A comprehensive maintenance plan for infrastructure at Nea Odos

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2016 Pinios

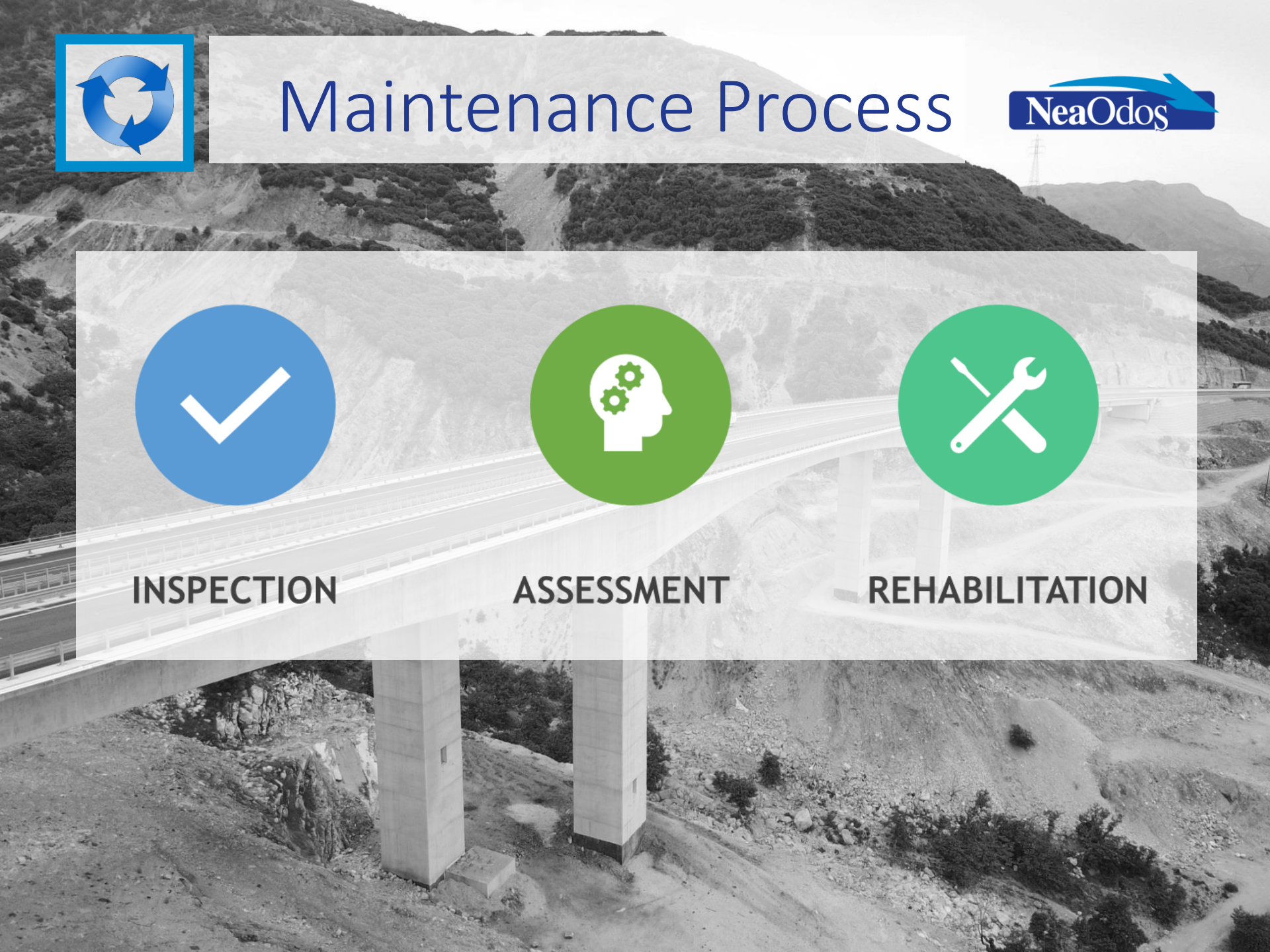
2017 Kompsatos

Lessons learned (?)

2018 Kavala

2019

Maintenance Process



Frequent optical inspections

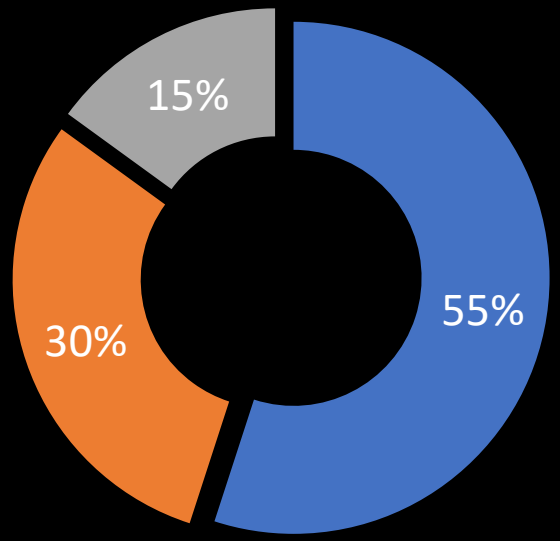
Sufficiency Rating = $S_1 + S_2 + S_3 - S_4$

$S_1 = 55 - (A + I)$

$S_2 = 30 - [A + B + C + D + E + F - (G + H) + I]$

$S_3 = 15 - (P + M)$

$S_4 = R + S + T$



S1: Structural Adequace 55%

S2: Servicability 30%

S3: Essentiality for Public 15%

S4: Special Reduction

A real exar

3.3.1.3—Element 105—Reinforced Concrete Closed Web/Box Girder 2015 Revision

Description: All reinforced concrete box girders or closed web girders. For all box girders regardless of protective system.

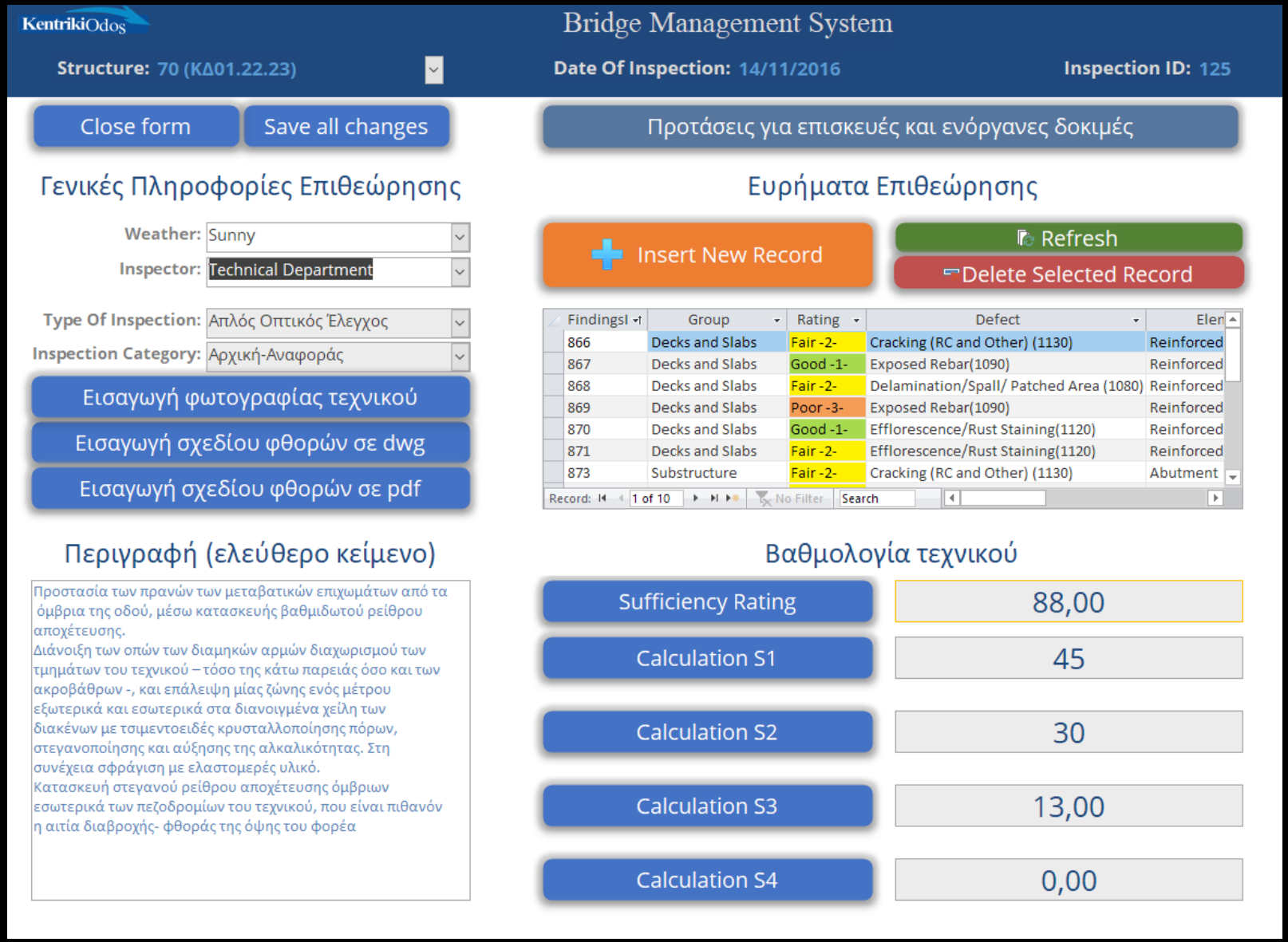
Classification: NBE **Units of Measurement**: ft

Quantity Calculation: Number of girders multiplied by the span length.

Condition State Definitions

Defects	Condition States			
	1	2	3	4
	GOOD	FAIR	POOR	SEVERE
Delamination/Spall/ Patched Area (1080)	None.	Delaminated. Spall 1 in. or less deep or 6 in. or less in diameter. Patched area that is sound.	Spall greater than 1 in. deep or greater than 6 in. diameter. Patched area that is unsound or showing distress. Does not warrant structural review.	The condition warrants a structural review to determine the effect on strength or serviceability of the element or bridge; OR a structural review has been completed and the defects impact strength or serviceability of the element or bridge.
Exposed Rebar (1090)	None.	Present without measurable section	Present with measurable section loss but does not warrant structural review.	
Efflorescence/Rust Staining (1120)	None.	Surface white without build-up or leaching without rust staining.	Heavy build-up with rust staining.	
Cracking (RC and Other) (1130)	Width less than 0.012 in. or spacing greater than 3.0 ft.	Width 0.012–0.05 in. or spacing of 1.0–3.0 ft.	Width greater than 0.05 in. or spacing of less than 1 ft.	
Damage (7000)	Not applicable.	The element has impact damage. The specific damage caused by the impact has been captured in Condition State 2 under the appropriate material defect entry.	The element has impact damage. The specific damage caused by the impact has been captured in Condition State 3 under the appropriate material defect entry.	The element has impact damage. The specific damage caused by the impact has been captured in Condition State 4 under the appropriate material defect entry.

Assessment > Database



Heavy Maintenance > Repairing

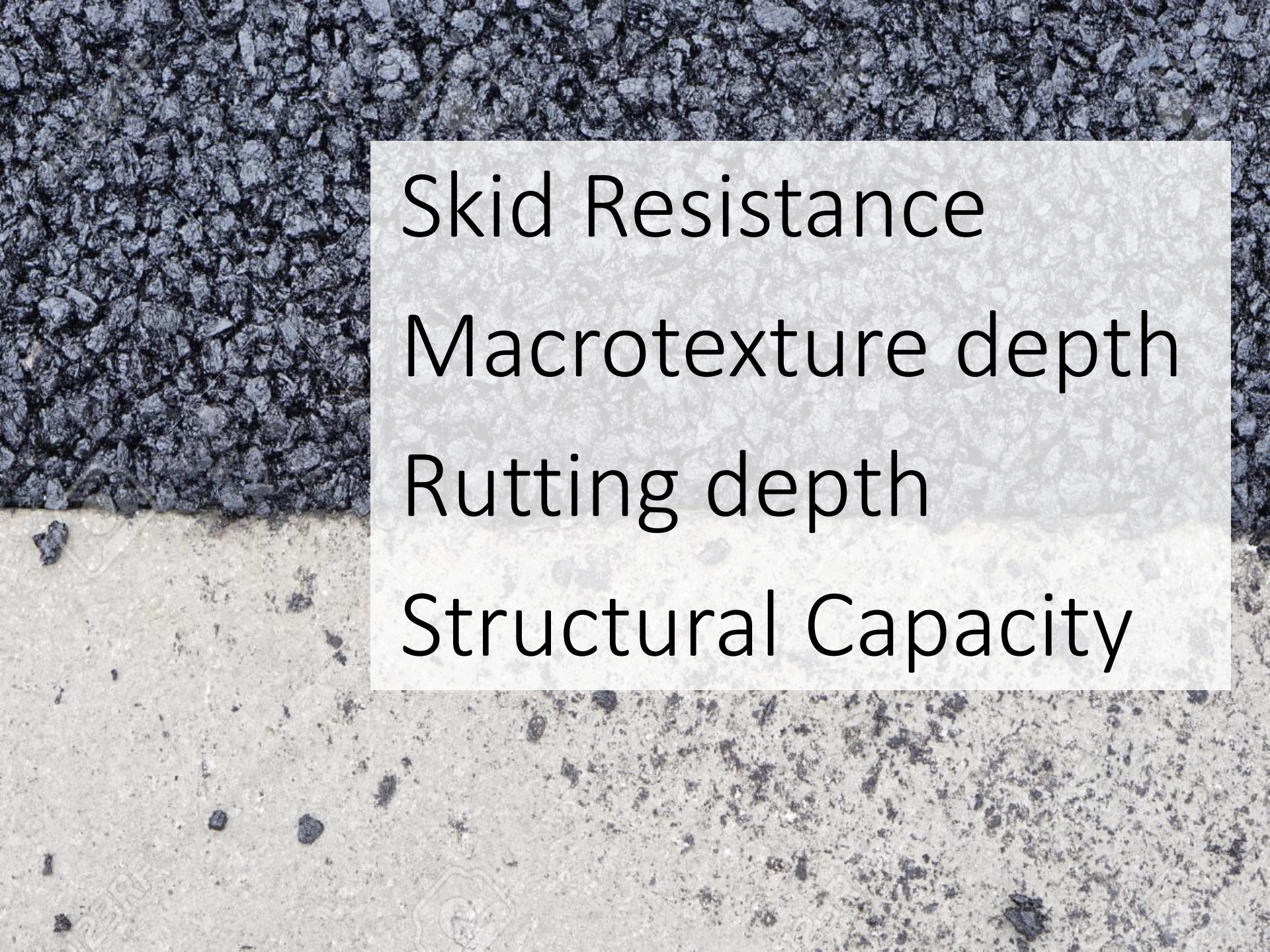

S.R. = A x B x C
Drone
inspections

Systematic instrument monitoring – visual inspection								
Month from monitoring commencement	Instrumental monitoring			Visual inspection				
	A	B	C	A	B	C	D	E
1	√	√	√	*	*	*		
3	√							
6	√	√		√			√	
12	√	√	√	√	√			
18	√							
24	√	√	√	√	√	√	√	√
36	√	√		√				
48	√			√	√			
60	√	√	√	√		√	√	

S.

S.R. 100-1.000: Moderate Risk

S.R. > 1.000: High Risk


Skid Resistance
Macrotexture depth
Rutting depth
Structural Capacity

A comprehensive maintenance plan for infrastructure

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