

Framework for regional assessment

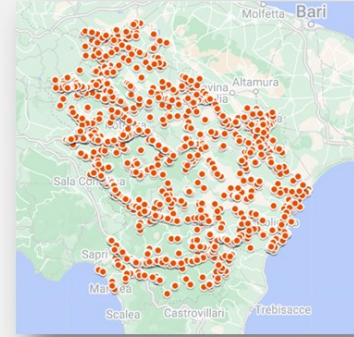


Automated Recognition of GUardrail Systems

OSM query «Bridge=yes»



Bridge coordinates
in the selected region

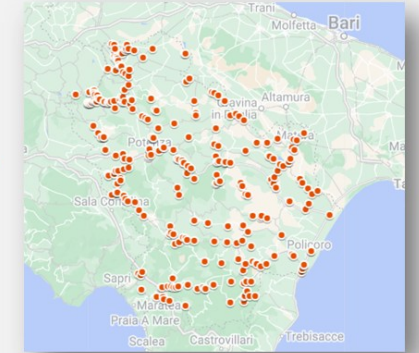


OPTION 1



A few months to
visually inspect
tousands of
bridges

End of procedure:
identificazione of bridges
needing guardrail replacement



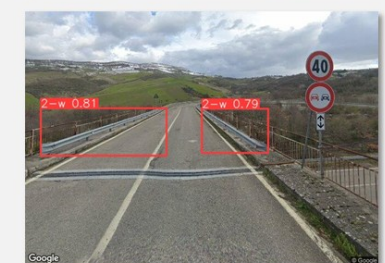
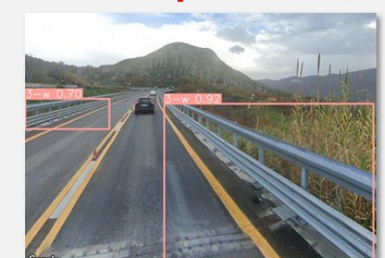
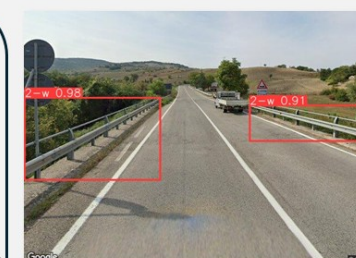
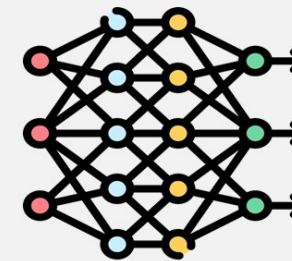
OPTION 2

Google Street View for bridge
images extraction



Computer Vision
application

YOLOv8
object detection of
non-compliant
guardrail type

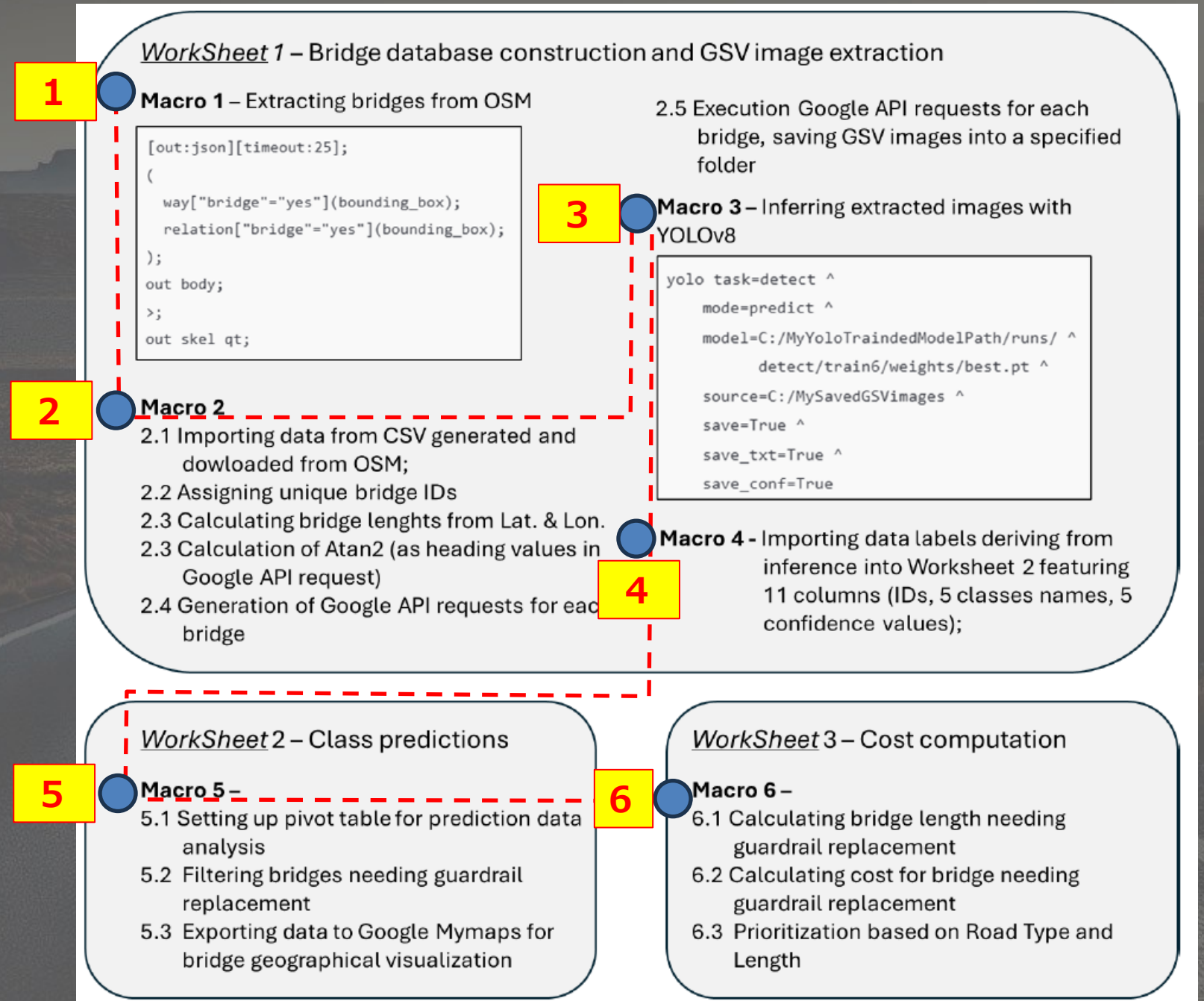


A few days to set up and
run the procedure on a
specific region (tousands of
bridges)





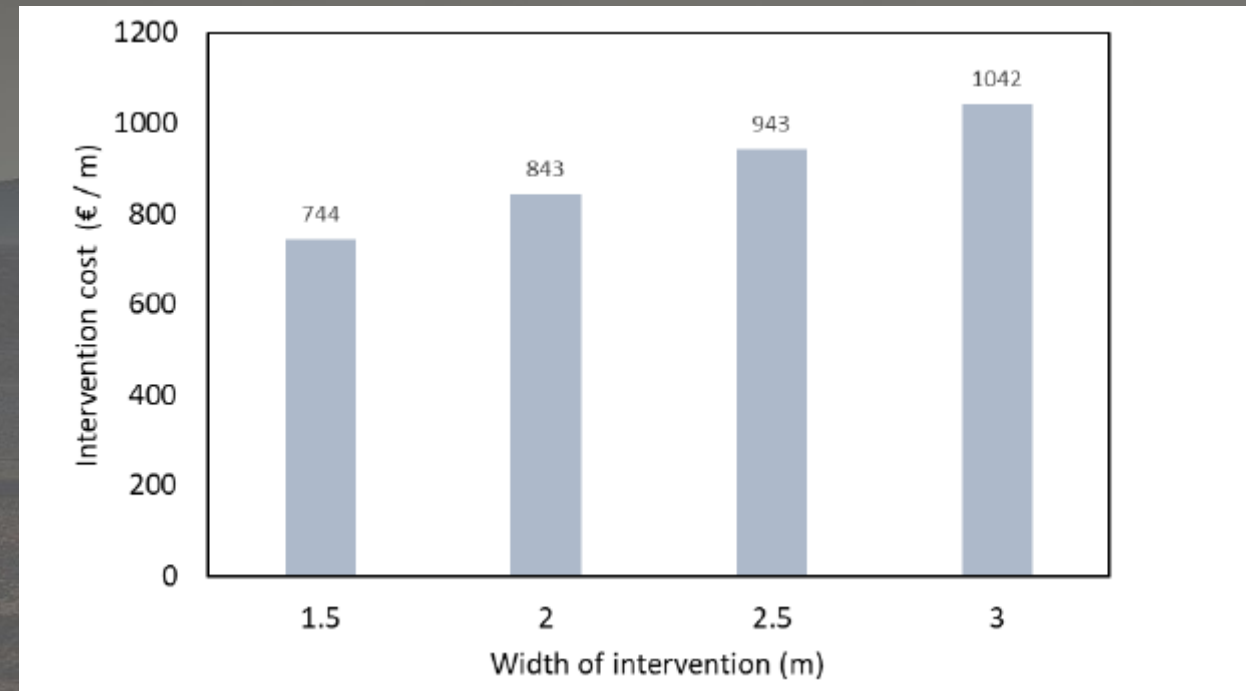
Automated Recognition of GUardrail Systems



Cost computation for Basilicata region



Basilicata region



Data description	Amount	Units
Number of bridges on major infrastructures	776	
Number of bridges equipped with 3-w guardrails	454	
Number of bridges equipped Parapets, Walls and NJ	29	
Number of bridges equipped with 2-w guardrails	293	
Length of bridges equipped with 2-w guardrails	37.54	km
Length of guardrails replacement	75.09	km
Mean cost of intervention C	893	€/m
Total cost of intervention	67.05	M€

Strengths and limitations



Automated Recognition of GUardrail Systems

