

Idaho Technology Authority (ITA)

ENTERPRISE STANDARDS – S4000 – INFORMATION AND DATA

Category: S4245 – Idaho Trails Data Exchange Standard

CONTENTS:

- I. [Definition](#)
- II. [Rationale](#)
- III. [Approved Standard\(s\)](#)
- IV. [Approved Product\(s\)](#)
- V. [Justification](#)
- VI. [Technical and Implementation Considerations](#)
- VII. [Emerging Trends and Architectural Directions](#)
- VIII. [Procedure Reference](#)
- IX. [Review Cycle](#)
- X. [Contact Information](#)
- XI. [Additional Information \(if any\)](#)
[Revision History](#)

I. DEFINITION

See ITA Guideline [G105](#) (ITA Glossary of Terms) for definitions.

II. RATIONALE

A statewide Trail layer and data standard, which is part of the Transportation data theme is a critical source of information for Recreation, Tourism and more. Many private sector and local, state, and federal government agencies have business needs for a Trails Framework. Standardized Trails data supports those groups by facilitating integration and sharing of up-to-date Trail data and enhances the dissemination and use of Trail information. This standard does not instruct how Trail databases are designed for internal use.

III. APPROVED STANDARD(S)

See Attachment

IV. APPROVED PRODUCT(S)

Any GIS Software, either desktop or online, capable of consuming and displaying Open Geospatial Consortium (OGC) Web Map Standard (WMS) services.

V. JUSTIFICATION

A statewide Trail dataset is a critical source of information as stated under 'II Rationale' in this standard. A data exchange standard supports the use of the Trail data to facilitate a predictable format, improve collaboration and encourage use of this dataset.

VI. TECHNICAL AND IMPLEMENTATION CONSIDERATIONS

Any GIS Software, either desktop or online, capable of consuming and displaying Open Geospatial Consortium (OGC) Web Map Standard (WMS) services.

VII. EMERGING TRENDS AND ARCHITECTURAL DIRECTIONS

Data will be shared in accordance with ITA Standard [S4250](#) – Geographic Information System (GIS) Data Sharing Standards.

VIII. PROCEDURE REFERENCE

The format, content and development of this standard adhere to ITA Policy [P5030](#) - Framework Standards, ITA Standard [S4250](#) - Data Sharing Standards and ITA Standard [S4220](#) - Geospatial Metadata.

IX. REVIEW CYCLE

Review will occur at least annually.

X. CONTACT INFORMATION

For more information, contact the ITA Staff at (208) 605-4064.

REVISION HISTORY

05/16/2024 – Revised Standard Presented to the IGC-EC

Effective Date: 03/18/2021



STATE OF IDAHO

Idaho Trails Data Exchange Standard

Part of the Transportation Theme

Version 2
May 16, 2024

Developed by the Transportation Technical Working Group

Contact

ITA Staff

Office of Information Technology Services

(208) 605-4000

contact@its.idaho.gov

CONTENTS

- 1. **Introduction to the Trail Data Exchange Standard**..... 5
 - 1.1. **Mission and Goals of the Standard**..... 5
 - 1.2. **Relationship to Existing Standards** 5
 - 1.3. **Description of the Standard** 5
 - 1.4. **Applicability and Intended Uses** 6
 - 1.5. **Standard Development Process**..... 6
 - 1.6. **Maintenance of the Standard** 6
- 2. **Body of the Standard** 6
 - 2.1. **Scope and Content**..... 6
 - 2.2. **Need** 6
 - 2.3. **Participation in the Standard Development** 7
 - 2.4. **Integration with Other Standards** 7
 - 2.5. **Technical and Operation Context**..... 7
 - 2.5.1. **Data Environment**..... 7
 - 2.5.2. **Reference Systems**..... 7
 - 2.5.3. **Global Positioning Systems (GPS)**..... 7
 - 2.5.4. **Interdependence of Themes** 8
 - 2.5.5. **Encoding** 8
 - 2.5.6. **Resolution** 8
 - 2.5.7. **Accuracy** 8
 - 2.5.8. **Edge Matching** 8
 - 2.5.9. **Unique Identifier**..... 8
 - 2.5.10. **Attributes** 8
 - 2.5.11. **Stewardship**..... 9
 - 2.5.12. **Records Management and Archiving**..... 9
 - 2.5.13. **Metadata** 9
- 3. **Data Characteristics** 9
 - 3.1. **Minimum Graphic Data Elements**..... 9
 - 3.2. **Optional Graphic Data Elements**..... 9
 - 3.3. **Standard Attribute Schema** 10
 - 3.4. **Data Quality**..... 14
- Appendix A: References 15
- Appendix B: Glossary 15

1. **Introduction to the Trail Data Exchange Standard**

A statewide Trail data layer is a critical source of information for recreation, tourism and more. Many private sector and local, state, and federal government agencies have business needs for a Trails Framework.

A Trail Standard is intended to facilitate integration and sharing of up-to-date Trail data and enhance the dissemination and use of Trail information. This standard does not instruct how Trail databases are designed for internal use.

This standard was developed by the Idaho Department of Parks and Recreation in collaboration with the Chair of the IGC-EC. This standard will be reviewed on a regular basis and updated as needed.

1.1. **Mission and Goals of the Standard**

The Trail Standard supports a statewide dataset that is consistent with applicable state and national standards. It establishes the minimum attributes and geospatial database schema for the Trail Framework. The Standard will communicate with and may have similar attributes to other Idaho Framework data standards. It encourages all Idaho-based agencies with geospatial Trail data to contribute to Trail Framework.

The Trail Framework will be appropriately shared and beneficial to all. The fields in the Trail Data Exchange Standard will be general enough to incorporate basic information without requiring major changes in internal data models. This standard allows for expansion to a more complex data structure and schema.

1.2. **Relationship to Existing Standards**

This Trail Exchange Standard relates to existing standards as follows:

- Federal Geographic Data Committee (FGDC) Data Accuracy Standards

1.3. **Description of the Standard**

This standard describes the vision and geospatial data structure of a Trail Framework in the state of Idaho. This standard is devised to be:

- Simple, easy to understand, and logical.
- Uniformly applicable, whenever possible
- Flexible and capable of accommodating future expansions
- Dynamic in terms of continuous review

1.4. Applicability and Intended Uses

This standard applies to the Trail element of the Transportation theme of The Idaho Map (TIM).

When implemented this standard will enable access and exchange of the data. A predictable standard will support data collaboration, improve data collaboration, help identify and report errors and allow agencies to incorporate this data into their own data products.

This standard does not consider data sharing agreements, contracts, transactions, privacy concerns, or any other issues relating to the acquisition and dissemination of Trail data.

1.5. Standard Development Process

The Trail Workgroup, a subgroup of the Transportation Framework TWG, is a voluntary group of private, city, county, tribal, state, and federal representatives. In 2020 the Trail Lead at the Idaho Department of Parks and Recreation used Survey123 developed by the IGC-EC to develop the first draft of this standard. This standard was then reviewed and edited by the Authoritative source of the Trails data in Idaho, i.e. the GIS Analyst at the Idaho Department of Parks and Recreation.

After initial development the draft standard document was shared with the Idaho Geospatial Council Executive Committee (IGC-EC) and the Idaho Geospatial Council (IGC) in accordance with the review and approval process described in ITA Policy [P5030](#) Framework Standards Development.

1.6. Maintenance of the Standard

This standard will be revised on an annual basis and in accordance with the ITA Policy [P5030](#) Framework Standards Development.

2. Body of the Standard

2.1. Scope and Content

The scope of the Trail Data Exchange Standard is to describe a statewide layer which identifies the physical locations and attributes of Trails in Idaho.

2.2. Need

Trails are a key dataset needed for a statewide Trail data layer and is a critical source of information for Recreation, Tourism and more. Many private sector and local, state, and federal government agencies have business needs for a Trails Framework. This standard

provides the foundation to aggregate Trail data for centralized access and stewardship information.

2.3. Participation in the Standard Development

The development of the Trail Data Exchange Standard adheres to the ITA Policy [P5030](#) - Framework Standards Development. As the standard is reviewed in accordance with ITA Policy [P5030](#) requirements, there will be opportunity for broad participation and input by stakeholders in the development of this standard. The process will be equally broad for input on updates and enhancements to the standard. As with all Idaho Framework standards, public review and comments on the Trail Data Exchange Standard is encouraged.

2.4. Integration with Other Standards

The Trail Data Exchange Standard follows the same format as other Idaho geospatial framework data standards. The Trail standard may contain some of the same attributes as other framework standards and may adopt the field name, definition, and domain from the other standards to promote consistency.

2.5. Technical and Operation Context

2.5.1. Data Environment

The data environment is a digital Map/App with a specific, standardized set of attributes pertinent to the Trail Framework. Trail data shared under this standard must be in a format supporting digital Map/App.

2.5.2. Reference Systems

The Trail Framework will be published in the Idaho Transverse Mercator (ITDM) NAD83 coordinate system, which is the State of Idaho's single zone coordinate system. Data is not required to be submitted in the ITDM coordinate system but must have a defined coordinate system clearly described in the metadata.

2.5.3. Global Positioning Systems (GPS)

Some data provided might contain geometry from GPS methods, and the provided metadata should describe this, if applicable. Some data provided might contain geometry from GPS methods, and the provided metadata should describe this, if applicable. However, geometry from a GPS is not required to meet this standard.

2.5.4. Interdependence of Themes

Trail geometry may coincide with other framework data, such as roads. Currently there is no enforcement of coincidence or topology relationships between Trail Framework and other Idaho Framework elements.

2.5.5. Encoding

When data is imported into and exported from the Trail Framework, encoding will take place to convert data formats and attributes.

2.5.6. Resolution

No specific requirements for resolution are specified in this standard. Resolution will be documented in the metadata.

2.5.7. Accuracy

It is essential that all aspects of the data be completely documented. Spatial products which conform to the National Standard for Spatial Data Accuracy should be used for source material in digital data capture if available and appropriate.

2.5.8. Edge Matching

No edge matching is required between jurisdictions, or between this and other framework layers.

2.5.9. Unique Identifier

The unique identifier is the OBJECTID in combination of the name of the layer.

2.5.10. Attributes

Attributes for public and intergovernmental distribution are described in Section 3 of this standard.

2.5.11. Stewardship

Perpetual maintenance and other aspects of lifecycle management are essential to Trail Framework. Details of stewards, their roles and responsibilities, and processes are set forth, or are being planned to be set forth in a Trail Framework Stewardship Plan and related documents.

2.5.12. Records Management and Archiving

The dataset is published to ArcGIS Online at [Idaho Recreation Trails](#)
The application designed to display Trail data is located at [Idaho Trails](#)

2.5.13. Metadata

The Trail Framework metadata will describe the methods used to update and aggregate the individual Trail data contributions, processes or crosswalks performed, definition of attributes, and other required information. This metadata will conform to the metadata standards as set out in ITA Standard [S4220](#) - Geospatial Metadata.

3. Data Characteristics

3.1. Minimum Graphic Data Elements

The geometry of the features in Trail Framework is digital Map/App

3.2. Optional Graphic Data Elements

Not applicable.

3.3. Standard Attribute Schema

The trails data is organized as a collection of the following datasets:

3.3.1: Points of Interest (Point Layer)

Field Name	Alias	Data Type	Length	Description	Examples
OBJECTID	OBJECTID	Object ID		System Generated ID	25
SITE_NAME	Site Name	Text	50	Name of the trail connected to the trailhead	Bear Basin, Hard Creek
SITE_TYPE	Site Type	Text	30	Type of Marker	Trailhead
NARRATIVE	Narrative	Text	200	Area Information, Reference Documents	“GeoPDF Map of south section of Murphy Subregion Travel Management Area”
URL_1	Information	Text	200	Information about trail or trail location	https://www.fs.usda.gov/recreation/nezperceclearwater/recarea/?recid=16488
URL_2	More Information	Text	200	Additional information about trail or trail location	https://eplanning.blm.gov/eplanning-ui/project/73196/510

3.3.2: Emergency Closures (Line)

Field Name	Alias	Data Type	Length	Description	Examples
OBJECTID	OBJECTID	Object ID		System Generated ID	25
ID	ID	Text	30	Identification number for individual route, populated when only a single route is covered by a Closure Order	7868
NAME	Name	Text	40	Name assigned to the emergency closure	Buttars Springs
MILES	Miles	Double		Length of route closure in miles	21.54
JURISDICTION	Jurisdiction	Text	40	Land Management Agency	Forest Service
OFFICE	Route Manager	Text	50	Management Agency Office	Minidoka Ranger District

PHONE	Phone	Text	15	Phone number of responsible agency.	(208)-678-0430
DATE_ORDER_SIGNED	Date Order Signed	Text	50		
DATE_ORDER_EXPIRES	Date Order Expires	Text	50		
DATESTART	Start Date	Text	50	Same as Date Signed unless defined differently in a Closure Order	1/1/2024
DATEEND	End Date	Text	50	Same as Date Expires unless defined differently in a Closure Order	12/31/2024; Indefinite
NARRATIVE	Narrative	Text	255	Details of Closure Order	
URL_1	Information	Text	200	Linked information about emergency closure	
URL_2	Additional Information	Text	200	Additional linked information about route closure	

3.3.3: Idaho Routes (Line)

Field Name	Alias	Data Type	Length	Description	Examples
OBJECTID	OBJECTID	Object ID		System Generated ID	25
SYSTEM_TYPE	System Type	Text	4	USFS-jurisdiction-only	NFST; NFSR
ID	Route ID	Text	20	Identification associated with the route or trail	568
NAME	Route Name	Text	40		Trail Creek
MILES	Route Miles	Float		Length of the Trail in Miles	21.54
SYMBOL	Route Type	Double		Number associated with route type and assigned map symbology	7
JURISDICTION	Jurisdiction	Text	40	Management Agency	Forest Service

OFFICE	Route Manager	Text	50	Office of Agency responsible	Minidoka Ranger District
PHONE	Manager Phone	Text	15	Phone number of agency office responsible (null when defined by spatial concurrence of USFS or BLM Districts)	(208)-878-9327
NARRATIVE	Narrative	Text	200	Unique information specific to route or trail	
URL 1	Information	Text	200	Link address for unique information specific to route or trail	
URL 2	More Information	Text	200	Secondary link address for unique information specific to route or trail	
SEASON NONMOTOR	Seasonal Non-Motorized	Text	25	Null unless less-than-year-long access is designated by land manager for trails restricted to non-motorized uses	(If not null) "04/01-12/31"
SEASON_AUTO	Seasonal Auto	Text	25	Null unless less-than-year-long access is designated by land manager for roads legal for access for up to automobile use	(If not null) "04/01-12/31"
SEASON JEEP	Seasonal High Clearance	Text	25	Null unless less-than-year-long access is designated by land manager for high-clearance routes legal for access typically up to full-size 4WD vehicles	(If not null) "04/01-12/31"

SEASON_UTV	Seasonal Special Vehicle Designation	Text	25	Null unless less-than-year-long access is designated by land manager, for routes or trails with motorized use restricted to use by specially-designated types of OHVs, typically limited to utility-type vehicles (UTVs) and technical 4WD vehicles such as jeeps	(If not null) "04/01-12/31"
SEASON_ATV	Seasonal 50 Inch & Under	Text	25	Null unless less-than-year-long access is designated by land manager, for trails with motorized use restricted to use by OHVs no wider than 50 inches, typically ATVs	(If not null) "04/01-12/31"
SEASON_MOTORCYCLE	Seasonal Motorcycle	Text	25	Null unless less-than-year-long access is designated by land manager, for trails with motorized use restriction limited to use by motorcycles and motorbikes	(If not null) "04/01-12/31"

3.3.4 Area Restrictions (polygon)

Field Name	Alias	Data Type	Length	Description	Examples
OBJECTID	OBJECTID	Object ID		System Generated ID	13
Restricted_Area_Name	Restricted Area Name	Text	80	Name defined by land manager	Grimes Cr-Clear Cr Area Closure
Restricted_Area_Type	Restricted Area Type	Text	80	Type of restriction of exclusion	Human Exclusion

Date_Order_Signed	Date Order Signed	Text	50		
Date_Order_Expires	Date Order Expires	Text	50		
Date_Start	Date Start	Text	50	Same as Date Signed unless defined differently in a Closure Order	1/1/2024
Date_End	Date End	Text	50	Same as Date Expires unless defined differently in a Closure Order	12/31/2024; Indefinite
JURISDICTION	Jurisdiction	Text	40	Management Agency	Forest Service
OFFICE	Land Manager	Text	50	Office of Agency responsible	Minidoka Ranger District
OFFICE_PHONE	Manager Phone	Text	15	Phone number of agency office responsible	(208)-878-9327
Narrative	Narrative	Text	255	Unique textual information specific to closure or restriction	
URL_1	Information	Text	150	Link address for unique information specific to route or trail	https://closures.gov
URL_2	More Information	String	150	Secondary link address for unique information specific to route or trail	
Acres	Acres	Double		Area of polygon in US survey acres	1,234

3.4. Data Quality

Data quality considerations for Trails include:

- a. Inclusion of a trail name, if such a name exists.
- b. The trail should identify which uses the trail is open to (i.e. OHV 50” or under, motorcycle, jeep, Special vehicle designation (typically UTV and technical 4WD), and non-motorized/non-mechanized).

c. All trails also need Jurisdiction and Office which identify the land management agency and subordinate district or authority if applicable in charge of trail management.

Appendix A: References

Idaho Technology Authority (ITA). *Information and Data Policy P5000, Category: P5030 Framework Standards Development Policy*. <https://ita.idaho.gov/psg/P5030.pdf>

Idaho Technology Authority (ITA). *Enterprise Standards S4000 Geographic Information Systems (GIS) Data, Category: S4220 Geospatial Metadata*. <https://ita.idaho.gov/psg/S4220.pdf>

Appendix B: Glossary

See ITA Guideline [G105](#) - (ITA Glossary of Terms) for definitions.

