

Trail Bridge Matrix (updated 2/15/2007)

The matrix below provides a summary of the definitions, inspection requirements, and data storage and inventory protocols for Trail Bridges, Trail Structures, and other structures commonly associated with trails.

Structure Categories	Definitions	Inspection			Data Storage
		Inspector Requirements	Inspection Form	Inspection Interval ¹	
<p>Trail Bridge General Definition</p> <p>A trail structure, including supports, erected over a depression or obstruction such as water, roadway, trail or railway that provides a continuous pathway and has a deck for carrying traffic or other loads.</p> <p>-----</p> <p>Trail Bridge Classification</p> <p>Trail Bridges are divided into three classifications for inspection purposes:</p> <ol style="list-style-type: none"> 1. Complex Trail Bridges 2. Major Trail Bridges 3. Minor Trail Bridges <p>Complex Trail Bridges and Major Trail Bridges generally have a clear span greater than 20 feet <u>and</u> a vertical distance greater than 5 feet from the ground or stream channel.²</p> <p>Minor Trail Bridges must have a clear span less than 20 foot <u>or</u> a vertical distance less than 5 feet.</p> <p>Each trail bridge classification is defined in more detail below.</p>					

Structure Categories	Definitions	Inspection			Data Storage
		Inspector Requirements	Inspection Form	Inspection Interval ¹	
1. Complex Trail Bridge	<p>Complex Trail Bridges: All trusses, suspension, multiple-span, and non-timber/log trail bridges with a span greater than 20 feet <u>and</u> a vertical distance greater than 5 feet.²</p> <p>Additionally:</p> <p>Major Trail Bridges which develop significant structural defects and/or load limitations would be moved to the Complex Trail Bridge classification.</p> <p>Minor Trail Bridges, determined to have increased complexity or user safety concerns, could be classified as Complex Trail Bridges. An example of this might be a short concrete bridge (less than 20 feet) located over a deep gorge.</p>	Requires a <u>technical inspection</u> by an engineer or engineering technician certified road bridge inspector [FSM 7736.31].	Complex Trail Bridge Inspection Form ³	5 years ¹	Infra Trail Bridges
Major Trail Bridge	<p>Major Trail Bridges: All single-span timber/log trail bridges with a span greater than 20 feet <u>and</u> a vertical distance greater than 5 feet.²</p> <p>Additionally:</p> <p>Minor Trail Bridges, determined to have increased complexity or user safety concerns, could be classified as Complex Trail Bridges. An example of this might be a short timber bridge (less than 20 feet) located over a deep gorge.</p>	<p>Requires a <u>technical inspection</u> by a person:</p> <ol style="list-style-type: none"> 1. Trained specifically for log and/or timber trail bridge inspections; and 2. Deemed qualified, based on Regional or Forest policy, to perform this task under the general supervision of a certified road bridge inspector. 	Major Trail Bridge Inspection Form ³	5 years ¹	Infra Trail Bridges
3. Minor Trail Bridge	<p>Minor Trail Bridges: All trail bridges that do not meet the definition of a Complex or Major Trail Bridge, and that have a span less than 20 feet <u>or</u> a vertical distance less than 5 feet.²</p> <p>Minor Trail Bridges do not include boardwalks, puncheon, and similar trail structures.</p>	Requires a <u>condition assessment</u> by a person trained and qualified, based on Regional or Forest criteria, to perform condition assessments of Minor Trail Bridges.	Minor Trail Bridge Condition Assessment Form ³	5 years ¹	Infra Trail Bridges

Structure Categories	Definitions	Inspection			Data Storage
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4. Trail Structures	Trail Structures: Constructed features <u>on</u> a trail such as puncheon, boardwalk, retaining walls, water bars, etc. [Refer to <i>Trail Data Dictionary</i> for further identification of trail structures.]	Requires a <u>technical inspection</u> or <u>condition assessment</u> by appropriately trained personnel (structure dependent).	TRACS Survey Form and/or Trail Structure Inspection Form	Refer to current agency protocols	Infra Trails
5. Other Structures Commonly Associated with Trails	Other Structures: Structures such as fishing docks, viewing platforms, etc. that are frequently located on or adjacent to a trail. These features are often engineered similarly to a bridge, and often involve moderate-to-high risk to users in the event of structural failure. They do not meet the definition of a continuous pathway, however, and are often considered destination points instead.	Requires a <u>technical inspection</u> or <u>condition assessment</u> by appropriately trained personnel (structure dependent).	General Structure Inspection Form and/or Assessment Form	5 years ¹	Infra Trails or Infra RecSites

¹ A more frequent interval may be deemed appropriate due to complexity, age, condition and use of the structure.

² Clear span is measured between abutment faces, along centerline of trail. Vertical distance is measured from the trail surface to the ground or stream channel.

³ For Complex Trail Bridge, refer to Regional Bridge Engineer for appropriate regional form. For Major and Minor Trail Bridges, a national form is underdevelopment (in the interim, however, refer to Regional Bridge Engineer for appropriate regional form).