

Experience as Incentive: Promoting Sustainable Urban Mobility Through Bridge Design

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Abstract

Bicycle infrastructure creates environmental, social, and economic value in urban environments across cultures. Cities that invest in bicycle infrastructure reduce the number of cars on the road, save on infrastructure maintenance costs, and preserve greenspace within development plans. A bridge must not only solve specific traffic challenges but catalyse value creation and incentivize sustainable urban transport.

Exploring the intersection of architecture and user experience across bicycle bridges in Copenhagen, Denmark and Xiamen, China - Dissing+Weitling demonstrates how cycling infrastructure is a powerful tool for cities to incentivize sustainable urban mobility.

Keywords: bicycle; cycling infrastructure; urban mobility; user experience; social value; site-specific; traffic solution; public health; commuting

1 Introduction

Bicycle infrastructure can incentivize citizen adoption of socially and environmentally sustainable mobility. To be a driver of sustainable value creation, bicycle bridges and larger urban cycling systems must be contextual, dynamic, and deliver a joyful riding experience.

The benefits of moving onto two wheels are many-fold. For the user, higher levels of physical activity can increase wellbeing through the physical and mental health benefits. It is an active form of commuting – and by decreasing the amount of sedentary travel can result in better public health outcomes. Open air commuting can contribute to a citizen's sense of place – with dynamic views and time spent outdoors strengthening the user's relationship with the environment and urban fabric.

Bicycles are a key tool in reducing reliance on fossil fuel heavy modes of transportation – and an

investment in cycling infrastructure can be an urban and regional planning strategy to reduce the number of vehicles on the road. Cycling bridges often have lower maintenance burdens compared to traditional roadways – and their scale can be more easily manipulated to ensure mobility infrastructure developments respond directly to existing traffic challenges.

Infrastructure is developed to be used – and when designing for slow mobility (cycles, but also pedestrian and public transit), it is essential to focus on the user experience as a key to unlocking enjoyable travel. Here mobility architecture – through optimizing alignment, slope, and spatial feeling – can create better social value.

What makes cycling infrastructure a true change catalyst is the designed user experience. Mobility architects' partner with engineering and civic planning teams to ensure crossings are not only functional but enticing. Bicycle bridges can be scaled from small crossings to large systems – and