

# UL5 - PLAN6012 Research Paper

## How do we design the public realm to assist and promote sustainable multimodal transport?



### 1 Context

- Since the aftermath of World War II, urban planning has overwhelmingly favoured private car infrastructure over pedestrian and public transportation amenities.
- This bias has erected physical and psychological barriers to health, social interaction, and employment accessibility.
- Recent shifts in environmental perceptions by the public have had an increase in the use of multimodal public transportation, particularly railways.
- This research investigates how we can design the public realm surrounding and inside major rail hubs, to support and promote the use of sustainable multimodal public transport.

- The "Public realm is defined as any publicly owned streets, pathways, right of ways, parks, publicly accessible open spaces and any public and civic building and facilities" (PH. Brown, 2019).
- Multimodal transport is defined as "The movement of goods and people using multiple modes of transportation, such as rail, road, water, and air, in a coordinated and an integrated manner. It involves the seamless transfer of cargo and people between different transportation modes to optimise efficiency, cost-effectiveness, and sustainability." (TVS, 2023).

### 2 Objectives

OBJ 1 – How can we design the public realm to be more accessible?

OBJ 2 – How can we design the public realm to be more attractive to commuters and as a space for social interactions?

OBJ 3 – How can we design the public realm to function as a connected space?

OBJ 4 – How can we design the public realm to be environmentally, economically and socially sustainable?

### 3 Methodology

Interviews with professional transport planners and urban designers

GIS analysis of positive international case studies

Future trips calculations through TRICS and using 2011 / 2021 census data

All combined together to make an end framework guiding future design



Interviews aim to provide the background on factors to assess during the GIS analysis stage

GIS analysis involves 500m isochrone maps around example locations mapping local services and amenities

Using industry standard software to create a numerical value on the amount of future trips to major rail hubs

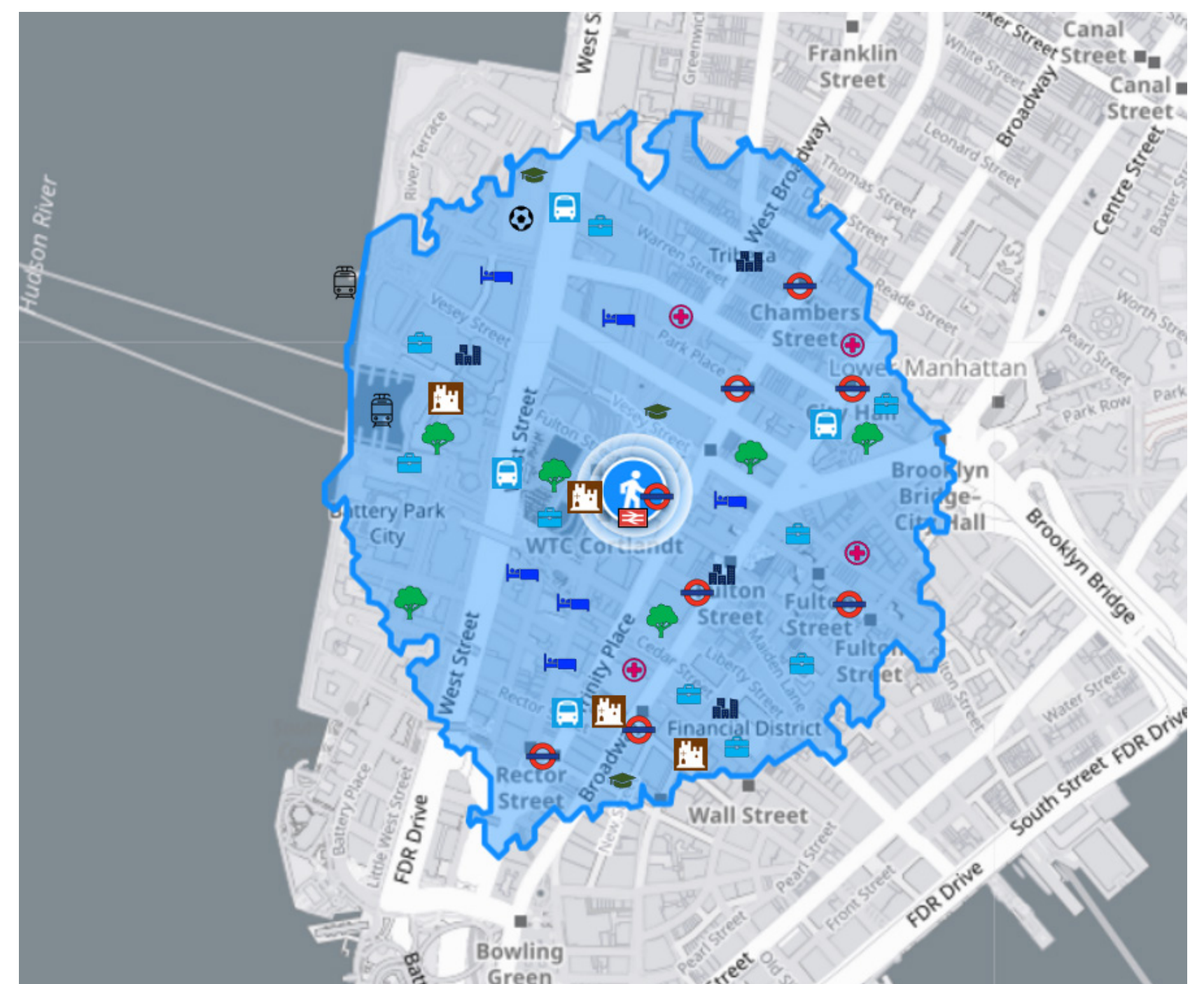
The end framework will combine all of the data together to create guidance for future designs and anticipated needs

### 4 Expected Results

- From initial findings, the research has found that successful public realms surrounding major rail hubs are multi-purpose as opposed to being primarily access to a transport hub. Sites that have shops, restaurants, employment areas and access to community space thrive.
- Legibility of the public realm has also emerged as a key concept. Sites that have access to natural lighting throughout and clear signage confined to one main room are more successful than sites without.
- Most rail hub users have a preferred walking distance of 500m (roughly a 5-10 minute walk) to employment, amenities or to another transport mode.
- Integration of the outside public realm and walking network into the rail hub is also a factor improving the public realm. This links into the safety of the site, with more integrated sites having a 24 hour active public realm leading to a decrease in crime and people feeling unsafe.

Case Study Location	
500m Walking Isochrone	
Greenspace	
Exercise Establishment/Area	
Employment Area	
Tourist Attraction	
Hotel Cluster	
Education Institution	
Medical Institution	
Local Centre	
Railway Station	
Major Bus Stop	
Metro	
Other Transport Mode	

Example GIS results for the Oculus, New York



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