

Walk Wheel Cycle Trust: NCN Route 6 Milton Keynes City Council

Case Study



Key Outcomes

- 1km extension completed in June 2025
- Zero flooding recorded through camera monitoring
- Operational performance approaching two years in service
- Improved year-round accessibility and route performance
- Up to 50% reduction in carbon and estimated 19% cost reduction vs traditional methods
- Forecast social value of £3.1 million over 10 years across the full route
- Repeatable methodology capable of supporting planning, drainage and environmental objectives

Project Overview

Working with the Walk Wheel Cycle Trust and Milton Keynes City Council, a 1km upgrade and widening scheme was successfully delivered on National Cycle Network Route 6 between Castlethorpe and Wolverton.

Persistent flooding had rendered sections of the route inaccessible during wet weather and winter periods, creating challenges for commuters, families and other users. Conventional drainage and excavation approaches were unable to provide an acceptable solution to the site's planning and environmental requirements.

To address these challenges, a combined pathway construction and integrated surface water management solution was developed using permeable Drainage Edges, Drainage Spurs and Drainage Mats. The resulting modular drainage system enabled the route to be widened, resurfaced and drained using a reduced excavation methodology whilst supporting accessibility, environmental stewardship and long-term route resilience.

The completed project demonstrates how integrated surface water management can help unlock active travel infrastructure where flooding, drainage and environmental constraints might otherwise limit delivery.

The Challenge

- **Persistent flooding issues** made the 2.5km route impassable in wet weather and winter periods.
- **Families, commuters and disabled users** were unable or reluctant to use the path.

Conventional sustainable drainage plans and excavation methods were unable to provide an acceptable solution to planning approvals.

- **A sustainable drainage solution** was required to improve route resilience and support long-term active travel use.
- **Planning and environmental considerations** required a solution capable of managing surface water whilst minimising excavation and protecting existing environmental assets.



Engineering Solution

- **Modular drainage system units** installed to form the path body construction, and simultaneously manage surface water drainage.
- **Path widened and resurfaced** with minimised excavation to maintain environmental stewardship best practice, and improve route accessibility and user experience.
- **Sustainable drainage approach** 2.5km approved through environmental assessment and planning processes.
- **Lower-carbon installation** methodology compared with traditional drainage alternatives.
- **Repeatable design** suitable for wider deployment across active travel networks.
- **Open-void drainage framework** (avg. 45% void ratio) enabling connected vertical, longitudinal and lateral movement of water.
- **Reduced excavation construction** methodology supporting route widening, drainage performance and tree root protection objectives.

Project Details

Client:	Walk Wheel Cycle Trust,
Contractor:	CJO Ltd
Partners:	Milton Keynes City Council, Rosehill Group
System:	Integrated modular drainage path construction system with Drainage Edges/Grips/Spurs and Drainage Mats
Location:	National Cycle Network Route 6, Milton Keynes

Before - During - After



Why It Matters

National Cycle Network Route 6 demonstrates how integrated surface water management can help unlock active travel projects where flooding, drainage and environmental constraints present barriers to delivery.

The project demonstrates how a single integrated construction methodology can simultaneously address route accessibility, drainage performance, reduced excavation requirements and environmental stewardship objectives whilst providing a repeatable model for future active travel infrastructure schemes.

Benefits for Route Owners, Local Authorities and Active Travel Teams

- **Flood resilience** Eliminates persistent waterlogged pathway and supports year-round route performance.
- **Low impact construction** No major trenching or pipework, reducing disruption in sensitive public spaces.
- **Sustainable materials** Uses recycled rubber drainage components with a low-carbon design approach.
- **Scalable application** A repeatable solution for local authority footpaths, cycleways, parks and public realm routes.

“I’m keen that the Walk Wheel Cycle Trust does a lot more of this because of the increased lifespan, using recycled materials and taking sustainable drainage seriously.”

Nigel Brigham, Senior Engineer, Walk Wheel Cycle Trust

Discuss Your Project

Talk to our specialist drainage team.

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