



THE INTERIM

February 2012

A monthly newsletter of the Montana Legislative Branch

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Legislator Per Diem Payments: Tax Considerations

This information is intended to provide general guidance to assist legislators and their tax preparers in handling legislative per diem payments. Legislators should consult with income tax experts for specific requirements relating to individual circumstances.

General Rules

All legislator per diem payments not exceeding the amount allowed by federal law that are made to legislators living more than 50 miles from the Capitol Building are reimbursements made under an accountable plan, are not taxable income of the legislator, and are not subject to withholding or reporting. The difference between the amount allowed by federal law for reimbursement and the actual amount of per diem paid is considered unreimbursed expenses and, subject to certain limitations, may be a “miscellaneous items” deduction by the legislator.

Legislator per diem payments made to legislators who do not live in Helena but who live within 50 miles of the Capitol Building are not substantiated reimbursements and are thus reported as income. Withholding is made against these payments. All legislative lodging and meal expenses actually incurred by these legislators are unreimbursed expenses and, subject to certain limitations, may be a “miscellaneous items” deduction by the legislator.

Legislator per diem payments made to legislators who reside in Helena are reported as income and are subject to withholding. A legislator residing in Helena may not claim meal and lodging expenses incurred in Helena.

Accountable Plan

All legislator per diem payments made to a legislator whose home is more than 50 miles from the Capitol Building are employee reimbursements under an accountable plan for the following reasons:

1. Under 26 U.S.C. 162(h), a legislator is considered to have substantiated living expenses if the legislator's place of residence is more than 50 miles from the Capitol Building.
2. Federal law provides one type of accountable plan for when the employee's lodging plus meals and incidental expenses per diem reimbursement is substantiated (26 U.S.C. 62(a)(2)(A), 26 CFR 1.62-2(f)(2), and Rev. Proc. 2010-39).

Excess Per Diem Payment When Residence is More Than 50 Miles From Capitol

Under 26 U.S.C. 162(h), state legislators who live more than 50 miles from the Capitol Building may elect to claim their district residence as their "tax home". The Department of the Treasury recently published regulations for making this election, which can be found under 26 CFR 1.162-24. Your tax return preparer should become familiar with the regulations and the manner in which the election is made. The portion of the regulations regarding the election provides as follows:

1. Time for making election. A taxpayer's election under section 162(h) must be made for each taxable year for which the election is to be in effect and must be made no later than the due date (including extensions) of the taxpayer's Federal income tax return for the taxable year.
2. Manner of making election. A taxpayer makes an election under section 162(h) by attaching a statement to the taxpayer's income tax return for the taxable year for which the election is made. The statement must include—
 - (i) The taxpayer's name, address, and taxpayer identification number;
 - (ii) A statement that the taxpayer is making an election under section 162(h); and
 - (iii) Information establishing that the taxpayer is a state legislator entitled to make the election, for example, a statement identifying the taxpayer's state and legislative district and representing that the taxpayer's place of residence in the legislative district is not 50 or fewer miles from the state capitol building.

The amount considered substantiated under federal law cannot exceed the greater of the federal or state per diem rates for Helena, as long as the state rate does not exceed 110% of the federal rate (26 U.S.C. 162(h)(1)(B)). In 2011, the state rate for lodging was \$81 plus applicable taxes and \$23 for meals for a total of \$104 (plus taxes) per day (*see* section 1-0340.20 of the Montana Operations Manual and section 2-18-501, MCA). Likewise, in 2011, the federal rate for lodging was \$81 and \$56 for meals and incidental expenses for a

total of \$137 per day (*see* U.S. General Services Administration rates at www.gsa.gov).

Reimbursements paid "under an accountable plan are excluded from the employee's gross income, are not reported as wages or other compensation on the employee's Form W-2, and are exempt from the withholding and payment of employment taxes (Federal Insurance Contributions Act (FICA), Federal Unemployment Tax Act (FUTA) . . .)". (26 CFR 1.62-2(c)(4)).

Montana legislators were paid per diem for 112 regular legislative days at \$105.31 per day, for a total of \$11,794.72. Montana law provides for reimbursement only for breaks of 3 days, while 26 U.S.C. 162(h)(2)(A) allows deemed living expenses for breaks of 4 consecutive days or less. During the regular session, there was a 4-day break on February 25 through 28, another 4-day break on April 14 through 17, and a 5-day break on April 21 through 25. State per diem was paid for 3 days during all three breaks. Your tax return preparer may determine that the 5-day break exceeded the 4-day limitation under federal law. By adding 2 days of expenses during the 4-day break and subtracting 3 days during the 5-day break, your tax return preparer may also determine there were 111 legislative days for purposes of 26 U.S.C. 162(h).

Assuming your tax return preparer multiplies 111 legislative days by \$137 per day (using federal per diem), the resulting total would be \$15,207 in deemed living expenses, which is \$3,412.28 less in per diem payments than you received (\$15,207 - \$11,794.72). Your tax return preparer may determine that the \$3,412.28 is an unreimbursed business expense and a miscellaneous itemized deduction on a 1040 Schedule A, subject to the 50% meals allocation under 26 U.S.C. 274(n)(1)(A) (\$56 of the daily per diem, or 40.88%, is considered meals and incidental expenses) and the requirement that miscellaneous itemized deductions must exceed 2% of adjusted gross income.

Legislators living more than 50 miles from the Capitol Building do not have their per diem payments reported on their W-2 Forms.

Helena Area Legislators

Under 26 U.S.C. 162(h)(4), the special provisions allowing use of the federal per diem rate do not apply to legislators living within 50 miles of the Capitol Building. Therefore, those legislators must follow the provisions of 26 U.S.C. 274(d) and must specifically substantiate all lodging and meal expenses. Because 26 U.S.C. 274(d) requires out-of-town travel before a person can claim lodging and meal expenses, a legislator who lives in Helena cannot claim any meal or travel expenses for session activities occurring within Helena.

Districting and Apportionment Commission to Review Maps

The Districting and Apportionment Commission will meet Friday, Feb. 17 in Room 102 of the State Capitol. The commission plans on meeting at 9:30 a.m, but the meeting time and agenda will be available early February. The commissioners will review and begin considering several draft maps of possible new legislative districts. The maps will include those prepared by staff at the request of the commission and any complete maps prepared by members of the public. The commissioners will also discuss and adopt a meeting schedule for 2012, including dates and times of public hearings around the state.

Draft maps, when available, will be posted on the commission's website at www.leg.mt.gov/districting.

Public hearings are one way for the public to provide the commissioners with their thoughts about the draft plans. The commission also accepts comments by mail, e-mail, or fax. All comments become part of the commission's permanent public record and are sent to each commissioner. Send written comments to Districting and Apportionment Commission, Legislative Services Division, PO Box 201706, Helena, MT 59620-1706; by email to districting@mt.gov; or by fax to 406-444-3036.

Energy Panel Looks at Rural Electric Power Laws, "One Call Laws"

The Energy and Telecommunications Interim Committee is investigating legislation that would require a majority vote by individual members of rural electric cooperatives before financing construction of new power plants or entering into long-term power contracts that exceed consumption forecasts.

After accepting three hours of testimony from members of Southern Montana Electric Generation and Transmission Cooperative and other cooperative representatives during a Jan. 13 ETIC meeting, committee members instructed staff to begin research on the potential bill draft.

Southern Montana constructed a power plant near Great Falls, and in 2009 it also signed another contract to buy power for its rural electric cooperative members. Several cooperative members expressed their frustration with Southern's actions and discussed their concerns about transparency in Southern's decision-making processes. In October 2011 Southern Montana sought bankruptcy protection.

Southern Montana's five rural electric cooperative board members -- Beartooth, Fergus, Mid-Yellowstone, Tongue River, and Yellowstone Valley -- were invited to the January

ETIC meeting to give their perspectives on the wholesale power cooperative and its future. Electric City Power, another member of Southern, also was invited to the January meeting. Southern Montana, Mid-Yellowstone, and Electric City Power, however, chose not to take part in the discussion.

Southern Montana continues to operate as it pays off its creditors. In late November a federal bankruptcy court appointed Lee A. Freeman Jr., a Livingston attorney, as trustee to oversee the Southern Montana Electric Generation and Transmission Cooperative as it reorganizes its finances. Freeman is temporarily operating the electric cooperative until it is reorganized under Chapter 11 or liquidated under Chapter 7 of the federal bankruptcy code.

Committee Chair Alan Olson requested the Southern Montana discussion and asked that the committee discuss whether changes in law are needed to provide more oversight of rural electric cooperatives that own generation in Montana.

The ETIC also heard from stakeholders on efforts to reform Montana's underground facility damage prevention program, better known as "one-call" or "call before you dig". Stakeholders have indicated that they hope to bring forward a final consensus bill in May. It will then be up to the ETIC to determine whether it would like to accept the bill as potential committee legislation and move forward with a formal public comment period.

At this time, the stakeholders are discussing establishing a two-track system in the Montana one call law: keep the status quo for underground facilities but provide for enforcement for underground facilities that are natural gas or hazardous liquids pipelines.

It is assumed that all underground facilities would be under existing law, but underground natural gas or hazardous liquids pipelines would face a new level of fines and enforcement. A newly created board would enforce the law for incidents involving these facilities.

Public comment provided by stakeholders at the January meeting indicated that a consensus among stakeholders on developing changes to Montana's law may not be reached until there is a clearer understanding of federal requirements. Stakeholders continue to work with the federal Department of Transportation on the issue.

Additional information on the ETIC is available at: <http://leg.mt.gov/etic>. The ETIC next meets May 17 and 18 in Butte. For more information contact Sonja Nowakowski at snowakowski@mt.gov or at 444-3078.

EQC Studies Park Management, Takes on Eminent Domain

The Environmental Quality Council is exploring options for managing Montana's state parks as well as the historic sites of Virginia City and Nevada City.

In March, the panel also will examine how courts have addressed some aspects of eminent domain law.

At its January meeting, the EQC heard from national experts as well as those in other states about how parks are managed. In Montana, parks are a division of the Department of Fish, Wildlife, and Parks and the citizen commission that guides the agency. Most of the funding comes from parks-generated revenue, including the optional light motor vehicle registration fee, other user fees, and the state accommodations tax.

South Dakota has a similar management scheme to Montana, but other states have various approaches. Idaho, for example, has a stand-alone parks agency and its own board. Colorado is within the natural resources agency.

The EQC study is an extension of ongoing discussions about the solvency and management of Montana's state parks system. The Legislative Finance Committee reviewed the system in the 2009-2010 interim but did not propose legislation. At the request of FWP, the 2011 Legislature passed Senate Bill 43, revising the state's list of primitive parks and the types of improvements that may be made at those sites. The 2011 Legislature also approved House Bill 370, which increases the optional light motor vehicle registration fee used for operation and maintenance of state parks and state-owned facilities at Virginia and Nevada cities.

House Bill 628 (2011), which sought to consolidate the administration of state parks and outdoor recreation and heritage programs under the Department of Commerce with oversight by a citizen board, did not pass but provoked discussion about improved management and coordination of these programs.

For the March 7-8 meeting in Helena, the EQC will examine the current sources of revenue available to state parks and explore other funding options. Members also wanted more information on the contracts and revenue for Virginia City and Nevada City. The EQC also asked for the estimated costs of moving the management to another agency, such as the Department of Natural Resources and Conservation, the Department of Commerce, or the Historical Society.

How the power of eminent domain is exercised and by whom was controversial during the 2011 session and remains so this interim within the judicial system. In simple terms, eminent domain is the right to take private property for public use while providing just compensation.

After that, things get more complicated.

The eminent domain debate in Montana for the last two years has focused on building new electric transmission lines. The implications of the debate, however, pit property rights, economic development, renewable resource development, and even the three branches of government against one another. A combination of legislation and litigation in response has raised significant questions about Montana's eminent domain laws, their reliance on a longstanding list of "public uses" and just who can condemn private property in Montana.

The Legislature passed House Bill 198, which sought to clarify that regulated utilities have the power of eminent domain for public uses to provide service to the customers of its regulated service.

During the January EQC meeting, a district judge ruled that the new statute is constitutional. However, much remains unclear about eminent domain law in Montana.

The EQC wants to examine how courts have addressed enumerated public uses and the entities authorized to exercise the power of eminent domain.

To see who is authorized to do what under Montana law as well as how other states deal with the issue, visit: <http://leg.mt.gov/content/Committees/Interim/2011-2012/EQC/Meeting-Documents/January-2012/public-uses-eminent-domain.pdf>

For questions, contact EQC staff Joe Kolman at 406-444-3747 or jkolman@mt.gov or Hope Stockwell at 406-444-9280 or hstockwell@mt.gov.

Legislative Audit Committee Reviews Agency Audits Feb. 8

The Legislative Audit Committee will meet Feb. 8 in Room 172 of the state Capitol to review recent audits of state programs and services. The Legislative Audit Division anticipates reporting on these topics:

Financial audits:

- Board of Investments
- Department of Environmental Quality
- Department of Natural Resources and Conservation
- Montana Guaranteed Student Loan Program
- Montana State Fund
- Montana State University
- Public Employees' Retirement Board
- Teachers' Retirement System

- University of Montana

Financial compliance audits:

- Department of Commerce
- Department of Livestock
- Montana Arts Council
- Montana Board of Housing

Information systems audit:

- State Laptop Security

Performance audit:

- Mine Safety Program

The Legislative Audit Division provides independent and objective evaluations of the stewardship, performance and cost of government policies, programs, and operations. The division is responsible for conducting financial, performance, and information system audits of state agencies or their programs, including the university system.

For more information, call the division at 406-444-3122 or visit <http://leg.mt.gov/audit>. To report improper acts committed by state agencies, departments, or employees call the division fraud hotline at 800-222-4446 or 444-4446 (in Helena).

Legislative Council Meets in March

The Legislative Council is meeting March 7 and 8 in Helena. The Rules and Security subcommittees may meet before the council meeting, but subcommittee meetings have not yet been scheduled.

The Rules Subcommittee, composed of Sens. Jim Peterson and Mitch Tropila and Reps. Margie MacDonald and Jesse O'Hara, is asking legislators for their ideas on the Joint Rules, the House Rules, the Senate Rules and for suggestions on legislative training or reference materials. Please contact one of the subcommittee members or Todd Everts.

The chairs and vice chairs of the Revenue and Transportation Committee, the Legislative Finance Committee, and the Legislative Council met in late January to decide the next steps for the Revenue Estimating Roundtable. Information on the next roundtable meeting will be posted on the legislative branch website when available.

For more information and to view agendas, minutes, and meeting materials, please visit the Legislative Council's website leg.mt.gov/legcouncil, or contact Susan Byorth Fox at 406-444-3066 or sfox@mt.gov.

Legislative Finance Committee Reviews Pension Unfunded Liabilities

The Legislative Finance Committee has adopted a multi-meeting approach to examining the unfunded liabilities of state pension systems and the impacts on state and local governments from a funding perspective.

In September the LFC examined the employer contribution pension funding model and the underlying policy choices of the Legislature. This included the data and its sources; the mechanics of how the model combines the data and assumptions to produce future cost estimates and determines employer contributions and liability for all entities in the retirement system; and the state's role in contributing to the retirement systems of local employees.

At the December meeting, a second report used employer contributions to calculate and compare the gap in the actuarial required contribution and the unfunded liability of each of the pension systems by government entity. Using employer contributions allocates the costs in a manner that is comparable across employer types: state, city, county, and school districts. The report also examined the potential budget and property tax implications related to employer contributions. The report did not offer recommendations on how to close the current funding gap or to reduce or eliminate the unfunded liabilities. Any proposal will likely require a combination of corrective measures, including possible increases in employer and employee contribution rates, decreases in benefit rates, and other changes to the pension plan structure.

In March the LFC will continue its analysis of the funding and financial components of the pensions systems; receive an update from David Niss, Legislative Services Division attorney, on pensions, and begin looking at a comprehensive analysis of a range of options for pension funding solutions from the LSD and the Legislative Fiscal Division. A comprehensive report is scheduled to be presented to the State Administration and Veterans' Affairs and the LFC on June 12.

All reports to the LFC on this topic can be found at: <http://leg.mt.gov/css/fiscal/reports/2011-2012-interim-reports.asp#dec2011>

Other items scheduled for the March 8-9 meeting include an overview of year-to-date expenditures and revenues, additional education on school funding, a review of the statewide information technology strategic plan, additional performance measurement projects, and the required community college funding plan. Meeting documents will be posted to the LFD website before the meeting.

Revenue and Transportation February Meeting

The Revenue and Transportation Interim Committee is meeting Feb. 16-17, in Room 137 of the Capitol building. The committee will take up each of its assigned studies, including the House Joint Resolution 13 study of the state's income tax system, the Senate Joint Resolution 17 study on the valuation of centrally assessed property, and the SJR 23 study of the exemption of nonprofit organizations from property tax and income tax.

A speaker has been invited for the SJR 17 study to discuss unitary valuation in general, and the Department of Revenue will present updated information on capitalization rates.

For the HJR 13 study, the committee will hear a report on selected states' income tax structures and hear an update on effective Montana tax rates, with and without credits, as well as an analysis of married taxpayers filing jointly rather than separately on the same form. The committee is scheduled to visit the Department of Revenue's income tax processing center.

The committee will consider a bill draft to revise the uniform penalty and interest provisions under 15-1-216, MCA.

For the SJR 23 study, Lawrence White will discuss the Montana Attorney General's *Montana Hospitals* report and committee staff will provide an update on charity care/bad debt and information on Medicaid and Medicare unreimbursed costs. The Department of Revenue will report on applications for nonprofit exemptions since 2003 and on agricultural property eligible for property tax exemption.

The Department of Revenue will discuss the implications of a negative tax increment in a Billings tax increment financing district that includes two school districts.

The Departments of Revenue and Transportation will report on their respective activities. An agenda and other meeting materials will be posted on the committee webpage in early February at leg.mt.gov/rtic.

For more information about the committee, contact Jeff Martin, committee staff, at 406-444-3595 or jmartin@mt.gov.

Government Efficiency Panel Reviews Technology, Health Care, Natural Resources

The Select Committee on Efficiency in Government and two subcommittees met last month to continue finding ways to improve efficiency in government.

The committee, created by House Bill 642, is assessing the efficiency and effectiveness of state government activities in

four major areas: priority budgeting, health care, information technology, and natural resources.

The Subcommittee on Technology met Jan. 9 to consider recommendations from a panel on electronic records retention. The panel included Patti Borsberry, representing the secretary of state; Stuart Fuller, chief technology officer and Dick Clark, the state's chief information officer, from the Department of Administration; Mike Bousilman, chief administrative officer, Department of Transportation; and Dan Chelini, chief information officer, Department of Environmental Quality. The subcommittee will meet Feb. 6 in Bozeman (see below for meeting location). Details about the meeting will be posted to the committee's website as soon as they are available.

Subcommittee members include Reps. Gallen Hollenbaugh (D-Helena), chair, and Kathleen Williams (D-Bozeman) and Sens. Ed Buttrey (R-Great Falls) and Jon Sonju (R-Kalispell).

The Health Care/Medicaid Subcommittee also met Jan. 9 and reviewed briefing papers and took public comment on five topics that members in November had asked for more information:

- the Medicaid application and application process;
- the laws governing use of the Children's System of Care Account, a special revenue account designed to pay for services for high-risk children who are served by more than one state agency or program;
- the use and promotion of long-term care insurance partnership policies;
- the effects of a Washington law that imposes penalties on people who improperly receive assets from someone who transfers assets in order to qualify for Medicaid coverage of long-term care services; and
- stakeholder suggestions for changing specific state Medicaid laws or administrative rules that may be unnecessary or overly burdensome.

Stakeholders submitted 23 proposals for changing Medicaid laws or rules.

State Medicaid Director Mary Dalton gave the Department of Public Health and Human Services' response to each suggestion. Stakeholders also recommended 10 changes to laws or rules related to other health care programs and health care licensing and workforce issues.

Subcommittee members will hold a conference call at 10 a.m. on Feb. 1 to decide on recommendations to submit to the full committee. Subcommittee members include Reps. Pat Noonan (D-Butte), chair, and Mark Blasdel (R-Somers) and

Sens. Mary Caferro (D-Helena), Ed Walker (R-Billings), and Dave Wanzenried (D-Missoula).

The SCEG is also looking at ways to improve efficiency and effectiveness in natural resource development, permitting, advanced technologies, and taxation. So far, it has focused on natural resource permitting in the state. In January, the committee heard from agency and industry representatives. The committee also created a subcommittee on natural resources to gather more information and ideas for efficiencies.

The Natural Resources Subcommittee will meet Feb. 6 in Bozeman (see below for meeting location). Subcommittee members will decide how best to focus its work. At this time, they intend to discuss how to reach out to stakeholders and seek suggestions on specific changes to Montana law or administrative rules that would allow for the more efficient processing of environmental permits.

Sen. Jim Keane (D-Butte) is chair the subcommittee. Other members are Buttrey, Rep. Ron Ehli (R-Hamilton), Hollenbaugh, Williams, and Walker. For more information on the subcommittee, click on the “natural resources” link on the SCEG website.

The subcommittees on technology and on natural resources are scheduled to meet Feb. 6 in Ballroom B of the Student Union Building on the MSU campus in Bozeman. The full committee will meet Feb. 7 in the same room. Details about the subcommittees’ and full committee’s meetings are in the meeting agendas posted on the committee’s website.

More information about the select committee is available at leg.mt.gov/sceg, or contact Dave Bohyer, lead staff for the SCEG, at dbohyer@mt.gov or 406-444-3592.

Water Committee Considers Public Proposals on Small Wells

Last fall, members of the Water Policy Interim Committee looked into the audience and made a request: If anyone has an idea for how to deal with small water wells, bring it to the January meeting.

Several interested parties took the challenge. The committee directed staff to prepare bill drafts of the proposals so they can be discussed at the March 6 meeting. At that meeting, the committee will decide where to hold at least two meetings outside of Helena to gather public comment on the proposals.

As it has the last two interims, the WPIC this interim is studying wells that pump less than 35 gallons per minute and yield less than 10 acre-feet of water a year. Thousands of these wells exist around the state for various uses including domestic, stock, and irrigation. Some argue that the cumulative

effect of exempt withdrawals may be impairing senior water rights.

Ideas suggested in January include:

- Limiting new subdivisions to an exemption of 35 gallons a minute and 10 acre-feet a year using one or more wells. Appropriations of more water would be subject to permitting.
- Lowering the exemption limit on volume for wells drilled in unconfined aquifers, which is more likely to be connected to surface water with senior water right holders.
- Requiring that larger, denser subdivisions install public water systems, which would most likely also require a water use permit.
- Establishing by law that the water used by exempt wells in the counties of Gallatin, Lewis and Clark, Missoula, and Ravalli must be offset with mitigation water.
- Reducing the volume allowed under the exemption or limiting the amount of water allowed for irrigation.

Presentations at the meeting aimed to help the committee understand how water decisions are made in subdivisions and also the amount of water used for domestic purposes.

The Montana Bureau of Mines and Geology showed the importance of scale when evaluating water use. The term “consumptive use” is used to describe water removed from the hydrologic system. In most of the closed basins of Montana, where new appropriations of water are restricted, the consumptive use of ground water is estimated to be 10 percent or less. Most water used in the house is not consumed because it returns through wastewater systems. The consumption often comes from irrigating gardens and lawns.

But on a smaller scale, such as subbasins, the amount consumed by domestic uses can be a larger portion of the water budget. At one of the Ground Water Investigation Program’s study areas near Florence, domestic use accounts for more than half of the water consumed. At another site in Belgrade, domestic consumption is a quarter of the water budget. But in the lower Beaverhead, domestic consumption is about 2 percent of the water use.

Exempt wells will continue to be the focus of the WPIC for the rest of the interim. Bill drafts will be available about 10 days before the March meeting.

For more information visit www.leg.mt.gov/water or contact Joe Kolman, committee staff, at 406-444-3747 or jkolman@mt.gov.

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Beyond Pretty Maps: GIS and the Legislative Branch

By Rachel Weiss
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In a world filled with similar and confusing acronyms, it is understandable if you heard the term “GIS” and immediately thought of the GPS device installed in your car or the handheld device you take hunting or hiking. Although your initial reaction would be in the ball park, global positioning systems (GPS) are just one small part of a larger realm of collecting, analyzing, and displaying spatial data. That larger realm is known as GIS, or geographic information systems.

This article explains the meaning and uses of GIS, describes how Montana Legislative Branch staff are using GIS concepts, and discusses the challenges to expanding the use of GIS in providing quality spatial analysis to the Legislature and the public.

What is GIS and What Can It Do For Us?

A geographic information system captures, stores, analyzes, manages, and presents data that has a spatial reference (a link to location).¹ The term GIS is often and confusingly applied to various concepts -- the software that allows us to create spatial comparisons, a science, a field of study, or a problem-solving process. In this article I refer to the broader problem-solving process as “GIS” or “GIS analysis” and the software tools that analyze problems as “GIS software” or “GIS technology”.

Explaining the basics of GIS (both the software and the analytical concepts and processes) would take a book, but generally, GIS is about making a digital representation of real-world phenomena. The real-world phenomena must have some type of geospatial data attributable to them to make GIS analysis possible. This makes sense: to map a thing or event, you need to know where the thing is located or where the event happened. If you want to create a map showing all the trees in the Capitol complex, you would need information on where those trees are planted. Or, if you are mapping all the crime incidents in the Helena area, you would need to know where those incidents occurred. Additional, nonspatial data (such as the species of tree or the type of crime) is also

useful and quite commonly included in the analysis, but without spatial data, GIS is of no use.

A simple explanation of the function of both GIS and GIS software would be two words: create maps. But that simplicity masks the great power that lies in GIS. The real value of GIS analysis is that it cuts to the core of large amounts of data and discovers meaning in what would otherwise seem to be unrelated information or an overwhelming set of tables.

For example, you can peruse a table of unemployment data for each of the 56 counties in Montana and try to make sense of the information, or you can look at a map and, because of identifiable state and county lines and the use of colors and labels, easily see the counties with low or high unemployment rates or any regional trends. Teasing these types of relationships out of the table could take hours. Instead, the map, a spatial representation of the basic table, shows you much of what you need to know in a few seconds. In short, spatial representations and maps are what GIS uses to communicate complex relationships in a simple, direct fashion.

GIS is at work in the world around you and you may not be aware of it. We take for granted the tracking of the location, function, and repair of utilities or the routing of emergency vehicles and school buses. Using Google to identify the best travel route or nearest pharmacy, doctor, store, hotel, or veterinarian, or targeting marketing efforts to the best locations or groups of people are ways you might interact with GIS every day.

A recent newsletter from NorthWestern Energy touted a GIS expansion project the company is undertaking. By collecting, storing, and using more data on the locations of electric distribution equipment, the company hopes to provide better service and quicker repair during power outages.² A recent electronic press release from the United States Department of Agriculture highlighted the department’s use of GIS to help the public locate “food deserts” (areas that lack easy access to healthy food) in their neighborhoods.³ And that’s just the start. If you have a collection of information with a relationship to a location, chances are it can be analyzed using GIS.

¹ Washington State Department of Health; “Geographic Information Systems;” available from <http://ww4.doh.wa.gov/gis/default.htm>; last accessed January 6, 2012.

² NorthWestern Energy; “About...Geographic Information System (GIS) Expansion Project;” available from www.northwesternenergy.com/documents/ConstructionUpdate/About_GIS.pdf; last accessed January 6, 2012.

³ United States Department of Agriculture; “USDA Introduces Online Tool for Locating ‘Food Deserts’;” Release No. 0191.11; May 2, 2011; available from <http://www.usda.gov/wps/portal/usda/usdahome?contentid=2011/05/0191.xml>; last accessed January 6, 2012.

GIS at Work for the Legislature

It is easy to think that GIS is of limited use in the Legislature. After all, this is an arena of politics and statutes, a world of words, not pictures. We don't draft illustrations, we draft laws. But legislation and laws are ultimately debates and decisions about public policy. What GIS can do is make policy analysis easier and more intuitive in a world that is forever short on time and on quality information to inform crucial policy decisions. GIS does not provide an obvious solution to every problem, but any tool that can reduce the clutter and background noise that often result from having too much data and no way to understand or prioritize it all is a tool that will prove useful to a legislature as it considers solutions to the policy challenges it takes on.

Information clutter does affect state governments. A recent report by IBM Global Business Services noted that "information explosion" presents challenges to the public sector. Although we may think more data is better, many public sector executives surveyed for the report are confronted with a "data paradox"; that is, "the dilemma presented by too much data, too little insight." The report quotes one executive as saying, "We need not just more relevant information, but to eliminate the irrelevant information that is reported."⁴

If you've strolled through the offices of the legislative staff, you might have noticed the piles of paper that grace most of our desks. And that's just the work material on our desks! Imagine how much more data is inside our computers and those of the executive and judicial branch employees. "Information explosion" is nothing new to public workers. While not every database or table or policy problem will have a geographic component to it, GIS analysis offers a way for policy makers to begin to add insight in many policy areas that have abundant amounts of information. A recent newsletter published by a GIS software firm cites a federal document estimating that 74% of federal data is location-based and that the percentage is probably even higher for state and local governments that provide many of the services citizens use every day.⁵

Legislative staff here and in other states know of the promise of GIS analysis and have long been finding uses for the software in their work on many topics. Redistricting is currently

one of the main uses of GIS software in most states' legislative branches, but a May 2010 article in the *State Legislatures* magazine discusses the increasing relevance of the technology to other work done by legislatures, including budget and social or natural resource policy decisions.⁶

In Montana, GIS analysis is being used by legislative staff to provide insight in a variety of policy areas.

Legislative Audit Division

Because of its unique mission and access to data and staff in agencies of all types, the Legislative Audit Division is ideally positioned to make use of GIS analysis in its work, especially in performance auditing. Two Audit Division staffers have GIS training and skills: Angus Maciver, performance audit manager, and Ross Johnson, performance auditor.

Maciver says that "GIS is a lot more relevant for some agencies/programs than for others," but he also points out that the Audit Division strives to use GIS in more than just the obvious natural resource areas. "[T]here is a lot more geospatial data out there than most people realize. A lot of agencies are not really very aware of what kinds of geospatial data they have and how it could be used. When we look at potential performance audits, we do try to think about how GIS technology can be used in different ways and we have used it in a lot of different contexts."⁷

One recent performance audit using GIS analysis was of the Montana Professional Tow Truck Act (PTTA). The September 2010 audit (09P-15) provided information on how the Montana Highway Patrol administered the act and made recommendations for improved compliance and enforcement. (The purpose of PTTA is to standardize how tow trucks are dispatched and used by law enforcement agencies and the public when accidents or other emergencies occur on Montana roads.) Using maps, the audit report discussed the structure of the PTTA rotation system, located existing tow truck operations that participated in the rotation system, and noted the average response distance in most of the rotation areas.

A June 2008 performance audit of emergency medical services also included GIS analysis. Auditors working on the project obtained data from the Department of Public Health

⁴ Hammou Messatfa, Lynn Reyes, and Michael Schroeck; "The Power of Analytics for Public Sector;" Executive Report; *IBM Institute for Global Business Value*, March 2011; available from <https://www.nascio.org/events/sponsors/vrc/Analytics%20in%20the%20public%20sector3.pdf>; last accessed May 17, 2011.

⁵ "The Big Sky State Finds Gold in Statewide Cadastral Database;" *ArcNews*; Summer 2011; available from <http://www.esri.com/news/arcnews/summer11articles/the-big-sky-state-finds-gold-in-statewide-cadastral-database.html>; last accessed January 9, 2012.

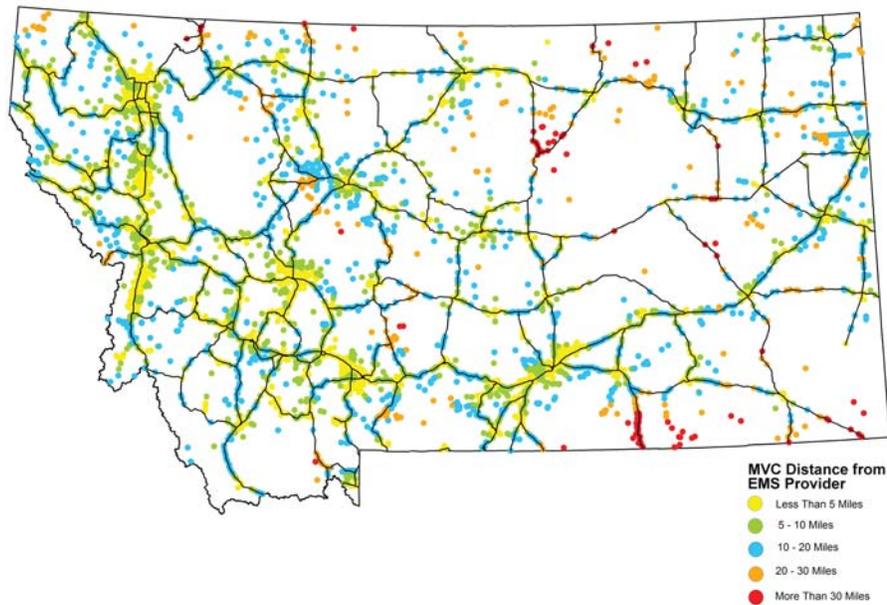
⁶ Ed Sealover; "A Bird's Eye View;" *State Legislatures*, May 2010, p. 16-20.

⁷ Angus Maciver, Performance Audit Manager, Legislative Audit Division; e-mailed correspondence; January 6, 2012.

and Human Services about ambulance services and providers and combined it with motor vehicle crash location data from the Montana Department of Justice. The resulting analysis and color-coded map displayed the distance from emergency

medical services for a variety of crash locations around the state. With few words, the map illustrated how “EMS service coverage gaps may impact the ability of first responders to provide timely and adequate care.”⁸

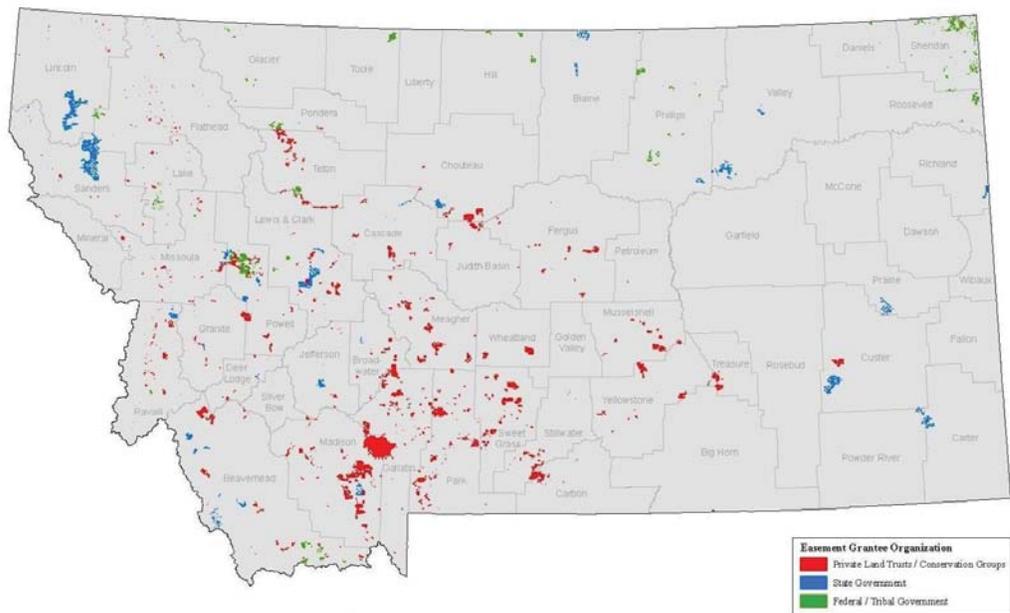
Emergency Medical Services Map, Legislative Audit Division, June 2008



One example of how using GIS in a performance audit helped lead to changes in public policy is a map contained in a January 2007 audit of conservation easements (06P-01). The in-depth audit noted the lack of any method for compiling conservation easement data in a methodical and accurate manner and the possibility of tax ramifications and management issues from the lack of reliable and complete data.

Because Maciver found it difficult to obtain “a verified and reliable statewide view of conservation easements at the time the audit was performed,” the auditors included in the appendices of the report a map they had created showing that very thing. The map “helped a lot of people understand the statewide picture, as well as allowing legislators and others to relate the subject matter to their local areas.”⁹

Conservation Easements in Montana, Legislative Audit Division, January 2007



⁸ Nick Hill, Angus Maciver, Misty Wallace; “Emergency Medical Services (EMS): Department of Public Health and Human Services and the Board of Medical Examiners;” *Legislative Audit Division*, No. 07P-11; available from <http://leg.mt.gov/content/Publications/Audit/Report/07P-11.pdf>; last accessed January 9, 2012.

⁹ Angus Maciver, Performance Audit Manager, Legislative Audit Division; e-mailed correspondence; January 6, 2012.

One result of the performance audit was a change to Montana statutes that required county clerk and recorders to provide a copy of a conservation easement to the county office of the Department of Revenue within a certain time period after the easement was filed. This requirement helped create a more systematic manner of collecting reliable information about how many conservation easements were being created and where.

*Legislative Environmental Policy Office*¹⁰

The evaluation of various environmental and natural resource policy areas can be enhanced by GIS analysis. State agencies involved in these areas have in-house resources to create maps and provide GIS analysis to legislators and other policy makers. In addition, the Legislative Environmental Policy Office, which assists the Environmental Quality Council in monitoring these agencies, has someone capable of using GIS to provide analysis. Joe Kolman, the Legislative Environmental Analyst, stumbled upon GIS during his days as a reporter in Nebraska and now brings this skill to LEPO. He notes that while LEPO has used GIS in a limited manner, having staff that are familiar with GIS helps them to know what questions to ask agencies and others when researching policy questions for legislators.

Kolman doesn't limit himself solely to topics related to environment; he also works with the Montana Districting and Apportionment Commission as it redraws state legislative district lines. Also, if you are a long-time reader of *The Interim*, you might remember previous Back Page articles Kolman wrote using GIS analysis to explore the management of sex offenders throughout the U.S. and in Montana¹¹ and how Montanans stay in touch with their legislators despite the sometimes daunting distance to Helena.¹²

*Legislative Fiscal Division*¹³

Many of you receive periodic electronic updates from legislative interim committees. If you receive updates from the Legislative Fiscal Division, you have seen the "Chart of the Week" produced by the fiscal staff. Many of those charts use maps, often of Montana's counties, to display some type of revenue, spending, or other fiscal data. Those maps are the creation of Brian Hannan, a revenue data analyst with the division. Hannan does some mapping by request, but he also looks for data to use so he can produce maps every few

weeks. He looks especially for variability in the data, for data that can be used for visual displays, or for maps produced on the national level that he can replicate for Montana.

Hannan has also mapped the various elementary school districts around the state to help legislators and the public understand how scattered the districts can be, a task that would have been difficult, if not impossible, without the help of GIS. To him, "the most important thing the branch can do [to incorporate more GIS projects into its work] is to look at what others are doing and keep trying new things."

An archive of past Fiscal Division Charts of the Week can be found at: <http://leg.mt.gov/css/fiscal/past-charts.asp>. (Some charts are maps; some are not.)

Connecting the Dots: Challenges to Incorporating GIS into Legislative Work

Performing GIS analysis can be expensive for a variety of reasons:

- the cost of software licenses;
- the potential cost of training staff to gain proficiency with the analytical tools; and
- the cost of acquiring, maintaining, and storing large data bases or collections of geographic files.

Montana has been proactive when it comes to one of the most important but also more challenging aspects of GIS work: creating, collecting, and maintaining the geographic files that provide the basis of all spatial analysis. The Montana State Library houses both the Natural Resource Information System and the Base Map Service Center, both of which provide the resources (expertise, spatial infrastructure files, etc.) necessary to support a thriving GIS community in Montana.

The Census and Economic Information Center in the Montana Department of Commerce also provides enormous amounts of economic information about Montana that can be incorporated into maps on many topics, such as state and county poverty rates, the state's aging population and other demographic trends, and how the economies of various regions in Montana are faring. (Links to these resources can be found at the end of this article.)

¹⁰ Joe Kolman; Legislative Environmental Analyst, Legislative Environmental Policy Office; e-mailed correspondence; January 18, 2012.

¹¹ Joe Kolman, "Sex Offenders: A Problem That Won't Go Away," *The Interim*, February 2006, pgs. 9-17; available from: http://leg.mt.gov/content/Publications/Interim-Newsletter/2005-Interim-Newsletter/interim_06feb.pdf; last accessed January 10, 2012.

¹² Joe Kolman; "Big Sky, Big Ride," *The Interim*, September 2006, pgs 7-9; available from: http://leg.mt.gov/content/Publications/Interim-Newsletter/2005-Interim-Newsletter/interim_06sep.pdf; last accessed January 10, 2012.

¹³ Brian Hannan, Fiscal Analyst, Legislative Finance Division, e-mailed correspondence; January 19, 2012.

Even with these resources and with much of state and local government data having some location-based attributes, obtaining the data needed for a GIS project can be one of the most difficult parts of the analytical process. If you are mapping all the trees planted in the Capitol complex, you need to know the location of each tree. It is possible the data already exists, maybe even in the format you need. But it is also possible that the data isn't complete (maybe it hasn't been updated since 1999), isn't as specific as you require (perhaps it only looks at evergreens or records groups of trees rather than individual trees), or isn't in a format you can use without some effort (the data is stored in a hand-written file in someone's desk). Data collection and maintenance can easily be the largest part of a GIS analysis.

Often, however, the biggest challenge faced by legislative staff when incorporating GIS techniques into more reports, audits, and analyses is not financial. It is understanding and sharing with others the various ways GIS can enhance the work of the Legislature (and other agencies, for that matter). The lack of understanding of the power of a visual display of data may render data hard to find or access. Aging state IT infrastructure, designed in the years when GIS analysis was less common, may make it difficult and time-consuming for agency staff to extract the necessary information from databases. To perform that function to help someone chase what might seem like a wild goose might be considered a complete waste of time. Worse, staff might be suspicious of providing data to create the maps, even in a state with expansive right-to-know provisions that require much of state government data to be open to the public.

A more common result of our limited understanding of potential GIS uses is that we just don't connect the data to the possibilities. Remember the statistic cited earlier that more than 70% of government data has some type of spatial component? Although GIS software packages are highly technical

and offer a variety of functions to analyze data, individuals seeking to make use of these functions must first recognize that the Excel file stored on their hard drive has more potential than just a table, line graph, or paragraph in a report. Joe Kolman offers a suggestion for dealing with this problem: setting a goal of including at least one small map in every report. "It's a small goal that can be easily achieved. Once we start thinking of maps as primary vehicles of information, the opportunities to include them will be more easily seen."¹⁴

Angus Maciver goes a step further, saying: "The biggest obstacle is getting people to think in geospatial terms and to recognize that the power of GIS lies in analysis, not in making pretty maps....[T]he best use of the software is in analyzing and interrelating spatial data and using this information to understand and improve agency operations and management. It would be nice to have more resources for training, software licenses, etc., but it is not much use if you can't get people to think the right way."¹⁵

His insight highlights the real goal of using GIS in the legislative branch. The purpose of all the analysis and the reports and maps, isn't to throw out as much information as possible to the world and forget about it. The point is "to understand and improve agency operations and management" and, in that way, to make state and local governments function more effectively, efficiently, and responsively to Montanans' needs and concerns.

GIS Resources in Montana

Base Map Service Center: <http://giscoordination.mt.gov/>

Natural Resource Information System (NRIS): <http://nrismt.gov/>

Census and Economic Information Center: <http://ceic.mt.gov/>

¹⁴ Joe Kolman; Legislative Environmental Analyst, Legislative Environmental Policy Office; e-mailed correspondence; January 18, 2012.

¹⁵ Angus Maciver; Performance Audit Manager, Legislative Audit Division; e-mailed correspondence; January 6, 2012.

Calendar of Legislative Events

All interim committee meetings are held in the Capitol in Helena unless otherwise noted.

| February | | | | | | |
|----------|--|---|---|--|---|----------|
| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
| | | | 1 Select Committee on Efficiency in Government, Health Care/Medicaid Subcommittee, Rm 172, 10 a.m. | 2 | 3 | 4 |
| 5 | 6 Select Committee on Efficiency in Government, Natural Resources Subcommittee, Montana State Univ-Bozeman, SUB Ballroom B, 10 a.m. Select Committee on Efficiency in Government, Montana State Univ-Bozeman, SUB Ballroom B, 1 p.m. | 7 Select Committee on Efficiency in Government, Technology Subcommittee, Montana State Univ-Bozeman, SUB Ballroom B, 8 a.m. Select Committee on Efficiency in Government, Montana State Univ-Bozeman, SUB Ballroom B, 9:30 a.m. | 8 Legislative Audit Committee, Rm 172, 8 a.m. | 9 Computer System Planning Council, Rm 102, 1:30 p.m. | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 Revenue & Transportation Committee, Rm 137, time TBA | 17 Revenue & Transportation Committee, Rm 137, time TBA Districting & Apportionment Commission, Rm 102, 9:30 a.m. | 18 |
| 19 | 20 Lincoln's & Washington's Birthday | 21 | 22 | 23 Law & Justice Committee, room & time TBA | 24 Law & Justice Committee, room & time TBA | 25 |
| 26 | 27 | 28 | 29 | | | |

| March | | | | | | |
|--------|--|--|---|---|---|----------|
| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
| | | | | 1 | 2 | 3 |
| 4 | 5 | 6 Water Policy Committee, room & time TBA | 7 Environmental Quality Council, room & time TBA Legislative Council, room & time TBA | 8 Environmental Quality Council, room & time TBA Legislative Council, room & time TBA Legislative Finance Committee, room & time TBA | 9 Legislative Finance Committee, room & time TBA | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 Children & Families Committee, room & time TBA | 20 Children & Families Committee, room & time TBA | 21 | 22 Education & Local Government Committee, room & time TBA | 23 Education & Local Government Committee, room & time TBA | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 |

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