## **Institute for Transport Studies**





## Live Lab - Carbon Appraisal Tool

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#### Forecasting Carbon Tool - Live Lab - Approach

- This is **NOT** about quantifying carbon footprints! Takes these as inputs, but even then...
- It is about working out the **change** in Carbon between scenarios: does doing "X" decrease or increase carbon and by how much

Change not absolute

- I come at this from the perspective of economic appraisal e.g. DfT'sTAG, Treasury Green book
- Carbon expended can change in two key aspects relevant to answering this question
- 1) Overtime even doing what we do today: e.g. steel production decarbonises (maybe shift to electric blast furnaces) resulting in less carbon impact when replacing lighting columns: Need to work through a **Do-Minimum Carbon profile** also called carbon baseline
- 2) By scenario: what changes (in carbon terms) when we introduce "X" **relative** to the Do-Minimum
- Carbon Case for intervention X = (Carbon profile in Do Minimum) (Carbon profile in Do Something)



#### Our approach to quantification - An example of Carriageways



Carbon expended on the network in a given year



Life added to the network



Future carbon saved from deferring reconstruction

Applies to: Forecasting (Optioneering and Business Cases)

&

**Evaluation and Benchmarking** 

Tool developed for NHT CQC Members: based on "minimum requirement" of publicly held data



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## **Example Outputs**

Carbon Expended in Year and Carbon saved in future years

Contribution to achieving net zero (net carbon saved)

Carbon Tool (Highways)

Life added to assets

Value for Carbon



### A way forward

## What is likely to change?

- Sets the boundary of our work
- Scope of Tool



## What is done now?

- Within the boundary
- Elements of Tool

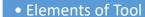


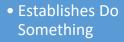
# Identify current and future carbon for current activities

- Establishes the **Do- Minimum**
- Requires baking in base-line trends



## Identify carbon profile for new interventions:





• Pivots off do minimum trends



Calculate expected carbon saving over 30 years



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### A way forward

Activities, Activities, You carbon carbon Programme of understand footprint, asset footprint, asset workshops needed your case life, inspection life, inspection to facilitate this from studies regime regime the project team What is likely to What is done Identify current Identify carbon change? now? and future profile for new carbon for interventions: • Sets the boundary • Within the Calculate current of our work boundary • Elements of Tool expected • Elements of Tool • Scope of Tool activities • Establishes Do carbon saving Something • Establishes the **Do**over 40 years • Pivots off do Minimum minimum trends • Requires baking in base-line trends



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