ARUP

tactical
Urbanism
making it happen

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Contents

This framework has been created to help governments, practitioners and communities implement tactical urbanism installations more effectively to achieve positive community outcomes.

Introduction

This document sets out global examples to learn from and draws on these to define **'six things to get right'** in the framework. It is intended to be used as a guide to prompt best practice throughout the process.

Whilst the United Nations Sustainable Development Goals are long-term goals, the role of tactical urbanism in achieving these should not be underestimated.

A well-designed, community-supported installation may be intended to be short-term in nature, but if it achieves measurable, much needed outcomes, it is likely to become a pilot and ultimately develop into a more permanent solution.

These measurable outcomes across many installations in the city may even change the way we undertake benefit analyses in business cases for the future.

Tactical urbanism encompasses changes and adaptations to our existing places and city systems in order to quickly meet the needs of communities.

It can range from using the space of our streets to prioritise walking and cycling to planting community gardens in empty plots and changing leases in empty retail properties to support new businesses.

These small and large actions – both from top-down policy and bottom-up intervention — represent a significant opportunity for our cities to meet the immediate needs of our response to COVID-19 and to implement lasting changes that contribute to meeting our Sustainable Development Goals.

The current crisis has led governments, businesses and communities everywhere to reflect on fundamental issues.

How we work, live, move around and socialise has changed forever, something that we could never have imagined just a few months ago. We all ask: what in our standard practices and methods should we retain or stop? At the same time we also ask: what do we do now to build a successful future in a much changed environment?

The agenda for all of us is as much about re-thinking as re-starting. About not just 'bouncing back' but 'bouncing forward'.

At Arup we believe this era will be known as much for the collective innovation of governments and civil society in the face of crisis as it will be for the extraordinary fortitude shown by all in the face of this common threat.

Such innovation has taken many forms. At Arup, we are reflecting on a range of innovative initiatives through a series of thought leadership papers. Amongst the most immediate and impressive responses, great impact has been seen in what has become known as 'tactical urbanism'. Although many of these kinds of initiatives and projects we are seeing under this heading originated before COVID-19 – from community activism, leading-edge local and national governments or progressive businesses – the crisis has dramatically accelerated their initiation, design and implementation, as well as their embrace by decision-makers, opinion-formers and indeed the wider community.

The moment for tactical urbanism – of initiatives which provide immediate and usually cost-effective but imaginative solutions to current urgent needs – has come.

In this document we identify some of the most exciting initiatives taking place globally and in Australasia where we are seeing exemplars of tactical urbanism happening. We celebrate this leadership but also do two things. Firstly, we share our ideas about best practice and useful ways of taking innovative ideas into reality.

Secondly, we stress the importance of linking the tactical and short-term with the strategic and long-term.

We have a unique opportunity – by showcasing the advantages and public benefits of tactical urbanism and by prototyping exemplary change, quickly and cheaply – to change behaviours and attitudes in a transformative way that becomes more permanently embedded and are not undone as we emerge.

Arup's mission is to help shape a better world: for us tactical urbanism is a key step forward from this crisis to that aim.

The current time is the world's largest natural experiment. We must take this immediate opportunity to achieve change and then reflect on the benefits in the short-term for longer-term strategic change and permanent benefits.

Unprecedented times

There is a window of opportunity for governments and communities to take back the streets overtly or by stealth through 'tactical urbanism', pushing against private car road space dominance to create more space for people to walk, cycle, live and play safely.

Through these unprecedented times there is a unique opportunity to establish and lock in behavioural changes and new daily routines to create longer-term benefit and reallocate land currently given over to road space.

With COVID-19, the world has gone into shock, resulting in travel and mobility patterns changing overnight. We are likely to emerge in the coming months to a very different way of living where many of us may not be able to go back to previous working styles and locations for some time to come.

This poses some interesting questions for our cities:

- Will social distancing require **greater space** for people to **congregate safely** within the public realm?

- Will we need to **reallocate our streets** in our suburbs for lives spent closer to home?

- Will we really **shift** to **walking and cycling** en masse?

- Will pre-assigned **shift patterns in offices** be needed to maintain social distancing?

- Will we have **low demand on public transport** modes as we choose 'safer' forms of transport?

- Will we need **more facilities in our suburbs** for greater levels of working from home?

Common trends

Now that we are beginning to emerge and are looking to recover, we are observing common trends:

1 Car use is returning faster than the use of other modes

2 Cycling and use of personal motorised devices (PMD) not shown in the Apple data, is becoming increasingly attractive as a viable and safe mode of travel

3 External spaces outside business premises are being used for queuing or as extension areas for customers to be able to socially distance

4 Offices are no longer operating at full capacity and shift patterns are being encouraged

5 Streets that have been quiet for months and used by communities are beginning to fill up with cars

6 Working from home is continuing and indications are that more than 70% of desk based staff may continue to work from home for 2-3 days a week going forward
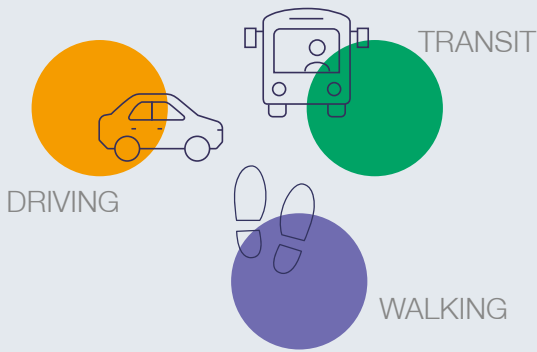
7 Outdoor environments for gatherings and social interaction are being preferred over indoor environments

Active travel can

- Reduce cardiovascular disease, diabetes, stroke and some cancers
- Improve the immune system
- Improve quality of sleep
- Improve mental and emotional wellbeing
- Reduce risk of depression
- Improve air quality
- Reduce traffic noise
- Make streets more pleasant for active mobility (that includes walking, cycling and personal mobility devices).

Movement intensity
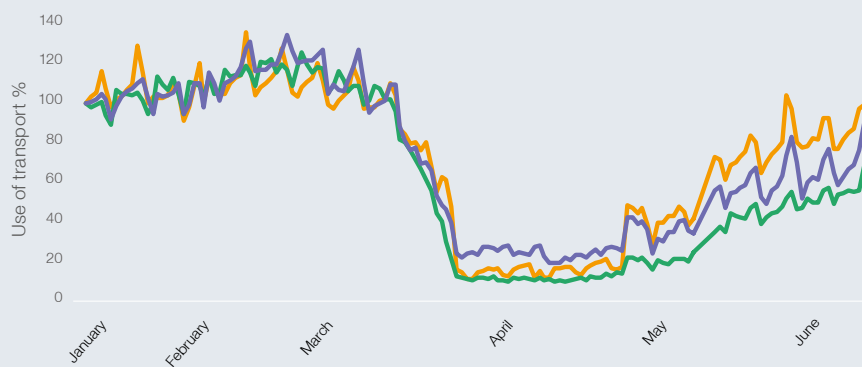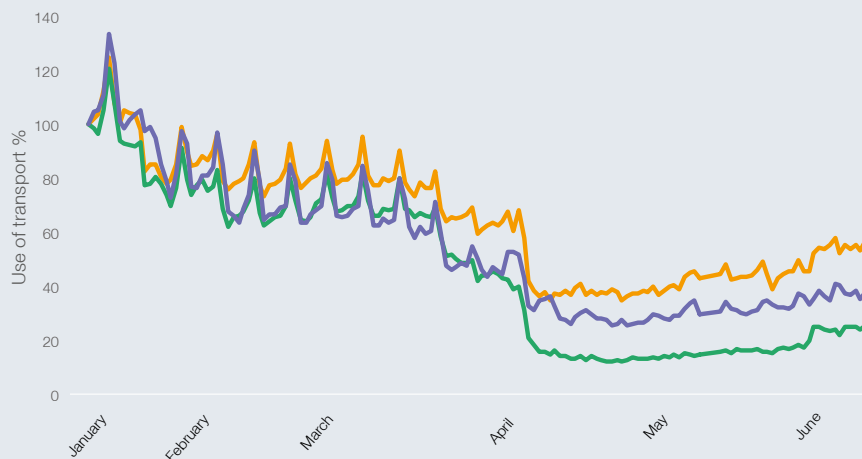
DRIVING

TRANSIT

WALKING

Australia

Use of transport %

140
120
100
80
60
40
20

January   February   March   April   May   June

New Zealand

Use of transport %

140
120
100
80
60
40
20
0

January   February   March   April   May   June

Singapore

Use of transport %

140
120
100
80
60
40
20
0

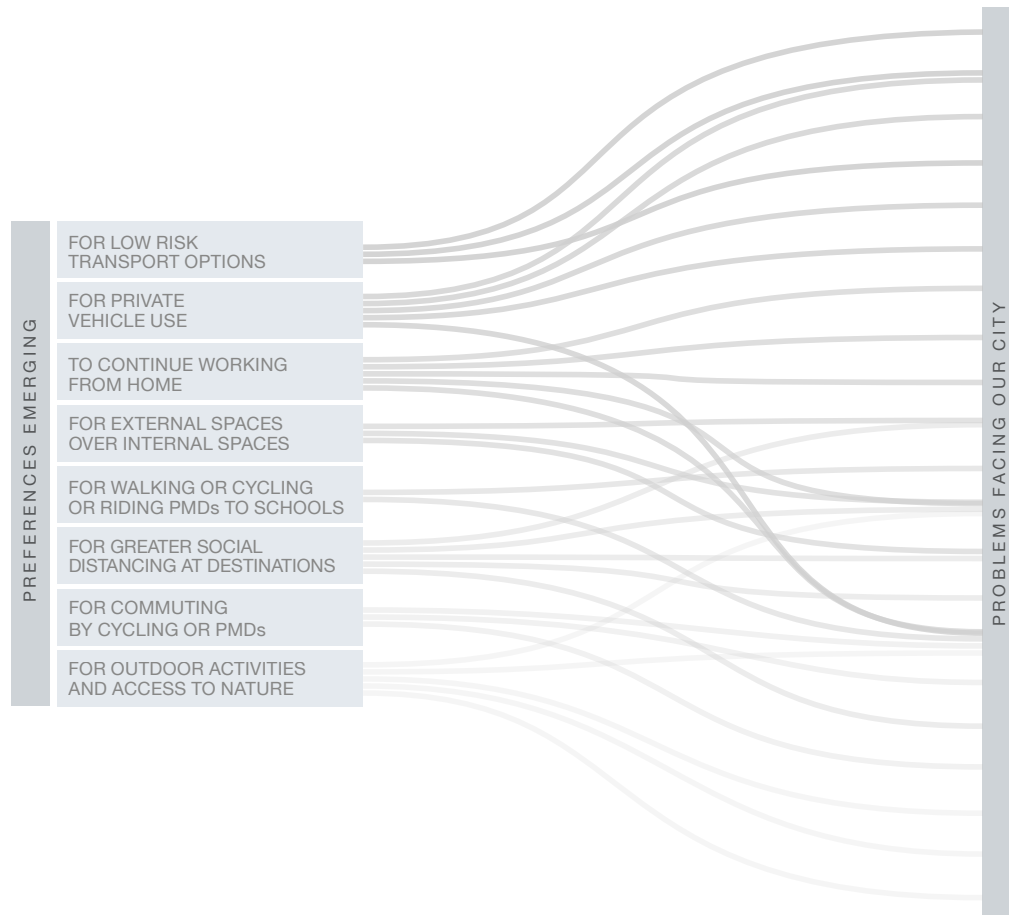January   February   March   April   May   June

Source: Apple COVID-19 mobility trends report

COVID-19 response, solutions and benefits

In recent months of lockdown we have experienced a time for understanding and adjustment to the virus threat that we face.
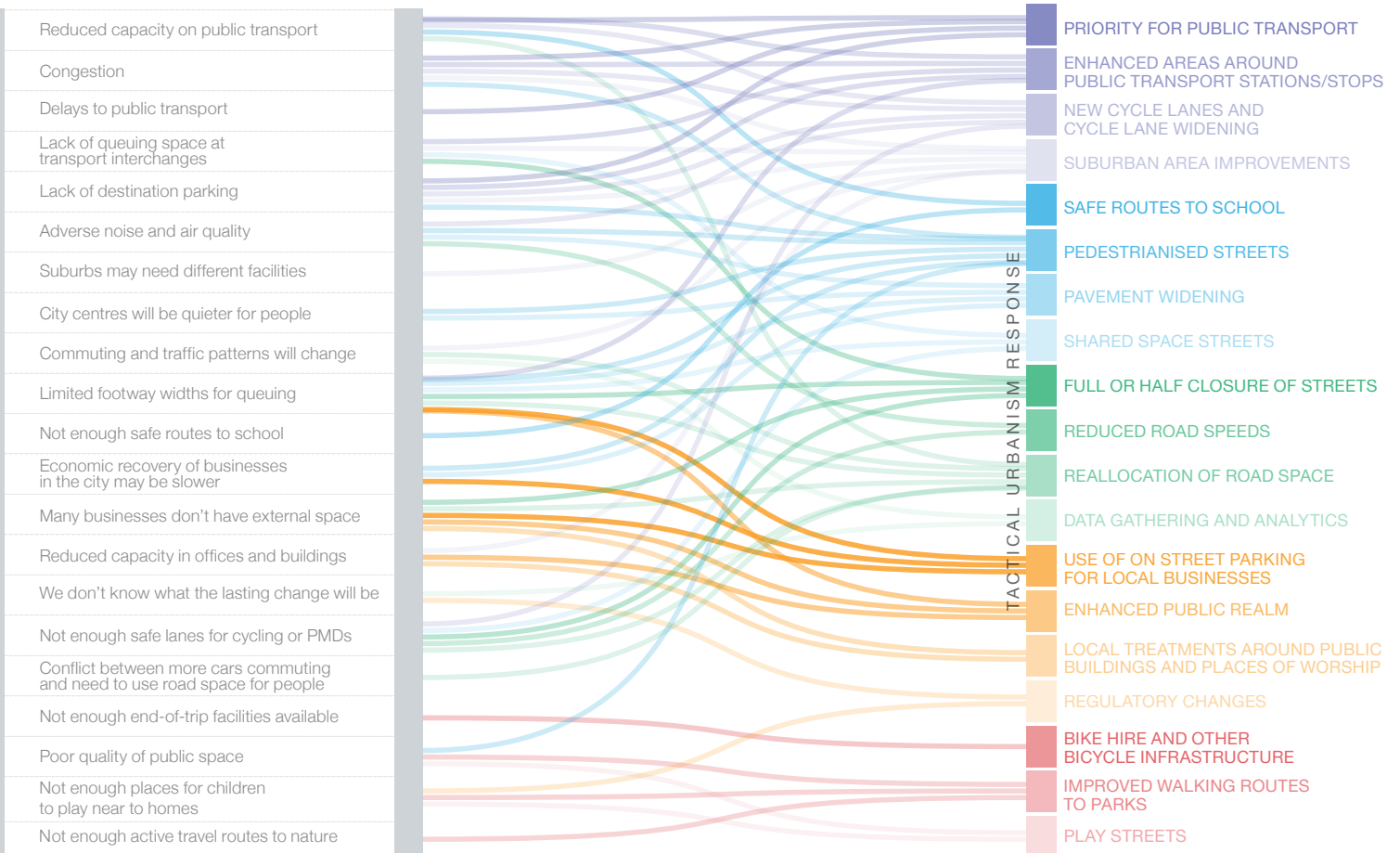
We must now understand how we have changed in our preferences, the challenges that these create and the potential solutions going forward.

There are preferences emerging from the trends that we are seeing as a result of COVID-19 that create many challenges for how our cities need to operate going forward.

PREFERENCES EMERGING

FOR LOW RISK
TRANSPORT OPTIONS

FOR PRIVATE
VEHICLE USE

TO CONTINUE WORKING
FROM HOME

FOR EXTERNAL SPACES
OVER INTERNAL SPACES

FOR WALKING OR CYCLING
OR RIDING PMDs TO SCHOOLS

FOR GREATER SOCIAL
DISTANCING AT DESTINATIONS

FOR COMMUTING
BY CYCLING OR PMDs

FOR OUTDOOR ACTIVITIES
AND ACCESS TO NATURE

PROBLEMS FACING OUR CITY

Most preferences contribute to numerous challenges, compounding their impact. This means that it is imperative we find increasingly integrated and clever solutions.

Solutions are numerous and can be infrastructure and service improvements as well as regulatory change.

Preferences	Tactical Urbanism Response
Reduced capacity on public transport	PRIORITY FOR PUBLIC TRANSPORT
Congestion	ENHANCED AREAS AROUND PUBLIC TRANSPORT STATIONS/STOPS
Delays to public transport	NEW CYCLE LANES AND CYCLE LANE WIDENING
Lack of queuing space at transport interchanges	SUBURBAN AREA IMPROVEMENTS
Lack of destination parking	SAFE ROUTES TO SCHOOL
Adverse noise and air quality	PEDESTRIANISED STREETS
Suburbs may need different facilities	PAVEMENT WIDENING
City centres will be quieter for people	SHARED SPACE STREETS
Commuting and traffic patterns will change	FULL OR HALF CLOSURE OF STREETS
Limited footway widths for queuing	REDUCED ROAD SPEEDS
Not enough safe routes to school	REALLOCATION OF ROAD SPACE
Economic recovery of businesses in the city may be slower	DATA GATHERING AND ANALYTICS
Many businesses don't have external space	USE OF ON STREET PARKING FOR LOCAL BUSINESSES
Reduced capacity in offices and buildings	ENHANCED PUBLIC REALM
We don't know what the lasting change will be	LOCAL TREATMENTS AROUND PUBLIC BUILDINGS AND PLACES OF WORSHIP
Not enough safe lanes for cycling or PMDs	REGULATORY CHANGES
Conflict between more cars commuting and need to use road space for people	BIKE HIRE AND OTHER BICYCLE INFRASTRUCTURE
Not enough end-of-trip facilities available	IMPROVED WALKING ROUTES TO PARKS
Poor quality of public space	PLAY STREETS
Not enough places for children to play near to homes	
Not enough active travel routes to nature	

TACTICAL URBANISM RESPONSE

What is happening elsewhere?

The rest of the world is already implementing great solutions successfully. Some examples are listed here.

Boston, USA

Priority for public transport

One lane of a primary road will be reserved for buses. Originally as a temporary measure, will now become permanent.

Jakarta, Indonesia

Enhanced areas around public transport stations/stops

Using low-cost materials like paint and planters to reclaim street space and improve safety and comfort for pedestrians and cyclists.

Paris, France

New cycle lanes and cycle lane widening

Paris is rolling out 650km of emergency bike lanes using semi rigid delineator posts and traffic barricades.

São Paulo, Brazil

Suburban area improvements

Urban redevelopment and road safety project that quickly transformed the precinct into a safe and secure area for pedestrians, completed in the space of one day.

Brisbane, Australia

Safe routes to school

Smart beacons to alert parents automatically when their child arrives at school plus an app to identify safe routes to school.

Austin, USA

Pedestrianised streets

Austin opens first batch of 'healthy streets' in response to coronavirus pandemic.

London, UK

Pavement widening

Wider pavement went in overnight in Brixton to help people maintain appropriate social distancing in busy locations.

Vancouver, Canada

Shared space streets

Permanent closure of certain roads to create a pedestrianised block that encourages arts and culture.

London, UK

Full or half closure of streets

Much of central London will be closed to vehicles each day to support an increase in the number of people walking and biking.

Brussels, Belgium

Greenlights 30km/h zone

The driving speed in the Brussels-Capital Region will be 30km/h from January 2021 and will apply to cars, PDMs, cyclists and public transport buses.

Cardiff, Wales

Reallocation of road space

Plans have been drawn up to remove car parking to ensure that the pavement can be safely extended into the highway for the public to use.

Suzhou, China

Data gathering and analytics

A smart bus transit platform analyses crowd distribution inside buses in near-real time and identifies the volume of passengers in each vehicle through smart transit cards.

Calgary, Canada

Use of on street parking for local businesses

Calgary has allowed for more pop-up patios to aid business recovery.

San Francisco, USA

Enhanced public realm

San Francisco Mayor says restaurants can take over city sidewalks, parking spots and streets.

Santiago, Chile

Local treatments around public buildings and places of worship

Creation of parklets and mini parks around the city that host pedestrians and small gatherings.

Tampa, USA

Regulatory changes

Tampa has temporarily suspended approval requirements for restaurants to expand operating space in designated areas.

Beijing, China

Bike hire and other bicycle infrastructure

Beijing cyclists now average 2.4 kilometres per ride, a 69% increase from pre-pandemic using bike sharing schemes.

California, USA

Improved walking routes to parks

A park plan has been developed that prioritises specific park improvements that residents wanted to see in the near-term and long-term.

Melbourne, Australia

Play streets

A community-led plan has been developed to make temporary play spaces by closing streets to traffic creating better connected neighbourhoods.

What could the future look like?
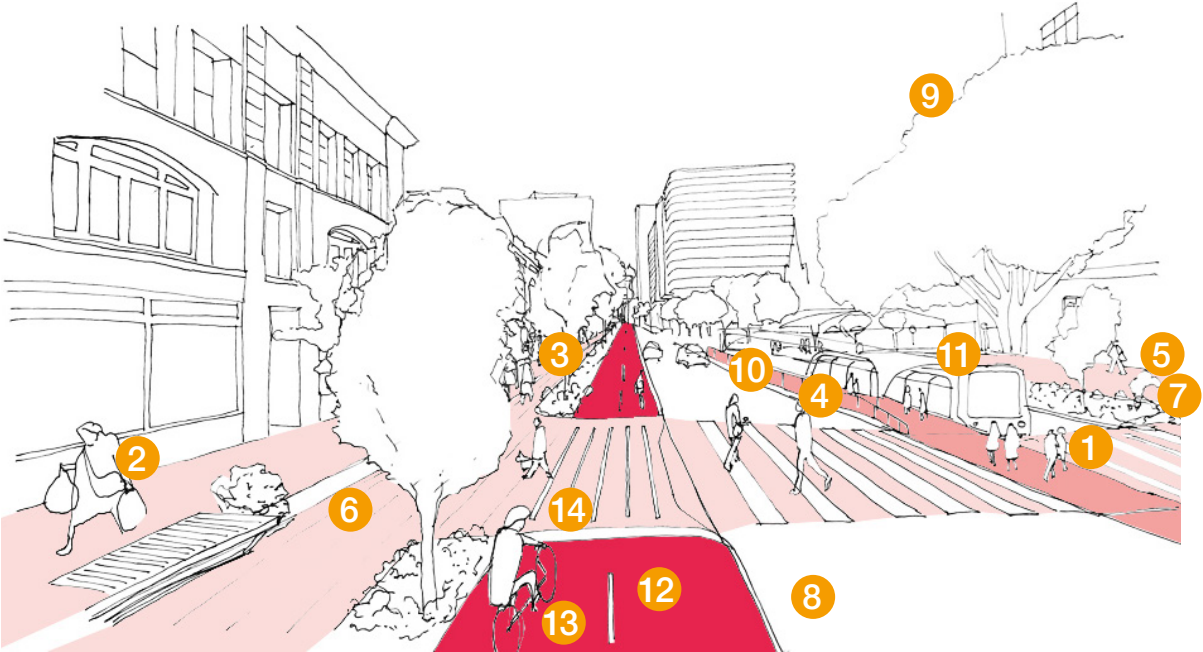
1. More people and less cars
2. Healthier people
3. Young and old out playing together
4. Office workers eating in outdoor areas
5. Dining areas in streets
6. Wider footways
7. More landscaping
8. Reduced road widths
9. Better air quality
10. Businesses using reallocated road space
11. Economically vibrant areas around bus and train stations
12. Cycle lanes and pedestrianised streets
13. Exercise class or play happening in the street
14. Additional connections and crossing points
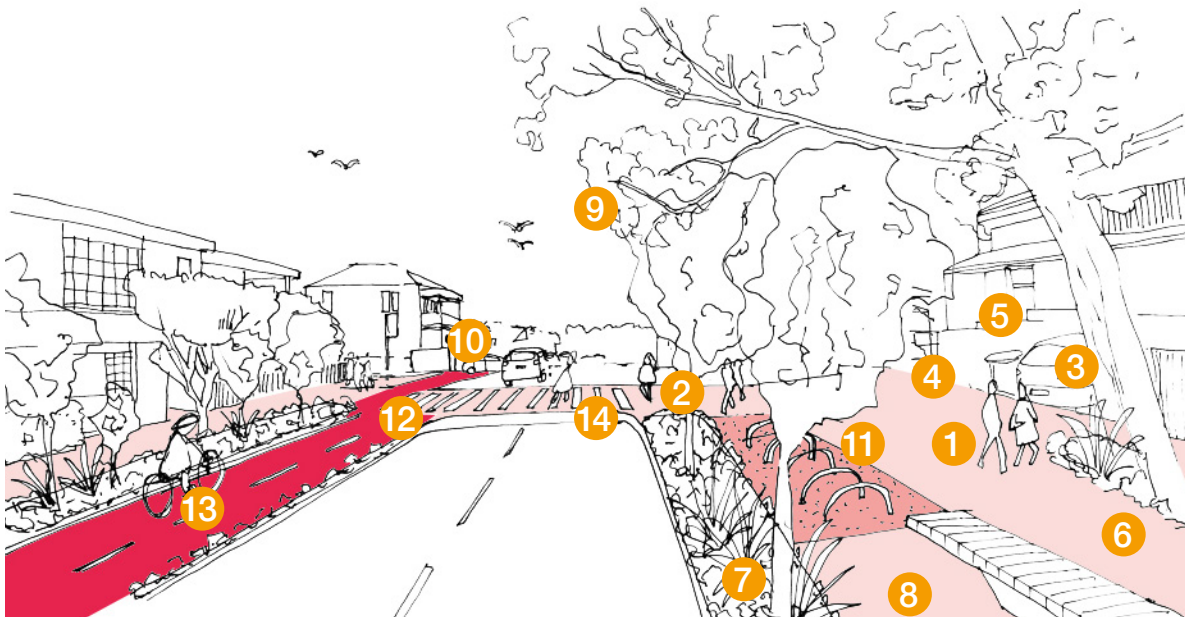
tactical urbanism installations achieve positive community outcomes

Long-term strategic change
means not just a response
to manage lockdown, but
a genuine attempt to harness
behaviour change for the
future and lock in the benefits.

Six things to get right

Our response to embrace change

Achieving long-term strategic change

Engagement

Focus areas for government

Measurement

Design

Delivery

Making the case

Approvals
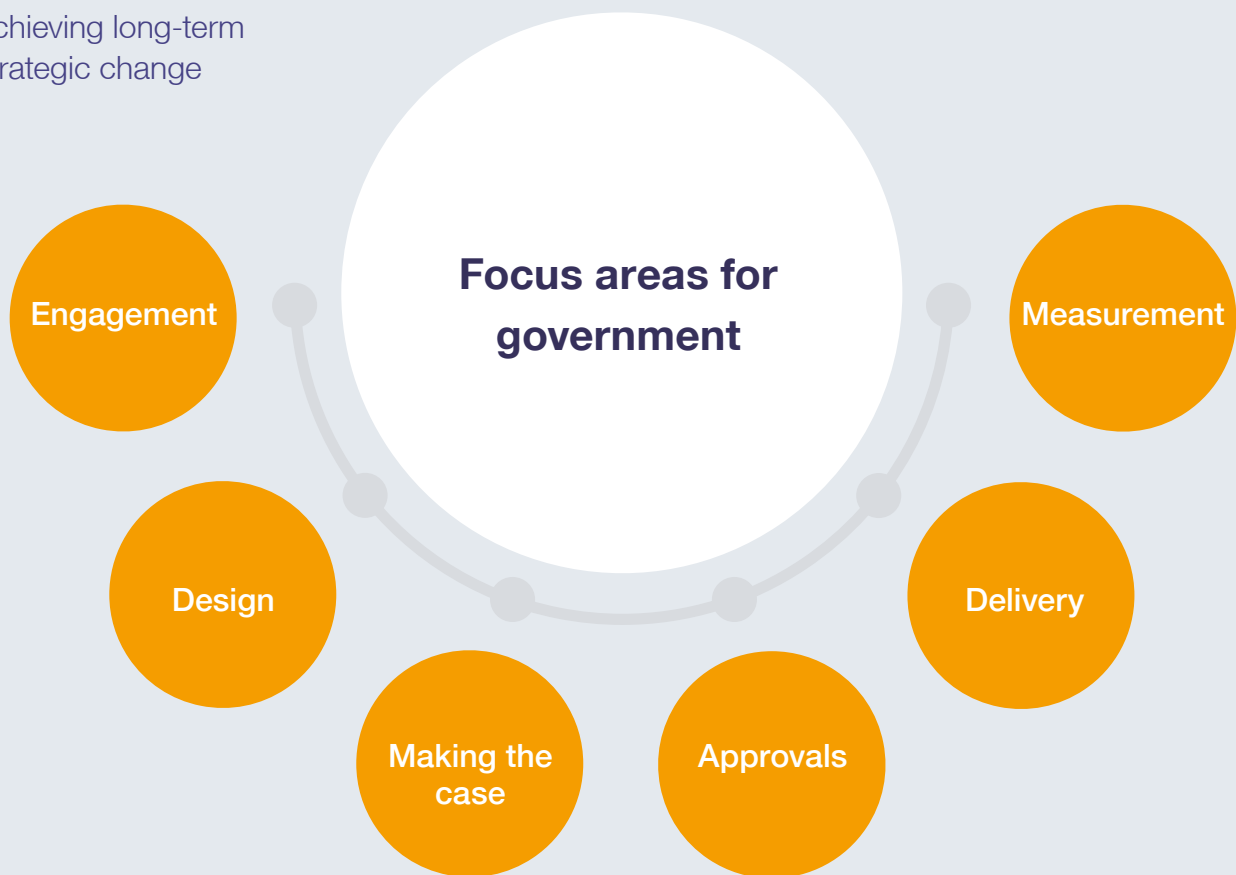
This tool can be used as a framework to guide innovative thinking for your tactical urbanism locations and ideas.

Six things to get right

Engagement · · · · · · · **With**

1. The residential and business community
2. The most vulnerable first
3. A set of clear objectives
4. A range of methods in an iterative way
5. Support to citizens to be stewards and champions in their places
6. Governments

The residential and business community

The community may wish to hold events, group exercise or performances. These should be supported where possible.

Ask 'how' not 'if' an installation should occur and maintain open dialogue throughout the process.

Sometimes the community just needs to be given permission to do something for it to happen.

The most vulnerable first

Consider systemic inequities. Which communities are most vulnerable and at risk of exposure? Help these communities first.

A set of clear objectives

- For each tactical urbanism installation, be specific about the purpose, for example is it to provide additional space to alleviate over used parks, create additional space, or improve access for emergency services?

- For the broader set of installations, don't do them in isolation and where possible use them to create much needed local connections or improvements.

- For the different lockdown phases that are likely to occur.

Support to citizens to be stewards and champions in their places

Establishing an individual or set of individuals across a community as champions for the installation is a proven method of retaining community support and getting it right. If created and supported from the outset, the process will be more effective in achieving community led outcomes.

Governments

Engaging with governments to promote in-house champions to collaborate widely across departments and agencies.

> *We are not just economies, we are communities. Sometimes the community just needs to be given permission for it to happen.*

ARUP

How will our cities move?

An exploration of urban people movement and transport in an evolving environment

May 2020

Case studies showcasing successful
Engagement
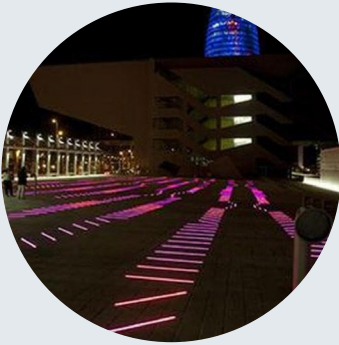
01 02 03 04 05 06

Barcelona, Spain
....

Bruum Ruum! Interactive public lighting installation

This dynamic installation responds to environmental sound by changing the shape and colour of LED arrays embedded in the street, allowing residents to interact with their city.

Various cities
....

Annual 'park(ing) day' temporary public space initiative

Critiquing a lack of urban public space, Park(ing) Day invites people to occupy metered parking spaces for a day, converting them into temporary parks or other public amenities.

London, UK
....

Arup's FitzPark

Parklets can be retrofitted to suit the needs of their street type and context. Arup's FitzPark is an example of a community street, inspiring ecology, meeting and dwelling.

Santa Monica, USA
....

'Dating app' planning consultation tool

A smartphone app that shows residents a series of images and asks them to 'swipe' yes or no answers to simplify and democratise planning processes in order to inform a community plan.

Six things to get right

Design · · · · · · · · **For**
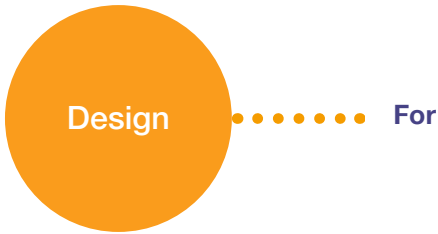
1. The different phases of lockdown
2. The right behaviours
3. Maximum benefits
4. Safety
5. The night
6. Long-term behavioural change

The different phases of lockdown

The design should consider the emerging phase (with different proportions of community emergence), recovery pre-vaccine and recovery post-vaccine.

The right behaviours

Visual cues in the design to remind users that they cannot revert to behaving the way we always have in this new space – stickers or signs showing spacings or directions for movement are important.

Maximum benefits

Consider the wide range of benefits that could be achieved and create designs that maximise these i.e. use landscaping wherever possible to improve air quality and contribute to mental health benefits.

Safety

Include safety experts in all stages of design and delivery to speed up the process of developing acceptable solutions and gaining approval.

The night

Use lighting and reflective material as a cheap and interesting way to deliver messages about the acceptable use of spaces and to provide visibility of the space at night.

Long-term behavioural change

Consider training and educational areas to nudge continued positive behaviour change. Treat bike shops as essential services and create special zones around them for strong social messaging around 'what others are doing' i.e. bike safety training areas or maintenance areas.
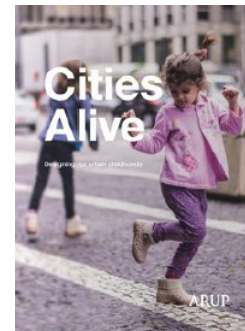
The best designs are those that are creative in responding to the real needs of the area and result in longer term positive change – they will be talked about and copied.

Case studies showcasing successful Design

Amsterdam, Netherlands

**Recycled plastic public bench**

A prototype two-seater public bench, 3D-printed from waste consumer plastic, aims to encourage local recycling while creating useful public street furniture as part of a circular economy.

Cartagena, Colombia

Community night-time lighting scheme

This urban lighting project developed a socially-engaged methodology to design night-time lighting, helping to build community connections and improve security while also responding to local characteristics.
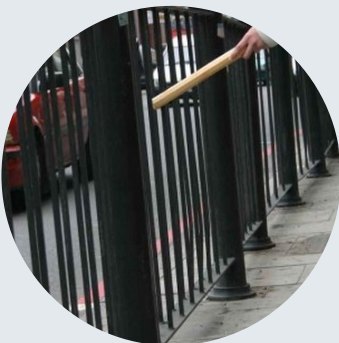
Various Cities

'Railings' public sound art project

This guerilla art project tuned the metal bars of sidewalk railings throughout several European cities to play 'The Girl From Ipanema' when a passerby drags a stick along them.

Toronto, Canada

Modular street paving system

This prototype paving system explores the potential to rapidly adapt the function of city streets, with individual hexagonal modules allowing a range of uses, experimentation and adaptability.

Six things to get right

Making the case ● ● ● ● ● ● **Using**

1. A senior champion
2. Global evidence
3. Local measurements
4. Community support
5. The broader context

A senior champion

With the support of a local politician or community leader, tactical urbanism is more likely to be successfully implemented and received.

Global evidence

Tactical urbanism is not new – connect with other cities to find evidence that can be applied locally.

Local measurements

All new installations should have benefit measurement plans as part of the design and delivery stages.

Community support

No one knows the local issues more than the local community – their support is essential.

Engage them from the start with a variety of methods including co-design and involving people of all ages, including children.

The broader context

Understand and use the broader context such as the availability of open space, housing density, traffic levels, deprivation and pedestrian overcrowding.

Cities Alive

Rethinking Cities in Arid Environments

ARUP
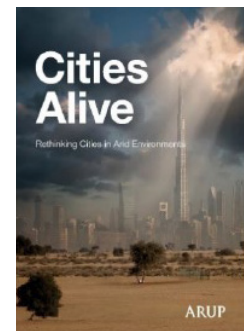
Public health benefits must now be preferred over standard business case benefits – even if they cannot be measured or are hard to measure.

Case studies showcasing successful

01   02   **03**   04   05   06

Gurugram, India

Bike-for-car parking reclamation initiative

In the first initiative of its kind in India, four car parking spaces have been replaced with secure racks for up to 40 bikes, helping to support active transport and reduce congestion, pollution and road deaths.

Bogotá, Colombia

Emergency bike lane expansion

Bogotá has turned 76km of vehicle lanes into emergency cycle routes, increasing capacity by 14% in order to reduce public transport use, lower virus transmission rates, and improve air quality.

Montreal, Canada

Montreal '21 swings' collaborative engagement project

This set of public swings play individual notes – users must collaborate to make music. The installation revitalised a disused area in the city centre, encouraging play and community interaction.

São Paulo, Brazil

Urban child engagement programme

Engaging underprivileged children in São Paulo with their community surroundings benefits the children involved and increases the safety of public space.

Six things to get right

Approvals • • • • • • **For**
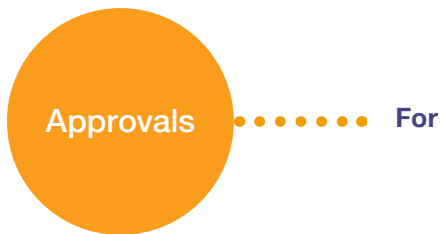
1. Compelling community supported schemes
2. Existing schemes
3. Solutions to known problems
4. Flexible solutions
5. Changing the rules

Compelling community supported schemes

Community support will help to secure the political mandate.

Existing schemes

Where there are existing approved schemes or existing city initiatives to connect to, these should be brought forward and implemented as a pilot, perhaps pushing the boundaries of sustainability and accessibility further than originally envisaged.

Solutions to known problems

Seek to create installations that connect up other pieces of infrastructure or public space and 'fix' aspects of the city that are well known to be inadequate.

Flexible solutions

Consider time limits on use if needed for approvals – installations do not necessarily need to be 24 hours, seven days a week, if weekday use needs to be different.

Changing the rules

Where government rules and regulations act as blockers, be clear about this and promote advocacy to negotiate change for future initiatives.

Cities Alive
Towards a walking world
ARUP
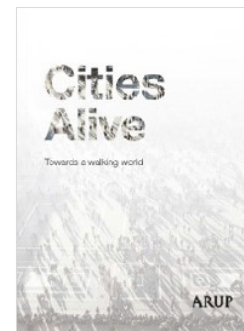
Regulatory change as a consequence of high quality tactical urbanism, proving benefits beyond the norm, should be a long-term strategic change objective.

Case studies showcasing successful

01   02   03   **04**   05   06

Tainan, Taiwan

Abandoned shopping mall re-use scheme

A disused shopping mall has been partially demolished and 'recycled' as a public park, lagoon and play area, recognising the decline of physical retail spaces and their potential for civic re-use.

London, UK

Community supporting 'meanwhile' space

Contracts for the fixed-term use of vacant plots enable a culture of 'meanwhile use', replacing empty urban space with creative and community-engaged initiatives.

London, UK

Hackney play streets

Residents close off their streets to through traffic for a few hours weekly or monthly, so that children can play outside more safely and neighbours come together – making streets friendlier for all.

Medellín, Colombia

'Library Parks' education and community safe space initiative

A network of ten library parks provide inspiring and safe spaces for education and community engagement, as well as acting as a catalyst for social regeneration in the poorest areas of the city.

Six things to get right

Delivery ● ● ● **Should be**

1. Affordable
2. Quick
3. Inclusive
4. Flexible
5. Creative
6. Practical
7. Visible
8. Clear
9. Clean and safe

Affordable

Inexpensive traffic cones, construction barriers and bunting have been used to great effect in some cities. Decking and tarmac are more robust materials being used for quick delivery.

Quick

Opposition is likely to reduce once an installation is complete and in use, and benefits can be seen.

Inclusive

Encourage community and local business involvement in the delivery – i.e. bike maintenance or hire areas for local bike shops.

Flexible

Flexibility can be spatial and temporal. This is the benefit of tactical urbanism – designs are not fixed. Installation ideas are not always perfect first time. It is important to take the idea, create it and then to iterate quickly if needed. High quality monitoring and evaluation of the design must be embedded.

Creative

Temporary materials could be used to provide artistic interest or new partnerships formed to create clever installations with little cost or time required.

Practical

Street furniture used must be durable and easy to clean.

Visible

It is important to have visible management of the street and an ability to adjust layouts if required. This can be through redeploying traffic wardens or other council employees or volunteers from local businesses and communities.

Clear

Messaging of intended use such as 'streets for social distancing' or 'use this street to exercise' will help to reduce inappropriate use and encourage self-monitoring of behaviour.

Clean and safe

Clear cleaning and sanitising procedures must be put in place.

It's all in the execution.

Case studies showcasing successful

Delivery

Montreal, Canada

Public realm light and sound installation

Impulse's luminous, sound-emitting see-saws help to organise and activate a city-centre public space, encouraging footfall and community use throughout the year, regardless of weather.

Surrey, UK

Starpath UV illuminated sprayable coating

This sprayable coating of light absorbent particles harvests ultraviolet radiation during the day and provides an illuminated surface at night.

London, UK

Voice-activated laser spectacle

This laser-based light installation manifests people's voices as colourful animations above and around them, encouraging collective design among groups of citizens and transforming public space.

Bogotá, Colombia

Children's priority zone pilot project

Several urban interventions, including mural-painting events and traffic calming, are helping to create a safer and more child-friendly local environment.

Six things to get right

Measurement   **Suggestions on**   1. How to gather data

2. What to measure

How to gather data

- Traffic wardens could be deployed to maintain temporary arrangements and to monitor use
- Existing cameras can be used to monitor installations and use
- Volunteers from the community can help to monitor use
- Tube counters can be used to gather data
- Data sets and feedback can be gathered from third parties or local businesses
- Sensors for noise and air quality
- Qualitative observations.

What to measure

Safety

- Ability for greater physical distancing to occur
- Road safety changes
- Air quality improvements
- Changes made to the installation by the public.

Comfort

- Noise level changes
- Time spent in the installation
- Temperatures experienced and different uses under different weather conditions.

Experience

- Feedback from residents and businesses
- Congestion reduction
- Changes in surrounding streets
- Activities held by community groups or businesses
- Response to the installation through social media feeds
- Opposition activity from business/car drivers/deliveries etc.

Culture

- Diversity of users
- Where users live and how they have travelled there
- Arts and culture activity occurring, formal or impromptu
- Regularity of visitor usage e.g. weekly or single use.

Activity

- Physical activity occurring
- Active mobility
- Uplifts in spend in retail areas
- Times of day and night most active and least active.

Cities Alive
Green Building Envelope

ARUP
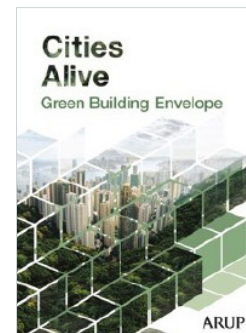
The importance of measuring the benefits of new installations cannot be overstated. With this local evidence, more can be done.

Longer-term measurement of benefits should also be considered such as property value increases, increased retail sales or new businesses.

Case studies showcasing successful

01   02   03   04   05   **06**

Brisbane, Australia

Walkable comic strip street art initiative

Unoccupied shop fronts in Brisbane's South Bank area are being transformed into a giant comic strip, temporarily improving the pedestrian façade and increasing local footfall.

New York, USA

'State of Place' quantified urban data analytics platform

This amenity-indexing algorithm attempts to quantify the 'pedestrian appeal' of given locations, using hard-data tools to present an economic case for prioritising walkability in new developments.

Ottawa, Canada

Public 'seniors' exercise space

A small park dedicated to older people – including exercise equipment, social seating areas and spaces for low-impact sports – helps to improve health, wellbeing and instil a sense of safety.

Chicago, USA

'The Power of Trees' urban greenspace benefits research

This academic study investigated the effects of greenspace on residents of urban centres, finding measurable benefits in wellbeing, socialisation and safety from regular exposure to nature.

We are not just economies – we are communities

Call to action

Ambitious targets are the best way to achieve sustained, significant and long lasting change in long-term strategic planning.

Think about the scale of your town or city and set some targets

A typical city might seek to achieve...

10% of streets to be pedestrianised or shared environments

100km of cycle lanes

10,000m^2 of new public space

Now is not the time to continue with the traditional ways of doing things.

If we don't nudge behaviour, streamline our processes and develop stronger partnerships to remove barriers and achieve collective, inclusive benefit – generated by the people who live, work and play in our communities – then we will miss the best opportunity in decades to transform our cities.

Why not challenge Finland on the happiness index and Holland for cycling?

History will judge the cities that do embrace this change, and the cities that don't.

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Publications

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