

2023

SIRA Call for Projects Criteria Guidance

Version 1.0

ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DIVISION OF PLANNING & PROGRAM DEVELOPMENT

SEPTEMBER 5, 2023 | Version 1.0

This document was created by the DOT&PF, Planning & Program Development, Strategic Investment Section

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Overview

This document is intended to provide program guidance for project evaluators, and local governments/organizations applying for the Alaska Department of Transportation and Public Facilities (DOT&PF) Safer Ice Roads for Alaskans (SIRA) Program. The criteria in this guidance document has been developed by a team of local and technical experts that have been focused on developing and maintaining ice roads in Alaska. Department leadership has adopted criteria weights in order to prioritize some criteria over others such as Safety vs. Contributing Factors. Eligible and in-eligible activities are listed that will aide in what can be approved for federal-aid.

The project selection is based on five criteria:

1. Safety- Safety Inspections and Safety Activities
2. Economic Benefits
3. Health & Quality of Life
4. Access to Air Service
5. Contributing Factors

The criteria evaluation process allows the department to select projects that consider safety for the preservation of life, and other factors that contribute to a community's health and quality of life.

This process does not discriminate by geographic areas, political or organization affiliation, or by socioeconomic factors.

PEB Scoring

The Project Evaluation Board (PEB) members is made up of representatives from the University of Fairbanks Arctic Infrastructure Development Center and various divisions within the DOT&PF (i.e., planning, maintenance and engineering).

The PEB shall refer to this document as guidance when scoring project nominations to aid in consistent and fair scores. If the project information is missing for a category, not explained, or ambiguous the PEB member may follow up with the community for more information.

PEB members follow the criteria to assign scores for each project. Flexibility is built into the scoring (e.g., 4-5) allowing each PEB member to propose a score given the thoroughness of application response for each criteria.

Eligible Activities

Project Type	Description
Planning	Route planning, selecting operations level, determining signage requirements, determining equipment requirements
Surveying	Manual surveying, Ground Penetrating Radar (GPR) surveying
Route Selection	Route selection, access points
Ice Road Establishment	Preparing travel lanes, snow clearing, ice strengthening, surveying. This may also include having to use material to smooth uneven parts of the ice road such as using donated rail decking.
Signage	Construction signs, entry signs, regulatory and advisory signs
Monitoring	Visual inspection, surveying
Maintenance	Repairing cracks, traffic control updating signage
Snow Fencing	Construction of temporary snow fencing to prevent snow drifts
Administration	Controlling loads & speeds, safety, training (does not include administrative type activities)
Shutdown	Close ice road to public use
Access Improvement within 300' of waterway embankment	Improvements to access the ice road within 300' of the waterway embankment is eligible

Ineligible Activities

Project Type	Description
Equipment Purchases >\$5,000	Purchasing equipment over \$5,000, permanent trail markings on land, and undocumented project charges.
Access Improvement >300' of waterway embankment	Improvements to access the ice road outside of 300' of the waterway embankment is not eligible.
Ground Disturbing	Activities that will cause ground disturbance are not eligible.
Activities that involve pumping water from ice road source	Activities that involve pulling water from the river or lake of the ice road to make repairs.

Criteria

Standard	Scoring Criteria		
1a. Safety - Safety Inspections	(4-5)	(2-3)	(0)
*The level of risk is determined from calculating the A Value from Gold's Formula. See University of Alaska Fairbanks, Design and Operation of Ice Roads manual (Chapter 5 & Chapter 9)	This project provides safety inspections (visual and survey) for the expected level of risk according to the A Value for Gold's Formula.	The project provides adequate safety inspections (visual and survey) for the expected level of risk and is not at the level recommended.	The project includes little to no safety inspections.
1b. Safety - Safety Activities	(4-5)	(2-3)	(0)
*Safety activities are listed on the application.	This project includes a comprehensive list of safety activities such as regular maintenance to clear or flatten snow and smooth ice, trail markings, illuminated signage, max speed limits, advisories, flagging, etc.	This project includes moderate safety activities where some activities are listed.	This project includes little to no safety activities.
Standard	Scoring Criteria		
2. Economic Benefits	(4-5)	(2-3)	(0-1)
	This project significantly enhances the economic development by including more than two of the following: 1) Supporting subsistence living; 2) Providing access to employment and public facilities; 3) Supporting the movement of freight; 4) Connecting communities.	This project moderately enhances economic development by including one or two of the following: 1) Supporting subsistence living; 2) Providing access to employment and public facilities; 3) Supporting the movement of freight; or 4) Connecting communities.	This project provides little to no economic benefits.
Standard	Scoring Criteria		
3. Health & Quality of Life	(4-5)	(2-3)	(0-1)
	This project significantly enhances health & quality of life by including more than two of the following: 1) Providing recreational opportunities; 2) Increasing social, cultural, and physical connections; 3) Increasing access to employment, health services, public facilities and goods; 4) Reduces the cost of living.	This project moderately enhances economic development by including one or two of the following: 1) Providing recreational opportunities; 2) Increasing social, cultural, and physical connections; 3) Increasing access to employment, health services, public facilities and goods; 4) Reduces the cost of living.	This project provides little to no contribution to health & quality of life.

Standard	Scoring Criteria		
4. Access to Air Service	(4-5)	(2-3)	(0-1)
	The project allows the community/entity to gain access to air service facility for essential purposes such as access to health care or vital goods.	The project creates improved access to air service for standard or everyday purposes to connect families and communities, procure services, and access resources.	The ice road provides little to no change over a community's current level of service.
Standard	Scoring Criteria		
5. Contributing Factors	(4-5)	(2-3)	(0-1)
	This project has strong contributing factors, such as: 1) proven project readiness, i.e., equipment is already available and in good condition, staff and resources available, secured partnerships to plan, build, maintain, operate and/or fund; AND , 2) other added benefits not already covered.	This project has moderate contributing factors, such as: 1) proven project readiness, i.e., equipment is already available and in good condition, staff and resources available, partnerships to plan, build, maintain, operate and/or fund; OR , 2) other added benefits not already covered.	This project has little to no project readiness or added benefits.

Criteria Definitions

Safety

A safe and effective risk management program for ice roads requires visual inspections, surveying, and activities that conform to industry best practices. Projects that thoroughly address all these safety requirements in their application will score the highest.

The safety criteria is broken into two categories:

1. **Safety Inspections:** This category evaluates a project based on visual and survey inspections for the expected level of risk as identified in the University of Fairbanks Design and Operation of Ice Roads manual (UaF, [Chapter 5](#)).¹ Table 1 shows a copy of the manual's table that lists the recommended level of inspection and surveying as it relates to the assigned level of risk based on the A Value. Project managers shall define the expected A Value for Gold's Formula and use the corresponding 'Level of Risk' to determine the recommended level and frequency of inspections.

For help on calculating the A-value please contact the University of Fairbanks Arctic Infrastructure Development Center at (907) 474-7330.

Table 1. Copy of table from Design & Operations of Ice Roads Manual, Chapter 9.

A Value	Level of Risk	Visual Inspection	Surveying
50	Low	-At least once every three days -checking of ice quality	-Manual measurements every 10-14 days
57	Tolerable	-Regular Ice quality monitoring program	-Program of regular manual ice measurements
71	Moderate	-Daily Ice quality monitoring program	-Daily program of regular ice measurements or program for regular GPR ice profiling plus manual ice measurements
85	Substantial – Special Procedures	-Daily Ice quality monitoring program	-Daily program of regular ice measurements or program for regular GPR ice profiling plus manual ice measurements

¹ University of Fairbanks (2023) Design and Operation of Ice Roads. Arctic Infrastructure Development Center, [Design and Construction of Ice Roads \(uaf.edu\)](https://www.uaf.edu/design-and-construction-of-ice-roads/).

2. **Safety Activities:** This category evaluates a project based on the safety activities used to maintain a high level of safety for ice users. This entails a number of activities:
- Lane clearing and snow removal
 - Flattening snow windrows to lessen weight on ice
 - Crack Repair- wet or dry cracks
 - Traction improvements i.e., grooving ice with serrated blades
 - Safety training
 - Installing vehicle scale at entry points to weigh vehicles and all components
 - Operating Unmanned Aerial Systems (UAS) and/or sensor payloads to support ice road monitoring
 - Manual and/or Ground Penetrating Radar (GPR) inspection and surveying programs
 - Inspection reporting
 - Retroreflective or illuminated signage
 - Road crossing open or closed
 - Max allowable Gross Vehicle Weight
 - Max Speed Limit
 - Max distance between vehicles
 - Phone number to call for road information
 - Services available on the road if any
 - Advisory on tire chains and survival gear
 - Distance to next community
 - Flags and barricades to direct the flow of traffic
 - Delineators to mark the edges of the maintained road
 - Warning and hazard markings
 - Mile markers such as lane clearing, snow removal, crack remediation, improving traction, safety training, installing vehicle scales at entry points, operating unmanned aerial systems (UAS) or other devices to monitor ice conditions and other measures.

Access to Air Service

This category evaluates how well a project extends air service for communities along an ice route. High points (4-5) are given to communities that gain access to commercial air service facility for essential purposes such as access to specialized or emergency health care or vital goods. Some points (2-3) are given for improved access for other purposes such as increasing family connections, procuring specialized services and access to resources. Projects that provide little to no extended access to air service receive a zero or one point.

Health & Quality of Life

This category measures a project by taking a 'holistic' view of how an ice route improves a community's health and quality of life. Projects will be evaluated based on how well they meet the following:

- Provides recreational opportunities to the community or communities along the ice route.
- Increases social, cultural, and physical connections to other communities or villages.
- Increases access to employment, health services, and goods.
- Reduces the cost of living by using a less expensive means to reach services or goods.

Economic Benefits

Economic benefits are an important aspect to a community when planning an ice road. Projects will be evaluated based on how well they meet the following:

- Enhances freight movement.
- Provides access to employment.
- Connects communities for the exchange of services or goods.
- Supports the subsistence living.

Contributing Factors

Contributing factors that enhance the success of the ice road will give a project more points. Projects will be evaluated based on how well they meet the following:

- Equipment is available and in good condition.
- Staff are available to assist.
- Resources are pre-arranged (e.g., fuel, supplies to support staff, communications plans, etc.).
- Partners among various organizations or parties to help plan, build, operate, and maintain or fund the ice road are secured.
- Other factors that contribute to project readiness (e.g., planning or design of ice road).

Criteria Weights

Weights are assigned to give more weight to a certain criterion over another. For example, safety is given a high weight in order to ensure the safety of Alaskans. Table 2 shows the adopted criteria weights and Table 3 shows an example of applying weights to project scores.

Table 2. Adopted Criteria Weights

Standard	Weight
Safety Inspections	25
Safety Activities	20
Access to Air Service	18
Health & Quality of Life	15
Economic Benefits	12
Contributing Factors	10

Table 3. Example application of criteria weights

Criteria	Project A score	Weights	Project A Final Score	Project B	Weights	Project B Final Score
Safety Inspections	5	25	125	2	25	50
Safety Activities	4	20	80	2	20	40
Economic Benefits	3	12	36	3	12	36
Health & Quality of Life	4	15	60	4	15	60
Access to Air Service	2	18	36	2	18	36
Contributing Factors	3	10	30	3	10	30
TOTAL			367			252

Contact Information

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