



Discovery Southeast

Hands-on Nature Education for Southeast Alaskans

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DiscoverySoutheast.org

January 2, 2017

Rorie Watt, Manager
City and Borough of Juneau
155 S. Seward St.
Juneau, AK 99801

RE: Smartphone App for Trail Systems Most Used by Cruise Ship Visitors

Dear Mr. Watt,

Discovery Southeast would like to develop smartphone applications orienting visitors to the two trail systems most used by cruise ship passengers, Mt. Roberts area and the Mendenhall Glacier area. These apps will make the trail systems more accessible to cruise ship passengers by showing the trails clearly and explaining their attributes, and will improve safety by displaying established trails and the visitor's precise location.

As Juneau residents are well aware, lost or missing hikers on these trail systems are a common and dangerous occurrence. Many incidents are minor, however, they are also regularly of consequence, such as this past summer when a visitor from Florida died after losing the trail and trying to find an alternate route down Mt. Roberts. Besides impacting visitors, such search and rescue operations come at a cost to the local and state entities handling the effort.

The apps we plan to develop will display a scalable map of the natural area, trails, and relevant points of interest and orientation. Using the smartphone's GPS system, the visitor's precise location on the trail system can be displayed. The GPS system can also display orientation, turning the visitor in the correct direction on the map and providing a sense of distance. In addition to preventing emergencies, in the event of a medical need or lost hiker, a screenshot of the precise location can be texted or delivered to rescuers, aiding their effort.

The apps will improve accessibility by showing trail head locations, routes, length, and difficulty; as well as overall orienting visitors to the trail and area. This makes hikes and natural areas easier to find and access, as well as more accessible due to visitors knowing what to expect and having an appreciable sense of safety and comfort.

Because visitors commonly do not have local data packages or reception on all trail areas, the apps will be downloadable for use off line. Key components such as the baseline maps and primary information points will be designed to use little memory and remain cached as part of the app. Even when not receiving cell phone data, smartphones can still access their GPS location and apply it to the baseline trail maps.

Although there are dozens of trail systems in Juneau, this proposal addresses only the two predominately used by cruise ship passengers. The Mt. Roberts trail system is directly adjacent to cruise

ship docks and is most commonly accessed by a tram that departs directly from the cruise ship docks. The tram is operated almost exclusively during cruise ship season and scheduled daily based on cruise ship visits. Likewise, the Mendenhall Glacier area is accessed most commonly by tourist shuttle busses departing directly from the cruise ship docks, and operating around the cruise ship schedule. Cruise ship visitors dominate the number of guests to the area; it is estimated that half of all cruise ship passengers visit the Glacier area—a number roughly 20 times larger than the entire population of Juneau.

We request \$39,100 for the development of the Mt. Roberts area app, and \$19,500 for development of the Mendenhall Glacier area app. The second app is more affordable to create because much of the costs are attributable to initially designing the user interface and developing the software that displays the maps, location data, and information points. The predominate expense is app development, followed roughly equally by user interface design and informational content development. We anticipate development occurring over 18 months, with an indefinite useful life for the apps.

Discovery Southeast is well positioned to undertake this project. We have extensive experience developing publications covering local trails and natural areas—including each City and Borough of Juneau watershed—and our staff have consulted extensively with CBJ applying that experience to Lidar and GIS data while mapping local wetlands. In addition, we have a partnership with a local app development firm with experience developing map caching apps for the fishing industry, and with a design firm experienced in designing content for visitor information.

Helping visitors safely access natural areas is central to their experience here. Over a million visitors come to Juneau annually. They visit because they are motivated to see Alaska's mountains and glaciers, and to experience a sense of wildness that occurs few places in the world. These apps will markedly improve visitors' access to and safety in these areas, while allowing them to enjoy this core element of their time here.

Sincerely,

A handwritten signature in black ink, appearing to read "Shawn Eisele". The signature is fluid and cursive, with a long horizontal stroke at the end.

Shawn Eisele
Executive Director