

Problem:

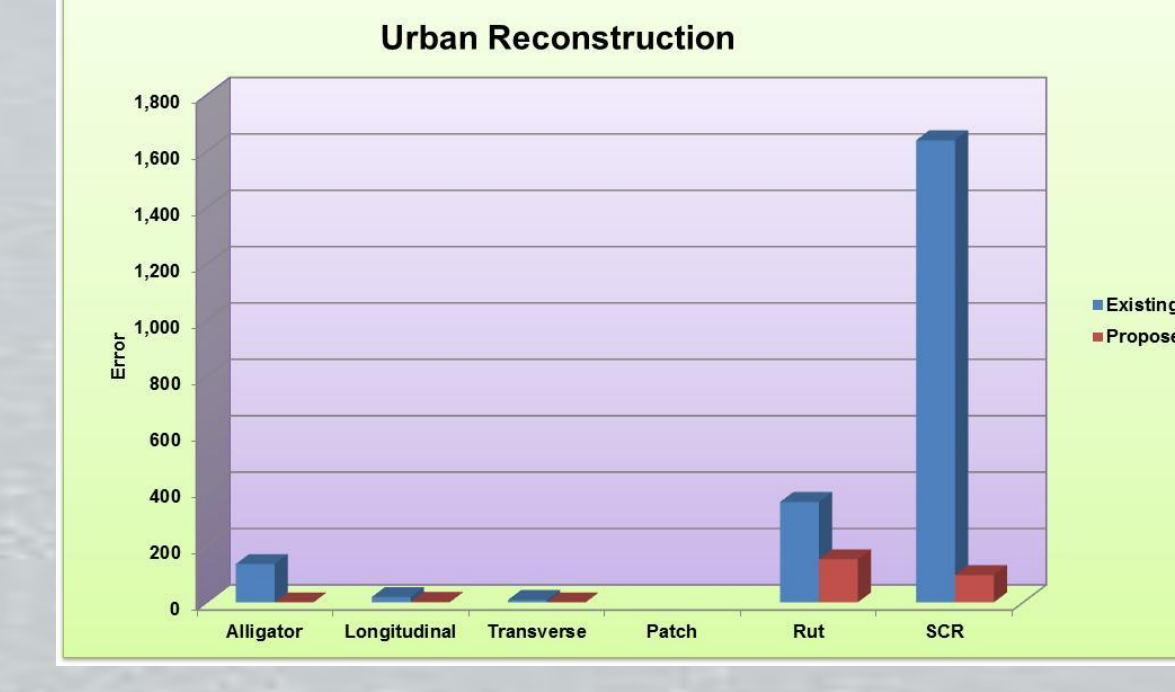
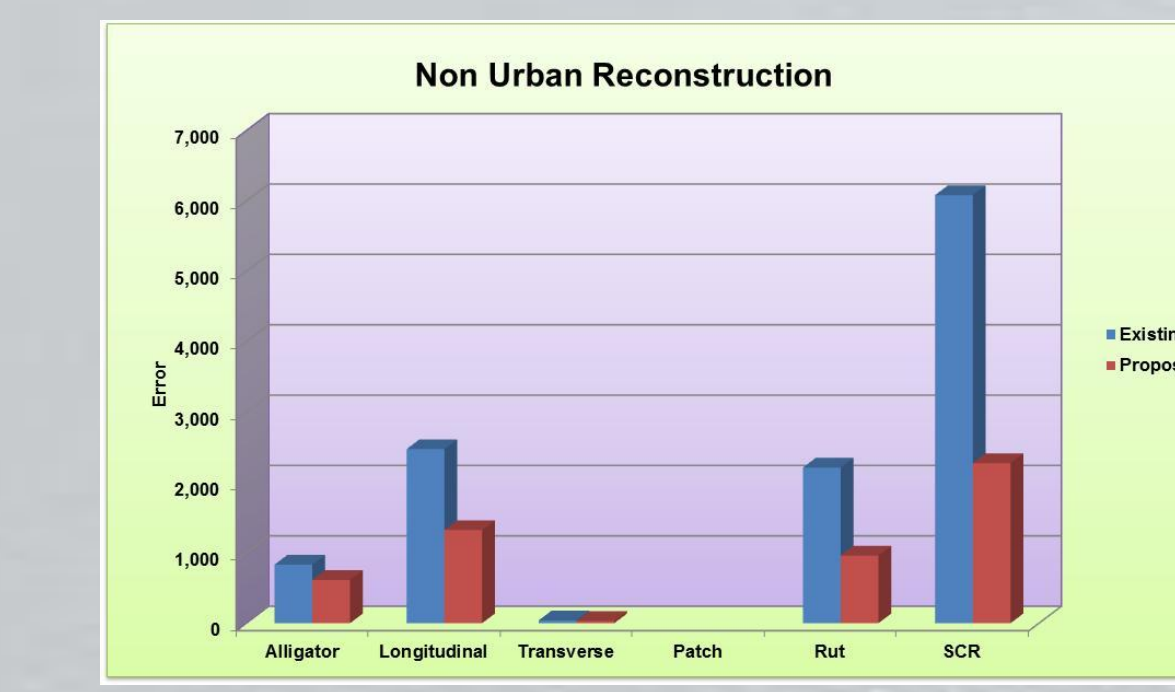
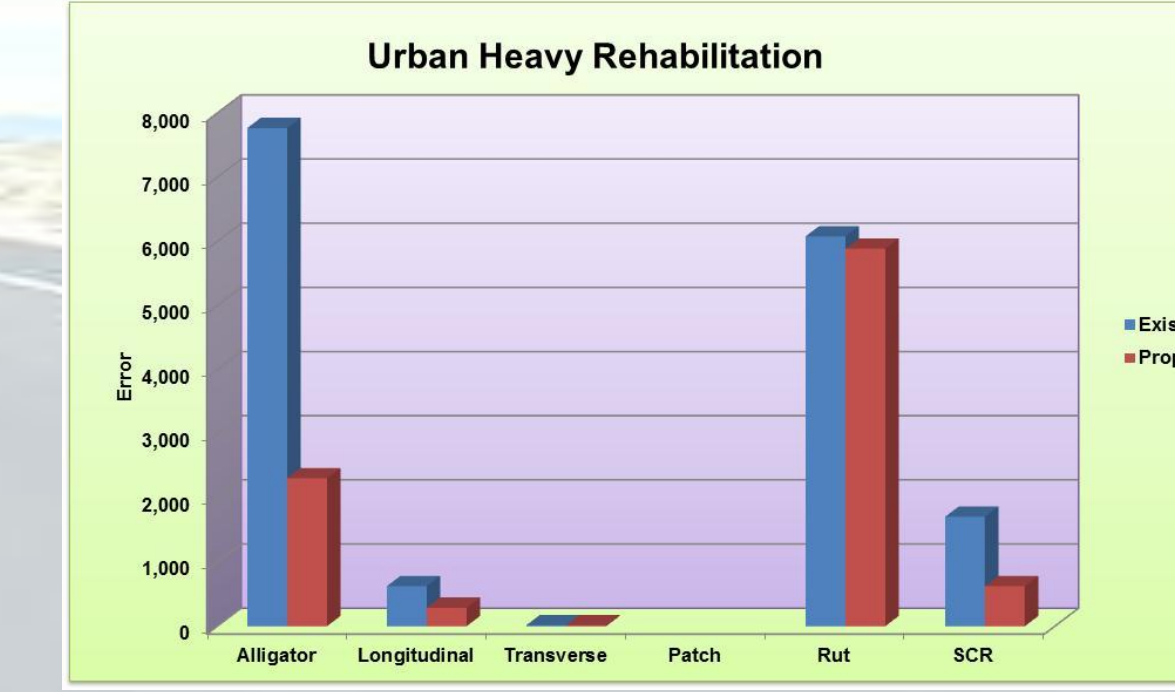
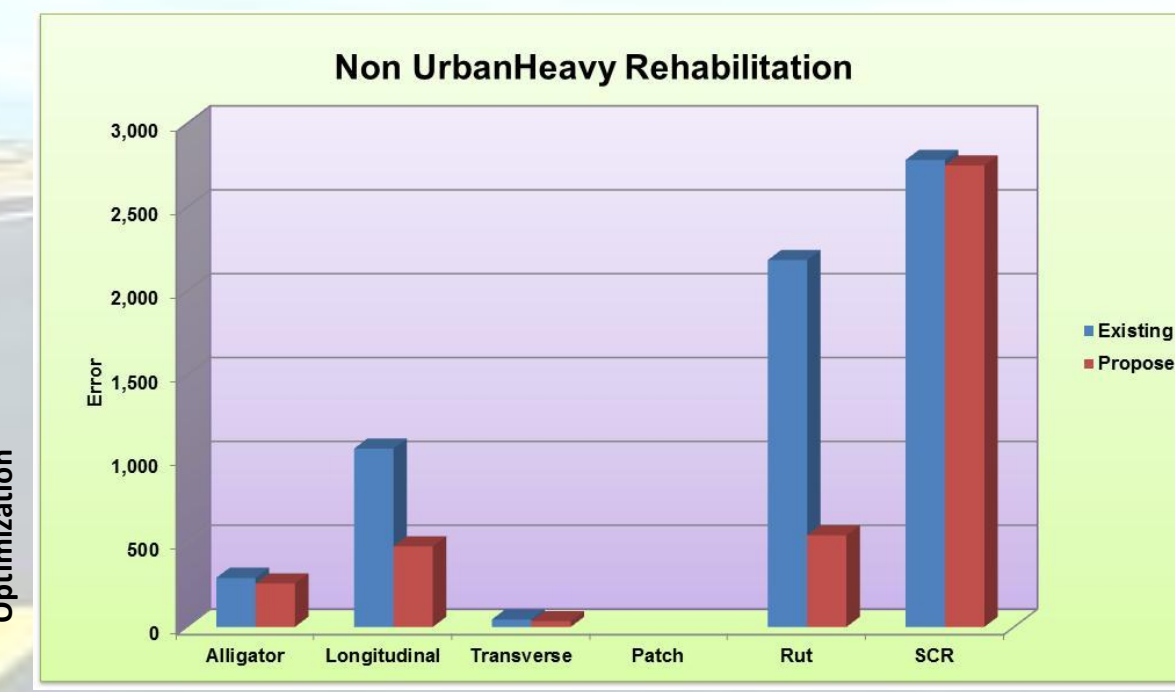
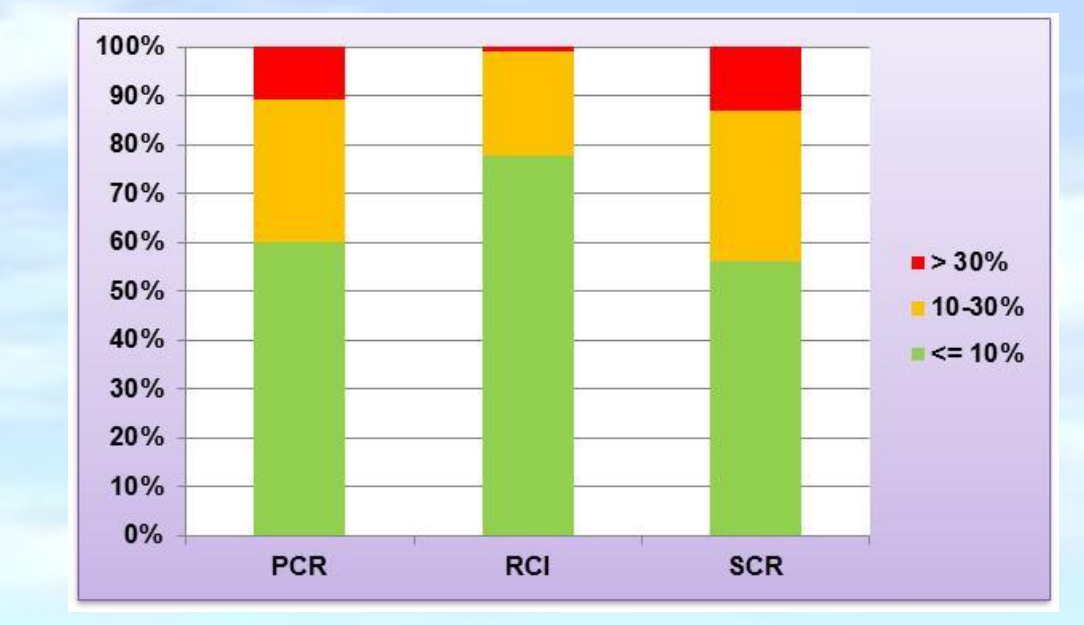
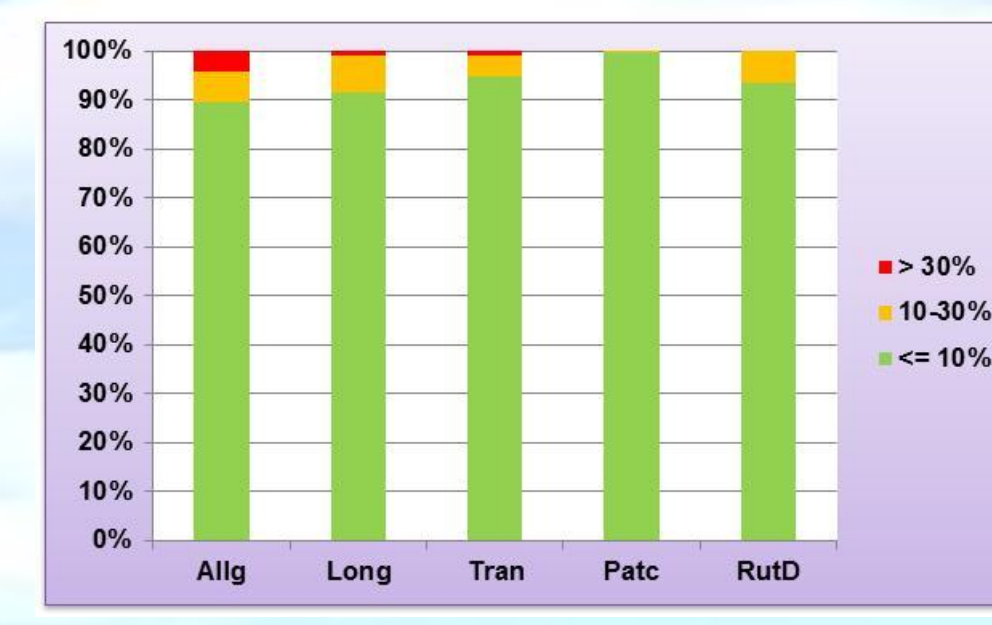
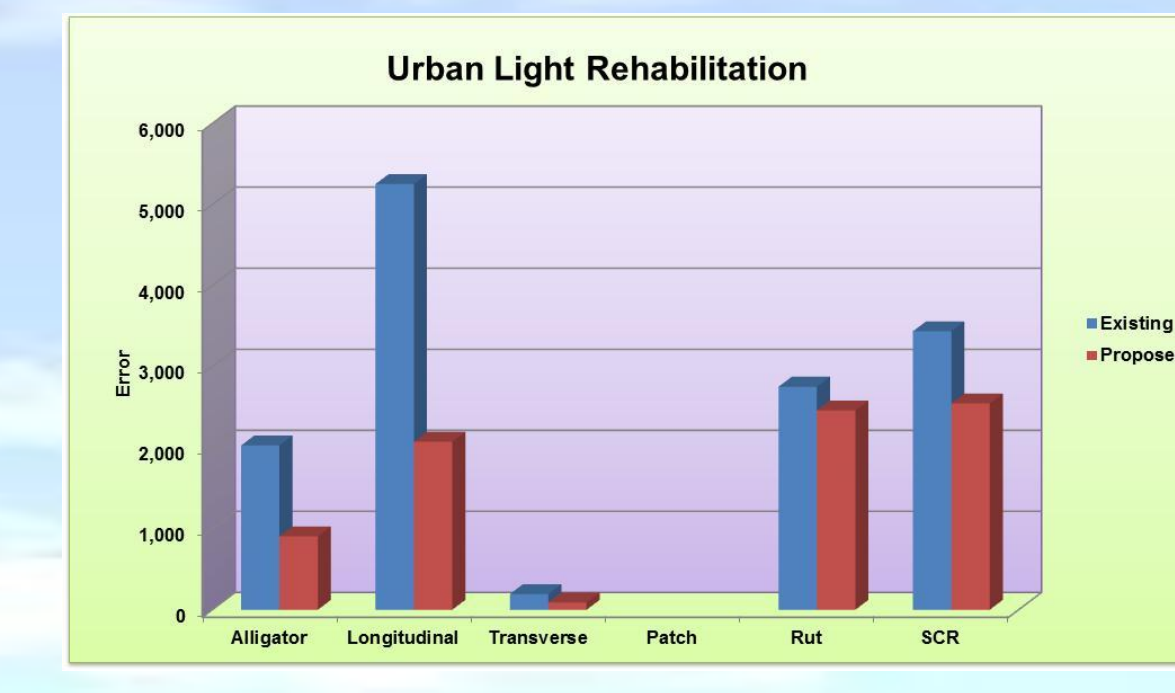
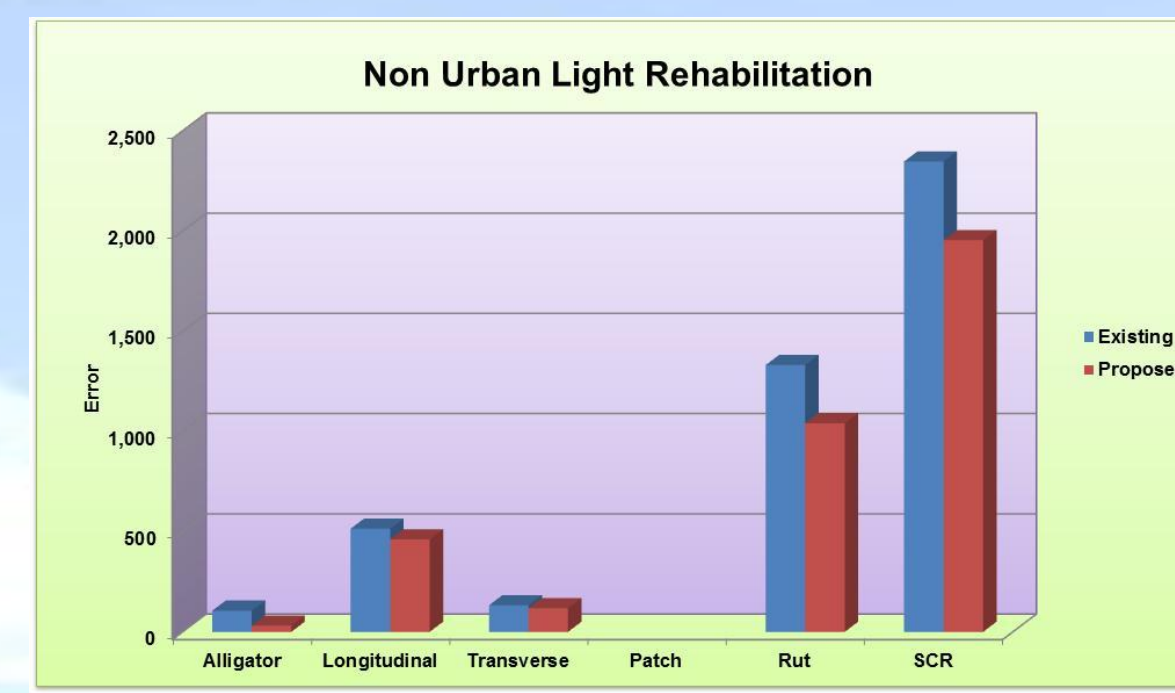
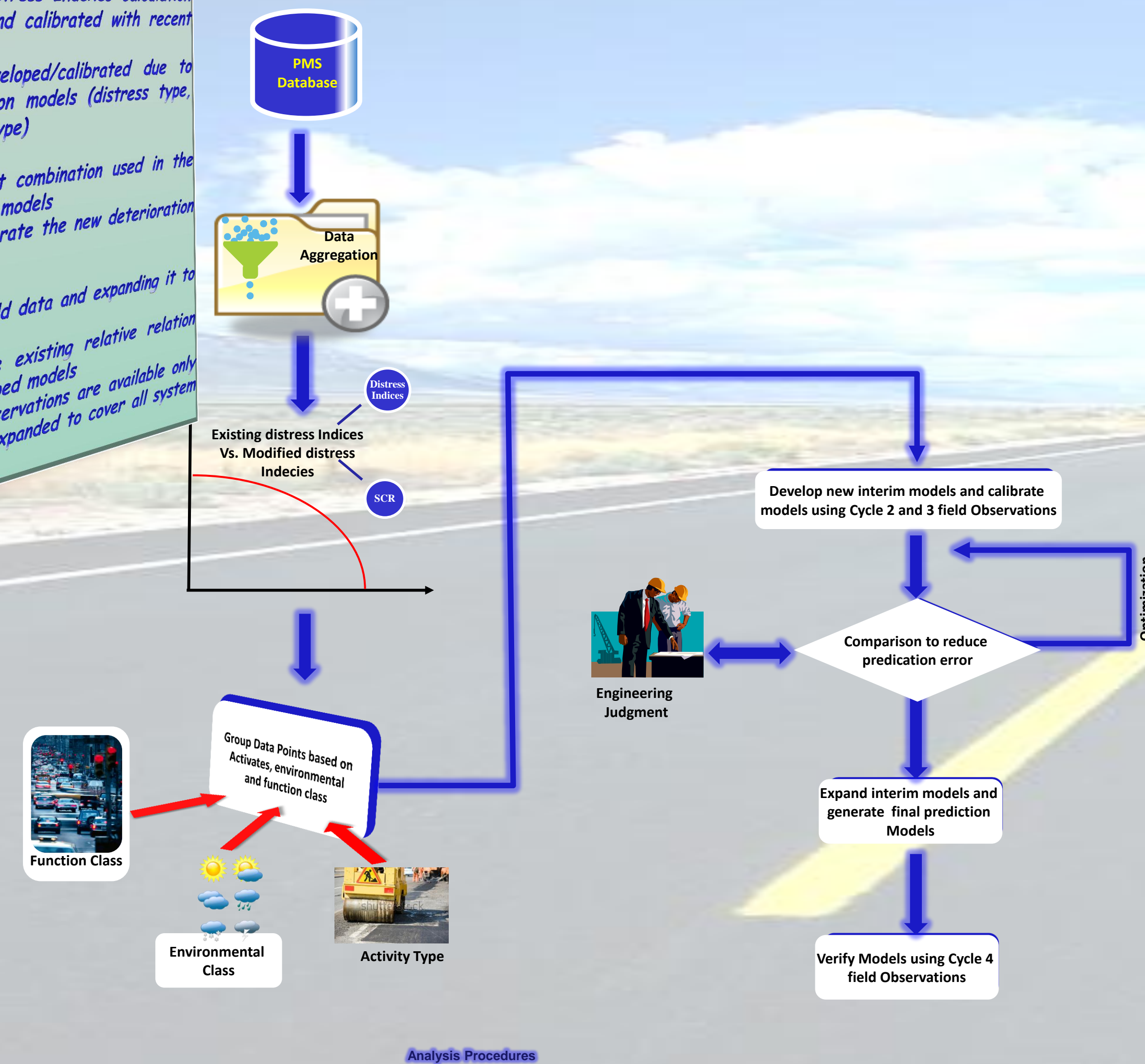
- Eastern Federal Land is modifying Individual Distress Indexes calculation and deterioration Models need to be revised and calibrated with recent collected data (Cycle 2, 3 and 4)
- More than thousand models need to be developed/calibrated due to interaction among factors impacting deterioration models (distress type, function class, environmental zones and activity type)

Objectives:

- Maintain same relative relation among different combination used in existing models and transfer it to new developed models
- Utilization of PMS field collected data to calibrate the new deterioration models

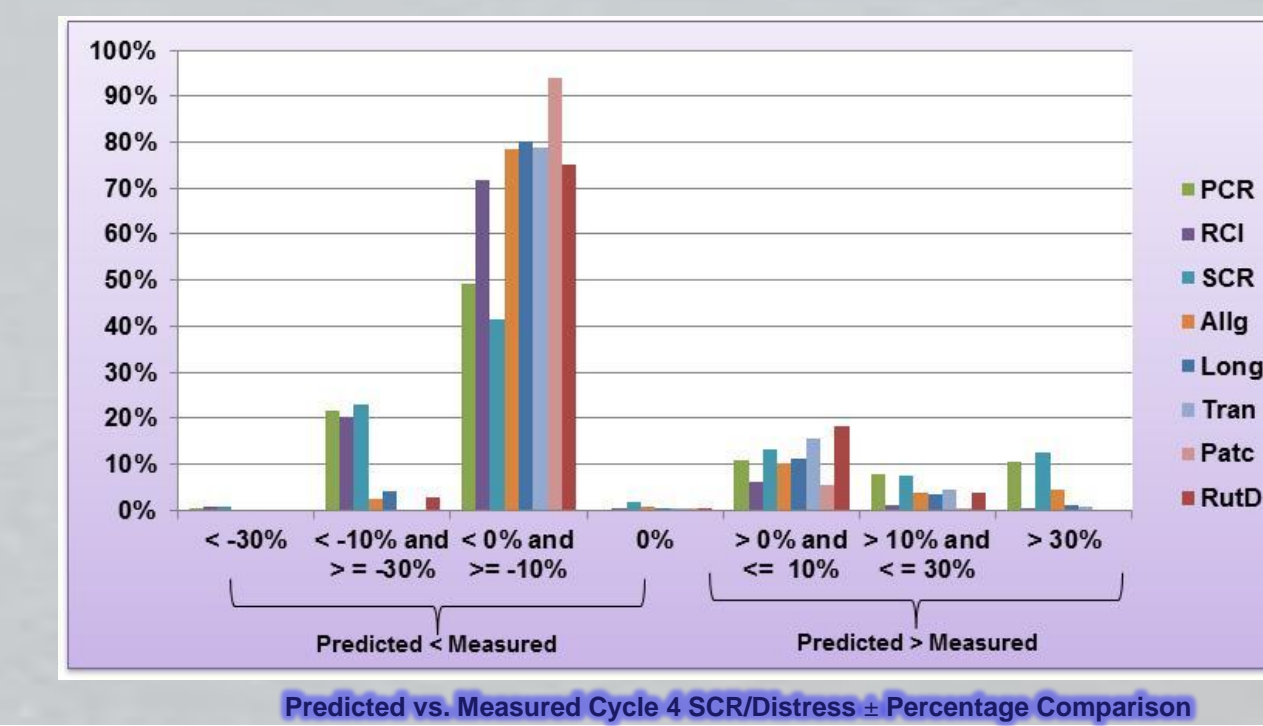
Advantages:

- Maximize the utilization of limited collected field data and expanding it to models that did not have field observations
- Utilize optimization technique to maintain the existing relative relation among models and transfer it to the new developed models
- This technique can be used when new field observations are available only for limited model combination and need to be expanded to cover all system model combinations



Conclusions:

- Comparison showed that developed interim average models for each activity category, environmental zone and functional class significantly improved predictions compared to the existing default models
- Validated by comparing the predicted and measured Cycle 4 data for eight parks showed that the average predicted Cycle 4 Distress Index values are comparable to measured Cycle 4 Distress Index values and minimal changes exist between the predicted Cycle 4 and measured Cycle 4 Distress Index values
- All updated Distress Index models are performing well with 85% of the predicted values within 10% of the measured values



Re-calibrating Existing PMS Performance Models using Field Observations



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