



LCLM5003 PROJECT MANAGEMENT

Component 1 - Individual Poster

Integrated Sustainable Redevelopment of the Central Transport Hub

LECTURER: DR KAREEM SANI

INTRODUCTION

The shutdown of the city’s central transport hub has led to widespread disruption affecting economic activity, social connectivity, and logistical operations across the metropolitan area. Transport infrastructure plays a critical role in enabling urban productivity and accessibility, and disruptions can significantly impact regional economies (Kerzner, 2022). Smart transport systems increasingly rely on data-driven digital infrastructure to improve mobility efficiency, optimise passenger flow, and reduce congestion (Department for Transport, 2017; Turban et al., 2018). This project management framework presents a systematic strategy for redeveloping the site at scale, with the aim of reinstating full transport functionality while embedding sustainability, digital transformation, and inclusive design principles. Structured project methodologies are essential to ensure successful delivery within defined time, cost, and quality constraints (Lock, 2020).

PROJECT DESCRIPTION AND OBJECTIVES

This initiative focuses on the full reconstruction of the current transport hub into a contemporary, integrated interchange. The redesigned facility will combine rail, bus, and freight services within a unified system supported by advanced digital technologies. Integration of transport systems is recognised as a key factor in improving operational efficiency and user experience (Maylor, 2010). These innovations are intended to improve passenger movement, streamline operational coordination, and enhance logistics efficiency. In addition, the project will adopt environmentally responsible construction methods, renewable energy integration, and fully accessible infrastructure to ensure compliance with environmental regulations and inclusive design standards (Heagney, 2016).

KEY FINDINGS, SCOPE & BOUNDARIES

The project includes the demolition of structurally unsafe buildings, development of modern transport infrastructure, introduction of smart ticketing systems, and deployment of real-time data platforms alongside renewable energy solutions. However, it excludes improvements to surrounding road networks and does not cover privately operated transport services. Key constraints include a fixed budget, regulatory compliance requirements, and a strict delivery timeframe of 36 months. The plan assumes continued public sector funding and sufficient availability of skilled professionals throughout the project lifecycle. Transport hubs increasingly use digital twins and integrated data systems to simulate and manage passenger flow and operations (Smart Cities Council, 2025). Freight and passenger systems benefit from IoT-enabled coordination and data-driven optimisation tools (Department for Transport, 2017).

WORK BREAKDOWN STRUCTURE (WBS)

The programme is structured into seven main phases: initiation, detailed planning and design, procurement of resources and contractors, physical construction, implementation of digital systems, testing and commissioning, and final project closure. A Work Breakdown Structure (WBS) enables the decomposition of complex projects into manageable components, improving control and accountability (Heagney, 2016). Each phase is subdivided into smaller tasks to support monitoring, control, and effective delivery.

KEY STAKE HOLDERS

Local Authority and City Council
Department for Transport
Transport operators (rail, bus, freight)
Local businesses and residents
Environmental agencies
Contractors and project delivery teams

STRATEGIC VALUE OF THE PROJECT

This project delivers long-term economic, social, and environmental benefits. It supports regional growth by restoring supply chains, improves accessibility for all users, and aligns with national sustainability goals. The integration of digital systems enhances efficiency and resilience, positioning the city as a leader in smart urban transport infrastructure.

HIGH-LEVEL RISKS AND TRADE-OFFS

- a) Budget overruns vs quality outcomes
- b) Construction delays vs rapid delivery expectations
- c) Disruption during construction vs long-term benefits
- d) Technological complexity vs operational efficiency



STAKEHOLDER INVOLVEMENT

High Power, High Interest	Government, City Council
High Power, Low Interest	Regulatory bodies
Low Power, High Interest	Local community
Low Power, Low Interest	General public

CONCLUSION

Redeveloping the central transport hub is critical to restoring mobility and strengthening the city’s economic resilience. Large-scale infrastructure projects require structured planning, stakeholder coordination, and robust risk management to ensure successful delivery (Kerzner, 2022). Through the application of established project management practices, the initiative aims to achieve efficient delivery, stakeholder alignment, and long-term sustainable outcomes.



Project Manager: Ayan Tifow

Student ID: 2420687