

Finding a Win-Win: Planning and Data-Sharing Partnerships between Governments and Public Land Management Agencies

Memorandum 3: Data Collection

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Abbreviations

The abbreviations for the following terms appear in this report:

CVTS	Collaborative Visitor Transportation Survey
LTRPA	Lake Tahoe Regional Planning Authority
MARAD	United States Maritime Administration
MOU	Memorandum of Understanding
NPS	National Park Service
OCBPMP	Outer Cape Bike and Ped Master Plan
ODOT	Oregon Department of Transportation
PLMA	Public Land Management Agencies
RITIS	Regional Integrated Transportation Information System (RITIS)
TRB	Transportation Research Board
TRP	Technical Research Panel
USFS	United States Forest Service
UTC	University Transportation Center

Introduction

This memorandum summarizes the data collection methodology, findings, and next steps in support of an applied research study titled, *Finding a Win-Win: Planning and Data-Sharing Partnerships between Governments and Public Land Management Agencies*.

The specific goals of this project are to:

- Identify examples of information coordination between Public Land Management Agencies (PLMAs) and transportation partners that result in process efficiencies, cost savings, and more effective transportation system delivery and/or management.
- Develop a suite of tools, resources, and usage guidelines to aid PLMAs and their partners in improving data coordination for better transportation systems.

This memorandum describes the study team's work:

- Selecting case studies;
- Conducting case study discussions;
- Identifying the motivations for planning and data-sharing partnerships;
- Identifying the mechanisms used for each partnerships;
- Evaluating the results of partnerships; and
- Developing the timeframe for finalizing case study documents and developing tools for the toolkit.

Case Study Process

As outlined in Technical Memo 2,¹ the planned approach for the data collection task in the research project involved a literature review (documented in Technical Memo 1), a review of technical report databases, and a set of case studies. The database search did not yield much information, which the study team interpreted as a gap in the existing literature this study could address.

The study team followed the planned approach for developing case studies to highlight how public lands management agencies and transportation agencies are using data sharing partnerships to achieve shared goals. The study team developed a set of criteria for evaluating and selecting the nominated examples, which were documented in Technical Memo 2. They included:

- Multi-agency involvement,
- Variety of data types,
- Diversity of contexts,
- Project phase,
- Replicability, and
- Readiness.

The team requested case study suggestions from the Technical Research Panel (TRP) and released a "Call for Case Studies," which was distributed through Transportation Research Board (TRB) committees,

¹ Federal Highway Administration. 2021. "Finding a Win-Win: Planning and Data-Sharing Partnerships between Governments and Public Land Management Agencies. Memorandum 2: Methodology." <https://highways.dot.gov/federal-lands/programs-planning/studies/pads>.

relevant newsletters, the University Transportation Centers (UTC), the project website, and the research team’s professional networks. The call was sent on May 3, 2021, with a response requested by June 4, 2021. The effort resulted in 24 nominations. The study team applied the selection criteria and sorted the case studies into the following groups:

1. **Highly recommended:** Cases that meet the selection criteria well, including stage of transportation lifecycle, geographic diversity, and general applicability.
2. **Potential:** Cases that meet many of the “highly recommended” criteria but did not make the cut.
3. **Not recommended:** Cases that do not appear to meet selection criteria as well as cases in the other two categories.

The TRP provided input on the rankings, leading to the final tally of 16 highly recommended, four potential, and four not recommended. The study team began reaching out to the case study points of contact to gauge interest in participation and schedule discussions. The discussions were scheduled between September 20, 2021, and January 7, 2022.

Discussion Questions

The study team developed a set of 23 questions to guide each discussion. The team designed these questions to answer the high-level research questions presented in Technical Memo 2, which were:

- What types of data do PLMAs and transportation agencies use to support planning on public lands?
- How do PLMAs and transportation agencies use data to inform decision-making?
- What are the characteristics of successful PLMA and transportation agency data sharing examples?
- What are the barriers to effective data sharing between PLMAs and transportation agencies?
- What do PLMAs and transportation agencies need to share data more effectively?

The questions were grouped into four sections:

1. Data sharing partnership formation,
2. Data fields and tools,
3. Results, and
4. Looking forward.

The questions were not shared with the meeting participants in advance of the meeting, which were conducted virtually using Microsoft Teams. The full set of questions are in Appendix A.

Interest and Discussions

All but one of the case study candidate points of contact were willing to participate in the case study discussion process, presented as one to two one-hour calls. The River Network did not participate; they felt their position as peer group organizers was not a good example of a data sharing partnership between transportation and public lands agencies. Two other discussions were unable to be scheduled. The study team facilitated discussions for the following case studies (see Appendix B for the list of meeting dates and times):

1. Alaska Collaborative Visitor Transportation Survey (CVTS)

2. Alaska Transportation Working Group
3. Colorado Integrated Planning Project
4. Lake Tahoe Regional Coordination
5. Maine Stream Crossing Survey
6. United States Maritime Administration (MARAD) and University of Arkansas TransMAP Hub
7. Mississippi National River and Recreation Area Paddle Share program
8. Mount Rainier Visitor Use Management Planning
9. National Park Service (NPS) Pilot Data Collection Partnerships
10. NPS National Capital Area Data Collection Partnership (originally grouped with the NPS partnerships above but separated due to unique aspects)
11. Oregon Coast Trail Action Plan
12. Oregon Department of Transportation (ODOT) Regional Integrated Transportation Information System (RITIS)
13. Outer Cape Cod Bike and Ped Master Plan
14. Wasatch Front Regional Council Regional Data Sharing Partnerships

The study team initially scheduled discussion meetings for one hour; however, the team realized it was not enough time for the full discussion of topics. The team extended the remaining calls to 90 minutes and scheduled follow up calls with participants that had shorter initial meetings.

The study team sent the meeting notes to the participants for review and confirmation after the meetings were completed. The notes will be used to develop the final case study documents.

Summary of Findings

The study identified the following common themes from the case studies. The study team will document each case study in more depth in the Final Report.

Motivations for Data Sharing

The public lands and transportation agencies in the case studies expressed some common motivations for planning and data sharing partnerships. These included:

- Identifying shared priorities, missions, goals, and objectives;
- Developing a common understanding of how projects from each agency interact with other agencies' existing or planned efforts;
- Leveraging additional data to make project planning and analysis more robust;
- Analyzing travel patterns, transportation networks, and gaps at a regional scale;
- Addressing challenges that cross jurisdictional boundaries, such as congestion and environmental protection;
- Overcoming institutional barriers to data sharing, such as firewalls, incompatible technologies, and inefficient one-off data transfers; and
- Collaborating on a particular task, such as a project of mutual benefit.

Mechanisms for Data Sharing

The case studies illustrate a variety of types of data sharing partnerships and mechanisms for data sharing. These include:

- **Informal data sharing partnerships:** These partnerships typically arise out of a shared desire to share data for particular plans or projects, but they are not governed by any formal agreements, such as Memoranda of Understanding (MOUs) or formal data sharing protocols. The benefit of informal partnerships is that they require less effort to establish. However, they may be best suited to simple data sharing partnerships.
- **Formal data sharing partnerships:** These are partnerships that are formalized through agreements, such as MOUs, between partner entities. These MOUs may establish what data partners share, data management protocols, privacy and access, and other considerations. An informal data sharing partnership may become formalized over time.
- **Different geographic scales:** The case study examples were at a variety of scales, including local (e.g., in the vicinity of a public lands unit and local community), regional, state-wide, or national.

The case study entities identified the importance of the following factors for success:

- **Building relationships and trust:** Case study participants described relationship-building among partners as a means of achieving effective partnerships and as a result of those partnerships. The case study agencies also stressed the importance of establishing a partner as a “first-among-equals” who is the lead point of contact in coordinating and implementing the partnership.
- **Explaining the value of data sharing partnerships:** The case study participants described the importance of communicating the importance of data sharing partnerships to agency leadership and the public.
- **Using common technologies or platforms for processing and accessing the data:** It is important for all partners in a data sharing partnership to have access to the same technologies and platforms. In some cases – including the Oregon Coast Trail Action Plan and the Colorado Integrated Planning Pilot – partners achieved this with commonly available platforms, such as online mapping software. In other cases, such as the ODOT Regional Integrated Transportation Information Systems, partners use more complex platforms developed and maintained by third-party vendors. In either case, it is important for partners to have access to the data platforms and the training and resources needed to analyze the data.

Results from Planning and Data Sharing Partnerships

It is important to communicate the impacts of good data sharing partnerships in transportation planning engaging public lands. Positive results garner continued support within the participating agencies and provides an example for others to follow. Based on the case study discussions, the study team identified four outcomes of data sharing partnerships that demonstrate the benefits of these partnerships.

1. **Coordinated plans and projects:** Partnering and sharing data with other agencies that have planned studies and projects enables the partners to see where there is possible overlap. By working together on the Outer Cape Pedestrian and Bicycle Master Plan (OCPBMP), NPS and the local towns had a better understanding of where each other’s projects are happening and how they intersect. The Oregon Coast Trail Action Plan had a similar outcome.
2. **Enhanced awareness of partner goals and projects:** The Colorado Integrated Planning Project brought together representatives from local stakeholders, metropolitan planning organizations (MPOs), state agencies, and Federal agencies when each was undergoing, or about to start, long range transportation plans. The development of an integrated map helped visualize where different projects were planned, the proximity of projects to each other’s, and spurred

discussion about the purpose of each project. The communication made the agencies and groups aware of where and why the various projects are occurring and has the potential to facilitate coordination for project implementation.

3. **Identified common priorities and objectives:** The Lake Tahoe Regional Planning Authority (LTRPA) has established a compact with the United States Forest Service (USFS, owns 78 percent of land in basin), six local jurisdictions, Tahoe city, private agencies, and other stakeholders. The LTRPA works on corridor planning with their partners by identifying common goals. They try to understand what each partner has to deal with in order manage their facilities and incorporate the understanding into via agreements and chartering exercises that work for everyone.
4. **Coordinated project delivery:** Time and financial efficiencies are possible when agencies share information and schedules to coordinate their planning transportation projects. For example, the Alaska Transportation Working Group described project efficiencies through regular project coordination to identify projects of mutual interest and opportunities to coordinate construction projects along similar timeframes.

Suggested Tools for Supporting Data Sharing Partnerships

The discussions concluded by asking participants what, if any, tools would help facilitate the creation and longevity of data sharing partnerships. The responses ranged from universal but adaptable templates to information sharing on legal requirements and best practices.

- Templates for developing data sharing agreements,
- User-friendly data visualization tools,
- Tracking of best management practices,
- High-level overview of how to prioritize key data points,
- Synopsis of laws and regulations governing data/ownership/controls Such as privacy regulations, cloud-based storage,
- Supporting data user groups (geographic or topic) to discuss best practices and new developments, and
- Communication of funding opportunities for piloting data collection collaboration.

The study team will incorporate these suggestions into the tool development in the next phase of the project.

Feedback from Transportation Research Panel

On March 4, 2022, the study team presented the findings above to the Transportation Research Panel (TRP). The team received the following feedback and questions.

How do these themes align with the TRP's experience and expectations?

The study team polled the TRP to understand how the findings aligned with their experiences and expectations. Figure 1 presents the results of this poll question: the large majority (7 out of 8) participants responded that the finding aligned well, while one participant said there was something missing.

How do these themes align with your experience and expectations?

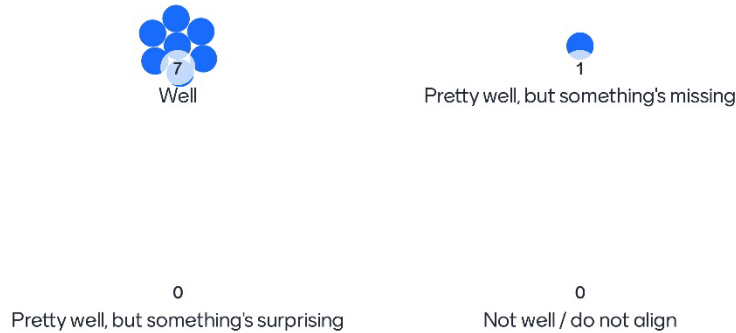


Figure 1: TRP responses to the question, "How do these themes align with your experience and expectations?"

During discussion of this question, the TRP members added the following points:

- Building relationships and trust is very important. Without established relationships, especially without a designated champion or representative in a leadership role, it can be difficult to push relationships and partnership objectives forward.
- There is a risk of duplicative data efforts when partners do not share information on common platform. When partners are siloed, data is difficult to exchange, data is fragmented, and it is difficult and more work to try to piece it together.
- Access to the most up-to-date and accurate data is an important motivation for data sharing partnerships.

Are there elements that do not fit the TRP's experience or are surprising?

The study team polled the TRP whether there are elements that do not fit their experiences or are surprising. Figure 2 presents the results of this poll question. The majority of the respondents said that there were no elements that did not fit their experiences, but some participants did list surprises. These included:

- Reiteration of the point that providing access to up-to-date, accurate data is an important motivation and challenge for data sharing partnerships; and
- Surprise that the study team did not find that savings of time and money were a major motivation for and result of data sharing partnerships.

Are there elements that do not fit or are surprising? Why?



Figure 2: TRP poll responses to the question, "Are there elements that do not fit or are surprising? Why?"

Outstanding TRP Questions and Feedback

The TRP posed the following additional questions and suggestions for the project team:

- What solutions did the study team find for overcoming data challenges, such as agency firewalls?
 - The use of common platforms was one of the quickest solutions to reduce data exchange barriers. These could be common, easily accessible platforms or proprietary platforms managed by a third party.
- Did the study team find that having a "champion" was important to establishing successful data sharing partnerships?
 - In nearly each situation, there is a need to have a major initiator to ensure that the project progresses forward, and the team maintains collaboration.
 - When all parties have respective work to do, it can be difficult to find one group or individual to take the extra initiative to step forward and champion the effort.
- Were there different challenges or lessons learned related to sharing geospatial data vs. non-geospatial data? Will the findings distinguish between the two where applicable?
 - The study team did not find this but will look out for this question when documenting the individual case studies.
- Did the study find any issues related to equity of data access?
 - This was not a major finding, but some case studies – such as the Oregon Coast Trail Action Plan, which includes data gathering from local communities and tribes – may provide information related to this topic.

Schedule and Next Steps

The research study's Data Collection and Analysis task includes three subtasks. The subtasks are listed below with their respective proposed timeframes and the initial next steps within each subtask. The remaining subtask for the data collection task is to draft and finalize the case study write-ups.

- Data Collection: August 2021 to March 2022
 - Conduct case studies, with the following interim deliverables:
 - Draft case study chapter, including case study write-ups and preliminary findings/themes
- Data Coordination and Data Sharing Toolbox: March to July 2022
 - Develop a toolbox with the following information:
 - Data sharing forums, platforms, and practices;
 - Partnership structures and governance;
 - Plans, studies, or project delivery tools;
 - Existing tools, benefits and barriers, and how to use them in different settings, such as the Congestion Management Toolkit (NPS) and INSTEP (NPS);
 - Emerging data sources, such as mobile location data and Bluetooth traffic and visitor trip data collection;
 - Data sharing platform tools, which may be used primarily outside of PLMA context currently or perhaps outside of transportation altogether;
 - Gap analysis for tools that do not currently exist and the context for their use; and
 - Application and context of tools identified, including clarifying contexts for tools and resources needed to operate tools.
- Findings and Final Report: July to September 2022
 - Summarize key findings and other recommendations based on the data collection and data coordination/data sharing toolbox tasks.
 - Identify data coordination and sharing approaches that are most successful, how data coordination can be more effective, what steps can be taken to further advance mutually-beneficial coordination, and a best practices framework for state PLMAs and partners to adapt into their existing planning and project delivery processes.

Appendix A: Case Study Questions

Data Sharing Partnership Formation

1. Could you provide a brief overview of the project (or partnerships, etc.), including how it formed, for what purpose, and who is involved?
2. What data did you need and how did you determine who had that data?
3. What are the designated roles of the parties involved?
4. How did you govern your data sharing relationship(s) (policy board, intergovernmental agreement, project team, etc.)?
5. What have been the main benefits to the data sharing partnership?
6. Did you come across any organizational barriers in sharing data? If so, how did you overcome them?

Data Fields and Tools

7. What types of data were shared and how was it used? Is there a regular exchange of data or was it a single time transaction?
8. Was the data already in a form that could be used, or did you have to do additional cleaning and analysis to use it?
9. How did you determine which parties were responsible for cleaning and analyzing the data?
10. What specific tools or platforms are used to share data?
11. Was additional training, funding, or other resources needed to implement the data sharing partnership?

Results

12. Did receiving this data allow you to do anything you could not have done without the data?
13. How is the data used to achieve goals, support the planning process, or advance specific projects? Consider all aspects of a project lifecycle, from project planning, selection, design, implementation, lifecycle management, and evaluation.
14. How is the data used to address agency and user needs and travel patterns, including adaptive management of travel demand and public lands use?
15. How would you recommend other public lands with similar goals establish data sharing partnerships?
16. Once established, have there been challenges or barriers in maintaining the data sharing partnership?
17. Are there any other results and lessons learned of the data sharing efforts that haven't already been mentioned?
18. In your experience, are there any unique challenges that public land agencies face regarding partnerships and data sharing that are different than the typical transportation planning and management processes?
19. Do you believe the goals and methods for transportation within public lands are different from those of transportation agencies? If so, how?

Looking Forward

20. Did the data sharing partnership achieve its goals (short-term and long-term)? Is there anything you would change or like to be able to do moving forward?
21. What other groups might you like to partner with to share transportation data, or what other types of transportation data would you like to access?
22. What tools would you like to see as a result of this study to support you in developing and maintaining data sharing partnerships?
23. Do you have any recommendations for other public lands or transportation partners we should reach out to about data sharing efforts?

Appendix B: Meeting Schedule

Case Study	Interviewees	Date (and follow-up discussion dates if applicable)
Cape Cod Commission (Outer Cape Bike and Ped Master Plan OCBPMP)	Steven Tupper, Sarah Korjeff, Martha Hevenor	9/28/21 (12/3/21)
MARAD and University of Arkansas TransMAP	Heather Nachtmann, Travis Black, Jackson David	10/1/21
NPS Pilot Data Collection Partnerships	Rachel Collins, Joe Regula, Erica Cole, David Daddio	10/7/21 (12/2/21 discussion with David Daddio regarding DC National Mall projects)
Wasatch Front Regional Council	Bert Granberg, Matt Peters, Stephanie Tomlin	10/13/21 (12/20/21)
Oregon Coast Trail Action Plan	Andy Smith, Paul Reilly, Peter Dalke	10/14/21 (1/5/22)
Collaborative Visitor Transportation Survey	Roxanne Bash, Kenli Kim, Margaret Petrella	10/19/21 (12/16/21)
Regional Integrated Transportation Information System (RITIS)	Thanh Nguyen, Chi Mai	10/20/21
Maine Stream Crossing Survey	Alex Abbott	10/22/21
Tahoe Regional Planning Agency	Michelle Glickert, Julie Regan, Nick Haven	10/29/21
Mississippi National River and Recreation Area Paddle Share Program	Katie Nyberg, Karen Katz, Ben Rasmussen	11/8/21
Colorado Integrated Planning Project	Aaron Bustow, Erica Cole, Dean Bressler, Bill Haas, Elijah Henley, Matt Muraro, Ross Mittelman, Jeff Sanders, Rachel Peterson	12/17/21 (2/15/22)
Alaska Transportation Working Group	Amy Thomas, Paul Escamilla, Eric Taylor, Roxanne Bash, Kevin Doniere, Troy Civitillo, Curt Fortenberry	1/7/22 (2/4/22)