

Road-Weather Conditions Tuned to Correspond with:

Standard Treatment Prescriptions (FHWA Rules of Practice) & Snow and Ice Cooperative Program (SICOP) Training Guidance

Table 8. Weather event: light snow storm.

PAVEMENT TEMPERATURE RANGE, AND TREND	INITIAL OPERATION				SUBSEQUENT OPERATIONS			COMMENTS
	pavement surface at time of initial operation	maintenance action	dry chemical spread rate, kg/lane-km (lb/lane-mi)		maintenance action	dry chemical spread rate, kg/lane-km (lb/lane-mi)		
			liquid	solid or pretreated solid		liquid	solid or pretreated solid	
Above 0°C (32°F), steady or rising	Dry, wet, slush, or light snow cover	None, see comments			None, see comments			1) Monitor pavement temperature closely for drops toward 0°C (32°F) and below 2) Treat icy patches if needed with chemical at 28 kg/lane-km (100 lb/lane-mi); plow if needed
Above 0°C (32°F), 0°C (32°F) or below is imminent; ALSO -7 to 0°C (20 to 32°F), remaining in range	Dry Wet, slush, or light snow cover	Apply liquid or pretreated solid chemical Apply liquid or solid chemical	28 (100)	28 (100)	Plow as needed; resapply liquid or solid chemical when needed	28 (100)	28 (100)	1) Applications will need to be more frequent at lower temperatures and higher snowfall rates 2) It is not advisable to apply a liquid chemical at the indicated spread rate when the pavement temperature drops below -5°C (23°F) 3) Do not apply liquid chemical onto heavy snow accumulation or packed snow
-10 to -7°C (15 to 20°F), remaining in range	Dry, wet, slush, or light snow cover	Apply pretreated solid chemical		55 (200)	Plow as needed; resapply pretreated solid chemical when needed		55 (200)	If sufficient moisture is present, solid chemical without pretreating can be applied
Below -10°C (15°F), steady or falling	Dry or light snow cover	Plow as needed			Plow as needed			1) It is not recommended that chemicals be applied in this temperature range 2) Abrasives can be applied to enhance traction

Notes

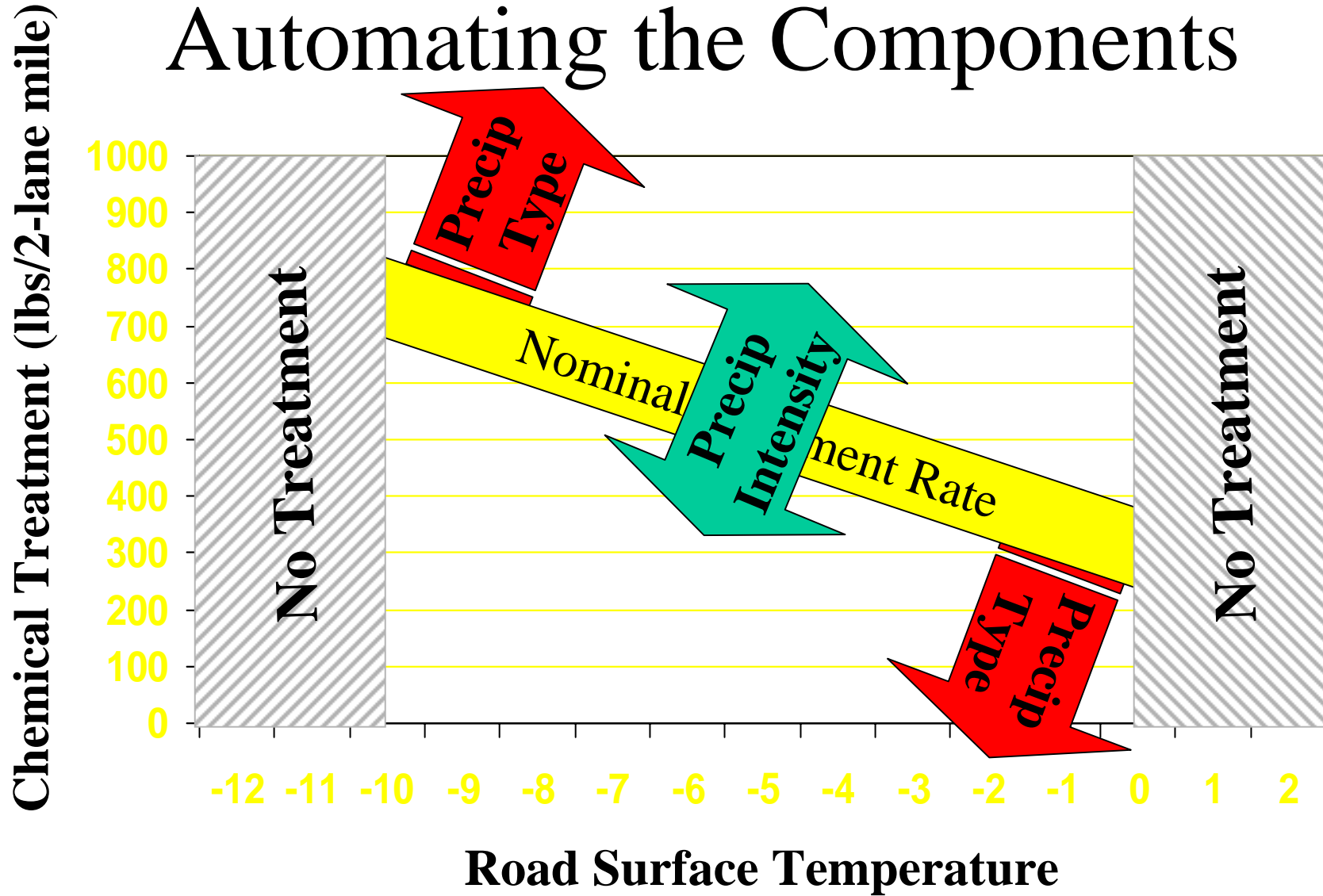
CHEMICAL APPLICATIONS. (1) Time initial and subsequent chemical applications to prevent deteriorating conditions or development of packed and bonded snow. (2) Apply chemical ahead of traffic rush periods occurring during storm.

PLOWING. If needed, plow before chemical applications so that excess snow, slush, or ice is removed and pavement is wet, slushy, or lightly snow covered when treated.

Automating Recommended Practices

- Challenge to integrate with dynamic forecasts
- Allow local tuning that fits within rules of practice
- Make system “flexible” for future development
- Examining existing automated snow maintenance recommendation algorithms:
 - Canadian implementation of FHWA “rules”
 - Swedish fuzzy logic based system

Automating the Components



Integrating Forecasts to Optimize Treatment

