

Statewide Digital Mapping Initiative / Elevation Component **FY2014 Request: \$3,000,000**

Reference No: 50770

AP/AL: Appropriation

Project Type: Life / Health / Safety

Category: Transportation

Location: Statewide

House District: Statewide (HD 1-40)

Impact House District: Statewide (HD 1-40)

Contact: Steven Hatter

Estimated Project Dates: 07/01/2013 - 06/30/2018 **Contact Phone:** (907)269-0730

Brief Summary and Statement of Need:

This project will advance the data acquisition and development of the Digital Elevation Model (DEM), a fundamental component of the Statewide Digital Mapping Initiative (SDMI). FY2014 funds will be targeted towards completing DEM for the Alaskan Arctic and Northeast Alaska. The DEM is foundational to all infrastructure development. United States Geological Service (USGS) topographic maps are over 50 years old and out of date. Alaska lacks a statewide digital elevation dataset of any kind. Accurate elevation is foundational to infrastructure development and greatly enhances economic development, the preservation of human life (disaster response, mitigation and recovery), and the advancement of physical science.

Funding:	<u>FY2014</u>	<u>FY2015</u>	<u>FY2016</u>	<u>FY2017</u>	<u>FY2018</u>	<u>FY2019</u>	<u>Total</u>
Gen Fund	\$3,000,000						\$3,000,000
Total:	\$3,000,000	\$0	\$0	\$0	\$0	\$0	\$3,000,000

<input type="checkbox"/> State Match Required	<input type="checkbox"/> One-Time Project	<input type="checkbox"/> Phased - new	<input checked="" type="checkbox"/> Phased - underway	<input type="checkbox"/> On-Going
0% = Minimum State Match % Required		<input type="checkbox"/> Amendment	<input type="checkbox"/> Mental Health Bill	

Operating & Maintenance Costs:

	<u>Amount</u>	<u>Staff</u>
Project Development:	0	0
Ongoing Operating:	0	0
<u>One-Time Startup:</u>	0	
Totals:	0	0

Prior Funding History / Additional Information:

Project Description/Justification:

THIS IS A JOINT MULTI-DEPARTMENT REQUEST SUBMITTED BY: DOT/PF on behalf of and in coordination with the Statewide Digital Mapping Initiative (SDMI) Executive Committee. The SDMI consists of the DNR, DMVA, DOT&PF, DEC, DF&G, and UA.

FY	STATE	FEDERAL	TOTAL	PERCENT FEDERAL	ACQUIRED	CUMULATIVE COMPLETED	REMAINING	PERCENT COMPLETE
	(Dollars in millions)				(Area in square kilometers)			
2010	\$1.78	\$3.67	\$5.45	67%	157,434	249,790	1,269,010	16.45%
2011	\$0.00	\$1.23	\$1.23	100%	28,113	277,903	1,240,897	18.30%
2012	\$1.29	\$3.41	\$4.70	73%	226,757	504,660	1,014,140	33.23%
2013	\$3.70	<i>not started</i>	\$3.70	<i>unknown</i>				
TOTAL	\$6.77	\$8.31	\$15.08M	55%				

The above does not include federal end of year funds still being accounted for. Additional FFY13 funds in the amount of \$3M have been identified and will be applied to next year's collection which puts the project on track to meet the approximate cost sharing formula of 1/3 State and 2/3 Federal.

Project Description / Justification

State and federal agencies have a multitude of requirements that can be assisted with an accurate digital base map. The largest component of the SDMI is the collection, acquisition and processing of accurate elevation data. This request addresses the elevation component in a phased approach and prioritizes the completion of the Arctic. Other areas of the state will likely follow, pending the nature of funding.

Why This Project Is Needed Now:

This project lays the foundational framework for the advancement of many public and private disciplines which have long been impeded by the absence of an accurate digital base map. This base map will assist in delivering essential government services in a cost effective manner while improving services and increasing public safety. The State and Federal Government has many requirements for accurate topographical maps.

Some of the beneficiaries of the project are related to aircraft navigation, search and rescue, disaster preparedness (tsunami inundation studies, floodplain and evacuation route planning, storm surge analysis & coastal erosion), disaster recovery, emergency response & first responders, resource management, infrastructure development, engineering and design and scientific research. Once completed, the DEM will have a shelf life in excess of twenty years.

An accurate digital elevation model is critical for the following applications:

1. Accurate elevation data is foundational to all resource, economic, and infrastructure development
2. Advancements in aviation safety currently utilize elevation data for terrain avoidance purposes. Unfortunately the current elevation (terrain) data in Alaska is so poor the very device intended to enhance aviation safety could literally cause accidents and associated fatalities.
3. Navigational devices, survey equipment and tracking applications require an accurate base map in order to function properly.

4. Disaster preparation, recovery and mitigation efforts are greatly impeded by the lack of accurate elevation data. Analysis such as supply chain vulnerability, critical infrastructure and key resource disruption rely heavily upon an accurate base map. Disaster response training cannot be adequately addressed without an accurate base map in a digital context.
5. Floodplain management and mitigation analysis, sea wall construction and coastal erosion cannot be adequately addressed without accurate elevation data.
6. Tsunami inundation studies, storm surge analysis and safe evacuation route planning require accurate elevation data.

Routing analysis for roads and pipelines