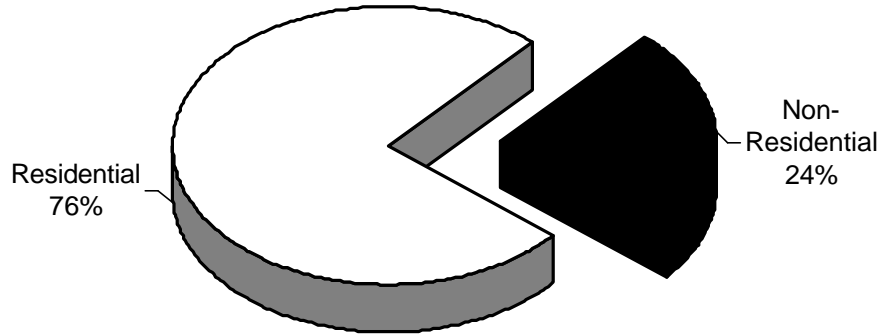
Methodology

The first step is to determine in what proportion the Sheriff Department's resources are allocated on the two demand generators; 1) residential population and 2) commercial activity. Then, the LOS for operations, in terms of officers per capita can be applied to the projected peak residential population at the Reserve at Pagosa Peak to determine the number of officers necessary and the associated cost of maintaining that level of service.

Proportionate Share

The Sheriff department's residential/non-residential proportionate share ratio was based on the ratio of peak residential population to jobs. Demand for law enforcement is affected both by peak population and commercial activity. In calculating proportionate share for the Sheriff's department, jobs are assumed to represent non-residential activity (commerce, institutional activity, and government functions) with one job representing the effective equivalent of one member of the full-time population.

Figure 10. Archuleta County Sheriff's Department Proportionate Share



Operations

There are 12 full-time law enforcement officers in the Sheriff's department. Given the operations budget, it costs an average of \$73,768 to staff a single officer (includes overhead, vehicle expense, dispatch, and support staff costs). Residential population generates 76% of the demand for law enforcement thus there is currently .7 officers per 1000 of peak residential population in the unincorporated County. Given the non-residential share of the demand, each 100,000 of non-residential sq. ft. in Archuleta County receives .3 of a FTE officer's time. The standard for police protection in municipalities is 2 officers per 1,000 of peak population. Archuleta County's LOS is substantially lower than the municipal standards

Figure 11. Sheriff Operations LOS

	Number of Officers
Total Full-Time Equivalent Officers 2000	12
Annual Operations Cost/Officer	\$ 73,678
Officers/1,000 Peak Residential Population	0.7
Officers/100k sq. ft. of Non-Residential Floor Area	0.3

In order to maintain the current LOS for the projected additional 374 people in the unincorporated County's peak residential population at The Reserve, the County will need to increase the law enforcement staff by .2 FTE's (about 8 hrs of an officer's time per week). This additional staff load, including overhead, vehicle expense, dispatch, and support staff costs, will cost an additional \$17,000+ per year.

Figure 12. Costs of Maintaining Current Archuleta Sheriff LOS

	Full-Time Officers	Annual Cost
Needed to Maintain Current LOS For Reserve at Pagosa Peak Population	0.2	\$ 17,102

Capital Facilities

Capital Facilities for the Sheriff's Department consist of the station facility, vehicles, and all other durable equipment. As with the administration's capital facilities analysis, rather than evaluating the current LOS for the Sheriff's Department, (deemed inadequate in a recent facilities master plan report⁴), RPI has chosen a **Target LOS** approach to calculating The Reserve's share of the capital facilities necessary to keep the Sheriff's department operating efficiently.

According to the Facilities Master Plan, the best solution for the Sheriff's Department's facilities needs is to construct a new Government Center, to remodel and add to the existing San Juan Complex in order to convert it to a justice center that would house the Sheriff's Department, Jail, Court, and associated services. **Appendix II** discusses in detail the method RPI used for establishing a Target Level of Service for Sheriff capital facilities. The appendix establishes a target LOS in terms of sq. ft. and cost per employee in the Sheriff's department.

Currently, the Sheriff's department staffs 1.6 FTE's per 1,000 of peak residential population (includes officers, support staff, and dispatchers). Given the 374-person addition to the peak residential population from the Reserve, the total staffing requirements of maintaining the current LOS are .6 of an FTE's time. The target LOS for facilities space per employee is 129 sq. ft. per staff member at a cost of \$19,812. Thus, the space in the contemplated justice center for the .6 Sheriff's department employees needed to maintain the current operation LOS for operations will cost just over \$11,000.

⁴ Archuleta County Government Center Facilities Master Plan, 2000, Daniel C. Smith and Associates, Denver.

Figure 13. Sheriff Capital Facilities

Target 2020 Sq. Ft./Employee	129
Target 2020 Facilities Cost per Employee	\$ 19,812
Employees Needed for Pagosa Peaks Population (includes support staff and dispatchers)	0.6
Cost of Facilities for Sheriff Employees Needed for Reserve at Pagosa Peaks Population	\$ 11,157

ARCHULETA COUNTY JAIL

The Archuleta County Jail experienced a 124% increase in bookings between 1991 and 1998⁵. This reflects the fact that as the County grows, so do the number of offenses that lead to jail time. This section looks at the current operations LOS for the jail and the cost of maintaining the current LOS given the additional full-time population in the Reserve as well as assessing the additional capital facilities made necessary by the additional demand.

Operations

Jail operations costs are related to the number of people, on average, that are in jail. A good way to express this is in terms of average daily population. In 2000, the average daily population in the jail was 25 people⁶. Given the permanent population of nearly 10,000 in 2000 all of Archuleta County, this means that there are roughly 2.5 people in jail for every 1,000 residents.

Figure 14. Jail Population Figures

Jail Average Daily Population	25
Entire Archuleta County Full-Time Population	9898
Jail Average Pop/1000 Full-Time Population	2.5

Assuming the jail population increase with the permanent population, the 265 permanent residents at the reserve would generate an additional .7 of average daily jail population. It costs \$21,426 per capita of jail population to operate the jail, so maintaining the current LOS for the .7 additional jail population resulting from the population at The Reserve will cost \$14,000 + annually.

⁵ Archuleta County Government Center Facilities Master Plan, 2000, Daniel C. Smith and Associates, Denver.

⁶ Ibid.

Figure 15. Jail Operations LOS and Cost for The Reserve Population

Reserve at Pagosa Peak Full-Time Population	265
Potential Average Jail Population from Reserve at Pagosa Peaks	0.7
Cost per capita of Average Jail Population	\$ 21,426
Cost for Reserve at Pagosa Peaks Potential Jail Population	\$ 14,375

Capital Facilities

The facilities master plan referred to throughout the general fund department analyses also includes plans for an expanded jail. The target LOS for the jail is 188 sq. ft. per capita of average jail population at a cost of nearly \$29,000. Therefore, the capital facilities cost of increasing the average daily population by .7 totals over \$19,000.

Figure 16. Jail Capital Facilities Costs

2020 Sq. Ft./Average Jail Population	188
2020 Cost/Capita of Average Jail Population	\$ 28,782
Cost for Reserve at Pagosa Peaks Average Jail Population Jail Space	\$ 19,310

LAND MANAGEMENT

Archuleta County extension services and weed management are combined together into the land management category of the general fund. The majority of the costs considered in this analysis are for the County's share of the extension service (CSU covers the extension agent's salary). As the County continues to develop, the demand for extension services increases. Rural residential development, in particular, generates an increased demand for advice on gardening, soils, grazing practices, 4-H programs, etc.

Furthermore, the continuing pattern of converting former agricultural lands, primarily pastures and hay fields, into residential subdivisions and commercial developments has been linked by State experts to a worsening noxious weed infestation that threatens to push out important native species and some vulnerable cultivated species. The weed management service,

although often overlooked, will continue to be a necessary part of the continued agricultural viability and ecological health of Archuleta County.

Operations

Currently, the land management functions cost the County over \$130,000 per year. The extension service also receives funding from CSU and the federal government. This analysis is based on the assumption that as the cost of providing extension services increases, all the funding sources will maintain proportionate shares of the cost. Both residential and commercial developments generate demand for Extension and Weed Control services.

The number of structures (both residential and non-residential) is a good measure of the total amount of development, and consequently the operations LOS for land management is best expressed in terms of expenditures per structure.

Figure 17. Archuleta Land Management Operations LOS

Current Annual Cost for Land Management Services	\$ 130,198
Current Residential Units in Entire County	6,212
Current Non-Residential Structures in Entire County	627
Total Structures in Entire County	6,839
Land Management Operations Annual Cost per Structure	\$ 19

It will cost \$2,665 per year to maintain the current LOS of \$19/structure/year for land management for the additional projected 140 residential units at The Reserve.

Figure 18. Cost of Maintaining Current LOS for Land Management Services

Effective Structures in Reserve at Pagosa Peaks	140
Annual Cost for Land Management Services	\$ 2,665

Capital Facilities

Currently, the extension office is in the County fairgrounds building while the weed management department is located at the road and bridge facility. Due to the fact that the land management entities are located in separate places and that they were not considered in the facilities master plan study referred to throughout this report, RPI used a standards based approach to estimate office space needs for these entities.

Figure 19. Land Management Capital Facilities

Office Space Minimum Standard Space/Employee		150
Cost/Sq. Ft.	\$	120
Projected Increase in Staff Needed to Maintain the Current LOS for The Reserve		0.1
Capital Improvements Cost for The Reserve	\$	1,800

The increase in costs for land management will mean the addition of .1 of an FTE/week, or 4 hrs of one person's time per week. Given the minimum standard of 150 sq. ft. per employee, and an average cost of \$120/sq. ft. for non-residential construction, the Reserve's share of the incremental expansion of office space is \$1,800.

OTHER MISCELLANEOUS GENERAL FUND FUNCTIONS

Other Miscellaneous General Fund Departments includes several unrelated, difficult to classify general fund functions:

- Building and Grounds
- Contributions/Memberships
- Health Care
- Senior Fund Transfers
- Airport Subsidy

While the LOS figures for these functions are all calculated separately along with the cost of maintaining that LOS given the 140 units in The Reserve, the totals are aggregated for simplicity's.

Operations

Figure 20 summarizes the calculations for determining the LOS and the cost of maintaining that LOS for The Reserve. All but one of the miscellaneous department's functions' LOS calculations is expressed in terms of expenditures per capita of peak residential population. Peak residential population (as opposed to full-time population) is the appropriate demand unit here because these services are affected by part-time and full-time residents alike. Building and grounds LOS was expressed in terms of the annual expenditures per sq. ft. of County facilities. In other words, as the

amount of County facilities increases so will the workload of the building and grounds manager. The cost of maintaining that LOS for The Reserve was obtained by multiplying the LOS by the number of sq. ft. of county facilities needed to maintain the current LOS for capital facilities for all County departments included in this study.

Figure 20. Other Miscellaneous General Fund Department Operations LOS

	2000 Expenditures	Demand Units	2000 Demand Units	Cost per Demand Unit (LOS)	Reserve at Pagosa Peaks Demand Units	Cost to Maintain Current LOS for The Reserve
Airport Subsidy	\$ 82,743	Population	15,406	\$ 5.37	347	\$ 1,864
Building & Grounds	\$ 177,230	Facilities Sq. Ft.	38,658	\$ 4.58	455	\$ 2,086
Contributions	\$ 65,378	Population	15,406	\$ 4.24	347	\$ 1,473
Health Care	\$ 61,039	Population	15,406	\$ 3.96	347	\$ 1,375
Veterans Service	\$ 27,980	Population	15,406	\$ 1.82	347	\$ 630
Transfer to Senior Fund	\$ 36,715	Population	15,406	\$ 2.38	347	\$ 827
Total	\$ 451,085					\$ 8,255

Capital Facilities

Veterans services, buildings, and grounds were the only functions for which RPI could reasonably calculate the incremental facilities cost of The Reserve. The facilities needs were assumed to increase in proportion to the increase in operations costs.

Figure 21. Capital Improvements for Other Miscellaneous General Fund Department Facilities

Dept.	% Increase in Operations	Current Sq. Ft.	Cost
Veterans Services	2%	268	\$ 724
Building & Grounds	1%	769	\$ 1,086
Total			\$ 1,811

GENERAL FUND REVENUE PROJECTIONS

Annual General Fund Revenues

Annual General Fund Revenues generated by The Reserve at Pagosa Peak can be broken into seven main revenue types:

1. Sales tax (generated by resident spending)
2. Property tax (revenue collected on the County's general mill levy)
3. Other local taxes (mostly consisting of tax applied to vehicle registrations)
4. State taxes (in this case, cigarette tax)
5. Fees and fines (County Clerk fees, court fines, jail fees, charges for services and products, Treasurer fees, etc.)
6. Other misc. revenue (includes delinquent tax fines, investment interest, reimbursements, etc.)

The following figure summarizes the projected annual revenue by type. See **Appendix III** for a detailed description of the methods and calculations of these annual revenue projections.

Figure 22. Reserve at Pagosa Peak Annual General Fund Revenue Projection

General Fund Sales Tax	\$	24,878
Property Tax	\$	36,319
Other Local Tax	\$	9,208
State Taxes	\$	144
Fees and Fines	\$	6,474
Other Misc. Revenue	\$	3,031
Total	\$	77,022

Note: The \$24,878 in sales tax is half of the total sales tax generated by The Reserve. The other half goes directly into the Road and Bridge capital improvement fund.

One-Time Revenue During Buildout of The Reserve

The County will collect (or already has collected) planning and zoning fees, building permit fees, and access permit fees as The Reserve builds out. It is important to distinguish between these one-time revenues and the other annual revenues summarized above. Based on methods and calculations all

described in detail in **Appendix III**, those one-time revenues will total nearly \$80,000. **Figure 23** provides a breakout of these one-time fees.

Figure 23. One-Time During Buildout Fees

Building Permit Fees	\$ 71,086
Access Permit Fees	\$ 100
Planning/Plat Fees	\$ 8,505
Total	\$ 79,691

RESERVE AT PAGOSA PEAK FISCAL SUMMARY: THE BOTTOM LINE

This final step in the County general fund development impact analysis of Reserve at Pagosa Peak compares the cost of maintaining the existing level of service to projected revenues. Just as in the rest of the analysis, the annual operations fiscal summary is separated from the capital improvements fiscal summary. **Figure 24** summarizes the costs of maintaining the current level of service for all general fund functions broken into annual operations costs and one-time capital improvements costs.

Figure 24. Total Operations & Capital Costs of Reserve at Pagosa Peak

Department	Annual Operations Cost of Maintaining Current L.O.S. for Reserve at Pagosa Peak	One-Time Capital Improvements Cost of Achieving Target L.O.S. for Reserve at Pagosa Peak
Administration	\$ 43,085	\$ 76,400
Sheriff (Law Enforcement)	\$ 17,102	\$ 11,157
Jail	\$ 14,375	\$ 19,310
Land Management	\$ 2,665	\$ 1,800
Other Departments	\$ 8,255	\$ 1,811
Total	\$ 85,482	\$ 110,478

Annual general fund operations revenue from Reserve at Pagosa Peak will fall short by about \$8,460 annually of covering the cost of maintaining the current operations LOS for general fund departments. If tax rates remain the same, and no additional revenue mechanisms are applied, the community will experience a decline in the level of service for general fund operations as Reserve at Pagosa Peak builds out. Revenues fall short of covering the operations cost by 10%, a fairly modest shortfall margin.

Functionally, a ten percent decline in the level of service will be relatively difficult to detect. However, in many ways, The Reserve at Pagosa Peak development typifies the residential growth that has been occurring in the Pagosa Lakes area over the past decade. For this reason, it is reasonable to assume that each unit that gets built in existing or new subdivisions generates similar general fund shortfalls. The additive incremental effect of these shortfalls WILL eventually affect service levels in Archuleta County in meaningful ways over time (e.g. if LOS drop by 20-30 percent on roads or in the sheriff's department).

Figure 25. Reserve at Pagosa Peak General Fund Operations Summary

Annual Operations Costs to Maintain Current LOS	\$	85,482
Annual General Fund Operations Revenue	\$	77,022
Annual Shortfall to Maintaining Current LOS	\$	(8,460)

The projected *annual* general fund revenue generated by The Reserve provides no funding for \$110,478 worth of one-time capital improvements costs. However, the project will generate almost \$80,000 in *one-time* revenues during buildout (i.e. building permits, planning fees, and access permits). While money is often transferred out of the general fund to pay for capital improvements, the current budget structure does not specifically earmark these fees for capital expansions.

It is likely that these one-time revenues will simply 'wash' into the general fund operating budget, not resulting in specific expansion of capital facilities. However, since the capital improvements are one-time costs and the fees are one-time revenues, it is reasonable to compare the two.

Fees collected during buildout, if directly applied to funding capital improvements, would yield almost \$80,000, falling short of covering the cost of general fund capital improvements by just under \$31,000. Under the current revenue structure, the development of 140 units at Reserve at Pagosa Peak will increase demand on the already strained San Juan complex (aka; 'the Courthouse') without providing the full amount of funding necessary to improve the facilities to meet the demand.

Figure 26. Reserve at Pagosa Peak Annual General Fund Capital Facilities Fiscal Summary

One-Time Capital Facility Costs	\$	110,478
One-Time During Buildout General Fund Revenues	\$	79,691
Shortfall	\$	(30,787)

General Fund Recommendations and Conclusions

The projected shortfalls above signal an important decision point for the County:

Continue an incremental decline in the level of service for general fund operations and capital facilities

-or-

Find ways to modestly increase revenues generated by development

While this analysis deals specifically with the impacts of one residential subdivision on County general fund functions, the conclusions are more broadly applicable to County development in general. Because the Reserve is a luxury subdivision, it will tend to generate more revenues than less expensive subdivisions, particularly in property taxes, permit fees, and sales tax generation. Thus, Pagosa Peaks may represent a nearly best case scenario for residential subdivisions in general.

Due to the operations shortfall and continuing modest, incremental losses on subdivisions within the county, the following revenue strategy's should be considered.

Operations

The general fund operations revenue shortfalls projected for The Reserve do not mean that the County is headed for immediate fiscal adversity, but they do mean that the Levels of Service for general fund operations are in jeopardy of experiencing moderate and steady declines as the County develops.

Funding mechanisms to mitigate LOS declines might include:

1. Raising existing tax rates
2. Finding other funding sources

Raising Tax Rates

Under Colorado taxation laws, raising property and/or sales taxes can be difficult as they require public votes. It may be particularly difficult to initiate a County sales tax hike and sell it to the City voters.

Nonetheless, it is worth calculating the tax rates that would be necessary to make the relatively high-end Reserve at Pagosa Peak generate enough revenue to avoid drops in general fund service levels. A .35% hike in sales tax dedicated to the General Fund would take care of the \$8,460 operations shortfall. Achieving this same result with property taxes would require a mill levy increase of 3 mills over the current 12.933 mills. A combination of the two would also work to eliminate the shortfall (a .17 sales tax increase and 1.5 mill levy increase, for instance).

Raise Existing Fees and Fines

Archuleta County has a fairly extensive fee structure for general fund services that range from charges for copies to traffic violation fines. Since the County has 'de-bruced' from the TABOR limits on overall spending, one possibility is to raise the fees. A 10% hike in fees and fines across the board (for treasurer fees, building permits, fines, court costs, all fees and fines) would generate another \$8,000 during buildout in building permit and planning and zoning fees alone. Assuming a 10 year buildout, the \$8,000 in building permit and planning and zoning fees would bring in an average of \$800/yr, which, combined with an additional \$700/yr from other fees and fines generated by The Reserve totals \$1,500 in additional revenue per year, making up 18% of the projected shortfall (at least for the first 10 years). While fee hikes would not cover the entire shortfall, this 'quick fix' increase will help.

Capital Facilities

The fiscal summary concludes that the current revenue structure generated by The Reserve leads to capital facilities shortfall of nearly \$31,000. However, this calculation was based on the assumption that the one-time revenues from building permit and planning/zoning fees would be used to pay for the one-time capital improvements. In reality, there will be no such direct link between the one-time revenues and costs. In practice, general fund budgeting is usually quite flexible and the one-time revenues from building permits and zoning fees may very well get spent on the salary of a deputy sheriff or to subsidize another department or County entity.

Consider the consequences if the money never gets spent on the needed capital facilities. A decline in the LOS for facilities resulting in cramped

working conditions leading to inefficiencies, sub-par public spaces and meeting rooms, inadequate law enforcement and jail facilities.

The general fund does pay for a significant amount of capital improvements. **Figure 27** summarizes the general fund expenditures on capital improvements from 1998-2001. These figures are transfers into the capital improvements fund, from which all capital improvements (except for some Road and Bridge improvements) in the County are funded. Thus, the \$1.5 million total was not necessarily spent for capital facilities needed by general fund departments.

Figure 27. Capital Improvements Spending

Year	Transfers from General Fund to Capital Improvement Fund
1998	\$ 750,000
1999	\$ 56,615
2000	\$ 479,788
2001	\$ 217,014
Total	\$ 1,503,417
Average Annual	\$ 375,854

The danger is that new development will occur, generating demand for additional capital facilities, which will not be accomplished. While there is nothing wrong with funding capital improvements out of the general fund, RPI recommends that the County monitor development to anticipate demand increases and try to maintain the link between development generated revenues and development generated costs. One way to accomplish this goal while buffering the general fund from big capital expenditures is to impose impact fees to help pay for the needed capital facilities.

Government Facilities Impact Fee

Impact fees are designed to charge new development its fair share of capital facilities that are made necessary by that development. If Archuleta County possessed an impact fee that could be levied on The Reserve, it could cover the entire cost of the government facilities needed by that development. And all of the revenues from sales tax, property tax, fees and fines, etc. could be spent on operating expenses. Impact fee revenue tends to buffer the operating budget from costly capital improvements that can set the operations LOS back.

An impact fee to cover capital facilities costs at the reserve would be roughly \$700 per residence—a modest sum, particularly when amortized over the course of a typical 30-year mortgage.

Impact fees re-direct some of the fiscal burden of developing new capital facilities and infrastructure needed for new development away from the taxpayers at large and more directly towards the development generating the need for the expanded capital facilities in the first place. One characteristic of impact fees that make them particularly attractive in the anti-tax climate dominating Colorado is that their imposition does not require a public vote.

While impact fees can serve an important role in financing public infrastructure, they are subject to several limitations and restrictions. Case law dictates that governments or districts can only use impact fees for building capital facilities capacity made necessary by new development and that can be shown to benefit that development. They may not be used for existing deficiencies or operations. Funds from impact fees must be 'earmarked' for defined capital improvements. Impact fees are also subject to rigorous legal standards: demonstration of need, rational nexus, and rough proportionality. Until recently there was no specific enabling legislation in Colorado for impact fees, but the recently enacted SB 15 specifically authorizes that Counties have the authority to impose impact fees.

All of the limitations and restrictions can be addressed in a rigorous impact fee support study. A thorough impact fee support study would also include a cash-flow summary that would help County officials determine, in advance, the amount of revenue an impact fee could generate.

An impact fee for helping to fund a Government Center and Justice Center would be, if well conceived, a perfectly legitimate use of this increasingly useful funding mechanism.

ROAD AND BRIDGE

Introduction

Increased traffic is one of the most noticeable effects of growth, particularly considering the geographic constraints to the flow of traffic in Archuleta County. New land uses nearly always cause new traffic. When someone builds a home on a previously vacant residential lot, additional traffic is generated by the residents in the house, whether they are full or part-time. If a Town does not have a grocery store, and one moves in, it will produce traffic where none existed before. The incremental increase in land uses in turn leads to an incremental increase in traffic.

Land uses require site-specific improvements to accommodate on-site traffic, however, they also contribute to impacts on the overall roads system by adding more to the total traffic in the County. This incremental addition of more traffic to a road system will eventually lead to the need for road capacity improvements at key intersections and roads throughout the County in addition to increasing the need for maintenance.

Archuleta County's road system's main function is to get vehicles from the dispersed development back and forth from the Highways, which constitute the arteries of the road system. The purpose of this analysis is to estimate how much it will cost for maintenance and road capacity improvements to get the traffic in The Reserve at Pagosa Peak back and forth from Highway 160. These costs are then compared to the Road and Bridge revenue generated by the development. Many of the numbers used in this analysis are based on traffic engineering documents that specifically address The Reserve at Pagosa Peak and the County roads that service it.

Current Traffic and Projected Traffic for Reserve at Pagosa Peak

Impacts on roads or intersections are directly related to traffic flows. There are several ways to describe traffic flows: peak hour volumes, vehicle miles traveled, and Average Daily Vehicle Trip⁷ (ADT) are among the most common. Average Daily Trips (ADT) are used as the primary measure of traffic in this analysis.

Recently, the County road and bridge department measured traffic on several County roads, including Piedra Road (the road on which The Reserve at Pagosa Peak is located) and North Pagosa Blvd. (an alternate route to Highway

⁷ An Average Daily Vehicle trip is the average number of times a car passes over a single line across a road in either direction in one day.

160). Mechanical traffic counters measured total trips⁸ on a busy July day, arguably, the busiest month in Archuleta County. A busy day was chosen because all traffic analysis should be based on peak flows. This helps to ensure that the traffic system does not fail when the most cars are using it.

In order to perform the following calculations, it was necessary to project the traffic counts to 2020. Since the development on both Piedra and North Pagosa Blvd. Is, and will be, dominantly residential development, (generally, residential traffic increases in proportion to the number of residences)⁹, the traffic flows were projected using the residential unit growth rate in the unincorporated County between 1990 and 2000.

Figure 28. Observed Traffic Counts

Road Section	Trips 7/17/2000	2020 Projection
Lower Piedra	3,309	5,801
Upper Piedra	1,056	1,851
N Pagosa Blvd (.2 miles from 160)	5,896	10,336

One single-family residence, according to the ITE¹⁰, produces 9.57 average daily trips. Given the 140 units at The Reserve, the subdivision will produce 1,340 average daily trips¹¹ (ADT). The directional distribution of the subdivision-generated traffic in the impact report submitted for the subdivision review process (Reserve at Pagosa Peak Traffic Impact Study, Bechtolt Engineering, June, 2001) provided the basis for determining how many daily trips would connect with the highway **(See Appendix IV)**.

⁸ The number of times a vehicle passed over a single line across a road in either direction in one full day (24hrs).

⁹ Institute of Transportation Engineers Trip Generation Manual, Sixth Edition, 1997

¹⁰ Institute of Transportation Engineers Trip Generation Manual, Sixth Edition, 1997

¹¹ This is a higher number of ADT than that contained in the Reserve at Pagosa Peak Traffic Impact Study, Bechtolt Engineering, June, 2001. The Bechtolt report applies a 'recreation home' trip generation rate of 3.16 to 36 of the 140 units in the subdivision, where this analysis uses the standard 9.57 trips applied to all units. The justification for use of the recreation home trip generation numbers is that part-time residences are not always occupied, and thus produce less traffic. The problem with this logic, in the context of traffic impact analysis, is that part-time residences tend to be occupied at the same times during the year (summer, Christmas, and spring break). In other words, part-time residents tend to come to their homes at the same time. This has the effect of producing peak traffic from a subdivision which is mixed part-time and full-time residences that is the same as if the subdivision were entirely full-time residences. Since road systems need to be designed to meet peak traffic demand, a better approach is to assume that all of the homes could be occupied at one time, and thus use the standard 9.57 ADT figure.

Figure 29. Reserve at Pagosa Peaks Traffic Generation at Full Buildout

Single Family Residences	140
ITE Rate for Single Family Residence	9.57
Total Average Daily Trips	1,340
Lower Piedra	943
Upper Piedra	161
N Pagosa Blvd	236

Operations and Maintenance

Maintenance costs generated by new development are related to three main factors:

1. Length of road servicing the development
2. Type of road servicing the development (gravel, pavement, 2-lanes, 4-lanes)
3. Amount of traffic generated by the development

The roads under consideration in this analysis include Upper Piedra, which begins north of the subdivision; Lower Piedra, connecting the subdivision with highway 160; and N. Pagosa Blvd, an alternate route to highway 160 and shopping centers. Upper Piedra is paved for a short length, and then turns to gravel; Lower Piedra is 2-lane pavement; and N. Pagosa Blvd. is 2-lane pavement as well.

Figure 30. Road Mileage Figures

Mileage on Upper Piedra Rd	6
Mileage on Lower Piedra Rd.	5.7
Mileage on N. Pagosa Blvd.	7.14

A 1998 report from the Road and Bridge director to the Commissioners regarding the road and bridge mill levy outlined the costs of maintaining certain types of roads per mile per year. These costs were comprehensive and included all expenses (equipment, labor, material) except administration. The 1998 costs were adjusted to 2000 real dollars using a standard inflation factor.

Figure 31. Maintenance Costs/Mile 2000

Type	Cost/Mile/Year
Gravel	\$ 6,195
Chip-Seal	\$ 4,673
Asphalt	\$ 13,577

To estimate administration costs per mile, the 2000 road and bridge administration budget was divided by the miles of County roads in 2000.

Figure 32. Administrative Cost/Mile 2000

Administrative Budget (full staff)	\$ 415,418
Miles of Roads	447
Administration Cost/Mile	\$ 930

Given these costs, and the observed traffic counts on the three road sections under consideration in this analysis, we established a maintenance cost per ADT for each road¹². Applying these costs to the ADT generated on each road from The Reserve at Pagosa Peak yields a total of \$29,500 per year for maintenance costs generated by The Reserve.

Figure 33. Operations and Maintenance Costs

Current Cost Per ADT for Maintaining Lower Piedra and N Pagosa Blvd.	\$ 20
Current Cost Per ADT for Maintaining Upper Piedra Road	\$ 35
Annual Maintenance Cost for Reserve Traffic	\$ 29,516

Capital Improvements

The basic approach used in this analysis for assessing capital improvement needs is to estimate, based on traffic flow, The Reserve's share of the cost of eminent and future capital improvements to Upper and Lower Piedra Road and N. Pagosa Blvd and their intersections with Highway 160. The capital improvements also include incremental expansion to the Road and Bridge facility made necessary by the overall increased demand on the department.

¹² Cost per ADT=((road section mileage * (maintenance cost/mile + admin cost/mile))/observed ADT on road section)

Needed Improvements and Total Cost

Archuleta County hired Bechtolt Engineering in 1997 to conduct a comprehensive study identifying current capital improvements needed throughout the entire roads system and the future needs based on traffic projections on various County roads. **Figure 34** lists the capacity related improvements to the roads and intersections serving The Reserve. The most notable improvements are the 4-laning of Lower Piedra Road and the 4-laning of N. Pagosa Blvd. from Pagosa Lakes to Highway 160.

In short, the traffic levels projected by Bechtolt in the 2020 report make 4-laning of these road sections necessary to maintain (or, in some cases, to achieve) level of service C, the recommended service level for Archuleta County Roads. 4-laning a 2-lane section of road is expensive, and Bechtolt's nearly \$14 million estimate for doing so to sections of N. Pagosa Blvd. and Upper Piedra Rd. reflects this reality. Bechtolt calculated the costs using standard engineering information. The report also calls for paving Upper Piedra Rd. and signalization at the intersections of both roads with highway 160, which is currently underway¹³.

Figure 34. Capital Improvements from 1997 Bechtolt Report

Road Section	Cost of Improvements Needed for 2020 Traffic Projections (2001\$)
Lower Piedra Road 4-Lane	\$ 6,065,419
Piedra-SH160 Intersection	\$ 650,000
Upper Piedra Road Improvements	\$ 4,960,724
N. Pagosa Blvd. 4-Lane from Pagosa Lake to SH 160	\$ 7,755,449
N. Pagosa Blvd. - SH160 Intersection	\$ 300,000
Total	\$ 19,731,592

These road improvements and costs are largely derived from traffic engineering standards, which, in practice are always adapted to fit local conditions and goals. However, the information provided in the 1997 Bechtolt report is a perfectly adequate starting place for assessing the cost of capital facilities needs as they relate to forthcoming development.

¹³ The signalization is already underway. Piedra Rd-160 already has a traffic light, and N. Pagosa Blvd. is slated for the summer of 2002. The costs of these projects were obtained directly through the CDOT office. In reality, CDOT covers most of the costs of intersection improvements, but they are included here to account for the full cost of necessary improvements. The Piedra Rd. signalization was included even though it has already been constructed in order to estimate how much it costs for The Reserve to buy-in to the capacity created by those improvements.

Allocating the Costs to Development

The improvements recommended in the 1997 Bechtolt report are based on 2020 traffic flow estimates. At the time, Bechtolt did not have any observed traffic counts to work with, consequently the base year traffic flows and projections were based on estimates. Estimated base year flows are higher than the actual, measured 2000 flows presented above. However, while these estimates may not be accurate for the year 2020, they are still important and useful. The Bechtolt 2020 traffic estimates essentially represent the capacity of the roads once they receive the recommended improvements. Essentially, the report concludes that in order to serve X number of trips the County needs to do Y improvements.

Figure 35 outlines the proportion of Bechtolt's 2020 traffic flow estimates that will be generated by the Reserve.

Figure 35. Share of Capacity of Roads after Prescribed Improvements Used by Reserve at Pagosa Peak

Road Section	% of Capacity Used by The Reserve
Lower Piedra Rd	4.8%
N. Pagosa Blvd.	1.6%
Upper Piedra Rd	9.4%

It follows that the Reserve should be assessed for improvements proportional to the capacity of the road utilized by the development (**figure 35**). **Figure 36** quantifies these costs.

Figure 36. Reserve at Pagosa Peak's Share of Prescribed Capacity Related Road Improvements

	Total	Per Residential Unit
Lower Piedra Rd	\$ 323,615	\$ 2,312
Upper Piedra Rd	\$ 465,868	\$ 3,328
N. Pagosa Blvd.	\$ 129,881	\$ 928
Total	\$ 919,364	\$ 6,567

The far right column lists the cost per residential unit for the improvements on each road--\$6,567 per residential unit. Interestingly, associates of Bechtolt (Four Corners Planning) conducted a similar analysis of the cost of all capital improvements needed throughout the County (not just on three road sections) and concluded that capacity related road improvements cost ~ \$5500 per residential unit. The cost for units in The Reserve are probably higher because the road improvements needed, (four-lane paving and major

intersection improvements), are more expensive than the improvements needed, on average, throughout the County.

The Road and Bridge Facility

A capital improvement, often overlooked in the context of road and bridge impacts, is the Road and Bridge facility itself. Because most of the road and bridge staff time is spent on operations and maintenance (most major improvement projects are contracted out) it follows that the demand for space in the facility increases with the volume of operations and maintenance occurring in the department. The Reserve at Pagosa peaks will generate additional maintenance amounting to a 1.6% increase. 1.6% of the current square footage is 127 sq. ft., which assuming a standard development cost of \$140/sq. ft. amounts to a total cost of \$17,790 in facilities space.

Figure 37. Road and Bridge Facility Costs

Increase in Operations due to Reserve at Pagosa Peaks	1.6%
Proportionate Increase in Rd. and Br. Facility Sq. Ft.	127
Rd. and Br. Facility Replacement Cost/Sq. Ft.	\$ 140
Cost of Additional Sq. Ft.	\$ 17,790

Road and Bridge Revenues

Road and bridge has four types of funding for operations and separate earmarked sales tax funding for capital improvements. The revenue projections for Road and Bridge were conducted using methodology closely related to that used for projecting General Fund revenues. Road and bridge has a mill levy, so annual property tax revenues generated by The Reserve are included in **Appendix Figure 5** with accompanying description of methodology. Revenue generated from other local tax, state tax, and federal funding was estimated using the same methodology described in **Appendix III, Other County General Fund Revenue Sources**, and the summary table listing these sources line by line is in **Appendix IV, Appendix Figure 11**. Altogether, the annual operations revenue generated by The Reserve at buildout amounts to almost \$25,000/yr.

Figure 38. Road and Bridge Fund Annual Operations Revenue from Reserve at Pagosa Peak

Property Tax	\$ 9,829
Other Local Tax	\$ 2,314
State Taxes	\$ 9,571
Federal Funding	\$ 3,223
Total	\$ 24,937

Road and bridge receives half of the County sales tax (1%) specifically earmarked for capital improvements. As established in **Appendix III, Figure 6**, the total annual sales tax revenue= \$49,756 with the road and bridge portion being \$24,878.

Figure 39. Road and Bridge Capital Improvements Revenue

Sales Tax	\$ 24,878
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ROAD AND BRIDGE FISCAL SUMMARY: THE BOTTOM LINE

Operations and Maintenance

The operations and maintenance revenue generated by The Reserve falls short of paying for the maintenance and operations costs by over \$4,500 per year. This is a moderate shortfall (15%), but as more and more residences develop, the affect will be additive. A mill levy increase of 1.6 mills for a total mill levy of 5.1 would increase revenue enough to meet costs. A mill levy increase could be offset slightly by an increase in vehicle registration fees.

Figure 40. Road and Bridge Fiscal Summary for Operations and Maintenance for Reserve at Pagosa Peak

Operations and Maintenance Costs	\$ 29,516
Road and Bridge Fund Revenues from Reserve at Pagosa Peak	\$ 24,937
Annual Shortfall	\$ (4,579)

Capital Improvements

It will take 38 years for the annual sales tax revenue generated by The Reserve earmarked for Road and Bridge capital improvements to pay for the nearly 1 million dollars of capital improvements needed to provide adequate road capacity (**Figure 41**). This may be a longer time frame than the life of the subdivision.

Figure 41. Road and Bridge Fiscal Summary for Capital Improvements

Total Capital Improvements Needed for Reserve at Pagosa Peak	\$	937,154
Annual Capital Improvements Revenue	\$	24,878
Years to Pay for Capital Improvements		38

Conclusions and Recommendations

A, a joint County-City road impact fee would help fund the capital improvements needed to accommodate new development (see description of impact fees on page XX). Impact fee revenue, combined with the sales tax revenue earmarked for capital facilities would provide an adequate income stream for roads capital improvements. A countywide impact fee of even half of that recommended in the Bechtolt Report (\$2,750) would, if applied to every residence in the County, bring in about \$500,000 per year in revenue for capital improvements if growth continues at the rate it did in the 1990s.

A new capital improvements revenue source of this magnitude could actually help avoid operating shortfalls like those projected for The Reserve. Of course, the impact fee revenues could not be used for operations and maintenance, but they might buffer the road and bridge fund from a portion of the capital improvements that it has funded in the past. In recent years, the road and bridge fund has transferred at least \$100,000/year into the capital improvements fund, despite the fact that there is a separate fund for road and bridge capital improvements. Additional revenue of \$500,000 per year might eliminate the need for such transfers, thus allowing those funds to be used for road and bridge maintenance and operations.

PARKS & OPEN SPACE

Introduction

Acquiring and maintaining public parks and open space can be an important part of community development. In some ways Archuleta County can be said to have a high level of service with regard to parks and open space because Federally designated national forests and wilderness areas surround the County and it is within a relatively short driving distance of several national parks, monuments, and wilderness areas.

However, developing open space and parks within a County can help to not only create inviting spaces but also may serve as valuable land use tools. While this report uses a standard based methodology to generate a hypothetical parks system for Archuleta, it is recommended that the County employ the survey techniques advocated by the National Parks and

Recreation Association to assimilate its own comprehensive parks Master plan if an acquisition campaign is seriously considered. Working through a park comprehensive planning process facilitates the communities understanding of its needs, wants, and actual current patterns of use. A comprehensive planning document is also a powerful tool with which to pursue the large grants that parks acquisitions costs typically demand.

Methodology

Because there is not currently a formal system of parks and open space, RPI used the technique of analog communities to produce an initial framework for a parks and open space system in Archuleta County. Analog communities (also known as case study) methodology has two distinct benefits, particularly with regard to the generation of parks/open space systems.

First, the technique allows potential developers of a park system to visit a neighboring community and experience their system first hand. This is the ultimate qualitative evaluation of park system numbers. For this report, RPI used a blend of the park systems of several Southwestern Colorado jurisdictions as well as national standards.

Second, this technique helps towns acquire relatively accurate ongoing maintenance costs – which are a critical, although often overlooked, consideration when deciding on the level of park infrastructure to develop. Having noted the need for a comprehensive planning document, RPI has generated a very coarse outline of a hypothetical parks system and the attendant costs of acquisition and the ongoing maintenance obligations. Please note that acquisition costs have two components. First the land must be purchased and second amenities need to be developed. Frequently the amenities include the building of ball fields, sprinkler systems, picnic benches, restrooms etc...

RPI's acquisition costs are based on actual real estate prices as quoted to us by local realtors, however the County may find these prices to be somewhat high – RPI felt it would be better to err on the high side as real estate prices rarely decline in Colorado. It is important to note that parklands are often acquired either through donations, trades, or purchased with grant funds – so although the acquisition costs appear quite severe, there are a number of ways that these costs can be mitigated.

Figure 42 demonstrates the standard number of units that might be required per unit of population (e.g. 2.5 acres of community parks per thousand population). The units needed column uses this standard to achieve the quantity needed by Archuleta County given its current unincorporated

County population. The remainder of the chart is self-explanatory with the final grand total costs for acquisition and ongoing annual maintenance costs.

Figure 42. Proposed Park System + Costs

Park Facility	National/Regional Standards	Units Needed	Acquisition Costs per Unit
Community Parks	2.5 acres per 1000	21	\$ 30,000
Natural Areas/Open Space	1 acre per 1000	8	\$ 15,000
Trails	1.6 miles per 1000	13	\$ 63,565
Biking Trails/ 8' concrete	1.4 miles per 1000	12	\$ 127,129

Development Cost per Unit	Maintenance Costs/Unit	Total Capital Cost	Total Operations Cost
\$ 22,000	\$ 6,855	\$ 768,398	\$ 142,365
\$ -	\$ -	\$ 528,032	\$ -
\$ 3	\$ 167	\$ 844,890	\$ 2,215
\$ 147,840	\$ 1,500	\$ 3,197,838	\$ 17,445

Grand Total Capital	\$ 5,339,157
Grand Total Operations	\$ 162,025

Projected Change

Because the figure above quantified a hypothetical park system it is worthwhile to demonstrate what demand the Reserve at Pagosa Peaks subdivision would incur on this system. **Figure 43** demonstrates the costs and additional units needed if 1) the hypothetical park system were existing in Archuleta County and, 2) if the Reserve were built out.

Figure 43. Incremental Park System Costs for the Reserve at Pagosa Peak

	Units Needed to Maintain Existing L.O.S. for the Reserve	Full Cost of Acquiring and Developing the Reserve Shortfall	Total Annual Maintenance Costs
Community Parks	0.9	\$ 48,025	\$ 5,947
Natural Areas/Open Space	0.3	\$ 3,975	\$ -
Trails	0.6	\$ 35,294	\$ 93
Biking Trails/ 8' concrete	0.5	\$ 209,599	\$ 729

Considerations & Recommendations

- If Archuleta desires a parks and open space system it should consider generating a comprehensive parks planning document
- Be aware of the busy highway while planning park locations – maintenance costs rise with park use, many people may stop and utilize a park near a highway system that was originally intended to meet local citizen needs
- Extensively landscaped community parks can require significant amounts of water (hundreds of thousands of gallons) for irrigation during the summer months – this may put a severe strain on the water plant if treated water is used – a raw water system is an economical solution
- Open space is a benign land use – it generates few impacts and few revenues, but it has proven to increase property values on land that is proximal to it
- Park acquisitions funding is more marketable to funding agencies if a proposed park is fulfilling a unique niche (such as regional facility) or is in some way connected to a regional park system (e.g. regional trail connectivity).
- Park revenue raising is very straightforward, revenue systems may be generated using the methodology outlined above.

PAGOSA FIRE PROTECTION DISTRICT

Introduction

With responsibility for protecting over 5,300 residential and more than 700 non-residential structures, the PFPD is engaged in a difficult task. In an informal interview, the Fire Chief remarked that since the early 80's calls have increased from 30 per year to well over 300 in the year 2000. The Chief had no doubt that this growth in demand is directly related to the increased development in Archuleta County. The connection between increased development and increased demand for fire protection is perfectly tangible, given that the primary purpose of the fire district is to protect structures and their occupants from fire. This section will quantify the impacts of the proposed Reserve at Pagosa Peak on the fire district.

Methodology

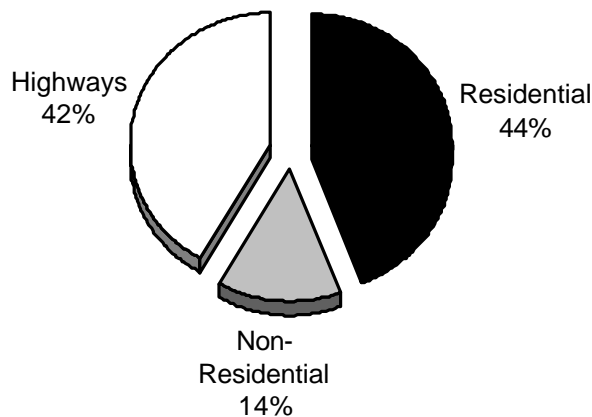
The first step is to quantify the proportions of fire district resources that are directed towards residential development and non-residential development using response data from the District. This proportionate share is then applied to the number of residential units and non-residential structures to

estimate the level of service for fire protection per residential unit and non-residential structure. The level of service, both in terms of operations expenditures and capital facilities, can be applied to the projected residential units and non-residential structures in the Reserve at Pagosa Peak. Finally, tax revenues for Reserve at Pagosa Peak are projected to see if they will cover the additional costs.

Proportionate Share

The Fire District provides service to three main demand generators: residential units, non-residential structures, and motor vehicle accidents. Response data for 2000 allowed the breakdown of the overall resource expenditures into these categories. While the residential and non-residential responses are clearly attributable to development, the highway responses could be tourists, passersby, truckers, etc. and so cannot be attributed to a specific category of land use.

Figure 44. Fire District Proportionate Share



Demand Units

Data obtained from the Archuleta County Assessor database reveal that there are currently 5,338 residential units and 711 non-residential structures in the District. Since most of the Department's motor vehicle accident responses occur on the highway, the demand units that best represent that portion of the District's expenditures are average daily trips at the busiest point on SH 160 through County (i.e. 5th St. ADT obtained from CDOT library database). The Reserve, as currently platted, includes 140 residential units. However, it cannot be argued with confidence that its development will lead to increased demand for motor vehicle accident responses, so only the structural components of the proposed development are included here.

Current Level of Service

The District currently has 3 full time firefighters, 63 volunteer firefighters, 5 fire stations, and 20 firefighting vehicles. Fiscally, given the proportionate share discussed above, and the fire district's operation budget, this means that it costs the fire district \$56 dollars per year per residential unit, and \$133 dollars per year per non-residential structure for day to day operations and maintenance.

Given the proportionate share of district resources dedicated to responding to motor vehicle accidents and the CDOT traffic counts at the busiest portion of SH 160 through County, it costs \$17 per average daily trip¹⁴.

Due to the equipment intensive nature of fire fighting, the Fire District's capital facilities (including fire stations and equipment) level of service has a significant bearing on the capability of the District to effectively protect the community from fire. Of the 20-firefighting vehicles mentioned above, 7-8 need to be replaced by new ones if the Fire District wants to avoid a decline in the level of service. Given the current replacement values of the good vehicles and the new replacement value of the vehicles that need replacement, the capital facility LOS is summarized in **Figure 45** below.

Figure 45. Fire District Capital Facilities LOS

Fire District Capital Facilities Current LOS	
Capital Facilities Value	\$ 3,305,139
Capital Facilities Value per Non Residential Structure	\$ 647
Capital Facilities Value per Residential Unit	\$ 273
Capital Facilities Value per Highway Trip	\$ 85

In order to maintain the current LOS, each additional residential unit requires \$273 of capital facilities investment for vehicles and fire stations and each non-residential structure requires a contribution of just under \$650 for capital improvements.

¹⁴ An Average Daily Vehicle trip is the average number of times a car passes over a single line across a road in either direction in one day.

Cost of Maintaining Current Level of Service for the Reserve at Pagosa Peak

Given the costs per unit for capital facilities and operations outlined above, the cost of maintaining the current LOS for the 140 units at The Reserve follow in **Figure 46** :

Figure 46. Cost to Maintain Current Fire District LOS for Operations and Capital Facilities

Annual Cost to Maintain Current L.O.S. for Fire District Operations for Reserve at Pagosa Peak	\$ 18,652
One-Time Cost to Maintain Current L.O.S. for Fire District Capital Facilities for Reserve at Pagosa Peak	\$ 38,271

The operations cost per year is low, which reflects the fact that the Fire district operates efficiently. While the nearly \$40,000 in equipment for the fire district may seem large, it is important to realize that one fire truck costs over \$200,000

Comparison of Fire District Projected Revenue from Reserve at Pagosa Peak to the Costs of Maintaining the Current LOS

The Fire District's main revenue sources include the 4.067 property tax mill levy and the specific ownership tax. The mill levy is applied to the projected assessed valuation of the Reserve at Pagosa Peak Development (see **Appendix III** for methodology for estimating assessed valuation). The specific ownership tax is collected from vehicle registrations. The specific ownership tax was projected to increase in proportion to the projected percentage increase of projected registered vehicles in the Reserve over current registered vehicles in the County (3.29%).

Figure 47 . Fire District Revenue Projections

Property Tax	\$ 11,421
Specific Ownership	\$ 1,176
Total	\$ 12,597

Clearly, the \$12,600 in revenues generated by Reserve at Pagosa Peak are not enough to cover the cost of maintaining the current level of service for operations (@ \$18,652/Yr) nor will it provide the one time expense of maintaining the current LOS for capital facilities (nearly \$40,000). The Fire District will need to generate more revenue through other sources or it will experience a decline in the level of service for both operations and capital facilities.

Conclusions and Recommendations:

- If development in the County continues, and the Fire District does not procure additional funds, the community will most likely experience a decline in the level of service from the Fire District. This may translate into a decrease in the ISO insurance rating for the district at large.
- Currently the Fire District intends to go to the voters with a proposed mill levy increase to pay for capital facility upgrades. Because the operations mill levy does not seem to cover the costs of maintaining the level of service for a high-end residential development (The Reserve), it may be worth asking for a general fund increase as well.
- In the event that the voters deny the mill levy increase, the Fire District should consider conducting a legal feasibility study for proposing that Archuleta County and the County adopt Fire District impact fees applied to new development to pay for the cost of Fire District capital facilities.

PAGOSA SCHOOL DISTRICT**Introduction**

The residential portion of Reserve at Pagosa Peak will generate students in the Archuleta County School District 50-JT. The purpose of this analysis is to project the number of students that will live in the Reserve at buildout and then compare the costs of educating these students to the projected school district revenues generated by the PUD.

Methodology

The first step was to project the number of students per housing unit in School District 50JT. This was accomplished by dividing the number of enrolled students by the number of housing units in the school district (obtained from the Archuleta and Hinsdale County Assessors). This overall average, which includes housing units of all types (single family, apartments, duplexes, etc.), can then be applied to the number of housing units expected in Reserve at Pagosa Peak to obtain a projected number of students in the development at buildout.

Current figures for annual funding per student and the published State/Local/Federal share of the funding responsibility all lend to a relatively straightforward calculation of the current level of service. The acres per student are also an important LOS consideration for County and School District officials because growing schools frequently need more land. The projected students for Reserve at Pagosa Peak are applied to the cost per student from

both local property tax and from the State to estimate a total cost of educating Reserve at Pagosa Peak Students. Projected property tax revenues are then compared to the costs in a final fiscal summary.

Proportionate Share

The residential portion of Reserve at Pagosa Peak is the only component of the proposed development that resulting in additional students. While students are attributed to residential units, property tax revenues from the entire project will be used to see if it will 'pay its way' for schools.

Demand Units

Currently in the school district, there are .27 students per housing unit. This is a low student generation rate compared to national averages, which tend to be between .5 and .7 students per housing unit. This lower student generation rate reflects the significant proportion of part-time residences in Archuleta County as well as an increasing retiree population, whose children are well beyond school age. This student generation number was applied directly to The Reserve, which is projected to contain a significant proportion of part-time residences, and probably retirees as well. Given the projected 140 housing units Reserve at Pagosa Peak could house 38 public school students at buildout.

Figure 48. School Demand Units

School District Housing Units in Archuleta County	5846
School District Housing Units in Hinsdale County	61
Total School District Housing Units	5907
Average Students per Housing Unit	0.27
Reserve at Pagosa Peaks Residential Units	140
Reserve at Pagosa Peaks Potential Student Generation	38

Level of Service

Currently each enrolled student in Archuleta County 50JT gets \$5,674 per year, \$3,052 of which comes from local taxes (mostly property tax), and the rest of which comes from the State (and a very small portion from Federal programs). The State Dept. of Education determines the total per student funding and the balance between local and State share on an annual basis. These figures are the 2001-2002 funding figures and are considered here to be the current level of service for day-to-day operations.

Figure 49. School District Operations LOS

Funded Students	1,598
Per Pupil Funding	\$ 5,674
Property Tax Funding per Pupil	\$ 2,730
Specific Ownership Funding per Pupil	\$ 322

While much of the funding for capital improvements for new schools comes from State taxes, local governments all over the Country have traditionally helped their local school districts come up with the land to build the new schools and athletic fields. 50JT currently has about .061 acres of land per student for school sites, athletic fields, maintenance, and administration facilities.

Figure 50. School District Land LOS

School District Land Inventory	Acres
High School	72
Elementary	15
Remaining	5
Archuleta County Vista	5
Total	97
Acres per Student	0.061

Currently, neither Archuleta County nor the Town of Pagosa have specific school land dedication requirements connected to their subdivision regulations. Local dedications become increasingly useful as areas in Colorado develop and become more expensive, particularly in light of State Tax law that limits State and local jurisdictions spending.

Cost of Maintaining Current LOS for the Reserve

As stated above, the breakdown between the State and local share of per student funding is subject to change annually. Nonetheless, to determine whether a development will be able to produce the property taxes necessary to cover its share of the local portion of school funding will provide a valuable frame of reference for understanding whether or not the development will pay itself.

Figure 51. School District Costs & the Reserve

Total Operations Costs for Reserve at Pagosa Peak Students	\$ 214,910
Property Tax Operations Costs for Reserve at Pagosa Peak Students	\$ 103,396
Specific Ownership Tax Operation Costs for Reserve at Pagosa Peak Students	\$ 12,180
Total Cost for Local Taxes	\$ 115,576

The total cost for educating Reserve at Pagosa Peak students under the current State funding structure should be just under \$215,000 which, when applied to the current local/State/Federal funding breakdown, means that it will cost \$103,396 in property taxes, and an additional \$12,180 in specific ownership tax (vehicle registration) for a total local cost of almost \$115,576.

Revenues generated from property taxes and specific ownership tax in Reserve at Pagosa Peak slightly falls short of meeting those costs (by \$10,000 annually). This does not mean that the funding per student for the District will decrease—the State decides this ratio according to a series of formulas and circumstances. However, it does mean that Reserve at Pagosa Peak will create the need for additional State subsidies to cover the education of the students living in it, which could contribute to the need for hikes in State taxes.

Figure 52. Projected School District Revenues from the Reserve

Projected General Mill Levy Revenue	\$ 75,392
Projected Bond Mill Levy Revenue	\$ 17,871
Total Projected Property Tax Revenue	\$ 93,263
Specific Ownership Tax Revenue	\$ 12,180
Total Local Tax Revenue	\$ 105,443

Conclusions:

- Reserve at Pagosa Peak local tax revenue is projected to fall short of covering the local share of the cost of educating students created by the development. Given State policy regarding public school finance, this will not likely result in a decline in the level of service for Pagosa Schools (i.e. \$funding/student), but will most likely result in the need for additional State subsidies.

- To secure land for future school facilities, the School District could propose a land dedication/cash in lieu for school land to the County and Town of Pagosa. A relatively simple school land dedication and cash in lieu study with the proper political support may be able to pay off as the County becomes more developed and land becomes increasingly expensive.

LIBRARY

Introduction

The San Juan Library District has one library and through it they circulate 26,333 books, videos, CDs., etc. to almost 10,000. As the community grows, so does the demand for circulation items, library space, librarian assistance, inter-library loans, and computers. Libraries serve an important function in providing tools that lend to a well-informed, educated local population, yet they are notoriously under funded. The San Juan Library is currently short-staffed, and is quickly running out of room. A look at how one development proposal might affect the library will provide insights into the long-term trends that may have led to the current plight in the library district.

Methodology

The methodology consists of finding the current level of service in terms of operations cost per capita, number of circulation items (and the value) per capita, and the value of library facilities per capita. The population of the library district was determined by applying average occupancy rates to the number of housing units in the District (obtained from the Archuleta County Assessor's office). The cost of maintaining current level of service for Reserve at Pagosa Peak can then be determined by multiplying the costs per capita by the projected peak residential population. Peak residential population is the proper demand unit because part-time and full-time residents alike use the library. Having determined the costs for the entire subdivision, they can then be compared to the projected revenues.

Demand Units

The more people there are in a district, the more use the library will experience. The Reserve's projected peak residential population is 3.5% of the existing population in the library district.

Figure 53. Library District Demand Units

Library District Population 2000	9870
Reserve at Pagosa Peaks Residential Population	347

Operations

Given the library operations budget, it costs about \$26 per person in the district to run the library. The Colorado average library district operations expenditures is \$28 per person in the service area or district¹⁵, so San Juan Libraries appears to be in line with the State norm for operations level of service. However, in order to maintain this level of service, the Library must continue to increase its operating expenditures as the District grows or it may begin to slip below the State averages with a concurrent decline in LOS. According to the Head Librarian, the staff is already working slightly above its capacity and additional library usage and circulation will strain the day-to-day operations even further without additional funding for more staff.

Figure 54. Library Operations LOS

Annual Operations Cost	\$ 110,070
Operations Cost per Demand Unit	\$ 26.41

Capital Improvements

Capital improvements in the library district consist primarily of the library itself, books, CDs, magazines, and other circulation items inside. The library has 26,333 circulation items, which amounts to 2.6 items per capita in the District. This is a substantially lower level of service than the national average for districts the same size. According to a 1999 report entitled *Public Libraries in the U.S.* funded by the U.S. Dept. of Education, the average number of circulation items per capita for library districts the size of the San Juan District is 5.3 items per capita. The library building itself is currently full, which may partly explain why the circulation items per capita are lower than the national average. The District is currently in need of an addition to the existing library to make more room for circulation items, computers, staff offices, storage, etc.

¹⁵ *Public Libraries in the U.S.*, U.S. Dept. of Education, 1999

Figure 55. Library Capital Facilities LOS

Library Facility and Land	\$ 79,074
26,333 Circulation Items	\$ 710,991
Total Library Capital Facilities	\$ 790,065
Capital Facilities per Demand Unit	\$ 80

It appears that library operations LOS, is in line with State averages. However, the library's collection falls short of national averages for libraries its size, and the library itself is physically full.

Cost of Maintaining the Current LOS for The Reserve

It will cost the District an additional \$9,166/year to maintain the current LOS for the library with the addition of the Reserve at Pagosa Peak development. The fact that the library is currently operating at capacity suggests that library patrons are likely to experience a decline in the level of service unless additional money is generated.

Figure 56. Library Costs & Reserve at Pagosa Peak

Annual Operations	\$ 9,166
Capital Facilities and Circulation Items	\$ 27,777
Projected Library District Annual Mill Levy Revenue from the Reserve	\$ 4,212
Projected Library District Annual Specific Ownership Tax Revenue from the Reserve	\$ 451
Total Annual Revenue from the Reserve	\$ 4,663

The library must also obtain nearly \$27,777 worth of capital facilities. The main revenue sources for the library district are property tax and specific ownership tax.

Given the assessed valuation of the proposed Reserve at Pagosa Peak development and the library district's 1.5 mill levy, the property tax revenue should be \$4,212 annually. The library's share of the specific ownership tax paid by vehicle owners in Reserve at Pagosa Peak should total just under \$451/year, for a total annual revenue of \$4,663. This is about half of the cost of covering the operations costs of maintaining the current LOS. Without additional revenue sources, the Library District will experience a decline in the level of service for operations. The annual revenue collected from Reserve at Pagosa Peak will not cover the costs of maintaining the existing

LOS for the circulations items and improvements/expansion of the library itself.

Conclusions and Recommendations

- While library officials have done remarkably well with a limited budget in the past, without additional funding sources, the Library will most likely offer lower service levels, in terms of circulation items and the library building itself as well as in terms of patron assistance at the circulation desk.
- The library may consider partnering with the Fire District to help convince the County and County of the merits of a comprehensive impact fee for public capital facilities. While more equitably assigning the cost of growth to the beneficiaries, an impact fee for library development might, relieve the operating budget from large capital outlay line items, allowing the general fund to be directed towards operation. The district may also consider some form of user fees attached to circulation cards that could also help pay for new books and an addition to the existing library building.
- The library may want to consider partnering with the school district in the provision of resources to compensate for decreased levels of services.

WATER

Introduction

Neither water or wastewater service are amenable to the methodologies used previously in this report. Rather, these services are evaluated in terms of absolute capacity of capital facilities. In addition, both systems are evaluated on their ability to provide service at peak demand levels on a daily basis.

Although treated water service infrastructure is not provided by the Archuleta County nor is it a component of Archuleta's budget, this section analyzes existing Hatcher and Stevens water plant flows and residential usage.

Given resident populations and peak population approximations, RPI was able to project a number of elements of the proposed developments water usage.

Fortunately, both accurate records of water flows and tap numbers within the district exist. Consequently, true usage scenarios were developed based on peak and off seasons. Peak seasons would include the summer months when the largest numbers of tourists are in the area and the highest amounts of water are being used for irrigation purposes. Water flows in the so-called “off-peak” or “shoulder seasons” give us a reasonable estimate of simple domestic and commercial usage without tourist or irrigation influences. The final category of use examined is the quantity of water allotted to each resident or (some) commercial usage for a flat rate every month. This analysis does not factor system leakage, which can be significant but often remains unknown.

This usage is called “allotment” in the following charts. All water production systems must be built for potential peak capacities, and this assumption is inherent in all of RPI’s analysis.

Due to the convoluted nature of the fee structure (i.e. differing rates by type of commercial operation – non-residential uses are typically considered in “gross”, or at the most basic fee level—Reserve at Pagosa Peak does not contain any commercial component.

While not an integral part of the overall analysis, RPI has conducted a brief overview of existing water district rights.

Methodology

The first step in analyzing water flows is understanding historic flow data, the number of taps in the district, existing plant capacity, and water consumption by unit type (i.e. per capita, square footage, etc.).

Monthly usage tables are converted to average daily usages for both peak and off peak seasons. A working assumption of the analysis considers that much of the expanded use during the peak seasons includes treated water irrigation and additional consumption by tourists/seasonal residents. Conversely, off-season use represents a true average consumption by the year round domestic population. Please note that the peak population may at some point in the future become the “permanent” population and the water infrastructure may be called upon to work at peak capacity year-round. While there are a number of scenario’s that might produce a larger permanent population, an obvious one involves the movement of retiring second home owners to Archuleta County to make it their permanent residence during their retirement years.

Based on projected land uses and existing fee structures the consumption and revenue streams required and generated by Reserve at Pagosa Peak can be

projected. Water use by land use type is converted by using standard tables from the American Water Works Association governing average consumption per unit.

Water plant treatment capacity is a function of actual quantity of water that the plant is capable of producing in a 24-hour period for extended periods of time (plants may be capable of meeting peak usages by operating around the clock for short periods of time).

Water storage is an important component of water production and delivery. The Hatcher and Stevens plants have several million gallons of potential supply. Supply reserves extend the possible outflows of the water plant on a daily basis. However, this analysis considers only the maximum daily capacity of the treatment facility.

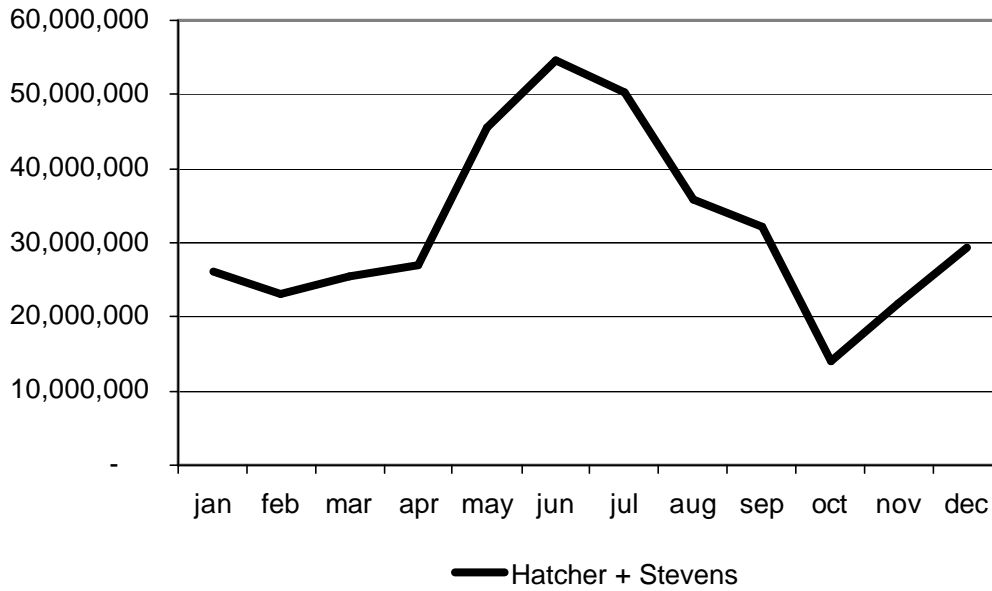
Projected revenues and costs are based on the year 2000 actual budget as supplied to RPI by the district. Revenues are separated by actual fee and other revenues. Costs are expressed per thousand gallons based on total water district expense and revenues. Budget was divided using percentages provided by the water district.

The water rights analysis considers a DRAFT copy of absolute and conditional water rights given to RPI by the Pagosa Area Water and Sanitation District. The analysis does nothing more than to make an ideal potential draw if all water sources and delivery systems were made 100% available. Potential is expressed in terms of acre-feet and CFS per day.

Water Analysis

Figure 57 demonstrates the plants relatively large seasonal fluctuations. The significant increase of the summer months likely reflects irrigation uses. The district already has major plans underway to mitigate some of this irrigation with raw water. In addition, the district has attempted to make water conservation a priority in its public relations. Nonetheless, water usage more than doubles during the summer with water usage exceeding 367 gallons per day, per equivalent unit—this number is roughly three times the average per capita use as determined by the American Water Works Association.

Figure 57. 2000 Hatcher + Stevens Water Production



Mitigating treated water use with conservation or a raw water system can dramatically increase the effective capacity of a treatment facility thus prolonging the need to make major capital reinvestments in capital infrastructures.

Figures 58 & 59 map the existing conditions and impacts of the proposal.

Figure 58. Existing Water Facilities – Existing Conditions**WATER 2002****Existing****EU (Equivalent Unit)**

Existing # of EU's 3,473

Flow

Gallons

Average Daily Off Peak 862,349

Average Daily Peak 1,274,180

Use (average per EU-gallons)

Daily

Monthly

Off Peak 248 7,548

Peak 367 11,153

Total Use (gallons)

Daily

Monthly

Off Peak 862,349 26,215,400

Peak 1,274,180 38,735,067

Monthly Fee Revenue (per EU)

Existing

Off Peak \$ 13.50

Peak \$ 16.38

Monthly Fee Revenue Total

Existing

Off Peak \$ 46,886

Peak \$ 56,898

Annual Fee Revenues

Existing

\$ 622,702

Plant Capacity (daily gallons)

Existing

% of capacity
existing

2,000,000

Off Peak 43%

Peak 64%

Annual Water Use (acre feet)

Existing

% of total rights

1197

1.62%

Figure 59. Water Facility Impacts – Reserve at Pagosa Peak**WATER 2002**

Reserve At Pagosa Peak			TOTALS
EU (Equivalent Unit)			
New	140		3,613
Reserve New Use	Gallons		
Off Peak	34,762		897,111
Peak	51,363		1,325,543
Use (average per EU-gallons)	Daily	Monthly	
Off Peak	248	7,548	
Peak	367	11,153	
Total New Projected Use (gallons)	Daily	Monthly	
Off Peak	34,762	1,056,768	27,272,168
Peak	51,363	1,561,448	40,296,515
Monthly Fee Revenue (per EU)	Projected		
Off Peak	\$ 13.50		\$ 48,776
Peak	\$ 16.38		\$ 59,192
Monthly Fee Revenue Projection	Projected		
Off Peak	\$ 1,890		
Peak	\$ 2,294		
Annual Fee Revenues	Projected		
	\$ 25,102		\$ 647,804
Plant Capacity (daily gallons)	Existing	% of capacity projected	
	1,500,000		
Off Peak		2%	45%
Peak		3%	67%
Annual Water Use (acre feet)	projected	% of total rights	
	48	0.07%	1.69%

The Hatcher and Steven's plants operate well within their capacity even during the peak months. The addition of a built out Reserve will increase demand on the facility only minimally and will likely only press the service during the highest use days (perhaps to as much as 70% of total capacity). If raw or other water conserving measure is utilized, the plants should operate at excess capacity for many years to come. However, it is important to consider existing usages on a per unit basis so that the incremental effects of growth are not underestimated, **Figure 60** demonstrates the off-peak and peak usages of residential units within the district

Figure 60. Per unit usages

Use (average per EU-gallons)	Daily
Off Peak	248
Peak	367

As **Figures 61 and 62** demonstrate, there may be some minor issues with fee revenue and processing costs. While the operations only costs and off peak fee revenues¹⁶ per gallon are nearly commensurate or slightly in the plants favor, it is RPI's position that this is an inaccurate lens through which to view true costs.

Figure 61. Fee Revenues

Fee Revenue (per gallon)	Per gallon	Per 000' gallons
Off peak	\$ 0.0018	\$ 1.79
Peak	\$ 0.0015	\$ 1.47
Mill levy revenue	\$ 0.0009	\$ 0.87

Figure 62. Costs

Costs	Per gallon	Per 000' gallons
Cost per gallon	\$ 0.0075	\$ 7.47
Cost per gallon w/o capital expenditures	\$ 0.0026	\$ 2.59
Cost per gallon-operations only	\$ 0.0017	\$ 1.66

¹⁶ Fee revenues are a function of water allotment (in this case 10,000 gallons per EU per month) and fees additional to the allotment. Pagosa Water and Sanitation district charges less per gallon over 10,000 than it does for the first 10,000.

It is unlikely that any intensively used, expensive, capital facility such as a water treatment plant will ever operate without any debt obligations. Consequently, debt should be considered as an ongoing component of total operations costs. If this logic is followed we see that a significant portion of the plant's water treatment costs are actually covered by revenue sources other than fees (i.e. the mill levy, and other fees, charges, and funds). Perhaps if the district instituted a more progressive fee structure market cues would be capable of forcing water usage restraint.

WASTEWATER

Introduction

Wastewater treatment is provided in the Pagosa Area Water and Sanitation District. Wastewater is one of the most tangibly limiting factors of any proposed development. Strict State and National laws govern effluent and treatment of sewage. Furthermore, capital facilities for treatment plants can be extremely expensive, occupy significant land, and become maintenance intensive. Furthermore, treatment facilities are required to have expansions planned when they reach 80 % of capacity. They are required to begin building the expansion when they reach 95%.

A number of engineering studies regarding sanitation service have been (or are in the process of being) conducted to meet the specific on-site needs of the Reserve at Pagosa Peak. This report will not attempt to second guess, or publish redundant information in this section. Rather, this section of the report will simply analyze, based on standardized industry numbers, how much sewage might be expected to be generated by the subdivision during peak and off seasons. This incremental costing information will be generally applicable to future unit growth and is independent of the specific design criteria for sanitation service provided to this particular subdivision. This report does provide some BOD graphing information (although the information given to RPI was incomplete) to demonstrate the magnitude of use trends during the peak and off peak seasons.

Methodology

The first step in analyzing wastewater treatment is to consider historical flow data including peak and off-peak seasons. To this end, RPI analyzed daily 2001 sewer flows to Highlands lagoon provided by Davis Engineering. These

flows were then averaged on a monthly basis with maximum daily (peak) flows taken into account and adjusted for in the final average daily flow matrix.

Unfortunately, the historical flow data for the PHE Lagoon is corrupted by significant I/I and the data were overall, incomplete. However, as previously mentioned, it is assumed that the subcontracted engineering firm will resolve these issues in cooperation with the developer and the PAWS district managers. Nonetheless, RPI's analysis, uses standardized numbers rather than actual historical flow data in this portion of the report.

By using the primary inputs (population, square footage, housing units, etc..) generated for the previous sections of this report, it is possible to calculate the expected wastewater production and revenues based on standardized production numbers produced by the American Water Works Association and existing fee structures.

Wastewater Analysis

Figure 63 shows the average and peak BOD influent. BOD is used here because the measurement can be considered independent of gallonage and the trend line demonstrates the general magnitude of variation throughout the peak and off peak seasons.

Figure 63. 2000 Wastewater Flows (BOD5)

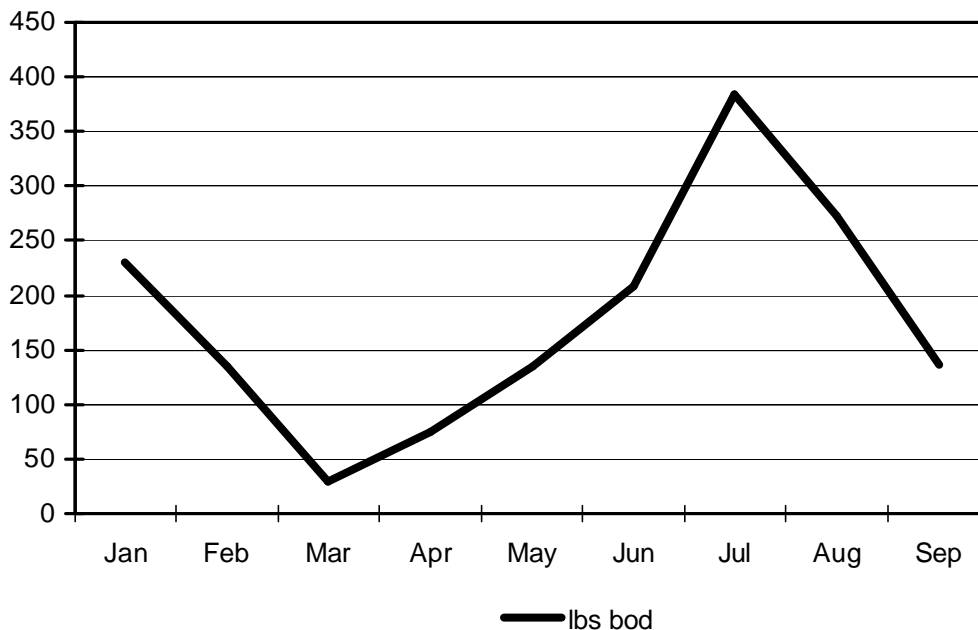


Figure 64 demonstrates what it cost to treat a gallon of wastewater in 2000. The revenues are broken out from straight fee revenue per gallon and all revenues added per gallon. Clearly, the PAWS district is recouping enough money in fees to slightly more than cover its costs during the off peak seasons— however during the peak seasons when considerably more wastewater is being generated the fee structure is not progressive and cannot recoup the costs of the added gallonage. Although not a part of RPI’s analysis, it may be that the district is recouping losses on its residential treatment during the peak season through a higher and more complex commercial rate structure. Still, RPI would generally recommend that costs be born by their generators and that a more progressive fee structure be institute to bear the burden of increased usage of the system during the peak months—otherwise a de-facto subsidy system is in place.

Figure 64. Wastewater Revenues

Cost per 000' gallon to treat	\$	3.44
Revenue per 000' gallon (fees)		
Off peak	\$	3.65
Peak	\$	1.05

Figure 65 shows the increased flow that will be emitted from a built-out Reserve development by usage type. As with water, the daily capacity of the plant is of preeminent importance.

Reserve at Pagosa Peak is a relatively modest development however the production of sewage from this development is not insignificant, particularly when compared to the existing service plants capacity.

Figure 65. Residential Sewage Flows

	Daily	Monthly		Daily
Off-Peak	Sewage flow (gallons)	Cost to treat	Revenues	% Of capacity
Existing	87,500	\$ 9,140	\$ 9,700	63%
Reserve	35,000	\$ 3,656	\$ 3,880	25%
TOTAL	122,500	\$ 12,796	\$ 13,580	88%
Peak				
Existing	120,750	\$ 12,613	\$ 3,836	86%
Reserve	48,300	\$ 5,045	\$ 1,534	35%
TOTAL	169,050	\$ 17,659	\$ 5,371	121%

It is clear that the Reserve at Pagosa Peak, if built out, will push the plant to well past existing capacity during the peak months, and significantly increase the normal monthly flows.

Although it can be problematic to derive an accurate estimate, it seems that the Reserve development may require as many as 140 new taps and thus will generate at least \$280,000 in plant re-investment fees. These fees, given replacement costs estimated by the sanitation director, may be adequate to expand or improve the current facility to meet the increased demand. One factor that is normally considered is the price of real estate for lagoon expansion. Fortunately, it appears that the District has allocated property in its inventory for this purpose so it may not be a factor. Nonetheless, it may be appropriate for the District to calculate a “buy in” cost for the existing lagoon property and adjust the re-investment fees accordingly.

APPENDIX

I. County Administration Proportionate Share

Figure 66 below details the calculations for the residential/non-residential proportionate share for County Administration (as defined in the introduction to the County General Fund analysis). In general, the approach consists of establishing proportionate share ratios for the eight main administrative functions, multiplying these ratios by the staff numbers. The staff (in flat FTEs) dedicated to residential development and the staff dedicated to non-residential development is then totaled and these numbers are used to establish the overall proportionate share for Administration.

County manager and finance department proportionate share ratios are based on the ratio between full time population and jobs. Administrative functions are affected by both population and commercial activity. In calculating proportionate share for County Manager and Finance, jobs are assumed to represent non-residential activity (commerce, institutional activity, and government functions) with one job representing the effective equivalent of one member of the full-time population.

Since the Assessor's, Treasurer's, and Clerk and Recorder's offices are essentially driven by the number of lots and parcels in the County, the ratio of residential to non-residential parcels and lots is assumed to represent the proportionate share for these departments.

Demand for planning and building services is driven largely by the construction and development market. Thus, the proper determinate of proportionate share for these departments is the ratio of residential to non-residential building permits issued (for 1999 and 2000).

30.6 of the 37 FTEs in Administration are dedicated to serving residential development (83%) while 6.4 FTEs serve non-residential development (17%), thus, the proportionate share is 83% non-residential, 17% residential.

Figure 66. Detailed Administration Proportionate Share

	Full Time Staff	Part Time Staff	Effective FTEs	Residential	Non-Residential	Res Jobs	Non-Res Jobs
County Manager	5	0	5	76%	24%	3.8	1.2
Finance	3	0	3	76%	24%	2.3	0.7
Clerk & Recorder	7	1	7.5	80%	20%	6.0	1.5
Treasurer	4	0	4	80%	20%	3.2	0.8
Assessor	8	0	8	80%	20%	6.4	1.6
Planning	4	2	5	94.6%	5.4%	4.7	0.3
Building	3	1	3.5	94.6%	5.4%	3.3	0.2
Coroner	1	0	1	100%		1.0	0.0
Total	35	4	37			30.6	6.4

II. Target Level of Service for General Fund Department Facilities

A 2000 report conducted for Archuleta County by Daniel C. Smith and Associates entitled *Archuleta County Government Center Facilities Master Plan* (referred to as the Facilities Master Plan report hereafter) analyzes the facilities needs for a range of County and associated departments and entities. The Facilities Master Plan report also presents conceptual alternative construction plans with associated cost estimates for meeting the facility needs through 2020. Fortunately, the Facilities Master Plan covers, in remarkable detail, the facilities needs and costs for the general fund departments under consideration in this development impact analysis.

One of the first steps in this analysis is to determine the space needs for the projected 2020 staff of the various departments (see Appendix Figure 2 below for details). RPI analysts divided the projected facility space needs by the projected staff (as projected in the Facilities Master Plan report) to obtain a target level of service in terms of sq. ft. per staff member. Since the 2020 Sq. Ft. per employee level of service represents the true needed facility space at that time, this L.O.S. can be used to calculate today's growth's share of the cost of achieving that target level of service (or Target L.O.S.) in 2020.

Figure 67. Administration Space Needs 2020

	Current Sq. Ft.	2020 Sq. Ft.	2020 Staff	Admin, Sheriff, Jail, Other
Assessor	1374	3558	15	A
County Development	745	2637	14	A
Building and Grounds	769	1449	3	O
Coroner	91	226	1	A
County Clerk	1528	2888	13	A
Court	2833	12404	11	O
County Manager and Commissioners	1482	3813	7	A
Emergency Services	91	150	1	S
Finance	508	1412	7	A
Information Technology	0	320	1	A
Probation	138	535	3	S
Sheriff	2921	6822	54	S
Jail	7160	9300	17	J
Social Services	2663	4976	32	O
Treasurer	985	1975	9	A
Veteran's	268	336	1	O
Dept. of Motor Vehicles	279	722	2	O
Building Commons	296	5041		A

The Facilities Master Plan recommends a preferred alternative in which the current courthouse is remodeled and added to and becomes the Justice Center and an entirely new Government Center is constructed. The report also includes detailed cost estimates of providing the space needs for each department's projected in 2020 staff levels. This allowed simple calculation of the Level of Service both in terms of sq. ft. per staff member and the cost of the square footage necessary for each staff member for each department. The departments were then aggregated into the five broader general fund categories used in this analysis (e.g. Administration, Sheriff, Jail, Land Management, and Other) to establish facilities Levels of Service for each. See **Figure 68** below for a summary.

Figure 68 Target Facilities LOS

Department	Sq. Ft./Employee	Cost/Employee
Administration	326	\$ 97,407
Sheriff	129	\$ 19,812
Other	139	\$ 83,323

III. Revenue Projections

Property Tax

The County determines property taxes for County functions and special districts by multiplying the property tax rates (i.e., the mill levies) to the assessed valuation. Assessed valuation is established by multiplying the assessment rate (determined by the State Property Tax Division) by the actual value (determined through an appraisal process conducted by the County Assessor's department).

Since the assessment rates and the mill levies are already established, the key to determining property tax revenues produced by The Reserve at Pagosa Peak for all entities collecting property taxes, is to establish a projected actual value of the property in the subdivision.

Based on the quality of land in the subdivision and the size of the lots, homes in The Reserve are assumed to range from 2000 sq. ft. to 5000 sq. ft. According to an analysis of the County Assessor data, residential property with a home built in the year 2000 (the newest homes available in the database) between 2000 sq. ft. and 5000 sq. ft. had a median actual value of \$219,220. After ground checking this median value with County officials and a few local realtors, RPI determined that this is a good representation for the types of values that could be expected at a subdivision like The Reserve.

Given that the average value of a lot in The Reserve with a home on it is valued at \$219,220, the value of the entire subdivision (140 lots) when fully developed will be worth \$30,690,760. Given the current residential assessment rate of 9.15%, the assessed valuation is \$2,808,205.

Figure 69. Reserve at Pagosa Peak Assessed Valuation Calculation

Median Value for Lots with New Homes	\$ 219,220
Total Subdivision Value at Buildout	\$ 30,690,760
Assessed Valuation	\$ 2,808,205

The projected assessed valuation allows the calculation of revenues by applying the current mill levies to that valuation¹⁷. See **Figure 70**.

¹⁷ The formula: Annual Property Tax Revenue = Assessed Value * (Mill Levy/1,000)

Figure 70. Property Tax Revenues

Tax District	Mill Levy	Annual Revenue
County General	12.933	\$ 36,319
County Public Welfare	0.824	\$ 2,314
County Road and Bridge	3.5	\$ 9,829
Pagosa Area Water General	1.948	\$ 5,470
Pagosa Area Water Bond	1.15	\$ 3,229
School Dist. 50 JT General	26.847	\$ 75,392
School Dist. 50 JT Bond	6.364	\$ 17,871
Pagosa Area Fire Protection	4.067	\$ 11,421
Upper San Juan Library	1.5	\$ 4,212

Sale Tax

Determining sales tax revenues generated by residential subdivisions is a matter of estimating the local retail spending of the residents. Several methods exist for determining retail spending, most of which rely on surveys. However, since the Reserve currently has no residents to survey, we require a different starting point.

One known factor is the median value of the properties in The Reserve. This provides the starting point from which to ascertain the likely income of the residents of the subdivision. See **Figure 71** for a summary of the calculations described here. Working from the median property price of \$219,220, assuming a 15% (\$32,883) down payment, the principal of the mortgage for a property of this price would be \$186,337. A principal balance of this size assuming a 7.5% interest rate (a good long-term average rate) would require monthly payments of \$1,160 (based on a standard mortgage calculator¹⁸). Assuming that 25% of the household income is spent on housing, we obtain an estimated median household income of \$55,680 per year for Reserve at Pagosa Peak households.

The U.S. Bureau of Labor Statistics provides online information collected in the 1999 Consumer Expenditure Survey¹⁹ (CES). The CES provides a list of percentages of household income, for various income strata, spent on various items and services. This list allowed for a simply aggregation of items that are taxable items under the Archuleta County sales tax (food, clothing, liquor, furniture, hardware, eating out, etc..). RPI analysts concluded that on average, based on the CES, households in the income range determined for The Reserve households spend 38% of their income on taxable sale items.

¹⁸ <http://www.jeacle.ie/mortgage/>

¹⁹ <http://www.bls.gov/cex/csxann99.pdf>

Applying the 38% expenditure assumption to the median household income in The Reserve, we obtain a median household annual expenditure of \$21,103 per year on taxable consumption. However, this figure only works for the full-time residents who are in Archuleta County for the entire time they expend their incomes. Part-time residents are assumed to be in Archuleta County for 1/3 of the year, and therefore expend 1/3 of the \$21,103 spent by full-time residents (\$6,964). 1/3 of the year may be a slightly high estimate for the amount of time part-time residents occupy their homes, but this serves to account for the fact that when they are 'in town', part-time residents tend to spend more money than full-time residents.

This fiscal analysis assumes, based on Census data for Archuleta County, that the residences in the subdivision will be occupied 23.4% by part-time residents and 76.6% by full-time residents. Thus, 107 of the 140 residences in The Reserve were assigned \$21,103 in annual taxable expenditures and the other 33 were assigned \$6,964 in annual taxable expenditures. Totaling the annual taxable expenditures for the entire subdivision, Archuleta County can expect just under \$2.26 million annually in taxable sales to originate from the residents at The Reserve. This assumes no leakage of retail spending to catalogues, e-commerce, or trips to Durango, etc.. Applying the Archuleta County sales tax (2%) to the projected annual taxable sales results in a projected sales tax revenue of almost \$50,000 per year.

Figure 71. Sales Tax Revenue Calculations for The Reserve

Median Home Value	\$ 219,220
Down Payment	32,883
Mortgage Principal	\$ 186,337
Monthly Payment	\$ 1,160
Household Monthly Income	\$ 4,640
Household Annual Income	\$ 55,680
% Spent on Retail	38%
Annual Retail Spending/ Full-Time Residence	\$ 21,103
Annual Retail Spending/ Part-Time Residence	\$ 6,964
Reserve at Pagosa Peaks Full-Time Residence Retail Spending	\$ 2,257,991
Reserve at Pagosa Peaks Part-Time Residence Retail Spending	\$ 229,809
Total Retail Spending at Reserve	\$ 2,487,800
Reserve at Pagosa Peaks Sales Tax Revenue	\$ 49,756

Note: Half of the sales tax goes into the general fund and the other half goes into the Road and Bridge Capital Improvement fund.

Other Annual County General Fund Revenue Sources

While property tax and sales tax make up the majority of County revenue, the other revenue sources make a significant contribution as well. **Figure 72** lists the other revenue sources that apply to The Reserve. Some revenue line items in the County Budget that do not apply to The Reserve, (such as GOCO grants, liquor licenses, County building rents, etc., were simply not included in the list). The multiplier column contains the units used to estimate the additional revenue. For example, Specific Ownership Tax is collected on vehicle registration, so the revenue should increase with the number of vehicles. The number of vehicles in The Reserve are expected to represent a 3.29% increase over the number of registered vehicles in Archuleta County in 2000. The total other annual revenue projected to be generated by The Reserve is \$18,856. **Figure 73** sorts revenue into types.

Figure 72. Revenue Generation: Reserve at Pagosa Peak

Account Name	2000 Actual	Multiplier	Multiplier %	Revenue From The Reserve
Delinquent Property Tax	\$ 6,577	assessed valuation	0.74%	\$ 48.4
Specific Ownership Tax	\$ 279,673	vehicles	3.29%	\$ 9,207.5
Current Tax Interest	\$ 11,564	assessed valuation	0.74%	\$ 85.1
Property Tax Penalties & Int.	\$ 5,820	assessed valuation	0.74%	\$ 42.8
Cigarette Tax	\$ 6,664	RAPP sales/Total county sales	2.15%	\$ 143.5
County Clerk - Election Fees	\$ 12,886	population	3.51%	\$ 451.8
Clerk - Weight Scale Receipts	\$ 13,707	vehicles	3.29%	\$ 451.3
Marriage Licenses	\$ 652	population	3.51%	\$ 22.9
Acct Reimbursement - DSS	\$ 39,828	population	3.51%	\$ 1,396.3
Legal Reimbursement - DSS	\$ 21,337	population	3.51%	\$ 748.0
Sheriff - Telephone/Jail	\$ 3,907	RAPP sheriff cost/Total sheriff budget	2.12%	\$ 83.0
Other Miscellaneous Revenue	\$ 20,232	population	3.51%	\$ 709.3
County Clerk Recording Fees	\$ 301,873	# of RAPP parcels/# of County parcels	0.84%	\$ 2,546.2
Zoning & Subdivision Fees	\$ 5,475	one-time	0	\$ -
Treasurers Fees	\$ 197,538	RAPP assessed valuation/County assessed valuation	0.74%	\$ 1,453.4
Public Trustee Fees	\$ 17,493	population	3.51%	\$ 613.3
Assessors Fees	\$ 9,086	RAPP assessed valuation/County assessed valuation	0.74%	\$ 66.9
Sale of Photo Copies	\$ 1,429	population	3.51%	\$ 50.1
Sheriff - Fees	\$ 11,253	RAPP Sheriff Cost/Sheriff total cost	2.12%	\$ 239.1
Sheriff - Misc. Revenue	\$ 38	RAPP Sheriff Cost/Sheriff total cost	2.12%	\$ 0.8
Sheriff - Work Release	\$ 7,350	RAPP Sheriff Cost/Sheriff total cost	2.12%	\$ 156.2
Sheriff - Jail Fees	\$ 903	jail population	2.68%	\$ 24.2
Sheriff - Boarding/Jail	\$ 8,818	jail population	2.68%	\$ 236.1
Communication Fees	\$ 396	RAPP Sheriff Cost/Sheriff total cost	2.12%	\$ 8.4
Court Fines, Fees & Charges	\$ 9,262	RAPP Sheriff Cost/Sheriff total cost	2.12%	\$ 196.8
Court Dog Fines	\$ 880	population	3.51%	\$ 30.9
Subdivision Assessment	\$ 22,257	one-time	0	\$ -

Figure 73. Revenue by Type

Other Local Tax	\$	9,208
State Taxes	\$	144
Fees and Fines	\$	6,474
Other Misc. Revenue	\$	3,031
Total	\$	18,856

One-Time Revenues During Buildout

The one-time revenues during buildout consist of building permits, planning/zoning fees, and access permits. The building permit fee projections were based on applying the current schedule of fees provided by the Building Dept. to the median projected house size in The Reserve (2682 sq. ft.). The planning/zoning fees are based on fees paid and anticipated to be paid by the developer by the end of the process. There are only two access points onto Piedra Rd. at \$50 each.

Figure 74. One-Time During Buildout Fees

Building Permit Fees	\$	71,086
Access Permit Fees	\$	100
Planning/Plat Fees	\$	8,505
Total	\$	79,691

IV. Road and Bridge Background Data**Figure 75. Analysis of Piedra vs. N Pagosa Distribution**

	Peak Hr N Pagosa	Peak Hr Piedra	Total	% N Pagosa	% Piedra
AM Peak	15	60	75	20%	80%
PM Peak	19	76	95	20%	80%

88% of all trips are back and forth from the highway and the other 12% go North on Upper Piedra.

Figure 76. Road & Bridge Revenue Sources

Federal Revenue					
Account Name	2000 Actual	Multiplier	Multiplier %	Annual Revenue from RAPP	Type
Forest Reserve Act Payments in Lieu of Taxes (PILT)	\$ 58,792	parcels	0.8%	\$ 496	fed
	\$ 323,357	parcels	0.8%	\$ 2,727	fed
TOTAL				\$ 3,223	
Local Taxes					
Account Name	2000 Actual	Multiplier	Multiplier %	Annual Revenue from RAPP	Type
Delinquent Property Tax	\$ 1,631	parcels	0.8%	\$ 14	local
Specific Ownership Tax	\$ 68,898	vehicles	3.3%	\$ 2,268	local
Current Tax Interest	\$ 3,236	parcels	0.8%	\$ 27	local
Property Tax Penalties & Int.	\$ 500	parcels	0.8%	\$ 4	local
MVL Fees	\$ 43,537	vehicles	3.3%	\$ 1,433	local
TOTAL				\$ 2,314	
Other Misc. Revenue					
Account Name	2000 Actual	Multiplier	Multiplier %	Annual Revenue from RAPP	Type
Interest on Deposits/Investments	\$ 43,783	2020 res population including RAPP	1.4%	\$ 630	other
Sale of general fixed assets	\$ 3,744	2020 res population including RAPP	1.4%	\$ 54	other
CCOERA Refunds	\$ 1,472	2020 res population including RAPP	1.4%	\$ 21	other
Refunds - Other	\$ 5,684	2020 res population including RAPP	1.4%	\$ 82	other
TOTAL				\$ 787	
State Revenue					
Account Name	2000 Actual	Multiplier	Multiplier %	Annual Revenue from RAPP	Type
Franchise Tax	\$ 750	structures	2.0%	\$ 15	state
Highway Users Tax (HUTF)	\$ 1,132,945	parcels	0.8%	\$ 9,556	state
TOTAL				\$ 9,571	