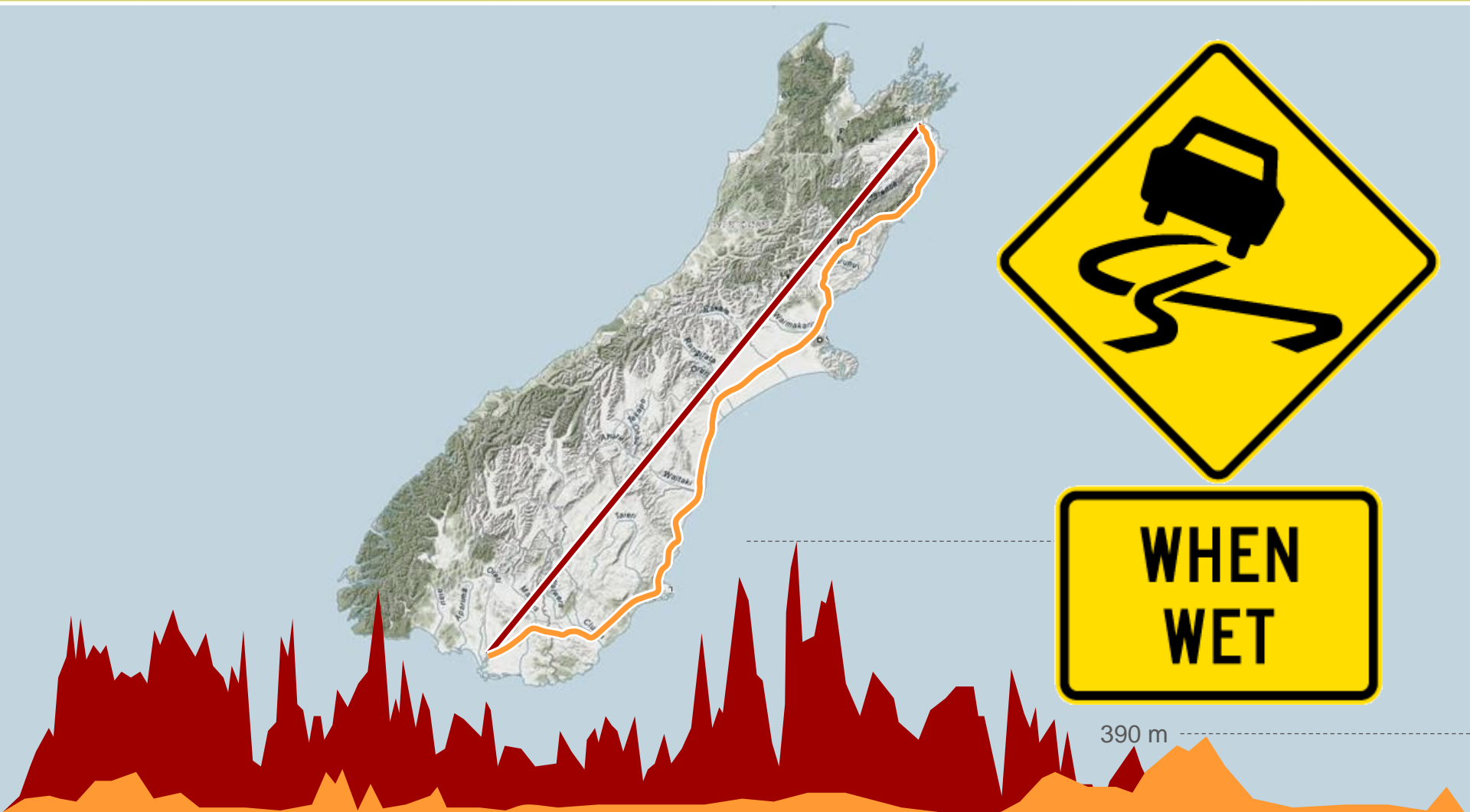


State highway curve crashes and skid resistance

Peter Cenek
Robert Henderson
John Donbavand (NZ Transport Agency)
Tiffany Lester (presenter)

Curves



390 m

Skid resistance

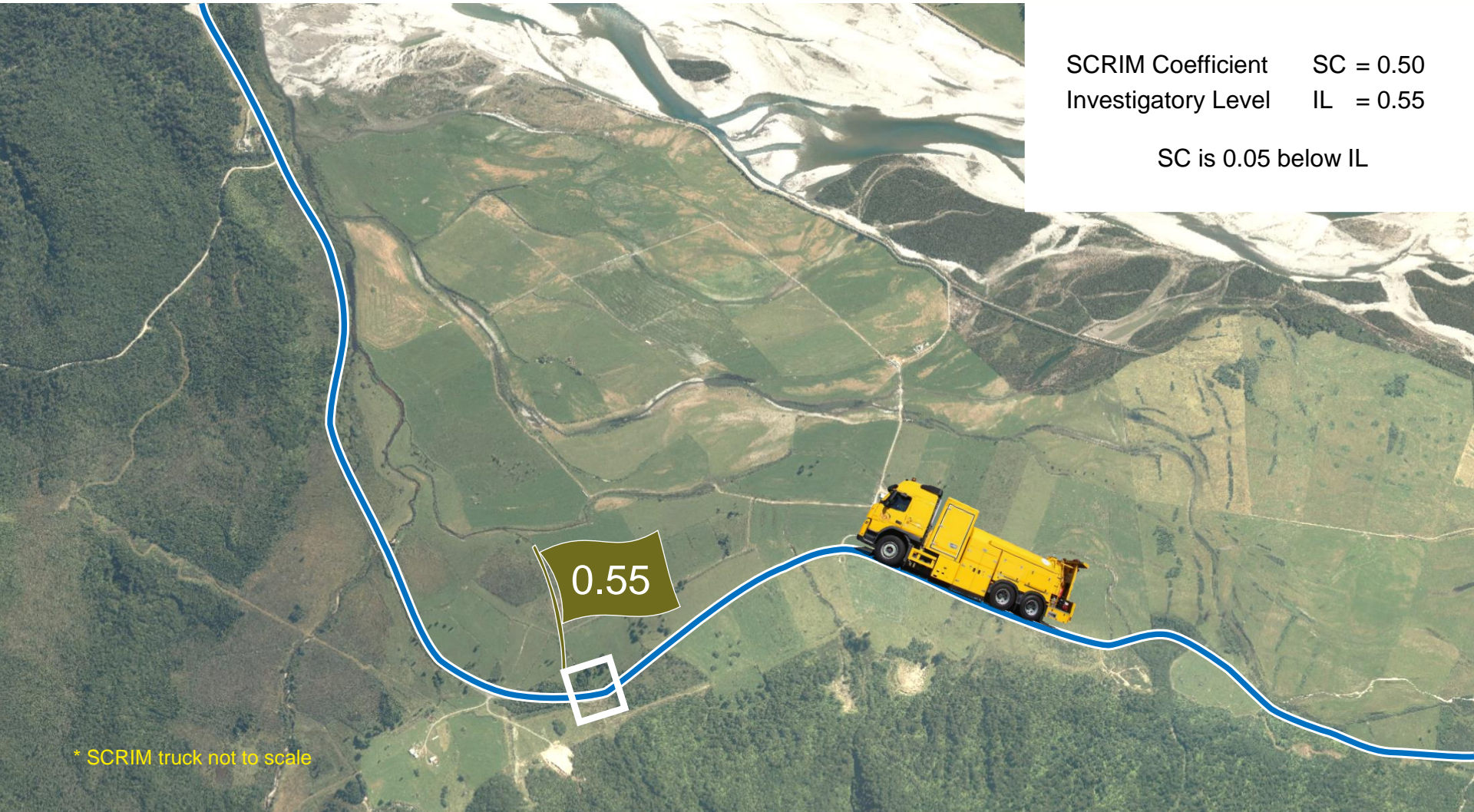
Adapted from Table 1. Skid resistance investigatory levels from NZTA T10: 2013

Skid site description	Investigatory Level (IL), units SC					
	0.35	0.40	0.45	0.50	0.55	0.60
1 Approaches to: a) Railway level crossings b) Traffic signals c) Pedestrian crossings d) Stop and Give Way controlled intersections (for state highway traffic) e) Roundabouts One lane bridges: a) Approaches and bridge deck						
2 a) Urban curves <250 m radius						
b) Rural curves < 250 m radius			L	M	H	
c) Rural curves 250 - 400 m radius		L	L	M	H	
a) Down gradients > 10 % b) On ramps with ramp metering						
3 a) State highway approach to a local road junction b) Down gradients 5 – 10 % c) Motorway junction area including on/off ramps d) Roundabouts, circular section only						
4 Undivided carriageway (event-free)						
5 Divided carriageway (event-free)						

Skid Resistance



Skid resistance

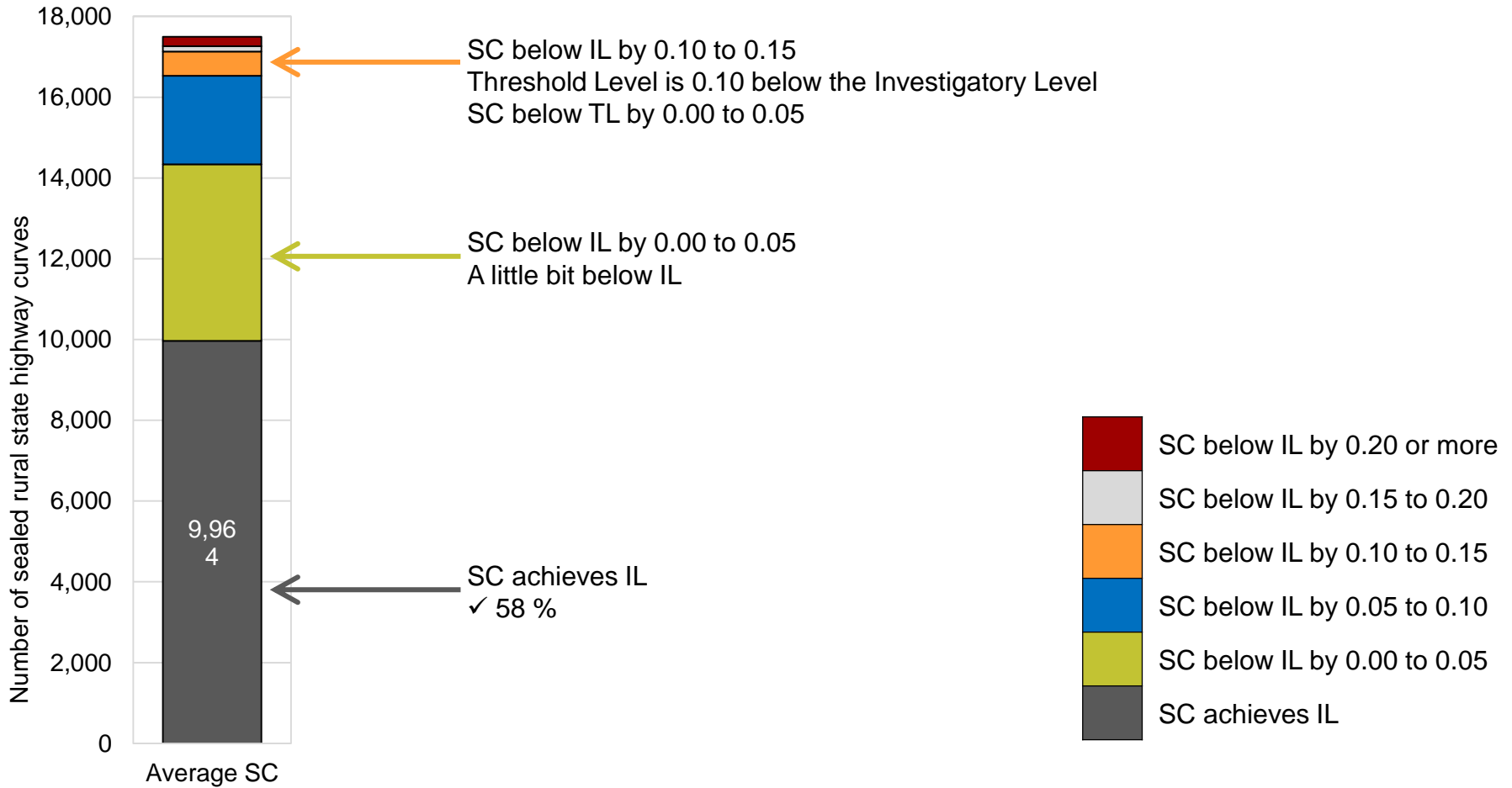


SCRIM Coefficient SC = 0.50
 Investigatory Level IL = 0.55

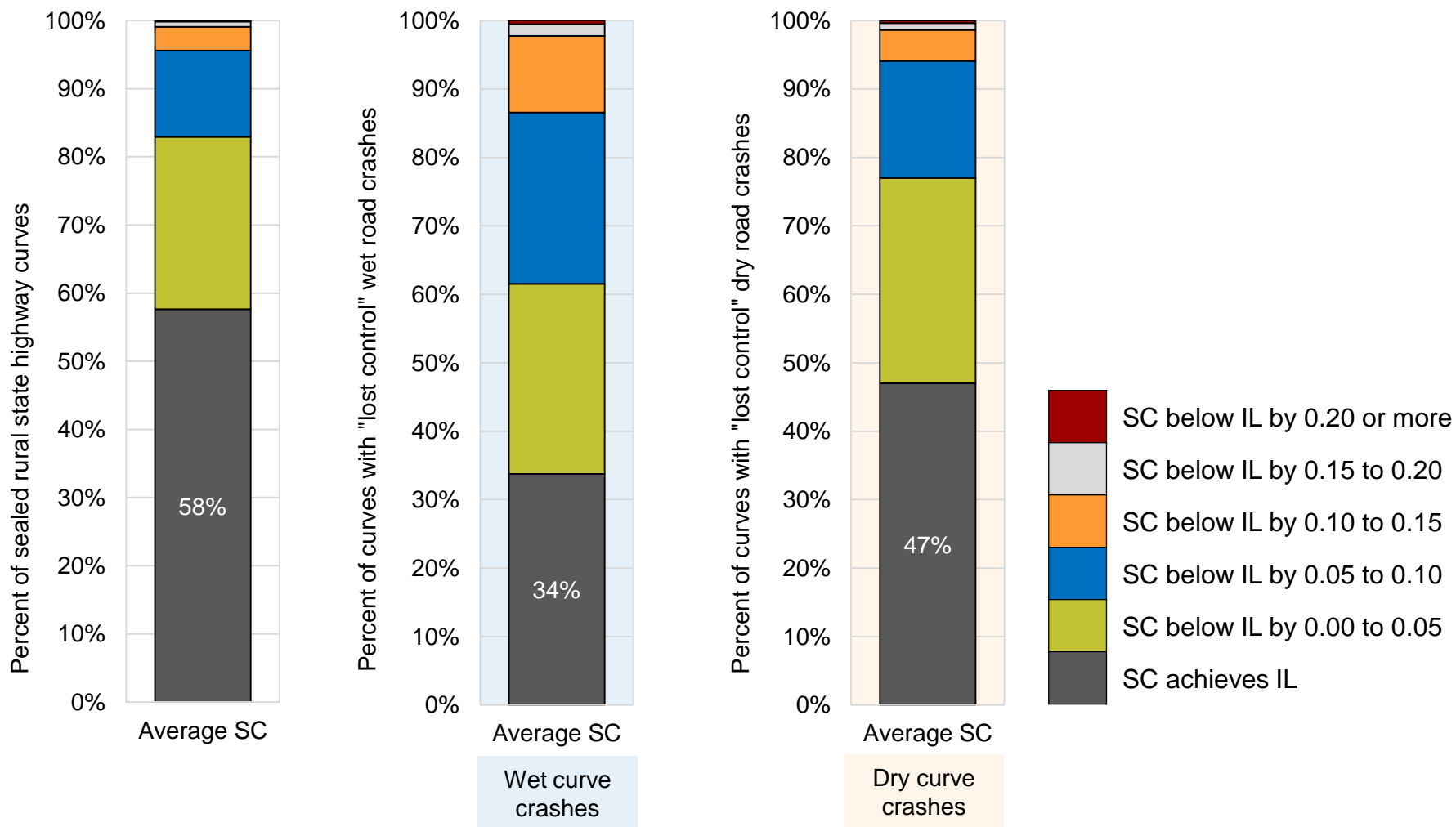
SC is 0.05 below IL

* SCRIM truck not to scale

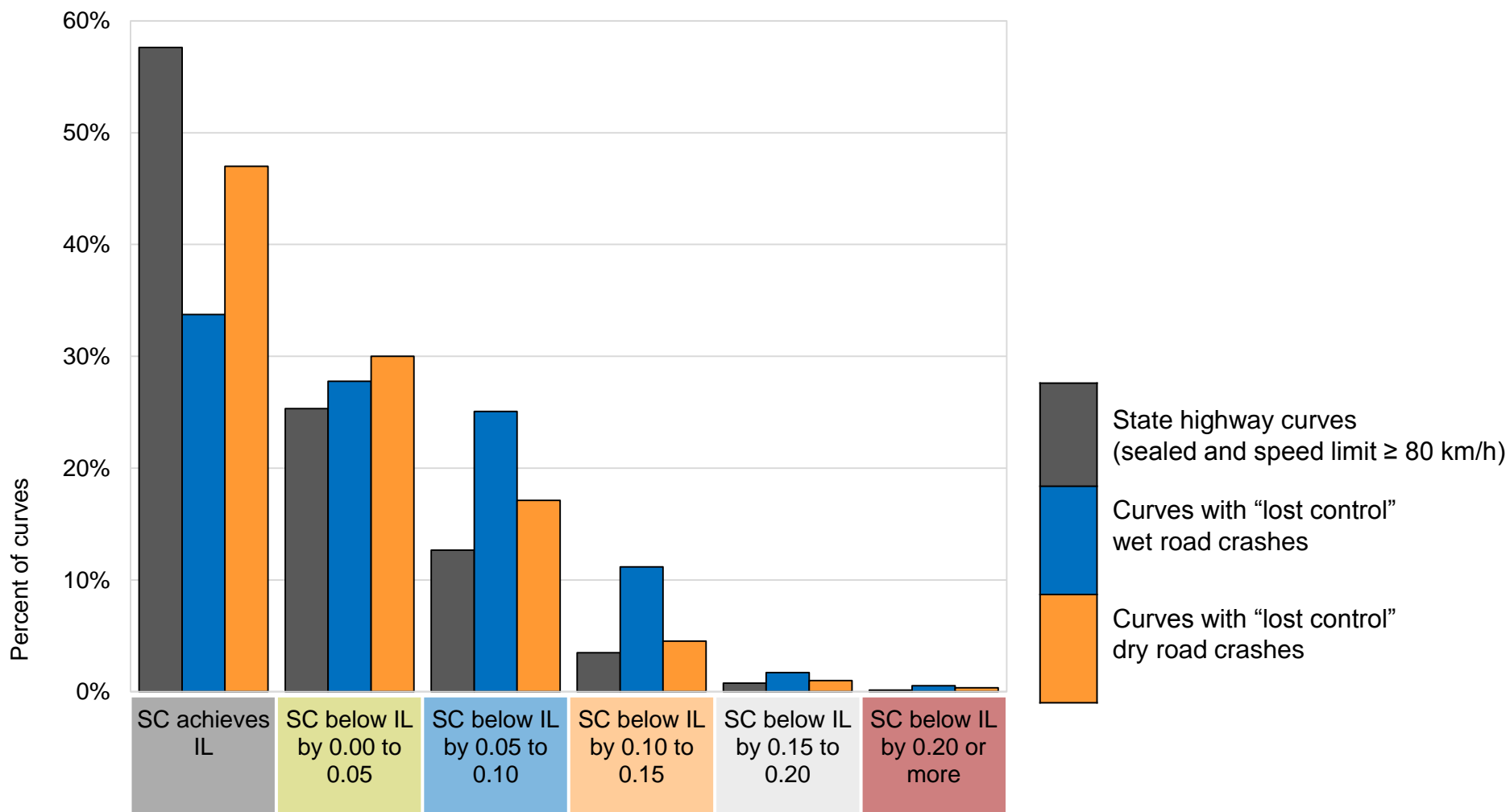
State highway curves and skid resistance



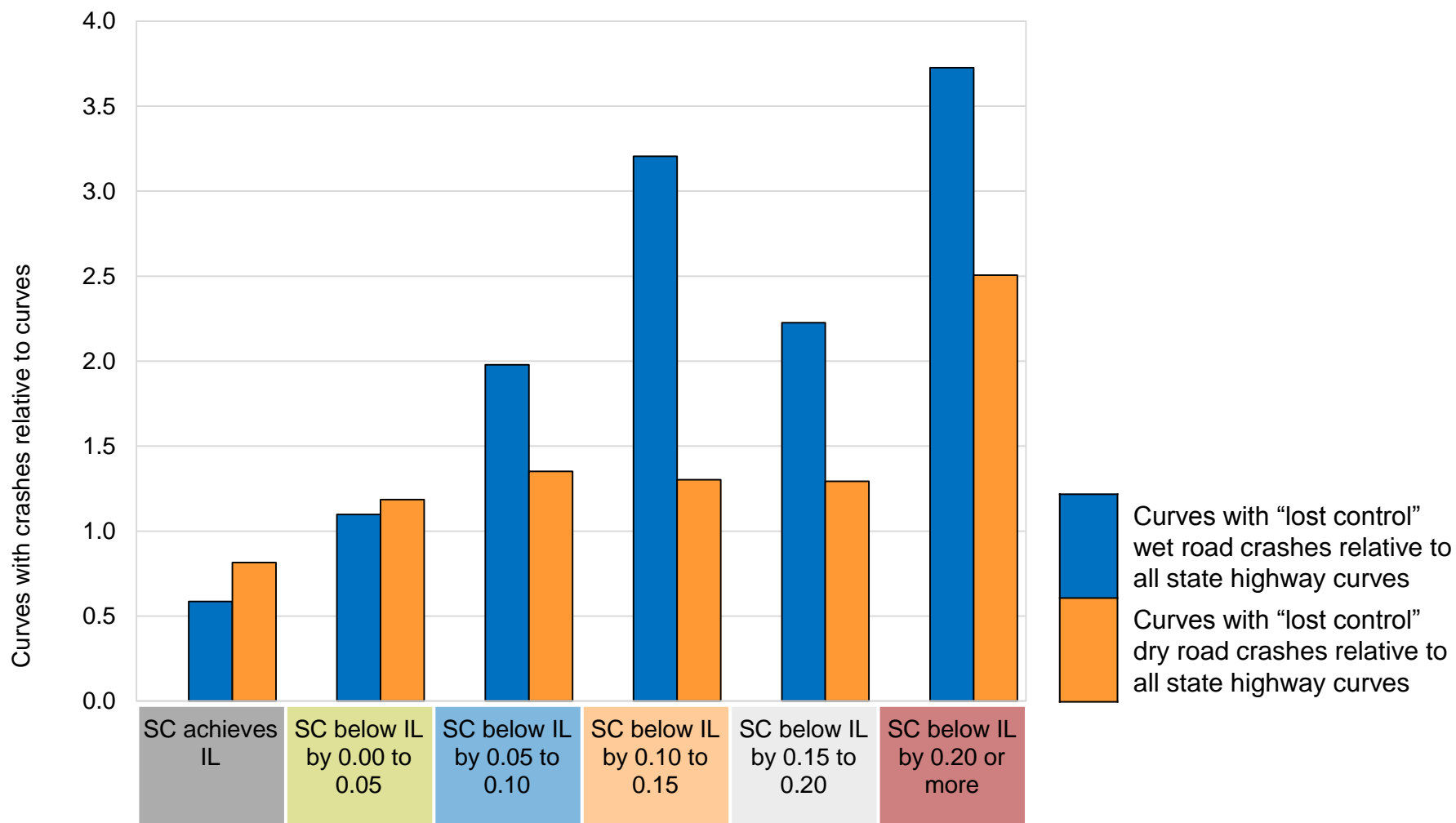
Curves with crashes and skid resistance



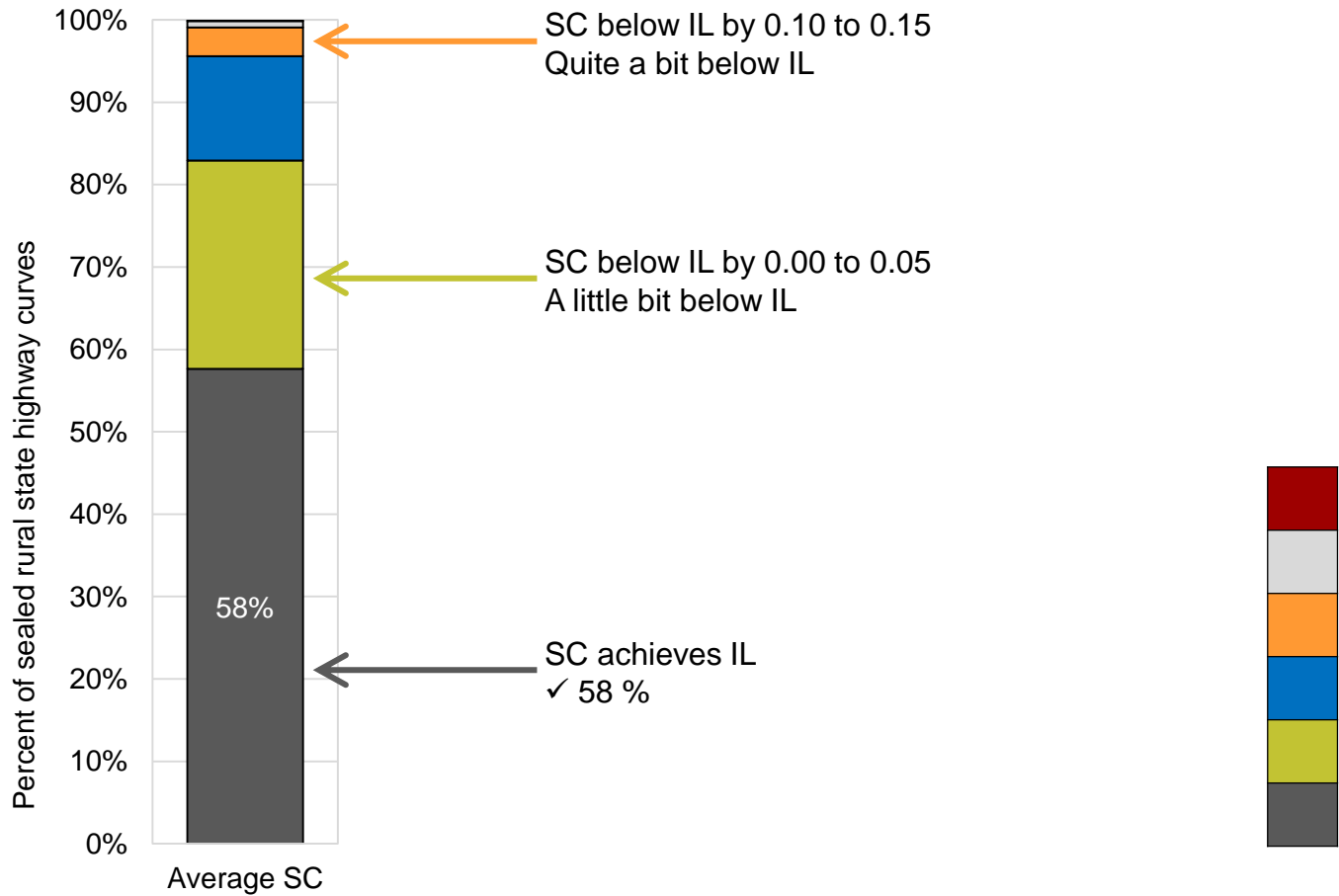
Curves with crashes and skid resistance



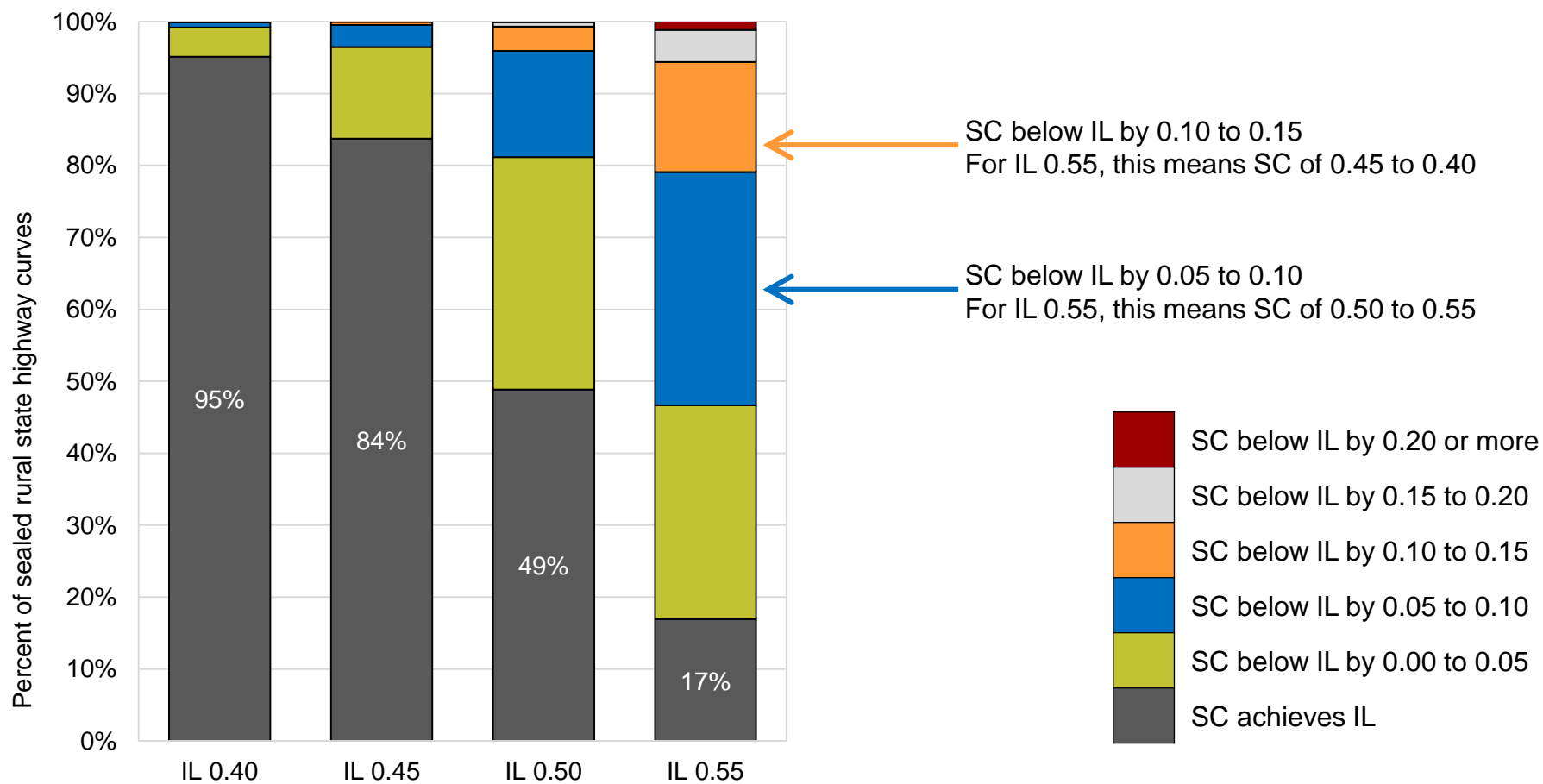
Curves with crashes relative to all curves



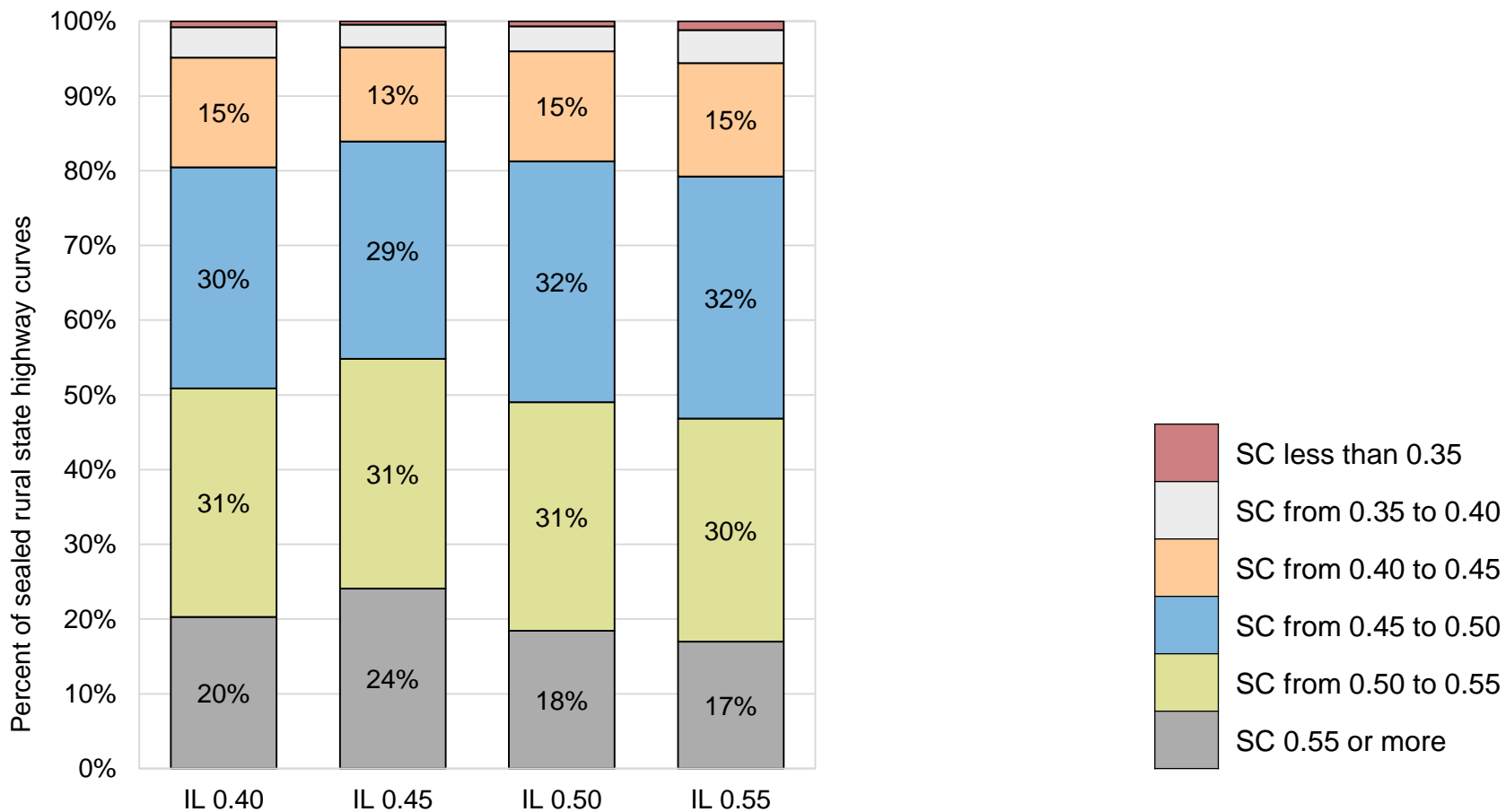
All curves and skid resistance



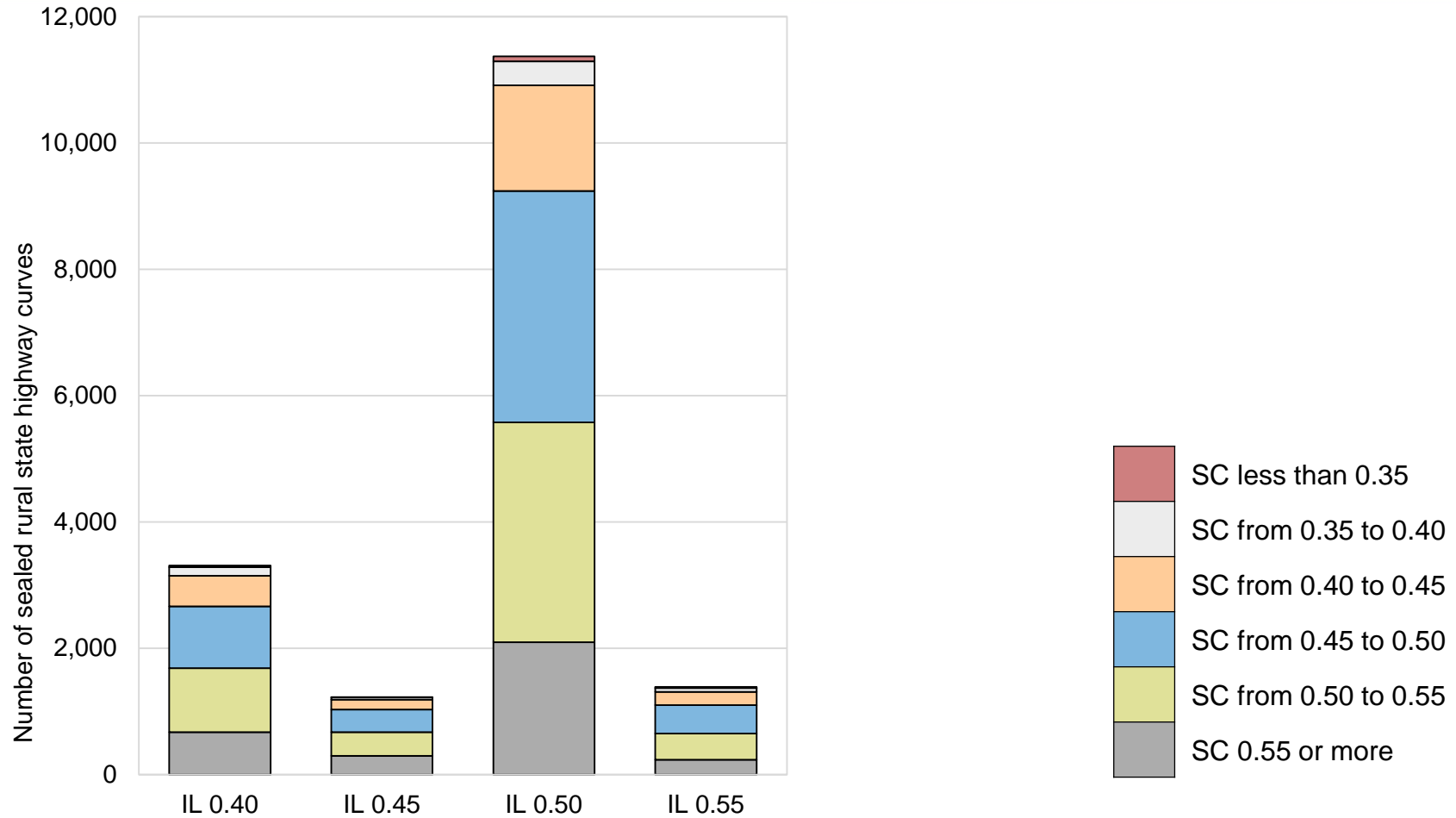
All curves and skid resistance



All curves and skid resistance



All curves and skid resistance

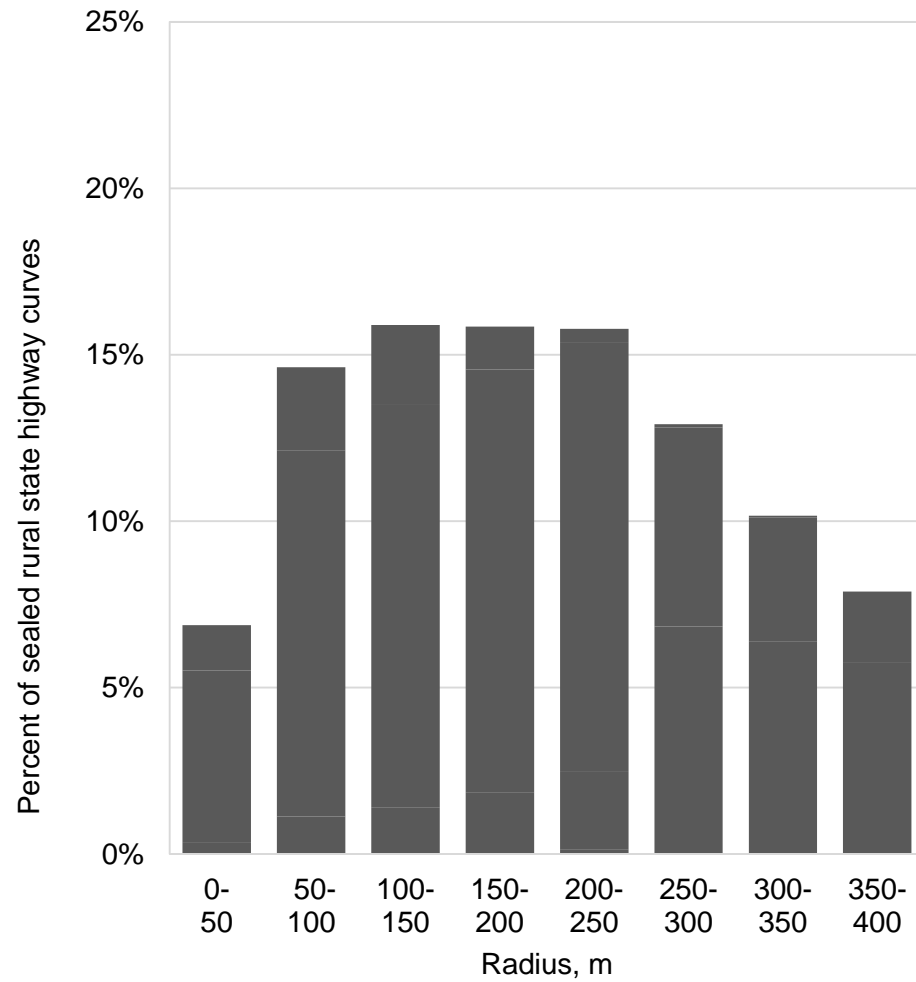


Skid resistance

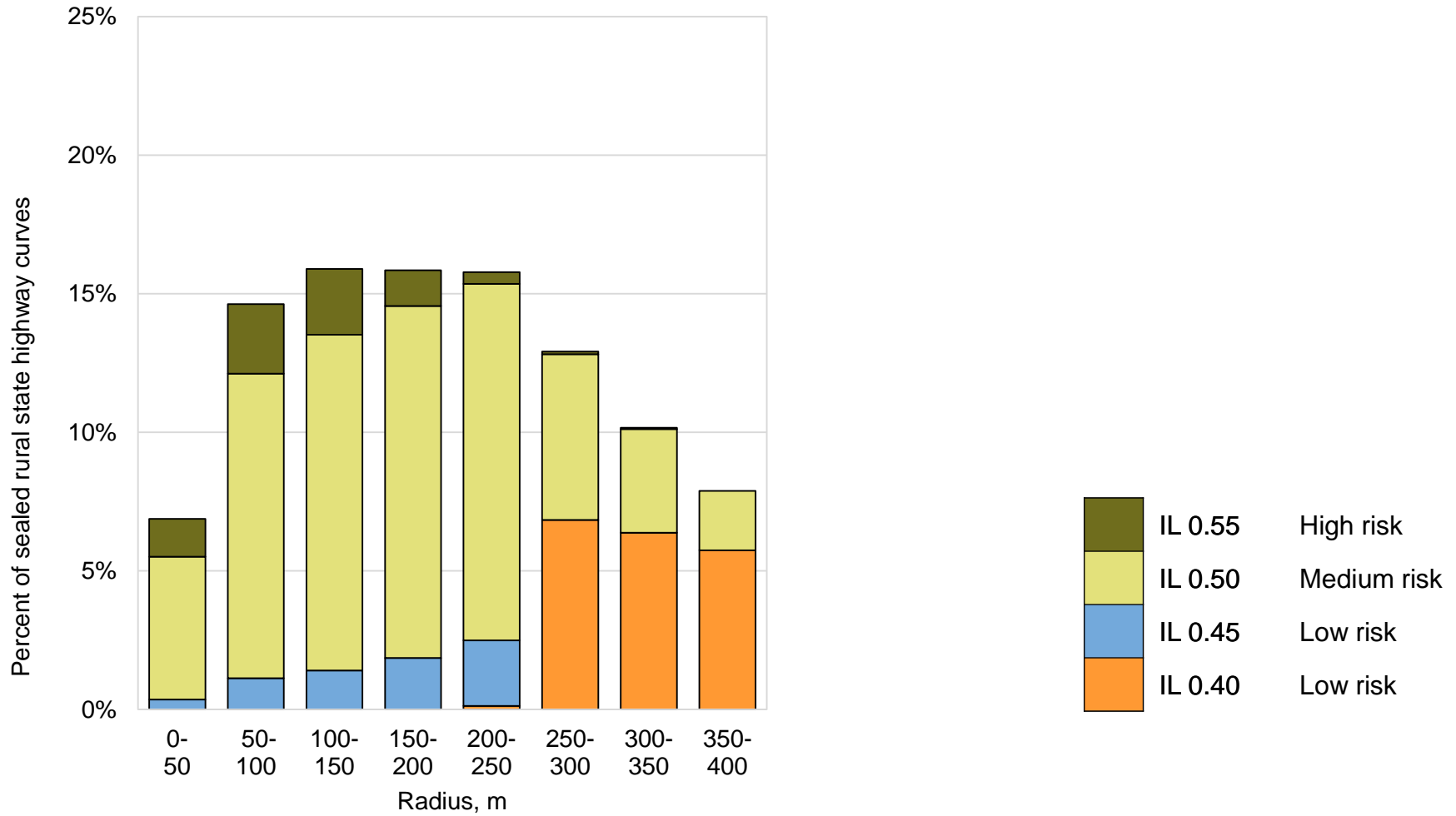
Adapted from Table 1. Skid resistance investigatory levels from NZTA T10: 2013

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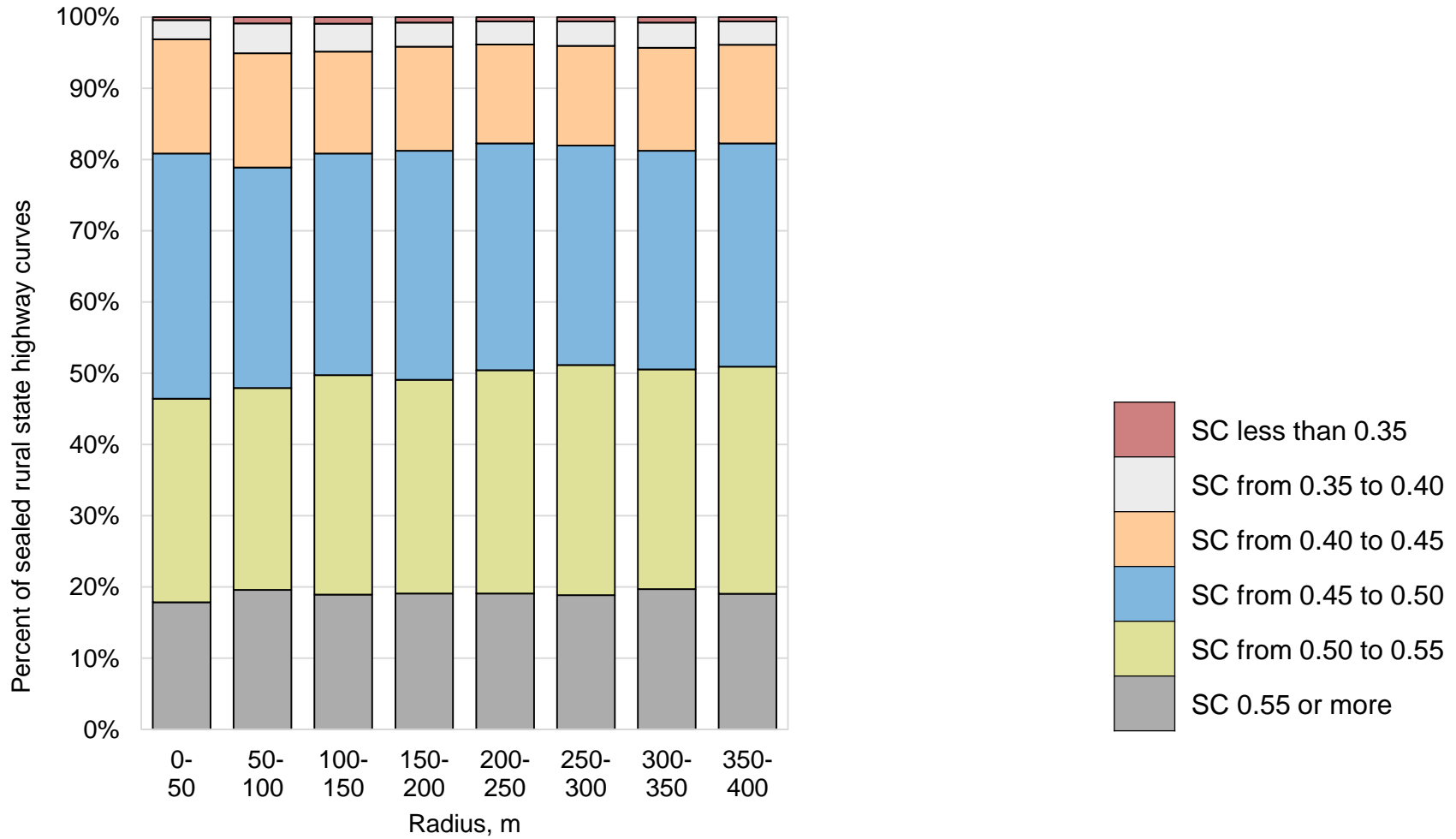
Curve radii



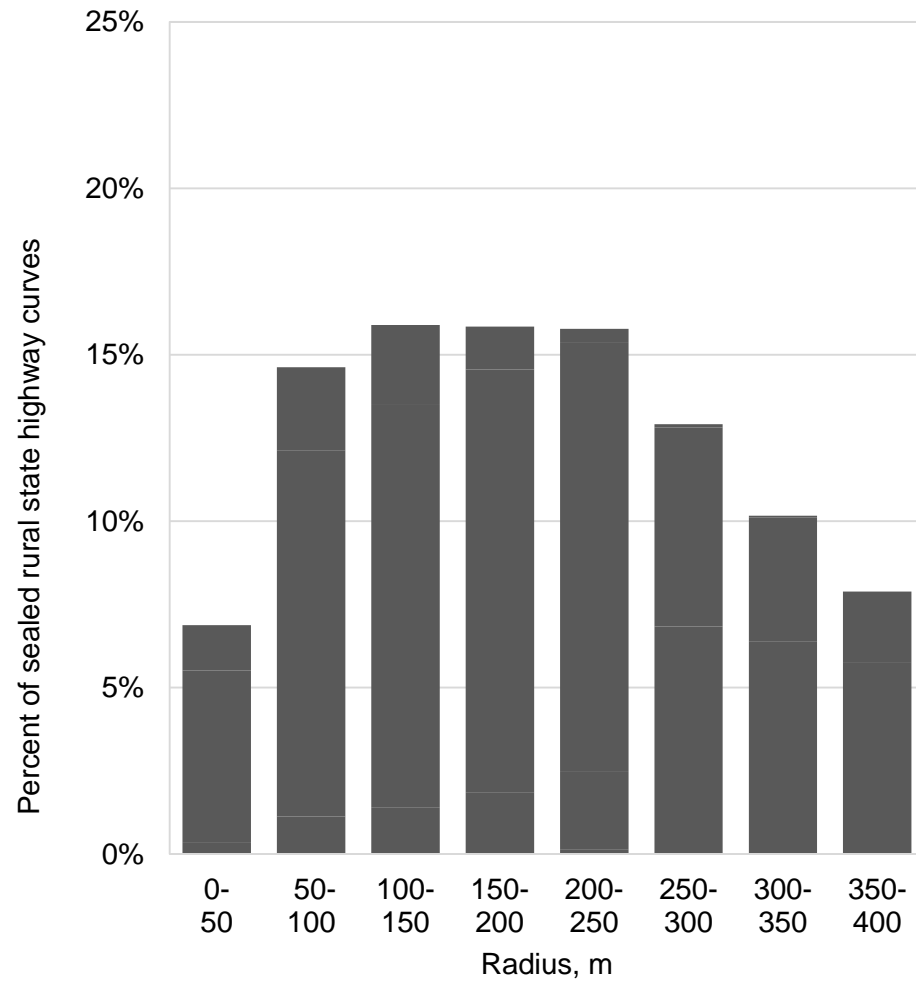
Curve radii and IL



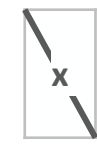
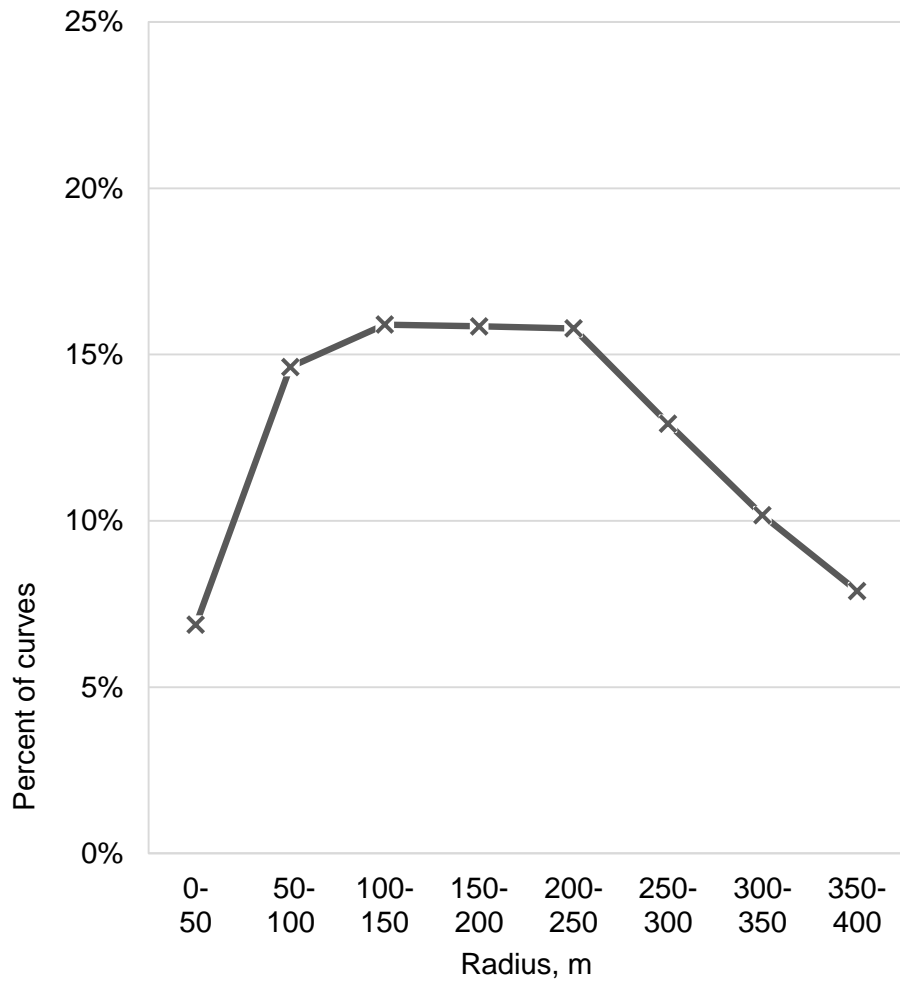
Curve radii and SC



Curve radii

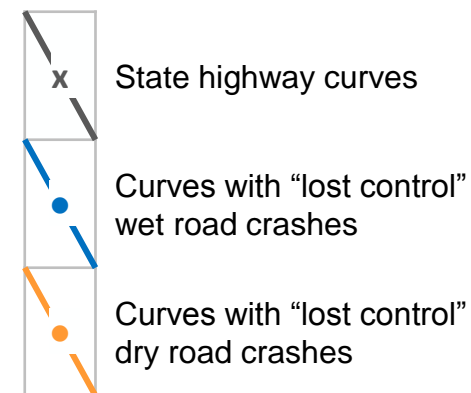
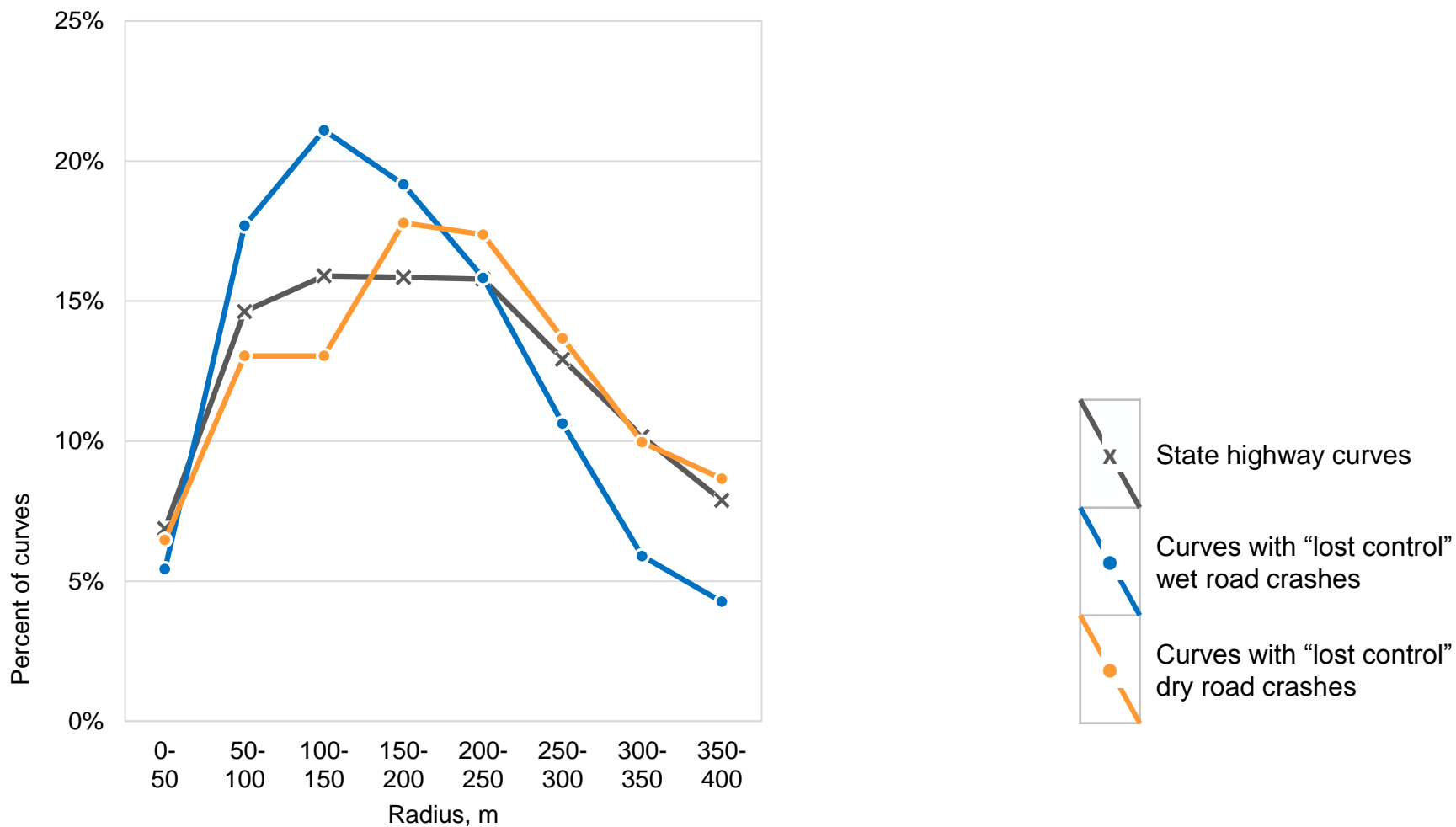


Curve radii



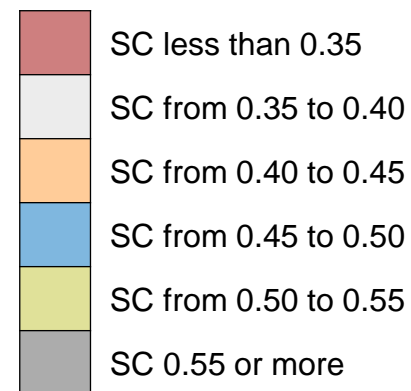
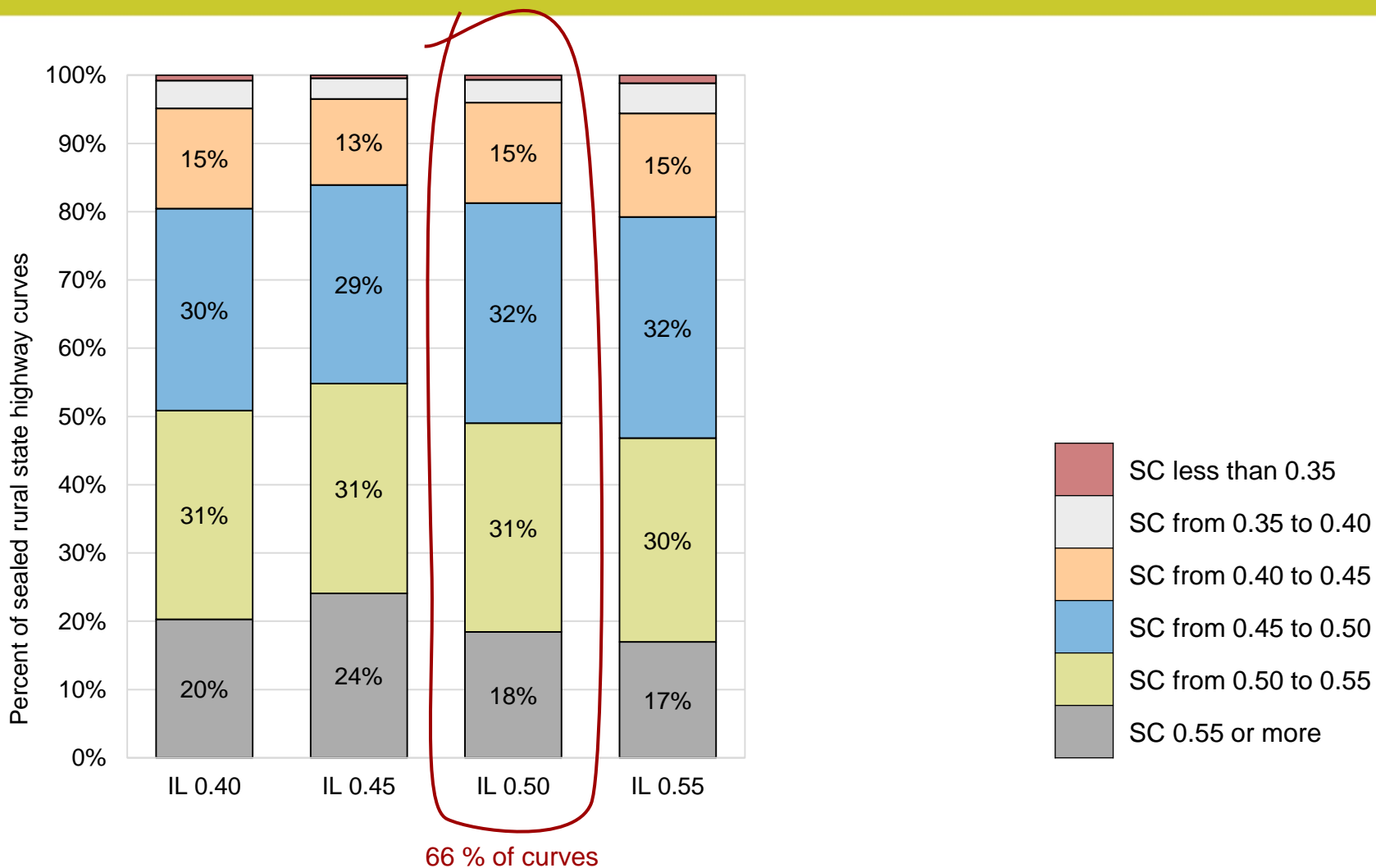
State highway curves

Curves with crashes and radii



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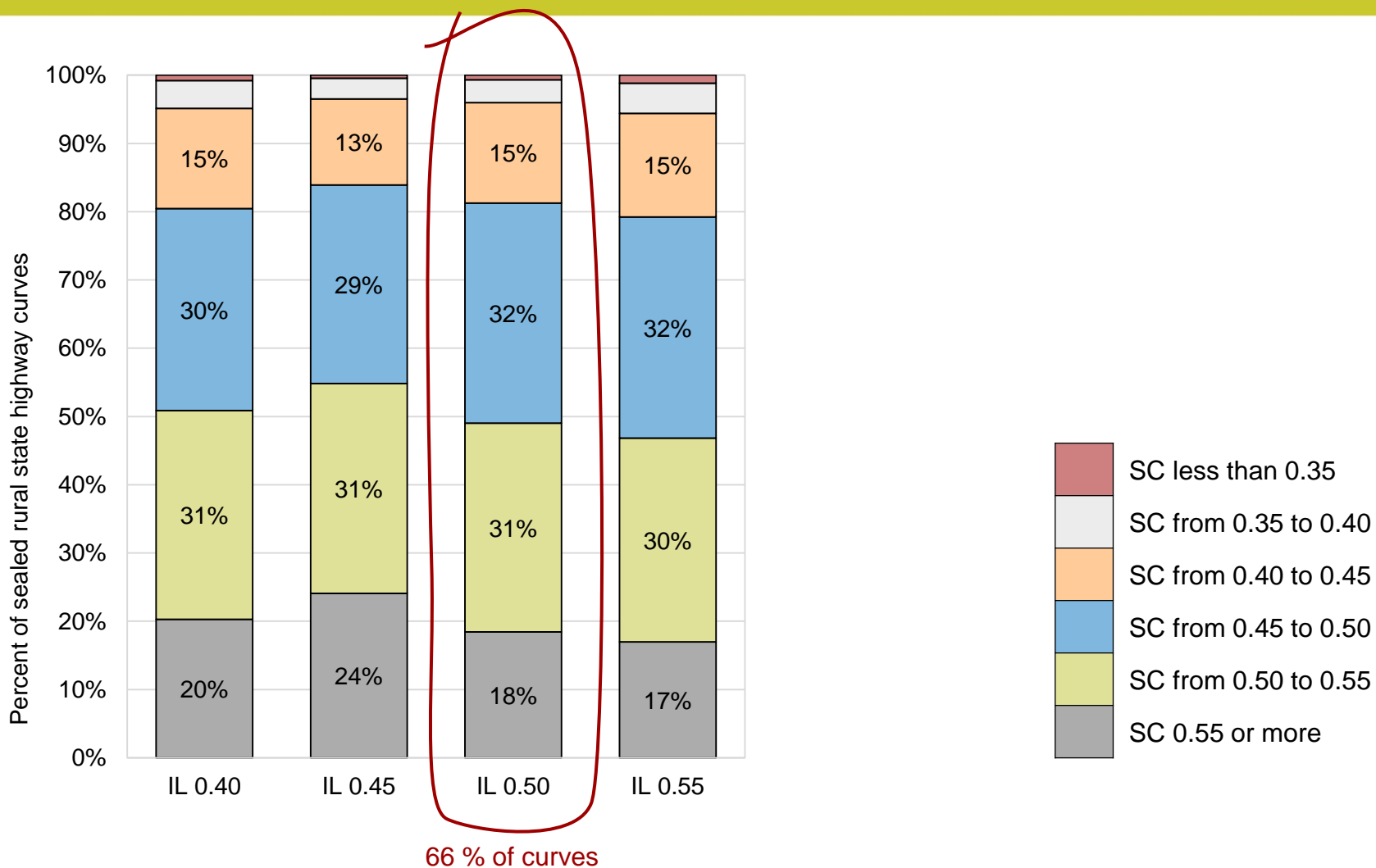
All curves and skid resistance



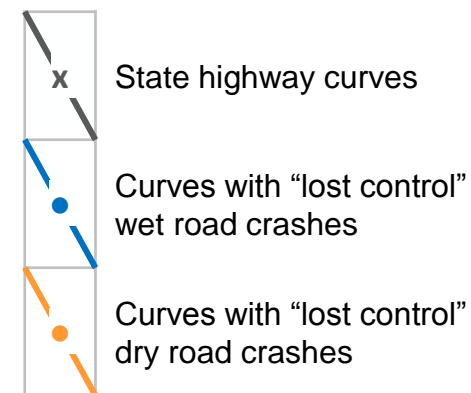
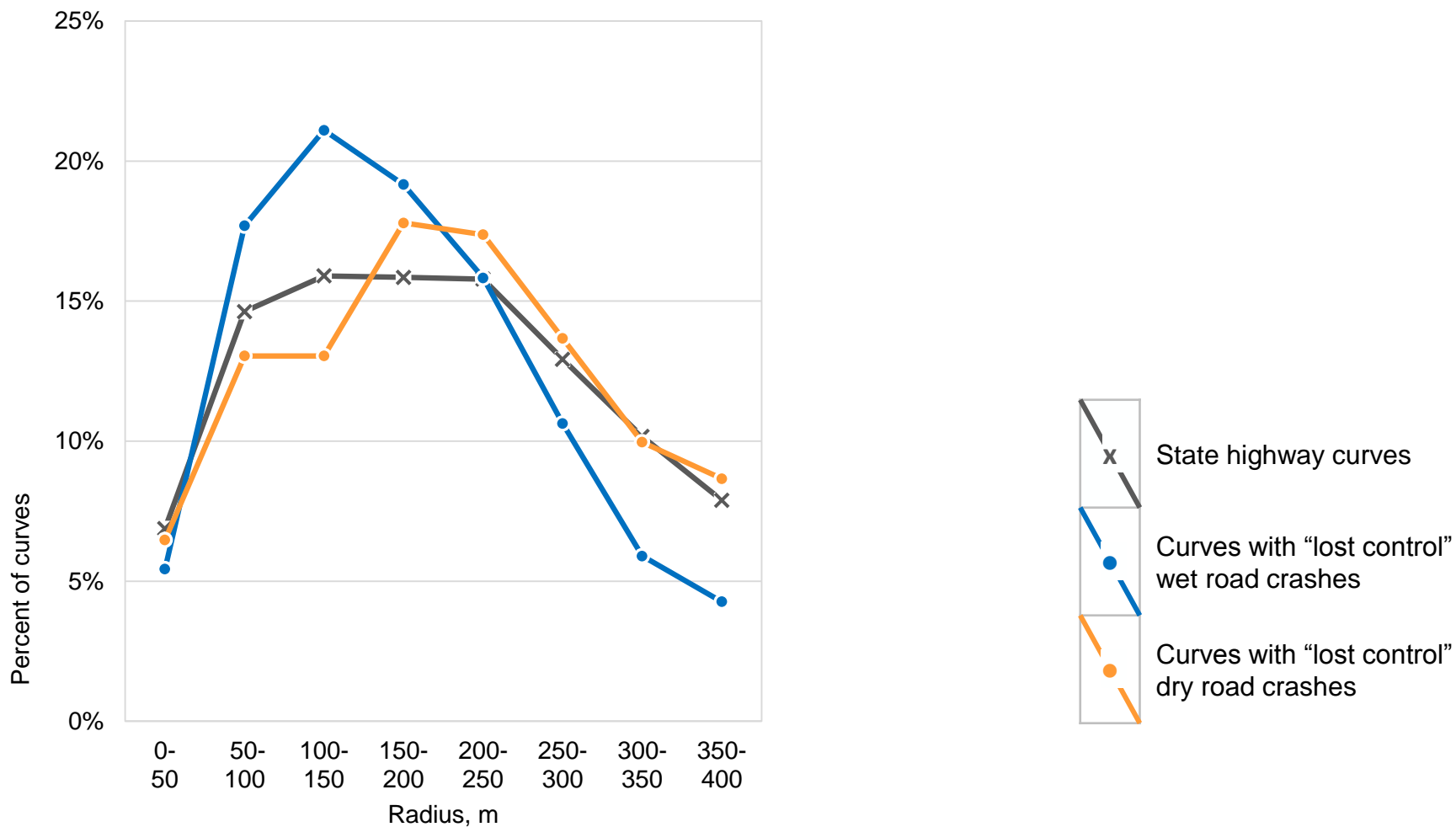
Skid Resistance



All curves and skid resistance



Curves with crashes and radii



State highway curve crashes and skid resistance

tiffany.lester@wsp.com