



Alaska Department of Transportation & Public Facilities

Implementing New Technology To Benefit Your Operations

Daniel Schacher

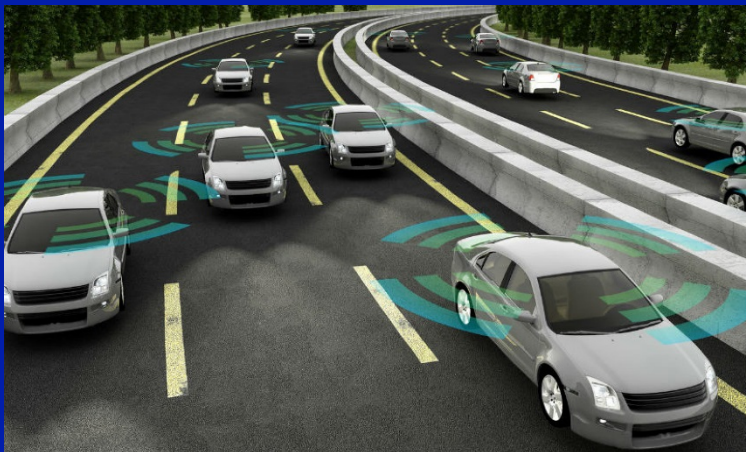
June 5, 2018

Keep Alaska Moving through service and infrastructure

Today's Discussion

- Organizational culture
- Personal experiences/results
- Implementation challenges
- Strategies for success

Technology is Evolving at a Rapid Pace!



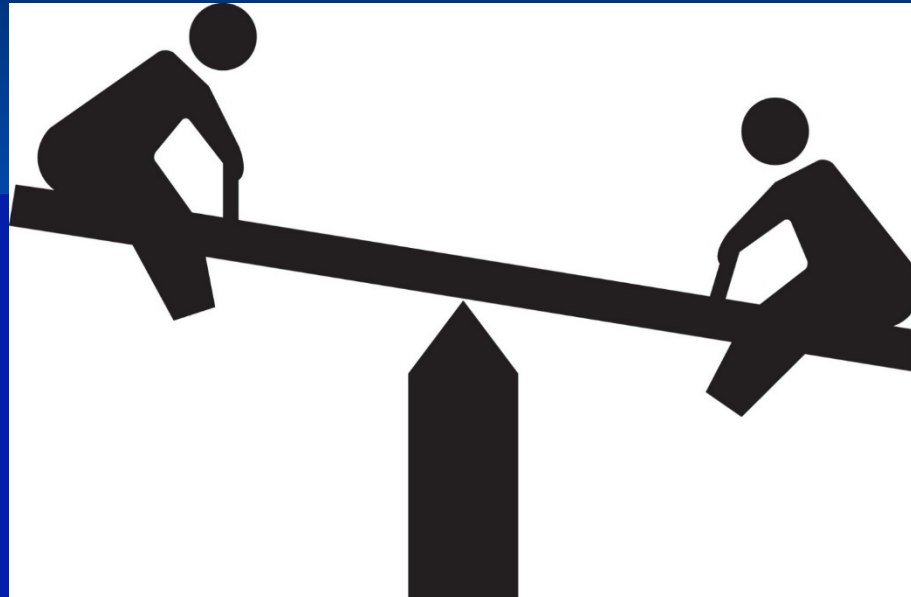
Including our Equipment



How do we Innovate?

IF YOU WANT TO
CHANGE
YOU HAVE TO BE
WILLING
TO BE
UNCOMFORTABLE

We are all “Unique”

















Afraid of Risks/Failure
Lack of Support
Budget Constraints
“Always done it this way”

Your
Agency

Continual Improvement
Safety Gains
Increasing Expectations
Not Afraid –Risks/Failure

Workplace Culture

- You are unique
- What is your current culture?
- What environment are you striving for?
- Implementation can be a slow process

Talking a different language					
Formative experiences	Maturists (pre-1945) Wartime rationing Rock'n'roll Nuclear families Defined gender roles - particularly for women 	Baby boomers (1945-1960) Cold War 'Swinging Sixties' Moon landings Youth culture Woodstock Family-orientated 	Generation X (1961-1980) Fall of Berlin Wall Reagan/Gorbachev/ Thatcherism Live Aid Early mobile technology Divorce rate rises 	Generation Y (1981-1995) 9/11 terrorists attacks Social media Invasion of Iraq Reality TV Google Earth 	Generation Z (Born after 1995) Economic downturn Global warming Mobile devices Cloud computing Wiki-leaks 
Percentage in UK workforce	3%	33%	35%	29%	Employed in either part-time jobs or apprenticeships
Attitude toward career	Jobs for life 	Organisational - careers are defined by employees	"Portfolio" careers - loyal to profession, not to employer	Digital entrepreneurs - work "with" organisations	Multitaskers - will move seamlessly between organisations and "pop-up" businesses
Signature product	Automobile 	Television 	Personal computer 	Tablet/smartphone 	Google glass, 3-D printing
Communication media	Formal letter 	Telephone 	E-mail and text message 	Text or social media 	Hand-held communication devices
Preference when making financial decisions	Face-to-face meetings	Face-to-face ideally but increasingly will go online	Online - would prefer face-to-face if time permitting	Face-to-face	Solutions will be digitally crowd-sourced

Organizations

- We are all somewhat “different”
- Successes and failures
- It took us a long time to get here
- Learned along the way from others
- Had commitment from the “top”
- Culture of continual improvement

We all have “Choices”

John



Pete



Customers Demand We Adapt



Events Demand We Adapt



Employee Resistance

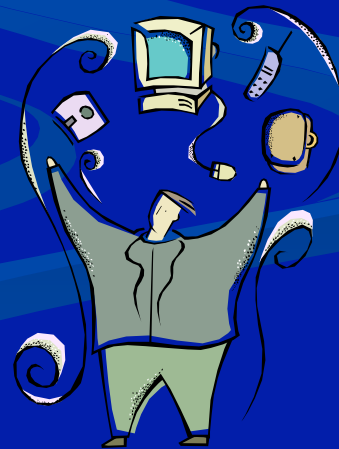
- Lack of awareness of the need for change
- Impact on current job role
- Organizations past performance with change
- Lack of visible support and commitment from managers
- Fear of job loss



Manager Resistance

- Lack of awareness of the need for change
- Loss of control or negative impact on job role
- Increased workload and lack of time
- Culture of change resistance and past failures

"Prosci's 2012 Edition Best Practices in Change Management Benchmarking Report



“Choices - Pete”

- Always done it this way
- Not open to new ideas
- Lives within their borders
- Afraid of failure/risks
- In a “top down” organization



“Choices – John”

- Culture of continual improvement
- Innovative
- Team environment
- Not afraid of risk/failure
- Networking - learn from others



“Pete” Experiences

Wing plows – “dumb idea”

Move to straight salt

Anti-icing

AVL

Ice storm management

Budget/ Staffing Challenges

New Equipment Procurement

Training



“John” Experiences

Hiring of staff

Training initiatives

Everyday Lean Ideas program

Team approach – delegation

Tow Plows

Managing of Resources

Providing Input

Ownership



Some Current Trends

- Team-building basics implemented
- Formation of employee committees
- Employee input – almost a necessity
- New equipment/practices - hard for some to accept
- Technology evolving so rapidly we can't keep pace

"When the pain of what we are going through becomes greater than the fear of change... we change." - Garrison Wynn

We Will Face Challenges



So We Must Innovate



Buy-In/Ownership

- Get employees engaged
- Encourage them to be involved
- Communication is critical
- Think you know it all?
- Make some things “their” idea



Weather Tools

Station Summary | Station Wall | **Stations** | Forecast | Alerts | Reports | Admin

Stown Parkway @ 22nd Street (Show station on map)

Station Overview | Graph | Camera History | History Table

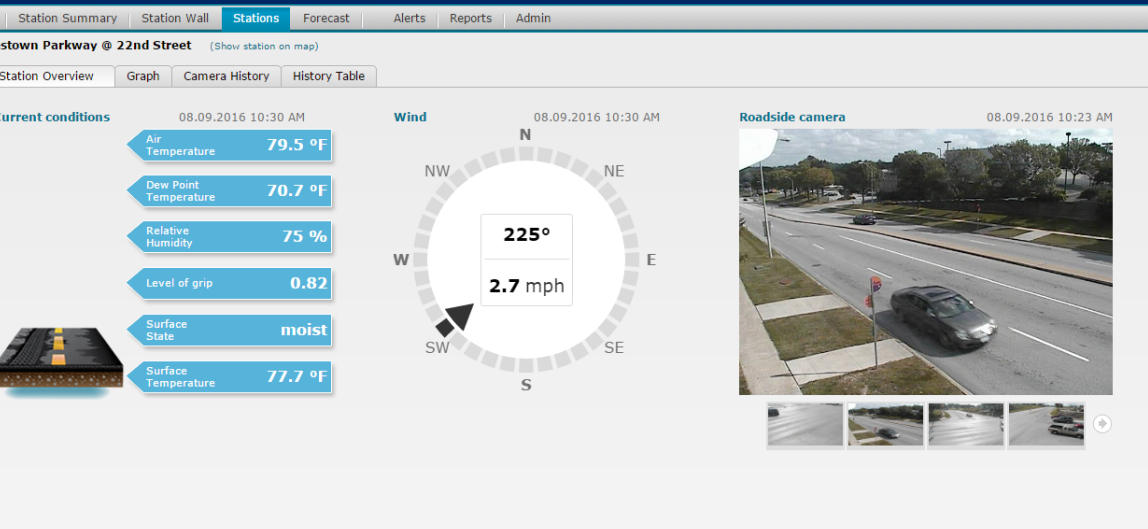
Current conditions 08.09.2016 10:30 AM

- Air Temperature **79.5 °F**
- Dew Point Temperature **70.7 °F**
- Relative Humidity **75 %**
- Level of grip **0.82**
- Surface State **moist**
- Surface Temperature **77.7 °F**

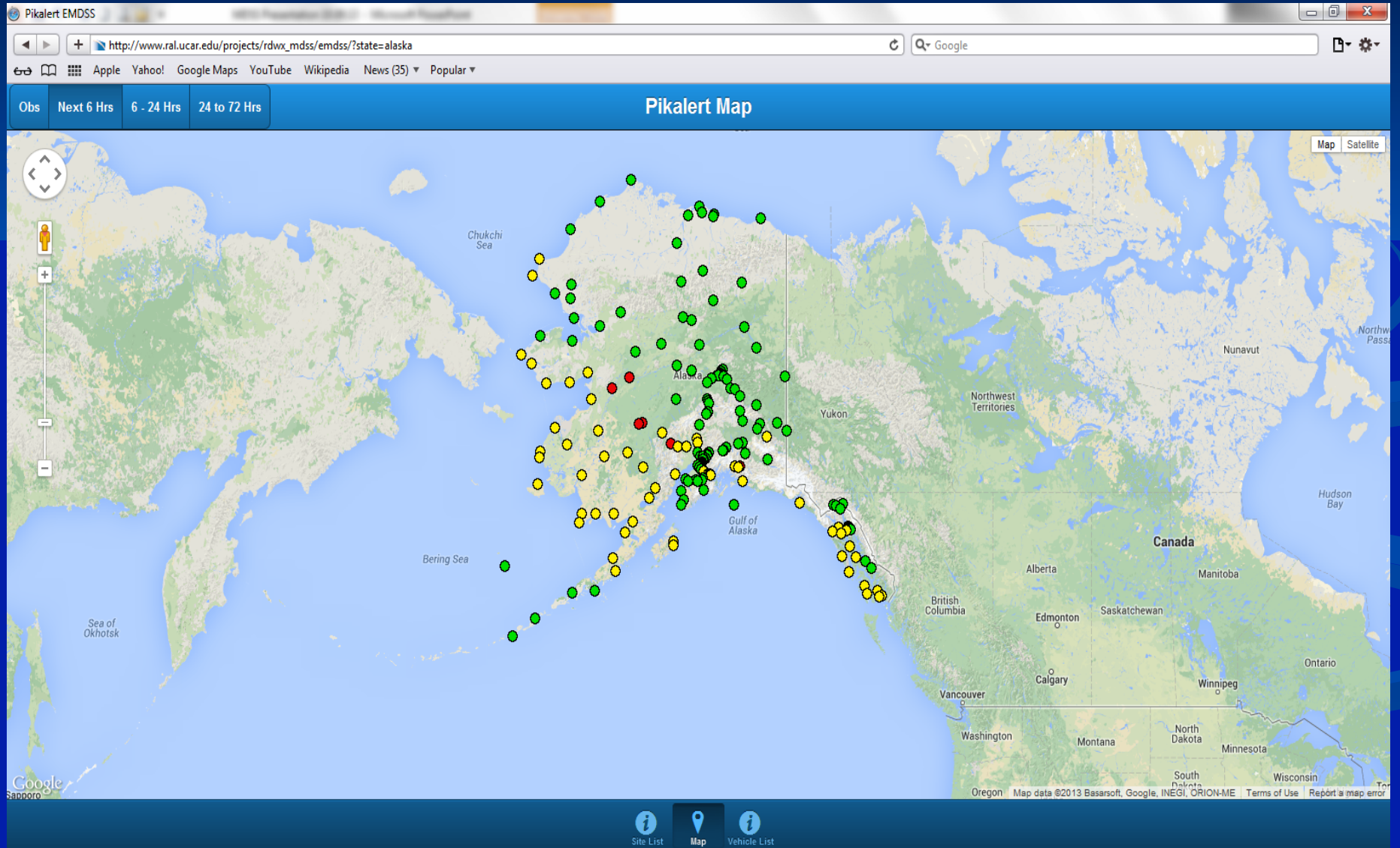
Wind 08.09.2016 10:30 AM

225°
2.7 mph

Roadside camera 08.09.2016 10:23 AM



EMDSS- Alaska



Wait a Minute!

Too expensive for smaller agencies

We could have stopped there!

Worked out a lease program

What about a regional approach?

Could have been a “missed opportunity”

Traffic Cameras

Jordan Creek and EP True 2013-02-26 14:15:13



1st and Grand 01/17/2012 08:24:36 AM



NEW GENERATION AVL

11/20/2015 00:00 → 11/21/2015 00:00 US/Central | Vehicles: 17 | Drivers: 0

Home & Resources

Annual date entry
Time Zone
MT-5:00 US: Central
Start date (MM/DD/YYYY)
Low: 20/2015 00:00:00
End date (MM/DD/YYYY)
Low: 21/2015 00:00:00

Dashboards
Advanced Reporting
Reporting
Mapping
Administration
Device Management
Preferences

Mapping

Search Result

Name	Last Update	Land
331A	2015-11-20 07:55...	Shop
331A	2015-11-20 07:55...	Shop
331A	2015-11-20 07:56...	Shop
331A	2015-11-20 07:56...	Shop

History Data Player

2015-11-20 16:20:50 (M41380)

IN 4 Solid Road Air Te... Solid Anti- Street

Playback Speed 1 (fast)





How Alaska outsmarts Mother Nature in the cloud

Alaskans are notoriously resilient people, and they don't want to be sidelined by the weather. To keep Alaska's highways open and safe during severe winter weather, the Alaska Department of Transportation & Public Facilities uses the Fathym WeatherCloud solution and Microsoft Azure IoT technologies to make better, hyper-local decisions about deploying road crews. By using the cloud to make better ground-level decisions, Alaska saves lives and significantly reduces road maintenance costs.



Products and Services

Microsoft Azure
Azure Data Lake Store
Azure Event Hubs
Azure IoT Hub
Azure Stream Analytics

Organization Size

3,100 Employees

Industry

Government

Country

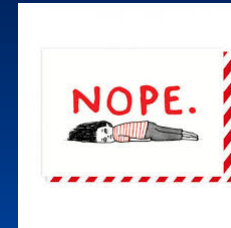
United States

Partner

Fathym



Is Everything Going To Be Successful?



What Does It Take to Implement? Team Work At All Levels

- Effective communications
- Pilot projects
- Pro-active approach
- Motivate your staff
- TRAINING



Being a “Leader” of the Future

- Empower all levels of your organization
- *Allow mistakes without overall failure*
- Find ways to reward innovators
- Encourage your staff to get involved
- Small steps will lead to great strides!

Our Approaches

Train/Educate

Analyze/Implement Technology

Provide the Tools

Allow People to Fail



Snowplow Safety in Fairbanks

Fairbanks Maintenance & Operations Superintendent Dan Schacher walks us through the basics of snowplow safety.

Who do you want to be?

“John”

or

“Pete”



Questions?



THANK YOU!

Daniel Schacher
District Superintendent - Fairbanks
Fairbanks, AK
daniel.schacher@alaska.gov

