analysis

local scale · movement

Study areas for local scale

The local scale section of the study focuses on a 2m² area. The size of the study area has been selected to enable meaningful comparison with other cities around the world.

The overall study area is broken down into two core areas, one in Hove and one in Brighton. Both areas contain a centre; Brighton's being the busier. Both areas are multifunctional, containing commercial cores as well as business districts.
They are main destinations in the overall city fabric and centres for traffic and public transport.

Study areas for local scale

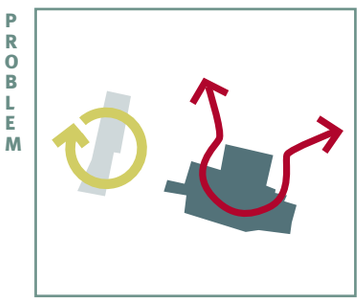
Whilst the two areas share similarities, they are also very different, having specific local characteristics, problems and potentials.

Generally speaking, Hove is a predominantly residential neighbourhood while Brighton city centre is more commercial in nature and receives higher numbers of out of town visitors.

Brighton & Hove was once two separate towns, but recently attained city status as one unified city. The separation, however, is still visible.

The local scale study will investigate the individual potentials of each area along with connections between the two. Focusing on the connections is crucial if the city of Brighton & Hove is to be experienced as ONE city rather than two adjacent ones.

PROBLEM



Brighton is regional and Hove is local.

DESIGNING FOR CARS AND NOT PEOPLE

60 km/hour versus 5 km/hour

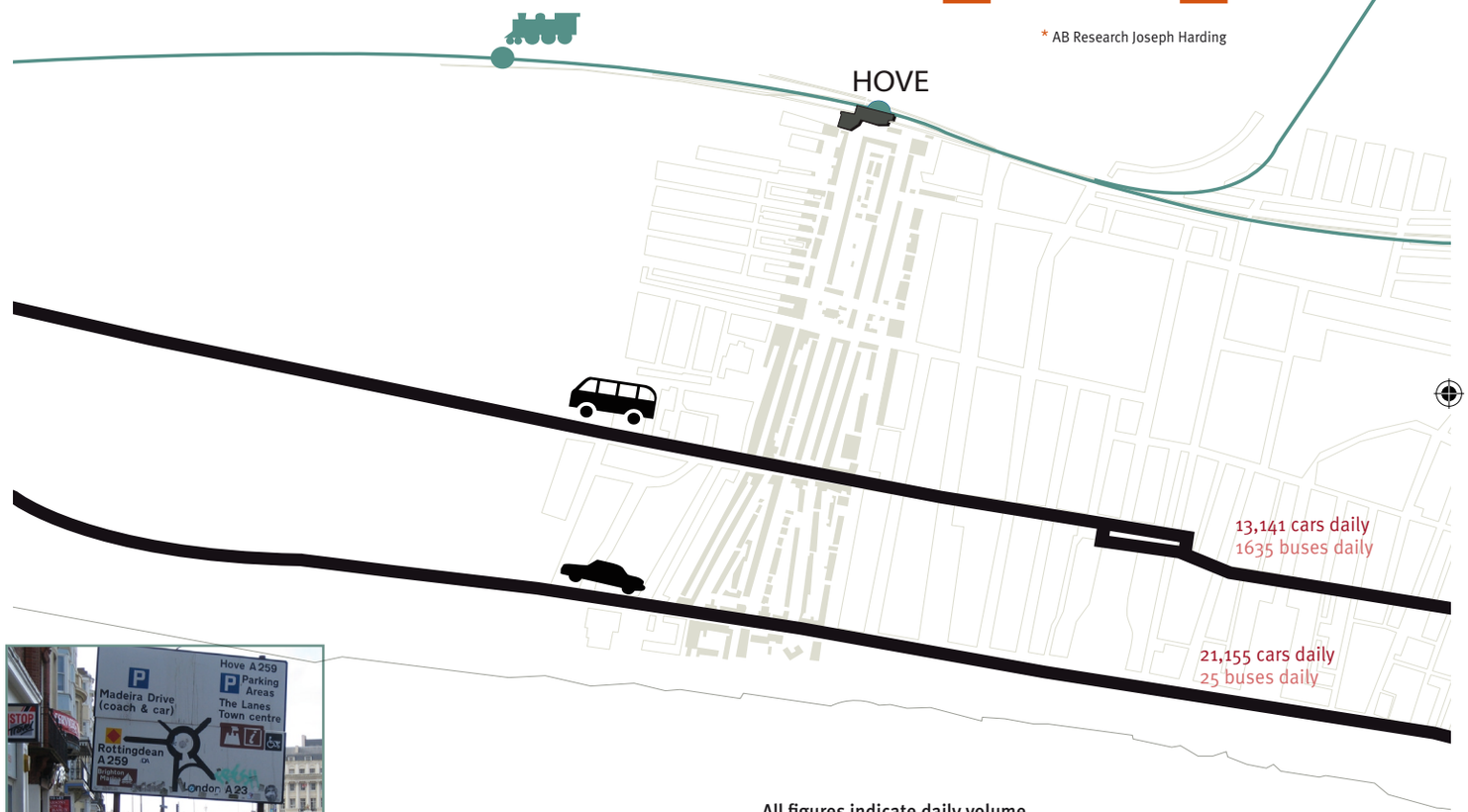
Brighton & Hove's public realm is designed for vehicles traveling at 60km/hour, not the slow moving pedestrians that share the city with motorists. Traffic signs are prominent and traffic intersections are confusing. Even maps in Brighton Rail Station highlight car routes.

The needs of the motorist are prioritised throughout the city, whilst the pedestrian is left to navigate in a world where the car is King. The result is a public realm that is confusing and uninviting for the slow moving animal, homo sapien, moving at 5km/hour and at an average height of 5'-7"

1 in 4

find it difficult to drive in Brighton*

* AB Research Joseph Harding



PROBLEM

The city is planned prioritising motorists over pedestrians & cyclists

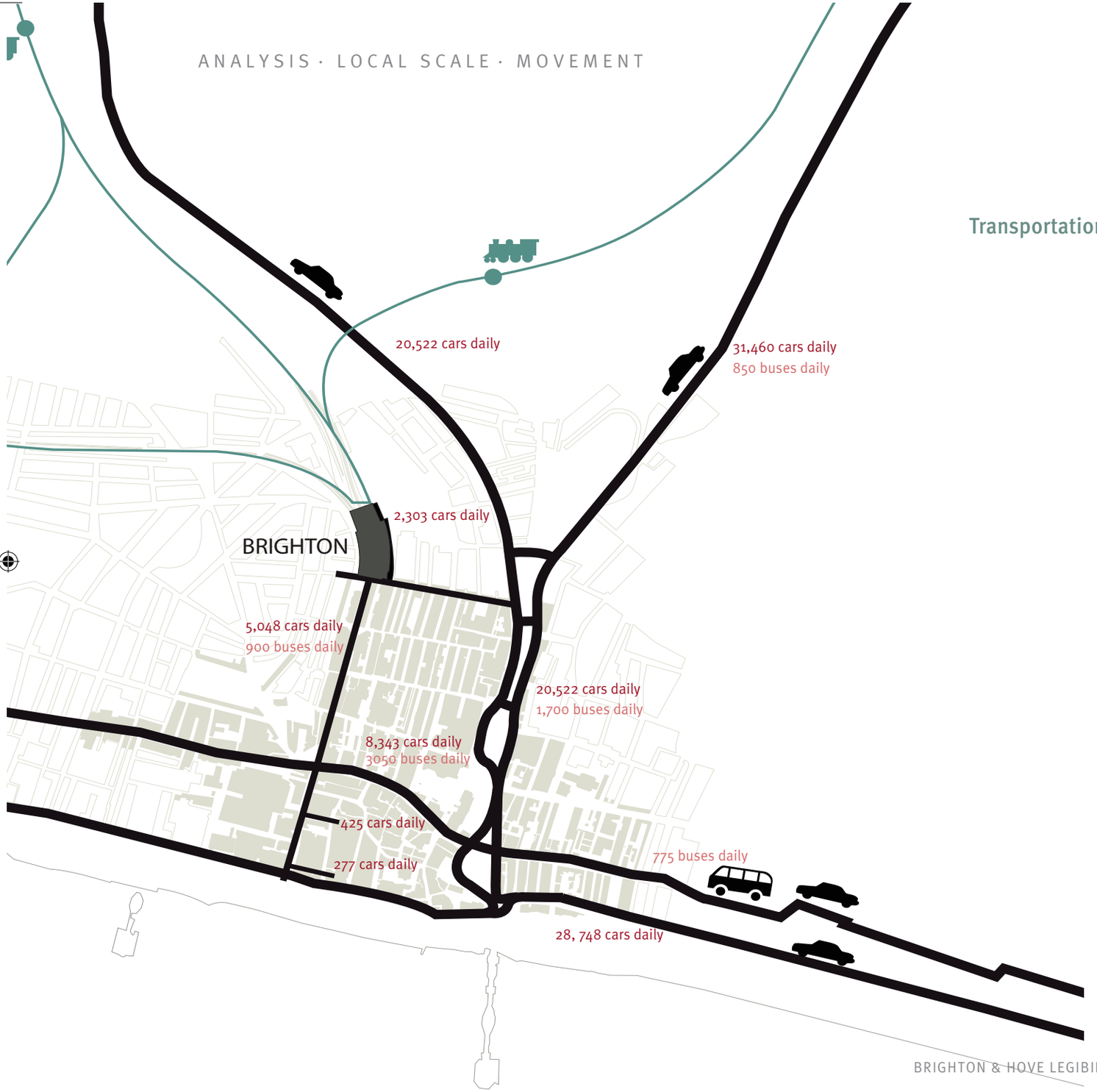
Infringing on pedestrian territory

All figures indicate daily volume

- bus traffic - total
- vehicular traffic - total

Note:

The Bus and car volume figures indicated are provided by Brighton and Hove City Council. The figures cover a 24 hour period.



Highway Design in the City

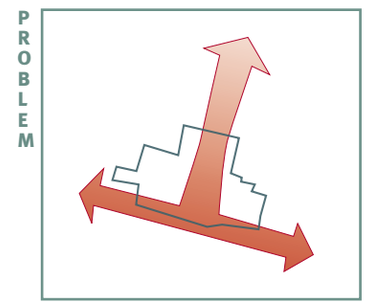
Transportation arteries or barriers for pedestrian movement?

Poor east/west connections

Whilst facilitating vehicular movement through Brighton & Hove, main traffic routes divide the city for pedestrians. The Valley Gardens exemplify the problems this can cause. Because of dominant highway design, the Valley Gardens form a barrier dividing Brighton from Kemptown and the area has become one of the more heavily congested parts of the city. The interesting part though is that the volume of vehicular traffic is far from the carrying capacity of Valley Gardens – meaning that it should be possible to reduce the space allocated for vehicular traffic and transform Valley Gardens into a high quality city boulevard for people as well as cars.

Poor north/south connections

Although Western Road/ North Street/ St. James Street are not examples of local streets designed as highways, the routes definitely act as a barrier for pedestrian movement. Despite serving a relatively low number of vehicles, this east/west connection divides the city into northern and southern sections.



Highway design in the CITY

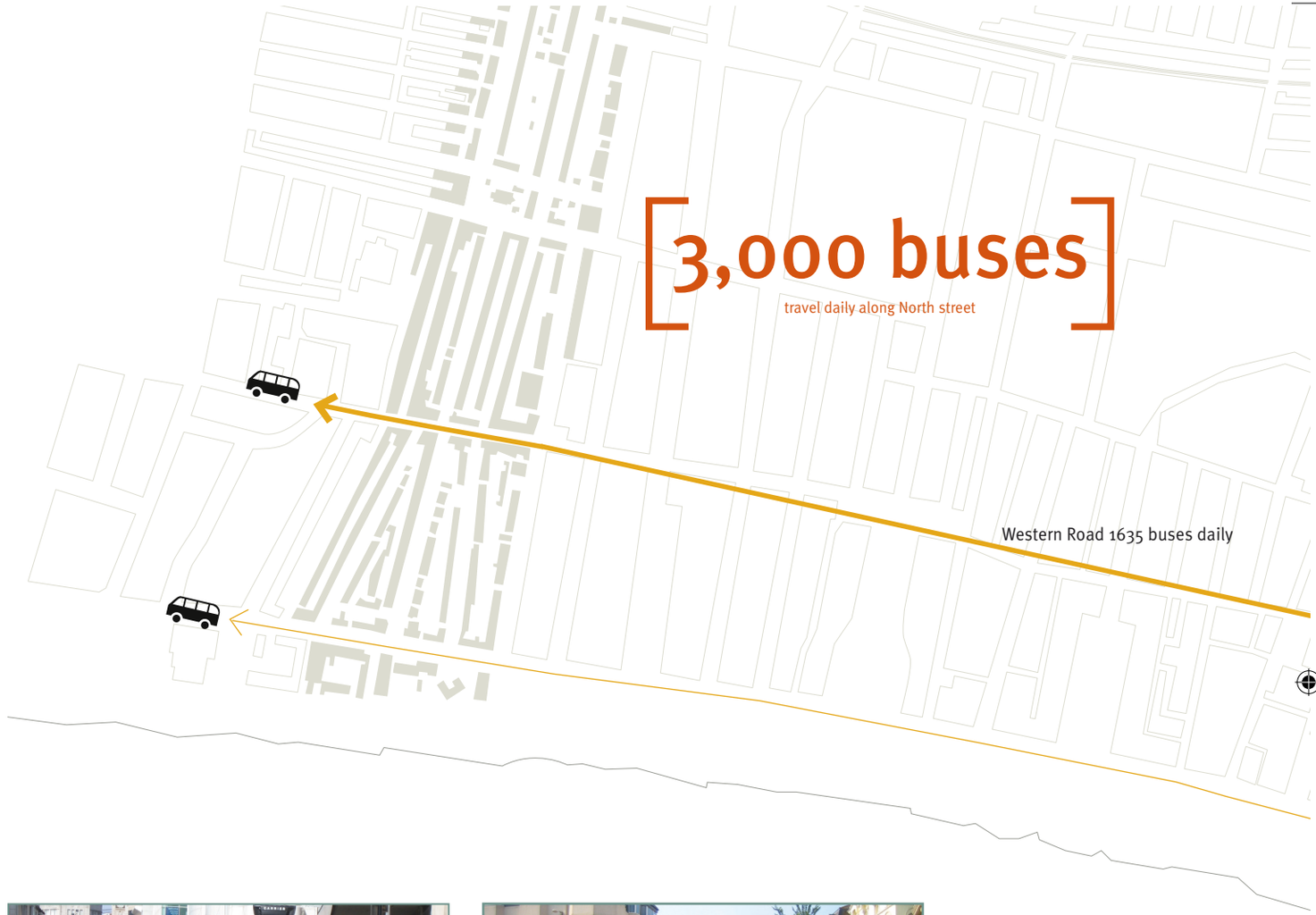
Bus Traffic

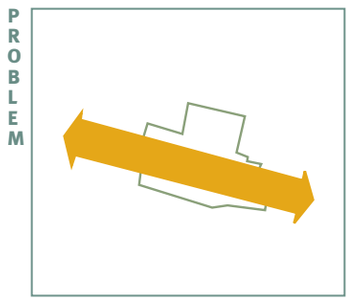
Bus congestion

Brighton & Hove has a comprehensive and well-connected bus system. In 2005 80% of the population lived within a 15 minute walk of a bus stop. But there are also some negative consequences of this extensive network.
Certain streets are subject to bus congestion that fills the street environment with a constant barrage of noise and fumes.

We are all pedestrians

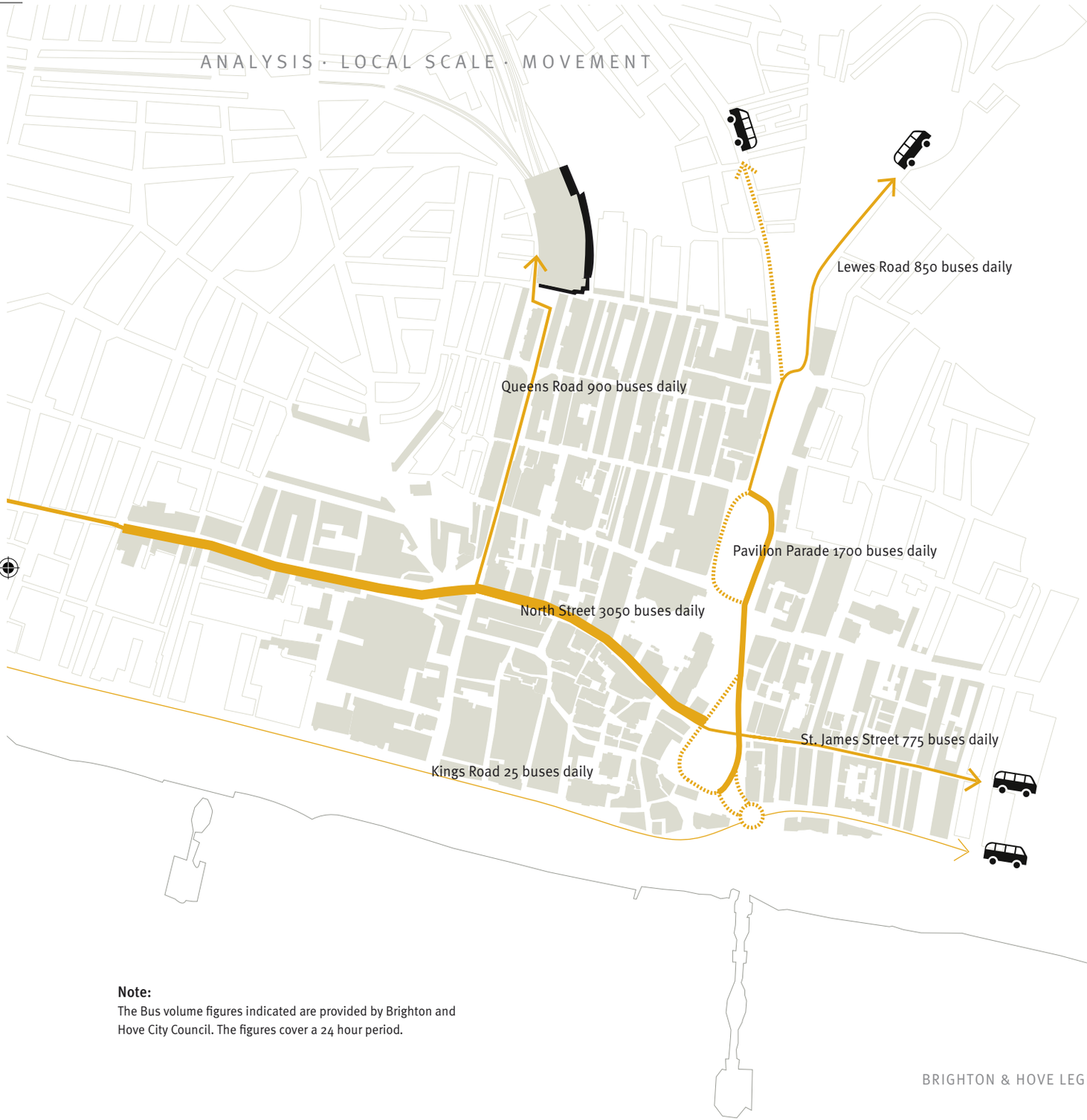
It is important to remember that time on the bus represents only a portion of the experience for bus users. For the rest of their journey, public transport patrons are pedestrians.
Therefore the quality of the bus system should not be judged by the bus journey alone, but also by the net effect that bus traffic has on the public realm and on the walking environment. Often the quality of the public spaces linked to important bus stops or bus routes is poor.





Bus grid lock in the city centre

A poor pedestrian environment in relation to important bus routes or bus stops.



Note:
The Bus volume figures indicated are provided by Brighton and Hove City Council. The figures cover a 24 hour period.

Bus traffic

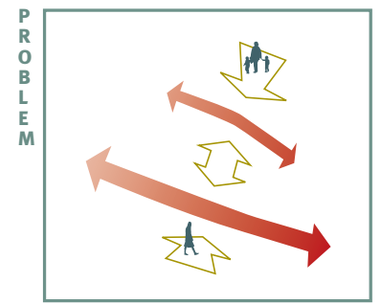
Bus grid lock divides the city

Over 3000 buses travel along North Street daily. The result is often a queue of buses that form a wall of traffic along North Street, negatively affecting this vital street in a variety of ways.

The amount of traffic hinders pedestrian movement through an area that should provide high quality connections between locations such as the North Laine, Pavilion, Lanes and seafront. The buses also obstruct the visual connections from prominent sites on either side of the street.

North Street as a barrier

The congestion on North Street also negatively affects the environment of the street itself for the thousands of people that move east and west along this main route. Vehicle noise makes it difficult to hear the person walking next to you. Narrow footpaths are often crowded and difficult to navigate, whilst people waiting at the undersized bus stops infringe on the space allocated for pedestrian movement.



Poor North/ South connections

Cycling Environment

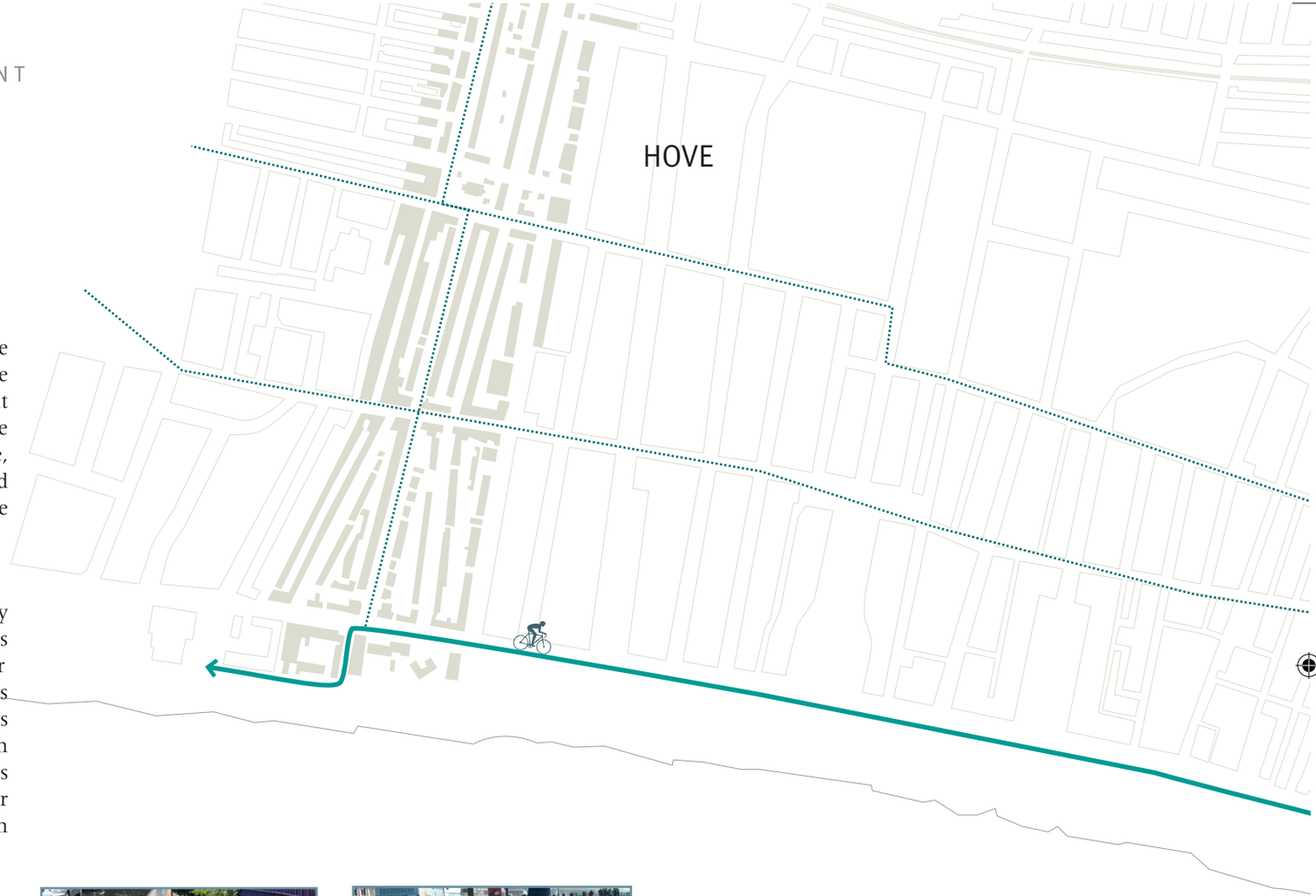
Navigating complicated terrain

Great potential to increase cycling

Brighton & Hove is home to a large contingent of cycle enthusiasts, and the city has undertaken considerable efforts to improve cycling conditions in the city. But more can be done. As the diagram to the right shows, the cycle network is still quite fragmented and incomplete, meaning that whilst cyclists can move safely and comfortably in certain parts of the city, other areas are perceived as dangerous.

Street layout for cyclists

Cycling in Brighton & Hove is also complicated by inconsistent cycle lane placement. Dedicated cycle lanes are sometimes on the left hand side of the road, at other times on the right hand side. Cyclists are sometimes directed to share pavement areas with pedestrians and at other times to share the road with vehicles. In general the message sent to cyclists is that their needs are not prioritised. Rather they are allocated whatever space is left over when everyone else's needs have been accommodated.



The cycle network is often disrupted

Official cycle route

Missing Routes

4-5 Percent cycling to work, where as only 3-4 Percent bicycle to work in the unmarked area.

Note:
The Bicycle volume figures indicated are provided by Brighton and Hove City Council.

Cycling Environment

Space for everyone?

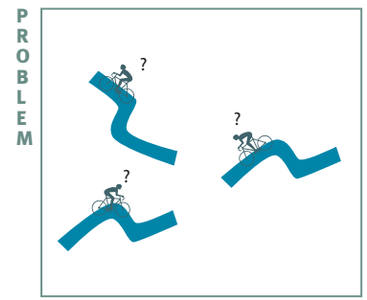
Cycle parking

In general cyclists seem to be at odds with both motorists and pedestrians. A lack of proper cycle parking leads to bicycles parked in inappropriate places that cause frustration on the part of cyclists and irritation on the part of shop owners, city maintenance workers, and pedestrians.

Need for consistent use of policies

A concerted effort to adopt more consistent cycling policies will not only improve conditions for cyclists, but also for the public realm as a whole. Motorists, pedestrians and cyclists will benefit from clear and coherent zones for movement in which each mode of transport is given ample room to safely and comfortably navigate the city.

Bicycles are a good alternative to cars and public transport. If the aim is to reduce the number of cars - prioritising cyclists and their movement through the city holds an important key.



Incomplete bicycle network

Pedestrian Movement 01

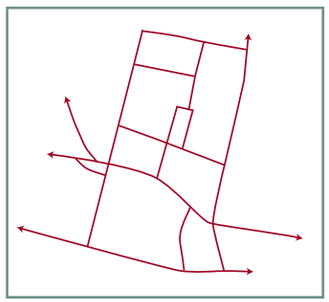
Summer weekday 10 am to 6 pm

There is more to walking than walking
Walking is first and foremost a type of transportation, but it also provides an opportunity to spend time in the public realm. Walking can be about experiencing the city at a comfortable pace, looking at shop windows, beautiful buildings, interesting views and other people.

The Public Life Public Space surveys conducted on July 12th and February 22nd 2006 examine how urban spaces are used and the extent that people walk in Brighton & Hove. They provide information on where people walk, either as part of their daily activities, or for recreational purposes. This information can form the basis on which to make future decisions on which streets and routes need to be improved.

General problems
Walking demands space in which to walk freely without being obstructed by physical elements, vehicular traffic or other people. In Brighton & Hove, the pedestrian's ability to walk comfortably is often compromised by vehicular traffic.

- The shortest route from A to B is often not dedicated to pedestrians
- Pavements are sometimes lined with railings – that keep cars off the footways but fence in pedestrians
- Pedestrians are subjected to unpleasant noise and fumes caused by vehicular traffic.



Daytime primary network

Pedestrian volume on a summer weekday from 10 AM to 6 PM
Note: Figures for New Road are from 2005

Main routes

Pedestrian Movement 01

More people than vehicles

The Public Space Public Life Surveys also begin to provide a quantitative hierarchy of pedestrian movement. The diagram here depicts pedestrian movement in the study area. The survey indicates that the heaviest pedestrian traffic occurs along Queens Road and Western Road, continuing into North Street.

Whilst these streets are also main vehicular routes, they accommodate significantly more pedestrian traffic than vehicular traffic.

North Street	11,400	16,134
Queens Road	6,000	16,098
Western Road	14,776	18,420

The design of these streets, however, does not reflect the relative distribution of vehicular and pedestrian traffic volume. The streets are predominately designed for vehicles.

COMPARISON TO OTHER CITIES OF COMPARABLE SIZE

Pedestrian volume on a summer weekday, between 10am and 6pm

Busiest Streets in:

Brighton & Hove (Population 250,00)
Western Road: 18,420

Odense, Denmark (Population 185,000)
Vestergade: 24, 680

Wellington, New Zealand (Population 179,000)
Lambton Quay: 23,360

Potential to invite more pedestrians

The relatively low number of pedestrians in Brighton & Hove indicates significant potential to improve pedestrian culture and increase the number of pedestrians utilising the public realm.

Pedestrian Movement 02

Summer weekend 10am - 6pm

Walking for pleasure

Any city can have heavy pedestrian traffic. People often need to walk between bus stops, car parks or rail stations and their final destinations. But a good indication of the quality of the pedestrian environment is the volume of pedestrian traffic when people don't have to walk, but choose to do so because the public environment is enjoyable.

Comparing weekday and weekend pedestrian volume is a good way of determining which streets invite residents and visitors to spend time in the city, and which do not.

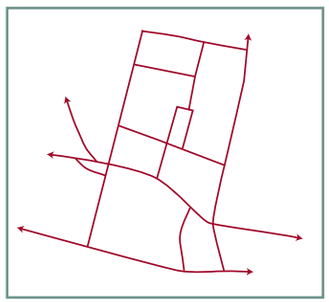
The figures below indicate the change in pedestrian volume from the weekday to weekend. (timeframe: 10am to 6pm)

A. Sydney Street	25%
B. Gardner Street	55%
C. Kensington Grds.	31%
D . Gloucester Place	90%
E. Dyke Road	305%
F. St. James Street	50%
G. Trafalgar Street	56%
H. Jubilee Street	21%

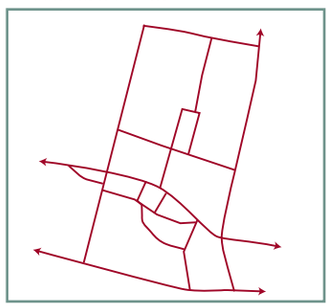
Too few locals walk

Of course certain roads such as Trafalgar Street and Dyke Road are simply more heavily used for commuting and it's understandable that they experience more pedestrian traffic on a weekday. Such streets, however, should still offer an array of activities so as to encourage use at all times of the day and year.

Weekday network



Weekend network



The number of people varies between weekday and weekend. The Lanes are more used in the weekends.

Pedestrian volume on a summer weekend from 10 AM to 6PM

Note: Figures for New Road are from 2005

Main routes

Pedestrian movement 02

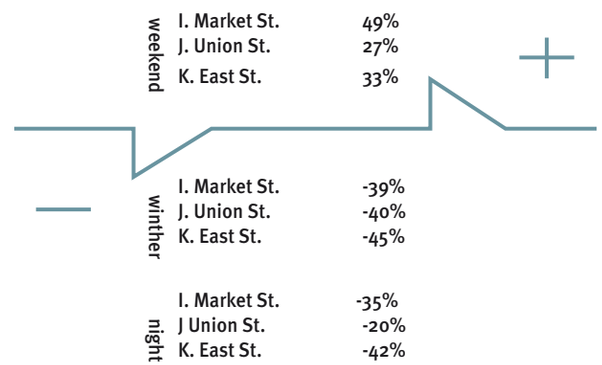
The Lanes - feast or famine?

The Lanes experience a complete change in character from weekday to weekend. Pedestrian numbers increase, showing that The Lanes are a popular place for weekend strollers enjoying optional activities.

It is no surprise that this intimate and pleasant area is popular during the day time. With its narrow streets and varied shops, it is an attractive tourist destination. But the scene changes dramatically after closing time. Due to its mono-functional retail nature, The Lanes become deserted at night. This leads to a perceived lack of security and safety, and the area becomes a barrier between the city centre and the beach promenade.

In the winter, The Lanes fail to attract local citizens and experiences a significant drop in footfall.

Changes in pedestrian traffic compared to a summer weekday between 10am and 6pm.



Public Space Network

Street hierarchy

Lack of legibility

This diagram illustrates the hierarchy of Brighton & Hove's main pedestrian routes based on volume of pedestrian traffic. Despite the clear indications of a street hierarchy, there is little variation in the character and identity of pedestrian routes.

Heavily used routes are sometimes narrow and difficult to manouevre in, whilst less travelled paths are wider and more attractive. This ambiguity makes the public realm more confusing and less inviting - legibility of the city is muddled when the routes intended for pedestrians are not discernible from secondary or tertiary routes.

Hierarchy based on pedestrians

To ensure a sense of liveliness as well as legibility, it is important to concentrate activity and movement along specific routes. The public space analysis indicates a street hierarchy that can be used to determine where activity should be concentrated and what interventions can be made to promote a lively and pleasant urban environment.

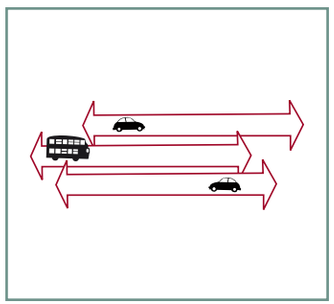
main pedestrian routes

secondary pedestrian routes

missing links

disconnects in pedestrian network

poor entrances to vital city area



East West connections are characterised by changing quality and lack of identity

Disconnected pedestrian network and poor entrance to the North Laine

Disconnection to seafront

BRIGHTON

Public Space Network

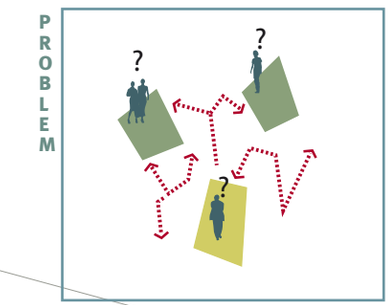
Discontinuous and Inconsistent

Missing link

The diagram to the left illustrates other problems with the public space network; discontinuity, missing links and poor entrances to key city areas. Important routes are often completely disconnected from each other. The intersection at the Clock Tower, where the two most heavily travelled pedestrian routes meet, is not designed with the needs of the pedestrian in mind. In other cases, especially in The Lanes, an otherwise well maintained and pleasant route virtually disappears into a run down alley-way. Ship Street and East Street are examples of heavily used streets, whose quality and character drastically deteriorate when moving south, resulting in a poor connection between lively areas in the Lanes and the seafront.

Entrances to city areas are seldomly celebrated

Entrances to vital city areas, most notably North Laine, are often completely neglected and disjointed from nearby areas of movement and activity. Most of the entrances into North Laine are signed but the run down and barely accessible entrances, especially along Gloucester Place, fail to invite people into this lively and interesting area.



Missing links in the pedestrian network

Getting Across

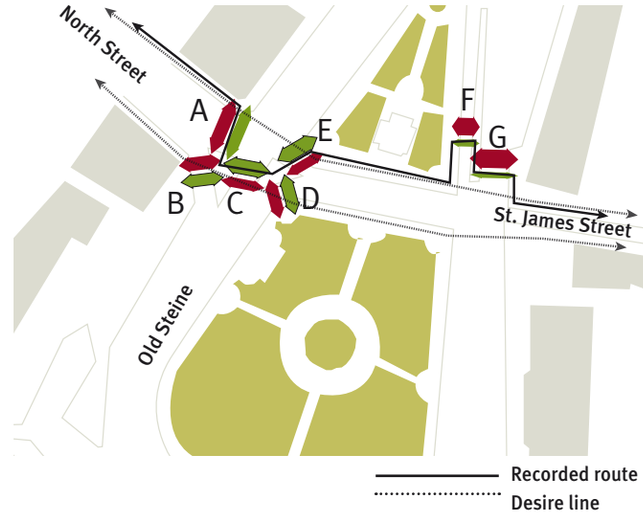
Jaywalking -a natural consequence of poor street design
If given the choice, people will choose to take the shortest route between A and B, to walk directly from one destination to the other along their desire line. In Brighton & Hove, however, the shortest route is often not an option, as guard railings and traffic islands dictate the path pedestrians must take to legally cross a street. For roughly half the time, human nature prevails, resulting in jay-walking.

The conclusion is that pen crossings and guard railings do not work. They almost force people to act illegally, which increases the number of accidents. Research conducted along the newly renovated Kensington High Street in London actually indicates that removing guard railing and pen crossings decreases the number of traffic accidents involving pedestrians!

approx
50%
jaywalk

Old Steine

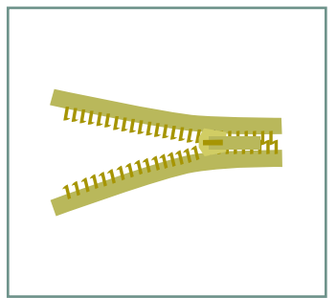
	Legal:	Illegal:
A:	46%	54%
B:	54%	46%
C:	55%	45%
D:	50%	50%
E:	54%	46%
F:	32%	68%
G:	29%	71%



Old Steine

The Old Steine intersection is a confusing conglomerate of detours, guard railing, and poor paving. This combination results in a barrier that restricts east / west pedestrian movement.

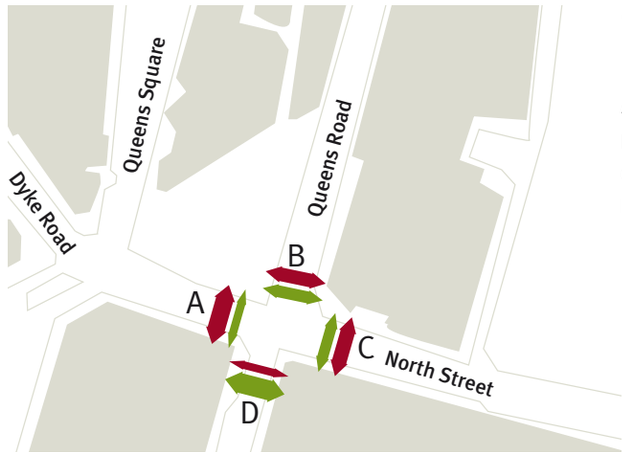
People that do attempt to cross from east to west often choose the most direct route, which is rarely offered as a legal option. The result is a high number of dangerous and illegal crossings.



The city “unzipped” or disjointed

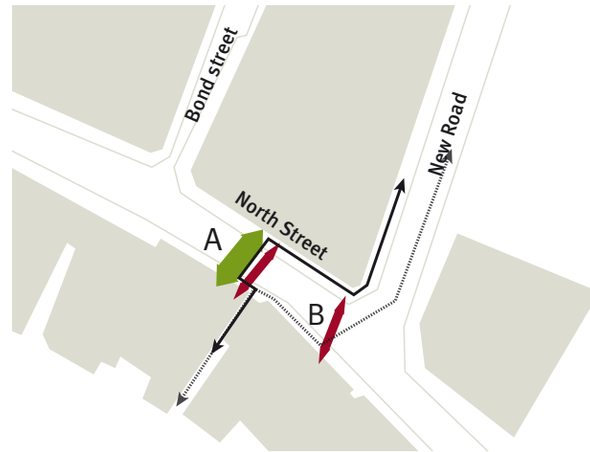
Old Steine

Getting Across



Queens Road / North Street	Legal:	Illegal:
A:	37%	63%
B:	48%	52%
C:	42%	53%
D:	79%	21%

North Street	Legal:	Illegal:
A:	78%	22%
B:	27 people jaywalking in 5 minutes	



Clock tower

The intersection of Queens Road and North Street is a treacherous jungle of guard railing, signage, and vehicular traffic. Despite the apparent efforts to curtail jay-walking and to protect the pedestrian, the "over-design" and focus on vehicular flow has only made the intersection more dangerous for pedestrians. Guard railing simply impedes pedestrian desire lines (preferred routes), encouraging people to take creative and often dangerous routes across the street.

The only place where a majority of pedestrian crossings are legal is on the southern end of the intersection across Queens Road. Elsewhere pedestrians are constantly weaving in and out of traffic, walking in the carriageway to avoid being fenced in by guard railing, and running across the street rather than waiting over 1.5 minutes for the less than 10-second "walk" signal.

Queens Road/ North street

North street

New Road and North Street

The intersection here is a key connector between North Laine, the new Jubilee Library and The Lanes. Again, however, the location of the pedestrian crossing forces people to take a longer route than they desire. The result is a large number of people putting themselves and others in danger by crossing where there is no signalled intersection.

After the New Road project is completed and Jubilee Library begins to attract even more patrons more and more pedestrians will wish to cross here, increasing the problem.

Clock tower
The analysis_local scale_movement.indd 53 21-03-2007 11:41:35
New Road and North Street

Moving Along

Crowding and congestion

Efficient space for walking

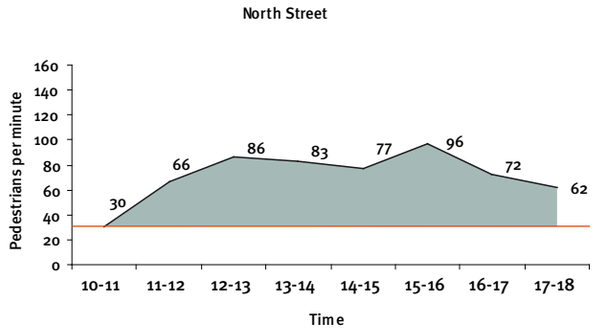
Gehl Architects' studies from around the world suggest that the maximum pavement volume for comfortable pedestrian movement is 13 people per minute per metre width of footpath. Anything above this level is considered to be overcrowding. (Other methodologies assess crowding according to the number of people that a street can carry – however such methodologies deal only with capacity and not quality). When Copenhagen´s main street, Strøget, reaches the level of 13 persons per minute per metre footpath width, people start finding alternative routes. This has been the case for the last 30 years.

Crowding is a sign of low walking quality. When crowding occurs, the pleasure of walking is severely curtailed and walking turns into a fight to get from one point to another.

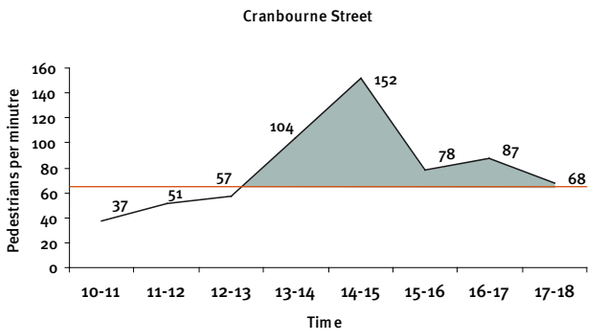
Problems related to street layout

In Brighton & Hove the problem with crowding and congestion on pavements is often caused by a street layout that prioritises car traffic and leaves too little space for pedestrians.

This is despite the fact that in many of the areas there are more pedestrians than cars. We need to start planning in favour of the people who use the spaces most, not the vehicles that travel through them.



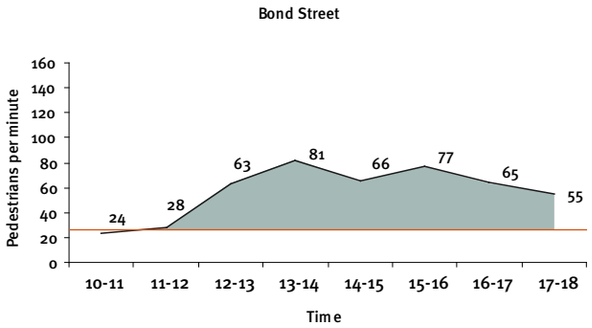
32 ped./min.
Limit for comfortable carrying capacity



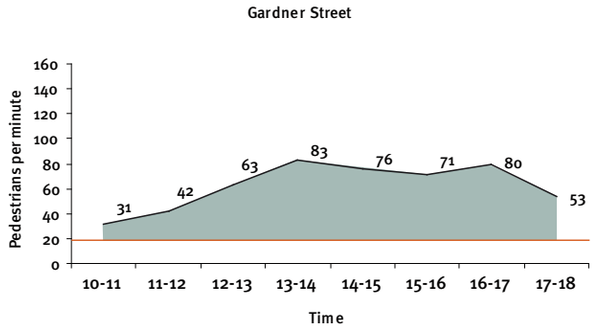
64 ped./min.
Limit for comfortable carrying capacity

Moving Along

Crowding and congestion



26 ped./min.
Limit for comfortable carrying capacity



19 ped./min.
Limit for comfortable carrying capacity

General problems
Crowding is generally:

Bad for commerce
- since people have difficulty in stopping / looking at window displays

Bad for safety
- since the fast walking pedestrians will move out onto the road or people will accidentally be pushed into the road

Bad for those with special needs
- since people in wheelchairs, parents with prams, people with disabilities, children and the elderly generally need more space for walking than that available on a crowded footpath. These groups are effectively excluded from any walking under such conditions

Bad for encouraging people to walk
- since people will avoid walking in the city if it is unpleasant and problematic to do so

- Where do people stay?
- Hierarchy of spaces
- Public space typology
- Why are some spaces more popular?
- The grass is greener on the other side
- Sitting in the city
- Age & gender
- A seasonal city?
- Necessary versus optional activities
- Attractive ground floor frontages
- Safety