A Report by

HEADWATERS ECONOMICS

Fiscal Impact of the Montana Legacy Project on Lake County, Montana

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EXECUTIVE SUMMARY

Headwaters Economics partnered with Lake County to study the fiscal impacts of the Montana Legacy Project on the county and on the Polson Rural Fire District and Swan Valley Fire Service Area. The Legacy Project is a proposal to purchase 310,000 acres of Plum Creek Timber Company land in western Montana for continued timber management and public access, and for wildlife conservation purposes. Thirty-five thousand of these acres lie in the Lake County portion of the Swan Valley. The Legacy project includes 110,000 acres proposed for purchase by the state of Montana.

Residential development on private lands in Lake County, excluding the Plum Creek lands associated with the Montana Legacy Project, will generate annual deficits of more than $324,317 by 2025, and create new one-time capital facilities needs of more than $10.3 million.*

Residential development on the Plum Creek lands associated with the Montana Legacy Project could add to annual deficits by more than $46,000 in operations and maintenance costs by 2025. Development of these lands will generate the need for additional one-time investments in capital facilities of more than $233,000.

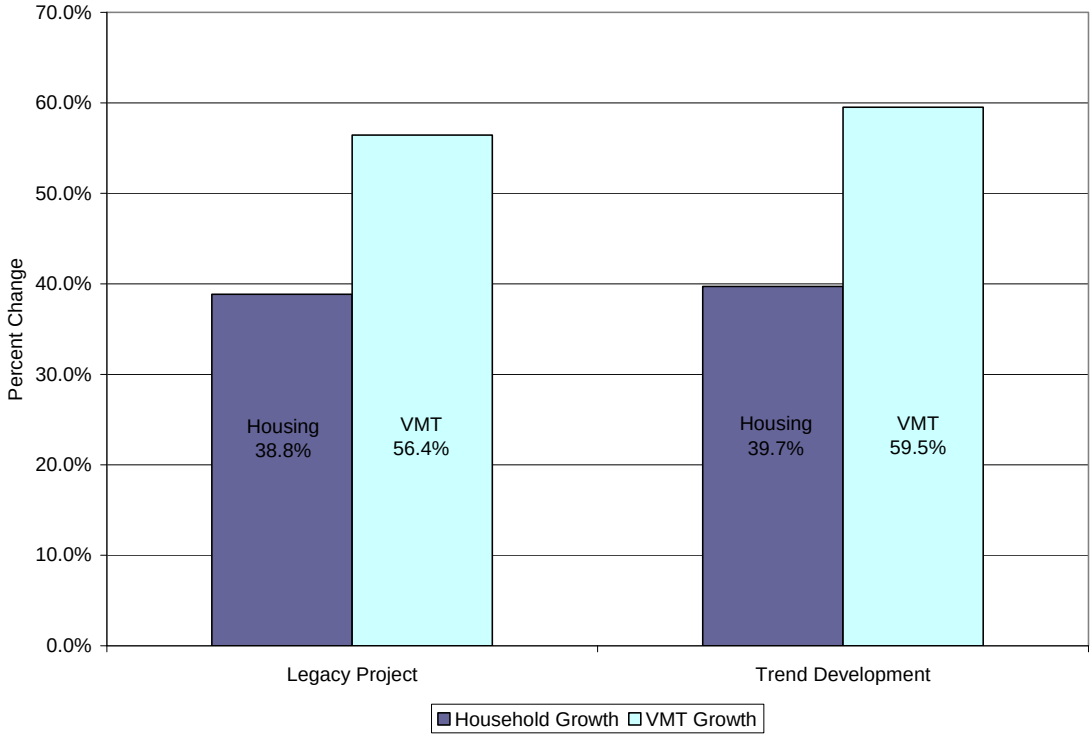
New Development More Expensive to Service Due to Increased Driving Distances
This study forecasts residential development in Lake County to the year 2025 based on current development trends under two scenarios: all potential development excluding the Plum Creek lands associated with the Legacy Project, and all potential development including the Legacy Project. The difference between these two scenarios isolates the specific impacts of development on the Plum Creek lands.

The housing and traffic forecasts show that new construction on average will occur further from population and service centers than existing homes in Lake County, and as a result will generate higher than average "vehicle miles traveled" (VMT). This is particularly true of new homes possible on the Plum Creek lands in the Swan Valley whose occupants must travel long distances to access most services.

Dispersed development and driving patterns affect Lake County's budget directly by raising costs associated with road maintenance and paving, emergency response services, and traffic enforcement. Increases in traffic-related costs are a main reason that future development will be more costly to service than existing houses.

* Much of Lake County lies within the Flathead Indian Reservation, but none of the Plum Creek lands proposed for purchase are within the Reservation boundaries. Lands held in Tribal or individual trust status are included in cost projections for the county as a whole, but do not play a role in the fiscal impact analysis of the Montana Legacy Project.

Percent Increase in Housing and Vehicle Miles Traveled, 2006–2025



Increasing Costs Outpace Revenue Growth

Development generates new taxes directly from homes and related construction and commercial activity. However, much of Lake County's budget will not increase as development continues. For example, Federal Payments in Lieu of Taxes (PILT) and Secure Rural Schools and Community Self Determination Act (Forest Reserve) payments are related to public land, not development (and are more likely to decline over time than increase). In addition, Lake County is a bedroom community, meaning many residents work and shop outside the county. As a result, employment and business growth will occur at a slower pace than residential development. Commercial and industrial taxes and federal payments subsidize existing residential development in Lake County today. If these revenues grow more slowly than the residential growth rate, or not at all, future housing development will create deficits not covered by other sources of revenue.

The Montana Legacy Project Provides Fiscal Benefits When Compared to Development

Rising service costs and slower revenue growth will lead to annual net deficits from new residential development. Homes that could be built on the Plum Creek lands carry the highest average service costs, and pay the highest average revenues, but still could result in annual deficits of more than $46,000 by 2025, and would generate new one-time capital facilities needs of $233,000.

The **Legacy Project** scenario shows that residential development on private land in Lake County by 2025, *excluding* the Plum Creek lands, will generate annual deficits of $324,317 and create new capital facilities needs of $10.3 million that will not be covered by new revenue associated with development.

The **Trend Development** scenario shows that development on private land in Lake County by 2025, *including* the Plum Creek lands, would generate annual deficits of $334,803, and would create new capital facilities needs of $10.5 million that will not be covered by new revenue associated with development.

The **Plum Creek Development** scenario shows that potential development *only* on the Plum Creek lands by 2025 would generate annual deficits of $46,909, and would create new capital facilities needs of $233,216 that will not be covered by new revenue associated with development.

Annual Operations and Maintenance Fiscal Impact

	Legacy Project	Trend Development	Plum Creek Only
Per-Household Cost	$713	$716	$1,127
Per-Household Revenue	$654	$656	$752
Per-Household Fiscal Impact	($59)	($60)	($375)
Housing Units	5,484	5,609	125
Total Fiscal Impact	**($324,317)**	**($334,803)**	**($46,909)**

One-Time Capital Facilities Fiscal Impact

	Legacy Project	Trend Development	Plum Creek Only
Per-Household Capital Facilities Cost	($1,870)	($1,868)	($1,866)
Housing Units	5,484	5,609	125
Total One-Time Capital Facilities Cost	**($10,253,603)**	**($10,475,505)**	**($233,216)**

The Swan Valley Fire Service Area

The results for the Swan Valley Fire Service Area show a different trend. The service area is currently staffed mainly by volunteers, and the current $75 fee paid by all property owners is sufficient to cover ongoing operations and maintenance costs for the Fire Service Area. However, operating a rural Fire Service Area demands significant investments in capital facilities, including fire stations, trucks and equipment. Development possible on Plum Creek land would generate unfunded one-time capital facilities needs of more than $100,000. It is also difficult to maintain a volunteer staff with significant training and time commitments. It is possible that new growth may strain the capacity of the service area to recruit and retain volunteers.

Conclusions

The Montana Legacy Project does two important things for Lake County's fiscal health. First, it holds costs down by precluding residential development on lands remote from service and population centers that would be expensive to service. Second, it maintains important opportunities for commercial and industrial activity associated with forestry, restoration, and public access that generate positive net fiscal benefits. Less obvious but equally important are amenity values associated with these lands that have become important drivers of economic activity in the west's changing economy.

Lake County will face challenges providing services and funding infrastructure and capital facilities associated with forecasted development on the rest of the county's private lands. Growing the commercial and industrial tax base will help cover the revenue gap. Other options include impact fees for new capital facilities and land use planning tools. If these options fail, the county may be forced to raise taxes and or secure bonds for new infrastructure and facilities, or allow the level of service to decline.

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INTRODUCTION

Headwaters Economics partnered with Lake County, MT, to study the fiscal impact of the Montana Legacy Project on county services and capital facilities. The Montana Legacy Project is a proposal by The Nature Conservancy and Trust for Public Land to purchase about 310,000 acres of Plum Creek Timber land in western Montana to maintain these lands as working forests, maintain public access, and preclude development in ecologically sensitive areas.[1] More than 35,000 of these acres are in Lake County. The Legacy Project's goal is to transfer ownership of the Plum Creek lands to federal and state agencies, or private timber management companies with conservation easements in place.

Conversion of private timberlands to public ownership raises a raft of questions about the role of public lands in local economies, and the impacts of private and public ownership on the local tax base. Lake County has experienced rapid growth over the last 20 years, largely driven by the quality of life, and natural amenities including Flathead Lake, the Mission Mountains, and nearby Glacier National Park. The new growth has added significantly to the local economy and expanded the tax base, but has also generated significant new need for infrastructure, capital facilities, and services.

Plum Creek Timber Company has already subdivided and sold land in Lake County for residential development as the timber economy has weakened. Local officials are justifiably worried about the dual trend of a declining timber economy and rapid subdivision of rural landscapes.[2] The Legacy Project will preclude subdivision on the 35,500 acres of Plum Creek land that will be purchased. But long-term timber, subdivision, and restoration activities are uncertain. This study looks closely at the fiscal outcomes of the Legacy Project, compared to the likely alternative—subdivision for residential lots.

Alternative Development Scenarios

2006 Baseline
Assesses the cost of maintaining the current "level of service" for the existing 14,118 housing units in Lake County.

2025 Legacy Project Scenario
Predicts new development on all private land in Lake County, EXCLUDING those Plum Creek lands included in the Legacy Project (assumes these lands are transferred to public ownership).

2025 Trend Development Scenario
Predicts new development on all private land in Lake County, INCLUDING development that is possible on the Plum Creek lands included in the Legacy Project.

2025 Plum Creek Development Scenario
Isolates future development predicted ONLY on the Plum Creek lands that are part of the Legacy Project.

Alternative Development Scenarios
This report compares the fiscal outcomes of two different development scenarios to isolate the fiscal impact of the Legacy Project on Lake County. The **Legacy Project** scenario assumes that the Plum Creek lands are transferred to the Montana DNRC, and the U.S. Forest Service, and no future development will occur. The **Trend Development** scenario alternatively projects that these lands will be sold for residential development. Both scenarios account for the development that will occur on all other private land in Lake County, based on current development trends.

Fiscal Impact Analysis
Fiscal impact analysis compares the new revenue and costs associated with development to arrive at the net fiscal impact. A positive fiscal impact means revenue will exceed costs. A negative fiscal impact means that costs exceed revenues. The fiscal impact analysis includes both annual operations and maintenance costs, and one-time capital facilities costs associated with providing basic county services including road and public safety services, general government and administration services, and other departments and programs.

The fiscal impact analysis has four basic steps:

1. Housing Forecast and Traffic Projections
This section forecasts development to 2025 in Lake County using a housing forecast model and through conversations with local elected officials, staff, and land appraisers familiar with Plum Creek's real estate activities. The Rural Traffic model projects Vehicle Miles Traveled—a measure of the total amount of driving generated by an average household—and Average Daily Trips—the total number of vehicles traveling on a given section of county road each day.

2. Level of Service and Cost Projections
The level of service is defined as the cost of maintaining the existing standard of services and infrastructure for an average household in Lake County (e.g., emergency response times, road maintenance standards, or the number of sheriff's deputies per capita). Cost projections are made by predicting the cost of maintaining the same level of service in the future.

3. Revenue Projections
New development will generate new property taxes and other revenue associated with residential and related commercial development. However, some current sources of revenue are unrelated to growth, including federal payments to counties and certain types of industrial development (*e.g.*, timber production and manufacturing). This section forecasts new revenue that will be generated by each new home built in Lake County.

4. Fiscal Impact Analysis
This section compares revenue and cost projections to arrive at the net fiscal impact of development under each alternative development scenario.

Polson Rural Fire District and Swan Valley Fire and Emergency Service Area
This report also includes fiscal impact analysis for the Polson Rural Fire District and Swan Valley Fire Service Area. The Polson rural fire district provides fire protection services, while the Swan Valley rural Fire Service Area provides both fire and emergency ambulance services. Special districts are autonomous governmental units that raise taxes, charge fees, and raise other revenue to provide a specific service only to residents inside that district.

Level of Service

Suppose that you enter 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 will be good. Consider entering 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. You would expect a significantly decreased level of service from the two waiters.

The same happens with provision of government services and infrastructure. For example, providing road infrastructure is one of the top expenses for rural county governments. General wear and tear on the road system, the attendant maintenance requirements, and the need for expanding the capacity and safety of the system accompany increased traffic associated with new growth. If revenue does not increase at pace with new service demands from new development, the level of service will decline.

Fiscal impact analysis first establishes the existing level of service—defined as the cost of maintaining a specific standard of services and infrastructure—for an average home in Lake County, then projects these costs into the future based on two alternative development scenarios. Level of service analysis consists of two main components:

Operations and Maintenance: the ongoing day-to-day expenses of running a county department, expressed annually (e.g., salaries, utilities, fuel).

Capital Facilities: the one-time expenses associated with increasing the capacity of infrastructure and capital facilities to keep up with demand (*e.g.,* land, buildings, vehicles).

County government provides some services to homes on tribal lands in Lake County. This study uses an average of the level of service costs across all homes in the county, including homes on trust lands. Level of service varies, and including tribal homes may change average costs, but will not affect total current and future level of service costs.

HOUSING AND TRAFFIC PROJECTIONS TO 2025

Housing Projections

Housing projections are made using Headwaters Economics' 2025 development forecast model, which is based on a continuation of recent growth rates and trends observed in western Montana.[3] The development forecast model uses Montana county tax assessor records, which represent the most accurate and current data on the number and location of housing in Lake County. Current housing statistics and projections include homes inside city limits and on tribal lands. All residents in the county receive some county services, although levels of service are likely to vary, even among homes on fee simple land in the unincorporated county. As a result, average household costs should not be applied to any one housing type (e.g., housing on tribal land vs. housing in the unincorporated county). However, total costs are an accurate description of total costs associated with residential development.

Headwaters Economics facilitated a work session in Polson on October 20, 2008 with county elected officials and staff to review the housing forecasts and alternative development scenarios. During the workshop, we learned that potential development of Plum Creek lands would likely be a different real estate market and different home buyers from the housing projected to be built in the rest of Lake County. These observations were corroborated by conversations with land appraisers and real estate experts knowledgeable about the Legacy Project and Plum Creek's land sales and development activities in Western Montana. This means that any development of Plum Creek lands would be in addition to development elsewhere in the county, increasing the total amount of development by 2025.

Figure 1 - Existing and Projected Residential Dwelling Units

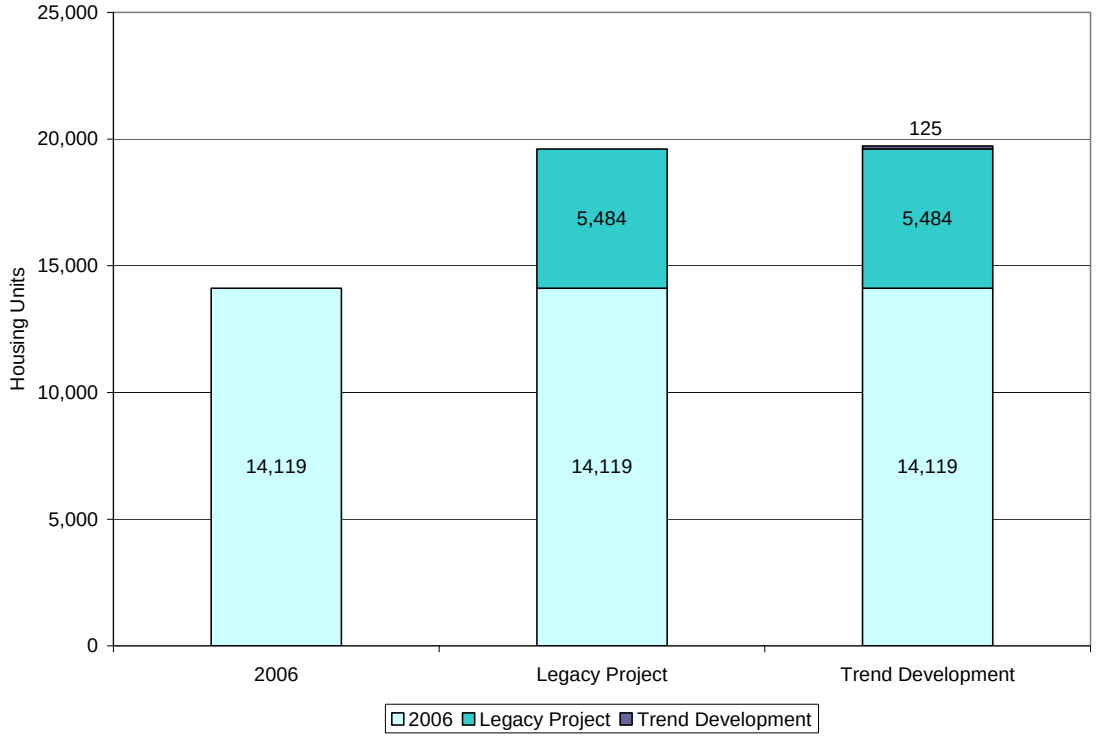


Figure 1 shows that there are 14,119 housing units in Lake County in 2006, including households on tribal lands. Under the Legacy Project Scenario, Lake County will add 5,484 new homes—a 34 percent increase over 2006 housing numbers—by 2025. The Trend Development Scenario predicts that an additional 125 homes are possible on the Plum Creek lands if they were to be developed—just a 1 percent increase over development trends in the rest of the county. The low number of homes forecasted on Plum Creek lands is mainly due to the high value of these lands, and the limited and large-lot development that would be expected.

Map 1 shows that many of the new homes, particularly those associated with the Plum Creek lands in the Swan Valley, will be constructed outside of population and service centers. These trends are consistent with development patterns over the last 20 to 30 years in western Montana, and have implications for the cost of providing services related to increased traffic.

Existing and Projected Traffic

Increased traffic is one of the most noticeable effects of growth, and road construction and maintenance is one of the most expensive services Lake County provides. In addition, the sheriff, fire district personnel, and emergency medical services are all responsible for traffic-related enforcement and public safety. In all cases, the makeup of the road network and driving patterns has a real impact on the cost of providing services and maintaining infrastructure.

The most accurate way to measure and predict the amount of driving related to development patterns is to calculate the Vehicle Miles Traveled (VMT) generated by each household in the county. The more vehicle miles traveled a road system has to support, the more it will cost to maintain the current level of service. Vehicle Miles Traveled (VMT) directly relates to demand for road operations, maintenance, and capital improvements. While some natural forces contribute to road maintenance (water and erosion damage, etc.), driving is the prime reason for road degradation over time. In addition to increased road costs, increased driving in the county will create the need for additional traffic enforcement to keep up with existing service levels.

Traffic modeling is based on a rural traffic demand model developed by the Rural Planning Institute described in Appendix A. The model estimates total Vehicle Miles Traveled (VMT) in Lake County for the average household, and by type of road, and Average Daily Trips (ADT) for all county roads. ADT is a measure of the total traffic demand on each individual section of county road. Table 1 and Maps 2 and 3 (pp. 12 and 13) show average household VMT on county roads for the alternative development scenarios. Map 4 (page 14) shows ADT for county roads under the Trend Development Scenario. Full results are presented in Appendix A.

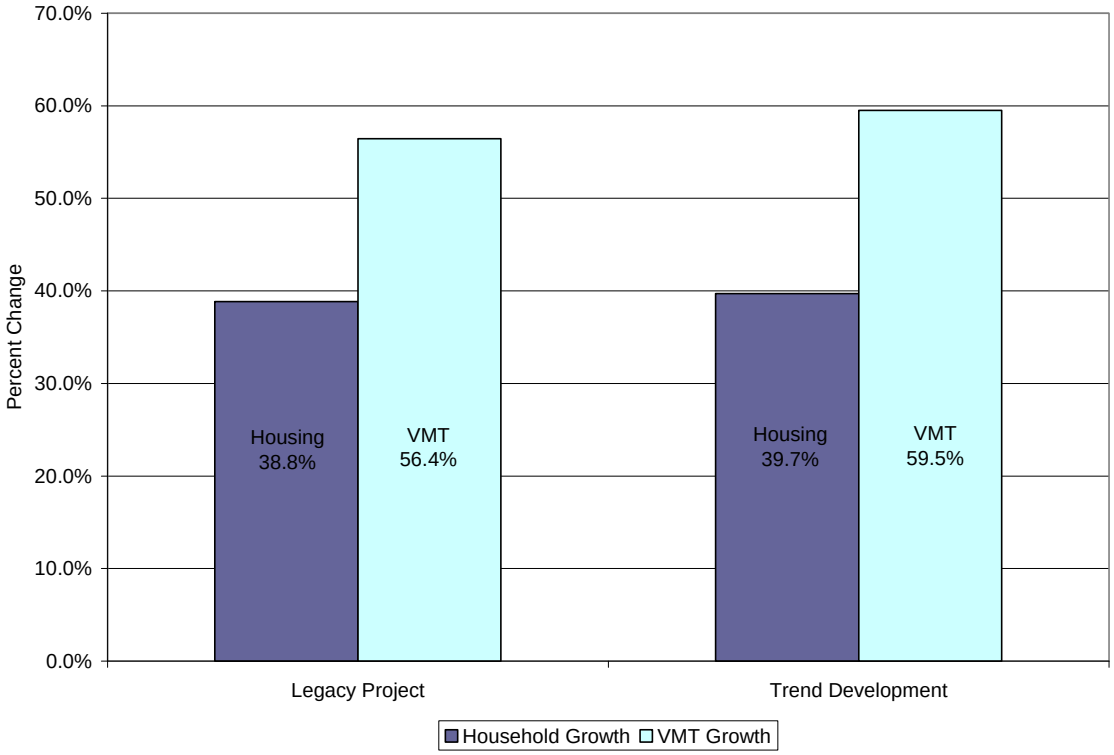
Table 1: Existing and Forecasted Vehicle Miles Traveled (VMT) on County Roads in Lake County, 2006 and 2025

	2006	Legacy Project	Trend Development	Plum Creek Only
Housing Units	14,119	19,603	19,728	125
Daily VMT County Roads	181,842	284,474	290,054	5,580
Per-Household Daily VMT County Roads	12.9	14.5	14.7	44.6

Table 1 shows that the amount of driving, measured as daily VMT, is expected to be higher for new homes associated with the alternative development scenarios than the average daily VMT for current development. Development associated with the Plum Creek lands would generate about 45 daily VMT, compared to the current daily VMT of 12.9 and daily VMT with all other new growth of 14.5.

Figure 2 compares the rate of growth in housing units to the rate of growth in VMT. It shows that traffic is expected to grow at a faster rate than housing development, which will have significant implications for future level of service costs for all traffic-related services.

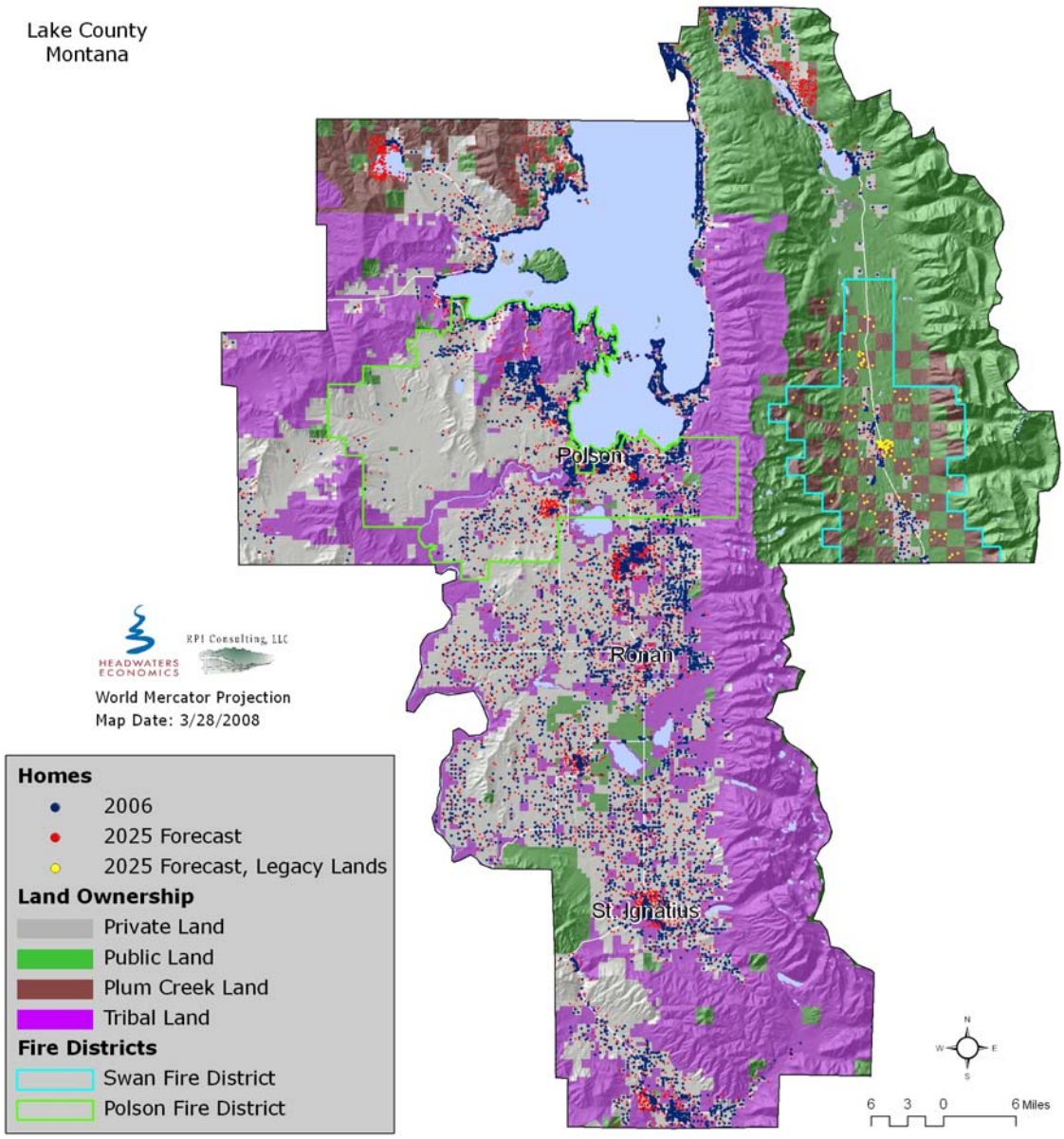
Figure 2: Percent Change in Housing and Vehicle Miles Traveled (VMT)



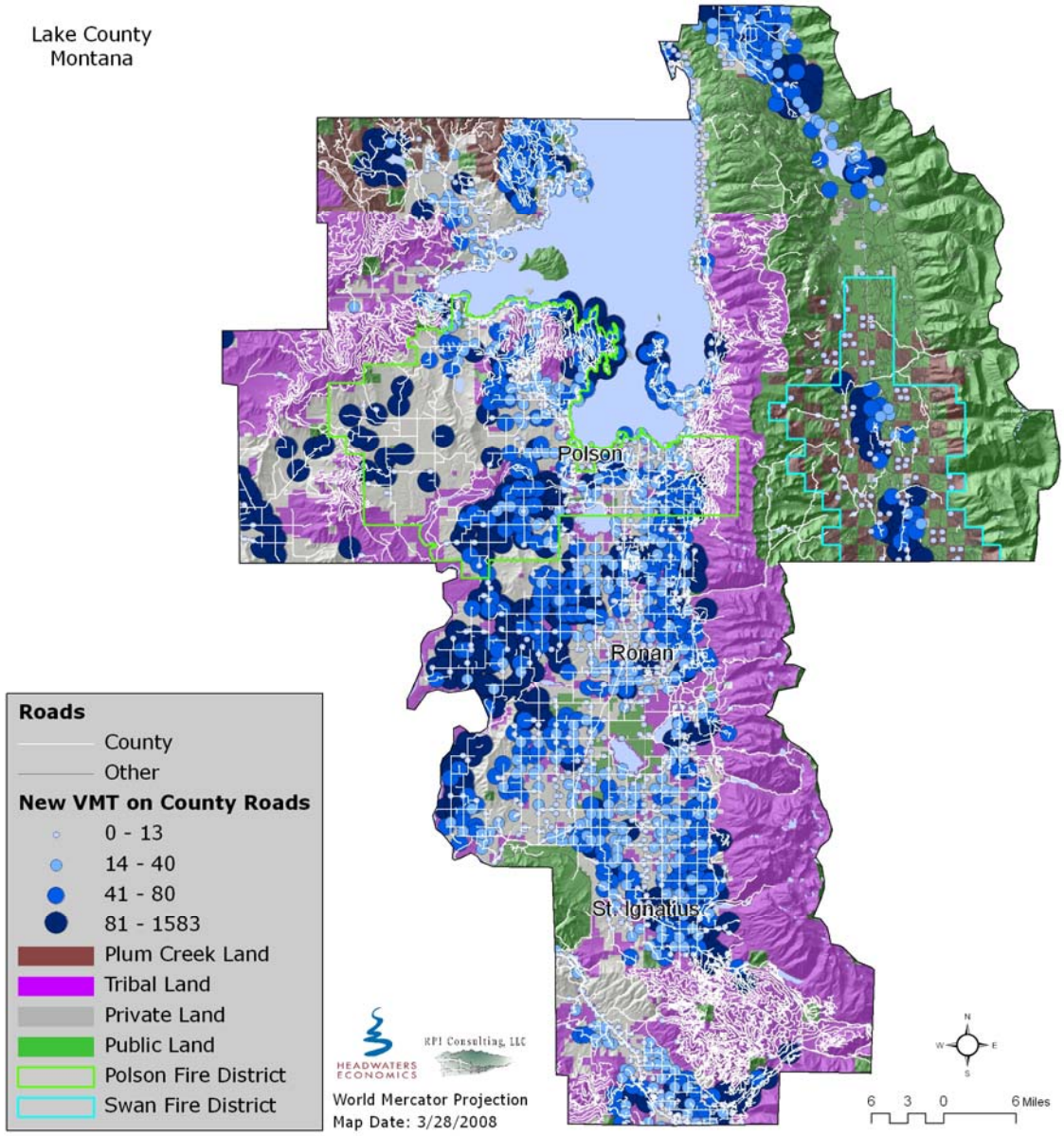
Increasing VMT on county roads resulting from growth is associated with increasing demands for road construction, maintenance, and other services. In the next section, we predict how changes in VMT associated with new growth will affect the cost of maintaining the current level of service under the alternative development scenarios.

Maps 2 through 4 illustrate VMT and ADT traffic projections described above.

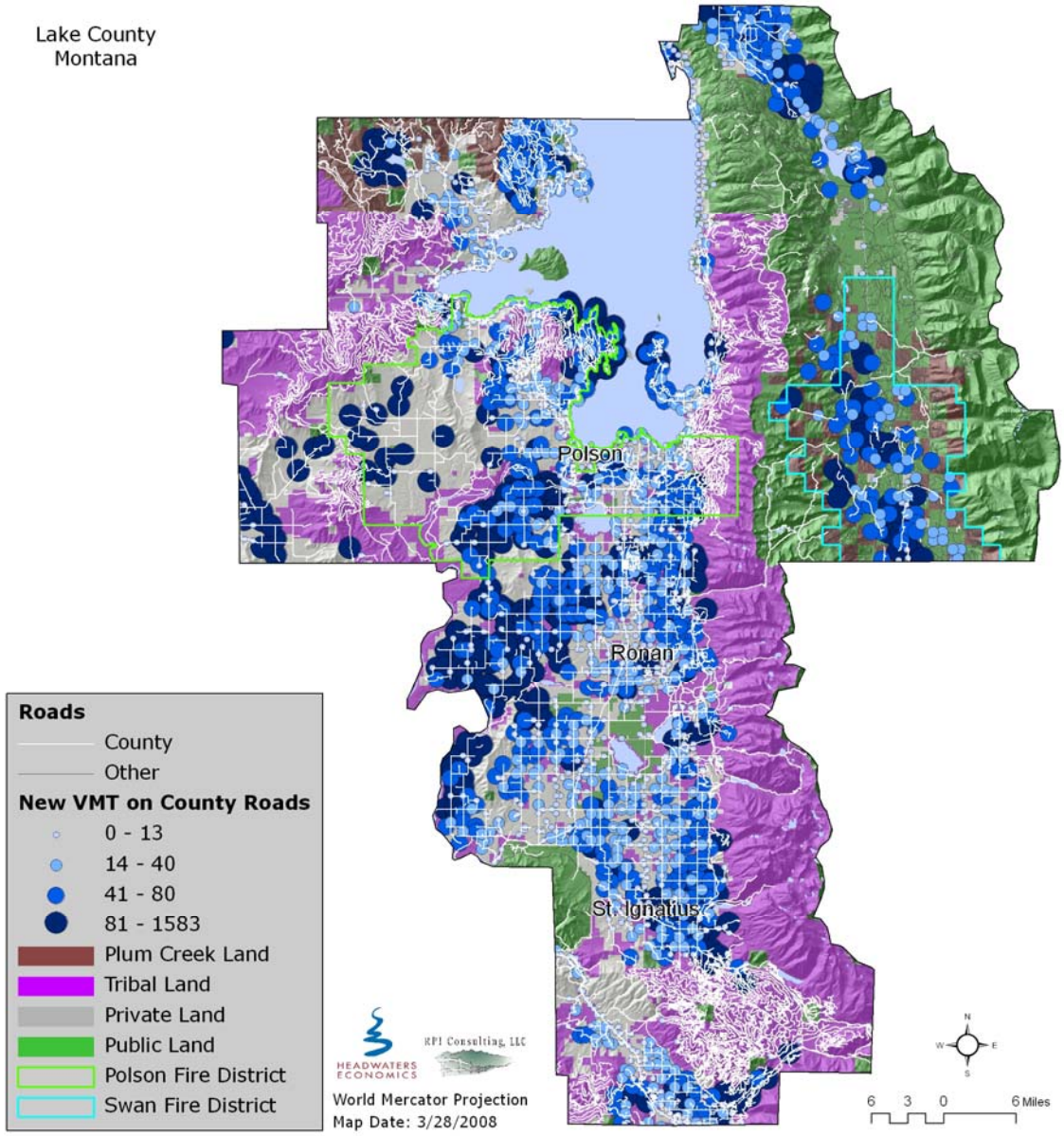
Map 1: Lake County 2025 Housing Forecast.



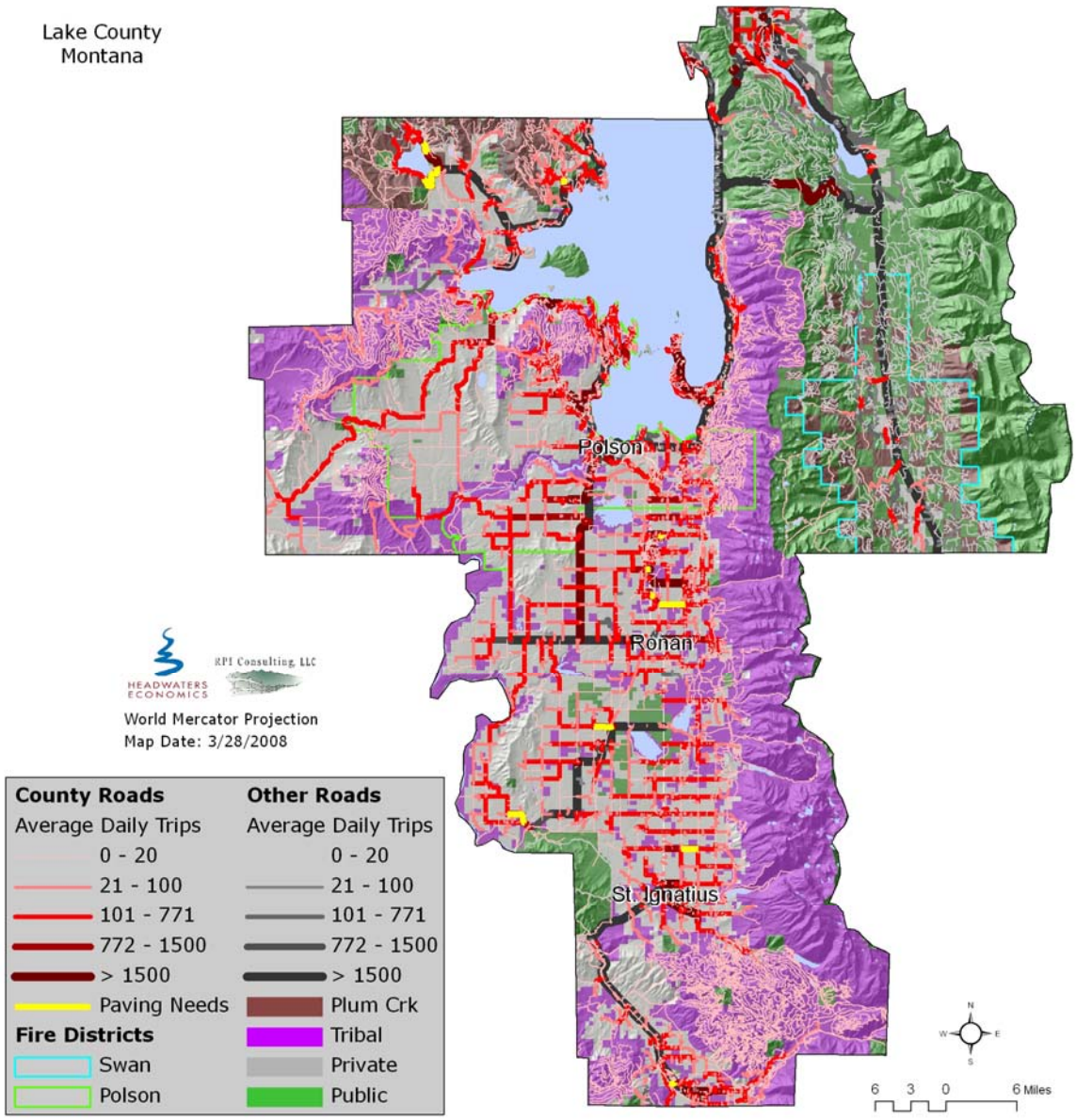
Map 2: Projected Vehicle Miles Traveled, Legacy Project Scenario, Lake County, MT 2006-2025.



Map 3: Projected Vehicle Miles Traveled, Trend Development Scenario, Lake County, MT 2006-2025



Map 4: Projected Average Daily Trips, Trend Development Scenario, Lake County, MT 2006-2025



LEVEL OF SERVICE AND COST PROJECTIONS

ROAD DEPARTMENT LEVEL OF SERVICE PROJECTIONS

This section reviews the current level of service and its cost for county roads in 2006. What follows are projections of the cost of maintaining the current level of service under each future development scenario.

Operations and Maintenance
Table 2 shows that the Lake County road department spent an average of just over $1.9 million annually in 2006 and 2007 on operations and maintenance services. The cost to maintain the current level of service for the average household in 2006 is $134.70. The cost is calculated by determining the average cost of providing services for an average daily VMT (the costs associated with one vehicle driving one mile on county roads each day for an entire year). The average daily VMT cost is multiplied by the average household VMT of 12.9.

Because the traffic model calculates VMT based on travel between the house and trip destinations that include local cities and towns and cities in adjacent counties (Missoula and Kalispell), homes inside incorporated towns in Lake County generate zero VMT. This essentially means that road department costs are distributed across only homes in unincorporated areas and tribal lands.[†]

Table 2: Road Department Operations and Maintenance Expenditures, 2006[4]

	FY 2006	FY 2007	Mean
Operations and Maintenance	$1,676,344	$2,127,296	$1,901,820
Daily VMT on County Roads			181,842
Average Daily VMT Cost			$10.46
Average Household Daily VMT			12.9
Average Household Cost			$134.70

The day to day costs of maintaining the county's roads are sensitive to the amount of driving. It follows that houses that generate more traffic on average, generate higher service demands, and higher costs. Table 3 shows the projected increase in average daily VMT per household under the alternative development scenarios, and the resulting costs of maintaining the current level of service in the future.

[†] It is also important to point out that all of the road department costs are allocated to the residential sector. There are other types of traffic in Lake County that place demands on county roads. Agricultural traffic is the most significant in Lake County. The heavy vehicles can cause wear and tear on specific road segments. Because the study does not account for these types of road impacts, the residential share of road costs is overestimated. However, because most of the commercial and industrial traffic is located inside incorporated cities and towns, and will access state highways for most travel, the overall impact of general commercial activity on county roads is expected to be small. It is accepted practice for impact fees studies in rural counties to allocated 100 percent of road impacts to residential development because of these general traffic patterns.

Table 3: Road Department Operations and Maintenance Level of Service Cost Projections

	Legacy Project	Trend Development	Plum Creek Only
Average Daily VMT	14.5	14.7	44.6
Additional Housing Units	5,484	5,609	125
Average Household Cost	$152	$154	$467
Total Cost	$832,319	$862,490	$58,362

Table 3 shows that maintaining the existing level of service on county roads for the 5,484 new homes projected under the Legacy Project would cost $832,319 annually by 2025. The higher costs are directly related to the increase in daily VMT associated with these new homes.

Because the daily VMT generated by the 125 homes possible on Plum Creek lands is significantly higher than an average new home projected elsewhere in the county, the cost of maintaining the same level of service under the Plum Creek Development scenario is considerably higher, averaging $467 per household compared to $152 per household for all other projected development. However, because the new development possible on Plum Creek lands is a small portion of all projected growth, the cost increase is relatively small. The 125 homes represent about 2 percent of projected growth, but account for nearly 7 percent of the expected increase in operations and maintenance costs.

Capital Facilities and Road Improvements

As traffic increases, maintenance schedules get full and improvement projects mount. The county will need to add capacity to its maintenance fleet and facilities to meet increased demand. Table 4 shows that the current replacement value of existing capital facilities, including land, buildings, vehicles and equipment, is nearly $3.9 million, which yields an average cost of $273 per household in Lake County in 2006.

Table 4: Road Facilities and Equipment Value[5]

Buildings	Buildings Value	Equipment Value	Total Assets
Polson, Castilio, Charlo shops	$738,246	$3,114,326	$3,852,572
Daily VMT on County Roads			181,842
Average Daily VMT Cost			$21.19
Average Household Daily VMT			12.9
Average Household Cost			$273

Maintaining the current level of service for new development associated with the alternative development scenarios will require that buildings, vehicles, and equipment are purchased, expanded, and replaced as needs grow. In addition to the incremental costs of maintaining the current value of capital facilities, paving gravel roads is a major expense as the county grows and traffic levels trigger the need for an upgrade from aggregate to flexible pavement surface. The rural transportation model is programmed to distribute traffic volumes onto the road segments (measured as Average Daily Trips or ADT) to allow for a planning level evaluation of future paving and road improvement needs. Modeling results show that projected traffic flows on almost 10 miles of gravel county roads will likely breach the 771 ADT threshold for paving aggregate surface roads. See Map 4 for the location of the specific road segments.

Chapter 4 of the 1993 American Association of State Highway Officials Guide for Design of Pavement Structures includes a Flexible Pavement—Aggregate Surface Catalogue that indicates that for Montana's climate, roads with average daily trip (ADT) volumes in excess of 771 should be paved. Volumes below this level should function with aggregate, or gravel/dirt surfaces in most conditions. Map 4 demonstrates that the roads reaching paving thresholds are mostly collector roads leading to the state owned arterial roads (S-212 and N-5) that form the backbone of the county's transportation network and provides access to Polson, Ronan, Missoula, and ultimately Kalispell.

Recent impact fee support studies in Montana cite a number of rural road rebuilding and paving project costs that range from $1.6 million to $2.5 million per mile.[6] Using the lower end of this range, the total cost of rebuilding the gravel road segments reaching the paving threshold in Lake County would cost about $15 million (2006 dollars).

Table 5: Paving Needs Analysis for Legacy Project Scenario[7]

	Road Paving Costs
Miles Needing Repaving	9.4
Cost per Mile	$1,600,000
Total Cost	$15,071,398
Daily VMT on County Roads	284,474
Average Daily VMT Cost	$52.98
Average Household Daily VMT	14.5
Average Household Cost	$769

Table 5 shows that evenly sharing the bill for the 9.4 miles of county road paving triggered by dispersed and incremental residential development adds an additional one-time cost of $769 per household under the Legacy Project Scenario, for a total capital investment per household cost of $1,076 in 2025.

Table 6: Road Department Capital Facilities and Road Improvements Level of Service Cost Projections

	Legacy Project	Trend Development	Plum Creek Only
Average Daily VMT	14.5	14.7	44.6
Additional Housing Units	5,484	5,609	125
Average Household Cost	$1,076	$1,073	$946
Total Cost	5,902,301	6,020,528	118,226

Table 6 shows that the cost of maintaining the current level of service for capital facilities, and the cost of road paving requirements under the Legacy Project Scenario is $5.9 million. If the Plum Creek lands associated with the Legacy Project are developed, these costs will grow by an additional $118,226, raising the total capital facilities and road paving costs under the Trend Development Scenario to over $6 million. The average cost for the 125 new housing units possible under the Plum Creek Development scenario is lower because these new units do not trigger any additional road paving requirements beyond those triggered by all other development in the county.

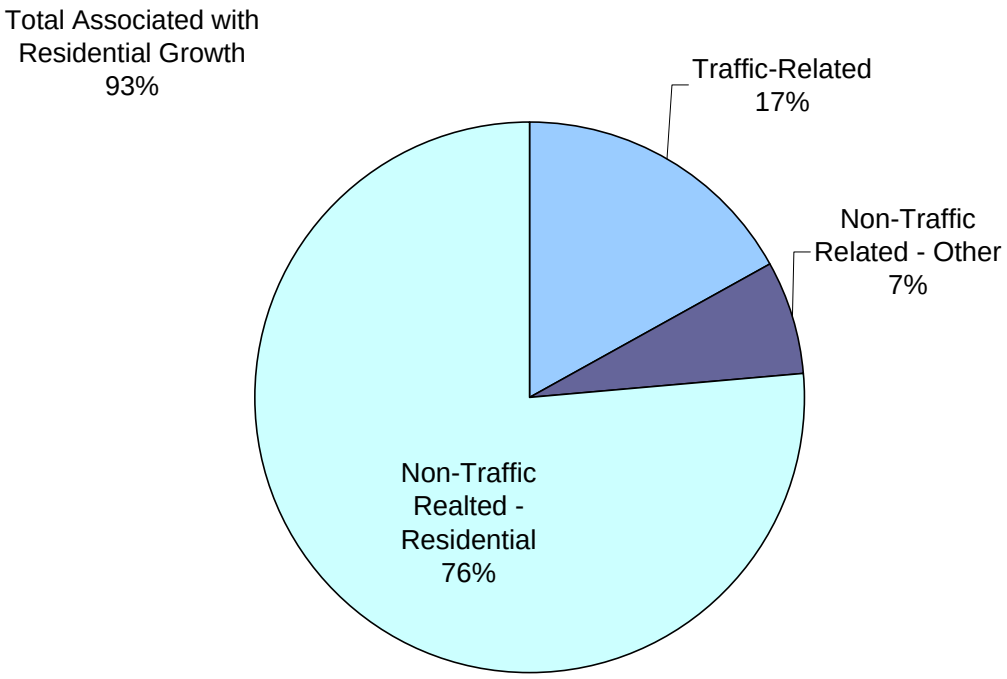
PUBLIC SAFETY LEVEL OF SERVICE PROJECTIONS

Public safety services include a wide range of activities, including traffic enforcement and emergency response directly related to traffic, and other enforcement, educational, and prevention activities unrelated to traffic.

This section begins with a proportionate share analysis to determine the portion of public safety level of service costs that will change from new development and new traffic associated with the alternative development scenarios.

Proportionate Share
Figure 3 shows that only 17 percent of the sheriff's activities are related to traffic. This proportion was determined by a hand count of citations for the majority of the year 2008 conducted by the Lake County Sheriff. Most of the sheriff's time and resources are related instead to other law enforcement (e.g., domestic violence, burglaries, drug-related crimes), education, and prevention activities. Of these other activities and services, the majority are directly associated with residents in the county, as opposed to commercial or industrial land uses, as determined by a service-hour approach that evaluates how much time county residents spend at home vs. at other non-residential land uses (see the next section of this report on centrally located services proportionate share analysis for a detailed description of these methods).

Figure 3: Public Safety Traffic and Residential Proportionate Share



Operations and Maintenance

Table 7 shows that the mean annual sheriff's budget was nearly $3.6 million for operations and maintenance expenditures in 2006-07. Given the proportionate share factors cited above, the average household generates $238 in annual costs to maintain the current level of service.

Table 7: Public Safety Annual Operations and Maintenance Expenditures[8]

	2006	2007	Mean
Total Public Safety Expenditures	$3,295,623	$3,912,590	$3,604,107
Housing Units			14,119
Average Daily VMT			$181,842
Average Household Level of Service			$238

Table 8 shows that providing the same public safety operations and maintenance level of service to the 5,484 additional homes projected under the 2025 Legacy Project Scenario will cost $244 per housing unit, and $1.3 million annually by 2025. The 125 units considered possible on Plum Creek lands will cost $343 each in annual operations and maintenance costs, or $42,835 annually. The traffic-related and general new demands generated by these units will contribute 3 percent to the total $1.36 million increase in annual operations and maintenance costs, although the 125 homes represent only 1 percent of new growth.

Table 8: Public Safety Operations and Maintenance Level of Service Projections

	Legacy Project	Trend Development	Plum Creek Only
Average Daily VMT	14.5	14.7	44.6
Additional Housing Units	5,484	5,609	125
Average Household Cost	$244	$244	$343
Total Cost	1,335,900	1,369,871	42,835

Capital Facilities

Table 9 shows that the sheriff's department has about $4.6 million invested in buildings, land, and high valued equipment/vehicles in 2006. The proportionate share analysis indicates that the value of capital facilities is $304 per household, of which $54 is associated with traffic-related demands on facilities and equipment, and $250 is related to residential services.

Table 9: Public Safety Capital Facilities[9]

Buildings	Buildings Value	Equipment Value	Total Assets
Courthouse, OEM Bld., S & R Bld.	$3,170,439	$1,429,728	$4,600,167
Housing Units			14,119
Daily VMT			$181,842
Average Household Costs			$304

Including both facilities and equipment incremental expansion, development associated with the Legacy Project Scenario will generated new needs totaling about $1.7 million. The average household is responsible for $311 of new facilities needs. The 125 homes forecasted on Plum Creek lands will generate average costs of $437, and add $54,673 to total future capital facilities needs by 2025.

Table 10: Public Safety Capital Facilities Level of Service Projections

	Legacy Project	Trend Development	Plum Creek Only
Average Daily VMT	14.5	14.7	44.6
Additional Housing Units	5,484	5,609	125
Average Household Cost	$311	$312	$437
Total Cost	1,705,101	1,748,460	54,673

CENTRALLY-LOCATED SERVICE COST PROJECTIONS

Not all local government services are sensitive to the location of development or traffic patterns. For example, services provided by the county commissioners, county assessor, or public health nurse are the same for all constituents, and because they work in centrally located offices, costs will not vary because of where a particular resident is located in the county.

This section reviews the current level of service and its cost for all centrally located county services in 2006. What follows are projections of the cost of maintaining the current level of service under each future development scenario.

Proportionate Share

Fundamentally, demand for these core county services increases with the quantity of activity in Lake County. However, demand for these services is split between activities associated with residential land uses vs. non-residential land uses. The particular distribution of demand varies among communities based on their economy and land use patterns. For example, counties that serve as employment and service centers for a surrounding area (e.g., Missoula or Flathead Counties in MT) will tend to have higher demand from commercial land uses. "Bedroom communities"—defined as cities or counties where a large portion of the resident population travels to work or shop in adjacent service centers—will have more demand from residential land uses.

One reliable way to establish a planning level ratio between residential and non-residential demand is to evaluate how much time people spend at home (residential) vs. at work (non-residential) and assign proportionate share accordingly. Table 11 shows that this analysis reveals that about 92 percent of all centrally located services can be attributed to households in the county, and 8 percent to commercial and industrial activities.

Table 11: Proportionate Share for Centralized County Services[10]

	Demand Units in 2000	Demand Hours/Week	Person Hours/Week
Total Residents***	26,507		
Residents Not Working	15,692	168	2,636,256
Workers Living in County*	10,815		
Residents Working in County*	9,052	128	1,158,656
Residents Working Outside the County*	1,763	128	225,664
Residential Subtotal			3,569,248
Residential Share			92%
Jobs Located in County**	13,818		
Residents Working in County*	9,052	40	238,080
Non-Residents Working in County****	3,510	40	92,313
NonResidential Subtotal			330,393
NonResidential Share			8.0%
Total			3,899,641

Operations and Maintenance

Lake County budget reports and audited annual financial reports were used to compile operations and maintenance costs by county function. The financial reports were used to define expenditures for most functions, and the budget reports were used to find additional detail on funds not classified in standard financial reports. Regular operating and maintenance expenses are separated from capital outlay (expenditures that fund capital facilities), debt payments, and one-time grant-funded projects.

Table 12: Annual Operations and Maintenance Expenditures by County Function[11]

	2006	2007	Mean
Administration and General Govt.	$2,713,976	$2,873,849	$2,793,913
Public Health	$984,545	$1,032,491	$1,008,518
Social and Economic Services	$309,031	$341,937	$325,484
Library, Parks, Museum, County Fair	$105,036	$130,333	$117,685
Weed Program & Extension Agent	$439,550	$345,014	$392,282
Airports	$72,068	$53,509	$62,789
Junk Vehicle and Misc	$173,047	$176,817	$174,932
Total	$4,797,253	$4,953,950	$4,875,602
Housing Units			14,119
Average Household Cost			$318

To calculate level of service, the annual operations cost and the capital facilities values were first multiplied by the residential proportionate share (92%), then divided by 14,199, the number of housing units in the county in 2006.

Overall it costs $318 per housing unit per year for the operations and maintenance costs of providing basic centralized county services. The bulk of this cost is borne by the administration and general government functions of the county that include services such as clerk and recorder, treasurer, courts, and county commissioners.

Table 13: Centralized County Services Level of Service

	Legacy Project	Trend Development	Plum Creek Only
Average Daily VMT	14.5	14.7	44.6
Additional Housing Units	5,484	5,609	125
Average Household Cost	$318	$318	$318
Total Cost	$1,742,234	$1,781,946	$39,712

Capital Facilities

The total current value of capital facilities (*e.g.*, buildings, land, equipment and vehicles) establishes the county's level of service. The total current value was established through the county's insurance inventories and audited annual financial reports. The average household value is simply the total value divided by the number of housing units in 2006. Where buildings were shared by multiple uses (for example, the library hosts the weed and extension departments), the value of the building was allocated based on the relative number of employees or by actual square footages occupied by the different functions where they were available. Land values were based on the asset inventories in the FY 2007 audited financial report.

Table 14: Central County Facilities Asset Use and Value Allocations[12]

Function	Buildings	Buildings Value	Equipment	Total Assets
Administration and General Govt.	Courthouse	$3,438,143	$112,579	$3,550,722
Public Health	Chemical Dependency Bld.	$585,968	$88,570	$674,538
Social and Economic Services	Ronan Community Center, Arlee Blds,	$836,371	$140,759	$977,130
Library, Parks, County Fair	Polson Fairgrounds, Ronan Exhibit Blds.	$273,658	$37,000	$310,658
Weed Program & Extension Agent	Weed Control Warehouse	$77,461	$189,300	$266,761
Airports	Polson, St Ignatius, Ronan Airports	$1,369,156	$256,367	$1,625,523
Total		$6,580,757	$824,575	$7,405,332
				14,119
				$483

Table 14 shows that the value of existing capital facilities for all centrally located services is $483 per household. The approach for calculating the future cost of maintaining the current level of service for capital facilities is an incremental expansion approach that assumes that the current value of assets per household must be maintained in the future, or service levels will decline. Thus, the cost of providing today's level of service to each housing unit likely to be added under the alternative development scenarios is the same, at $483 expressed in 2006 dollars.

Table 15: Centrally Located Services Capital Facilities Level of Service Projections

	Legacy Project	Trend Development	Plum Creek Only
Average Daily VMT	14.5	14.7	44.6
Additional Housing Units	5,484	5,609	125
Average Household Cost	$483	$483	$483
Total Cost	$2,646,201	$2,706,517	$60,316

Maintaining the current level of service for centrally located county services for an additional 5,484 residential units projected to occur during 2007-2025 independent of Plum Creek land development is going to cost an additional $2.6 million annually. Were Plum Creek lands developed with 125 units in addition to the these 5,484 units, the units on Plum Creek lands alone would cost an additional $60,000 annually.

The highest costs in the future are likely to be expanding the courthouse for administration and general government services.

REVENUE PROJECTIONS

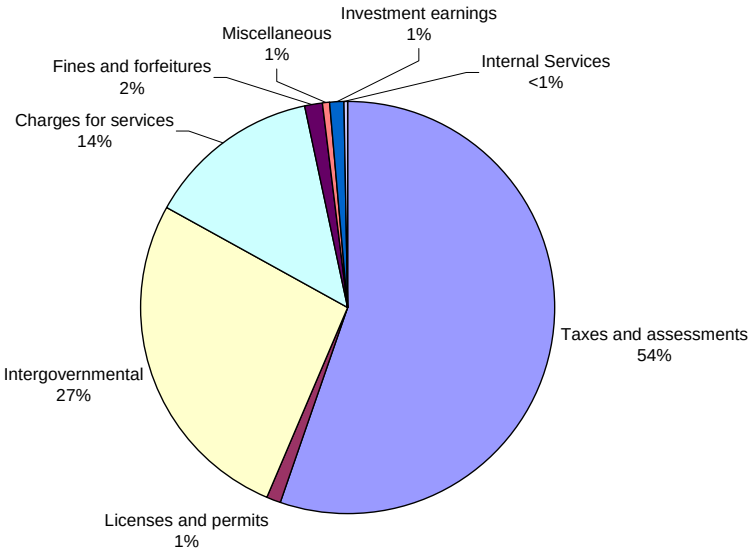
This section calculates the average revenue generated by each household in Lake County, and the new revenue that will be generated by additional homes forecasted by the alternative development scenarios. The majority of the Lake County government's revenue is generated by local taxes, fees, and charges for services, and new homes will generate these same revenues in the future. Revenue from other sources, including federal payments to the county and some other intergovernmental grants, and revenue generated by commercial and industrial land uses not associated with residential development (e.g., agriculture, timber and mining, state assessed utilities) will not necessarily increase as a result of residential construction in Lake County.

Table 16 and Figure 4 show Lake County's major categories of revenue and the relative importance of each to the county budget.

Table 16: Total Lake County Revenue[13]

	FY 2006	FY 2007	Average
Taxes and assessments	$6,436,073	$7,565,512	$7,000,793
Licenses and permits	$136,265	$136,060	$136,163
Intergovernmental	$2,924,312	$3,783,544	$3,353,928
Charges for services	$1,625,724	$1,815,229	$1,720,477
Fines and forfeitures	$191,914	$205,411	$198,663
Miscellaneous	$57,139	$73,412	$65,276
Investment earnings	$116,529	$174,340	$145,435
Internal Services	$39,471		$19,736
Total	$11,527,427	$13,753,508	$12,640,468

Figure 4: Share of Total Revenue, Lake County Revenue Sources

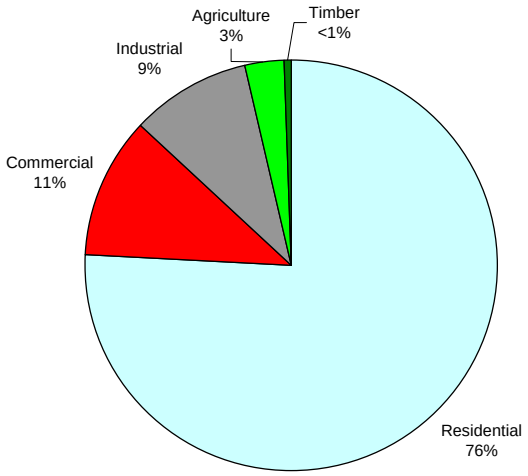


Proportionate Share

The proportionate share analysis breaks out that portion of revenue generated by residential land uses (e.g., property taxes, grants, or charges for services) that will increase as new homes associated with the alternative development scenarios are built.

Local or Own-Source Revenue
Own-source revenue is raised in Lake County directly from local economic development and land uses. Property taxes, local-option sales taxes, charges for services, and fines and forfeitures are examples. This report uses property taxes as a proxy for all own-source revenue to determine proportionate share. For example, 76 percent of Lake County's assessed value is in residential property, and the balance is in commercial, industrial, agricultural, and timber property.

Figure 5: Property Taxes Proportionate Share[14]

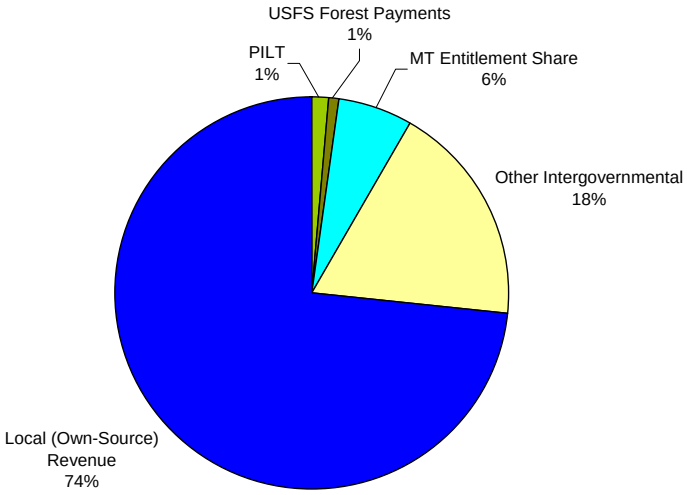


This study assumes that the average new home projected under the Legacy scenario will contribute new property tax revenue and other local revenue at the same rate as existing homes. All taxes and assessments and other local revenue are increased by 76 percent for each new home. For example, licenses and permits include concealed weapons permits for county residents, and video gaming licenses for commercial establishments, fines, and forfeitures may be court fines for a DUI, or related to a bar admitting underage drinkers, and charges for services include subdivision review and building permits for residential and commercial projects.

Intergovernmental Revenue
Federal payments to counties, including PILT and Secure Rural Schools and Community Self Determination Act payments will not grow because of residential development (these payments are linked to the number of federal acres in the county and national politics). However, these payments represent only 2 percent of Lake County's revenue, unlike many counties in western Montana that can have a quarter or more of all revenue come from federal sources (for example, 25% of Mineral County's budget comes from PILT and Federal Forest Payments). Montana Entitlement Share payments to counties are linked to the state's Gross Domestic Product, so county payments will grow at the same rate as the state's economy, not the local economy.

For the purposes of this study, we assume that all other grants and intergovernmental transfers (*e.g.*, grants to local health and social services, DUI task force, or grants to justice courts) will increase. The proportionate share assumes the county will be able to secure new grants at the same rate of growth in residential value (76% of total grant value of the average home will increase with each additional home).

Figure 6: Intergovernmental Revenue[15]



Other revenue that will not increase because of new development includes investment earnings on current county budget surpluses and revenue from internal government services (services supplied between internal government departments). The fiscal analysis ultimately projects that new development associated with the alternative development scenarios will result in net budget deficits, and no new surpluses can be invested to generate new interest income.

Table 17 shows that about 73 percent of all county revenue is linked to residential land uses and related economic growth, and will increase proportionately as new homes and population are added to the county. The new homes possible on the Plum Creek lands associated with the Legacy Project are expected to be more valuable, on average, than the average home in the county in 2006. Average revenue for these additional homes was increased by doubling the average property tax and assessments expected by 2025. Average revenue per household in 2006 and under each alternative development scenario is shown in Table 17.

Table 17: Revenue Projections

	2006	Legacy Project	Trend Development	Plum Creek Only
Total Revenue	$12,640,468	$3,586,601.40	$3,680,621.91	$94,000
Residential Proportionate Share	73.0%	73.0%	73%	81%
Housing Units	14,119	5,484	5,609	125
Per housing unit	$654	$654	$656	$752

Table 17 shows that the average revenue is expected to increase under the Trend Development Scenario because of the higher than average value for new homes possible on the Plum Creek lands. Average revenue under the Legacy Project Scenario is $654. These grow to $656 under the Trend Development Scenario. Isolating just new development possible on Plum Creek lands, the average new home is expected to generate $752 in new revenue from taxes and other own-source revenue, and new intergovernmental revenue.

One of the challenges for Lake County is out-commuting for work and few high-wage service sector jobs in the county. This means that as new development occurs, the county will not capture new revenue from associated commercial and employment income because a high proportion of residents work and shop outside the county, and a similar proportion of construction and other jobs are filled by firms located outside the county as well. Figure 7 shows that the net outflow of income from commuting is over $30 million in 2005, a figure that represents more than 5 percent of all income earned by Lake County residents.

Figure 7: Commuting Income Data for Lake County, 1981-2005[16]

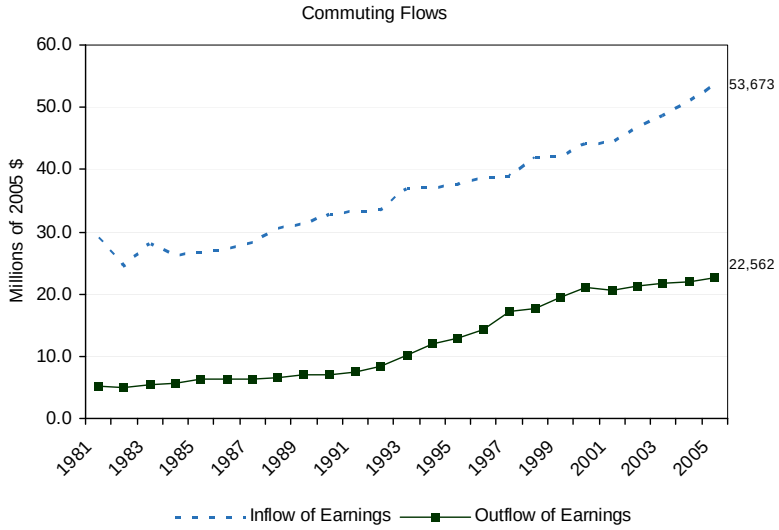
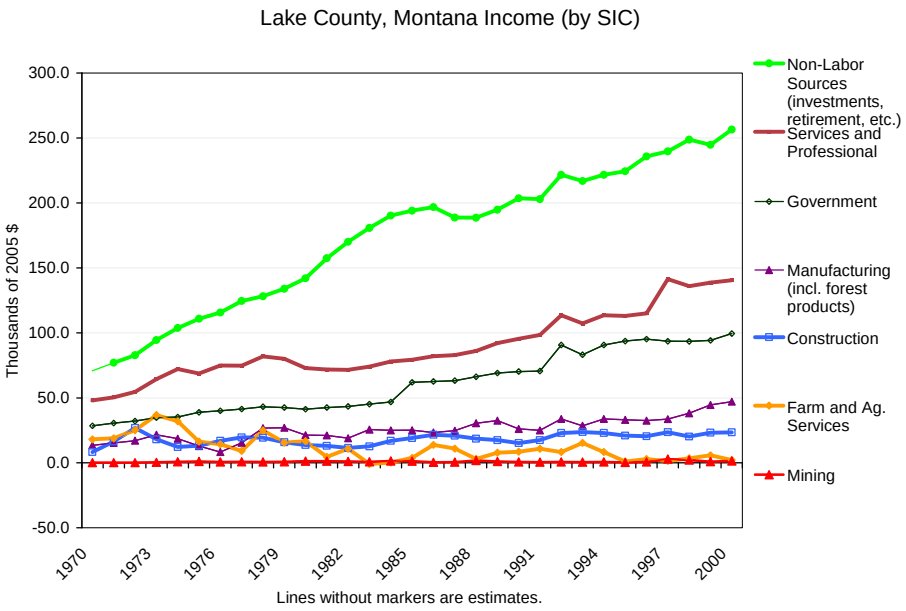


Figure 8 shows that the largest source of new income is from non-labor sources, a good indication of personal retirement income and transfer payments from federal Social Security and medical payments.

Figure 8: Personal Income by Industry Sector, Lake County 1970-2005[17]



FISCAL IMPACT ANALYSIS RESULTS

Tables 18 and 19 present the results of the Fiscal Impact Analysis.

Table 18: Lake County Operations and Maintenance Fiscal Impact Analysis Results

	Legacy Project	Trend Development	Plum Creek Only
Per-Household Cost	$713	$716	$1,127
Per-Household Revenue	$654	$656	$752
Per-Household Fiscal Impact	($59)	($60)	($375)
Housing Units	5,484	5,609	125
Total Fiscal Impact	($324,317)	($334,803)	($46,909)

Table 19: Lake County Capital Facilities Fiscal Impact Analysis Results

	Legacy Project	Trend Development	Plum Creek Only
Per Household Capital Facilities Cost	($1,870)	($1,868)	($1,866)
Housing Units	5,484	5,609	125
Total One-Time Capital Facilities Cost	($10,253,603)	($10,475,505)	($233,216)

2025 Legacy Scenario

Operations and Maintenance:

Under the 2025 Legacy Scenario, revenue is expected to increase by $654 for each new housing unit. Annual operations and maintenance costs are expected to increase to $713 per housing unit. This represents a loss of $59 annually per new housing unit. By 2025, new growth is expected to create an annual deficit of about $324,317.

Capital Facilities:

Incremental demand for new capital facilities will go unfunded because new development is not even expected to cover all new annual operations and maintenance costs, and no new revenue can be saved for capital facilities needs. The one-time expense generated by each new housing unit in the 2025 Legacy Scenario is $1,870, or a total one-time cost of about $10.3 million by 2025.

2025 Trend Development Scenario

Operations and Maintenance:

Under the 2025 Trend Development Scenario, revenue is expected to increase by $656 per housing unit. Annual operations and maintenance costs are expected to increase by $716 per housing unit. This represents an annual loss of $60 per new housing unit. By 2025, new housing on all private land is expected to generate an annual loss of $334,803.

Capital Facilities:

Incremental demand for new capital facilities will go unfunded because new development is not even expected to cover all new annual operations and maintenance costs. The one-time expense generated by each new housing unit in the 2025 Trend Development Scenario is $1,868. This represents a one-time cost of $10.5 million by 2025 that will go unfunded by the new growth generating the demand.

2025 Plum Creek Development Scenario

Operations and Maintenance:

The 2025 Plum Creek Development Scenario isolates only the costs associated with new development on the Plum Creek lands proposed for purchase. Because of the remote location of many of these lands relative to population and service centers, the average home will generate significantly higher service costs of $1,127 annually. Revenue will also increase because of the higher average value of these new homes, relative to the average home elsewhere in Lake County. However, the required expenditures still exceed projected revenue by $375, and add up to a total loss to the county of $46,909 annually.

Capital Facilities:

Incremental demand for new capital facilities will go unfunded because new development is not even expected to cover all new annual operations and maintenance costs. The one-time expense generated by each new housing unit in the 2025 Plum Creek Development scenario is $1,866. This represents a one-time cost of $233,216 by 2025 that will go unfunded by the new growth generating the demand.

Table 20 shows that currently, Lake County receives $26,713 in tax payments from Plum Creek on the lands associated with the Legacy Project. Based on current ownership projections, Lake County can expect to receive $33,301 in revenue from future property taxes and PILT payments from the federal government, about a $6,500 increase over current tax revenue (the State of Montana will not pay property taxes in lieu to the county for new land purchases associated with the Legacy Project).

These two ownership scenarios compare favorably to the development scenario, under which Lake County would lose $46,909 annually (the net of new revenues and operation and maintenance costs), and will need to raise $233,216 in one-time capital facilities costs. These monies can be raised in a number of ways, including negotiations with developers, impact fees, or new state and federal grants for infrastructure and equipment, so it is unlikely that current taxpayers will be required to cover these costs. However, these outcomes require concerted efforts from Lake County's planning department and commissioners, and some of these issues can be controversial and difficult to implement in Montana.

Table 20: Fiscal Comparison of Current Taxes, Public Ownership, and Development of Plum Creek Lands

	Current	Legacy Project	Development
Operations and Maintenance	$26,713	$33,301	($46,909)
Capital Facilities			($233,216)

RURAL FIRE DISTRICTS FISCAL IMPACT ANALYSIS RESULTS

In Montana, most rural fire protection services, including structure and wildland fire protection are provided by autonomous fire districts. The Polson Rural Fire District and Swan Valley Fire Service Area have their own taxing authority, board responsibilities, and in the case of the Swan Valley service area, boundaries that can encompass multiple county jurisdictions. The Swan Valley service area also provides emergency medical services, operating ambulances in additional to fire emergency response.

In this report, we estimate the fiscal impacts of growth associated with the alternative development scenarios on the Polson Rural Fire District in Lake County, and the Swan Valley Fire Service Area in both Lake and Missoula Counties. The Swan Valley service area encompasses or would likely provide services to all the Plum Creek lands associated with the Montana Legacy Project in Lake County. The Polson District is in an area of the county that will experience much higher levels of development, encompassing a broad range of development patterns occurring in the county, including lakeside, in-town, municipal periphery, valley bottom, wildland interface, and tribal lands.

The first section that follows includes the Polson Fire District fiscal impact analysis. The subsequent section of this report presents the findings for the Swan Valley Fire Service Area.

POLSON RURAL FIRE DISTRICT

The Polson Rural Fire District provides fire and rescue, education, and prevention services to a broad area surrounding the City of Polson and the southern end of Flathead Lake. Because the area encompasses a wide diversity of land uses and ownership patterns, including public, private and tribal land, determining the level of service provided to homes in the district requires a proportionate share analysis.

Proportionate Share
The proportionate share analysis has two components: an assessment of the portion of district services related to traffic incidents and driving patterns, and the portion of non-traffic-related services that are associated with residential land uses compared to commercial, industrial, or agricultural land uses.

To determine the connection between demand for district services and traffic, traffic-oriented responses (motor vehicle fire and accidents) were isolated from other non-traffic responses. Although ambulance services in most of Lake County are provided by private ambulance companies, the district does respond to many motor vehicle accidents that require both fire rescue services and ambulance service. Indeed, the incident survey indicates that 30% of total incidents in 2007 and 2008 were traffic-related.

The district also extends fire protection and prevention to all structures and undeveloped private land in the district. For example, the Polson Rural Fire District provides wildland fire safety assessments to homeowners in rural areas, and will respond to wildland fire, or structure fires in residential and commercial buildings. The residential portion of all non-traffic-related services was determined by a service-hour approach that weighs residential and non-residential demand according to the amount of time spent by the population at home vs. at other land uses (the analysis is reported in Table 11). This analysis indicates that 92 percent of district services are associated with residential land uses, and 8 percent with commercial, industrial, and other land uses.

Figure 9: Proportionate Share Associated with Growth[18]

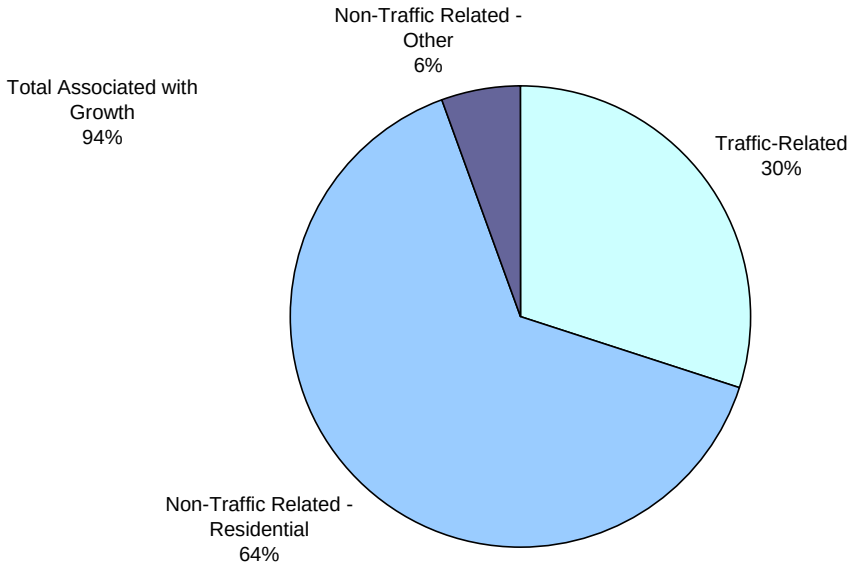


Figure 9 shows that the traffic- and residential-related proportion of services total 94 percent of all district services. This is the proportion of the district's activities that can be expected to increase when new homes are built within the district, increasing both the number of structures requiring services, and increasing the total amount of traffic on roads within the district.

Housing and Traffic Projections

The growth projections associated with the alternative development scenarios forecast that 1,285 new homes will be constructed in the Polson Rural Fire District by 2025, representing a 29 percent increase over 2006 housing numbers. Because the District does not provide services to the area where the Plum Creek lands are proposed for purchase by the Montana Legacy Project, only the 2025 Trend Development Scenario is relevant to the Polson District.

Traffic projections for the District are made using the Rural Planning Institute rural traffic model described in Appendix A. The model measures both the total amount of driving generated by an average household in the district, measured in Vehicle Miles Traveled (VMT), and the total amount of driving on any one segment of road, measured as Average Daily Trips, (ADT). The VMT figure is used to project the additional driving generated by new homes built within the district, and is the figure we will use to estimate the impact on District services. The District's demand for services is related to the overall amount of driving, and therefore the incremental increase in traffic accidents and emergency response required.

Since fire districts respond to incidents on county roads and on state and federal highways, and roads on tribal land, the traffic model estimates the increase in VMT across all roads in the District. This is in contrast, for example, to the county road department traffic analysis that only considered increased driving on county-owned roads.

Table 21: Vehicle Miles Traveled by Road Ownership, Polson Rural Fire District[19]

	2006	Trend Development
Housing Units	4,395	5,680
Daily VMT County Roads	47,507	67,887
Daily VMT State Highways	307,249	391,262
Daily VMT Municipal Streets	16,838	21,468
Total VMT All Roads	371,594	486,297
Average Household VMT	84.5	85.6

Table 21 shows that district-wide VMT are projected to grow by 31 percent because of household growth associated with the 2025 Trend Development Scenario. The average household VMT in the district was 84.5 in 2006, and is expected to grow just slightly to 85.6 because of the relatively dispersed development pattern the housing model forecasted. VMT were interpolated to include individual and tribal trust lands that lie within the district.

Level of Service

The cost of maintaining the existing level of service in 2006 is calculated for both operations and maintenance and capital facilities owned and operated by the Polson Rural Fire District. Tables 22 and 23 show that current expenditures by household reveal an operations and maintenance level of service of $17.54, and average capital facilities value of $288.12.

Table 22: Operations and Maintenance Level of Service[20]

	2007	2008	Mean
Total Expenditures	$66,500	$97,500	$82,000
Housing Units			4,395
Daily VMT			371,594
Average Household Cost			$17.54

Table 23: Capital Facilities Level of Service[21]

Equipment	Quantity	Replacement Value
Type 6	1	$38,000
Engine 318	1	$364,000
Engine 328	1	$30,000
Tender Truck	1	$85,000
Total		$517,000
Buildings	Sq. Ft.	Replacement Value
Station 1	4725	$675,675
Station 2	1080	$154,440
Total		$830,115
Grand Total		$1,347,115
Housing Units		4,395
Daily VMT		371,594
Average Household Cost		$288.12

The relatively low operations and maintenance costs reflect the amount of volunteer labor going on. According to the district chief, volunteers contributed 3,972 man hours in 2006. At $20/hr in payroll costs, that would amount to about $80,000 annually, which would about double the mean annual operations costs.

Despite volunteer staffing, significant investment in capital facilities is required to run a rural fire protection district. According to station size information obtained from the Polson Rural Fire District chief and replacement cost information contained in the Frenchtown Fire District Impact Fee study, replacement value for the Polson Fire stations is $830,115 million. The district chief inventoried the equipment representing a total value of $517,000. As the district grows, it will need to continue to expand its capital facilities. It may also become necessary at some point, because of increasing demand and increasing complexity of fire and emergency services, to hire permanent staff.

Table 24: Polson Rural Fire District Operations and Maintenance Level of Service Projections

	Trend Development
Average Daily VMT	85.6
Additional Housing Units	1,285
Average Household Cost	$17.61
Total Cost	$22,627

Table 25: Polson Rural Fire District Capital Facilities Level of Service Projections

	Trend Development
Average Daily VMT	85.6
Additional Housing Units	1,285
Average Household Cost	$291
Total Cost	$373,300

Tables 24 and 25 show that the cost of maintaining the current level of service for operations and maintenance will grow only slightly to $17.61 per home, but total costs will increase by $22,627 annually. New investments required to maintain the current level of service for capital facilities will average $291 per home, and total $373,300 in one-time costs.

Revenue Projections

The Polson Rural Fire District collects most of its revenue from property tax fees paid by each homeowner in the district. In 2007, that fee was just $25. Table 26 shows that the property assessment fee and modest revenue from state funds and donations amount to $123,295 in 2007.

Table 26: Polson Rural Fire District Total Revenue, 2007

	FY 2007
Property Taxes	$119,000
MT Entitlement Share	$2,822
Interest Earnings	$1,033
Other	$540
Total Revenue	$123,395
Housing Units	4,395
Average Household Revenue	$28

Table 27 shows that despite very low revenues, the district is more than covering its operations and maintenance costs, and is projected to continue to do so in the future. This happy outcome is mainly due to the large share of volunteer labor that goes into running the rural fire district. Without volunteerism, the operations and maintenance costs would be significantly higher. One risk of development for the district is that as new homes are added, the demands on volunteers will grow. Time commitment and the level of professionalism and training required will make it more difficult to staff the district with volunteers. If the district is faced with the need to hire a professional staff in the future, the cost figures presented here will necessarily increase.

Table 27: Polson Rural Fire District Operations and Maintenance Fiscal Impact Analysis

	Trend Development
Average Cost	$17.61
Average Revenue	$28.08
Household Net	$10.47
Total Net Revenue	$13,451

Despite being able to cover operations and maintenance costs, the capital facilities needs of a rural fire district are significant. The district must maintain and expand fire stations over time, and purchase and upgrade highly specialized equipment. These needs are expensive, and they will not be covered by the simple fees charged to district residents. Table 28 shows that keeping pace with these growing needs will result in a $356,784 deficit by 2025. The fire district must find ways to cover these costs, either through new grants from the state, higher assessment fees, or donations. As the district grows, covering the new capital facilities needs will become more difficult.

Table 28: Polson Rural Fire District Operations and Maintenance Fiscal Impact Analysis

	Trend Development
Average Cost	$288.12
Average Revenue	$10.47
Household Net	($278)
Total Net Revenue	($356,784)

SWAN VALLEY RURAL FIRE AND EMERGENCY MEDICAL SERVICES SERVICE AREA

Introduction

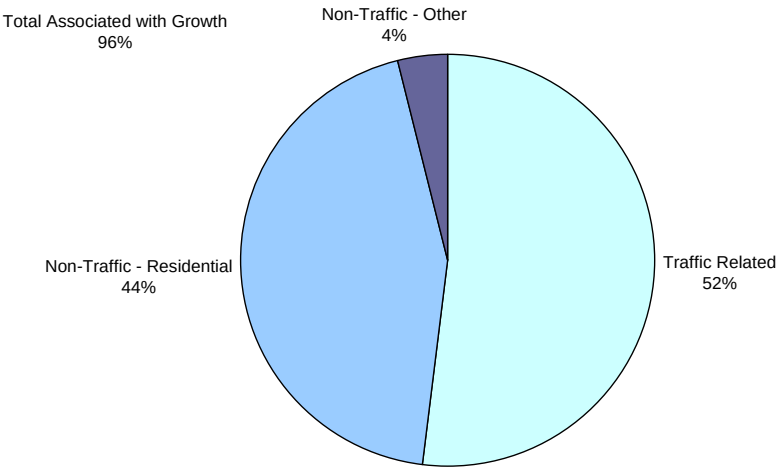
The Swan Valley Fire Service Area serves the area encompassing many of the Plum Creek lands, allowing direct analysis of fiscal impacts of future development on these lands on fire and EMS services.

Proportionate Share

Because motor vehicle accidents require ambulance service and fire protection, multi-tasking rural Fire Service Areas are more affected by growth in traffic than is obvious at first glance. To determine the proportion of demand for fire and emergency medical services related to increased traffic vs. non-traffic-related services, the service area's incident records were analyzed.

According to the Lake County Swan Valley Fire Service Area manager, Mike Lake, just over half of the service area's responses are related to traffic and vehicles. This portion is markedly higher than for Polson Rural Fire District because the Swan Valley Fire Service Area provides ambulance and medical EMS, while the Polson Fire District provides only fire services (ambulance and medical EMS are provided by an ambulance company in the Polson Rural Fire District). Providing EMS services increases traffic-related incident responses due to the common dispatch of ambulances to motor vehicle accidents.

Figure 10: Traffic and Non-Traffic Incidents, Swan Valley Fire Service Area 2007[22]

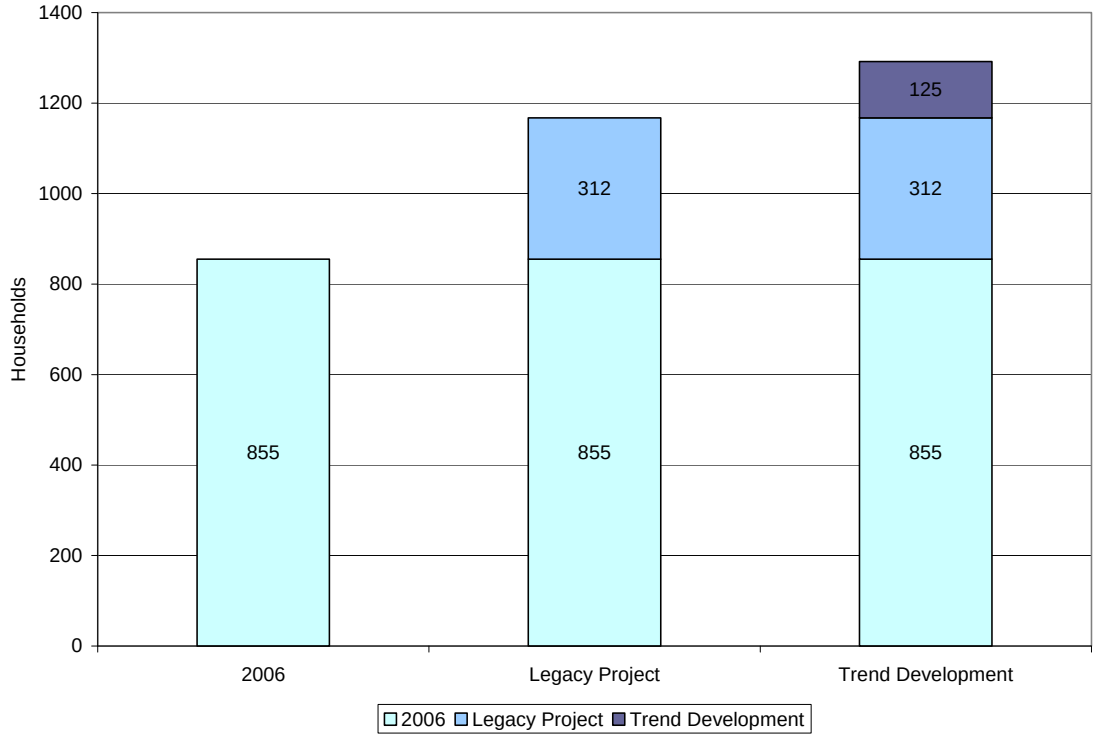


The Swan Valley Fire Service Area also provides structure protection, responds to wildland fire, and responds to all medical emergencies, not only those associated with vehicle accidents. To establish the non-traffic-related incidents associated with residential land uses, this report uses a service-hour approach that weighs residential and non-residential demand according to the amount of time spent by the population at home vs. at other land uses. The methods and results are illustrated in Table 11 (see page 20). The results indicate that 92 percent of activity in the county is associated with residential land uses, and the same portion of service demands and costs are allocated to the residential category. Only the traffic and residential portions of Fire Service Area services will increase as new homes are built in the service area.

Existing-Projected Residential

The housing model forecasted 312 new homes on private land in the service area. Without Plum Creek land development, the service area is expected to experience a 36% increase in housing units between 2007-2025. Including the 125 possible residences on the Plum Creek lands would increase this growth by another 15% to 51% growth in residential dwelling units. The housing model forecasted eight homes on the Plum Creek lands associated with the Montana Legacy Project that are currently outside the Swan Valley Fire Service Area. These homes are included in the service area revenue and cost projections assuming that they will be annexed, or will negotiate a service agreement with the service area.

Figure 11: Swan Valley Fire Service Area Housing Projections[23]



Existing and Projected Traffic

Increased traffic is one of the most noticeable effects of growth, and the most costly. New homes generate additional traffic, whether they are occupied full or part-time. Incremental increases in residential development in turn lead to an incremental increases in traffic.

Increased traffic was estimated for potential development on the Plum Creek lands by interpolating the average VMT per housing unit in the current boundaries of the Lake County portion of the Swan Valley Fire Service area across the entire service area, including the Missoula County portions. Service area growth in VMT is projected to be 36 percent by 2025 without development on Plum Creek lands, bumping up another 4 to 40 percent total growth in traffic with the addition of 125 units dispersed onto Plum Creek lands by 2025.

Table 29: Swan Valley Fire Service Area Vehicle Miles Traveled Projections

	2006	Legacy Project	Trend Development	Plum Creek Only
Housing Units	855	312	437	125
Daily VMT All Roads	403,368	145,546	160,725	15,179
Average Household VMT	472	466	368	121

Operations and Maintenance

Level of service for structure protection is calculated separately from the level of service associated with traffic-related services and incidents. Table 30 shows that given the proportionate share discussed above, it costs the Swan Valley Fire Service Area $25.15 annually to maintain operations and maintenance level of service for the average home. $13.60 of this is related to traffic, and $11.55 to non-traffic-related residential land uses. Table 30 shows that providing EMS and fire protection to non-traffic incidents makes up the most fire and EMS demand. These range from good intent calls resulting in equipment mobilization but no actions at the site to full-scale structure and wildland fires.

Table 30: Swan Valley Fire Service Area Annual Expenditures[24]

	Average Cost
Average 2006-2008 Expenditures	$22,360
Housing Units	855
Average Housing Unit Cost	$25.15

Capital Facilities

It requires significant investment to run a rural fire protection service area. According to station size information obtained from the Lake County manager of the Swan Valley Fire Service Area, Mike Lake, and Montana fire station replacement cost information contained in the Frenchtown Fire District Impact Fee support study, replacement value for the two fire/EMS stations in the district is $1.4 million (in 2006 dollars). An inventory of current equipment revealed a current value of $737,000.

Table 31 shows that the current value of capital facilities for the average home in 2006 is $840 for traffic-related demand and $713 for all other residential demand, for a total of $1,553.

Table 31: Swan Valley Service Area Capital Facilities[25]

Item	Quantity	Replacement Value	Total Value
Wildland Engines	3	$94,000	$282,000
Tender Truck	1	$85,000	$85,000
Structural Engine	1	$275,000	$275,000
Ambulance	1	$95,000	$95,000
Total			$737,000
Station Location	Sq. Ft.	Replacement Value	Total Value
Salmon Prarie	2,500	$357,500	$357,500
Condon	2,000	$286,000	$286,000
Total		$643,500	$643,500
Grand Total			$1,380,500
Housing Units			$855
Average Housing Unit Value			$1,553

Swan Valley Fire Service Area Fiscal Projection

The cost of maintaining the current level of service in the future will grow along with new housing development and changing traffic patterns. Providing fire department operations and maintenance services for the 312 forecasted homes excluding development on Plum Creek lands will cost $25 on average, or $7,799 annually (growth projection for entire service area including Missoula County portions). The 125 homes considered possible on the Plum Creek lands will cost another $1,881 annually on average applying the same $25 average household cost. Costs will increase at 35 percent if all development occurs, including on Plum Creek lands.

Including both facilities and equipment incremental expansion, development excluding the Plum Creek lands are projected to cost over $481,000 in one-time capital improvements. Development of the 125 units possible on Plum Creek lands will increase these one-time costs by about $116,000.

Table 32: Swan Valley Fire Service Area Level of Service Cost Projections

	Legacy Project	Trend Development	Plum Creek Only
Operatons and Maintenance			
Average Daily VMT	466	368	121
Additional Housing Units	312	437	125
Average Household Cost	$25	$22	$15
Total Cost	$7,799	$9,680	$1,881
Capital Facilities			
Average Daily VMT	466	368	121
Additional Housing Units	312	437	125
Average Household Cost	$1,543	$1,368	$929
Total Cost	$481,484	$597,625	$116,141

Table 32 shows that the average cost per home falls for new development on Plum Creek lands. This is partially because of commuting patterns that mean these residents will drive fewer miles in the service area based on the most likely destinations. But it also reflects the fact that some of these homes are projected to be second homes.

Revenue Projections

Every structure in the Swan Valley Fire Service Area pays an annual $75 fee, and the service area also seeks grants and donations.[26] The revenue projections simply multiply the number of new housing units projected under the alternative development scenarios by $75. Table 33 displays the revenue projections.

Table 33: Swan Valley Service Area Revenue Projections

	Legacy Project	Trend Development	Plum Creek Only
Housing Numbers	312	437	125
District Fee	$75	$75	$75
Total Revenue	$23,400	$32,775	$9,375

Fiscal Impact Analysis

Table 34 shows that the current fee paid by all property owners is sufficient to cover ongoing operations and maintenance costs for the Fire Service Area. However, Table 35 shows that capital facilities needs will go unmet based on projected development patterns. Development possible on Plum Creek land will generate over $100,000 of total capital facilities needs of more than half a million dollars.

Table 34: Swan Valley Fire Services Area Operations and Maintenance Fiscal Impact Analysis Results

	Legacy Project	Trend Development	Plum Creek Only
Per-Household Cost	$25	$22	$15
Per-Household Revenue	$75	$75	$75
Per-Household Fiscal Impact	$50	$53	$60
Housing Units	312	437	125
Total Fiscal Impact	$15,601	$23,095	$7,494

Table 35: Swan Valley Fire Services Area Capital Facilities Fiscal Impact Analysis Results

	Legacy Project	Trend Development	Plum Creek Only
Average Household Cost	$1,543	$1,368	$929
Total Cost	$481,484	$597,625	$116,141
Surplus Revenue from Table 29	$15,601	$23,095	$7,494
Net Fiscal Impact	($465,883)	($574,530)	($108,647)

APPENDIX A: TRAVEL DEMAND MODEL DATA & METHODOLOGY

For the most part, off-the-shelf transportation models are designed for urban transportation systems and are extremely data intensive. Therefore, RPI teamed with Animas Geographic Services to produce a custom rural travel demand model. Creating the county travel demand model (using ESRI products) involved 2 programming components and the use of *Network Analyst*.

The traffic model projects both Average Daily Trips (ADT) for all road segments in Lake County, and Vehicle Miles Traveled (VMT) for each household based on a quarter section analysis.

GIS Data

- Lake County GIS base data
- Montana NRIS Library: http://nris.mt.gov/gis/
- Montana Department of Transportation: transportation addressing system
- USGS DEM for Lake County: http://seamless.usgs.gov/
- Headwaters Economics: 2006 quarter-section shape files containing housing unit values for existing conditions, 2025 projected, and 2025 Plum Creek land development scenario.

Methodology

1. Set-up: Assembled data into geodatabase and made manual fixes to the road network layer where necessary

2. Programming: Housing unit existing conditions and projections (and their daily trips) were associated with nearest road.
   Programming Rules:
   Traffic from existing or projected housing units initially accesses county roads if closer than Forest/BLM roads, but traffic will access state highways or interstate frontage roads if closer than county or Forest/BLM roads.

3. Network Analyst: Routes created along road network to nearest highway or Municipality.
   Programming Rules:
   Traffic from housing units finds its way to the nearest interstate exit. The assumption is that destinations are accessed in municipalities or via the highway. The direction vehicles go once they reach the highway is a function of economic and demographic factors. These factors were accounted for in the modeling of routes, specifically in determining the destination of various routes.
   Out of County Travel Patterns
   Data: The % traveling out for work was derived directly from 2000 Census labor force and commuting data contained in the SF3 tables. Determining the out of county destinations involved calculating an commuting index that divides total population (representing economic activity) by the distance from the county (representing commute times and costs). This index balances draw for jobs and shopping with the travel investments necessary to reach the destination.
   % of Travel Headed Out of County: 15%
   Of this 15%, the summary in Figure 4 represents the logic and calculations deriving destinations for travel leaving the county:

Table 36: Out of County Travel Patterns

	Population 2007	Distance	Commuter Index	% of Total Index
Kalispell City	20,298	15	1,353	35%
Missoula City	67,165	27	2,488	65%

For travel occurring to destinations in the county, the destinations were assumed to be to one of the two municipalities weighted according to their populations (representing economic activity).

Table 37: Local Destination Travel Patterns

	2007 Population	% of Total Population
Ronan	2,004	28%
Polson	5,046	72%

4. Programming: Routes were spatially associated with roads, allowing direct application of road data to roads. This also allowed analysts to differentiate between the length of travel on county roads vs. travel on state highways. This also allowed GIS analysts to track the average daily trips (traffic volume) occurring on any single segment of road in the county now and in 2025 given development scenarios.

5. Mathematics: The key result from the analysis process is that it calculates the length of trip on county and/or state roads needed to get to the nearest highway, and onto the nearest exit or municipality. Based on 350 traffic studies summarized in the Institute of Transportation Engineers *Trip Generation 7th Edition*, single family dwelling units produce a daily average of 9.57 trips (in + out).
Thus VMT per quarter section = (quarter section trip length) X (average daily trips)

Model Results

Placing the 5,484 residential dwellings projected for 2025 according to the development patterns projected by Headwaters Economics' growth model and running the results through the rural travel demand model yields a 56% increase in vehicle miles traveled (VMT) on county roads excluding development on the Plum Creek lands (Figure 5). 125 additional residential units distributed onto the Plum Creek lands would add almost 5,580 new VMT on county roads and account bumping total traffic growth up to a 60% increase over 2006 VMT. Growth rates for state highway VMT were similar. The ADT and VMT results are illustrated in Maps 2 to 4 in this report.

Table 38: Existing and Projected Vehicle Miles Traveled by Road Ownership

	2006	Legacy Project	Trend Development	Plum Creek Only
Housing Units	14,119	19,603	19,728	125
Daily VMT County Roads	181,842	284,474	290,054	5,580
Daily VMT State Highways	2,105,880	3,066,779	3,169,120	102,341
Daily VMT Forest Service Roads	83,480	123,952	133,893	9,941
Total VMT All Roads	2,189,360	3,190,731	3,303,012	112,282

ENDNOTES

[1] Dan Testa, "Baucus, Plum Creek, Legacy Groups Announce Massive Land Deal." *Flathead Beacon*, July 30, 2008. See also http://www.themontanalegacyproject.org/
[2] See for example Robert Struckman, "Montana's Wood Products Industry Continues to Decline," *New West Network*, November 28, 2007. http://www.newwest.net/city/article/forest_industry_continues_its_long_decline/C8/L8/. Tyler Christensen, "Timber in transition: For Plum Creek, real estate adds value to forestlands." *The Missoulian*. February 5, 2007. http://www.missoulian.com/articles/2007/02/05/news/top/news01.txt. Peter Metcalf, "Holley Lays Out Plum Creek's Plans…" *New West Network*, October 24, 2008. http://www.newwest.net/topic/article/holley_lays_out_plum_creeks_plans/C35/L35/.
[3] P.H. Gude, A.J. Hansen, and D.A. Jones. 2007. Biodiversity Consequences of Alternative Future Land use Scenarios in Greater Yellowstone. *Ecological Applications* 17(4): 1004-1018.
[4] Lake County Audited Annual Financial Statements and Lake County Budget Expenditure Reports, 2006 and 2007.
[5] Asset Information from Western States Insurance, Missoula, MT
[6] TischlerBise Consulting, Gallatin County, MT Impact Fee Study, 2007. RPI, Inc. Road and Bridge Impact Fee Support Study for Rio Blanco County, Colorado, 2007.
[7] Housing projections: Lake County Assessors Housing Data and Headwaters Economic Growth Model; VMT projections: RPI Consulting Rural Travel Demand Model; Paving Cost Estimates: Rio Blanco County, Colorado Road Impact Fee Study, 2007. RPI Consultants, Durango, CO.
[8] Lake County Audits and Budget Reports, see Note 6.
[9] Asset Information, see note 7.
[10] For a summary of methods, see TischlerBise, Frenchtown Rural Fire District, MT, Impact Fee Study, 2007. Data: U.S. Census Bureau, 2000 and Bureau of Economic Analysis, REIS.
* Table p26 from SF3, Census 2000
**Bureau of Economic Analysis REIS
***EPS, Headwaters Economics
****Multiple Job Holding of 1.1 Jobs/Person
[11] Lake County Audits and Budget Reports, see Note 6.
[12] Asset Information, see note 7.
[13] Lake County Audits, see note 7, and Lake County Budget Revenue Reports, 2006 and 2007.
[14] Montana Department of Revenue Annual Report, 2007.
[15] Bureau of Land Management PILT distributions. Montana Association of Counties Secure Rural Schools and Community Self Determination Act payments, and MT Entitlement Share distributions to counties.
[16] BEA REIS 2005 Table CA91.
[17] BEA REIS 2005 Table CA05.
[18] Traffic data: Incident level analysis performed by the Polson Rural Fire District Chief, October, 2008. Land use data: U.S Census and BEA, see note 12.
[19] Lake County Assessor Housing data and Headwaters Economics Housing Forecast Model, see note 4 and note 9.
[20] Personal communication with Polson Rural Fire District Chief, October, 2008.
[21] Ibid, and general cost data from Frenchtown Fire District impact fee study, see note 12.
[22] Traffic data: Incident level analysis performed by Swan Valley Fire Service area manager, Mike Lake, October, 2008. Land use data: U.S Census and BEA, see note 12.
[23] Lake County Assessor Housing data and Headwaters Economics Housing Forecast Model, see note 4 and note 9.
[24] Personal communication with Mike Lake, Swan Valley Rural Fire Services Area board member, October, 2008
[25] Ibid. and costs data from Frenchtown Rural Fire District Impact Fee Study, see note 12
[26] Personal communication with Mike Lake, December 15, 2008.