

Decarbonising Networks one step and pedal at a time

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Abstract

City Science mission is to help cities and neighbourhoods decarbonise and have successfully developed and delivered LCWIPS for numerous authorities around the UK. LCWIPS = Local Cycling and Walking Implementation plans. This presentation will explain the data driven science process we go through to develop and create a LCWIP and talk about one of our projects as a case study. LCWIPS are becoming an important tool that can be used in prioritising and focusing investment in walking and cycling. A successful LCWIP can be the heart of allocating investment into these sustainable modes of transport in a defensible strategic way and allows for greater decision making in the procurement of sustainable transport infrastructure and ITS.

Overview

City Science was commissioned by North East Lincolnshire Council to produce their Local Cycling and Walking Infrastructure Plan (LCWIP), aligned with their emerging Local Transport Plan. The LCWIP covered the entire local authority area, with a particular focus on the key urban areas with the greatest potential for modal shift to walking and cycling in Grimsby, Cleethorpes and Immingham. Our work built upon a draft LCWIP produced in 2019 and was therefore required to reflect the council's reoriented priorities, including in their Carbon Roadmap to achieve net zero carbon emissions across the area by 2050.

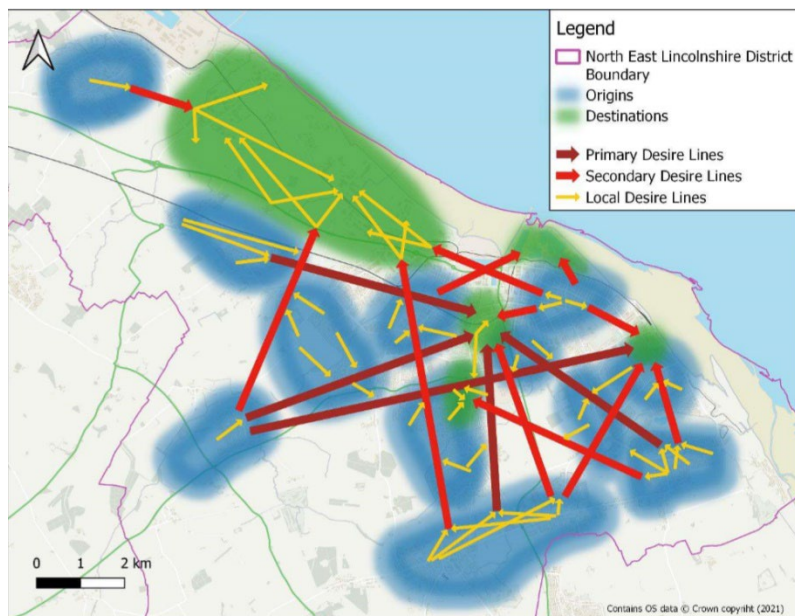
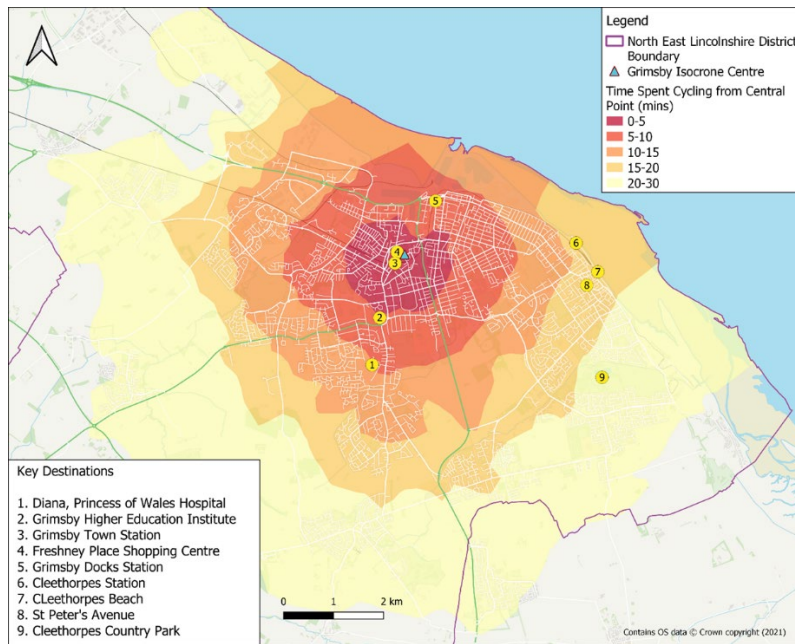
Scope

We were appointed by North East Lincolnshire Council to update a draft LCWIP previously produced in 2019 to account for significant changes such as COVID-19 and policy changes, including the council's Carbon Roadmap. The LCWIP, which was produced in accordance with the recommended six stage process identified in Department for Transport guidance, covered the entire local authority area with a focus on the key urban areas of Grimsby, Cleethorpes and Immingham. There was a requirement to consider network upgrades over a ten-year period to 2032; integrated with the timescales of allocated housing and employment sites within the North East Lincolnshire Local Plan (2018).

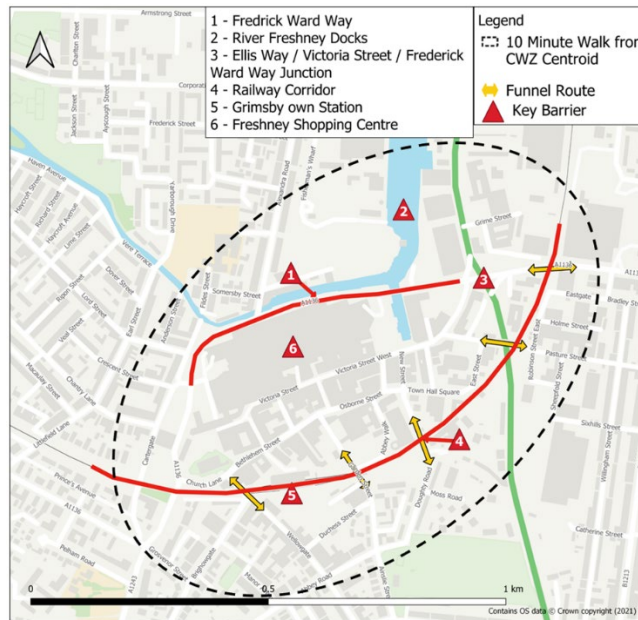
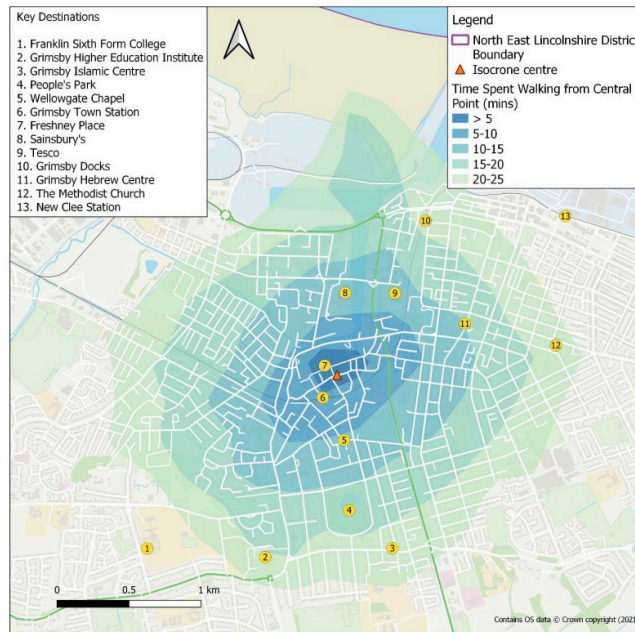
City Science Response

We closely followed the six-stage process of an LCWIP. In addition to Stage 1 (scoping) our approach included:

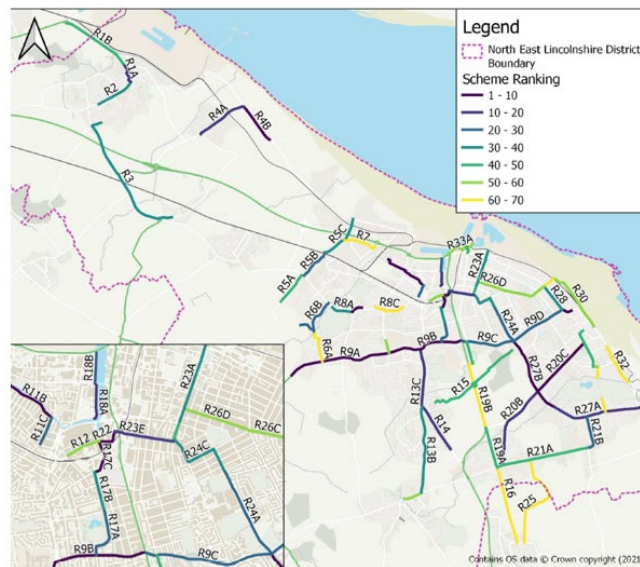
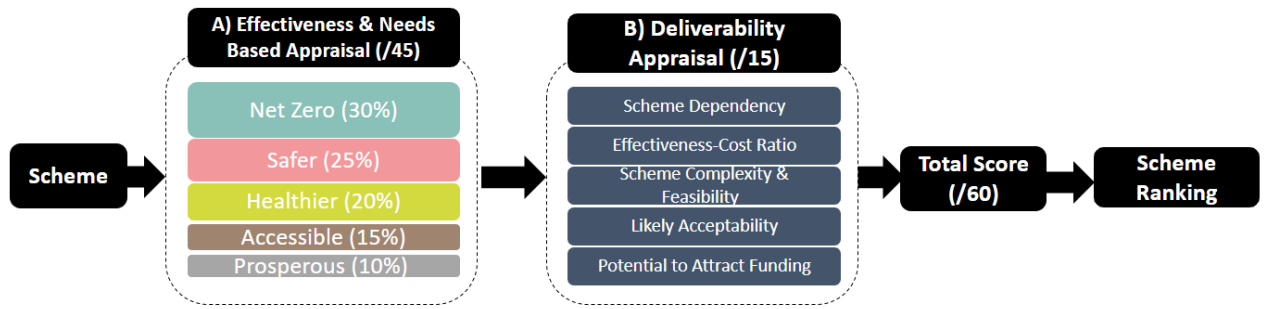
- **Stage 2 - Evidence Base:** We produced a robust and holistic evidence base incorporating policy, the outcomes of a site visit and key data covering the current active travel network and wider environmental and socio-economic context. We supplemented conventional datasets (e.g. Propensity to Cycle) with a consideration of innovative data, such as Strava Metro data, route vibration data from See.Sense cycle sensors, and scheme suggestions from the community based tool WidenMyPath. Using the outcomes of the process, we developed five outcome led objectives aligned with North East Lincolnshire Council policy.
- **Stage 3 – Network Planning for Cycling:** We developed a series of prioritised cycling desire lines in partnership with North East Lincolnshire Council which we converted into potential future cycle route schemes. Our approach to developing potential scheme concepts integrated the key principles of Local Transport Note 1/20 whilst also accounting for key route constraints. Alongside routes, we also provided a series of complementary cycle measures, such as cycle hire schemes and cycle hubs.



- Stage 4 – Network Planning for Walking:** We identified priorities for upgrading walking infrastructure within the identified Core Walking Zones of Grimsby, Cleethorpes and Immingham town centres through consideration of key barriers and funnel routes.



- Stage 5 – Prioritising Cycle Improvements:** We developed an appraisal method to prioritise identified future cycle route delivery formed of an effectiveness & needs-based module alongside a deliverability module (including approximate scheme costs). Our appraisal approach followed an innovative and automated process and was underpinned by 20 bespoke metrics to provide an objective, robust and evidence-led method. Using the outcomes of this process, we developed delivery recommendations based on short (2022 – 2024), medium (2024 – 2027), long (2028 – 2032) and very long (2032+) timescales.



- Stage 6 – Integration & Application:** We provided a series of recommendations to embed the outcomes of the LCWIP into wider North East Lincolnshire policy, such as their emerging Local Transport Plan and Local Plan. We also identified key route funding opportunities to deliver schemes in future.

Outcomes

We produced a series of technical notes at the conclusion of each LCWIP stage to ensure that North East Lincolnshire Council were able to provide incremental feedback through the process. These technical notes were then consolidated into an accessible LCWIP Report, including a concise Executive Summary to easily disseminate key findings to non-technical stakeholders and local people.

Where are we now?

City Science has delivered several LCWIPS and is working on several more for conclusion before the end of the year. Our software – Cadence 360 and an LCWIP toolkit have evolved with each commission, speeding up the process and enabling us to focus more efforts on genuine analysis and benefits for our authority customers.

The presentation will follow the process and demonstrate the power of spatial analysis in delivering LCWIPS but in addition relate LCWIPS to the onstreet implementation, and technology.