

2011 Peer Exchange RWIS Research Survey

Please provide some information about you and your agency. You may be contacted for further information and input in preparation for the 2011 Peer

Answer Options	Response Percent	Response Count
Name:	100.0%	65
State:	96.9%	63
Email Address:	100.0%	65
Phone Number:	96.9%	63
<i>answered question</i>		65
<i>skipped question</i>		0

Number	Response Date	Name:	State:	Email Address:	Phone Number:
1	May 17, 2011 1:43 PM	Paul Brown	MA	Paul.Brown@state.ma.us	617-973-77
2	May 13, 2011 12:31 PM	Travis Ray	WV	Travis.L.Ray@wv.gov	304-637-02
3	Apr 26, 2011 3:48 PM	Jon Swartz	MT	joswartz@mt.gov	406-444-61
4	Apr 26, 2011 3:03 PM	kathy ahlenius	WY	kathy.ahlenius@dot.state.wy.us	307.777.42
5	Apr 26, 2011 2:51 PM	Leigh Jones	UT	leighjones@utah.gov	801-887-37
6	Apr 26, 2011 10:57 AM	Dean Kernan	IL	paul.kernan@winco.net	309-945-5C
7	Apr 25, 2011 11:34 PM	Rick Nelson	NV	rnelson@dot.state.nv.us	775.888.74
8	Apr 25, 2011 8:00 PM	Rich Clarke	UT	richardclarke@utah.gov	801-965-41
9	Apr 25, 2011 7:34 PM	Eric Meka	NY	emeka@dot.state.ny.us	716-753-28
10	Apr 25, 2011 5:59 PM	David W. Bowlby	NJ	David.Bowlby@dot.state.nj.us	609-352-8C
11	Apr 25, 2011 4:56 PM	Cliff Spoonemore	WY	cliff.spoonemore@dot.state.wy.us	307-777-6C
12	Apr 25, 2011 3:50 PM	Dave Johnson	IL	David.B.Johnson	217-782-2C
13	Apr 25, 2011 3:36 PM	Joe Holt	TN	joe.holt@tn.gov	615-532-38
14	Apr 25, 2011 3:14 PM	Robert Mongillo	CT	Robert.Mongillo@ct.gov	860-594-2C
15	Apr 25, 2011 1:35 PM	Tim Peters	IL	tim.peters@illinois.gov	217-782-84
16	Apr 25, 2011 1:29 PM	Scott Capps	NC	scapps@ncdot.gov	919-733-37
17	Apr 25, 2011 11:50 AM	Curt Pape	MN	curt.pape@dot.state.mn.us	651.366.35
18	Apr 22, 2011 7:24 PM	Will Thompson	MI	thompsonw@michigan.gov	517-750-04
19	Apr 22, 2011 4:26 PM	David Blackmore	VT	david.blackmore@state.vt.us	802-654-17
20	Apr 22, 2011 3:47 PM	Paul David Cornett	KY	davidp.cornett@ky.gov	502-564-4E

21	Apr 22, 2011 3:15 PM	Steve Spoor	ID	steve.spoor@itd.idaho.gov	(208) 334-8
22	Apr 22, 2011 2:17 PM	Michael Lashmet	NY	mlashmet@dot.state.ny.us	518-457-57
23	Apr 21, 2011 6:34 PM	Tim Jackson	MO	timothy.jackson@modot.mo.gov	573-526-18
24	Apr 20, 2011 11:01 PM	Phillip Anderle	CO	phillip.anderle@dot.state.co.us	970-350-21
25	Apr 20, 2011 10:01 PM	Chris Albrecht	IA	calbrecht@iastate.edu	515-294-76
26	Apr 20, 2011 8:51 PM	Kevin Bloss	OK	kboss@odot.org	405-521-25
27	Apr 20, 2011 8:24 PM	Mike Taylor	TX	mike.taylor@txddot.gov	806-356-32
28	Apr 20, 2011 8:16 PM	James Mitch Turner	MS	mturner@mdot.state.ms.us	662-563-45
29	Apr 20, 2011 8:13 PM	Max Perchanok		max.perchanok@ontario.ca	416 235468
30	Apr 20, 2011 7:48 PM	Carl High	AK	carl.high@alaska.gov	907-398-68
31	Apr 20, 2011 7:25 PM	Wilfrid Nixon	IA	wilfrid-nixon@uiowa.edu	319-338-29
32	Apr 20, 2011 5:22 PM	Tony Sullivan	AR	tony.sullivan@ahtd.ar.gov	501-569-22
33	Apr 20, 2011 3:39 PM	David Cook	SC	cookdb@scdot.org	(803) 737-1
34	Apr 20, 2011 1:30 PM	Greg Parker	IA	gparker@co.johnson.ia.us	319-356-60
35	Apr 20, 2011 11:46 AM	Marc Lipnick	MD	mlipnick@sha.state.md.us	410-582-55
36	Apr 19, 2011 10:21 PM	Gabriel Guevara	DC	Gabriel.Guevara@dot.gov	202-366-07
37	Apr 19, 2011 7:39 PM	AARON HORTON	DC	aaron.horton@dc.gov	2.03E+09
38	Apr 19, 2011 7:18 PM	Dawn Gustafson	MI	gustafsond@michigan.gov	906-786-18
39	Apr 19, 2011 1:24 PM	Diana Clonch	OH	Diana.clonch@dot.state.oh.us	614-644-71
40	Apr 18, 2011 11:49 PM	Luci Moore	OR	lucinda.m.moore@odot.state.or.us	503-364-64
41	Apr 18, 2011 9:32 PM	David Frame	CA	david.w.frame@dot.ca.gov	(916) 657-4
42	Apr 18, 2011 5:36 PM	Douglas Graham	NH	dgraham@dot.state.nh.us	603-352-23
43	Apr 18, 2011 1:52 PM	Dean VanDeWiele	SD	dkvandewiele@state.sd.us	605.773.55
44	Apr 18, 2011 1:17 PM	Mike Adams	WI	michael.adams@dot.wi.gov	6.08E+09
45	Apr 18, 2011 11:14 AM	doug tosten	PA	dtosten@state.pa.us	717 582-21
46	Apr 15, 2011 9:03 PM	Brad Darr	ND	bdarr@nd.gov	701-328-44
47	Apr 15, 2011 2:45 PM	Monty Mills	WA	millsm@wsdot.wa.gov	360-705-78
48	Apr 14, 2011 4:35 PM	Steven Cole	WV	steven.b.cole@wv.gov	3.05E+09
49	Apr 14, 2011 4:24 PM	Joseph D. Baker	RI	jbaker@dot.ri.gov	401.734.48
50	Apr 14, 2011 4:16 PM	Annette Dunn	IA	annette.dunn@dot.iowa.gov	5.15E+09
51	Apr 14, 2011 3:09 PM	Leland Smithson	IA	leland.smithson@dot.iowa.gov	515-239-15
52	Apr 14, 2011 12:27 PM	Jimmy Witherow	GA	jwitherow@dot.ga.gov	
53	Apr 13, 2011 6:04 PM	Mike Mattison	NE	mike.mattison@nebraska.gov	402-479-48
54	Apr 13, 2011 2:45 PM	Tina Greenfield	IA	tina.greenfield@dot.iowa.gov	515-233-77
55	Apr 12, 2011 8:52 PM	Allen Williams	VA	allen.williams@vdot.virginia.gov	5.4E+09
56	Apr 12, 2011 8:12 PM	Dave Hand	MT	dhand@mt.gov	406-454-58
57	Apr 12, 2011 4:23 PM	Mike Miller	MT	mikmiller@mt.gov	(406) 444-6

58 Apr 12, 2011 2:02 PM Chris Mundel
59 Apr 12, 2011 1:06 PM Justun Juelfs
60 Apr 12, 2011 11:43 AM Tim Croze
61 Apr 12, 2011 11:07 AM Jason Norville
62 Apr 11, 2011 9:00 PM Colleen Bos
63 Apr 11, 2011 8:37 PM Troy Whitworth
64 Apr 11, 2011 8:12 PM Jack Stickel
65 Apr 11, 2011 7:26 PM alastair probert

MT cmundel@mt.gov 406-888-56
MT jjuelfs@mt.gov 406-444-76
MI crozet@michigan.gov
PA janorville@state.pa.us 717-787-70
colleen.bos@ctcandassociates.com 608 577-48
KS troy@ksdot.org 785-296-71
AK jack.stickel@alaska.gov 907-465-32
DE alastair.probert@state.de.us 302-853-13

2011 Peer Exchange RWIS Research Survey

Problem Statement:

Develop a Searchable Knowledge Site such as a Wiki or other appropriate vehicle where the snow and ice community can go to locate training material, reports, CBT content etc.

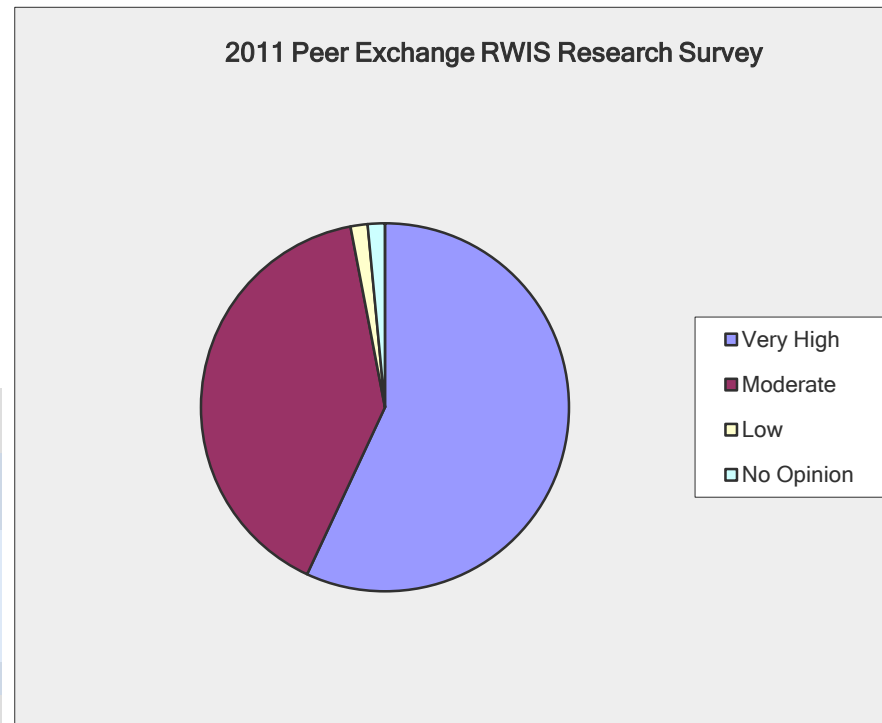
Progress to Date:

A project is underway, and progress can be monitored on the Aurora website at www.aurora-program.org/projectdetail.cfm?projectID=66 . The knowledge base website has been designed and is currently being populated by both Aurora and Clear Roads project teams.

The website allows users to post information, attachments, or contact information on a variety of winter maintenance and RWIS topics. Users are also allowed to comment on posted material and run searches for topics of interest. The Clear Roads and Aurora members are just beginning to pre-populate some information in preparation for opening it to the transportation community.

Please rate the Need of this project

Answer Options	Response Percent	Response Count
Very High	56.9%	37
Moderate	40.0%	26
Low	1.5%	1
No Opinion	1.5%	1
<i>answered question</i>		65
<i>skipped question</i>		0



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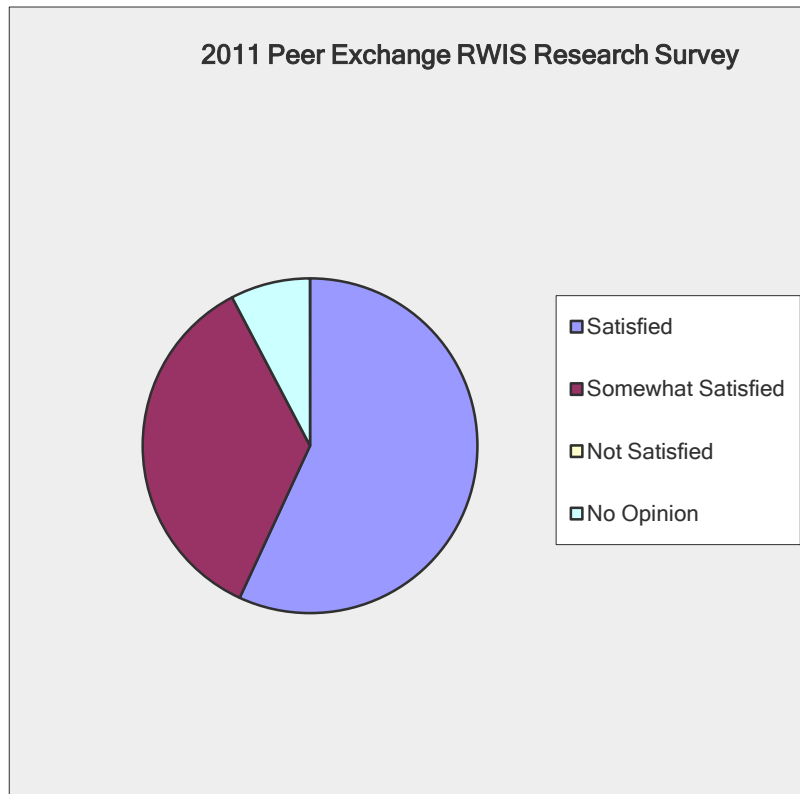
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Answer Options	Response Percent	Response Count
Satisfied	56.9%	37
Somewhat Satisfied	35.4%	23
Not Satisfied	0.0%	0
No Opinion	7.7%	5
<i>answered question</i>		65
<i>skipped question</i>		0



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You responded that the research did not meet your agency's needs. Can you explain what the research was missing and how we can better serve the need in future research efforts?

Answer Options	Response Count
	0
<i>answered question</i>	0
<i>skipped question</i>	65

2011 Peer Exchange RWIS Research Survey

Problem Statement:

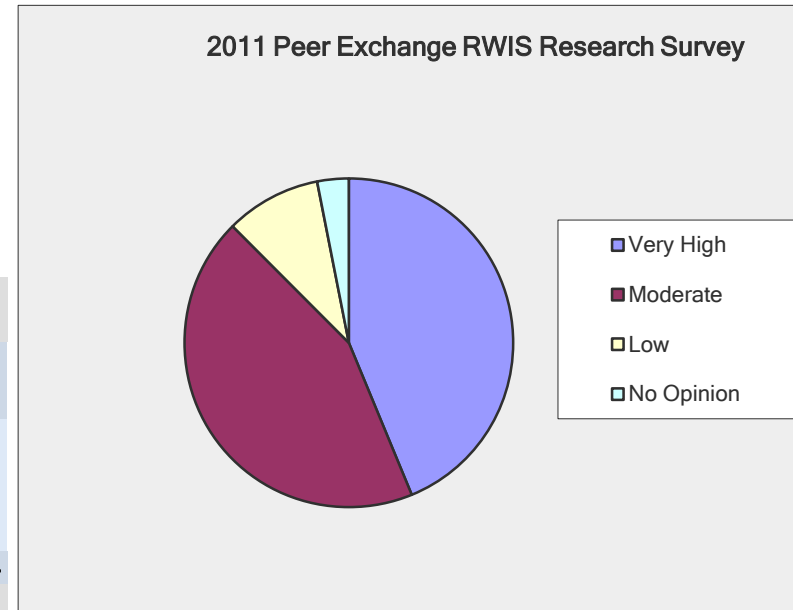
Mobile-Weather Data Collection Guidelines - Determine what sensors should be placed on fleet vehicles in an AVL/GPS system to best collect pavement weather information, how the weather/pavement sensors should be placed on a vehicle, and how frequently they should report.

Progress to Date:

This project is underway. The Aurora project team recently met to discuss this project in more detail. A project plan and scope have yet to be determined. Progress details can be found at Aurora Project Website at www.aurora-program.org/projectdetail.cfm?projectID=70.

Please rate the Need of this project

Answer Options	Response Percent	Response Count
Very High	43.8%	28
Moderate	43.8%	28
Low	9.4%	6
No Opinion	3.1%	2
	<i>answered question</i>	64
	<i>skipped question</i>	1



2011 Peer Exchange RWIS Research Survey

Problem Statement:

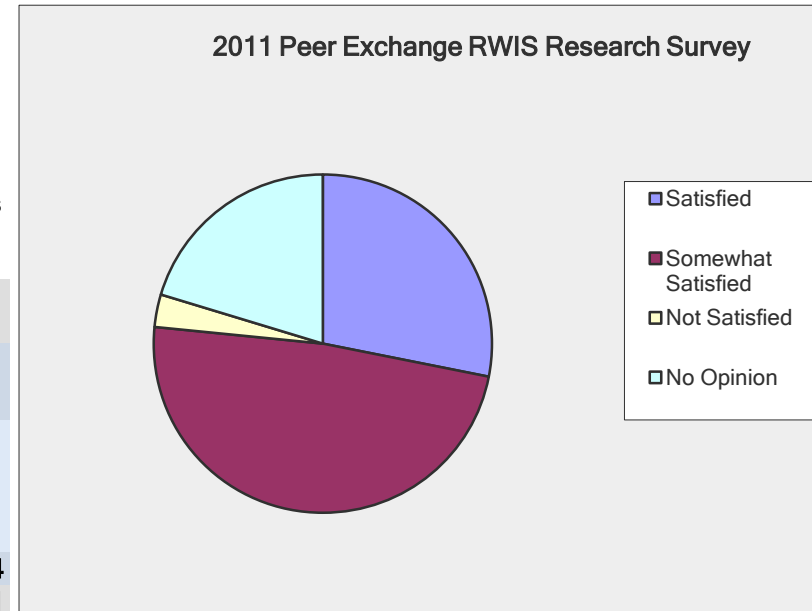
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Please rank how well the current research satisfies your agency's needs.

Answer Options	Response Percent	Response Count
Satisfied	28.1%	18
Somewhat Satisfied	48.4%	31
Not Satisfied	3.1%	2
No Opinion	20.3%	13
<i>answered question</i>		64
<i>skipped question</i>		1



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Problem Statement:

Mobile-Weather Data Collection Guidelines - Determine what sensors should be placed on fleet vehicles in an AVL/GPS system to best collect pavement weather information, how the weather/pavement sensors should be placed on a vehicle, and how frequently they should report.

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Answer Options	Response Count
	2
<i>answered question</i>	2
<i>skipped question</i>	63

Number	Response Date	Response Text
1	Apr 18, 2011 1:18 PM	It's just not moving fast enough.
2	Apr 14, 2011 3:47 PM	Link does not provide adequate description of project or progress. Need to insure this project does not duplicate other projects underway in Clear Roads and will fit into the work underway at FHWA 23CFR Part 511, "Real-Time System Management Information Program" condition reporting requirements. Rule making for this FHWA project was effective 12/23/2010 and the completion date for the project is 11/08/2014.

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Problem Statement:

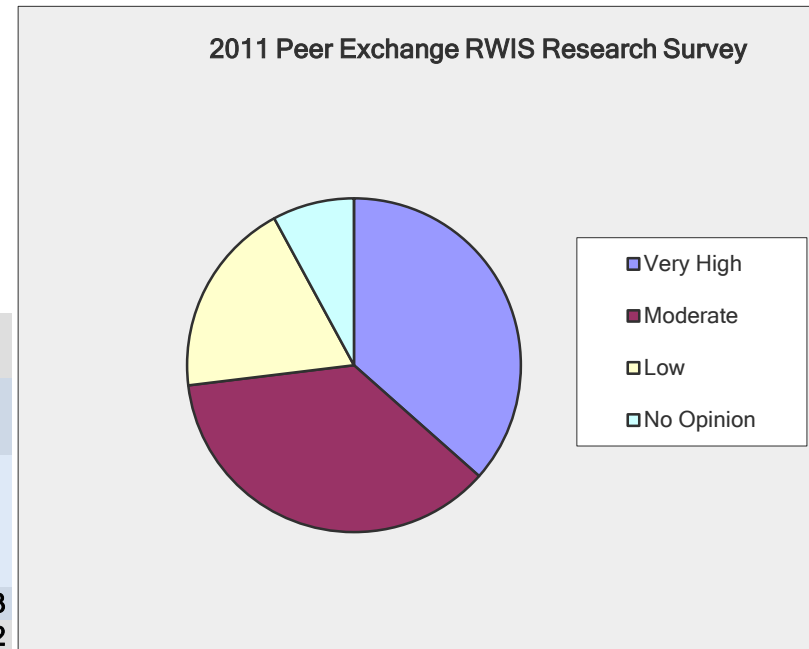
Study MDSS Implementation Costs - Determine the upfront costs vs. long-term benefits for implementing MDSS systems. Determine necessary equipment, how to best equip the trucks, and quantify secondary benefits of equipping the fleet for MDSS. Include results in a report.

Progress to Date:

This project is funded as Aurora Project 2011-04, Study of MDSS Costs. The object of this effort is to determine the upfront costs vs. the long-term benefits for implementing MDSS. It also includes determining necessary equipment, how to best equip the trucks, and quantify secondary benefits of equipping the fleet for MDSS. Aurora will ultimately team up with Clear Roads, MDSS Federal Prototype, and MDSS Pooled Fund to realize the project goals.

Please rate the Need of this project

Answer Options	Response Percent	Response Count
Very High	36.5%	23
Moderate	36.5%	23
Low	19.0%	12
No Opinion	7.9%	5
<i>answered question</i>		63
<i>skipped question</i>		2



2011 Peer Exchange RWIS Research Survey

Problem Statement:

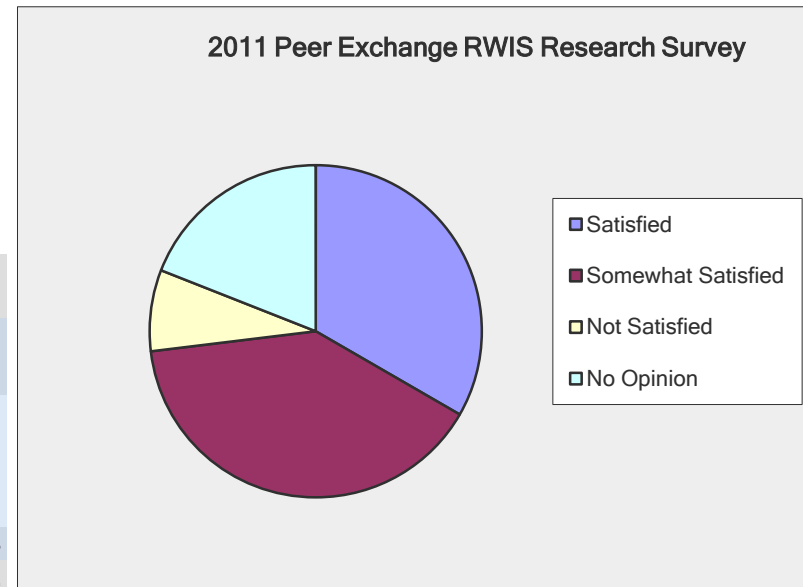
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Please rank how well the current research satisfies your agency's needs.

Answer Options	Response Percent	Response Count
Satisfied	33.3%	21
Somewhat Satisfied	39.7%	25
Not Satisfied	7.9%	5
No Opinion	19.0%	12
<i>answered question</i>		63
<i>skipped question</i>		2



2011 Peer Exchange RWIS Research Survey

Problem Statement:

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You responded that the research did not meet your agency's needs. Can you explain what the research was missing and how we can better serve the need in future research efforts?

Answer Options	Response Count
	5
<i>answered question</i>	5
<i>skipped question</i>	60

Number	Response Date	Response Text
1	Apr 27, 2011 4:38 PM	Our agency is not interested in MDSS as it currently functions. Need to show what data needs to be collected by a State to see if a cost benefit ratio can be determined for that State. Then there is not a reliable set of equipment to mount in the vehicle that has two-way communications with MDSS. Meaning at this point most AVL/GPS equipment can send from the truck. There is not a reliable set of equipment that can receive MDSS information back in the truck.
2	Apr 25, 2011 5:01 PM	

- 3 **Apr 18, 2011 9:54 PM** We had a test section, with the amount of snow we get the amounts of deicer MDSS recommended was much higher than we now put out. The Sierra mountians have snow with alot of water content and we get lots of snow fall. We felt MDSS was better suited for the mid west and the type of snowfall they recieve.
- 4 **Apr 13, 2011 2:47 PM** Nothing much has been done or planned yet.
- 5 **Apr 12, 2011 3:22 PM** Due to the number of variables involved and the differences between DOTs I believe it would be extremely difficult to quantify upfront costs for an MDSS in any way that would be meaningful to a DOT looking to implement an MDSS. On the other hand, understanding the equipment, data inputs, and operational accomodations necessary for the successful operation of an MDSS would be of value. Additionally, understanding the cost benefits of having an MDSS is of value to the DOTs as well.

2011 Peer Exchange RWIS Research Survey

Problem Description:

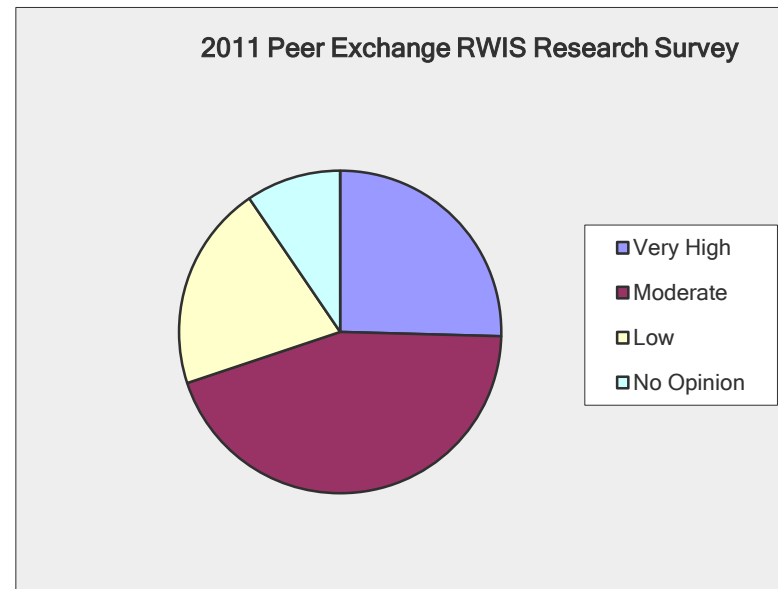
ESS Density Optimization - What is a good density of ESS and sensors for different uses and regions? Create a report or booklet with guidance, especially benefit/cost with purchase and maintenance costs.

Progress to Date:

This project is underway. The Aurora Project team met recently to decide how this project could be accomplished. No scope has been set. Progress detail can be found at www.aurora-program.org/projectdetail.cfm?projectID=72.

Please rate the Need of this project

Answer Options	Response Percent	Response Count
Very High	25.4%	16
Moderate	44.4%	28
Low	20.6%	13
No Opinion	9.5%	6
<i>answered question</i>		63
<i>skipped question</i>		2



2011 Peer Exchange RWIS Research Survey

Problem Description:

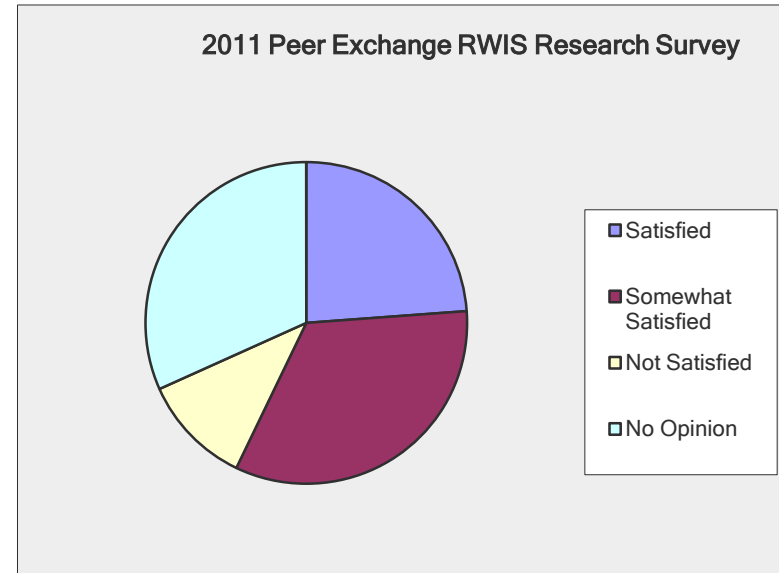
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Progress to Date:

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Please rank how well the current research satisfies your agency's needs.

Answer Options	Response Percent	Response Count
Satisfied	23.8%	15
Somewhat Satisfied	33.3%	21
Not Satisfied	11.1%	7
No Opinion	31.7%	20
<i>answered question</i>		63
<i>skipped question</i>		2



2011 Peer Exchange RWIS Research Survey

Problem Description:

ESS Density Optimization - What is a good density of ESS and sensors for different uses and regions? Create a report or booklet with guidance, especially benefit/cost with purchase and maintenance costs.

Progress to Date:

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You responded that the research did not meet your agency's needs. Can you explain what the research was missing and how we can better serve the need in future research efforts?

Answer Options	Response Count
	7
<i>answered question</i>	7
<i>skipped question</i>	58

Number	Response Date	Response Text
1	Apr 27, 2011 4:44 PM	We have developed criteria (satisfying Maintenance, Traffic & Safety Division, Traveler Information, Weather Forecasting) that we have been successful in using to determine deployments of ESS.
2	Apr 20, 2011 8:57 PM	Project scope is vague at best.
3	Apr 19, 2011 10:31 PM	Results from this study can have a tremendous impact on agency operations cost-effectiveness and budgets, and yet, no significant progress has been made towards its accomplishment.
4	Apr 14, 2011 4:29 PM	RIDOT is currently evaluating a grid approach to RWIS locations and this research would greatly assist in our implementation and planning processes.
5	Apr 14, 2011 3:53 PM	Very little information is provided on the project link, so my comments are to Insure project includes the FHWA work and reports published on ESS siting and does not duplicate their efforts.

6 **Apr 13, 2011 2:48 PM** Nothing much has been done yet. A scope needs to be set

7 **Apr 11, 2011 8:14 PM** We need to see what the research group comes up with before rating higher

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Problem Description:

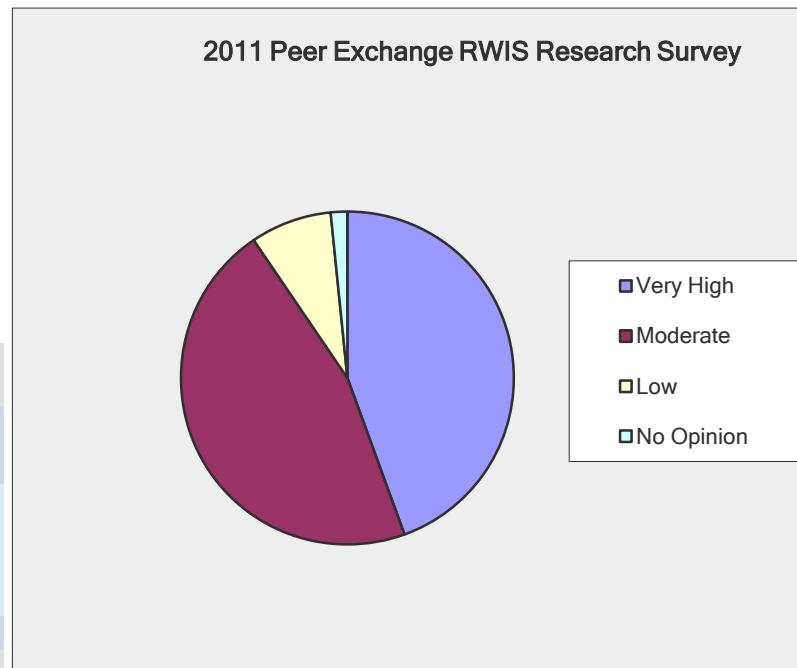
Achieving Consistent Education/Knowledge Base through Modular, Graduated Training Material - Develop simple modules or decision-making checklists to help ensure everybody at an agency follows similar weather dissemination practices. Develop modules of increasing complexity from basic to complex to meet individual's training needs.

Progress to Date:

This issue is being addressed through several different Aurora projects (2009-03, 2009-04, and 2011-02). Progress details can be found at www.aurora-program.org. Project 2009-03 is the searchable Wiki project which addresses the issue by allowing the transportation community to post information about their training curriculum. 2009-04 is a project to discover what educational material is out there and what "gaps" still exist in the training materials. The project includes a literature search and survey to states. Material collected will be shared on the Wiki website. 2011-02 is a project to design and build a supervisor's weather decision simulator to hone and evaluate a supervisor's ability to incorporate various forms of weather information into the decision-making process. The scope of this project is being determined.

Please rate the Need of this project

Answer Options	Response Percent	Response Count
Very High	44.4%	28
Moderate	46.0%	29
Low	7.9%	5
No Opinion	1.6%	1
<i>answered question</i>		63
<i>skipped question</i>		2



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Problem Description:

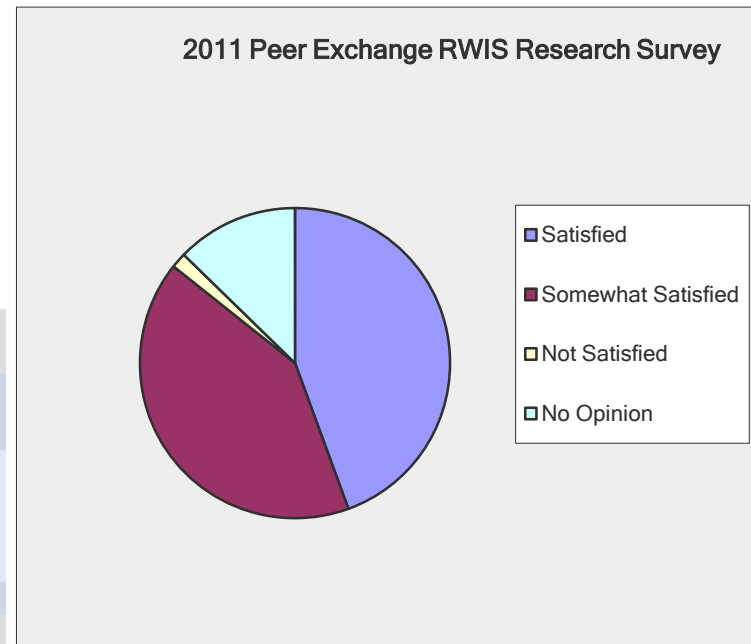
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Please rank how well the current research satisfies your agency's needs.

Answer Options	Response Percent	Response Count
Satisfied	44.4%	28
Somewhat Satisfied	41.3%	26
Not Satisfied	1.6%	1
No Opinion	12.7%	8
<i>answered question</i>		63
<i>skipped question</i>		2



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Achieving Consistent Education/Knowledge Base through Modular, Graduated Training Material - Develop simple modules or decision-making checklists to help ensure everybody at an agency follows similar weather dissemination practices. Develop modules of increasing complexity from basic to complex to meet individual's training needs.

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You responded that the research did not meet your agency's needs. Can you explain what the research was missing and how we can better serve the need in future research efforts?

Answer Options	Response Count
	1
<i>answered question</i>	1
<i>skipped question</i>	64

Number	Response Date	Response Text
1	Apr 27, 2011 4:45 PM	We have developed an efficient and successful weather dissemination method.

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Problem Description:

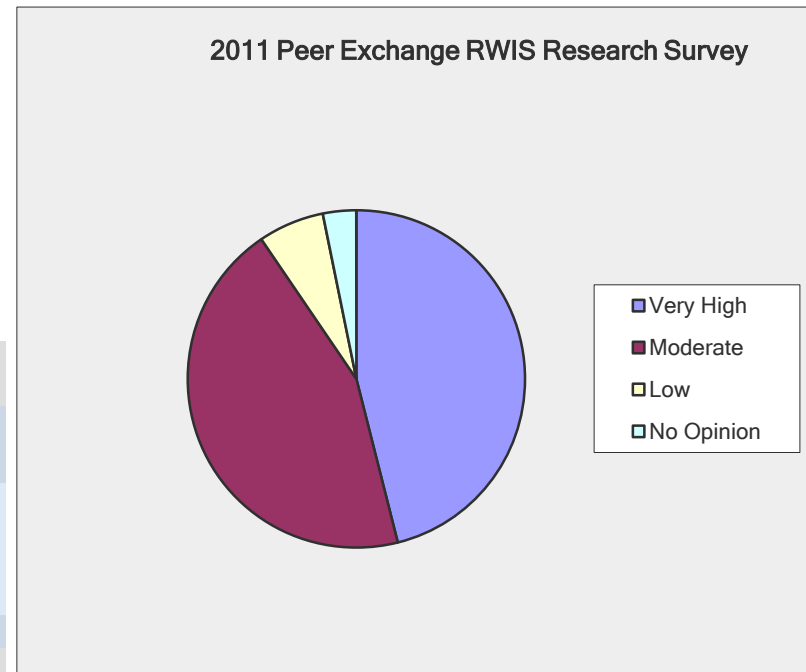
Improving Availability and Accuracy of Weather Info for Indices - Develop a tool to get weather info easily and accurately for the purpose of creating weather indices, especially "hard to get" info such as blowing snow, freezing rain, and drizzle.

Progress to Date:

Aurora's project addressing this issue, Winter Weather Severity Index Enhancements, is now complete. Aurora hired AccuWeather Inc. to design and build an index tool that can create a weather index for a user-selected time range and area. The index incorporates weather information from a variety of sources to determine the extent to which the selected area was affected by 6 winter weather factors: amount of snow, hours of snow, blowing snow, refreezing, amount of ice, and hours of ice. The user can customize the weighting of the factors in the calculations. AccuWeather Inc. can be contacted for access subscriptions for non-Aurora states. Detail is available at www.aurora-program.org/projectdetail.cfm?projectID=38.

Please rate the Need of this project

Answer Options	Response Percent	Response Count
Very High	46.0%	29
Moderate	44.4%	28
Low	6.3%	4
No Opinion	3.2%	2
<i>answered question</i>		63
<i>skipped question</i>		2



]

2011 Peer Exchange RWIS Research Survey

Problem Description:

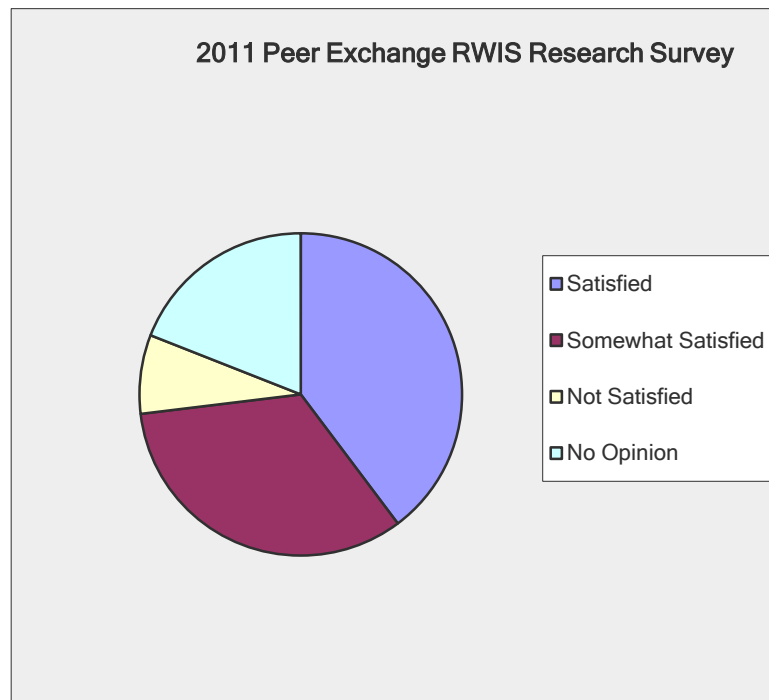
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Please rank how well the current research satisfies your agency's needs.

Answer Options	Response Percent	Response Count
Satisfied	39.7%	25
Somewhat Satisfied	33.3%	21
Not Satisfied	7.9%	5
No Opinion	19.0%	12
<i>answered question</i>		63
<i>skipped question</i>		2



|

2011 Peer Exchange RWIS Research Survey

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You responded that the research did not meet your agency's needs. Can you explain what the research was missing and how we can better serve the need in future research efforts?

Answer Options	Response Count
	6
<i>answered question</i>	6
<i>skipped question</i>	59

Number	Response Date	Response Text
1	Apr 25, 2011 1:39 PM	There was very little communication about the presence of this project. It may be very useful.
2	Apr 25, 2011 11:56 AM	Our agency is looking for an index which will provide an objective view of the level of maintenance required, not just a snapshot of the weather conditions. Seems that we promoted a proprietary product instead of something more generic and "free".
3	Apr 20, 2011 9:05 PM	
4	Apr 18, 2011 1:24 PM	The index only includes three parameters. it needed to be more flexible.
5	Apr 15, 2011 9:20 PM	We have used the Accuweather product and the Pool fund MDSS product. More work is needed to ensure the product meets expectations,

6

Apr 12, 2011 4:37 PM

Determining a response to an event is not the biggest issue. The problem is with the difficulty obtaining an accurate forecast. This would certainly be beneficial if the forecast was correct.

2011 Peer Exchange RWIS Research Survey

Problem Description:

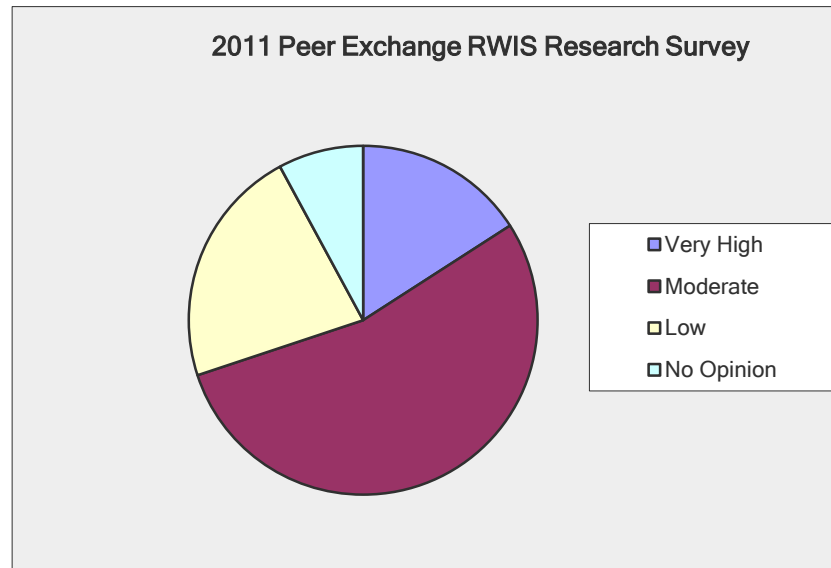
Analysis of RWIS System Health - Determine a method for scoring the performance and system health of RWIS ESS networks. Determine what is acceptable and/or typical.

Progress to Date:

This project is on the Aurora Program's list of projects to consider in future funding cycles.

Please rate the Need of this project

Answer Options	Response Percent	Response Count
Very High	15.9%	10
Moderate	54.0%	34
Low	22.2%	14
No Opinion	7.9%	5
<i>answered question</i>		63
<i>skipped question</i>		2



2011 Peer Exchange RWIS Research Survey

Problem Description:

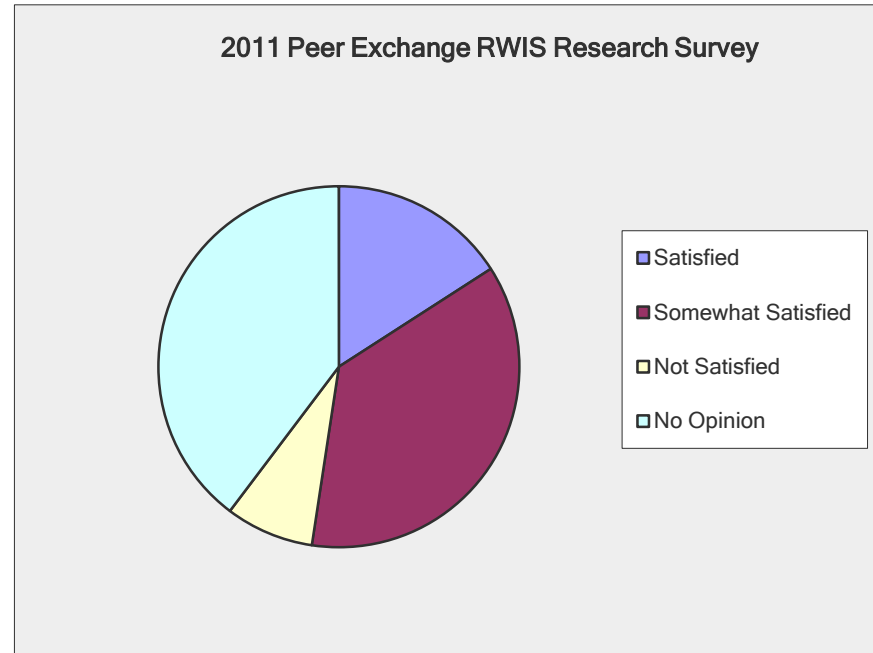
Analysis of RWIS System Health - Determine a method for scoring the performance and system health of RWIS ESS networks. Determine what is acceptable and/or typical.

Progress to Date:

This project is on the Aurora Program's list of projects to consider in future funding cycles.

Please rank how well the current research satisfies your agency's needs.

Answer Options	Response Percent	Response Count
Satisfied	15.9%	10
Somewhat Satisfied	36.5%	23
Not Satisfied	7.9%	5
No Opinion	39.7%	25
<i>answered question</i>		63
<i>skipped question</i>		2



2011 Peer Exchange RWIS Research Survey

Problem Description:

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Answer Options	Response Count
	5
<i>answered question</i>	5
<i>skipped question</i>	60

Number	Response Date	Response Text
1	Apr 27, 2011 4:49 PM	We engage in 2 rigorous preventative maintenance cycles each year and upgrade instrumentation every few years or as needed.
2	Apr 22, 2011 3:55 PM	No research has been done to this point on the health of RWIS Systems across the country.
3	Apr 19, 2011 10:52 PM	Many states have huge investments in their RWIS systems. keeping them in a state of good repair should be a high priority for all states and this project, which is not getting the attention it deserves, would go a long ways towards that.
4	Apr 18, 2011 1:24 PM	No work has been done yet.
5	Apr 11, 2011 8:15 PM	Hey, this is my project. I will have substantive deliverables for the Peer in September, possibly the user requirements ready to go to contracting.

2011 Peer Exchange RWIS Research Survey

Problem Description:

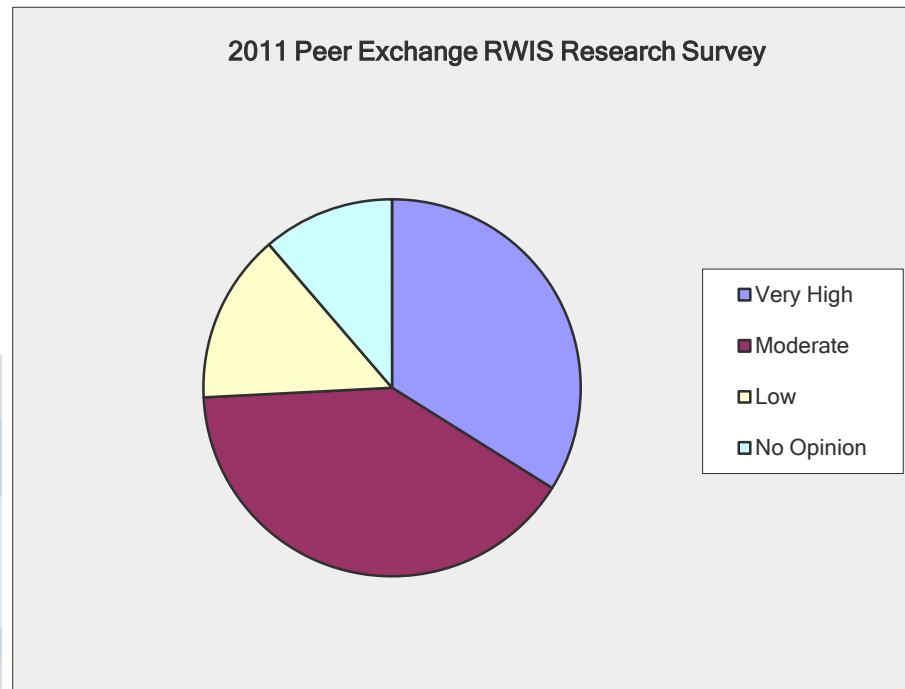
Benefit/Costs of and Instruction for Migrating to Open, DOT-built, DOT-managed RWIS ESS - Create do-it-yourself guide for RWIS sensors, servers, databases, web displays, etc.

Progress to Date:

Aurora completed projects, Off-the-Shelf Component RWIS (see www.aurora-program.org/projectdetail.cfm?projectID=30) and Low Cost Mobile RWIS (see www.aurora-program.org/projectdetail.cfm?projectID=52), that contain detail on both stationary and mobile RWIS. Both projects were championed by Quebec Ministry of Transportation and have been field tested. In addition, Aurora has funded a benefit/cost study of migrating to open RWIS under its FY2011 research program.

Please rate the Need of this project

Answer Options	Response Percent	Response Count
Very High	33.9%	21
Moderate	40.3%	25
Low	14.5%	9
No Opinion	11.3%	7
<i>answered question</i>		62
<i>skipped question</i>		3



2011 Peer Exchange RWIS Research Survey

Problem Description:

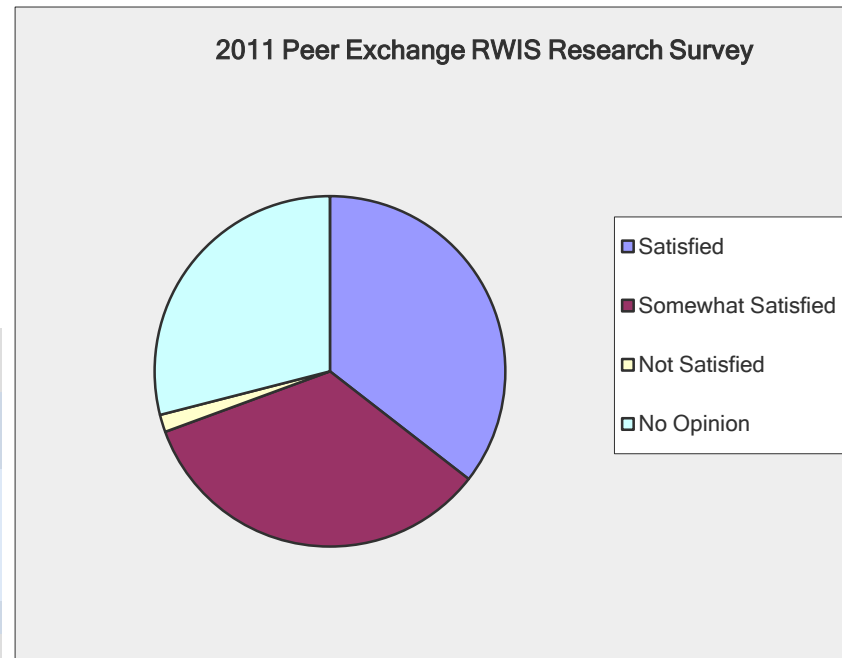
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Please rank how well the current research satisfies your agency's needs.

Answer Options	Response Percent	Response Count	
Satisfied	35.5%	22	
Somewhat Satisfied	33.9%	21	
Not Satisfied	1.6%	1	
No Opinion	29.0%	18	
		<i>answered question</i>	62
		<i>skipped question</i>	3



2011 Peer Exchange RWIS Research Survey

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Answer Options	Response Count
	1
<i>answered question</i>	1
<i>skipped question</i>	64

Number	Response Date	Response Text
1	Apr 11, 2011 8:16 PM	Would like to see more done with data loggers with the best practices documented on the Wiki

2011 Peer Exchange RWIS Research Survey

Problem Description:

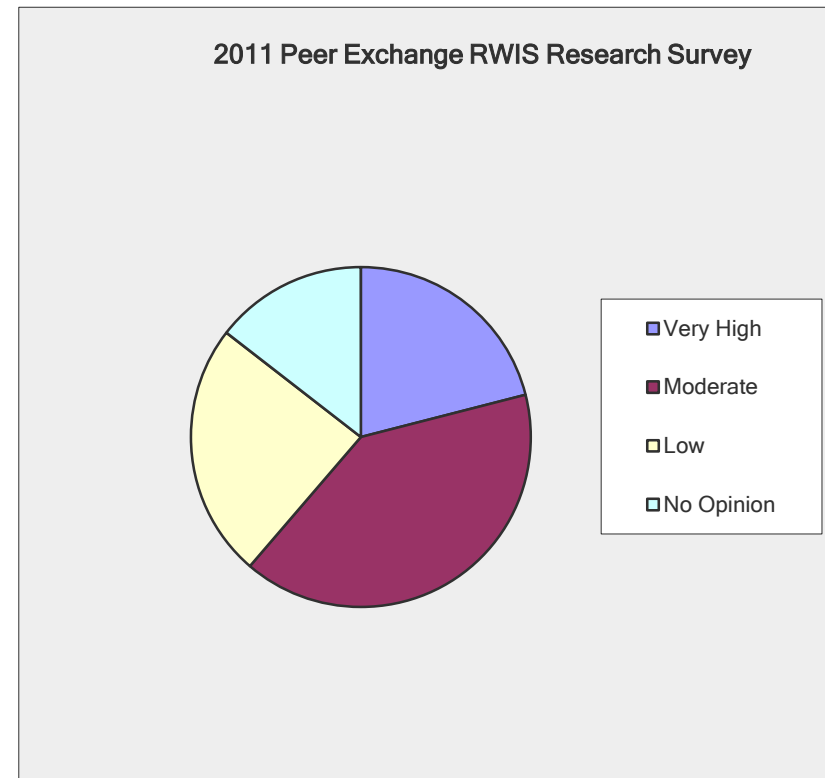
Assistance for Filing for Grant Applications - Add to National Maintenance Testing Program to include assistance to agencies looking for grants or other sources of funding for research.

Progress to Date:

This issue has been rolled into two ongoing projects, Development of a National Road Weather Testing Program (www.aurora-program.org/projectdetail.cfm?projectID=59) and Knowledge Base for RWIS (www.aurora-program.org/projectdetail.cfm?projectID=66). In addition, Aurora has funded project 2011-05, Funding Sources Identification. This project will compile potential funding sources and approaches that state DOTs might use to fund their road weather management program. This would include funding partnerships, grants, standard allocations and shared cost opportunities.

Please rate the Need of this project

Answer Options	Response Percent	Response Count
Very High	21.0%	13
Moderate	40.3%	25
Low	24.2%	15
No Opinion	14.5%	9
<i>answered question</i>		62
<i>skipped question</i>		3



2011 Peer Exchange RWIS Research Survey

Problem Description:

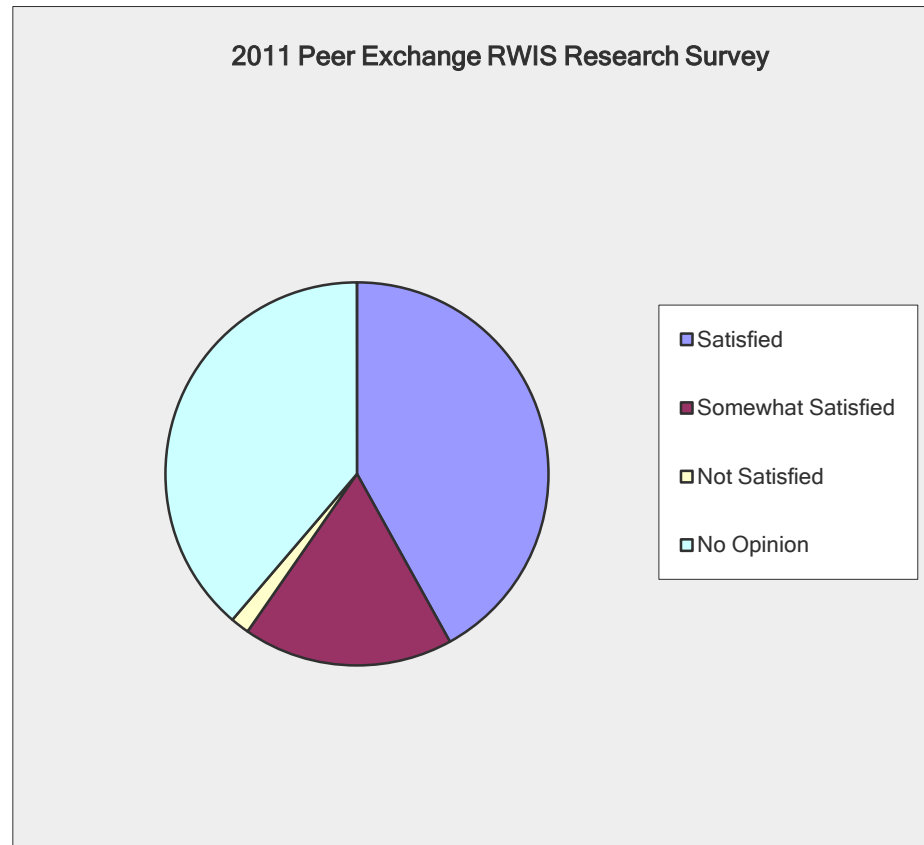
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Please rank how well the current research satisfies your agency's needs.

Answer Options	Response Percent	Response Count
Satisfied	41.9%	26
Somewhat Satisfied	17.7%	11
Not Satisfied	1.6%	1
No Opinion	38.7%	24
<i>answered question</i>		62
<i>skipped question</i>		3



2011 Peer Exchange RWIS Research Survey

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You responded that the research did not meet your agency's needs. Can you explain what the research was missing and how we can better serve the need in future research efforts?

Answer Options	Response Count
	1
<i>answered question</i>	1
<i>skipped question</i>	64

Number	Response Date	Response Text
1	Apr 11, 2011 8:17 PM	A lot more can be done with this one, including specific techniques agencies have used to leverage funding sources.

2011 Peer Exchange RWIS Research Survey

Problem Description:

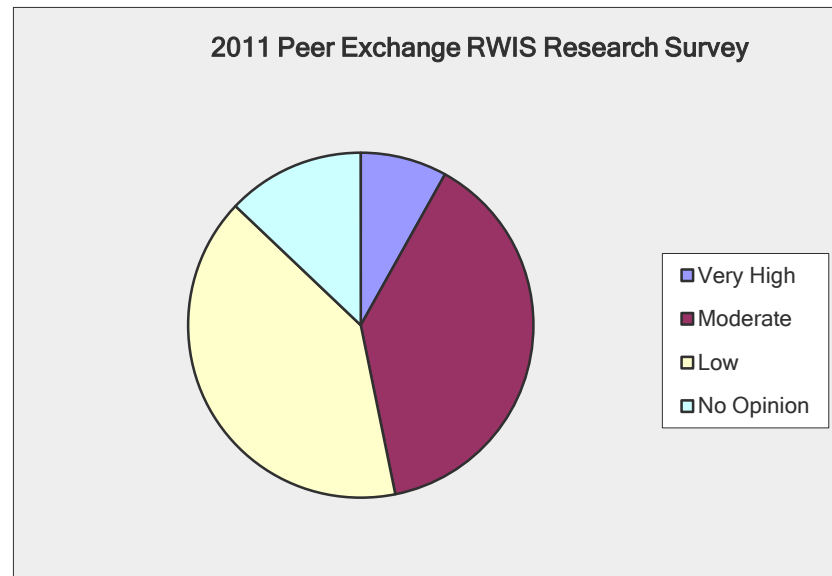
Determine the Expected Mean Time to Failure and Lifetime for Common Sensors and RPU's

Progress to Date:

This project is underway through the FY2010 program. The project team is formulating a research scope. Progress details can be found at www.aurora-program.org/projectdetail.cfm?projectID=73.

Please rate the Need of this project

Answer Options	Response Percent	Response Count
Very High	8.1%	5
Moderate	38.7%	24
Low	40.3%	25
No Opinion	12.9%	8
<i>answered question</i>		62
<i>skipped question</i>		3



2011 Peer Exchange RWIS Research Survey

Problem Description:

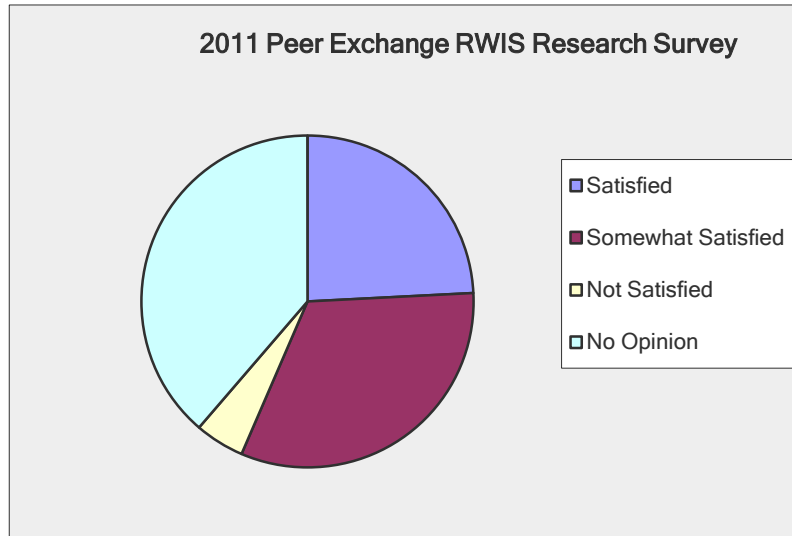
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Please rank how well the current research satisfies your agency's needs.

Answer Options	Response Percent	Response Count
Satisfied	24.2%	15
Somewhat Satisfied	32.3%	20
Not Satisfied	4.8%	3
No Opinion	38.7%	24
<i>answered question</i>		62
<i>skipped question</i>		3



2011 Peer Exchange RWIS Research Survey

Problem Description:

Determine the Expected Mean Time to Failure and Lifetime for Common Sensors and RPU's

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Answer Options	Response Count
	3
<i>answered question</i>	3
<i>skipped question</i>	62

Number	Response Date	Response Text
1	Apr 25, 2011 1:47 PM	The market for RWIS is almost a monopoly. If there were more competitors, it would be valuable, but as it is it appears primarily to be a benefit to Vaisala.
2	Apr 20, 2011 7:28 PM	I think the issue is not properly expressed. Mean time to failure does not help. We need monitoring software to tell us when failure is imminent instead. Thus each sensor is being monitored to see how it is doing. The technology to do this already exists - we just need to port it to winter maintenance.
3	Apr 11, 2011 8:18 PM	Have not got a contract yet to explore this. Would be good to get one prior to the peer. This is something AURORA has control

2011 Peer Exchange RWIS Research Survey

Problem Description:

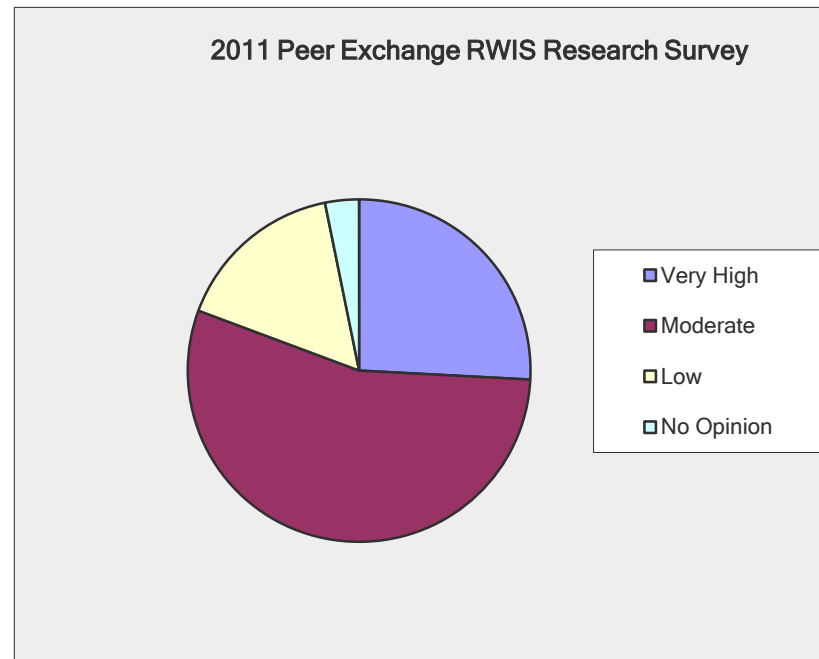
Tracking Light Precipitation - Research which sensors work best for light precipitation in terms of cost, performance, and suitability for highway use.

Progress to Date:

This project is underway. Progress details can be found at www.aurora-program.org/projectdetail.cfm?projectID=56. Aurora hired the University of North Dakota to study the accuracy and utility of a freezing drizzle sensor and algorithm that would be suitable for a RWIS station. The report will include a sensor analysis and a guide for setting up the experimental sensor. The report is expected to be finished in Summer/Fall 2011.

Please rate the Need of this project

Answer Options	Response Percent	Response Count
Very High	25.8%	16
Moderate	54.8%	34
Low	16.1%	10
No Opinion	3.2%	2
<i>answered question</i>		62
<i>skipped question</i>		3



2011 Peer Exchange RWIS Research Survey

Problem Description:

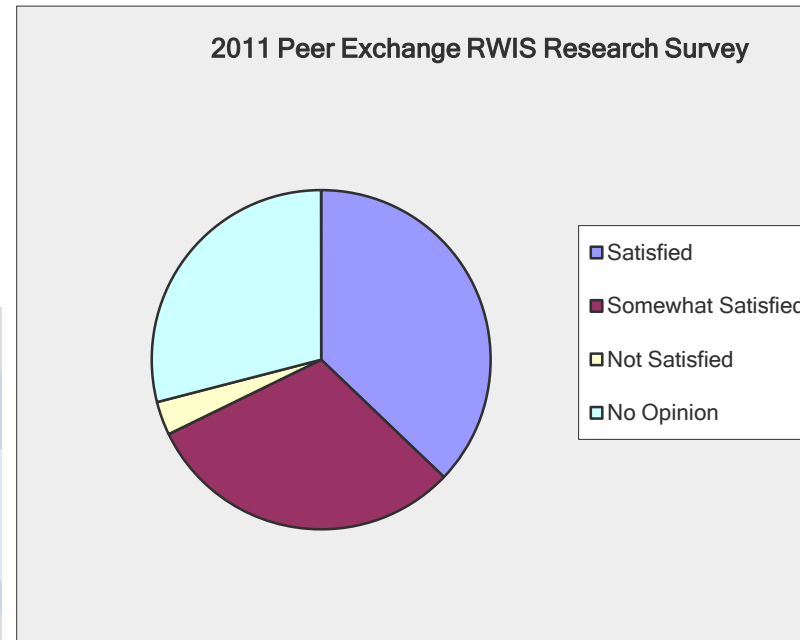
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Answer Options	Response Percent	Response Count
Satisfied	37.1%	23
Somewhat Satisfied	30.6%	19
Not Satisfied	3.2%	2
No Opinion	29.0%	18
	<i>answered question</i>	62
	<i>skipped question</i>	3





2011 Peer Exchange RWIS Research Survey

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Answer Options	Response Count
	2
<i>answered question</i>	2
<i>skipped question</i>	63

Number	Response Date	Response Text
1	Apr 27, 2011 4:53 PM	We are not interested in freezing drizzle as much as light snow. We have two issues with detecting light snow: (1) spotty radar coverage and (2) precip that forms and falls beneath radar beam.
2	Apr 25, 2011 11:59 AM	The current report does not meet the goals of this project

2011 Peer Exchange RWIS Research Survey

Do you have any unmet RWIS/Weather research needs that do not relate to any of the research needs statements mentioned here?

Answer Options	Response Count
	24
<i>answered question</i>	24
<i>skipped question</i>	41

Number	Response Date	Response Text
		- Developing a Road Weather Model for forecaster use.[]
1	Apr 28, 2011 3:01 PM	- Studying the effect that providing road weather
2	Apr 25, 2011 6:07 PM	No
3	Apr 25, 2011 3:56 PM	no
4	Apr 25, 2011 3:45 PM	Not at this time
5	Apr 25, 2011 3:26 PM	No
6	Apr 25, 2011 1:48 PM	Developing competition in the market for RWIS.
7	Apr 22, 2011 3:58 PM	No.
8	Apr 22, 2011 2:29 PM	Lake effect snows. Better forecasting and improve MDSS lake effect predictions.
9	Apr 20, 2011 8:39 PM	not at this time
10	Apr 20, 2011 8:00 PM	No
11	Apr 20, 2011 7:28 PM	Measuring road surface condition in an unambiguous way so that we can determine the performance of winter maintenance actions. Develop Level of Service based Application Anti-icing and Deicing Guidelines - Did this fall off the radar screen?
12	Apr 20, 2011 11:48 AM	Maybe....
13	Apr 19, 2011 11:00 PM	Maybe....
14	Apr 18, 2011 10:06 PM	Not that I am aware of.
15	Apr 18, 2011 11:18 AM	portable units. 1. The best way for a state to migrate to open architecture. 2. Research comparing
16	Apr 15, 2011 9:27 PM	specs and reliability of cameras.
17	Apr 15, 2011 2:49 PM	no
18	Apr 14, 2011 4:41 PM	no
19	Apr 14, 2011 4:33 PM	Not at this time

20	Apr 14, 2011 4:01 PM	Need to develop reliable and robust mobile salinity sensors to be installed on snow removal equipment to supplement the RWIS chemical sensors. Needs to be able to be an active sensor to accommodate the variations in road chemistry and other contaminants. Sampling needs to be in both inside and outside wheel tracks and be able to report results in real time.
21	Apr 12, 2011 4:44 PM	In my field experience the only issue I had with RWIS sites is false readings on if precipitation was actually present.
22	Apr 12, 2011 2:06 PM	No. Look forward to learning more of the peer exchange. It will be my first time.
23	Apr 11, 2011 8:46 PM	Would like to continue to work toward an open architecture system for RWIS. It is still challenging to get some vendors to allow others sensors to be fully functioning on their system. RWIS field maintenance strategies for long-term sustainability. We are out in the hinterlands of America, where the big RWIS players are very expensive. So far we have not cultivated any local interest. Getting ideas on how to go about this would be a start.
24	Apr 11, 2011 8:19 PM	