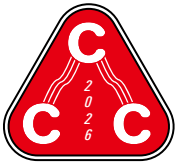
Carbon Diagram Deployment Manual

Issued by the Centre for Carbon Communication (CCC)
Internal Circulation Document
Version 1.0



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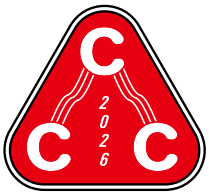

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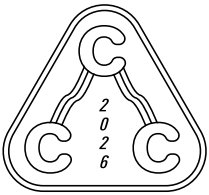

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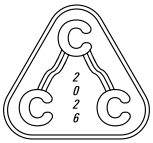

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Our purpose

The Centre for Carbon Communication (CCC) is dedicated to enhancing the efficiency and societal impact of carbon emission visualisation.

Through the standardisation of structural frameworks and deployment strategies, CCC seeks to optimise the public communication effectiveness of emission-related data.

Institutional Position

In carbon communication practice, operational efficiency supersedes informational completeness. Strategic impact supersedes descriptive neutrality.

chapter 1

How to Use This Manual?

This manual is not a catalogue of diagram types.
It is an operational guide for strategic deployment.
Before selecting any visual structure, the following three parameters must be defined:

1 COMMUNICATION OBJECTIVE

What is the primary purpose of the diagram?

- Behavioural adjustment
- Institutional reporting
- Policy justification
- Structured Classification

Diagrams must be selected according to objective, not aesthetic preference.

2 TARGET VIEWER

Who is expected to interpret the diagram?

- Individual behavioural subject
- Organisational decision-maker
- General public audience
- Long-term stakeholder

Each viewer position alters the required temporal and structural framing.

3 REQUIRED OUTCOME

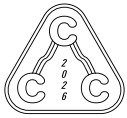
What interpretative or behavioural effect is intended?

- Intensified urgency
- Comparative awareness
- Accountability attribution
- Diffusion of responsibility
- Cognitive simplification

The intended outcome determines the appropriate visual configuration.

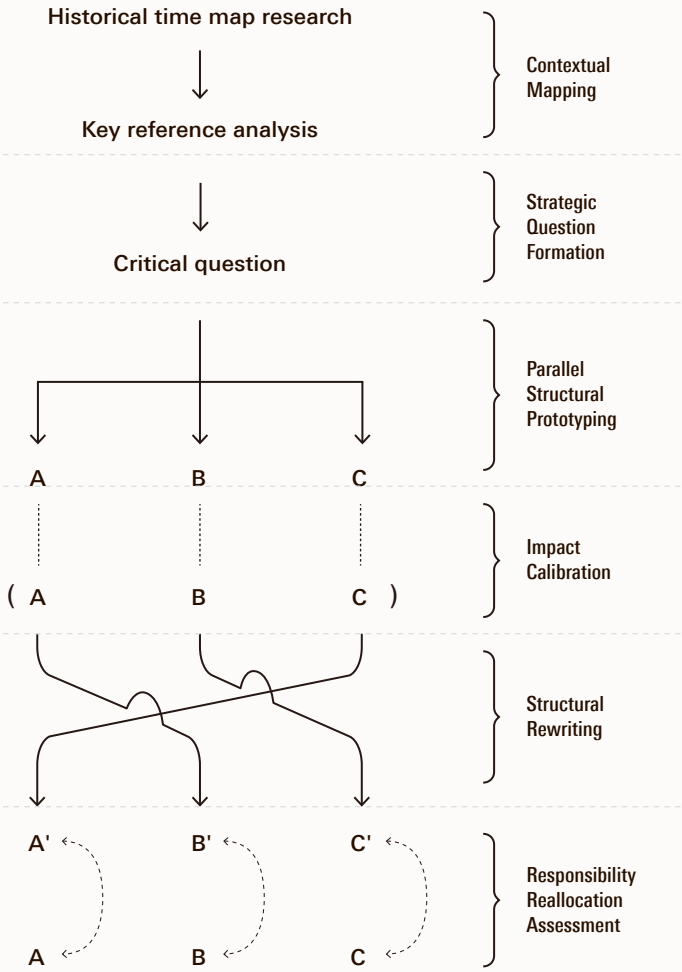
chapter 2

CCC - Diagram Development Model



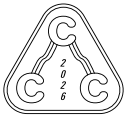
The following model outlines the internal theoretical framework supporting diagram deployment decisions within *CCC*. It ensures coherence between communication objective, structural configuration, and responsibility distribution.

CCC - Diagram Development Model



chapter 3

Deployment Categories



Deployment Index

Carbon diagrams may be deployed according to communication objective.
The following categories define primary operational orientations.

1

Behavioural Adjustment Deployment

Emphasises personal responsibility through visible efficiency comparison. Prioritises urgency and behavioural agency.

2

Institutional Reporting Deployment

Presents aggregated data to demonstrate organisational control and progress. Prioritises stability and accountability.

3

Policy Justification Deployment

Situates emissions within structural and infrastructural conditions. Prioritises contextual complexity.Prioritises stability and accountability.

4

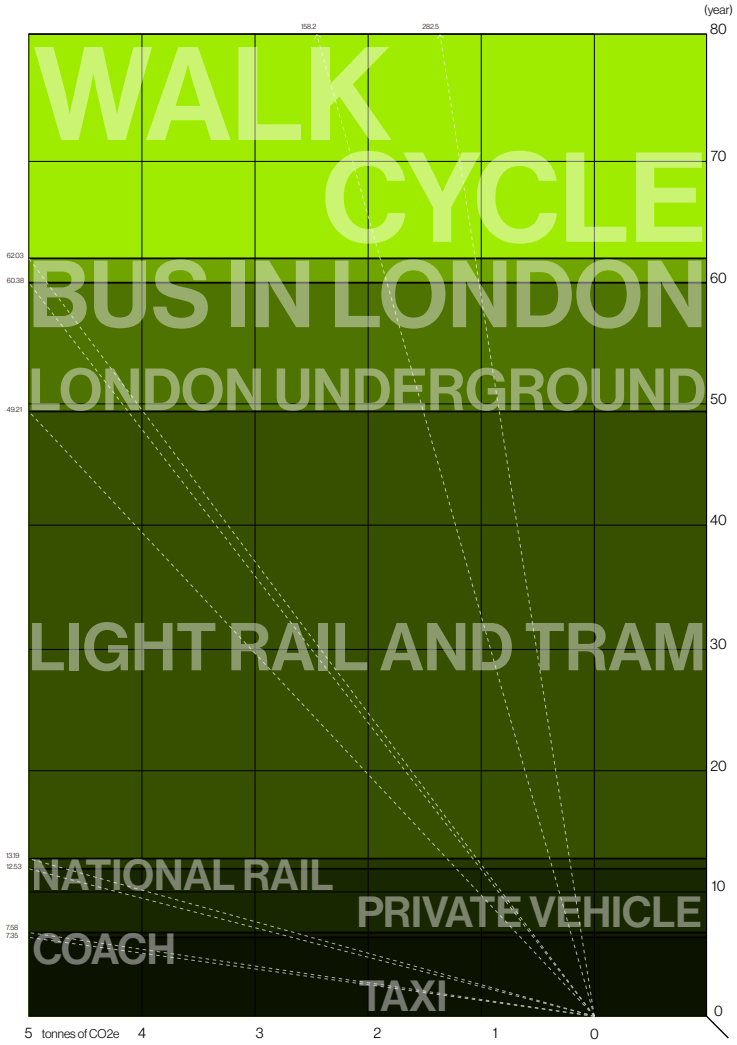
Structured Classification Deployment

Frames data to reduce anxiety and maintain collective cohesion. Prioritises clarity and balance.

Communication Objective	Encourage individual behavioural modification through visible efficiency comparison.
Recommended Temporal Frame	Short to mid-term intervals. Fixed emission thresholds are preferred.
Preferred Structural Configuration	Comparative structures (ranking logic) Threshold-based accumulation High visibility contrast
Strategic Effect	Converts abstract carbon data into perceivable duration. Intensifies perception of inefficiency. Reinforces individual agency.
Responsibility Distribution	Primary attribution: **Individual transport choice.** Structural constraints remain secondary.
Operational Variables	Visual Intensity: Medium to High Processing Speed: High Metaphoric Encoding: Accumulative duration Interpretative Outcome: Behaviour-oriented understanding

***Deployment Note:**	**Best used in public campaigns promoting personal responsibility.**

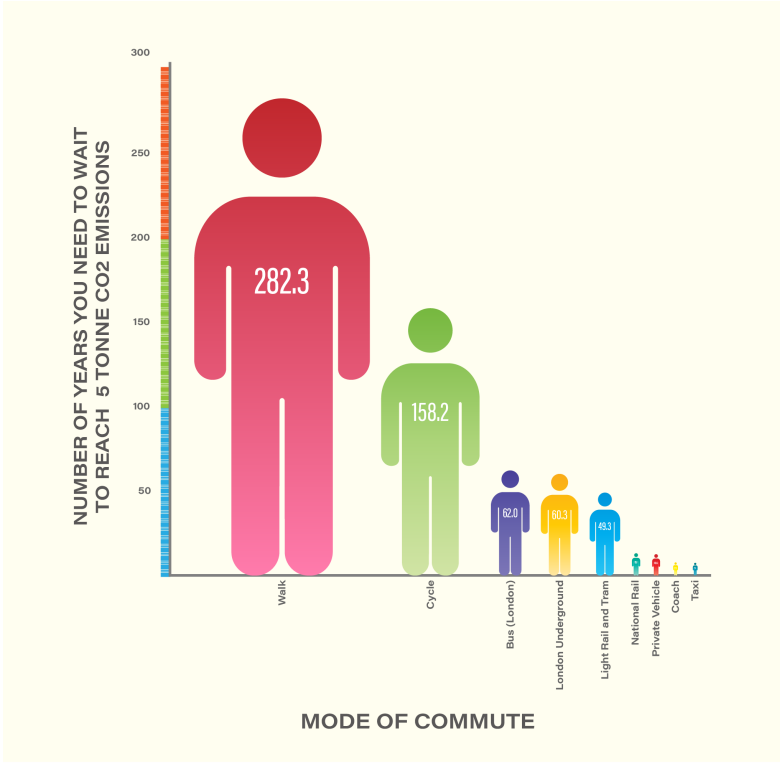
How long does each transport mode take to reach 5 tonnes of CO_2?



Data Source: UAL commuting dataset (distance × emission factor × annual frequency).

Communication Objective	Simplify emission comparison through anthropomorphic scale to enhance immediate comprehension.
Recommended Temporal Frame	Fixed threshold converted into human-readable duration.
Preferred Structural Configuration	Scaled human icons Extreme size contrast Minimal data layering
Strategic Effect	Reduces analytical complexity. Amplifies perceptual contrast. Positions viewer within the scale comparison.
Responsibility Distribution	Primary attribution: Individual transport choice. Structural factors largely removed.
Operational Variables	Visual Intensity: High Processing Speed: Very High Metaphoric Encoding: Human-scale comparison Interpretative Outcome: Immediate behavioural contrast

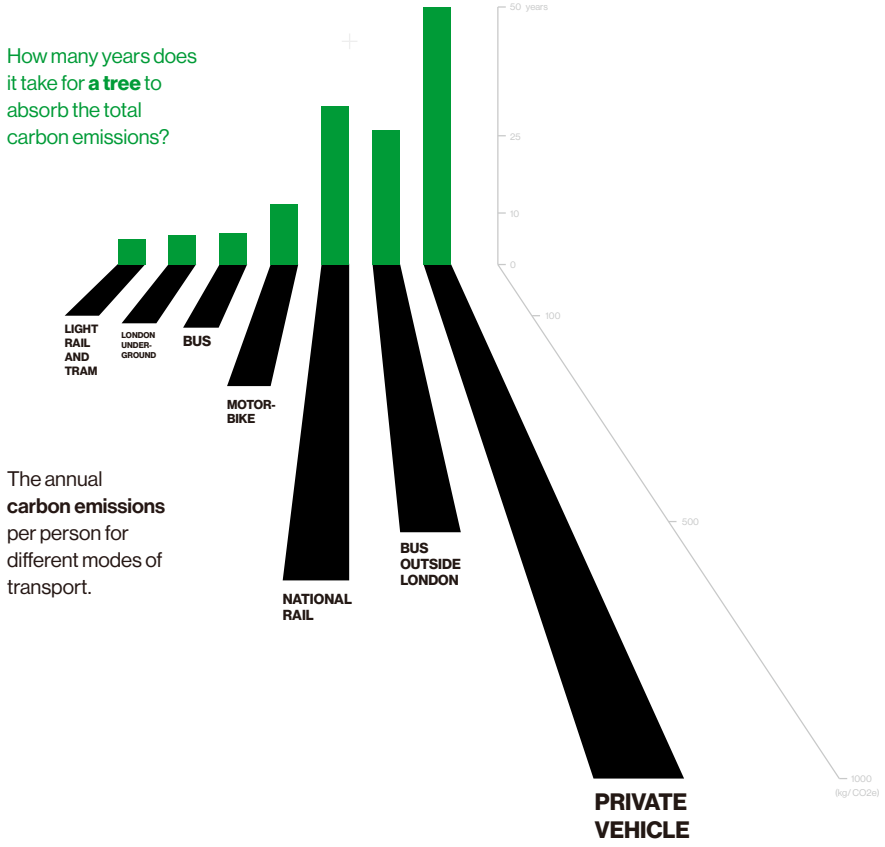
***Deployment Note:**	**Suitable for public campaigns requiring immediate impact.**



Data Source: UAL commuting dataset (distance × emission factor × annual frequency).

Communication Objective	Encourage behavioural change through ecological equivalence and visual exaggeration.
Recommended Temporal Frame	Long-term ecological duration. Carbon converted into absorbable natural time.
Preferred Structural Configuration	Bar-based comparison Perspective distortion Shadow extension
Strategic Effect	Transforms emissions into ecological burden. Amplifies perceived moral weight. Introduces spatial tension through perspective.
Responsibility Distribution	Strong attribution toward individual transport choice. Ecological consequence made visible.
Operational Variables	Visual Intensity: High Processing Speed: High Metaphoric Encoding: Ecological equivalence Interpretative Outcome: Moral urgency

***Deployment Note:**	**Used when emissions need to feel like ecological damage.**

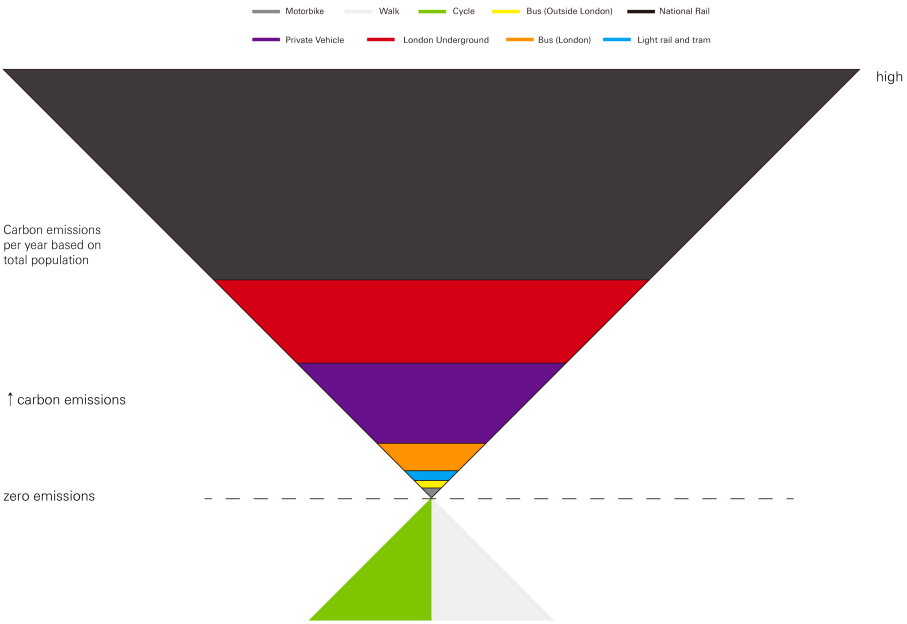


Data Source: UAL commuting dataset (distance × emission factor × annual frequency).

Communication Objective	Emphasise emission hierarchy through area dominance and visual gravity.
Recommended Temporal Frame	Annual total emissions aggregated by population.
Preferred Structural Configuration	Inverted triangular hierarchy Area-based comparison Top-heavy visual distribution
Strategic Effect	Magnifies the highest emitting category. Compresses mid-tier differences. Creates perceptual pressure through visual mass.
Responsibility Distribution	Primary attribution: High-emission group dominance. Middle-tier categories visually subordinated.
Operational Variables	Visual Intensity: High Processing Speed: High Metaphoric Encoding: Accumulated weight Interpretative Outcome: Hierarchical awareness

***Deployment Note:**	**Directs scrutiny toward the largest contributor.**

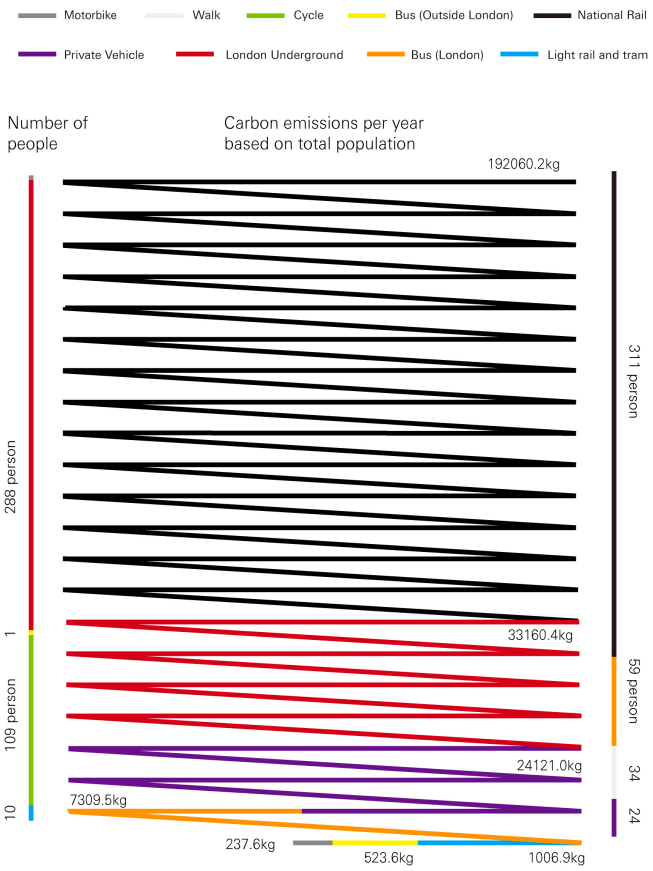
Deployment Example 04 | Area-dominant hierarchical compression.



Data Source: UAL commuting dataset (distance × emission factor × annual frequency).

Communication Objective	Present aggregated emissions to demonstrate scale and collective impact.
Recommended Temporal Frame	Annual total output. Population-based multiplication.
Preferred Structural Configuration	Linear repetition Stacked accumulation Segmented grouping by transport type
Strategic Effect	Transforms individual emissions into institutional scale. Emphasises magnitude through repetition. Shifts interpretation from behaviour to system capacity.
Responsibility Distribution	Primary attribution: Collective population scale. Individual behaviour becomes statistically absorbed.
Operational Variables	Visual Intensity: Medium to High Processing Speed: Moderate Metaphoric Encoding: Accumulative pressure Interpretative Outcome: Scale awareness

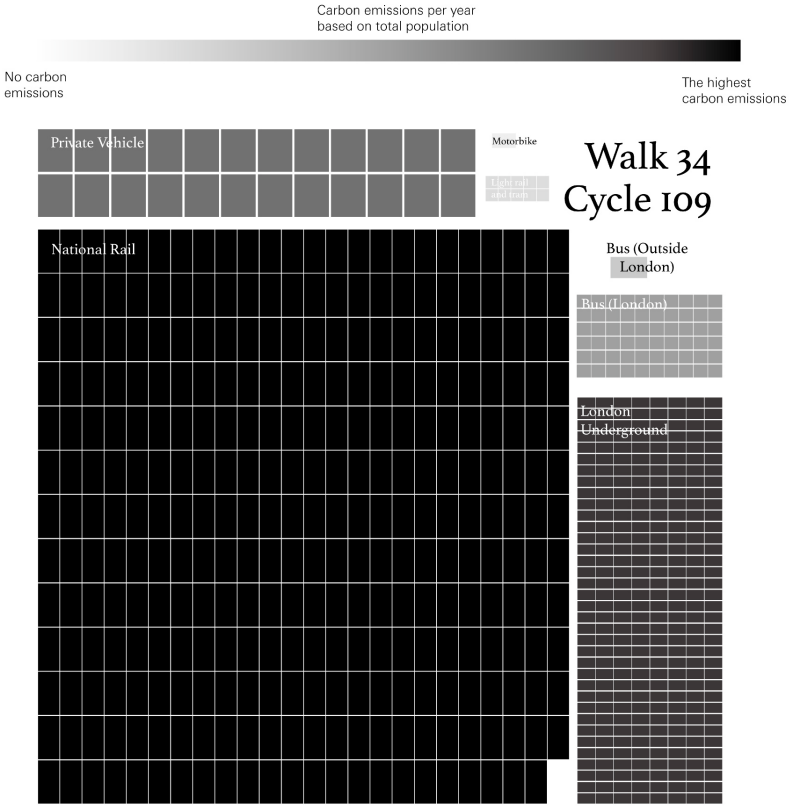
***Deployment Note:**	**Stretches impact across time to increase perceived severity.**



Data Source: UAL commuting dataset (distance × emission factor × annual frequency).

Communication Objective	Represent total emissions as measurable accumulated surface units.
Recommended Temporal Frame	Annual total output scaled by population.
Preferred Structural Configuration	Unit-based grid Equal-area squares Density-driven comparison
Strategic Effect	Transforms emissions into countable surface mass. Reduces dynamic perception into static accumulation. Emphasises total magnitude over directional change.
Responsibility Distribution	Primary attribution: Collective population scale. Individual differences absorbed into grid uniformity.
Operational Variables	Visual Intensity: Medium Processing Speed: Low to Moderate Metaphoric Encoding: Surface mass Interpretative Outcome: Quantitative accumulation awareness

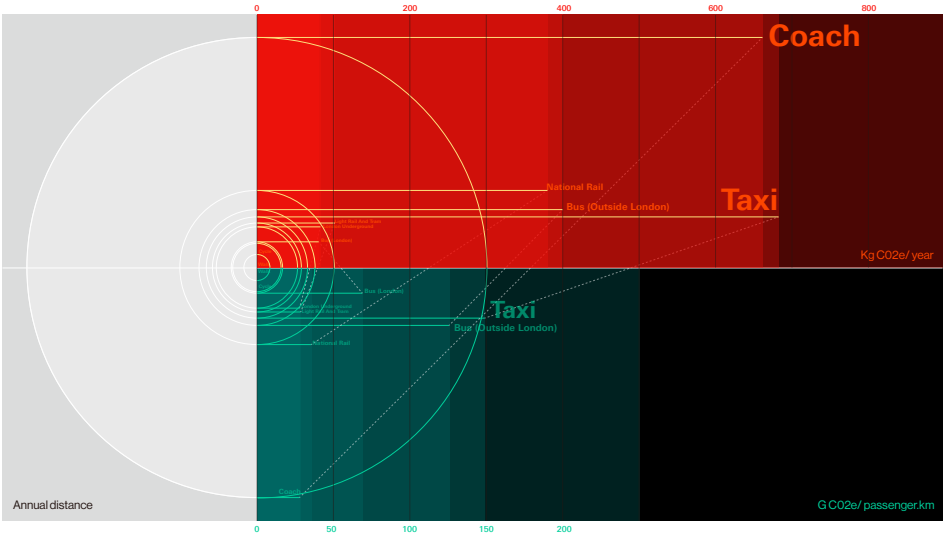
***Deployment Note:**	**Suitable for administrative contexts presenting emissions as manageable data.**



Data Source: UAL commuting dataset (distance × emission factor × annual frequency).

Communication Objective	Contextualise emissions within structural conditions rather than individual behaviour.
Recommended Temporal Frame	Annual and multi-variable representation. Avoid single-threshold compression.
Preferred Structural Configuration	Multi-layered field Simultaneous scale representation Spatial centralisation
Strategic Effect	Prevents reduction to a single metric. Reframes emissions as structurally conditioned. Shifts attention from behaviour to infrastructure.
Responsibility Distribution	Primary attribution: Structural and infrastructural systems. Individual behaviour becomes one variable among many.
Operational Variables	Visual Intensity: Medium Processing Speed: Moderate Metaphoric Encoding: Spatial centralisation Interpretative Outcome: Structural awareness

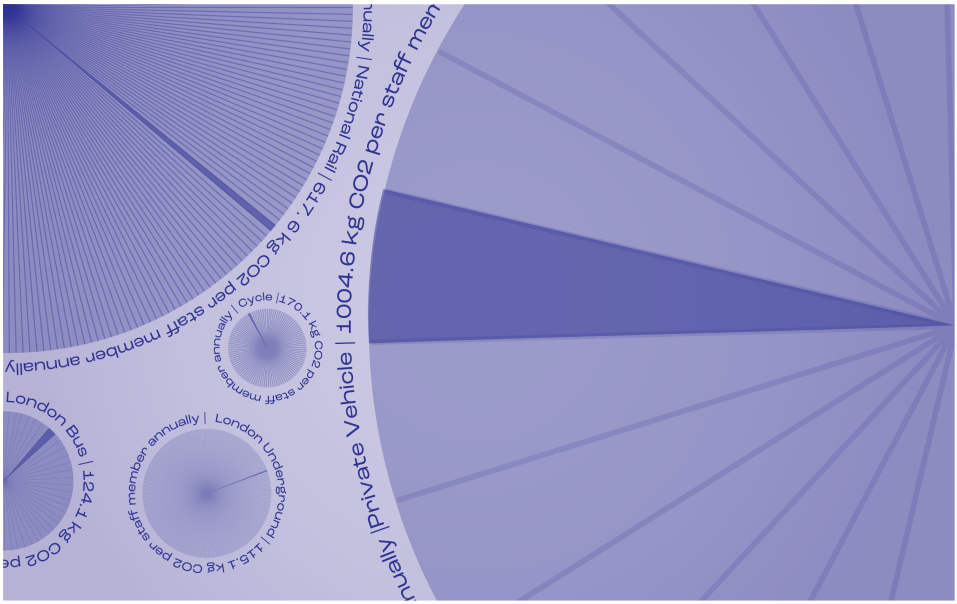
***Deployment Note:**	**Prevents emissions from being reduced to personal behaviour.**



Data Source: UAL commuting dataset (distance × emission factor × annual frequency).

Communication Objective	Simultaneously visualise individual and collective emission scales.
Recommended Temporal Frame	Annual emissions viewed through both personal and aggregated perspectives.
Preferred Structural Configuration	Radial segmentation Nested circular structure Multi-scalar layering
Strategic Effect	Reframes emissions as relational rather than isolated. Links personal contribution to collective scale. Encourages contextual interpretation.
Responsibility Distribution	Shared attribution between individual and system scale. Responsibility is relational rather than singular.
Operational Variables	Visual Intensity: Medium Processing Speed: Moderate Metaphoric Encoding: Relational field Interpretative Outcome: Context-based understanding

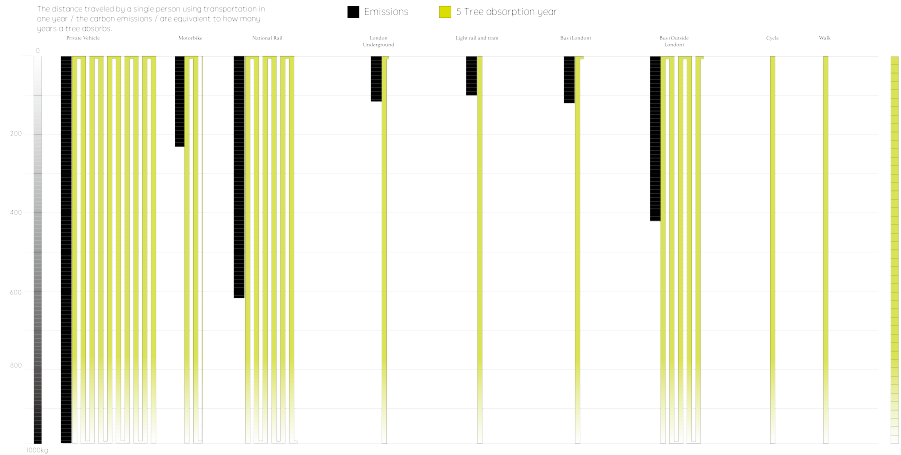
***Deployment Note:**	**Connects personal contribution to total impact.**



Data Source: UAL commuting dataset (distance × emission factor × annual frequency).

Communication Objective	Translate annual emissions into ecological absorption time to render carbon impact tangible.
Recommended Temporal Frame	Long-term ecological duration. Annual emissions converted into years of natural absorption.
Preferred Structural Configuration	Linear accumulation Repetitive unit stacking Direct equivalence mapping
Strategic Effect	Transforms carbon into a measurable ecological burden. Replaces abstract quantity with growth time. Emphasises consequence over efficiency.
Responsibility Distribution	Primary attribution: Individual emission output. Ecological consequence framed as compensatory duration.
Operational Variables	Visual Intensity: Medium Processing Speed: Moderate Metaphoric Encoding: Ecological equivalence Interpretative Outcome: Consequence-based understanding

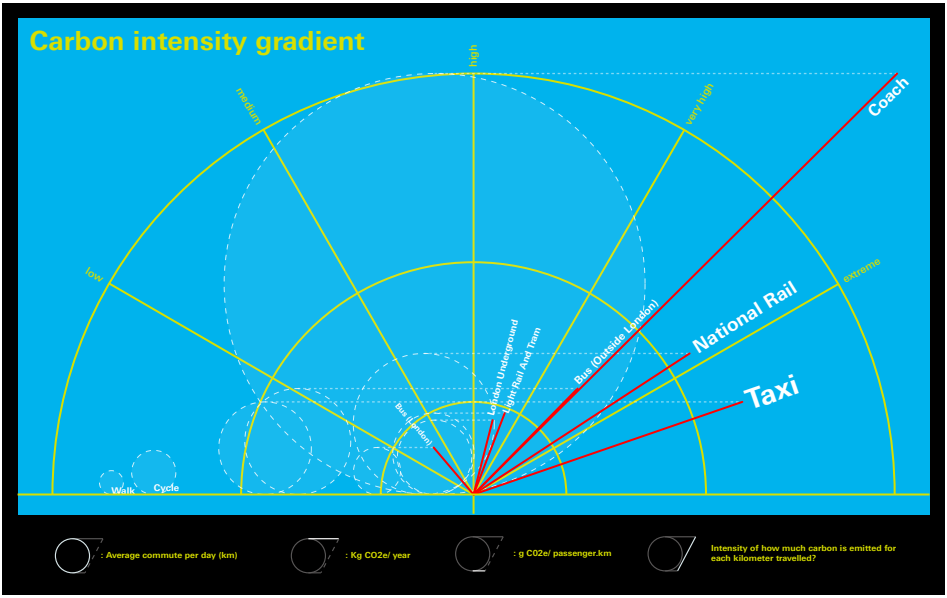
***Deployment Note:**	**Stretches impact across time to increase perceived severity.**



Data Source: UAL commuting dataset (distance × emission factor × annual frequency).

Communication Objective	Translate continuous emission differences into categorical intensity levels.
Recommended Temporal Frame	Context-independent. Focus on intensity comparison rather than duration.
Preferred Structural Configuration	Radial field Angular comparison Segmented classification bands
Strategic Effect	Transforms quantitative difference into directional hierarchy. Introduces categorical thresholds within continuous data. Shifts comparison from amount to intensity.
Responsibility Distribution	Attribution becomes abstracted. Focus shifts from actor to measured intensity scale.
Operational Variables	Visual Intensity: High Processing Speed: Moderate to Low Metaphoric Encoding: Measuring field Interpretative Outcome: Categorical understanding

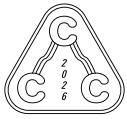
***Deployment Note:**	**Used when ranking intensity matters more than total volume.**



Data Source: UAL commuting dataset (distance × emission factor × annual frequency).

chapter 4

Deployment Selection Guidelines



Selecting the Appropriate Deployment Type

Before selecting a visual strategy, confirm:

1 Communication Objective

- Behavioural change
- Institutional accountability
- Policy framing
- Hierarchical clarity

2 Intended Audience

- Public
- Internal stakeholders
- Policy audience
- Analytical users

3 Urgency Level

- Immediate
- Stable reporting
- Contextual explanation
- Comparative clarity

Deployment type should align with primary communication priority.

Operational Trade-offs

Each deployment emphasises different dimensions.

Behavioural Adjustment
→ High urgency, lower nuance

Institutional Reporting
→ Stability, reduced emotional impact

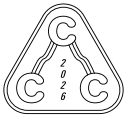
Policy Justification
→ Context depth, lower immediacy

Structured Classification
→ Clarity of hierarchy, simplified relationships

No single configuration maximises urgency, clarity, and structural depth simultaneously.

chapter 5

Operational Principles



Alignment
Deployment type must align with the primary communication objective.

-

Emphasis
Each configuration amplifies specific dimensions while reducing others.

-

Responsibility
Diagrammatic structure implies responsibility emphasis.

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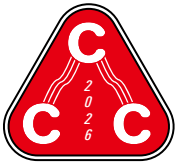
Temporal Framing
Perceived urgency is influenced by temporal scale.

-

Trade-off
No deployment simultaneously maximises clarity, urgency, and structural depth.

Effective deployment requires structural awareness.



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