



# Safe and Sustainable Snowfighting



# Agenda

What do we mean by sustainable?

What methods make winter maintenance operations safe and sustainable?

How can we share these methods?



## Defining Sustainability

In technical terms it means balancing three  
sets of factors:

Economic, societal, and environmental

BUT

The determination of the factors and their  
relative importance should be guided by  
stakeholders

## Suitable Levels of Service

Very location specific – what works in Illinois would not work in Georgia!

Road type specific – residential streets should not receive the same efforts as Interstates

Possibly time of day specific – major commuter routes should have higher priority in the few hours leading up to rush hour...



# WORLD SALT SYMPOSIUM

June 19-21, 2018

Park City UT, USA



## A Goal Statement?

Achieve our desired level of service in a timely manner, with an appropriate use of resources and materials, taking into account the severity of the storm conditions that we are facing...



## Let's Remember the Reason Why

1,300 killed, 116,800 injured annually on  
snowy, slushy, or icy pavements

544 million vehicle hours of delay due to snow  
and ice annually, about a quarter of all non-  
recurrent delays

A one day major snowstorm can cost a state  
between \$300 and \$700 million in direct and  
indirect losses

Good use of road salt reduces crashes by  
88%, injuries by 85% and accident costs by 85%





# Safe and **Sustainable** Snowfighting

Snowfighter's Handbook



# Safe and *Sustainable* Snowfighting



A W A R D   A P P L I C A T I O N

# Safe and *Sustainable* Snowfighting



S A L T   I N S T I T U T E



<b>Levels of Safety and Service</b>	<b>Yes</b>	<b>No</b>	<b>Score</b>
Are all roads within an agency's area of responsibility assigned a level of safety and service?			
Are the different levels of safety and service clearly identified?			
Can agency personnel easily determine whether and when a given stretch of road has achieved its desired level of safety and service?			
Has the community served by the agency been involved in the process of determining levels of safety and service for roads serviced by the agency?			
Does a plan exist to evaluate levels of safety and service on agency roads on a regular basis?			
Is the level of safety and service of a given road segment determined by including factors such as AADT, peak hour traffic, access for emergency services, school hours and bus routes, and other similar factors?			
Have road segments that are in particularly environmentally sensitive areas been clearly identified, and assigned a level of safety and service accordingly?			
In the last two years, has your agency been free from lawsuits resulting from personal injury or property damage as it relates to improper winter maintenance?			
<b>Maximum Total Points for Level of Safety and Service</b>	<b>8</b>		
<b>Your Agency's Score for Level of Safety and Service</b>			



## Conclusions

Sustainability requires balancing economic, societal, and environmental concerns

Every community must achieve this balance in their own way to be sustainable

Tools are available to allow agencies to track their winter maintenance operations within a sustainability context