Roadspace Reallocation in COVID-19: Strategies & Global Case Studies

John Surico & Peter Jones
UCL

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Multimodal Optimisation of Roadspace in Europe

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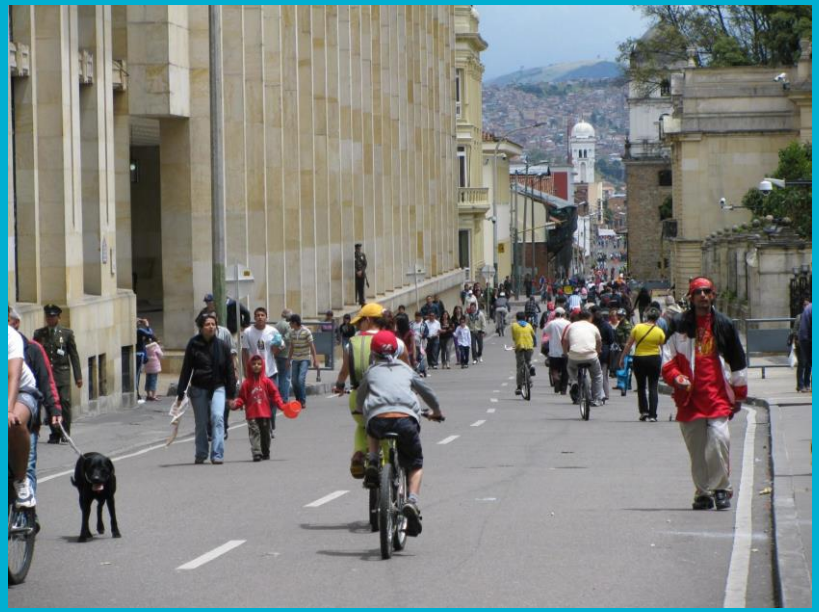
Streets

Full pedestrianization

Theory

Numerous cities are proposing the full pedestrianization of both traffic and parking lanes to widen space. Often targeted locations are in the city centre, where heightened levels of congestion and increased footfall come into conflict. In these cases, streets are shut entirely to motor traffic, and opened to pedestrians and cyclists.



(Source: Resilience.org)

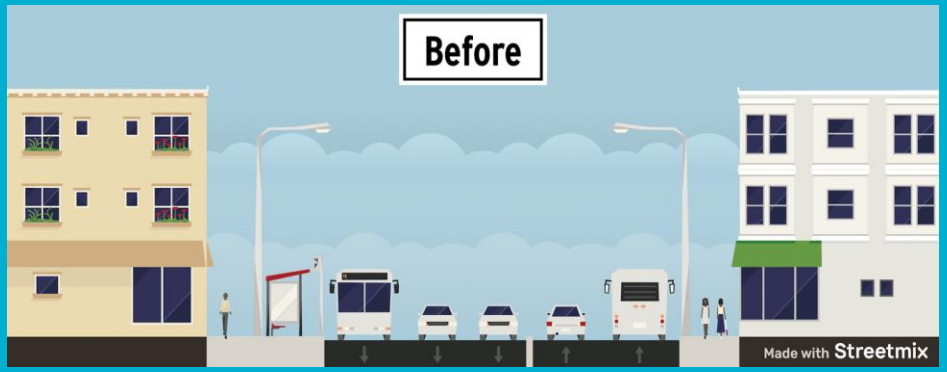
Since the pandemic started, Bogotá (Colombia) has extended its weekly Ciclovía program — when over 120 km of major roads are entirely pedestrianized — to all days of the week. Ordinarily, they are used by approximately 2 million people each year.

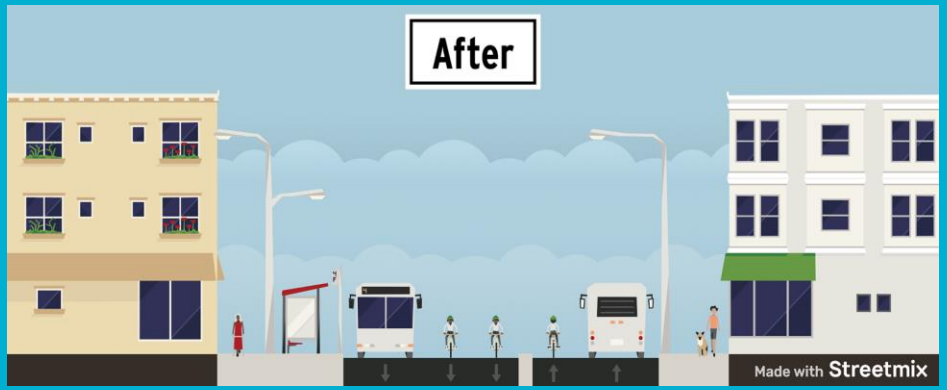
In Practice

Cycle & bus-only corridors

Theory

Just short of full pedestrianization, several cities are converting busy thoroughfares into lanes for sustainable travel, with street traffic restricted to buses and cyclists. Usually this reallocation is regulated according to a certain time period (e.g. daytime).





(*Source: The Guardian*)

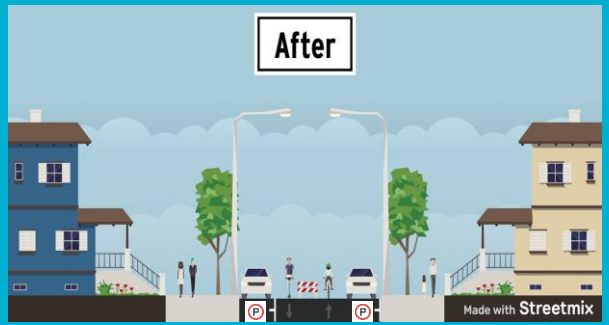
Ambitious in size and scope, huge swaths of central **London** (England/UK) are being made ‘car-free’ as part of the city’s reopening plan. This will restrict major corridors and bridges to buses and cyclists.

In Practice

Filtered permeability — removing through traffic

Theory

To encourage walking and cycling, and prevent “rat-running,” when drivers use residential streets as shortcuts, several cities are adding either temporary or permanent “modal filters” at certain neighborhood entryways.



Temporary

Permanent

In Practice

Details

Started in April, the city's "Stay Healthy Streets" program opened 11 miles of streets to pedestrians and cyclists, by closing off three loops in different parts of the city to thru-traffic. This complements the 21 miles of parkways opened by the city's parks department.

Guidance

Traffic calming work is being undertaken by the Minneapolis Public Works Department, which has jurisdiction over the streets, in accordance with advice from the state's health department, the agency leading the COVID-19 response.

Spotlight: Minneapolis, USA

Temporary

(Source: The New York Times)

(Source: MinnPost)

In Practice

Details

London boroughs are creating what are known as “low traffic neighborhoods” through modal filters, like planters and bollards (right). The filters block residential streets off to thru traffic, in an effort to calm speeds and allow for more cycling/walking.

Guidance

In early May, the Department for Transport (DfT) announced an ‘active travel’ fund of £250m and fast-tracked statutory guidance for local councils to quickly reallocate roadspace for cycling and walking. The Streetspace for London Plan is a partnership between the Mayor of London, Transport for London (arterial roads) and the local boroughs (local roads) to adhere by guidance and reduce pressure on public transport.

Potential Impact

The city is preparing for a tenfold increase in cycling, and a fivefold increase in walking. Thus far, the city has funded 114 low-traffic neighborhood schemes.

Spotlight: London, UK

Permanent

(Source: Hackney Council)

(Source: Wandsworth Guardian)

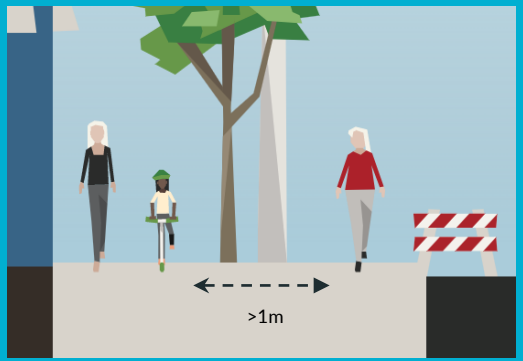
Increasing capacity for specific user groups

Footway widening

For extra demand & social distancing

Theory

Urban sidewalks are being widened onto streets to handle increased demand from ‘reopening’ businesses, adhering to social distancing standards (e.g. >1m apart).



In Practice

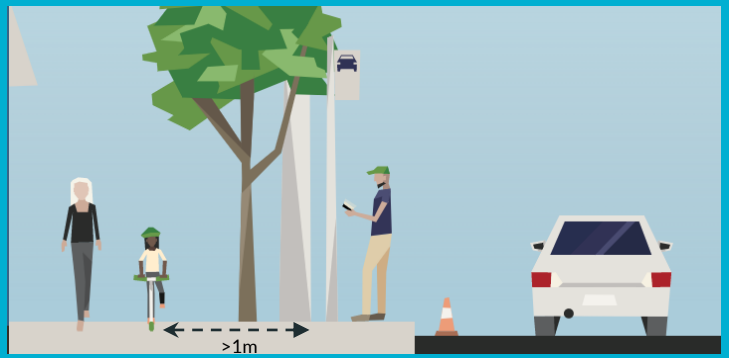
Montreal (Canada) will add 200 km of ‘active safe routes’ for cyclists and pedestrians, with widened or dedicated lanes (right) and slow-traffic zones, primarily utilizing parking lanes.

(Source: Montreal Gazette)

For queueing

Theory

With indoor capacity limited, space to safely queue outside of shops has been added to roadscapes.



In Practice

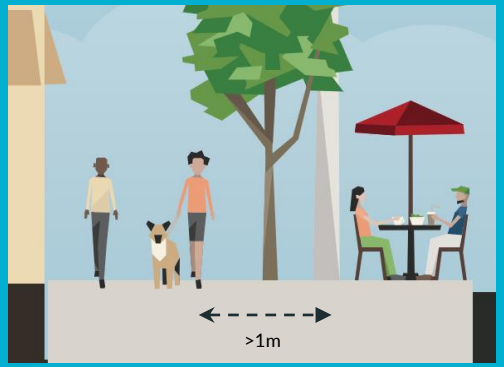
On Wellfield Road in Cardiff (Wales/UK), parking lanes have been removed to allow space for queuing outside of shops.

(Source: BBC)

For outdoor street activities & dining

Theory

New social distancing guidelines for restaurants may require outdoor seating in order to adhere by capacity restraints.



In Practice

The city of Munich (Germany) has expedited permits for outdoor cafes and restaurants, allowing businesses to use parking lanes to cordon off table space.

(Source: Twitter)

In Practice

Details

The Tel Aviv municipal government has allowed cafes and eateries to use street space — often parking spaces — for outdoor seating without charge, in an effort to foster reopening. Rabin Square, a popular public area, could also see outdoor dining.

Guidance

In order to host seating, restaurants must apply for the ‘Purple Badge’ from the national government, which signifies that they meet high health and sanitation standards for containing COVID-19 infections. The municipal government has released guidelines for restaurants to follow, in terms of table distance and capacity.

(Source: Twitter)

(Source: Haaretz)

Spotlight: Tel Aviv, Israel

To provide additional cycle parking & seating

Theory

To encourage more cycling and walking trips to commercial corridors and centres, additional cycle parking and outdoor seating are being built.

In Practice

Dublin (Ireland) (top) has added new cycle racks to what were previously parking lanes. Oxford (England/UK) (top) has turned parking lanes into rest areas.

(Source: Author)

(Source: Twitter)

Where has the space been taken from?

Traffic lanes

Parking lanes

Cycle Lanes

Creating new cycle lanes

Theory

One of the most common roadspace reallocations seen have concerned “pop-up” cycle lanes, in order to allow for easier active travel in light of public transport restrictions. Often these include new cycle lanes altogether.

In Practice

Cities like Kampala (Uganda) (top) and London (England/UK) (bottom) have created new cycle lanes on popular roads, utilizing former traffic lanes.

(Source: Twitter)

(Source: Road.cc)

In Practice

Details

Citing air pollution, the Lisbon city government announced in June that it is planning to add over 75 km of cycle lanes by September. In total, the city hopes to have 200 km of cycle lanes in place next year, with 1,500 new cycle parking spots at transport interchanges. A 3m € "mobility fund" will also help subsidize purchases of standard and electric bikes.

Guidance

Municipal authorities are responsible for urban roads and local transport. Local authorities have received central government support to maintain public transport service.

Potential Impact

The City Council is looking to re-allocate roadspace on one street per week, and has set a goal of 10% journeys made by cycling by 2021 — up from 2% currently.

(*Source: Forbes*)

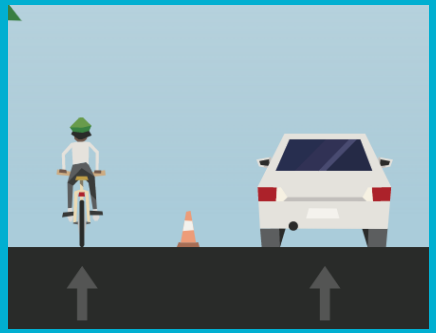
(*Source: City of Lisbon*)

Spotlight: Lisbon, Portugal

Widening/reinforcing of existing cycle lanes

Theory

In addition to the creation of new cycle lanes, existing cycle lanes — that were typically without physical segregation, or shared with buses — are seeing widening and reinforcing efforts.



In Practice

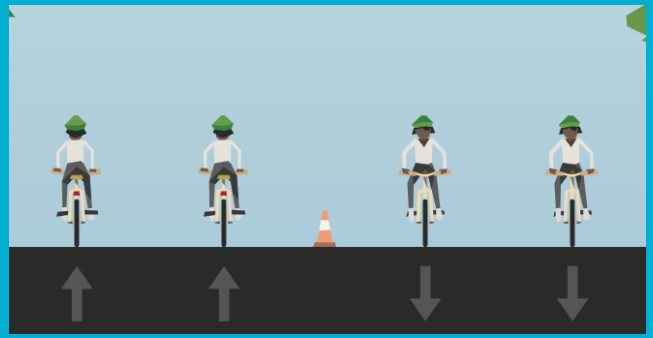
Edinburgh (Scotland/UK) widened or reinforced cycle lanes across the city in the wake of COVID-19, particularly along routes to hospitals.

(Source: Edinburgh City Council)

Creating cycle-only streets

Theory

In an effort to encourage ‘active travel,’ several cities are converting entire thoroughfares into ‘cycleways,’ limiting vehicular traffic. These often carry time restrictions as well.



In Practice

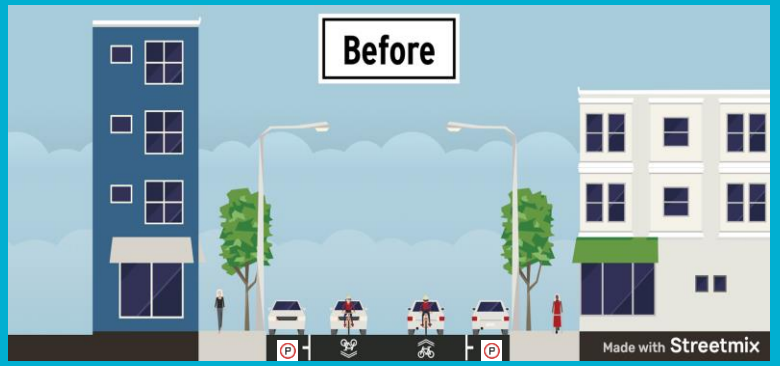
On Rue de Rivoli in Paris (France), the major shopping corridor now has four bike lanes and no vehicular traffic. The corridor recently saw 14,000 cyclists in one day.

(Source: Twitter)

Where has the space been taken from?

Traffic lanes

Parking lanes

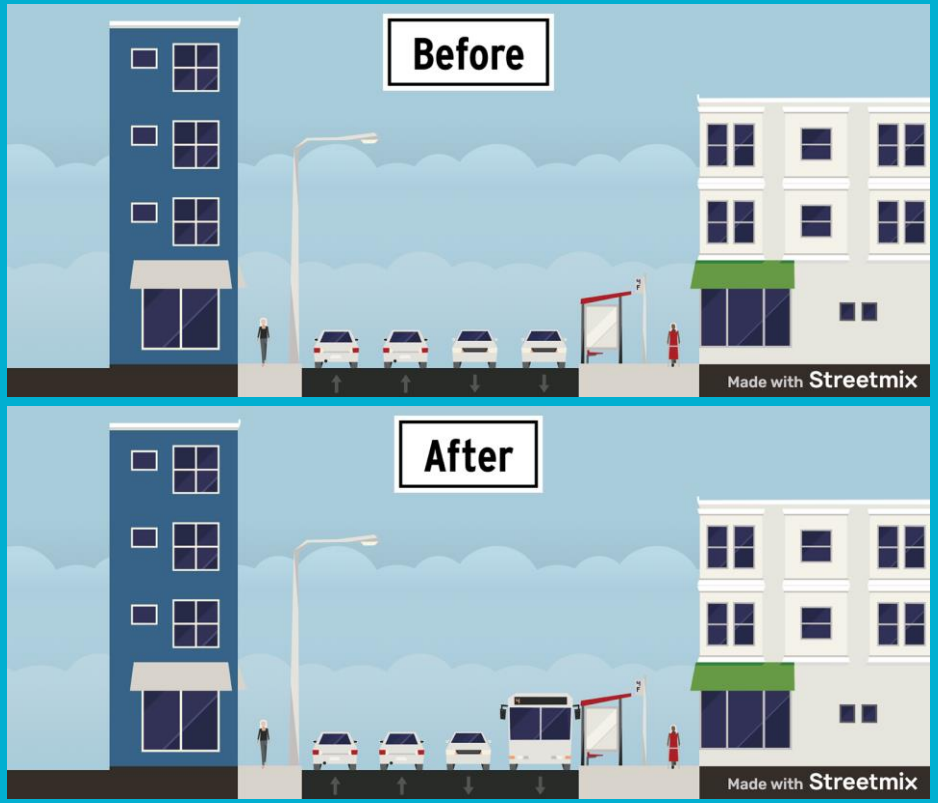


Bus lanes

Creating new bus lanes & bus gates

Theory

To accomodate returning bus riders, cities are exploring ways to hasten speeds by adding new bus lanes to major thoroughfares. Additionally, several municipalities are setting up ‘bus gates’ at entry points to city centres, which limits private vehicular traffic during certain hours of the day. These schemes are usually enforced by cameras, and carry fines if broken.



(Source: Toronto.com)

The deployment of bus lanes on five busy roads in **Toronto** (Canada) are being accelerated for implementation by September as a part of the city's post-COVID-19 economic recovery plans.

In Practice

Widening of existing bus lanes

Theory

In order to create a ‘busway,’ existing bus lanes are being widened across entire thoroughfares, with extended kerbside platforms and restrictions on private vehicular traffic. Using cameras for enforcement as well, the scheme is usually in effect during certain hours (e.g. rush hour or daytime), and allows truck and emergency vehicles as well.

In Practice

Details

The New York City Department of Transportation (DOT) announced in June that it would add 20 miles of bus lanes and four new busways throughout the city to offer more reliable service during its reopening period. On these streets, only trucks and buses are allowed from 6am to 10pm.

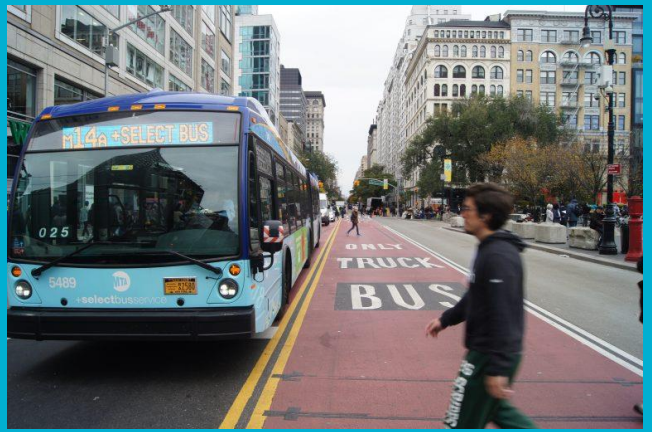
Guidance

While the DOT oversees roadspace reallocation, the Metropolitan Transportation Authority (MTA), a state-run agency, runs the buses. The MTA has limited 'essential' service in accordance with state guidance, and initially asked the city to open up 60 miles of bus lanes.

Potential Impact

Early studies showed that the average running time of the M14A bus on the 14th Street busway — the first of its kind — dropped from 15 to 10 minutes, and weekday ridership grew by 15 percent.

(Source: Twitter)



(Source: The Indypendent)

Spotlight: New York City, USA

Kerbside Activities

For flexible loading & kerbside pickup

Theory

Demand for kerbside pickup and delivery space have encouraged cities to convert parking lanes to “flex” zones for pick-up and drop-off, or loading. These may change at different times of the day (e.g. revert back to parking lanes), when trucks are more or less likely to do deliveries.

In Practice

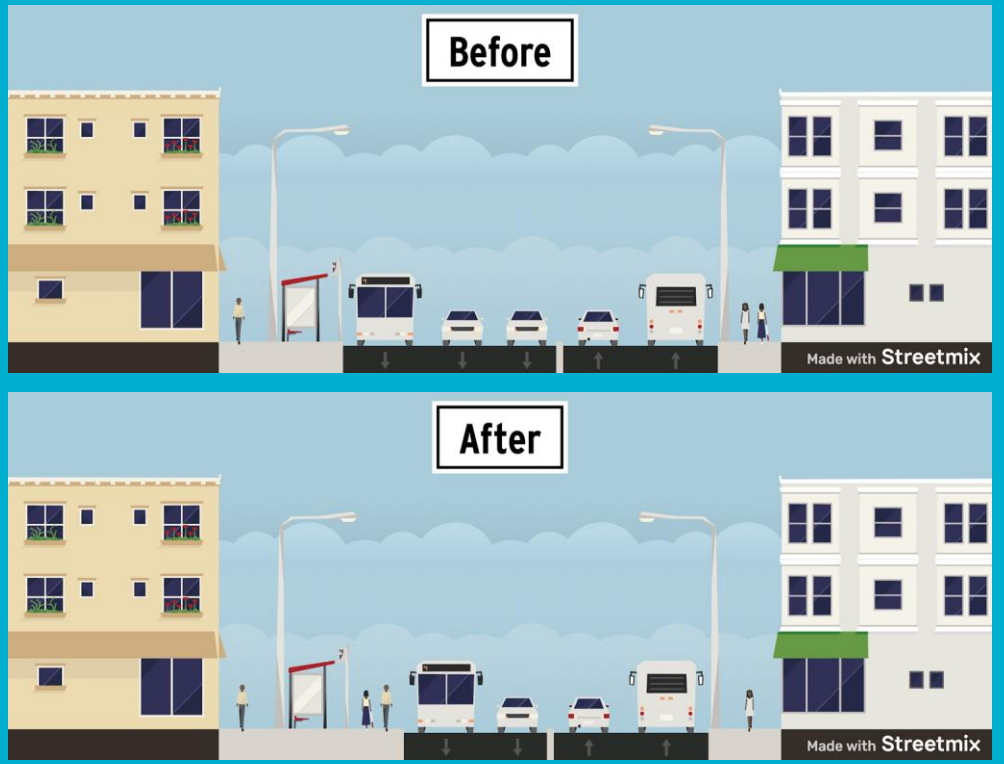
The city of Raleigh (USA) has rolled out at least 100 ‘Temporary Curbside Pickup Zones’ in its downtown and commercial corridors, on what were metered or time-restricted parking lanes.

(Source: Downtown Raleigh Alliance)

For bus platforms

Theory

Social distancing restrictions placed on public transport extend to the kerb, where passengers await bus service. In order to accommodate, cities are widening bus loading platforms by removing a lane of motor traffic, and extending the footpath out onto the street.



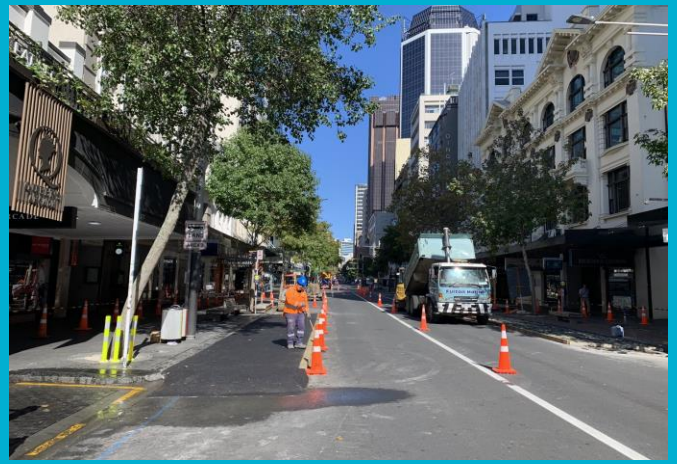
In Practice

Details

Backed by the Auckland Council's Emergency Committee, Auckland Transport's bid for the "Innovating Streets for People" pilot fund includes the expansion of kerbs in highly trafficked areas to accommodate bus riders.

Guidance

Cities in New Zealand were invited in April to apply to up to 90% funding from the central government to install temporary cycleways and footpath widening — the first country to do so. Now down to COVID Alert Level 1, the central government has allowed Auckland's public transport to resume normal capacity levels, with public distancing guidelines removed.



(Source: Twitter)

(Source: Twitter)

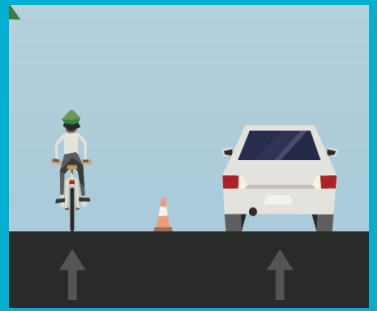
Spotlight: Auckland, New Zealand

Demarcation of boundaries

Cones

Theory

Traffic cones are the most common material being used to turn parking lanes into temporary “pop-up” cycle lanes. Several cities are also utilizing cones for curbside pickup, queueing, extra space, and more.



In Practice

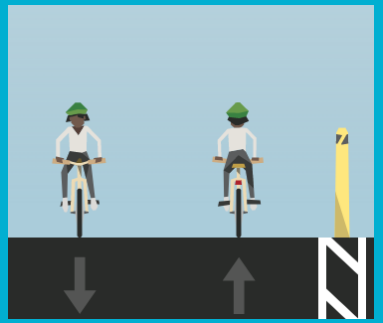
The city of Manchester (England/UK) is using cones to add or reinforce temporary cycle lanes.

(Source: Twitter)

Bollards

Theory

Most commonly used for widening existing cycle lanes or creating new “pop-up” lanes, bollards are also being used by cities to demarcate space for queuing, social distancing, and kerbside pickup.



In Practice

In Berlin (Germany), “pop-up” cycle lanes are being introduced with bollards.

(Source: Der Tasspeigel)

Barricades

Theory

Barricades (metal, plastic, wooden, etc.) are being utilized for a variety of roadspace reallocation strategies, namely temporary filtered streets, additional outdoor seating, and temporary cycle lanes.

In Practice

The city of Denver (USA) has used barricades to close three streets to thru-traffic, opening up space for cyclists and pedestrians.

(Source: Denver Post)

Barriers

Theory

For further protection (and potential permanence) several cities have opted for concrete barriers to reinforce “pop-up” cycling lanes or create boundaries for outdoor cafe space from former parking lanes.

In Practice

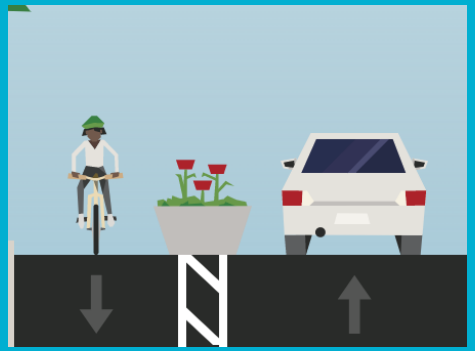
The city of Nashua (USA) is deploying concrete barriers to its downtown corridors in order to allow restaurants to safely open outside.

(Source: Union Leader)

Planters

Theory

Traffic and parking lanes are also being flipped to “pop-up” cycle lanes through the use of planters. Planters are also common as roadblocks in filtered permeability schemes.



In Practice

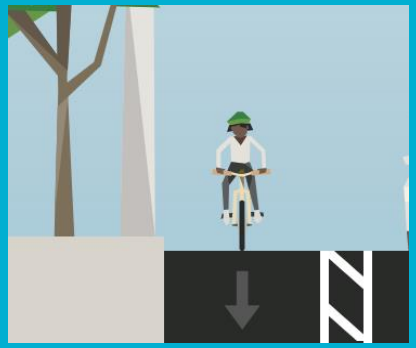
New cycle lanes and cycle gates in Dublin (Ireland) are being reinforced with planters.

(Source: Dublin City Council)

Striped

Theory

The most ‘bare bones’ approach has been delineating roadspace reallocations with simple striped paint on what were traffic, parking or pedestrian spaces.



In Practice

Budapest (Hungary) is using stripes to quickly allocate space to cycling, which has skyrocketed in numbers since lockdown began.

(Source: Daily News Hungary)

Multimodal Case Studies

Walk + cycle lanes

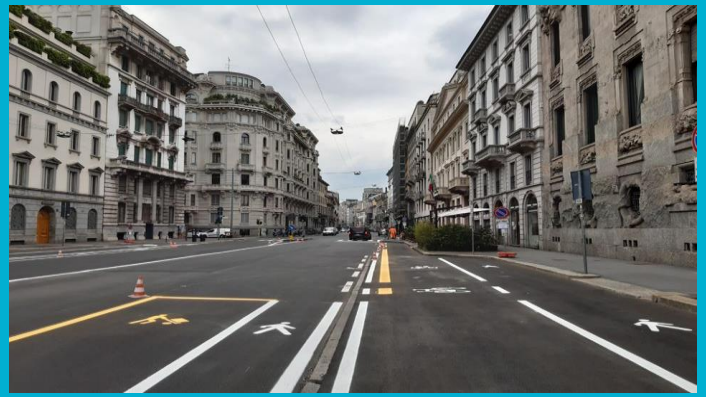
Theory

On-road lanes to walk or cycle are specifically lined in heavily trafficked zones with stripes and other markers.

(Source: Twitter)

In Practice

Part of Milan's (Italy) "Strade Aperte," or Open Streets, post-COVID-19 strategy includes multi-modal demarcations on roadspace in the city centre, where users are shown where walking, cycling and even loading are allowed.



(Source: Twitter)

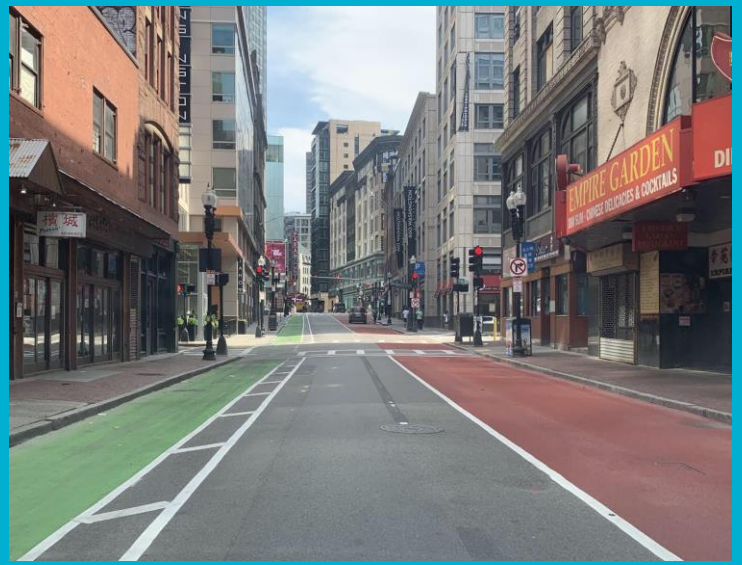
Cycle + bus lanes

Theory

To encourage non-vehicular travel, entire carriageways are being redesigned with both cycle and bus lanes included.

In Practice

The ‘Healthy Streets’ initiative in **Boston** (USA) includes adding bus and cycle lanes on popular thoroughfares, like Chinatown’s Washington Street, seen right.



(Source: BTD)

Bus & cycle platforms

Theory

Extended bus platforms, as shown earlier, are being conjoined with cycle lanes, raising the road table to match the kerb's elevation.

(Source: Twitter)

In Practice

Mayor Anne Hidalgo has promised 650 km of temporary cycle lanes for post-pandemic **Paris** (France). The bus-cycle platforms are included in that strategy.

(Source: Twitter)

Thank you!

John Surico (john.surico.19@ucl.ac.uk)
Peter Jones (peter.jones@ucl.ac.uk)

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