

# Overcoming Barriers By Businesses To Road Pedestrianisation



Wong Yi Jie | Ruth Poh | Koh Lip Wee



Under the Supervision of Dr Yang Xin  
In partnership with LKYCIC, SUTD & LTA

## Research Questions & Abstract

There is a lack of research on business impact of pedestrianisation schemes in Singapore

Countries around the world have used pedestrianisation to make places more attractive & revive business. Research has shown that business typically drops significantly in the short term but increases in the long term; & businesses tend to overestimate the spending by driving consumers. Singapore's aim for pedestrianisation is to go car-lite. Research on the business impact of pedestrianisation schemes is nascent in Singapore. This research aims to address this gap & address the following questions:

What is the effect of pedestrianisation schemes on businesses in Singapore?

What are the business, socio-economic & contextual factors to consider? How does consumer behaviour shift, if any? What affects support by businesses? How might we improve business support?

## Site Context & Relevance of Site

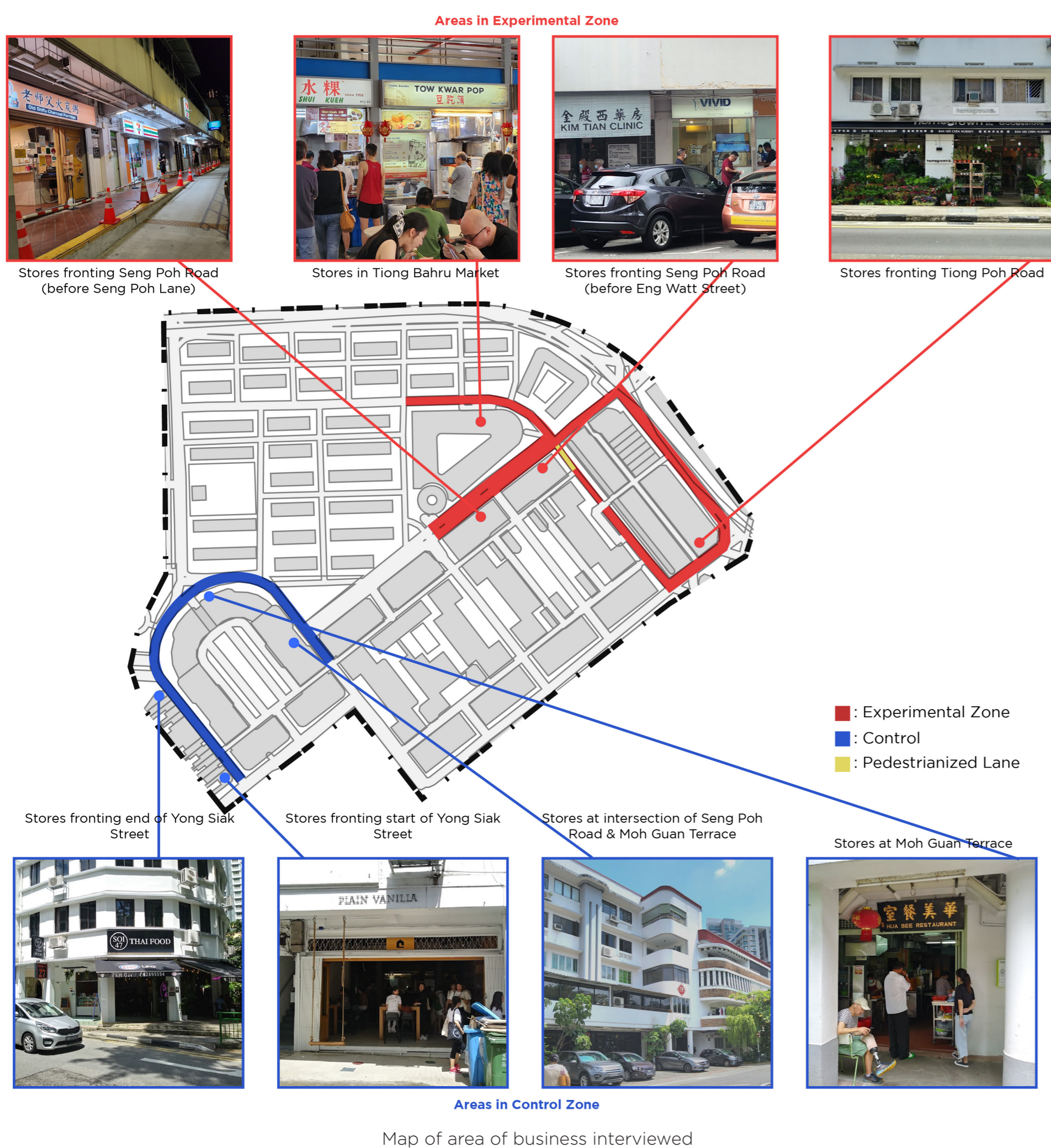
Study site: Tiong Bahru's Eng Hoon Street

Tiong Bahru is a charming housing estate with historical heritage & significance as it is the oldest public housing area in Singapore. Public housing in different Art Deco styles mark the different eras in which they were built - pre-War & post-War. Unlike modern public housing in Singapore, the houses are low-rise, with ample garden & walking space in between the rows of flats. The residents in Tiong Bahru are diverse. While Tiong Bahru has a significantly high percentage of elderly, there are also young families, & expats.

Around Tiong Bahru Market are rows of shophouses, homes & some hotels. A walk down Seng Poh Road & Eng Hoon Street will reveal a mix of units interspersed with each other - residential units frozen in the 1980s, modern rental homes, house temples, home-based businesses, modern cafes, hawkers. Modern restaurants & cafes catering to expats & yuppies exist side by side with hawker stalls & Chinese restaurants which have served loyal local customers since the 80s. The business at the shophouses generally follows Tiong Bahru Market which peaks at lunch & drops thereafter. Business is highest on the weekends & holidays as Tiong Bahru becomes a hive of activity with locals & tourists visiting the area for shopping, food, & walking tours.

Pedestrianisation works undertaken in Tiong Bahru

- a) Eng Hoon Street - 60m paving over of a two-lane road
- b) Seng Poh Road - Removal of a stretch of carpark lots for walkway widening works
- c) Lim Liak Street - Repositioning of the taxi stand & widening of pavement

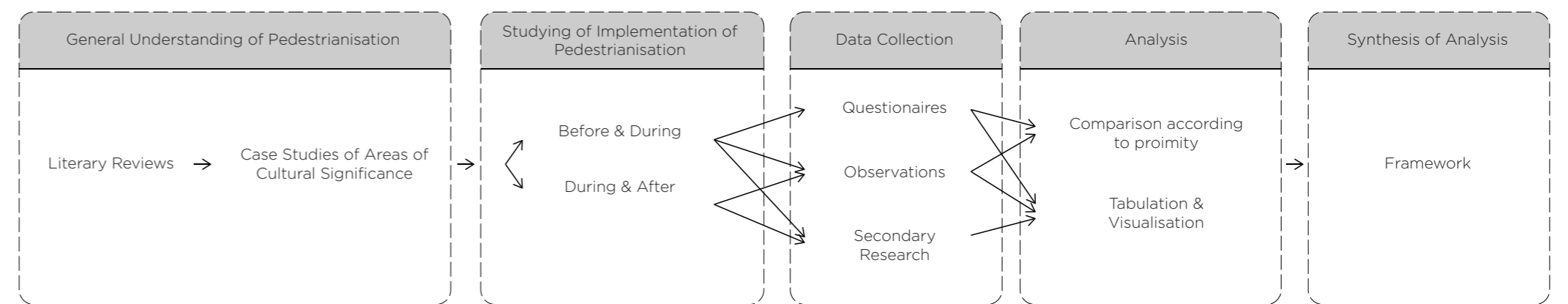


## Methodology

A Quantitative & Qualitative Approach

The quantitative approach allow us to understand the behaviors on-the-ground as it is, through results such as footfall, revenue & average consumer expenditure. These objective results can be obtained & interpreted readily through graphical visualisation.

The qualitative approach allows us to pick up nuances & suggestions from the ground that might have been overlooked. For example, in open-ended survey questions, consumers & business feedback have provided valuable insights that went on to inform the framework & proposal.

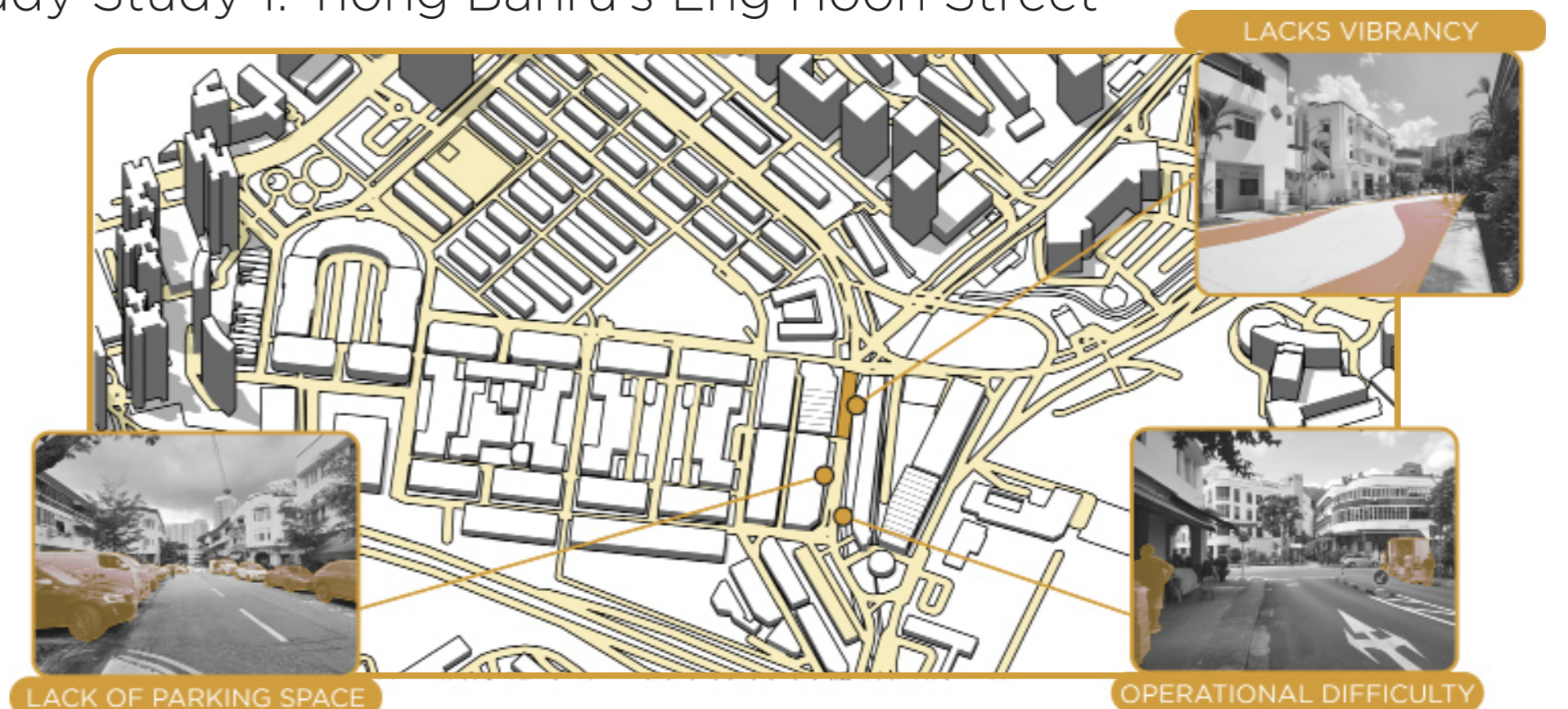


## Case Studies

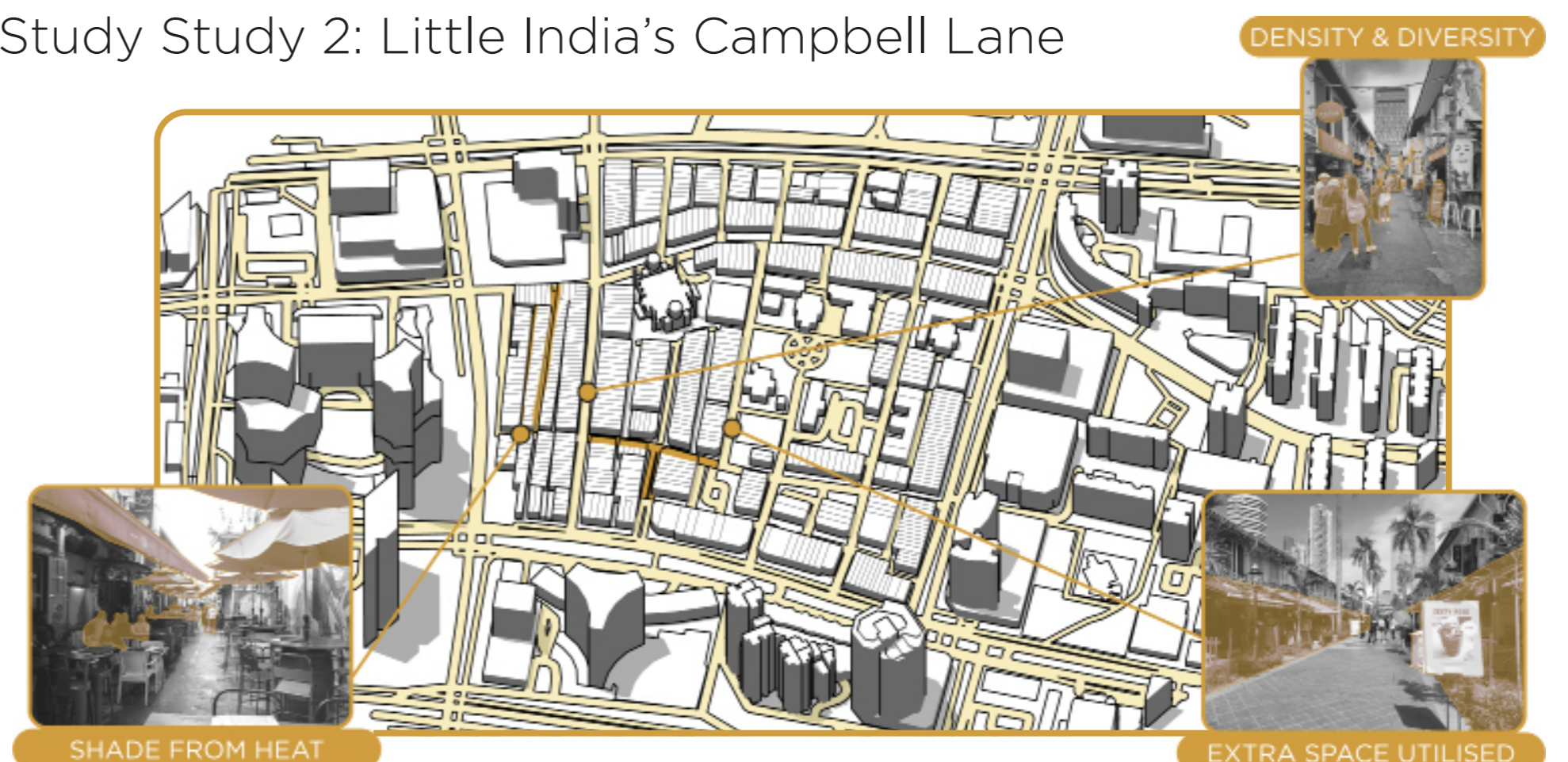
Pedestrianisation across different development stages

Streets across Singapore have been pedestrianised in the effort to create more people-friendly urban spaces. With LTA's pivot towards an increasingly Walk-Cycle-Ride vision, pedestrianisation efforts have taken place over the years. Notable examples besides Eng Hoon Street include Campbell Lane & Haji Lane. These streets share similarities in historical significance, mixed land use, & cultural identity, making them ideal sites for studying the efforts of pedestrianisation on community life & business across different timeframes.

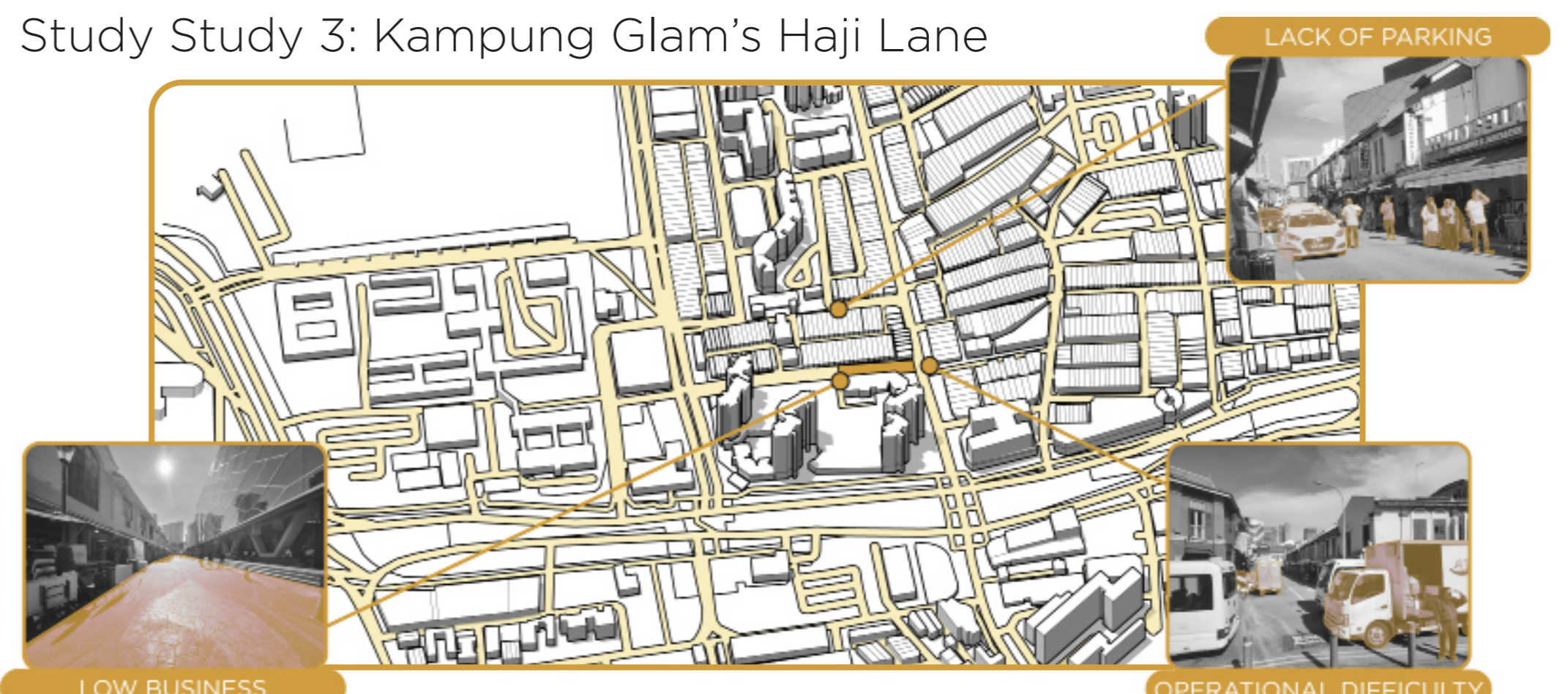
Study Study 1: Tiong Bahru's Eng Hoon Street



Study Study 2: Little India's Campbell Lane



Study Study 3: Kampung Glam's Haji Lane



# Results & Analysis of Site

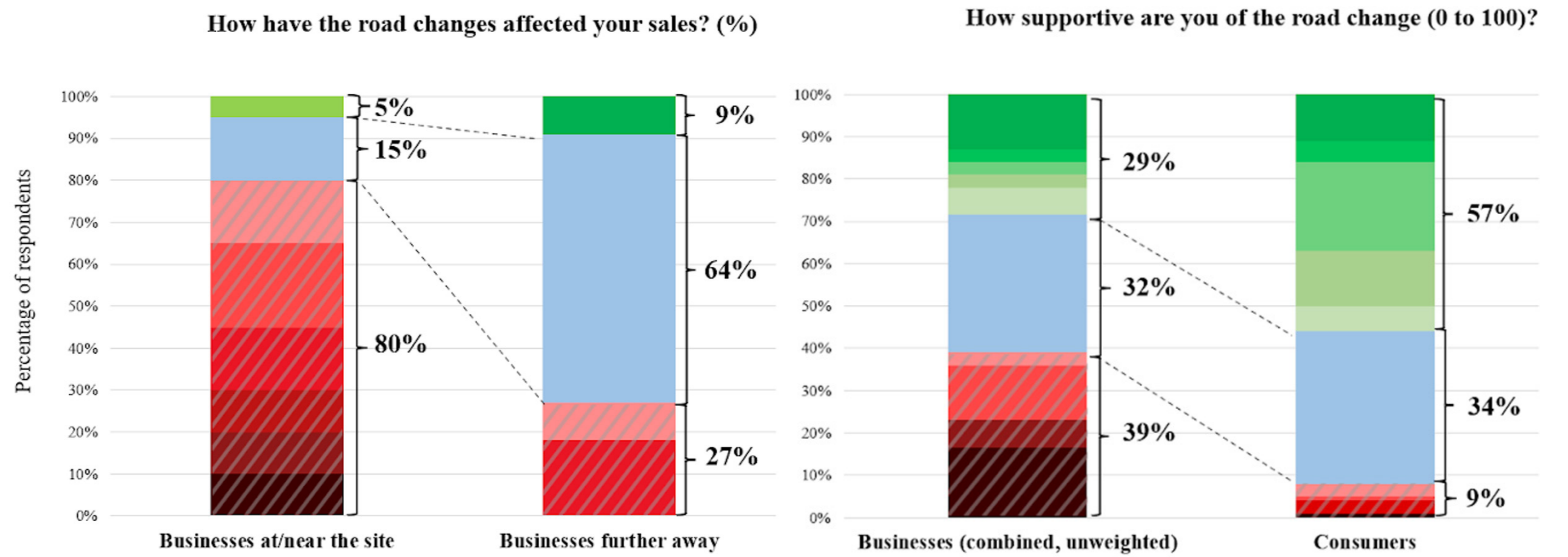
## Results from Questionnaires & Various Demographics

Not all the permanent features have been installed. Businesses (N=31) & consumers (N=102) were interviewed in Jun - Jul 2023 on their perceived impact of pedestrianisation in Tiong Bahru on footfall & business revenues, as well as their support for the scheme.



## Comparisons between Control & Experimental Zone

A distinction was made between business near Eng Hoon's pedestrianised street, & business further away. This was done to identify whether the changes in business was due to the road repurposing, or other confluent factors (Covid-19, macro economics upturn or downturn).



### 1. Car-driving culture remains strong.

Drivers spend more than non-drivers  
 Drivers are uninclined to change to more active modes of transport  
 Drivers comment that they will drive elsewhere should there be no parking

### 2. Pedestrianised area is underused, lacks vibrancy

Surveys have suggested:  
 Sheltered pathways, seating area  
 Hosting events like night-markets, festivals, ground-up activities along street  
 Signages around area to educate infrequent users on changes

### 3. 80% of business respondents experience a drop in footfall & revenue

Consumers perceive a significant drop in parking lots  
 Consumers unhappy with changes may turn to other locations for their errands

## AUDIT Framework

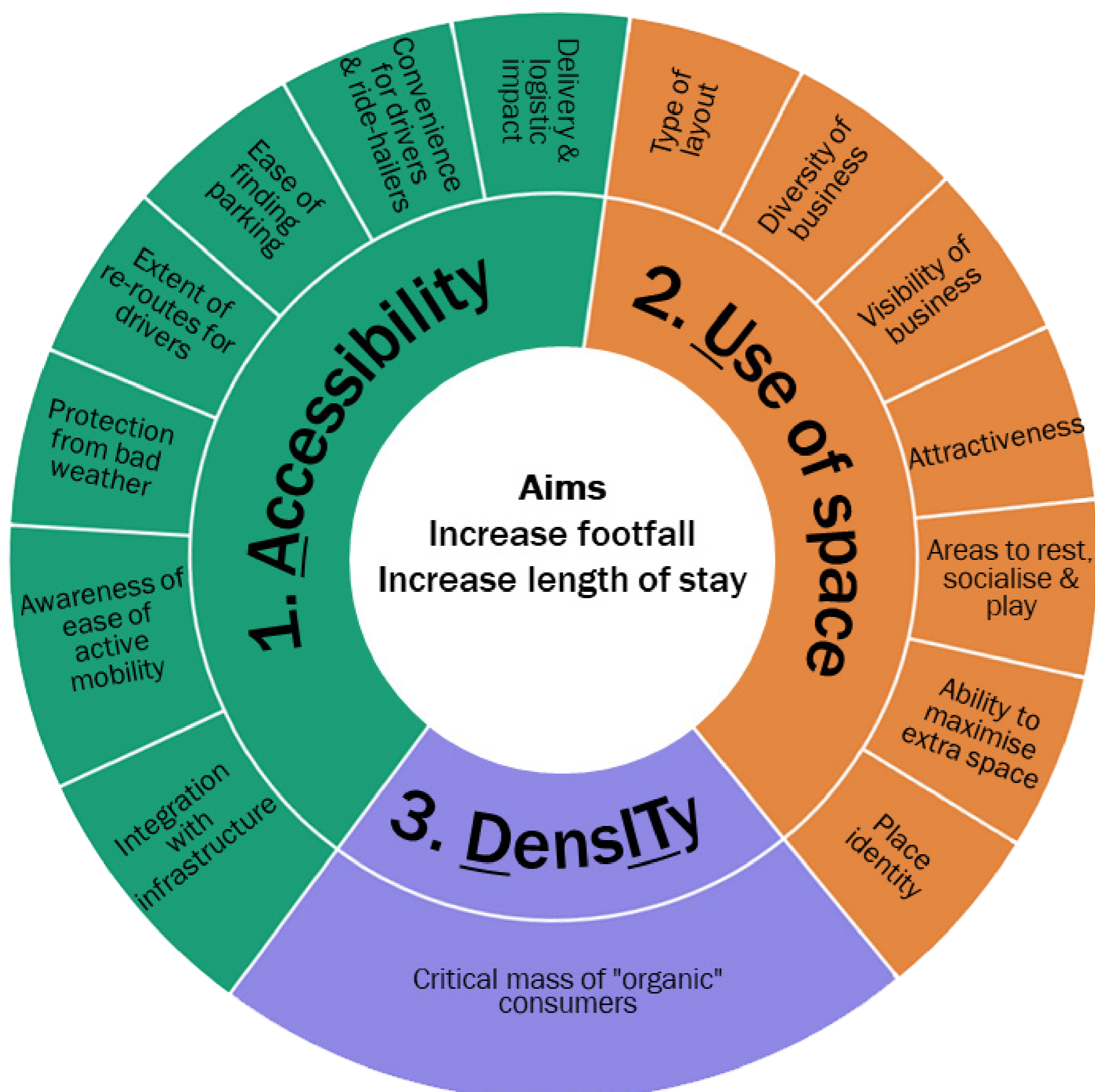
Framework for assessing impact of road pedestrianisation on business

Findings & insights were distilled to create a generalisable framework for assessing the business impact of pedestrianisation schemes. The framework considers the consumers experience as well as its effects on spending behavior. Besides the quantifiable measures like revenue, footfall count & rental price, there are also qualitative benefits to pedestrianisation. For example, the experience economy suggests that tangible value (economic) is derived from intangible factors like quietness of area, less air pollution, sense of safety.

## Recommendations for Tiong Bahru

Application of Framework in Tiong Bahru

While this study suggests that pedestrianisation efforts have a negative impact on businesses in the short term, the team is of the view that this should not be the sole consideration in determining whether areas should be pedestrianised. Other important metrics such as pedestrianisation's impact on people's quality of life, safety, community bonding, environmental sustainability, noise & air pollution, should be considered as well. On balance, residents & the Government may still find such schemes worthwhile as Singapore's population ages & calmer streets are needed.



## Phases of Implementation

