

GEIDA FOUNDATION TRAINING — CASE STUDY B · INFRASTRUCTURE

Spatialising a Road Project **One** **Corridor, Six Reports**

The same project-cycle method, applied to a rural access road and river crossing — with very high resolution imagery and geo layers on every map.

One corridor, followed through the cycle

Al-Mashra Rural Access Road & River Crossing

AKRD-2027-011 · MEMBER COUNTRY Y

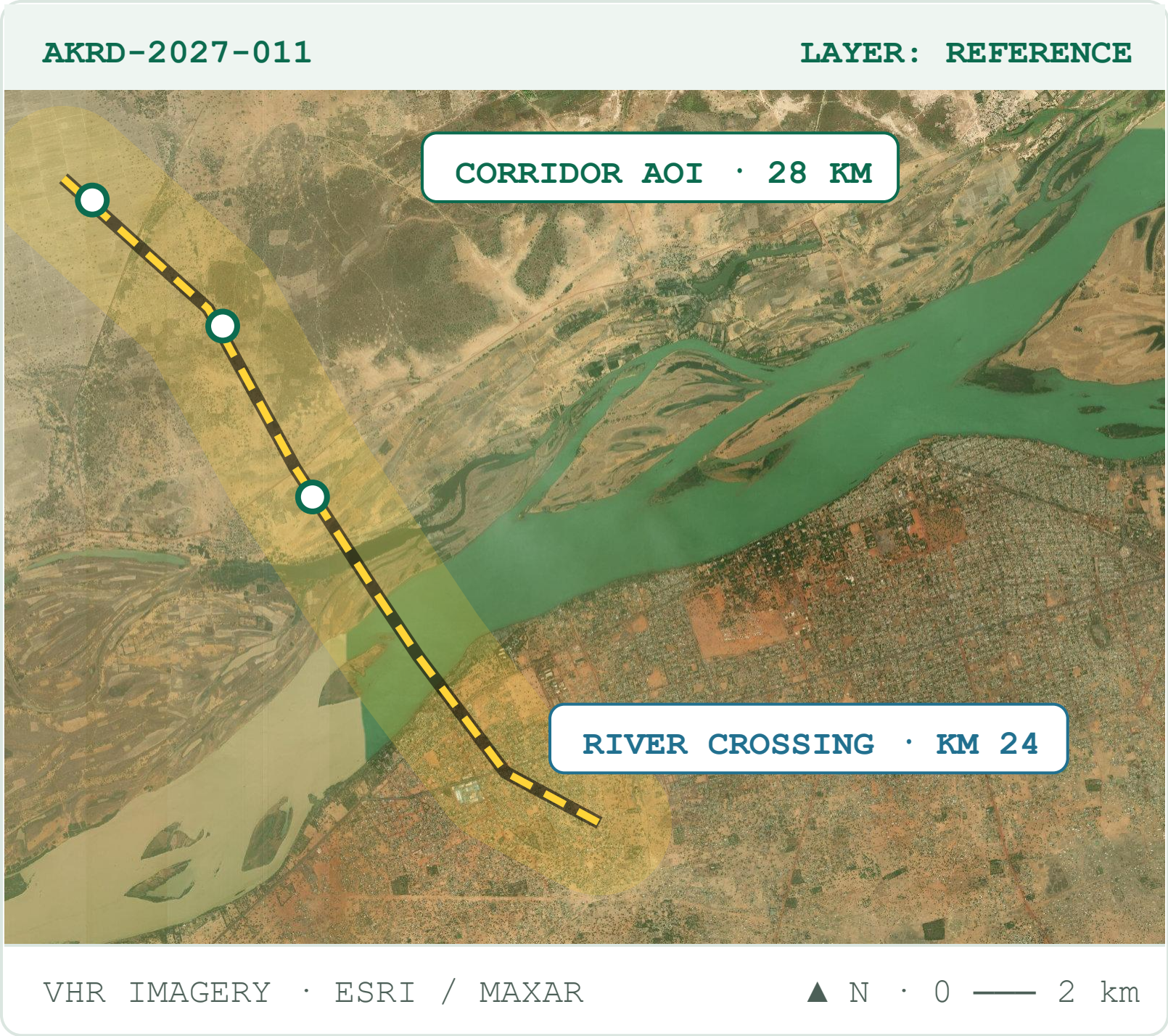
Corridor 28 km · RoW 30 m · 1 bridge (480 m)

Served 14 villages · ≈ 38,000 people

Baseline / completion 2027 / 2032

Data stack VHR optical · Sentinel-2 · roads · population · flood

The yellow corridor buffer on the right is drawn once — and reused on every map that follows.



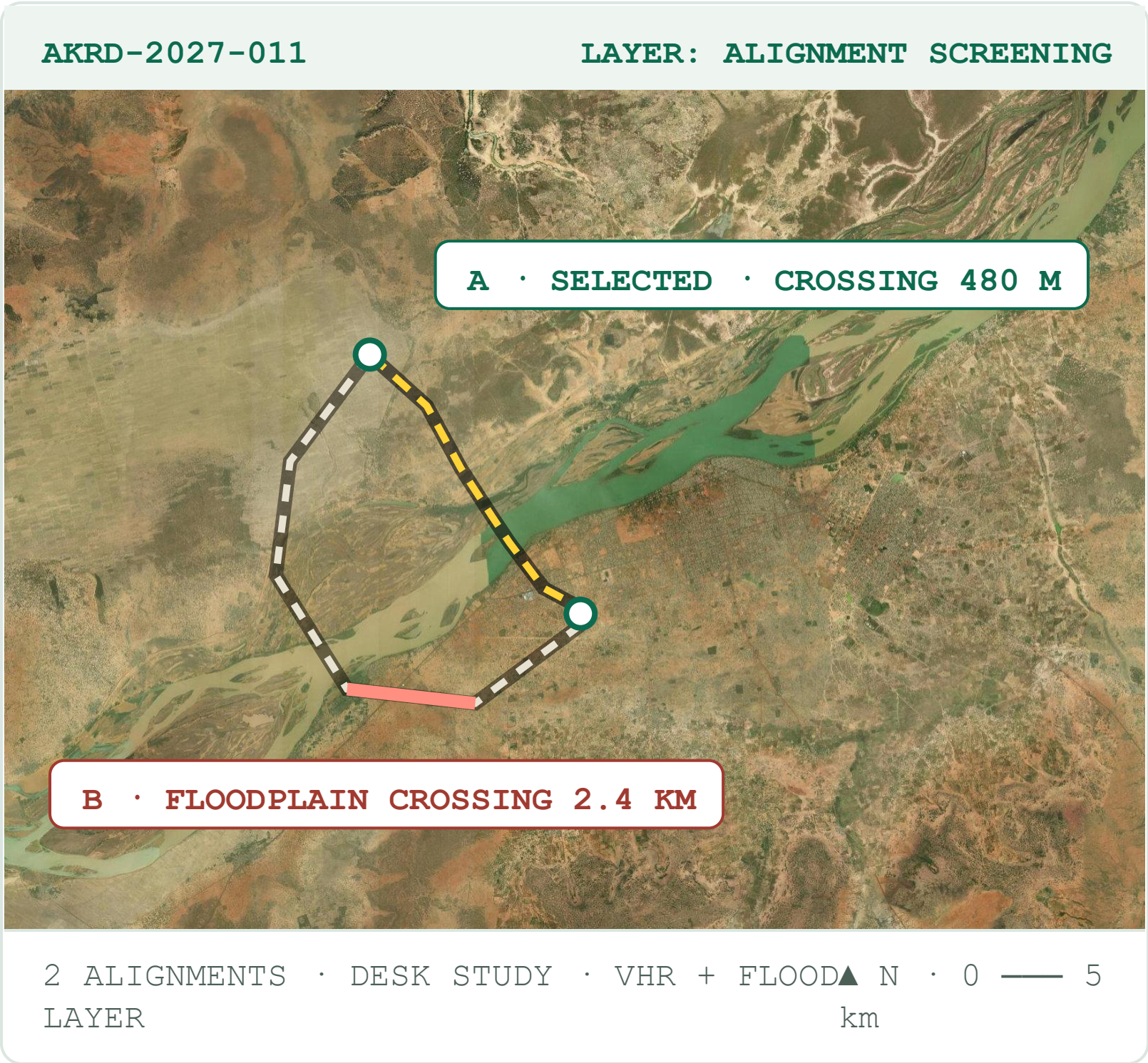
PCN — screening alignment options

EO / GEOINFORMATICS CONTRIBUTION

- Corridor-alternative screening
- Terrain, slope and river-crossing options
- Floodplain exposure per alignment
- Settlements and population served
- Early cost and risk scoring

OPERATIONAL VALUE

Better alignment choice before any survey · fewer dead-end options · a stronger concept note.



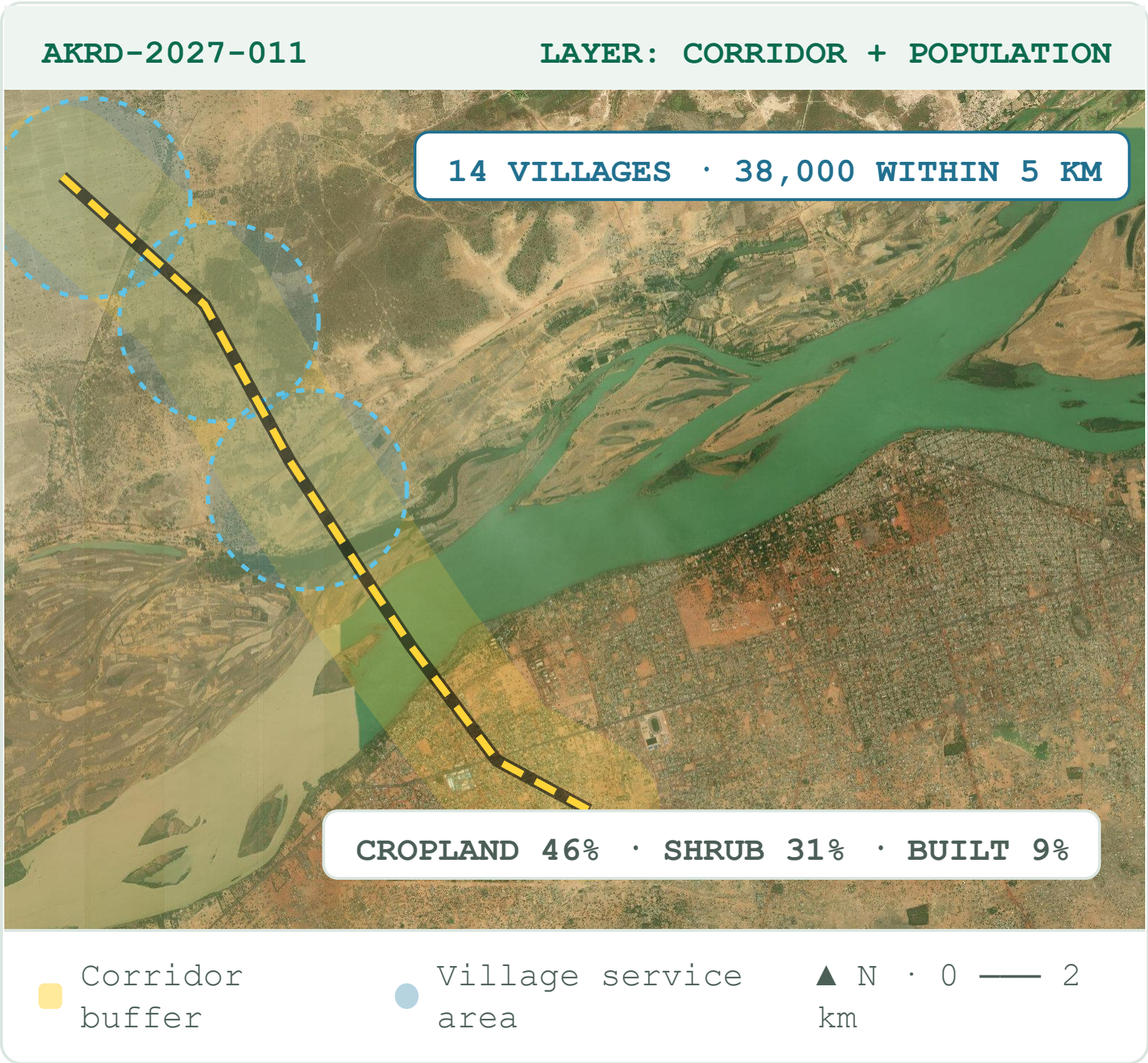
PPRR — pinning down the corridor

EO / GEOINFORMATICS CONTRIBUTION

- Corridor AOI and right-of-way definition
- Land cover along the corridor
- Population served / accessibility mapping
- Hazard segments (flood, erosion)
- Identification of data gaps

OPERATIONAL VALUE

Evidence-based preparation · a precisely defined corridor · quantified beneficiaries.



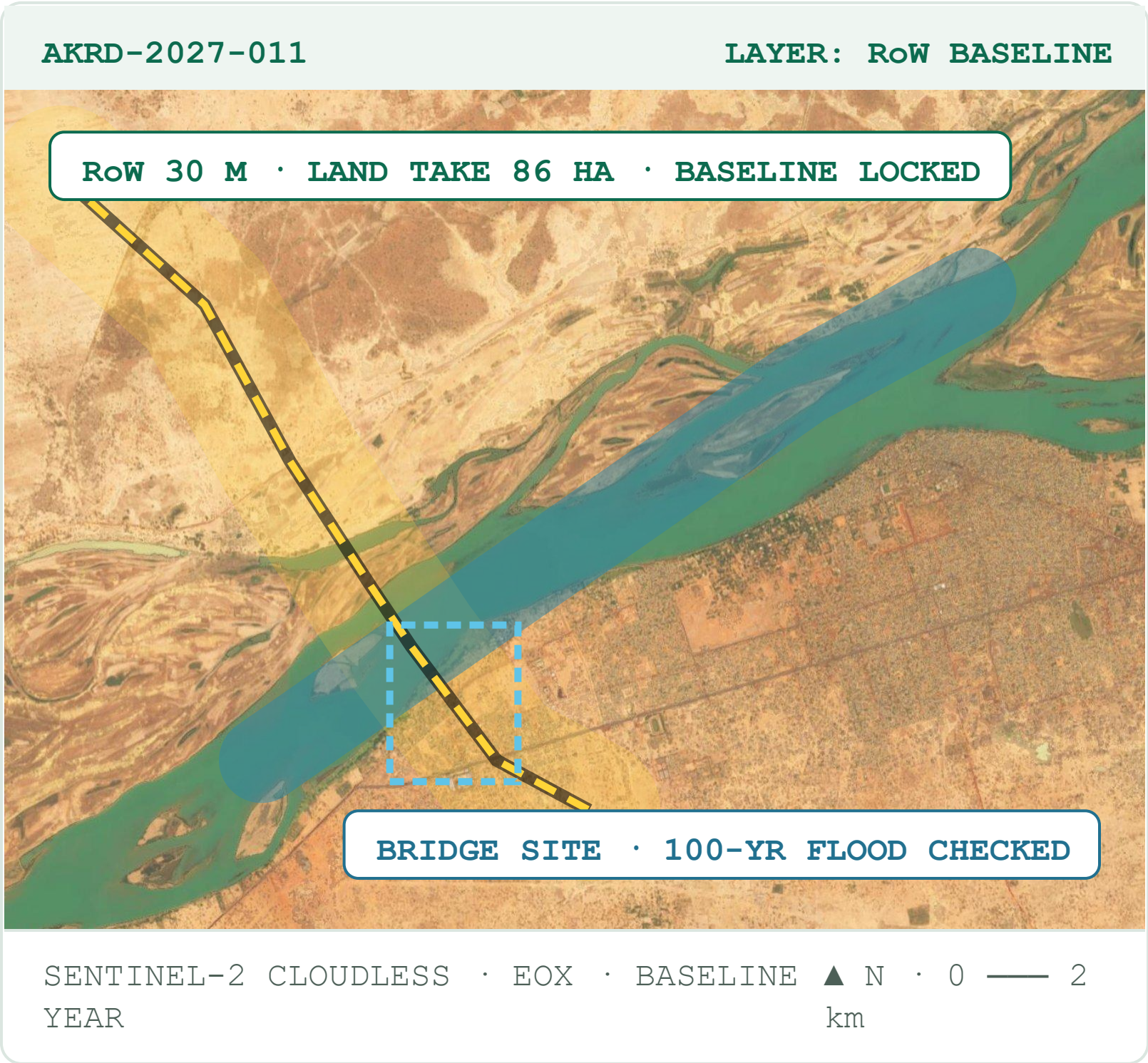
PAD / RRM — locking in the baseline

EO / GEOINFORMATICS CONTRIBUTION

- VHR baseline of the full right-of-way
- Land-take and resettlement screening
- Bridge-site hydrology and flood layers
- Results indicators: travel time, access
- Spatial annex with metadata

OPERATIONAL VALUE

Better design decisions · fewer safeguard surprises · a baseline preserved for PCR and PPER.



PIASR — progress by chainage

EO / GEOINFORMATICS CONTRIBUTION

- Construction progress by chainage
- Bridge works monitoring
- Borrow pits and encroachment detection
- Anomaly alerts and dashboard snapshots
- Independent evidence before missions

OPERATIONAL VALUE

Better-targeted missions · earlier detection of slippage · stronger supervision reporting.

PCN

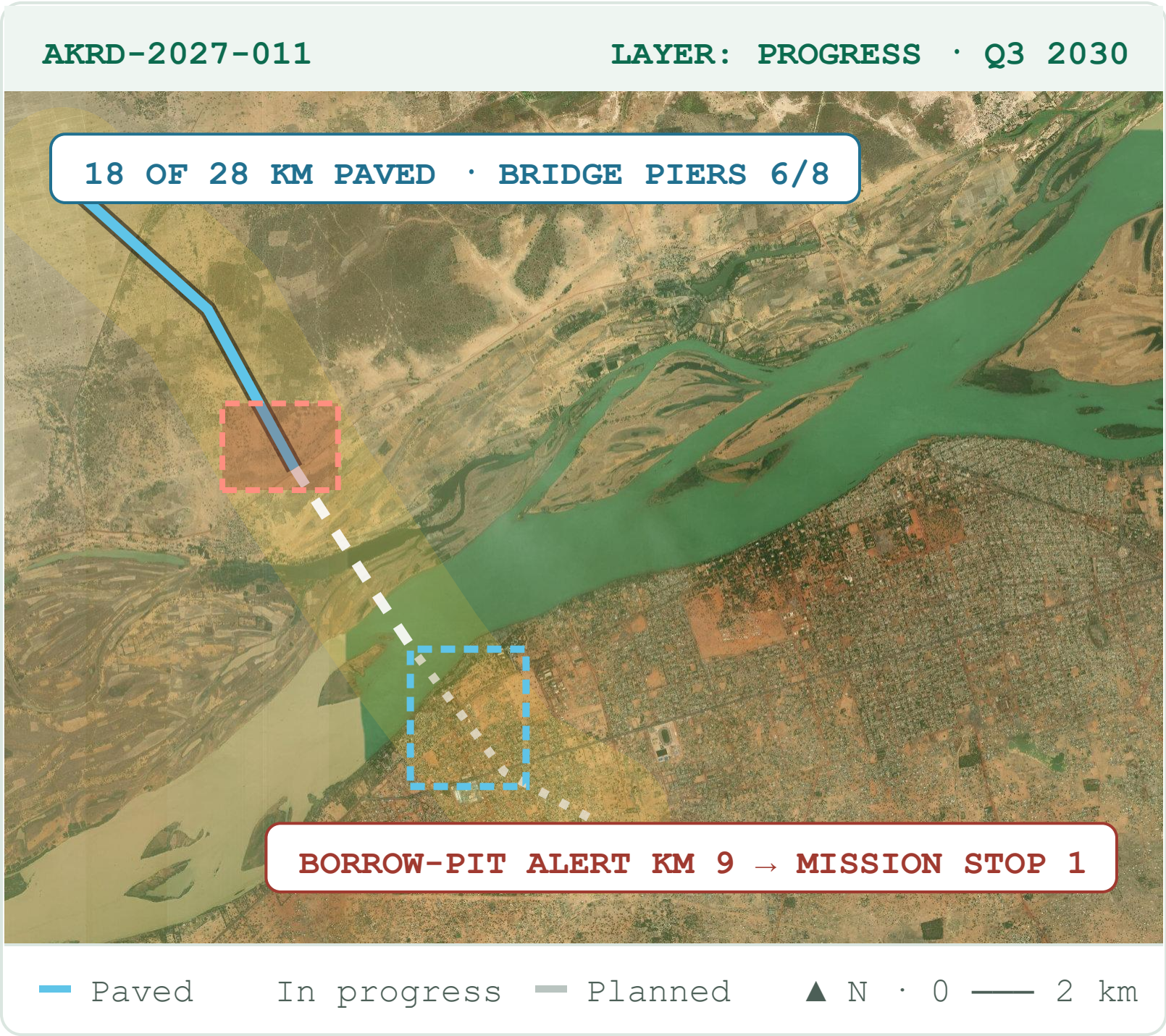
PPRR

PAD

PIASR

PCR

PPER



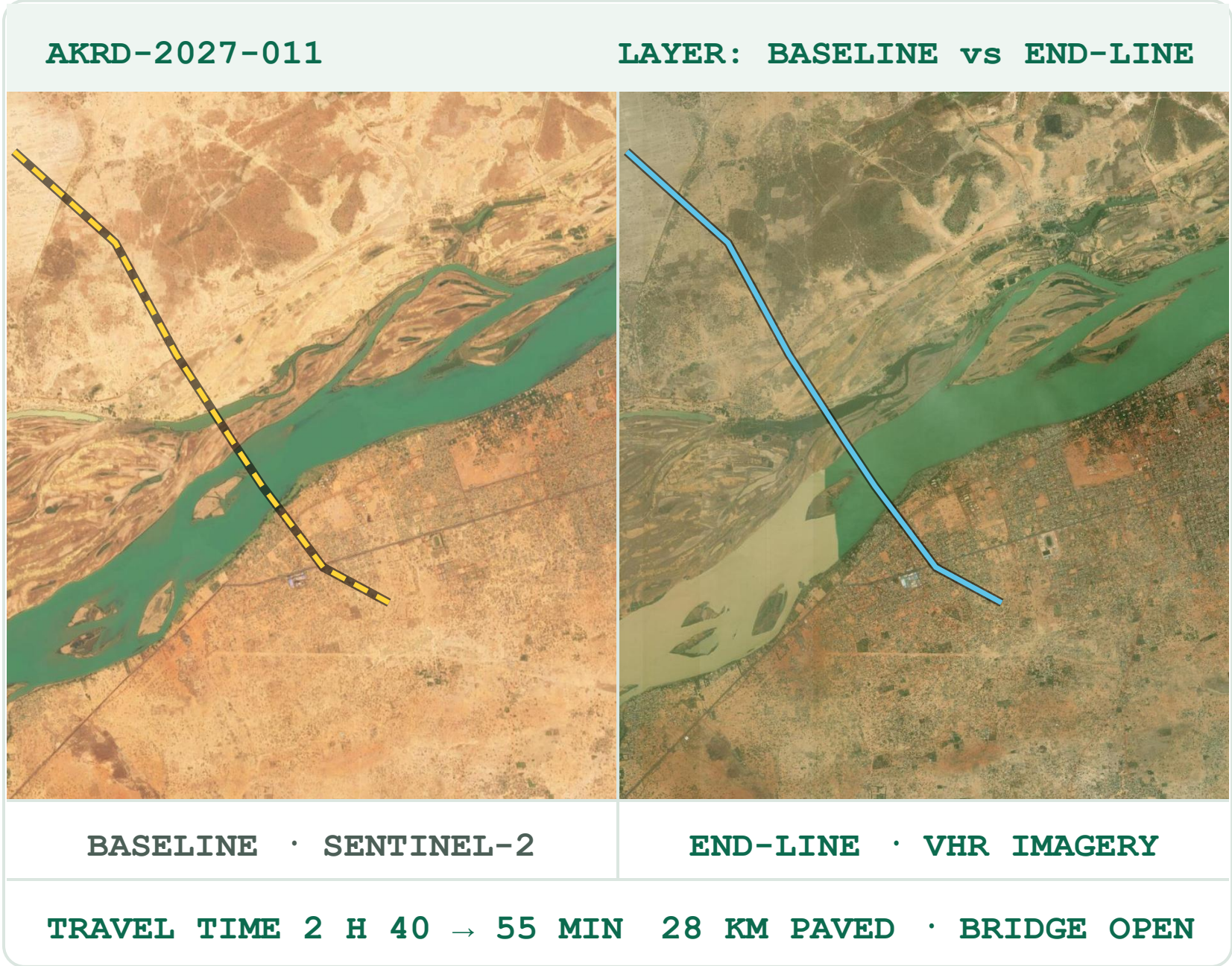
PCR — comparing baseline and end-line

EO / GEOINFORMATICS CONTRIBUTION

- Before / after corridor comparison
- Paved length and bridge verification
- Travel-time / accessibility change
- Land-cover change along the RoW
- End-line documented against PAD baseline

OPERATIONAL VALUE

Evidence-based completion reporting · objective output verification · a clearer impact narrative.



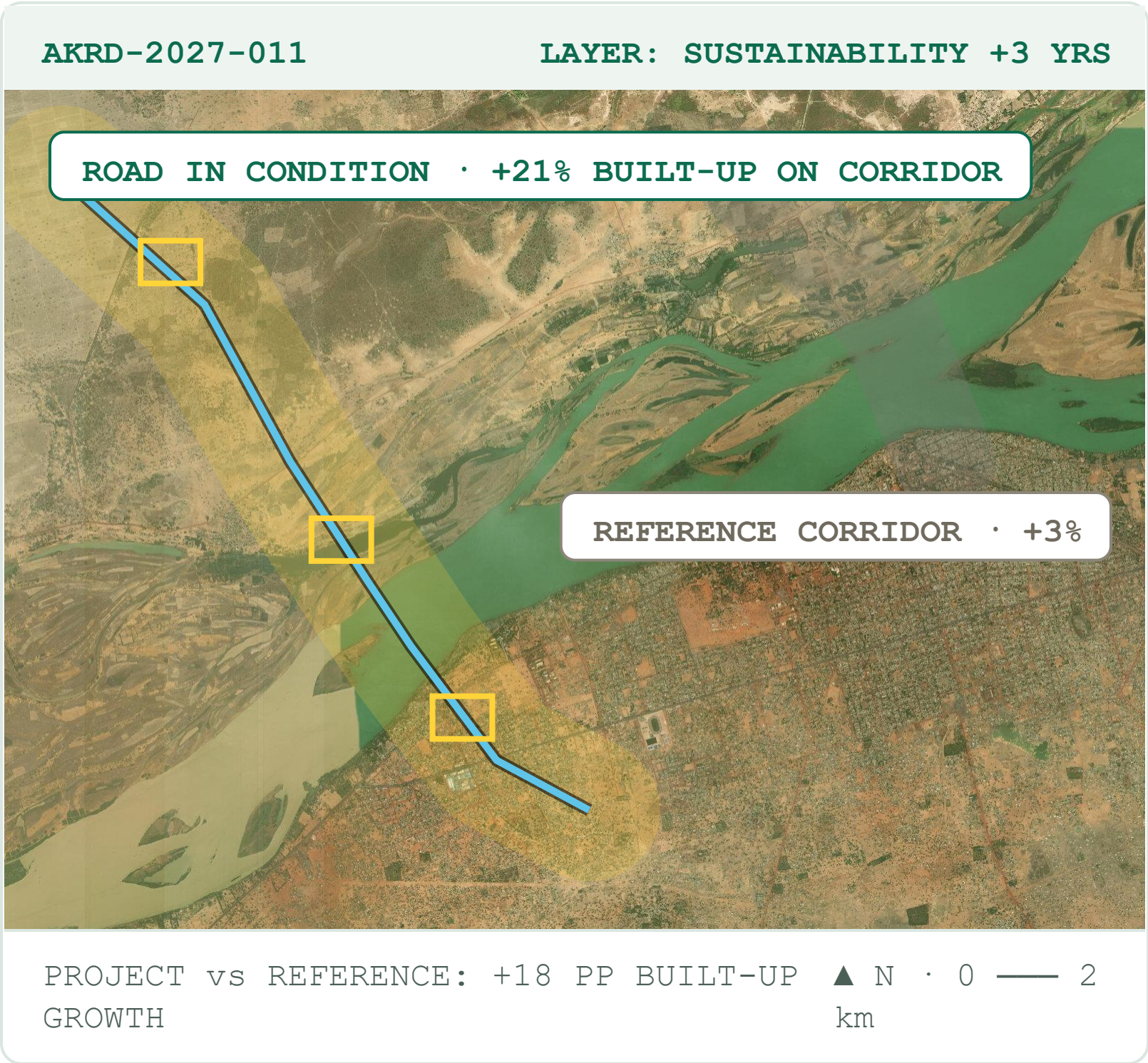
PPER — checking that change lasted

EO / GEOINFORMATICS CONTRIBUTION

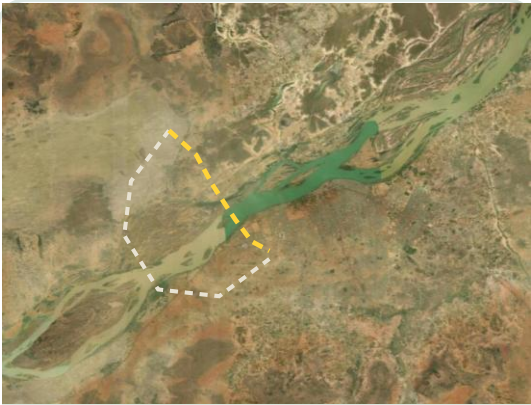
- Pavement / asset condition persistence
- Induced development along the corridor
- Sustained accessibility gains
- Comparison with a reference corridor
- Difference-in-differences / counterfactual support

OPERATIONAL VALUE

Stronger independent evaluation · long-term learning · better design of future corridors.



Six reports, one corridor



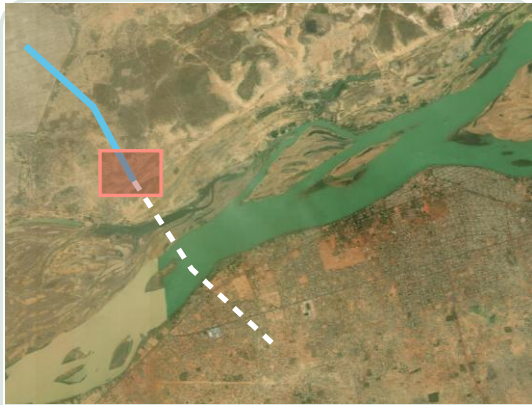
PCN
Screen alignments



PPRR
Pin the corridor AOI



PAD/RRM
Lock the RoW
baseline



PIASR
Progress & alerts



PCR
Baseline vs end-line



PPER
Sustained & induced

Drawn once at concept stage — reused in every report for a decade.

SAME METHOD, ANY SECTOR

A polygon for irrigation, a buffer for a road — the six evidence moments never change

CASE A · IRRIGATION

Command-area polygon · NDVI,
ET, water extent

CASE B · ROAD

Corridor buffer · VHR, progress,
accessibility

YOUR PROJECT

Any site, corridor or AOI · same
six stages