Preliminary Data Management Plan Sufficiency Checklist

Purpose

This **Preliminary Data Management Plan (DMP) Sufficiency Checklist** is designed to serve as an aid in assessing a preliminary Data Management Plan (DMP) submitted as part of an application funded by the United States Department of Transportation's (U.S. DOT's) Intelligent Transportation Systems Joint Program Office (ITS JPO).

After completing this checklist, you should be able to determine whether researchers have thought through all facets of preliminary data management planning.

Format of Preliminary DMPs

The preliminary DMP you are evaluating should address three main areas:

- *Project Overview*
- *Data Overview*
- *Data Stewardship*

Organization of this Checklist

You will find an explanation of each preliminary DMP section or subsection at the top of each page. These sections in turn provide prompts for the type of information you should find in the preliminary DMP you are evaluating. Please select the checkbox that best rates the completeness of the response to each prompt in the preliminary DMP. The checkboxes are defined as the following:

☐ **Explained Fully**: The preliminary DMP adequately describes the information required by the solicitation. No further action is required by the researcher.

☐ **Partially Explained:** The preliminary DMP partially or somewhat describes the information required by the solicitation. Follow-up technical questions and answers may be appropriate for further clarification.

☐ **No information**: The applicant did not provide sufficient information. Follow-up technical questions and answers may be appropriate for further clarification.

☐ **Not Applicable:** The question is not applicable given the scope of the solicitation.

If you feel that the researcher should supply more detailed information for a prompt, you may make a note in the "Notes and Questions" portion at the bottom of each section**.**

After you have completed evaluating a section, total up the number of boxes you have checked in each column. If a majority of responses do not rate "Explained Fully," it may be necessary to ask the applicant to revise their preliminary DMP.

While you still need to make a subjective assessment of a submitted preliminary DMP, the checklist should support your decision-making by providing a quantitative measure of the preliminary DMP.

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Getting Assistance

If you would like personal assistance, the ITS JPO is available to provide training for using this form and for evaluating data management plans. Please contact this team at data.itsjpo@dot.gov.

Definitions

The table below provides terms and definitions found throughout this document.

Table 1: Terms and Definitions

Term	Definition
Applicant System	A data storage system that is managed by the grant applicant.
Controlled-access	Restricting access of a data asset to certain groups of persons due to data containing personally identifiable information (PII), information that threatens privacy of an individual or group, information that threatens confidentiality of a person or group, and/or contains confidential business information (CBI).[1]
Data Owner	The person or organization that has the authority, ability, and responsibility to access, create, modify, store, use, share, and protect the data. Data owners have the right to delegate these privileges and responsibilities to other parties. Please note the data owner may be the ITS JPO for an ITS JPO-funded research projects.
Data Steward	At the direction of the data owner, the person or organization that is delegated the privileges and responsibilities to manage, control, and maintain the quality of a data asset throughout the data lifecycle. The data steward may also apply appropriate protections, restrictions, and other safeguards depending on the nature of the data, subject to the direction of the data owner. The data steward may be an applicant for ITS JPO funded research projects or one of the applicant's partner organizations.
Non-open license	A license that does not adhere to the requirements of an open license.
Open License	A license that is available at no cost to the public and with no restrictions on copying, publishing, distributing, transmitting, citing or adapting such asset.
Public Access	A data asset is or could be made publicly available to all without restrictions.[2]
Third-party System	A data storage system that is managed by a third-party.
U.S. DOT-managed System	A data storage system that is managed by the U.S. DOT.

A. Your Information

A.01 Evaluator: Click here to enter your name.

A.02 ORCID or another identifier: Click here to enter your ORCID or other identifier, if applicable.

A.03 Contact information: Click here to enter your email and phone number here.

A.04 Mode: Click here to enter your office.

A.05 Date: Click here to choose a date.

A.06 Grant or Contract number: Click here to enter the grant or contract number, if applicable.

A.07 Preliminary DMP length: Click here to enter the number of pages in the DMP.

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[1] https://www.its.dot.gov/data/
[2] https://www.its.dot.gov/data/

A.08 Overall Summary

Provide a short narrative with an overall impression of the preliminary DMP based on the checklist criteria and explanation for the overall rating provided below.

Provide an overall recommendation (Not Recommended, Recommended, Highly Recommended) for the preliminary DMP based on the sufficiency checklist criteria in Sections 1 through 3. This overall recommendation rating evaluates the degree to which the preliminary DMP aligns with the goals and requirements and applicants have thought through the required facets of data management planning. This includes an amalgamation of the Project Overview, Data Overview, and Data Stewardship checklist criteria.

☐ **Highly Recommended –** The applicant's preliminary DMP is well aligned to the solicitation goals and requirements, and the applicant has thought through the required facets of data management planning. The preliminary DMP generally describes the gathering and sharing of all relevant and required data with the U.S. DOT throughout the project. To receive a highly recommended rating, the applicant shall have received an *Explained Fully* for more than half the criteria in <u>each</u> of the Sections and Subsections and did not receive more than one *No Information* for <u>each</u> of the Sections and Subsections.

☐ **Recommended** – The applicant's preliminary DMP is aligned to the solicitation goals and requirements but has some incomplete or missing criteria from the checklist, which suggest the applicant has not fully thought through the required facets of data management planning. The preliminary DMP generally describes the gathering and sharing of relevant and required data with the U.S. DOT throughout the project, but there is some missing or incomplete information. The applicant does not meet the highly recommended standard. To receive a recommended risk rating, the applicant shall have received an *Explained Fully* or *Partially Explained* for more than 65% of the criteria in <u>each</u> of the Sections and Subsections.

☐ **Not Recommended** – The applicant's preliminary DMP has a substantial number of incomplete or missing criteria from the checklist, and it could not be determined the extent to which the preliminary DMP would be aligned to the solicitation goals and requirements and/or it is likely the applicant has not fully thought through the required facets of data management planning. The preliminary DMP describes the gathering and sharing of relevant and required data with the U.S. DOT, but insufficient information merits a high level of uncertainty. An applicant that does not meet the highly recommended standard nor the recommended standard is not recommended. To receive a not recommended rating, the applicant shall have received *No Information* for more than 35% of the criteria in at least one Section or Subsection.

B. Research Proposal Information

B.01 Title of Research Proposal/Project: Click here to enter the title of proposal or project.

B.02 This is an ☐ initial preliminary DMP or a ☐ revised preliminary DMP.

1. Project Overview

The **Project Overview** section should provide summary information about the research project and its goals, as well as how the project's data helps the ITS JPO achieve the overall goals of the solicitation. The table below provides prompts to help determine if this section provides this information.

Table 2: Project Overview Evaluation Prompts

Element Number	Project Overview Evaluation Prompts	Explained Fully	Partially Explained	No Information	Not Applicable
1.01	The project title of the proposed project is provided.	☐	☐	☐	☐
1.02	The goals and objectives of this project are explained, as well as how the data collected in this project will help the ITS JPO achieve its goals and objectives for solicitation, are clearly stated.	☐	☐	☐	☐
	Total of checked boxes for each column, out of 3:				

Evaluation Questions:

- *Did a majority of the prompts rate "Explained Fully?"*
- *Do you have a complete picture of: the purpose and goal of the project and how the project's data will help the ITS JPO achieve the goals and objectives of the solicitation?*
- If not, this section may not be sufficiently detailed.
- Please note any outstanding questions you have about how the data is described in "Notes and Questions" below.

Notes and Questions:

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2. Data Overview

The **Data Overview** section should describe the nature, scope, and scale of the data and/or dataset(s) that will be collected and/or produced. The table below provides prompts to help determine if this section provides this information.

Table 3: Data Description Evaluation Prompts

Element Number	Data Overview Evaluation Prompts	Explained Fully	Partially Explained	No Information	Not Applicable
2.01	The title(s) of the anticipated data or dataset(s) are provided.	☐	☐	☐	☐
2.02	The purpose of the data and/or dataset(s) that is/are anticipated to be collected during the research project is/are provided.	☐	☐	☐	☐
2.03	The type and scale of the data that will be generated (e.g., numerical data, image data, text sequences, video, audio, database, modeling data, source code, etc.) for the research project's data and/or datasets is specified.	☐	☐	☐	☐
2.04	The methods for collecting and/or acquiring the data (e.g., simulated; observed; experimental; software; physical collections; sensors; satellite; enforcement activities; researcher-generated databases, tables, and/or spreadsheets; instrument generated digital data output such as images and video; etc.) are provided and specified by dataset if appropriate.	☐	☐	☐	☐
2.05	The data file format(s) the data and/or datasets are anticipated to be in when they are made accessible to the U.S. DOT (e.g. .csv, .txt, json, newline json, etc.) are provided. If not yet known, the data file formats are explained to the best of the applicant's ability.	☐	☐	☐	☐
2.06	The metadata schema the applicant will use to describe the data and/or dataset in various contexts is indicated, including what metadata schema will be used at the field level, the asset level, and any other level that is appropriate.	☐	☐	☐	☐
	Total of checked boxes for each column, out of 6:				

Evaluation Questions:

- *Did a majority of the prompts rate "Explained Fully"?*
- *Do you have a complete picture of: what data will be gathered, how much data to expect, and in what format the data will be provided?*
- If not, this section may not be sufficiently detailed.
- Please note any outstanding questions you have about how the data is described, in "Notes and Questions" below.

Notes and Questions:

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3. Data Stewardship

The **Data Stewardship** section should detail how data will be managed throughout the data lifecycle.

3.1 Data Owner and Data Steward

The **Data Owner and Steward** subsection should define the data owner and data steward for the anticipated data and/or datasets that will be produced as part of the research project. It is acceptable for multiple datasets to have the same data owner and/or data steward. The table below provides prompts to help determine if this subsection provides this information.

Table 4: Data Owner and Steward Evaluation Prompts

Element Number	Data Owner and Steward Evaluation Prompts	Explained Fully	Partially Explained	No Information	Not Applicable
3.11	The data and/or datasets title(s) that will be assigned the designated data owner and/or data steward are provided.	☐	☐	☐	☐
3.12	The data owner of the data or dataset(s) is provided. At least one data owner is provided. See the "Definitions" section for the definition of "data owner."	☐	☐	☐	☐
3.13	The data steward for the data or dataset(s) is provided. At least one data steward is provided. See the "Definitions" section for the definition of "data steward."	☐	☐	☐	☐
	Total of checked boxes for each column, out of 3:				

Evaluation Questions:

- *Did a majority of the prompts rate "Explained Fully"?*
- *Do you have a complete picture of: who owns the data and who is responsible for managing the data?*
- If not, this section may not be sufficiently detailed.
- Please note any outstanding questions you have about how the data is described in "Notes and Questions" below.

Notes and Questions:

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3.2 Access Level

The **Access Level** section should detail what data may require controlled-access, reasons for controlling access to data, and plans for safeguarding data. The table below provides prompts to help determine if this subsection provides this information.

Table 5: Access Level Evaluation Prompts

Element Number	Access Level Evaluation Prompts	Explained Fully	Partially Explained	No Information	Not Applicable
3.21	The access level (public access or controlled-access) is specified for all anticipated data is provided.	☐	☐	☐	☐
3.22	Reasons for controlling access to any data are provided. These reasons could be privacy, confidential business information, security, etc. Elements requiring controlled-access are detailed.	☐	☐	☐	☐
3.23	The preliminary DMP provides the methods and processes that will be taken to safeguard this data, such as redacting the data element. Any privacy, ethical or confidentiality concerns raised due to data sharing are described.	☐	☐	☐	☐
3.24	If the project contains human subject research, how informed consent forms will permit sharing with the research community and whether additional steps, such as an Institutional Review Board (IRB), may be used to protect privacy and confidentiality is described.	☐	☐	☐	☐
	Total of checked boxes for each column, out of 4:				

Evaluation questions:

- *Did a majority of the prompts rate "Explained Fully"?*
- *Do you have a complete picture of: what data may require controlled-access, reasons for controlling access to data, and plans for safeguarding these data?*
- If not, this section may not be sufficiently detailed.
- Please note any outstanding questions you have about how the data is described in "Notes and Questions" below.

Notes and Questions:

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3.3 Re-Use, Redistribution, and Derivative Products Policies

In the **Re-Use, Redistribution, and Derivative Products Policies** section, information on intellectual property rights and licenses should be provided. The table below provides prompts to help determine if this subsection provides this information.

Table 6: Re-Use, Redistribution, and Derivative Products Policies Evaluation Prompts

Element Number	Re-Use, Redistribution, and Derivative Products Policies Evaluation Prompts	Explained Fully	Partially Explained	No Information	Not Applicable
3.31	Any information on intellectual property rights for the research project data, including whether these rights will transfer to a data archive, whether any copyrights apply to the data, and other aspects that apply to rights to use the data, is provided.	☐	☐	☐	☐
3.32	The license anticipated to be used for the research project data is provided, along with a URL providing more information on the licenses. Whether the license is open or non-open is stated.	☐	☐	☐	☐
3.33	If the applicant is using a non-open license, reason(s) are provided for why the applicant is not using an open license.	☐	☐	☐	☐
	Total of checked boxes for each column, out of 3:				

Evaluation questions:

- *Did a majority of the prompts rate "Explained Fully"?*
- *Do you have a complete picture of: intellectual property rights associated with the data and licenses that will be provided with the data?*
- If not, this section may not be sufficiently detailed.
- Please note any outstanding questions you have about how the data is described in "Notes and Questions" below.

Notes and Questions:

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3.4 Data Storage, Archiving and Preservation

In the **Data Storage, Archiving and Preservation** section, the researcher should describe where they intend to store data, details on the proposed data storage system(s), and how long they intend to retain

the data in these systems. The table below provides prompts to help determine if this subsection provides this information.

Table 7: Data Storage, Archiving and Preservation Evaluation Prompts

Element Number	Data Storage, Archiving and Preservation Evaluation Prompts	Explained Fully	Partially Explained	No Information	Not Applicable
3.41	The data storage system(s) name(s) the data will be stored in and a URL or other means of accessing the data storage system(s) is provided.	☐	☐	☐	☐
3.42	It is clearly stated which data storage system(s) all data and/or datasets are anticipated to be stored in.	☐	☐	☐	☐
3.43	The data storage system is marked as an "Applicant – Public System," "Applicant – Controlled System," "U.S. DOT-managed – Public System," "U.S. DOT-managed – Controlled-Access System," "Third-party – Public System," or "Third-party – Controlled-Access System." If the system is marked as an applicant-managed system, it is stated whether the system is currently operational, under development, or will be developed as part of this project.	☐	☐	☐	☐
3.44	A description is provided for all data storage systems anticipated to be used, including any URLs or other means that provide additional details and documentation of the system; details on data backup of the system; and details on access and controlled access, if applicable. If using an applicant or third-party data storage system, additional details that demonstrate that the system adheres to the U.S. DOT's policies for data storage systems, including Guidelines for Evaluating Repositories for Conformance with the DOT Public Access Plan and, for controlled-access systems, how the system will enable privacy protection, controlled access and collaboration at least equal to U.S. DOT's controlled-access system, the U.S. DOT Secure Data Commons.	☐	☐	☐	☐
3.45	Any cybersecurity policies that apply to the data storage system or the entirety of the preliminary DMP are provided.	☐	☐	☐	☐
3.46	The initial date(s) data are anticipated to be stored in the data storage system(s) is provided. If the applicant plans to live-stream data, this may be the initial ingest date. This can be written as a period after award (e.g. 'three months after award').	☐	☐	☐	☐

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3.47	The total amount of time each dataset will be stored in a data storage system that the U.S. DOT has access to amounts to at least five years.	☐	☐	☐	☐
3.48	The preliminary DMP states how frequently the data will be updated in each data storage system once ingestion begins. U.S. DOT's preference for near real-time and automated data is considered.	☐	☐	☐	☐
	Total of checked boxes for each column, out of 9:				

Evaluation questions:

- *Did a majority of the prompts rate "Explained Fully"?*
- *Do you have a complete picture of: where the data will be stored, details about each data storage system, and how long the data will be maintained in each system?*
- If not, this section may not be sufficiently detailed.
- Please note any outstanding questions you have about how the data is described in "Notes and Questions" below.

Notes and Questions:

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