

Supplementary Materials

The effect of the weights was examined only for $(w_A, w_C) = (0.25, 0.75)$, $(0.50, 0.50)$ and $(0.75, 0.25)$, at a fixed $t = 0.10$ m. The TLS and UAV rankings remained unchanged in the five assessed classes for these scenarios. This limited assessment does not establish robustness to alternative scaling values, additional criteria or feature-specific stakeholder priorities. These factors were not evaluated in the present study. Numerical scores for the three existing weight scenarios are provided in Supplementary Table S1.

Supplementary Table S1. Scores for the three existing weight scenarios at $t = 0.10$ m.

Feature class	Source	$w_A=0.25;$ $w_C=0.75$	$w_A=0.50;$ $w_C=0.50$	$w_A=0.75;$ $w_C=0.25$
Electrical cable chamber	TLS	0.7500	0.5000	0.2500
Electrical cable chamber	UAV	0.7959	0.6918	0.5877
Sanitary sewer manhole cover	TLS	0.8210	0.7064	0.5919
Sanitary sewer manhole cover	UAV	0.6567	0.5391	0.4216
Telecommunications chamber	TLS	0.8841	0.7682	0.6522
Telecommunications chamber	UAV	0.8750	0.7500	0.6250
Paved sidewalk edge	TLS	0.8655	0.7479	0.6303
Paved sidewalk edge	UAV	0.8009	0.6357	0.4706
Sewer manhole cover	TLS	0.9750	0.9500	0.9250
Sewer manhole cover	UAV	0.7695	0.5390	0.3085

Scores were recalculated from the supplied point-wise coordinate differences and the object counts in Table 7, without rounding class-specific RMSE before scoring. No alternative scaling thresholds were tested. Small-sample scores remain illustrative.