



Conductor Renewals

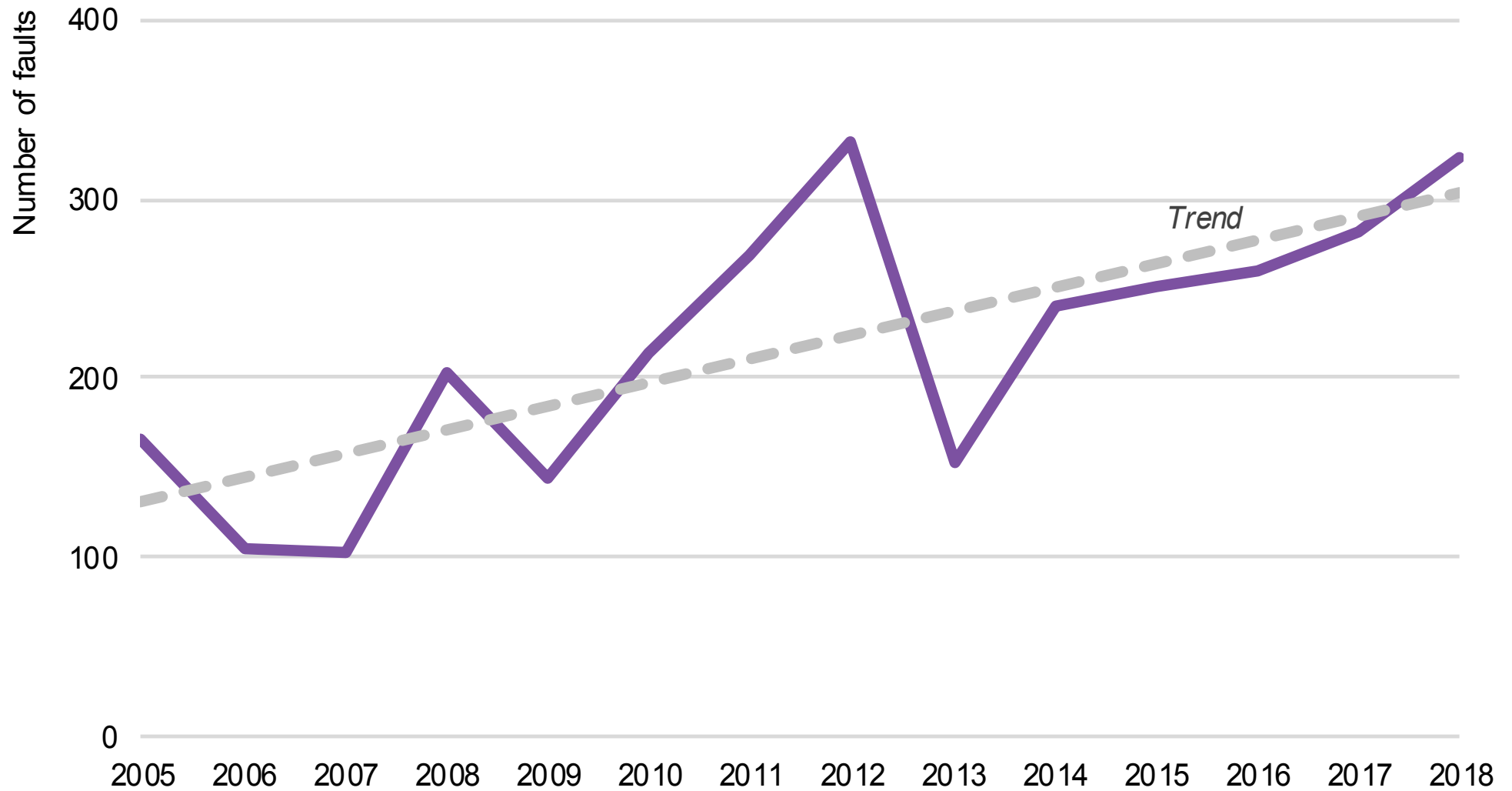
Paul Blackmore

June 2019

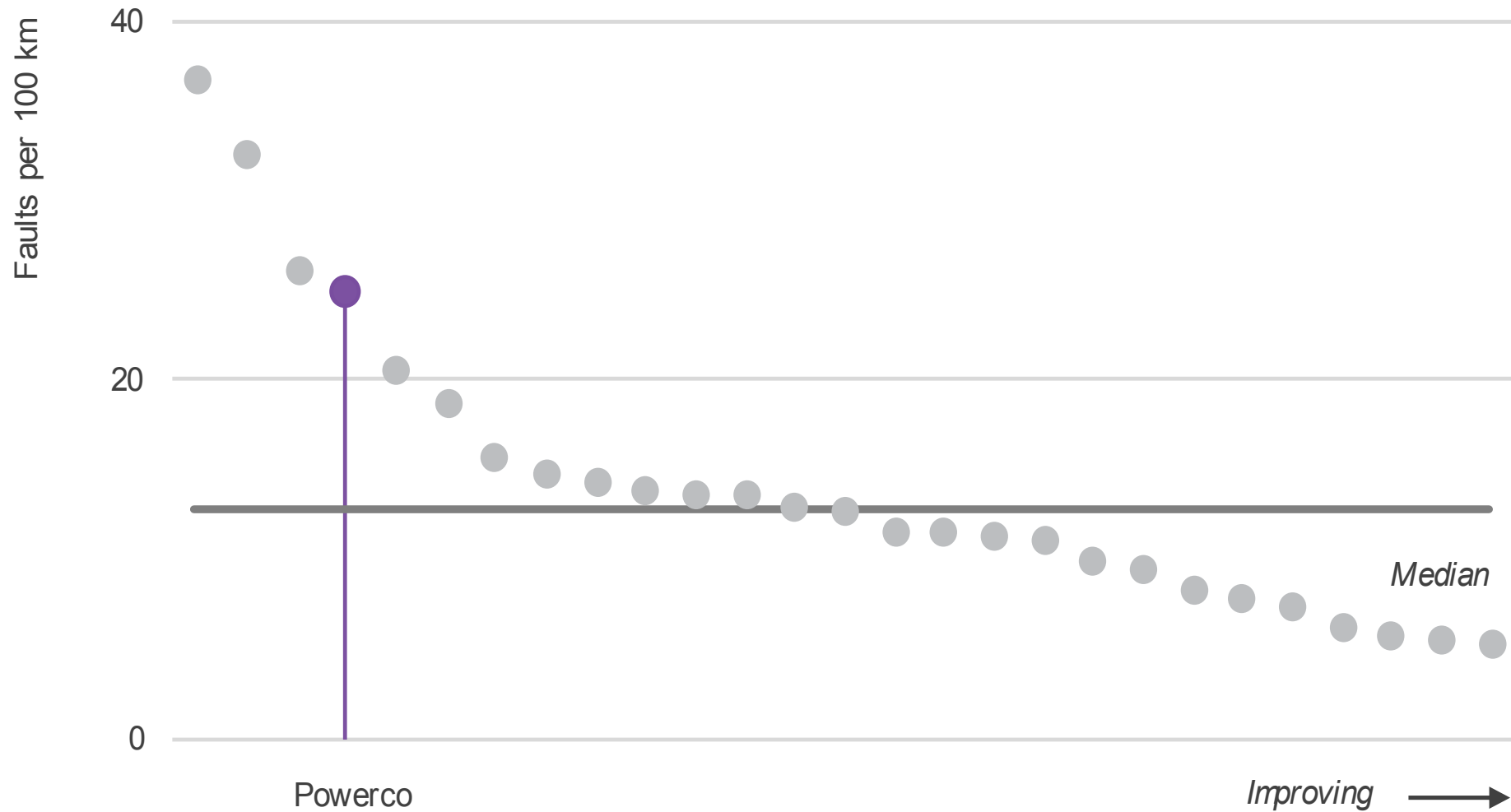
Conductors an unknown in the renewal planning equation



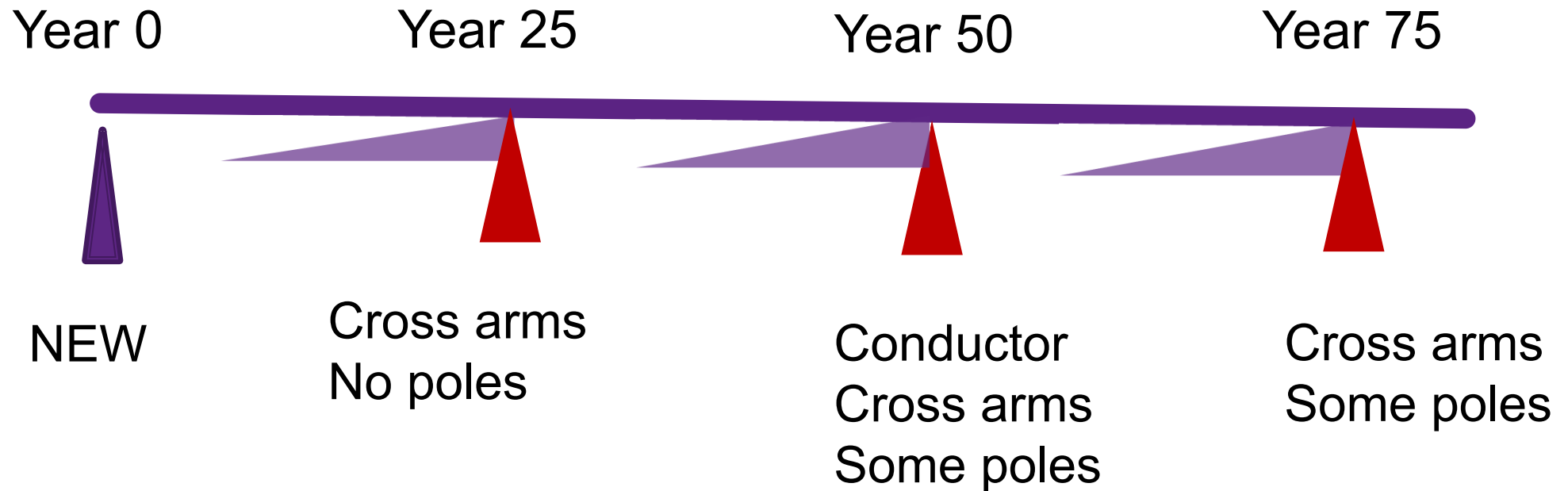
The problem – an increasing trend in conductor related faults



Benchmarking indicates our conductor fault rates are high compared to our peers.



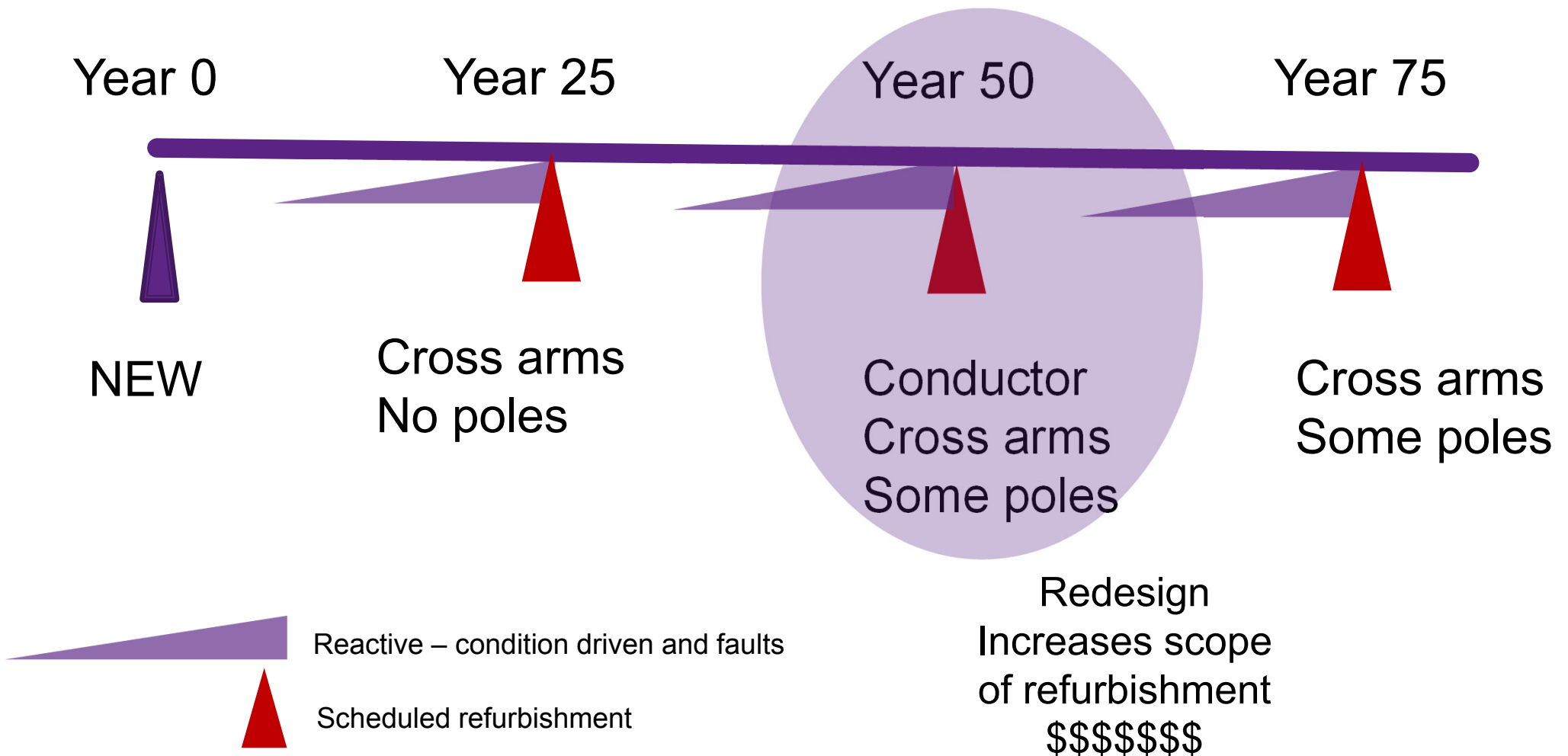
Why conductor replacement is pivotal



Reactive – condition driven and faults

Scheduled refurbishment

Why conductor replacement is pivotal



Forest harvest approach to renewals planning



Forest harvest approach to renewals planning



Harvest 2021
ZZ M³
Replant Pine
2020

Replanted 2017
Prune 2027
Prune 2037
Harvest 2047

Harvested 2019
XX M³
Replant Manuka 2020

Factors in determining year to replace conductor

Material

Size/Stranding

Tree damage

Environment

Fault history

Age

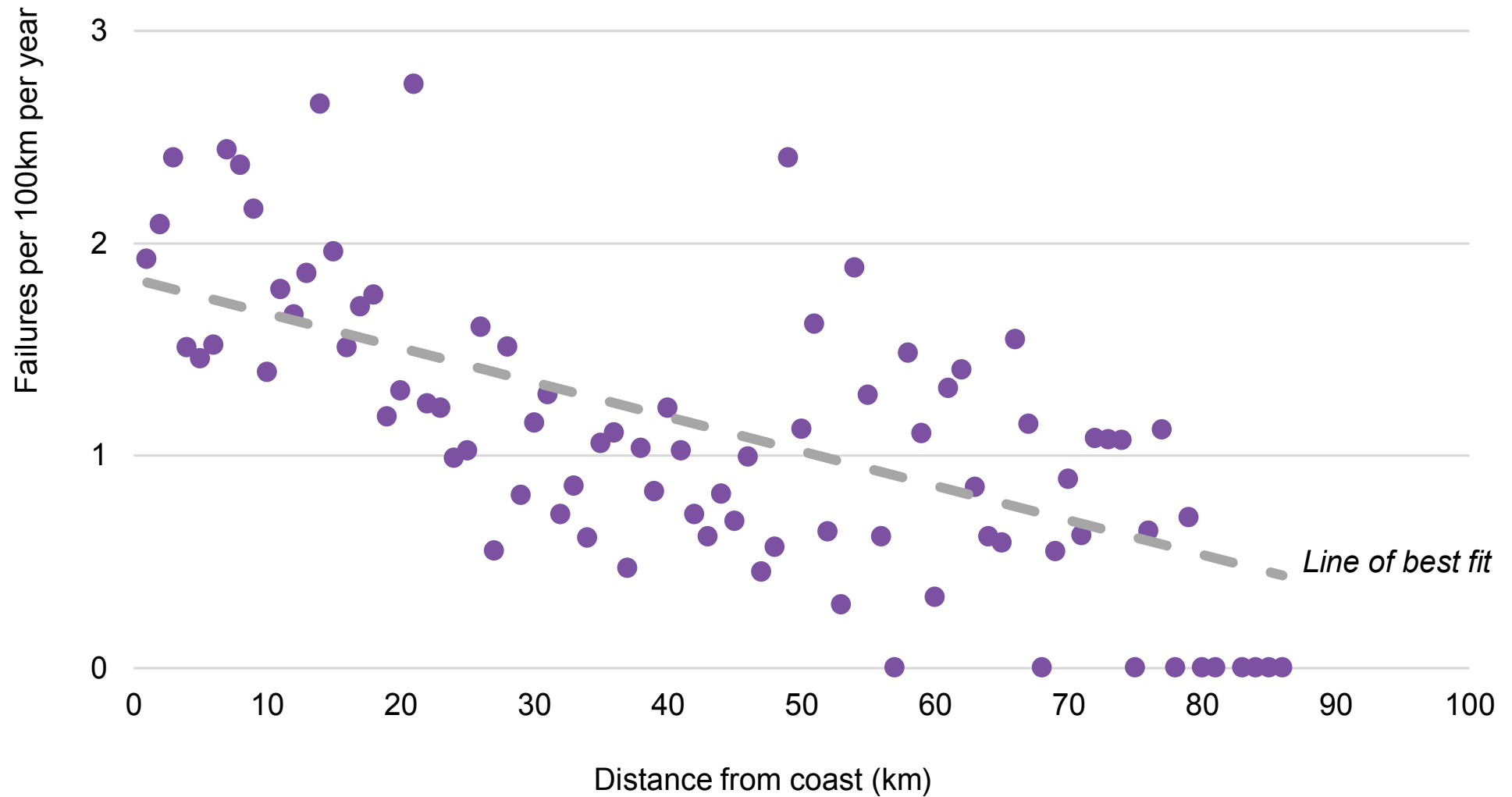
Manufacture quality

Data

joints, binding etc

Condition assessment

We believe conductor performance is correlated age and environment



Approach – model conductor health using DNO common methodology concepts.

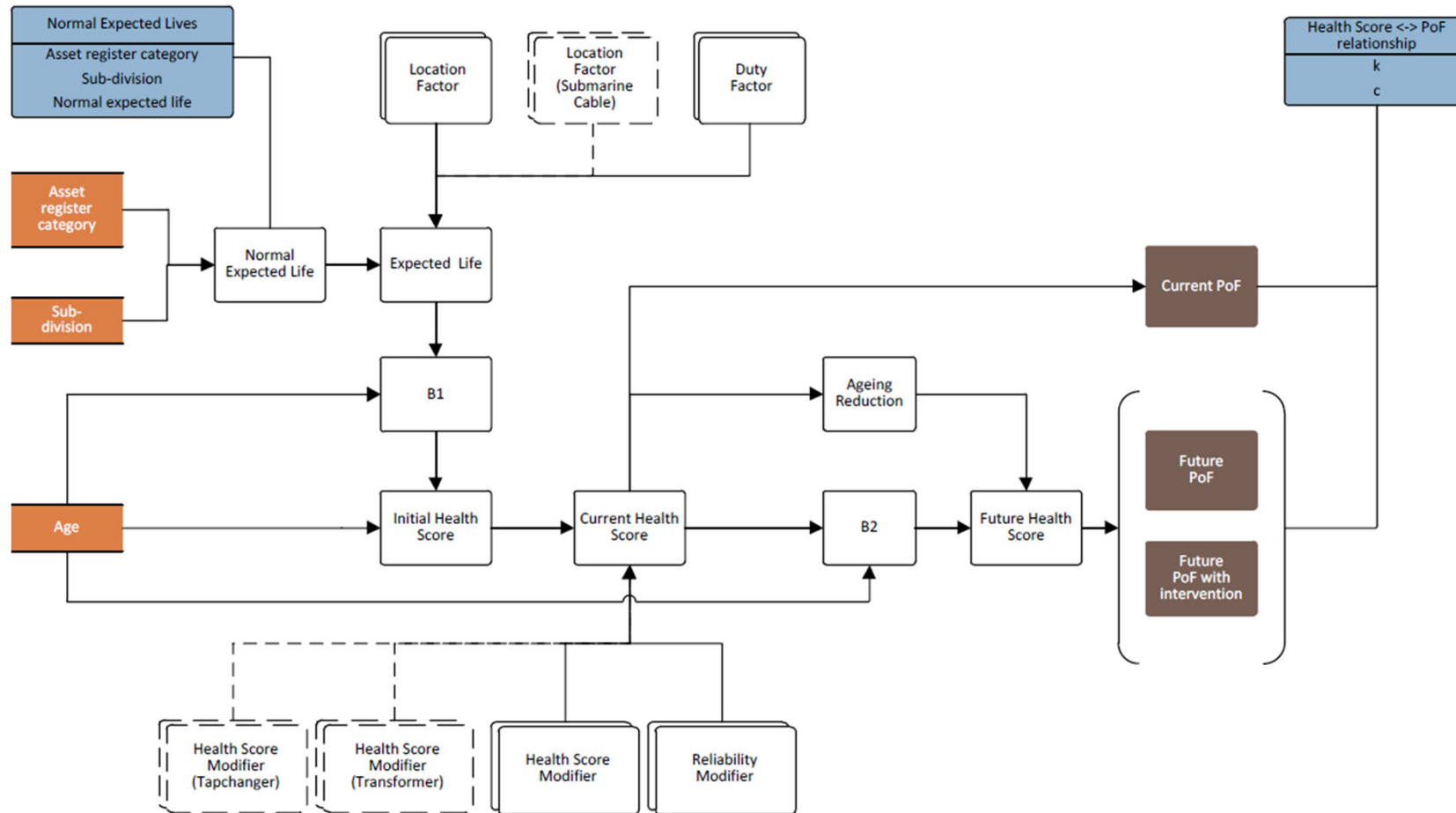


FIGURE 5: PROBABILITY OF FAILURE

Conductor health guide – what would be helpful?

- Best practices on evaluating condition – cost benefit
- Establish relationships between types, materials, environment and health.
- Nominal conductor life for planning purposes.

Finally – an alternative to conductor renewal

