

# National 5

## Urban

### Changes in the CBD: Traffic

*Friday, 20 March 2020*

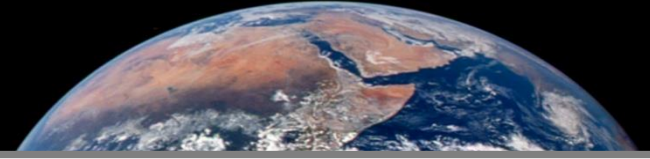
Today I will:

- Know the causes, effects and solutions to traffic congestion in Glasgow's CBD.

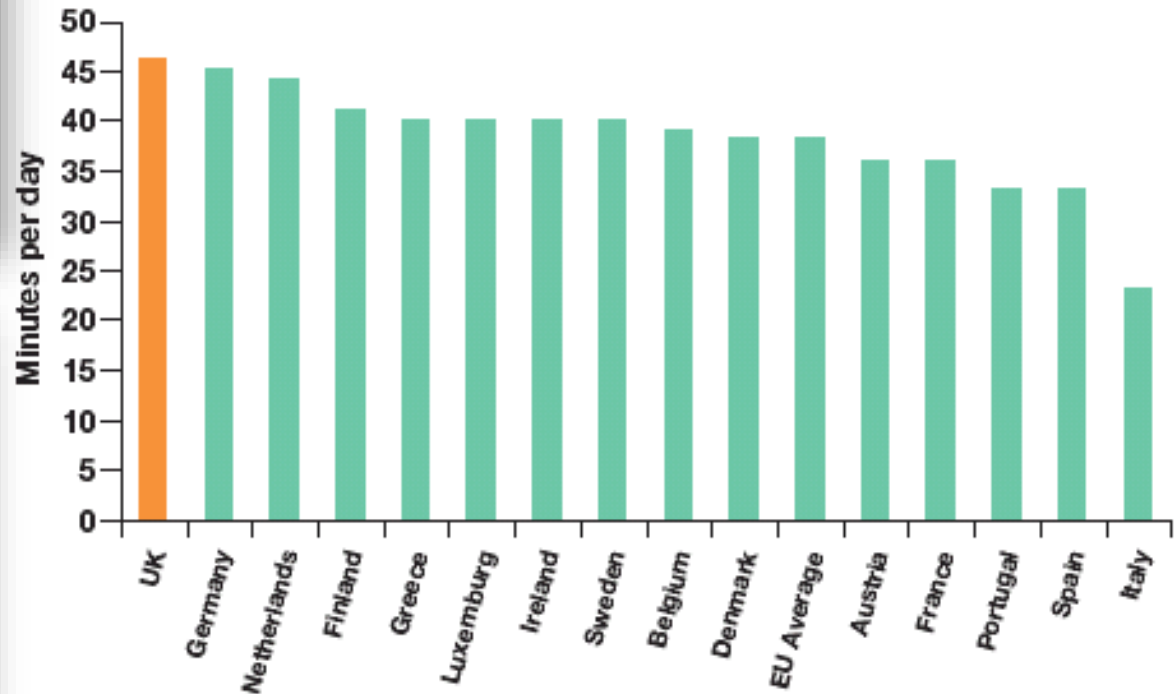
What are some of the problems with traffic?

# National 5

Urban



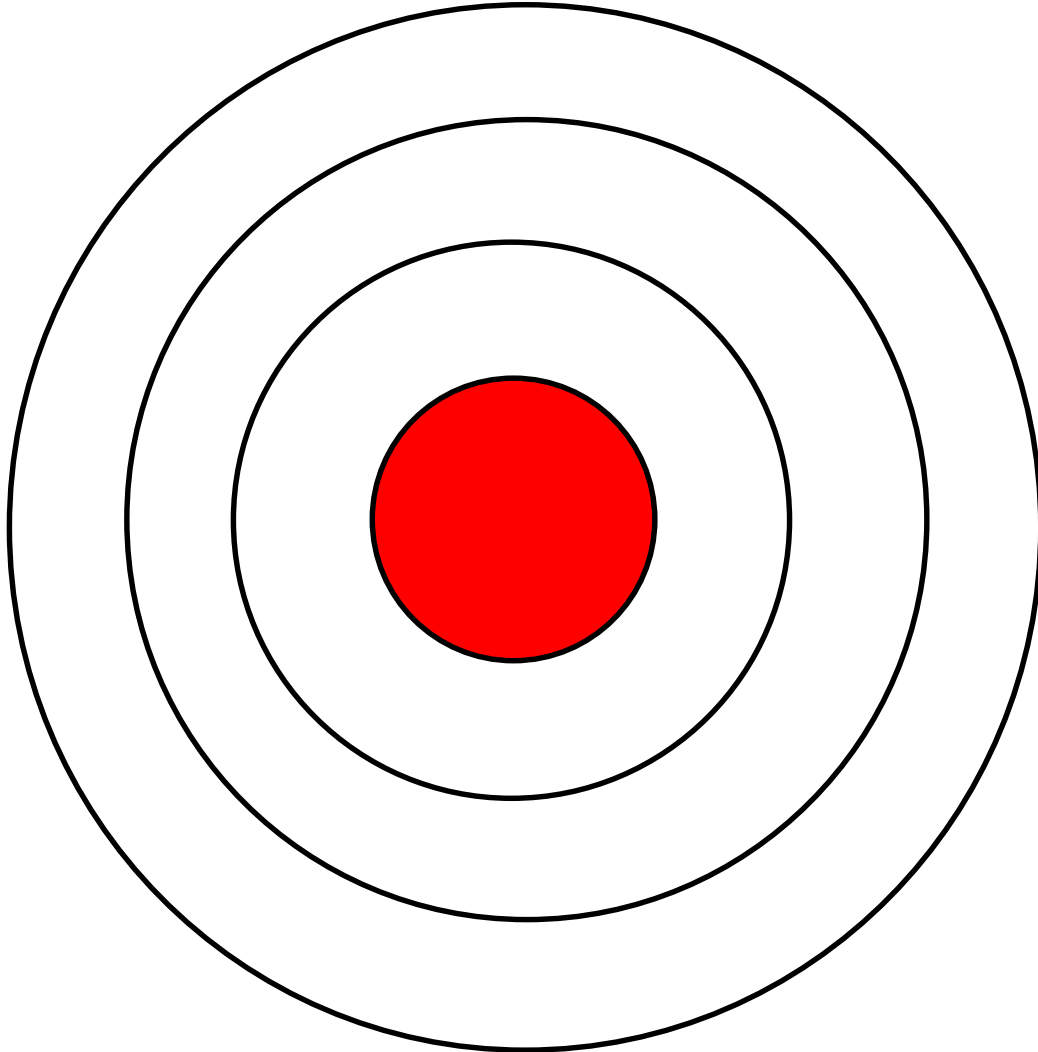
## Average Daily Commuting Time



How long does it take you to get to school in the morning?

National 5

Urban



The  
Central  
Business  
District  
(CBD)







NEXT

NEXT

NEXT

ha bit at

CAFFÈ GIANCO

High price of land

Concentration of shops and offices

Concentration of traffic and pedestrians

CBD is constantly changing



Little residential land use

Nodal point for transport routes

Buildings are tall with multiple uses

Often the zone with the oldest buildings

- Glasgow's city centre developed rapidly during the 'pre-car' era so many streets are too narrow.
- This can cause problems when drivers choose to park on the street. Glasgow has a distinct grid iron street pattern.
- The grid-iron street pattern creates many junctions which then creates bottlenecks, causing traffic congestion. Commuters travel into the CBD as they live in commuter suburbs – this has caused many cars converge onto a few main roads, leading to traffic build up.
- There are limited crossing points for the river Clyde (eg. Kingston Bridge, Clyde Tunnel), creating bottlenecks in these areas.
- Growing car ownership in many MEDC's means more cars on the road and also looking for places to park increasing congestion, especially at rush hours. Glasgow's growing tourism function/shopping attractions means more cars/coaches are attracted into the city, particularly the CBD.
- Increased cars combined with greater movement of goods by heavy transport lorries means more road maintenance which shuts lanes/roads and slows traffic. Roads can be damaged easily due to the heavy lorries.

# National 5

Urban



Draw a table like the one below with three columns...

Cause of Traffic	Effect of Traffic	Solution/Effectiveness

## Cause of Traffic

## • Effect of Traffic

## • Solution

- Narrow streets
- Grid iron street pattern

• .



Cause of Traffic	• Effect of Traffic	• Solution
<ul style="list-style-type: none"><li>• Narrow streets</li><li>• Grid iron street pattern</li></ul>	<ul style="list-style-type: none"><li>• Can slow down traffic, especially when people park on the street.</li></ul>	

Cause of Traffic	• Effect of Traffic	• Solution
<ul style="list-style-type: none"><li>• Narrow streets</li><li>• Grid iron street pattern</li></ul>	<ul style="list-style-type: none"><li>• Can slow down traffic, especially when people park on the street.</li><li>• The streets were not designed for cars originally.</li></ul>	

<b>Cause of Traffic</b>	<b>• Effect of Traffic</b>	<b>• Solution</b>
<ul style="list-style-type: none"><li>• Narrow streets</li><li>• Grid iron street pattern</li></ul>	<ul style="list-style-type: none"><li>• Can slow down traffic, especially when people park on the street.</li><li>• The streets were not designed for cars originally.</li><li>• There are many traffic lights. It can take time to get from one place to another.</li></ul>	

<b>Cause of Traffic</b>	<b>• Effect of Traffic</b>	<b>• Solution</b>
<ul style="list-style-type: none"><li>• Narrow streets</li><li>• Grid iron street pattern</li></ul>	<ul style="list-style-type: none"><li>• Can slow down traffic, especially when people park on the street.</li><li>• The streets were not designed for cars originally.</li><li>• There are many traffic lights. It can take time to get from one place to another.</li></ul>	<ul style="list-style-type: none"><li>• One way streets e.g. Hope Street. Directs traffic in a certain way and cars can go faster.</li></ul>

<b>Cause of Traffic</b>	<b>• Effect of Traffic</b>	<b>• Solution</b>
<ul style="list-style-type: none"><li>• Narrow streets</li><li>• Grid iron street pattern</li></ul>	<ul style="list-style-type: none"><li>• Can slow down traffic, especially when people park on the street.</li><li>• The streets were not designed for cars originally.</li><li>• There are many traffic lights. It can take time to get from one place to another.</li></ul>	<ul style="list-style-type: none"><li>• One way streets e.g. Hope Street. Directs traffic in a certain way and cars can go faster.</li><li>• Effective as traffic can move more smoothly but one-way systems can be confusing for drivers.</li></ul>

<b>Cause of Traffic</b>	<b>• Effect of Traffic</b>	<b>• Solution</b>
<ul style="list-style-type: none"><li>• Narrow streets</li><li>• Grid iron street pattern</li></ul>	<ul style="list-style-type: none"><li>• Can slow down traffic, especially when people park on the street.</li><li>• The streets were not designed for cars originally.</li><li>• There are many traffic lights. It can take time to get from one place to another.</li></ul>	<ul style="list-style-type: none"><li>• One way streets e.g. Hope Street. Directs traffic in a certain way and cars can go faster.</li><li>• Effective as traffic can move more smoothly but one-way systems can be confusing for drivers.</li><li>• It can take longer to reach your destination.</li></ul>

<b>Cause of Traffic</b>	<b>• Effect of Traffic</b>	<b>• Solution</b>
<ul style="list-style-type: none"><li>• Narrow streets</li><li>• Grid iron street pattern</li></ul>	<ul style="list-style-type: none"><li>• Can slow down traffic, especially when people park on the street.</li><li>• The streets were not designed for cars originally.</li><li>• There are many traffic lights. It can take time to get from one place to another.</li></ul>	<ul style="list-style-type: none"><li>• One way streets e.g. Hope Street. Directs traffic in a certain way and cars can go faster.</li><li>• Effective as traffic can move more smoothly but one-way systems can be confusing for drivers.</li><li>• It can take longer to reach your destination.</li><li>• Parking restrictions and fines have reduced the amount of on street parking which allows the streets to be wider allowing more space for cars</li></ul>

Cause of Traffic	• Effect of Traffic	• Solution	
<ul style="list-style-type: none"><li>• High density of people and daytime population</li><li>• Commuters</li></ul>			

<b>Cause of Traffic</b>	<b>• Effect of Traffic</b>	<b>• Solution</b>	
<ul style="list-style-type: none"><li>• High density of people and daytime population</li><li>• Commuters</li></ul>	<ul style="list-style-type: none"><li>• It is very busy as the CBD is popular for workers – can cause problems at rush hour.</li></ul>		

<b>Cause of Traffic</b>	<b>• Effect of Traffic</b>	<b>• Solution</b>
<ul style="list-style-type: none"><li>• High density of people and daytime population</li><li>• Commuters</li></ul>	<ul style="list-style-type: none"><li>• It is very busy as the CBD is popular for workers – can cause problems at rush hour.</li><li>• Streets become very busy.</li></ul>	

<b>Cause of Traffic</b>	<b>• Effect of Traffic</b>	<b>• Solution</b>
<ul style="list-style-type: none"><li>• High density of people and daytime population</li><li>• Commuters</li></ul>	<ul style="list-style-type: none"><li>• It is very busy as the CBD is popular for workers – can cause problems at rush hour.</li><li>• Streets become very busy.</li><li>• Major traffic build up.</li></ul>	

## Cause of Traffic

## • Effect of Traffic

## • Solution

- High density of people and daytime population
- Commuters

- It is very busy as the CBD is popular for workers – can cause problems at rush hour.
- Streets become very busy.
- Major traffic build up.

- Bridges and tunnels, other crossing points e.g. the Clyde Tunnel, to divert people away from busier spots.

## Cause of Traffic

## • Effect of Traffic

## • Solution

- High density of people and daytime population
- Commuters

- It is very busy as the CBD is popular for workers – can cause problems at rush hour.
- Streets become very busy.
- Major traffic build up.

- Bridges and tunnels, other crossing points e.g. the Clyde Tunnel, to divert people away from busier spots.
- Clyde Arc or ‘squinty bridge. Bottlenecks of traffic built up at existing bridges so this reduces pressure.

## Cause of Traffic

## • Effect of Traffic

## • Solution

- High density of people and daytime population
- Commuters

- It is very busy as the CBD is popular for workers – can cause problems at rush hour.
- Streets become very busy.
- Major traffic build up.

- Bridges and tunnels, other crossing points e.g. the Clyde Tunnel, to divert people away from busier spots.
- Clyde Arc or 'squinty bridge'. Bottlenecks of traffic built up at existing bridges so this reduces pressure.
- Motorways like the M8 and M74.

Cause of Traffic	Effect of Traffic	Solution
<ul style="list-style-type: none"> <li>• High density of people and daytime population</li> <li>• Commuters</li> </ul>	<ul style="list-style-type: none"> <li>• It is very busy as the CBD is popular for workers – can cause problems at rush hour.</li> <li>• Streets become very busy.</li> <li>• Major traffic build up.</li> </ul>	<ul style="list-style-type: none"> <li>• Bridges and tunnels, other crossing points e.g. the Clyde Tunnel, to divert people away from busier spots.</li> <li>• Clyde Arc or ‘squinty bridge. Bottlenecks of traffic built up at existing bridges so this reduces pressure.</li> <li>• Motorways like the M8 and M74.</li> <li>• The M74 improved access to Glasgow from all directions and reduced traffic flows in the city centre by almost 21,000 vehicles per day.</li> </ul>

Cause of Traffic	• Effect of Traffic	• Solution
<ul style="list-style-type: none"><li>• High density of people and daytime population</li><li>• Commuters</li></ul>	<ul style="list-style-type: none"><li>• It is very busy as the CBD is popular for workers – can cause problems at rush hour.</li><li>• Streets become very busy.</li><li>• Major traffic build up.</li></ul>	<ul style="list-style-type: none"><li>• Bridges and tunnels, other crossing points e.g. the Clyde Tunnel, to divert people away from busier spots.</li><li>• Clyde Arc or ‘squinty bridge. Bottlenecks of traffic built up at existing bridges so this reduces pressure.</li><li>• Motorways like the M8 and M74.</li><li>• The M74 improved access to Glasgow from all directions and reduced traffic flows in the city centre by almost 21,000 vehicles per day.</li><li>• Pedestrianisation (below)</li></ul>

Cause of Traffic	• Effect of Traffic	• Solution
<ul style="list-style-type: none"> <li>• High density of people and daytime population</li> <li>• Commuters</li> </ul>	<ul style="list-style-type: none"> <li>• It is very busy as the CBD is popular for workers – can cause problems at rush hour.</li> <li>• Streets become very busy.</li> <li>• Major traffic build up.</li> </ul>	<ul style="list-style-type: none"> <li>• Bridges and tunnels, other crossing points e.g. the Clyde Tunnel, to divert people away from busier spots.</li> <li>• Clyde Arc or ‘squinty bridge. Bottlenecks of traffic built up at existing bridges so this reduces pressure.</li> <li>• Motorways like the M8 and M74.</li> <li>• The M74 improved access to Glasgow from all directions and reduced traffic flows in the city centre by almost 21,000 vehicles per day.</li> <li>• Pedestrianisation (below)</li> <li>• The media is used to alert the public of potential problems to prevent congestion from building at hotspots e.g. accidents or road works .</li> </ul>

# National 5

Urban



- Increased car ownership

# National 5

## Urban



- Increased car ownership
- More noise and air pollution – from the sound of traffic and from exhausts.

# National 5

## Urban



- Increased car ownership
- More noise and air pollution – from the sound of traffic and from exhausts.
- More accidents as roads are busier

# National 5

## Urban



- Increased car ownership
- More noise and air pollution – from the sound of traffic and from exhausts.
- More accidents as roads are busier
- Encourage people to use public transport.

# National 5

## Urban



- Increased car ownership
- More noise and air pollution – from the sound of traffic and from exhausts.
- More accidents as roads are busier
- Encourage people to use public transport.
- Simple methods like more carriages added to trains and Wi-Fi added to make the option of public transport more appealing to commuters.

# National 5

## Urban



- Increased car ownership
- More noise and air pollution – from the sound of traffic and from exhausts.
- More accidents as roads are busier
- Encourage people to use public transport.
- Simple methods like more carriages added to trains and Wi-Fi added to make the option of public transport more appealing to commuters.
- Season tickets and zone cards offer discounts for those using public transport to commute regularly

# National 5

Urban



- Delivery lorries, pedestrians and buses

# National 5

## Urban



- Delivery lorries, pedestrians and buses
- Deliveries don't make it on time – wasteful and bad for business.

# National 5

## Urban



- Delivery lorries, pedestrians and buses
- Deliveries don't make it on time – wasteful and bad for business.
- People are late to work

# National 5

## Urban



- Delivery lorries, pedestrians and buses
- Deliveries don't make it on time – wasteful and bad for business.
- People are late to work
- Slow down other traffic

# National 5

## Urban



- Delivery lorries, pedestrians and buses
- Deliveries don't make it on time – wasteful and bad for business.
- People are late to work
- Slow down other traffic
- More road repairs required as there is more damage

# National 5

## Urban



- Delivery lorries, pedestrians and buses
- Deliveries don't make it on time – wasteful and bad for business.
- People are late to work
- Slow down other traffic
- More road repairs required as there is more damage
- People get angry and *frustrated*, leading to accidents

# National 5

## Urban



- Delivery lorries, pedestrians and buses
- Deliveries don't make it on time – wasteful and bad for business.
- People are late to work
- Slow down other traffic
- More road repairs required as there is more damage
- People get angry and frustrated, leading to accidents
- Pedestrianised streets – only for people. Increases pedestrian safety making the areas more appealing for shoppers (Buchanan St)

# National 5

## Urban



- Delivery lorries, pedestrians and buses
  - Deliveries don't make it on time – wasteful and bad for business.
  - People are late to work
  - Slow down other traffic
  - More road repairs required as there is more damage
  - People get angry and frustrated, leading to accidents
- Pedestrianised streets – only for people. Increases pedestrian safety making the areas more appealing for shoppers (Buchanan St)
- Fewer cars in this area leads to lower emissions and improves air quality and environment.

# National 5

## Urban



- Delivery lorries, pedestrians and buses
- Deliveries don't make it on time – wasteful and bad for business.
- People are late to work
- Slow down other traffic
- More road repairs required as there is more damage
- People get angry and frustrated, leading to accidents
- Pedestrianised streets – only for people. Increases pedestrian safety making the areas more appealing for shoppers (Buchanan St)
- Fewer cars in this area leads to lower emissions and improves air quality and environment.
- Bus lanes to allow buses to run quickly – makes them popular

# National 5

## Urban



- Delivery lorries, pedestrians and buses
- Deliveries don't make it on time – wasteful and bad for business.
- People are late to work
- Slow down other traffic
- More road repairs required as there is more damage
- People get angry and frustrated, leading to accidents
- Pedestrianised streets – only for people. Increases pedestrian safety making the areas more appealing for shoppers (Buchanan St)
- Fewer cars in this area leads to lower emissions and improves air quality and environment.
- Bus lanes to allow buses to run quickly – makes them popular
- Can cause congestion elsewhere

# National 5

## Urban



Describe and explain some of the Urban changes which have taken place in a developed country you have studied.

## **Glasgow, UK**

**[A]** Description of the change

**[B]** Explanation of the change

**[Ex]** Example of an area where the change has taken place

# National 5

Urban



## Causes...

High Density of People

Narrow Streets



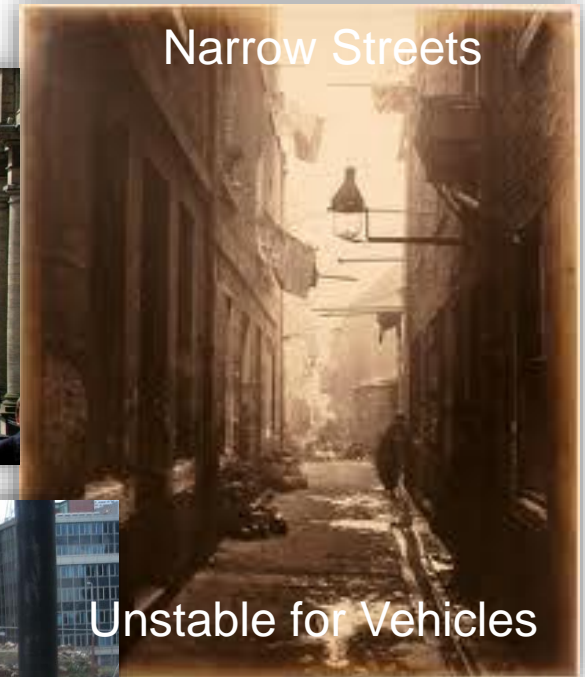
Narrow Streets

On Street Parking



Grid Iron Street Pattern

Lots of Traffic lights



Unstable for Vehicles



Increased Car Ownership

# National 5

## Urban



### Causes of traffic congestion:

[A] Some **old, narrow streets**. [B] These are unsuitable for cars.

[A] **Grid iron** street pattern [B] many traffic lights at intersections.

[A] **High daytime population** makes it extremely busy. [B] This is because the CBD is the main place of work.

[A] **Commuters** [B] cause problems at rush hour.

[A] **Car ownership is increasing** [B] so roads are busier.

[A] **Delivery lorries, pedestrians and buses** [B] all slow down traffic further.

# National 5

Urban



## Effects...

[A] More **noise pollution** [B] from the sound of all of the traffic.

[A] More **air pollution** [B] from the vehicle exhausts.

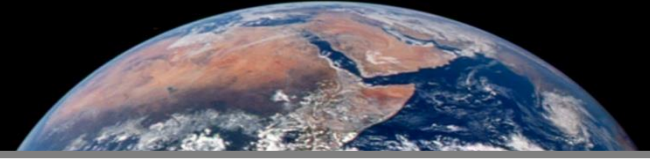
[A] More **accidents** on the roads [B] as they are busier and therefore more dangerous.

[A] More **road repairs** [B] as there is more damage and therefore more delays.

[A] **Wasteful of time and money** [B] particularly for businesses meeting delivery deadlines.

# National 5

Urban



## Solutions.....

### **One Way Streets:**

Traffic only in one direction  
for example, Hope Street

Effectiveness:  
Can cause confusion



# National 5

Urban

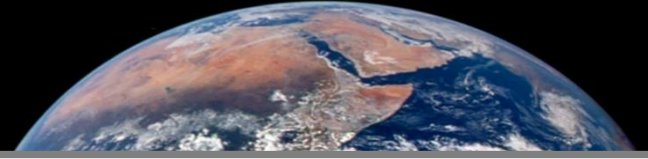


**Bridges and tunnels  
such as Clyde Tunnel:**  
Again to divert traffic

Effectiveness:  
Very helpful at  
alleviating congestion

# National 5

Urban



## **M8 and M74:**

This means that traffic 'misses' the CBD.  
CBD.

## **Effectiveness:**

Very helpful, jams though on the Kingston Bridge.



# National 5

Urban



## **Pedestrianisation:**

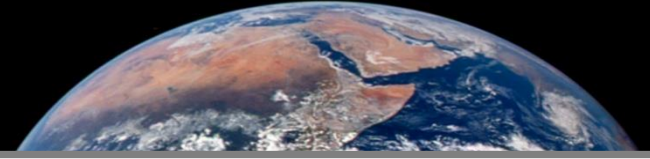
Roads for only pedestrians.

## **Effectiveness:**

Increases congestion elsewhere.

# National 5

Urban



**Encourage use of  
public transport in  
the city:**

To reduce car traffic

**Effectiveness:**

Not as convenient for  
people



# National 5

Urban



## **Reduce Street Parking:**

high parking charges through use of parking meters, parking permits, traffic wardens; To reduce car traffic

## **Effectiveness:**

Unpopular but effectively reduces traffic

# National 5

Urban

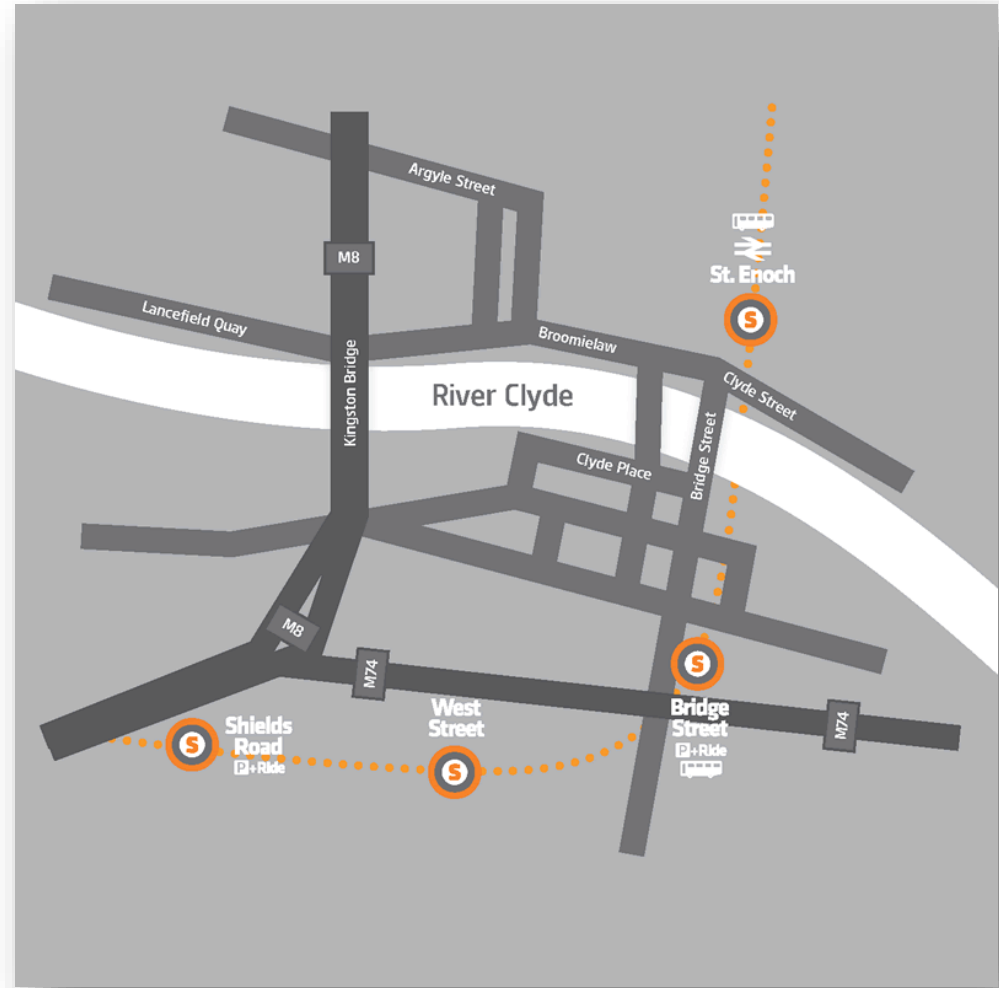


## Park and Ride:

Such as Shields Road  
Underground

## Effectiveness:

Well used as people  
still have  
convenience of car



# National 5

## Urban



## Task:

- Now cut out and stick in to your jotter the map of solutions to Glasgow's traffic problems.
- Answer Questions from P62/63 of Human Environments text book

# National 5

## Urban

### Changes in the CBD: Traffic

*Friday, 20 March 2020*

Today I will:

- Know the causes, effects and solutions to traffic congestion in Glasgow's CBD.

What are some of the problems with traffic?