Business Plan to Improve Partnerships for MSL GIS Coordination

March 23, 2023 by

Empowering People with Spatial Solutions

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1 Executive Summary

The Montana State Library's *GIS Coordination Strategic Plan* (2022) contains a goal titled "Create and strengthen partnerships". This business plan, the *Business Plan to Improve Partnerships for MSL GIS Coordination*, describes actions to achieve that goal.

Partnerships are an essential part of how the Montana State Library (Library) coordinates geospatial activities. The Library has many different forms of partnerships, ranging from formal agreements with attached funding to ad hoc requests for assistance. Just as there are many forms of partnership, there are many partner agencies and organizations. The initial steps in this business plan are to catalog current partners and generalize these relationships into management models. The purpose of management models is to minimize the need for each partner to be managed in special, time-consuming ways. The models are a baseline for standardizing partner relationships. Partnership administration and management can be more efficient since there is less variety in administration and management processes.

Under the plan, the Library then moves specific partners to appropriate partner models. The plan describes a method for how to assign priorities to partnerships for this transition. However, the plan recognizes that other considerations – intangible factors must also be part of the priority-setting. The transition process can be incremental over time; the Library could seek to reap the biggest efficiency gains first.

The Library will also form new partnerships with already identified potential partners. The plan discusses how a partner relationship should start from an appropriate model. New, perhaps unexpected, opportunities for geospatial coordination activities will arise. The business plan describes how the Library can prepare to take advantage of such opportunities by being able to implement partnerships quickly and efficiently.

The Library's partnerships take effort from staff and from the partner organization or agency. Sustaining and even strengthening these relationships keeps them productive in a virtuous cycle. This plan calls for the Library to develop tools to make it easier to manage partnerships: tracking obligations and deliverables and providing a correspondence record. Partnering is often synergistic, so the Library is also enjoined to bring partners together to create new collaboration possibilities.

Implementing the business plan is estimated to take 24 months, allowing time to put in place a framework and the gradual transition of existing relationships to the new management approach. MSL can accomplish this work with internal staff in various roles identified in the plan. Contracted services could be used instead of staff to accomplish some of the work needed to put the partnership management framework in place.

2 Program Goal

Early in 2022, the Montana State Library (MSL) finalized a strategic plan to improve geospatial coordination activities. One of the strategic goals is to "Create and strengthen partnerships".

The program goal for this business plan is to improve partnerships by making it easier for MSL to manage new and existing partners, and thus make its assistance to other government and non-government entities easier to deliver. Most of the actions in the plan work toward defining ways to make partnering more efficient and effective. The business plan actions include promoting collaboration between others, such as regional partnerships, and creating ways to promote partnering opportunities with MSL at any level of government or local interested party. In addition, this business plan aims to resolve the following current weaknesses:

1.   Each partner may be managed in its own way, often based upon personal relationships
2.   Communications with partners vary, perhaps taking considerable effort at MSL
3.   Partnerships are known but not tracked in a systematic way

The actions needed for the business plan can be usefully grouped into *objectives*. Objectives are points along a route that leads to the business plan being fully in place. In general objectives are sequential. However, in this business plan, Objectives 3, 4, and part of Objective 5 can overlap. This is discussed in detail in the "Implementation Plan" section.

2.1 Objectives

Five objectives are stepping stones to achieving the program goal (Table 1). Each objective is discussed in more detail in the "Achieving Objectives" section.

Program Goal	Improve Partnerships
Objective 1	Identify current and desired partnerships.
Objective 2	Devise a limited number of partnering models.
Objective 3	Identify and transition current partners to an appropriate partnering model.
Objective 4	Prepare for new partner opportunities and recruit new partners based upon the value of the partnership, its urgency, and importance.

Objective 5	Build processes to sustain and strengthen partnerships.

Table 1. Business plan objectives

2.2 Achieving Objectives

Objective 1. Identify current and desired partnerships.

Strengthening partnerships is a strategic goal for MSL. One of the methods by which this can be achieved is to make managing partnerships more efficient, so that MSL and its partners can devote more time to the substance of their collaboration and spend less time on activities that support those activities. Examining existing collaborations and partnerships is a good place to start seeking these improvements. What works? What is overly-elaborate? These are questions that are addressed in this section. As well, MSL has new partnering opportunities. These, too, need to be examined to determine common elements that should structure these and other new collaborations.

A first step in creating a plan to improve partnerships is to catalog current MSL partners and characterize the nature of the partnership. Appendix A contains this catalog as of December 2022. Table 2 shows counts of partners by entity type. Montana State Library currently has more than 79 partners (Table 2). (The "County" category in Table 2 is not a tally of individual counties – it represents three levels of GIS expertise – no GIS staff, partial GIS staff, and full GIS staff – within Montana's 90 counties as characterized by MSL staff.) Each partnership requires not only the substantive work performed in the partnership (e.g., creating geospatial data) but also management, coordination, and communications along with coordinating efforts.

Partner Entity Type	Count
City/Town	18
County*	3
Federal	12
Nonprofit	11
Private	6
State	6
State Agency	11
Tribal Entity	8

Partner Entity Type	Count
University/Collegiate	2
TOTAL	**79**

*Table 2. Current MSL partnerships by partner entity type. *Note that the tally for counties is for 3 levels of GIS expertise at a county, not a count of actual counties partnering with MSL.*

The partnerships vary in terms of how formal they are. Formal agreements include the following general categories:

- Contracts
- Formal agreement
- Work agreement
- Support letters
- Mutual understanding
- Previous formal agreement or mutual understanding
- No formal agreement

Most MSL partnerships have no agreement mechanism. Formal agreements are not needed for every partnership. For instance, Montana collaborates with 6 states on border issues, real-time GPS networks, and similar topics. Formal agreements might unnecessarily restrict these dynamic, as-needed, interactions rather than aid them.

The products of partnerships and partner communications are diverse. Some partnerships produce or update tangible products like datasets or map services. On the other end of the spectrum, MSL has partnerships that involve coaching and advising GIS staff. Communication methods and frequency range from informal contact as needed to formal, calendar-based, reporting (e.g., MLIA Grants).

MSL's partnerships don't fall into easily defined categories at present. They have grown up organically as MSL and partner needs, capabilities, and opportunities have intersected. These relationships often grew out of contacts between individual staff on both sides of a partnership who were already acquainted through the GIS community.

MSL also has a number of new, potential, partnerships (Appendix A). These are relationships MSL would like to develop. MSL partnership goals include:

- Information and data sharing
- Technical support
- Shared stake, financial or otherwise, in larger endeavor (e.g., NextGen 9-1-1, 3DEP, 3DHP)
- Education and development

This objective examined partnerships that MSL has today and also those it is considering in the future. Strengths of current partnerships are:

- Longevity – MSL has long-term collaborations with many different partners across partner entity types
- Productivity – MSL partnerships are beneficial relationships

There are also some weaknesses:

- Each partner may be managed in its own way, often based upon personal relationships
- Communications with partners vary, perhaps taking considerable effort at MSL
- Partnerships are known but not tracked in a systematic way

Objective 2. Devise a limited number of partnering models

Objective 1 showed that MSL has a very diverse network of partners with widely varying products, communications, and levels of formality. This diversity has accumulated over time as fruitful collaborations have been taken on by both parties. This has created a situation in which many partner relations are, essentially, unique. Each has to be managed in its own way, potentially requiring considerable effort on the part of MSL.

Models are basically templates for common partnering configurations. Partnering models can reduce the effort of both parties by regularizing the management aspects of the relationship. The characteristics of current and potential partnerships are useful starting points for building future partnerships because what is effective today is likely to be effective in the future. Some of the characteristics that are common across both current and desired partnerships are shown in Table 3 below.

MSL Partnership Characteristics
Partnership entity type
Geographic scope of partnership
Frequency of interaction
Level of engagement
MSL contributions
Partner contributions
Agreement type

Duration
Status (active / inactive / proposed / desired)

Table 3. MSL Partnership Characteristics

At a minimum MSL can consider these characteristics as the data that should be kept about partnerships, akin to GIS attributes. In fact partnership information could be kept in a GIS where spatial entities are used to record geographic scope. The characteristics shown in Table 3 combine in different ways in models of MSL partnerships (Table 4).

MSL Partnership Models
Data Sharing
Grantee
Technical Support
Coproduction (data co-creation with public / non-governmental stakeholders)
Contract
Coalition (defined purpose, multiple agencies pooling resources)
Collaboration

Table 4. MSL Partnership Models

The seven partnering models presented in Table 4 are ideals. Each MSL partner relationship does have distinctive characteristics that will shape each element of the model. For example, in the "Data Sharing" partner model, the business processes and data production workflows of each partner will determine how frequently datasets are shared -- e.g., health clinic locations may be updated quarterly while health incident data is updated weekly. Models are valuable only insofar as they are useful in making the management of a partnership more productive and only if the models are consistently used. Generally, the goal is that time spent on administrative aspects of a relationship is less than it would be without a model.

Some partnerships will not fit neatly into any model, except perhaps the most general one of "Collaboration". This is perfectly acceptable. The MSL can ignore models where they are not needed or add partner models if it is useful to do so. The minimum standard is that each partner relationship is tracked systematically.

Objective 3. Identify and transition current partners to an appropriate partnership model.

Moving partners to appropriate partnership models is the next objective in this business plan. Current partner relationships (Appendix A) are assessed and placed into partner model categories (see Objective 2). Then, MSL can assess the urgency and importance of managing the partnership using the selected model to determine the priority assigned to partnership transition. Because MSL has many diverse partners, the transition process cannot be swift. Consequently, setting priorities on specific partnerships is an important action.

Some factors to consider are whether managing a partnership is time-consuming, the value of the partnership to MSL's mission as a whole, the probable duration of the relationship, and whether the partnership is at risk of failing. The latter consideration may be especially important when a partnership is based on individual rather than agency professional relationships and one of those people is departing a job – the successor might not continue the partner arrangement or give it less importance.

Table 5 summarizes these factors and provides a numeric scoring scale from 1 to 5 for each factor. Each partnership can be assigned a score for the factors, the scores summed. Partnerships with high scores are potentially the highest priority to move into defined management models. The ranking is just a starting point for assigning priorities though. There will be other reasons for assigning higher or lower priority to specific partnerships, so the list should be considered an initial assessment of partnership priority for transition to a partner model.

Priority Factor	Description	Suggested Scoring
Mission value	Whether the products of the partnership, or the relationship itself, is central to MSL's mission and strategies. Considered to be the most important factor and thus given double the weight of others.	Scale: 1 to 10 1 = Peripheral to mission; 10 = Essential to mission.
Duration	The intended longevity of the partnership.	Scale: 1 to 5: 1 = Very short duration; 5 = Very long duration.

Management effort	The amount of management time and effort required to make the partnership effective and whether that effort is predictable (controlled) or unpredictable. This factor is the "overhead" of the partnership.	Scale: 1 to 5 1 = Requires little management effort and/or the effort is predictable; 5 = Considerable management effort and/or is highly unpredictable, interrupting other work.
Sustainability / Failure Risk	Whether the partnership is at risk if no action is taken to change the current situation. Can be due to relationship basis (e.g., between persons rather than organizations), issues on external partner side (reorganization, policy changes, etc.), or other causes specific to MSL and the partner.	Scale: 1 to 5 1 = Very stable and/or few existential threats or risk issues factors; 5 = Uncertain stability and/or substantial risk issues or existential threats.
Intangibles	This category captures other aspects of a partnership that are important for consideration but are not accounted for elsewhere	Scale: 1 to 5 1 = Very important to the mission of MSL; 5 = should be included in the consideration and understanding of the partnership but will not likely change the priority of the partnership.

Table 5. Priority-setting factors and scoring scale descriptions.

Once partnerships are identified for transition to a partnership model, MSL might need to coordinate with the partner if there will be some effort needed on the partner's side of the relationship. For instance, the partner might need to be approached about how best to make a person-to-person partnership relationship into a more formal MSL-to-organization partnership. Each organization could approach this formalization in a different way; there is no single right way or recipe. The key point is that MSL needs to involve the partner early. If there are agreement documents to create or alter, then this should be done jointly in most cases, recognizing that each organization's approval processes could take some time.

Communication with the partner should emphasize that the transition goal is to enhance the relationship by making it more streamlined and (as appropriate) more durable. For some partnerships (e.g., grants), very little is needed since the characteristics and structure of the relationship are already clear to both parties. Transitioning partnerships that involve only actions on MSL's side of the relationship don't need any involvement from the other party.

Part of the transition process is to make sure a partnership is tracked appropriately. Tracking consists of cataloging and logging interactions. Cataloging is registering the partnership in some sort of database that contains characteristics and requirements (Table 3). Depending on the partnership type, interactions and activities may be recorded in some form of log. Objective 5 discusses this aspect of partnerships in more detail.

Regularizing MSL partnerships will take time. There will undoubtedly be opportunities for jumping the priority list (e.g., the imminent departure of a key person in the partner organization might be a great moment to formalize or alter the relationship so that it doesn't wither). The priority matrix described above can be a useful shortcut for deciding MSL's goals and thus help transitions be more effective. Over time, MSL's roster of partnerships will get managed in fewer, more predictable, ways.

Objective 4. Prepare for new partner opportunities and recruit new partners based upon the value of the partnership, its urgency, and importance.

Many of the same considerations discussed in Objective 3 regarding current partners apply in determining partnerships MSL would like to build in the future. Potential partners (Appendix B) are examined and priorities are set based upon partnership value.

However, for a new partnership there may be an additional factor to consider. This is whether the new, potential, partner advances some existing MSL goals that are awaiting an appropriate partner. The need for the partnership can be defined in advance of identifying a specific potential partner to supply that need. Being prepared in advance will allow MSL to take advantage of unforeseen opportunities and, whether planned or fortuitous, execute quickly when a partner is found. One of the tools MSL should prepare for such "desired partnerships" is a short written prospectus with an emphasis on the potential value of the partnership to both partners. The prospectus can even be used as advertising to solicit potential partners. Hypothetical examples are provided in Appendix C.

In terms of the management of new partnerships, this follows the same management principles outlined already. An appropriate model is used and the relationship is cataloged and tracked (see Objective 5).

Objective 5. Build processes to sustain and strengthen partnerships.

Actively maintaining partnerships is beneficial to MSL in many ways. Keeping a partnership active is generally easier than restarting or rebuilding it. Partnerships with few communications or joint products

languish, perhaps taking more effort to maintain than they are worth. Lastly, partnerships are a network and MSL builds its reputation by having partners who know MSL values their joint relationship.

Maintaining individual partnerships consists of three related types of activities: tracking and monitoring, communicating, and performing. Approaching partnership maintenance as consisting of these allows MSL to be more efficient. As discussed above (Objective 3), MSL's partnerships follow patterns; each will have its own combination of these activities.

Tracking and monitoring the partnership begins when a partnership is formed. Tracking and monitoring allows MSL to see an inventory of all partnerships and also see details about each specific partnership. The action consists of:

- Maintaining the partnership entry in a catalog of partnerships
  - Catalog information includes partnership characteristics (see Table 3)
  - The catalog may be a spatial database, an electronic table, or a customer-relationship management (CRM) application
  - The catalog entry is updated for a partner as needed
  - The catalog contains obligations and schedules for both partners and can be used to create partnership task lists and timelines
- The partnership is reviewed at appropriate frequencies to assess if changes are needed

Communicating with the partner is obviously important. While this includes communications about work products, it also includes other sorts of communication too. If it is effective to do so, then a communications schedule might be created as part of establishing or updating the partnership. Communications actions include:

- Aside from work product calendars, a schedule for MSL and partner communications may be defined as part of the relationship itself, as when a grant requires quarterly reports.
- MSL and partner communications should be defined when creating, or transitioning, the partnering relationship.
  - Not all partnerships need a defined communications schedule.
- MSL can use methods defined in its "Communications Business Plan" in communicating with partners such as templates, communication channels, and other techniques discussed in that plan.
- Communications are a part of monitoring activities.
  - Keeping track of communications (i.e., logging) can be done in the same tools used for tracking and monitoring (e.g., database, tables, CRM).

Partnerships are formed to benefit both parties, so **performance within the partnership** is the ultimate determinant as to whether a partnership is working well. Delivering the work and outcomes for which

the partnership was formed is central. How work is done, what is delivered, how it is provided, and so on will vary a lot over MSL's many partnerships, but in general, this action is aided by

- Clearly defined obligations and deliverables.
  - This should be established in creating the partnership, cataloged, and tracked as discussed above.
  - Schedules for deliverables or outcomes should be established and reviewed.
- Clear and timely communications about progress toward products and outcomes.
- Evaluation of productivity.
  - Quality assurance and quality control for data products.
  - Open, frank, evaluation of effectiveness for other kinds of partner outcomes and products.

At a higher level above individual partnerships, MSL should foster a culture of partnering. This is important because geospatial data has many authors, but even more users. Some of the ways that MSL can foster partnerships both with itself and between others include publicizing its own partnerships. This includes listing selected high-value partnerships on its web site, making partner resources available (model agreements, case studies), and issuing news releases about partnership successes. An annual partner conference, to which all current and potential partners are invited, is an excellent way to create a culture of partnering. A partner conference could be a standalone event that is independent of other meetings or it could be combined with other events. It could also replace another event that has similar objectives. The amount of meeting content will need to be balanced with a reasonable event duration (half day, full day, multiple days).

3. Requirements and Costs

Business plans generally rest upon some assumptions. Recognizing these assumptions early helps avoid problems later in the plan's implementation. Business plans almost always require some resources to implement, such as funding, labor, and time. Details on how funding, labor, and time combine to put the plan in place are part of its implementation (Section 4).

3.1 Assumptions

The need for this business plan became clear during MSL's 2022 strategic plan formulation. The only assumption concerning the business plan's importance is that the situation described in the strategic plan, where improving partnerships was called for as a strategic goal, is essentially unchanged.

A very important assumption in this business plan is that partnerships can be assigned priorities. MSL has many partnerships and giving all of them top priority is theoretically possible, but practically

impossible because of the resources it would require. While the plan does not assume that every partnership is a top priority, it does recognize that all MSL partnerships are important, so a related assumption is that MSL will manage every partnership efficiently. This benefits all partners.

3.2 Resource and Funding Requirements

The business plan relies on two different kinds of expertise that MSL has in its staff. First, there is the professional GIS, geospatial, and information management skills within MSL. Since most partnerships involve some kind of technical work (data sharing, GIS support, information management and publication), MSL's wide and deep expertise of this sort makes partnerships productive. A second kind of expertise is MSL's managerial and administrative capabilities. Every objective in this business plan relies on MSL using its abilities to organize relationships with other entities, whether those other entities are sister agencies, other levels of government, multi-agency programmatic efforts, or different kinds of interest groups.

MSL technical and managerial staff are already very engaged in existing partnership operations. It is unlikely that they have time to do the administrative work needed to re-form partnerships. It may even be difficult for them to find time needed to prioritize partners and move them to more efficient management models. Although executing the business plan will make MSL more efficient, the time available as a result will only come after the process is well underway. Additional resources will be needed to make this business plan work, at least initially.

Table 6, also found in Appendix B, shows the required human (MSL and Partner) and non-human resources. Administrative support is the role that is most lacking because today's administrator/managers are already "managers" engaged in the actual work of each partnership at the technical-managerial level. So, adding administrative support for partnership management – at least for Objectives 3, 4, and 5 of this plan – would reduce the risk of the business plan failing to achieve the desired outcomes. Much of the administrative role could be filled by someone at the administrative assistant level.

	Objective 1: Identify current and desired partnerships	Objective 2: Devise a limited number of partnering models	Objective 3: Transition current partners to an appropriate partnership model	Objective 4: Prepare for new partner opportunities and recruit new partners	Objective 5: Build processes to sustain and strengthen partnerships
	All objectives should have an assigned **Project Manager** role to oversee the details of the implementation.				
MSL Roles	**Managerial staff** (or staff acting in that role) to identify existing and desired partnerships.	**Managerial staff** to verify partnership models and attributes proposed in business plan.	**Managerial staff** to work with technical staff in assigning priorities to existing partnerships	**Managerial staff** to work with technical staff in assigning priorities to desired partnerships.	**Managerial staff** to monitor partnerships.
		GIS Technical staff to evaluate how to characterize technical actions and products of partnership models and attributes proposed in business plan.	**GIS Technical staff** to work with managers in assigning priorities to existing partnerships and advise on technical issues and needs for success.	**GIS Technical staff** to work with managers in assigning priorities to desired partnerships and advise on technical issues and needs for success.	**GIS Technical staff** to monitor technical products of partnerships.
			Administrative staff to work with current partner administrative contacts for each partnership as needed to transition partnership to desired MSL characteristics.	**Administrative staff** to work with desired partner administrative contacts for each partnership as needed.	**Administrative staff** to perform non-technical requirements of partnerships and assist partner administrative staff with same.
					Technical staff to assist with tracking application(s) or CRM system.
					Web site editor to keep partnerships web pages updated.
Partner Roles			**Current partner administrative contacts for each partnership** to participate as needed in transitioning partnership to a more efficient management model.	**Desired partner technical contacts for each partnership** to participate as needed in transitioning partnership to a more efficient management model.	**Partner administrative contacts** for non-technical aspects of partnerships.
			Current partner technical contacts for each partnership to participate as needed in transitioning partnership to a more efficient management model.	**Desired partner administrative contacts for each partnership** to participate as needed in creating a partnership.	**Partner technical contacts** to provide or receive shared work.
Non-human Resources	**List** of existing and desired partnerships.	**List** of partnering models.	**Tracking** or CRM software to manage partnerships.	**Tracking** or CRM software to manage partnerships.	**Tracking or CRM software** to manage partnerships.
			Communication methods (see Communications Business Plan) as specified in partner management profile.	**Communication methods** (see Communications Business Plan) as specified in partner management profile.	**Communications logging** or similar software if not already part of tracking / CRM software.
			Technical resources (hardware, software, networking) as appropriate for partnership work and products.	**Technical resources (hardware/software/networking)** as appropriate for partnership work and products (e.g., partnerships web pages).	**Communication methods** (see Communications Business Plan) as specified in partner management profile.
			Model agreements to use in formalizing partnership.	**Model agreements** to use in formalizing partnership	
				Prospectus templates for potential partnerships.	

Table 6. Resources, both human and non-human, needed for each objective in the business plan.

An administrative assistant could be a regular MSL employee or an external (contracted) person. In the later phases of the plan's implementation, partnership management should be regularized enough that there is less need of an administrative assistant. At the outset of the plan's implementation it is important to have someone in the administrative role so that the geospatial professionals are free to work on improving partnerships, which only they can do. An ideal scenario would be to have an administrative assistant work under the direction of the geospatial coordinator for 1 to 2 years while Objectives 3 and 4 require substantial effort and then focus on Objective 5.

Table 6 also shows other roles that people need to fill in each objective. It is useful to remember that the partner organizations themselves are participants in managing the relationships. Depending upon how a partnership is being formed or is transformed from its current state, one may need to engage managers, technical staff, and administrators on the partner's side too.

Non-human resources shown in Table 6 include communications tools and some sort of tracking mechanism(s) for partnerships. These have been discussed in the Objectives (especially 3 and 5) or in the MSL Communications Business Plan (2022).

Costs that can be anticipated in the partnership business plan consist of administrative staff (time or contract costs) and the costs of whatever systems are used to track partnerships and communications within them (Table 7). As with the administrative assistant, the latter resources could be ones that MSL already has (e.g. using ServiceNow, creating tools in MSL's Esri environment) or may require some sort of purchase or fees. Customer Relationship Management (CRM) software can be on-premise or software as a service (SaaS). SaaS system costs are typically between $7 and $15 per month. Example pricing can be found here, illustrating the range of solution costs available in the marketplace:

- https://www.zoho.com/crm/zohocrm-pricing.html
- https://www.lessannoyingcrm.com/pricing
- https://www.bigin.com/pricing.html?source_from=biginheader
- https://clickup.com/pricing

Table 7 summarizes the level of effort (LOE) estimated to accomplish each objective. Additional detail is provided in the implementation plan (Section 4) for LOE estimates (hours), and cost estimates broken down by task and objective. To complete all five objectives in a 2-year time frame, it will require 0.869 FTE (Full Time Equivalent) in total. As described above, this work will not be accomplished by only one person as there are multiple roles required for the implementation. Additionally, some of the effort noted in the plan begins the ongoing maintenance required. Therefore, the estimated LOE is shared across all the identified roles and some of the maintenance activities. We show annual hours allocation but these are not all new costs as they are mostly absorbed by existing staff duties.

Cost estimates are only provided for the cases where outside services may be engaged in exchange for some internal MSL staff effort. The level of effort and cost estimates in Table 7 are starting point

estimates because the nature of this work is such that MSL can take as much time as they want to spend on performing these tasks. This table is also included in Appendix B.

Objectives	Annual Hours	FTE	Direct Costs (3 yrs)
Objective 1. Identify current and desired partnerships	0	0	$0.00
Objective 2. Devise a limited number of partnering models	0	0	$0.00
Objective 3. Transition current partners to an appropriate partnership model	368	0.177	$0.00
Objective 4. Prepare for new partner opportunities and recruit new partners based upon the value of the partnership, its urgency, and importance	408	0.196	$0.00
Objective 5. Build processes to sustain and strengthen partnerships	1024	0.492	$7,600.00
Totals	1808	0.869	$7,600.00

Table 7. Level of Effort and cost estimates of resources needed for each objective in the business plan.

4 Implementation Plan

4.1 Implementation Phasing and Milestones

The implementation plan to meet the Program Goal is straightforward and consists of the five program goal objectives with tasks identified as necessary. Each task has a timeline. Some of the steps needed to implement this plan were completed by MSL and AppGeo during the development of this business plan. Therefore, only the implementation steps remaining to complete are presented with a timeline. The implementation plan is presented in Table 8 below and is also provided as a spreadsheet in Appendix B.

Objectives and Tasks	Timing Notes	Timeline in Quarters								Annual Hours	Direct Costs (3 Years)	Notes
		1	2	3	4	5	6	7	8			
Project Initiation and Management										8		
- Define Project Team												
- Set up Project Management												
Objective 1. Identify current and desired partnerships										0	$0.00	Objective 1 Total (0 FTE)
Catalog current MSL partners	Completed											
- Characterize nature of each partnership	Completed											
- Find common characteristics that may define partnering models	Completed											
Identify desired new partners	Completed											
- Describe desired outcome of each proposed new partnership	Completed											
Identify strengths and weaknesses of current partner arrangements	Completed											
Objective 2. Devise a limited number of partnering models										0	$0.00	Objective 2 Total (0 FTE)
Define characteristics of partnerships	Completed											
Define initial partnering models	Completed											
Revise models as appropriate	Ongoing											
Objective 3. Transition current partners to an appropriate partnership model										368	$0.00	Objective 3 Total (0.177 FTE)
Categorize partners into models												Annual Hours Allocation: 480 hours: Assume Admin Assistant works 208 hours per year on transition, GIS Coordinator works 40 per year, 3 technical staff work 40 hours each
Convert current partner list into tracking system												
Priority-setting												
Transition partner based on priority	Iterates for each partnership											
- Contact partner	Contact in first 3 mos.											
- Negotiate / coordinate	Coordinate in first 3 mos.											
- Finalize partner arrangement	Finalize in next 6 mos.											
- Begin logging partner activities	In place after 9 mos.											
Objective 4. Prepare for new partner opportunities and recruit new partners based upon the value of the partnership, its urgency, and importance										408	$0.00	Objective 4 Total (0.196 FTE)
Target projects / opportunities												Start assumes MSL will want to start after transition of high-priority existing partnerships. Annual Hours Allocation: Assume Admin Assistant works 208 hours per year on transition, GIS Coordinator works 80 per year, 3 technical staff work 40 hours each. Assumes publicizing occurs digitally.
Prepare prospectuses and publicize if needed												
Categorize potential partners into models												
Priority setting												
Contact desired partner	Iterates for each partnership											
- Negotiate / coordinate												
- Finalize partner arrangement												
- Add partnership to tracking system												
- Begin logging partner activities												
Objective 5. Build processes to sustain and strengthen partnerships										1024	$7,600.00	Objective 5 Total (0.492 FTE)
Devise tracking tool or select CRM and implement										160	$3,600.00	2-year: 6 users, 2 yrs @ 25/user/month; Labor 160 hours (one time)
Maintain tracking	Ongoing											
Communicate with partners per agreement	Ongoing										624		6 MSL staff interacting with partners @ 2 hours per week each
Review and revise partnership attributes	Ongoing / Annual										16		Assume 6 to 7 minutes per partnership, estimate 150 partnerships
Evaluate effectiveness of partnership	Ongoing / Annual										16		Assume 6 to 7 minutes per partnership, estimate 150 partnerships
Publicize partnerships	Ongoing										40		Admin Assistant 40 hours per year
Partner Conference planning	Annual										104	$1,000.00	2-year: $500/year for printing and mailing; Admin Assistant 80 hours; GIS Coordinator 24 hours
Annual Partner Conference	Annual										64	$3,000.00	2-year: $1500/year for 1-day conference costs (A/V support, signage, refreshments), assumes use of State facility at no cost; 6 MSL staff attending conference (8 hours each); conference setup & clean-up 16 hours
										1808	$7,600.00	Goal Grand Total (0.869 FTE)

Table 8. Implementation Plan to improve MSL partnerships with objectives/tasks, timeline, level of effort and cost estimates, and notes.

4.2 Managing Implementation

4.2.1 Project Management

As discussed above a key to successful implementation of this business plan is that a Project Manager is identified and they treat this implementation like a project. Solid project management will result in the best outcomes and experience for MSL's partners and the entire team.

It is recommended to use business systems to support Project Management best practices. At the outset of the project, MSL should tailor the optimal combination of these systems for providing project transparency and streamlining communications:

- Task management
- Video conferencing
- Web-based data and document libraries
- Time management and reporting systems
- Gantt charting and project planning tools

An agreed upon plan for communication with partners and the implementation team should be established. Establish a cadence of regular check-ins on the status of the project, addressing the frequency, scope and content of routine communications and task level reporting. For example, a monthly status meeting for the internal team, and a quarterly or annual check-in with priority partners.

Use the implementation plan with the schedule of project tasks as a guide. Measuring progress along this schedule should be a core objective of the regular project management meetings.

Project success is closely tied to staying on schedule and preventing or mitigating unforeseen problems. MSL's project manager should proactively manage schedule and risk in the following ways:

- Potential project risks and causes for delay are identified at the outset of the project.
- If unforeseen roadblocks arise, they are immediately reported to the project manager for swift discussion.
- The project schedule is kept up to date throughout the project, to keep everyone on the team aware of the current schedule.

4.2.2 Risk and Issue Management

Potential risks to the implementation and ongoing success of this business plan should include a statement of the risk, the probability of the risk materializing, the impact of the risk to the effectiveness of GIS coordination, how the risk could be mitigated, and level of financial consequence due to the risk

or cost of mitigation. A risk register including this information is displayed in Table 9 and is also provided within Appendix B.

Risk Num	Statement of Risk	Probability of Risk	Impact to Effectiveness	Mitigation of Risk	Financial Consequence of Mitigation Measures
1	No action is taken to implement this plan	Low	High	Implement the business plan	None
Objective 1: Identify current and desired partnerships					
2	Inappropriate resource levels (too much or too little) are assigned to partnership management	Medium	Medium	Create an inventory of current and potential partners and keep it current as conditions change	None
3	The partnership inventory does not contain fields of information required to effectively and efficiently manage partnerships	Low	High	Team meetings have resulted in a great start to defining partnership parameters. Review these parameters as this business plan is implemented and periodically over time to ensure that the information collected is appropriate	None
Objective 2. Devise a limited number of partnering models					
4	Partnering models are not employed as a tool for effective partnership management resulting in ineffective/inefficient results	Medium	Medium	Commit to using partnership models to increase the efficacy of partnership management. Reinforce this use until models and their use are part of the MSL management culture.	None
5	The partnership models recommended in this plan do not effectively describe groups of partners with similar parameters	Low	Medium	Consider partnership models as a fluid collection of partner groupings and adjust as needed to adapt to changing circumstances or to improve efficiency	None
6	The partnership models recommended in this plan are not comprehensive enough resulting in lost opportunities to regularize partners into similar groups to result in more efficient partnership management	Low	Medium	Consider partnership models as a fluid collection of partner groupings and adjust as needed to adapt to changing circumstances or to improve efficiency	None
Objective 3: Transition current partners to an appropriate partnership model					
7	Partners are not transitioned to appropriate partnership models resulting in lost opportunities to improve the efficiency and effectiveness of partnership management	Medium	High	Deliberately assign partners to models as appropriate and ensure that the partner is completely transitioned to the assigned model by regulating interaction (when, how, often, with what purpose) with the partner as suggested by the model	None
8	Partners are assigned and fully transitioned to models as appropriate but the terms of the partner interaction defined in the model are not consistently followed over time	Medium	Medium	MSL should periodically review the efficacy of the partner/model assignment to determine if the model requires adjustment, the partner should be reassigned to a different model, or MSL has to re-commit to using the terms of the model as defined.	None
Objective 4: Prepare for new partner opportunities and recruit new partners based upon the value of the partnership, its urgency, and importance					
9	Opportunities for new partners are not realized resulting in insufficient coordination, data sharing, project, or financial support	Medium	High	MSL should continue its legacy of creating and maintaining meaningful partnerships by being aware of the changing geospatial dynamics across the state and taking advantage of opportunities to create new partnerships that have the potential to positively impact the mission of MSL	Potential lost financial opportunies
10	Potential partnerships are not correctly categorized in terms of value, urgency, and importance	Medium	Medium	MSL should be deliberate in how partnerships are valued by defining the critical elements of its partnerships then assessing the nature of the potential partnership in those terms.	None
Objective 5: Build processes to sustain and strengthen partnerships					
11	Good partnership management depends on the ability to track and monitor partner attributes and interactions. Failure to do so has the potential to impair the success of the partnership.	High	High	Tools and processes should be implemented that facilitate the process of tracking interactions with partners. These tools must also provide the ability for staff to monitor those interactions as necessary. The tools can range from simple home-grown solutions such as spreadsheets to sophisticated commercial products.	Potential cost of purchasing/licensing commercial custom relationship management software products.
12	Processes are not put into place to ensure that timely communication takes place with the partner.	Medium	High	Maintain a client communication schedule that reflects appropriate intervals and types of communication for each client. This could be incorporated into the tracking/monitoring tools.	None
13	Partnerships are not delivering an adequate amount of success for both sides.	Medium	High	Ensure that expectations of the partnership are adequately defined for each side and that the outcomes of the partnership are periodical compared to the expectations. Adjust as necessary.	None
13	The current culture of partnering that exists within MSL is deliberately maintained to prevent the erosion of success that comes from partnering.	Low	High	Partnering must constantly and consistently be recognized and encouraged as a core function of MSL.	None

Table 9. Risk register including statement of risk, probability, impact, mitigation strategy, and financial consequences.

5 Measuring Success

As with all planned activities, it is important to measure success and adjust the plan and its implementation as necessary. Two levels of success should be monitored and measured, and two types of refinement should be considered.

5.1 Monitoring Progress

The first level of success is the implementation of the program Goal and associated objectives. The program goal is to improve the MSL geospatial partnerships. The program goal consists of several achievable objectives that together will result in the successful implementation of the goal. One or more tasks are associated with each objective as shown in the Implementation Plan (Table 8).

Monitoring the progress being made to accomplish each objective and task, and therefore implementing the program goal, is straightforward by comparing progress to timeline to produce a measure of percent complete. The Project Manager role identified for each objective's implementation team can assist with this monitoring using the standard project management tools employed (e.g., schedule, task manager, status meetings, etc.). Strategies and resource levels can be adjusted as needed to meet the timelines provided.

The second level of success is to look at MSL partnerships as a whole, as the strategic plan did. Is MSL staff spending less time managing partnerships? Are partnerships more productive in MSL's view? How about in the opinion of the partners themselves? These are questions that should be asked at least every 2 years, if not annually. The partner conference (Objective 5) could be used to present the findings of MSL's evaluation, and a partner survey circulated a month or two before the conference.

Objective 5 discussed using a tracking system for several purposes. One of those purposes is to measure how well each partnership is doing. Taken together, these evaluations can be a good way to measure progress. Some things that can be measured might be:

- Are partnerships producing the agreed-upon outcomes (e.g., data) consistently?
- Are outcomes produced in accordance with partner timelines?
- For those partnerships that contribute to MSDI themes, strategic goals, and MLIAC goals, are those contributions occurring?

5.2 Refinement

MSL has an extensive partnership network already. This plan may make that network even more extensive, by expanding MSL's ability to manage partnerships. As time goes on, MSL will find even better ways to manage its partners, starting from this business plan. Partnership management will evolve as time goes on. MSL should change how partnerships are managed as needed to align with the general principles this plan advocates:

- Terms of partnerships are defined clearly.
- Partnerships contribute to MSL goals.
- Partnership activities are productive, creating the products and outcomes intended.
- MSL staff and resources are used efficiently to support and nurture collaborations.
- Partners are themselves encouraged to collaborate further with others, creating a virtuous cycle of teaming within the geospatial professional community and furthering MSL coordination.

Using these general ideas, MSL can improve its partnership management over time. When needed, MSL can, and should, change specific techniques from those created by this business plan.

Refinement can occur in two ways, necessitated by their cause and their timing. *Ad hoc* refinement is caused by an unforeseen event or set of events that require rapid intervention. A situation is presented which requires adjustment to Objectives, Tasks, or Timeline.

The other type of refinement is routine and planned. MSL should review its objectives, tasks, and timelines for refinement on a regular, recurring basis such as annually. This review should include the addition of new Objectives and Tasks to replace the Objectives and Tasks defined in this document as they are accomplished or completed. It also includes the self-assessment of mission success described above as an annual activity. Ideally, this refinement opportunity would follow MSL's annual review of the GIS Coordination Strategic Plan so that it could reflect adjustments to that document.

In any event, refinement usually includes changes to one or more of the following areas:

- **Strategies.** Has the big picture changed? How do the changes affect planned courses of action?
- **Priorities.** Perhaps events require that objectives or tasks be realigned in time, or that more (or fewer) resources are required due to complexity or a new understanding of criticality.
- **Resource levels.** Resource levels often include human resources, but financial and technical resources may also need to be refined.
- **Objectives.** Are the planned objectives still the right ones to pursue? Should an objective be added or removed, or simply realigned?
- **Tasks.** Tasks are associated with objectives and may require adjustment if an objective is changed.
- **Schedules.** Is the length of time that has been planned to implement an action or accomplish an objective still appropriate given the current environment?

Appendix A. MSL Partnerships Catalog (Excel Spreadsheet)

Appendix B. Implementation Plan, Resources, LOE, Risks (Excel Spreadsheet)

Appendix C. Partnership Prospectus Examples

Partner Opportunity Prospectus (Example 1)

Partnering Need (brief): AI-enabled locational intelligence expertise and possible co-development

Description: AI-enabled or assisted locational intelligence is a developing technology. Since it is geospatial, it is directly related to MSL's core mission of land information systems. MSL currently knows relatively little about how geospatial data is used and provided for in common AI systems. It could be very valuable to users of statewide geospatial data systems. For instance, we can imagine an AI-enabled or AI-assisted capability that allows a user to pose a natural language query and returns geographic information or even actual maps or data as parts of the result. An example query might be: "What would happen if a 200% snowpack winter in western Montana melted rapidly over two spring months?"

The opportunity or desired partnership is one in which the partner can work with MSL, educating us about AI-enabled geospatial operations. Ideally, the partner could use some of the resources of MSL geospatial to develop examples like the hypothetical query above, for which MSL coordinates or provides stewardship.

At a minimum, the partnership might involve educating us (and others) on the topic.

Potential Partners: Private sector or public sector. It would be great to pursue this with a science-focused federal agency (NOAA or similar).

Partnership Type: Will depend on the partner.

Partnership Length: Given the complexity of the topic, this is likely to be a multi-year or even enduring partnership.

Requires Funding: Unknown

Keywords (for searching): AI, machine learning, locational intelligence, emerging technology, ChatGPT, Siri, Alexa, Bard, generative

Partner Opportunity Prospectus (Example 2)

Partnering Need (brief): Statewide culverts geospatial dataset

Description: Culverts exist in many local datasets and in DOT's statewide data. We do not have a statewide culverts geospatial dataset though, even though it would be very useful. For example, a hydrologist using the Water Information system might want information on the location and characteristics of every culvert in a drainage to perform some analysis. Or a biologist might want to know if culverts exist on a stream that could be barriers to aquatic species. Road-managing agencies could use a standard structure to keep track of their own culverts.

We would want to start by agreeing on a standard statewide data model. Then define how to aggregate data, quality control it, and publish it – along with who will to all of that.

Potential Partners: Could involve state agencies, notably DOT, and local governments that maintain roads. Federal agencies that maintain roads should also be involved (BLM, USFS, USFWS).

Partnership Type: Data creation and sharing coalition

Partnership Length: Long-term.

Requires Funding: Unknown

Keywords (for searching): culvert, transportation, hydrology, streams, data-sharing