Streets for Pandemic
Response & Recovery

NACTO

Global
Designing
Cities
Initiative

Foreword

Even 10 years ago, reclaiming streets from cars to create space for people to walk and to bike was considered a radical—almost revolutionary—act. Today, people-focused streets are a proven global best practice and the first-line response for transportation and transit agencies during the COVID-19 crisis, from Berlin to Brussels to Bogotá and from Minneapolis to Mexico City to Milan.

This is a historic moment when cities can change course. There may be limited mobility options as the crisis has slashed traffic volumes and transit service and people shelter at home. But these empty lanes provide new possibilities for people to use streets for essential trips and healthy activity right now, and they form the outline of the future cities we need to build. Creating safe, walkable streets and choices for getting around are critical during the initial crisis response, and also to achieving a long-term economic recovery that is equitable, sustainable, and enduring.

Transportation and transit agencies around the world are leading the response with bold, creative, and rapid steps to reshape their streets, and by using their existing assets differently. This resource reflects the vast output of these tireless public servants during an incredibly trying time and often at great personal risk, and provides the just-in-time direction that mayors, leaders, and planners around the world need to decide their next steps. Adaptive use of streets can lead the global response and recovery to this crisis, keeping people safe and moving while holding cities together.

Janette Sadik-Khan

Chair, National Association of City Transportation Officials

Principal, Bloomberg Associates

Introduction

During a few short weeks, much of the world as we know it changed. The COVID-19 pandemic has radically altered how most people go about their daily lives with huge shifts to how we move in the world, how we get groceries and food, whether we go outside, where we go, who we see, and what we do. The requirement of "social or physical distancing"—maintaining at least 6' (2 m) distance between people, with significant reductions or bans on group gatherings and crowds—combined with what we know today about the transmission of this coronavirus and its increased communicability in indoor settings, requires that we reallocate our streets and sidewalks for public use during this crisis and for the future.

The need is now. Cities across the world are working in real time to grapple with the horrific death toll of COVID-19 and its devastating economic and social impacts. To meet our immediate health needs and to chart a safe course to allow businesses, institutions, and services to re-open, cities are innovating and adapting. They are changing their streets over the course of days to help their residents stay safe in a time of crisis and to prepare people and societies for the health, social, and economic recovery ahead. These emerging street design and transportation practices are at the front lines of cities' defense against this coronavirus, essential to preventing future outbreaks and an integral part of our total public health response.

The impacts of COVID-19 are vast and will be long-lasting. As cities around the world are noting, changing our streets now—shifting how space is allocated or shared and which uses are prioritized—is a key tool for mitigating COVID-19's mortality, health, economic, and social impacts. As we recover, we must continue to align street design and recovery strategies to ensure that the existing inequalities and challenges that this virus is magnifying are not exacerbated in the world we build in the months and years to come.

About This Document

This resource aggregates and synthesizes emerging practices in transportation and street design in response to the COVID-19 pandemic. It highlights cities' current efforts to re-organize streets to best manage this crisis and support economic recovery. This evolving resource is not a comprehensive list of options, nor is it calibrated for the needs of a specific community; every city should assess local context and need, as well as the trajectory of the pandemic in the community, to inform a response and implementation strategy.

These emerging practices are organized into stand-alone implementation sheets. Additional sheets will be released as they are developed in order to help cities rapidly innovate, and this resource will be continually updated and expanded over the coming weeks and months based on evolving practices.

This resource was funded by **Bloomberg Philanthropies** and developed by **NACTO + GDCI** with support from **Bloomberg Associates**, **Street Plans**, and **Sam Schwartz Consulting**.

Streets for **Response**
Streets for **Recovery**

Rethinking Streets
in a Time of Physical Distance

In a time when we're required to maintain physical distance to protect public health, streets need to do more than ever.

Streets must be configured so that people are able to **move safely** around the city. The mobility needs of essential workers are paramount; we must ensure that the people who provide medical care, food, and the services that allow most of us to stay at home can move safely and efficiently. As we transition slowly from crisis to recovery, our streets must provide better, safer options for everyone. Configuring our streets to support walking, biking, and high-frequency transit will be essential to our economic recovery. These policies are key to ensuring that our streets do not become gridlocked and that we can continue our efforts to reduce roadway fatalities and greenhouse gas emissions.

But, as COVID-19 has made clear, our streets support more than just movement. Around the world, streets are providing space so people can safely **access food and essential services**. Our streets provide places for queuing outside grocery stores, markets, and essential businesses. As restrictions are lifted, especially prior to full disease containment or the development of a vaccine, streets can provide room for restaurants,

vendors, and shops to serve customers outdoors, and for schools and daycares to resume care, allowing businesses to re-open and more people to return, safely, to work.

Our streets are key to our mental, physical, and immunological **health**. In cities across the globe, streets are places for essential outdoor respite for people without yards or balconies. Streets are fundamental tools in a risk-reduction public health approach that creates space for people to exercise and play in close proximity to their homes, and provides them with the resources they need to realistically comply with physical distancing guidelines. When the first wave of this pandemic wanes, policies that re-envision streets as public spaces can help people safely gather and reduce the traffic injuries and fatalities that will come with increased vehicle use.

Finally, streets in the COVID-19 era provide space for the **social services** that will allow cities to safely re-open sooner. Streets provide space for pop-up medical and testing locations and distribution points for food and potable water. Streets provide space for WiFi hotspots so children can attend school remotely and people can work from home. As we plan for recovery, streets can be a place where our social supports—schools, libraries, religious and cultural institutions—can safely resume the services and programs that people need.

The streets and cities we see on the other side of the pandemic will be different from the ones we knew a few short months ago. As city and transportation leaders, our job is not to return to the inequitable, dangerous, unsustainable patterns of the past, but to help shape a better future. The streets we create today will provide the foundation for our recovery for years to come.
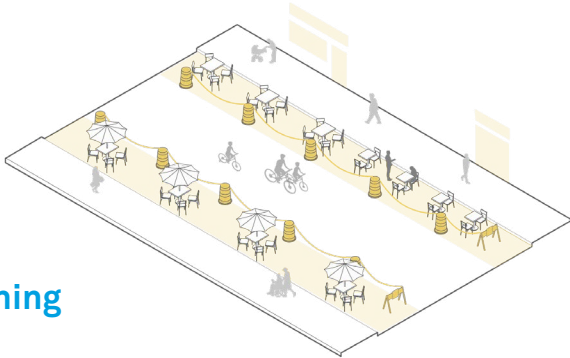

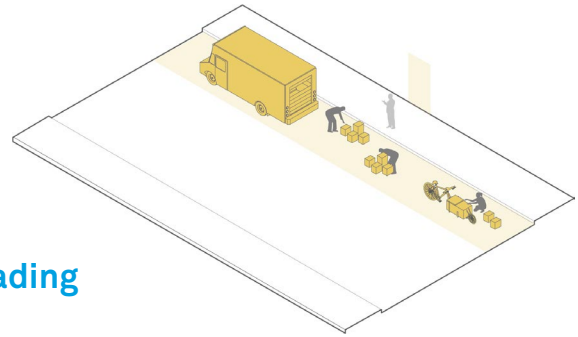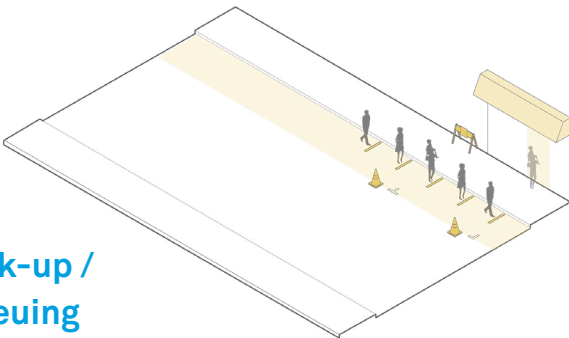**Walking**

Slow / Shared Streets

Cycling

Markets
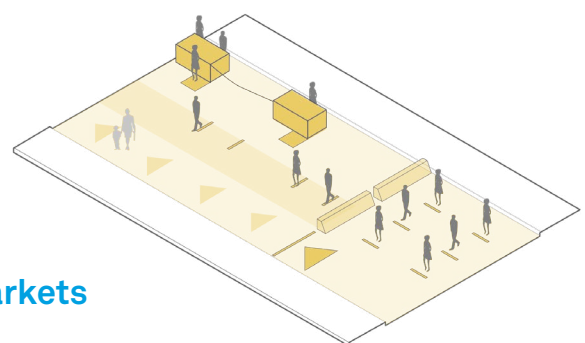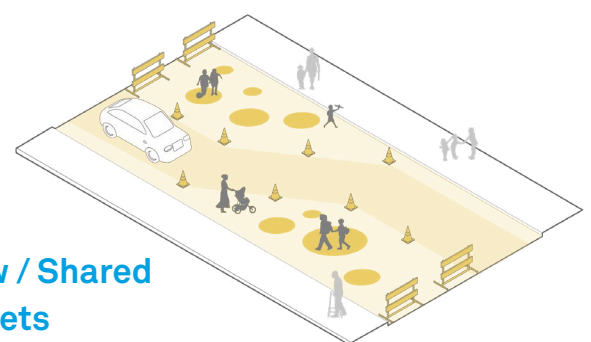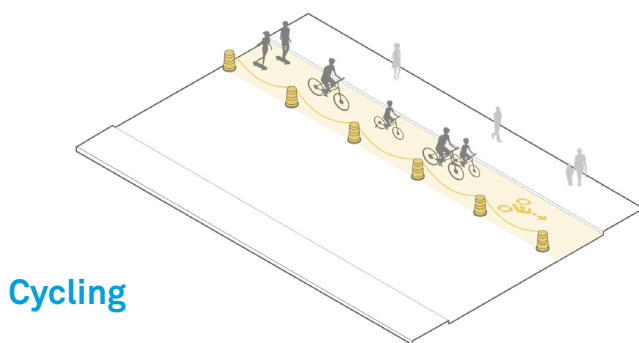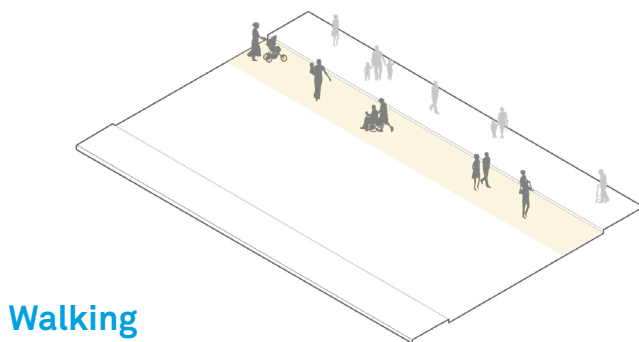
Transit
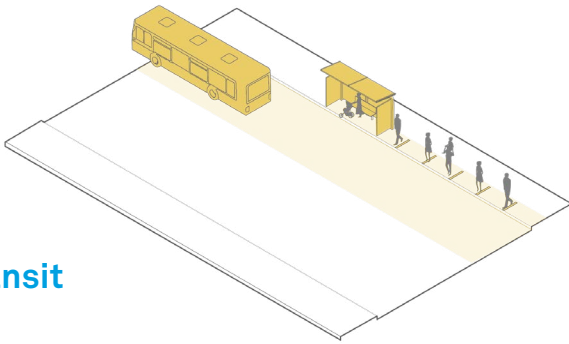
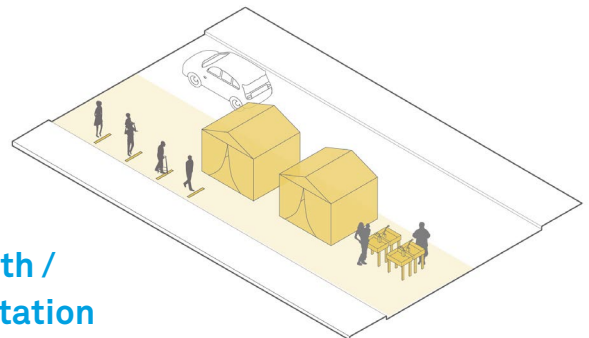**School Streets**
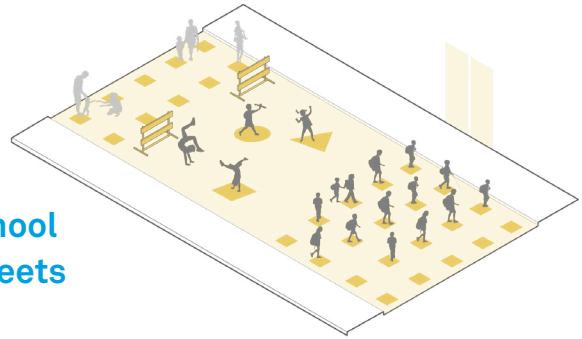
Dining

Loading
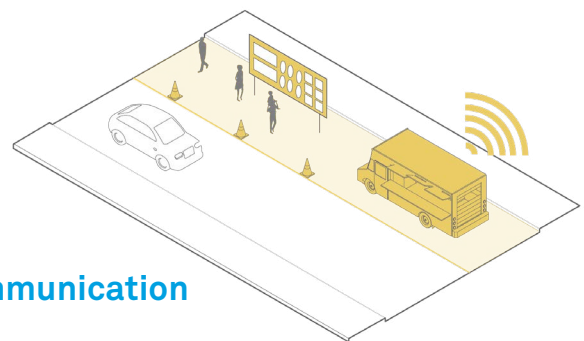
Pick-up / Queuing

Health / Sanitation

Open / Play Streets

Communication

Principles to Guide COVID-19 **Response & Recovery**

Given the serious and acute impacts of COVID-19, cities should establish principles to guide investments and decision making. Each city's principles should be grounded in local context, history, and need, and should be shared publicly, as well as across departments and partner organizations. Below is a **sample approach** that includes six principles that could be used to inform ongoing response and recovery phases.

1 Support the most vulnerable people first.

COVID-19 is amplifying existing racial and socioeconomic inequities, and is disproportionately impacting society's most marginalized. Planners and decision-makers should consider systemic inequities, unequal levels of risk and exposure, and disparate financial and social resources available to their residents, and work to ensure that support is provided first to the people who need it most.

2 Amplify & support public health guidance.

Physical distancing is a core public health strategy to reduce the transmission and potential resurgence of COVID-19 outbreaks. In particular, increasing the amount of outdoor space available to people can make it easier for them to comply with public health guidance for longer periods of time, aiding in efforts to reduce the spread of the virus. As cities move into long-term recovery phases, streets offer unique opportunities to foster public health and improve health outcomes for everyone.

3 Safer streets for today and tomorrow

Especially during periods of COVID-19 outbreak, essential workers need to travel and must be able to do so safely. Emergency street changes must ensure that vehicles travel at safe speeds, even with fewer vehicles on the road. As stay at home restrictions ease, trips will increase. To ensure that recovery does not come with economy-choking gridlock and increased traffic fatalities and carbon emissions, cities must prioritize streets for public transportation, cycling, and walking today.

4 Support workers and local economies.

Stores, restaurants, markets, and schools and daycares are essential to our economic health. Unemployment rates have increased dramatically and local businesses have weathered devastating impacts. Ensuring that businesses can re-open safely and that people have job opportunities is key to our overall recovery. As public health restrictions ease, cities must ensure that street design supports economic policy goals by providing space for businesses, schools, and institutions to safely re-open. Without this, broad economic recovery may not be achieved.

5 Partner with community based organizations.

The rapid project implementation that is necessary during emergency, stabilization, and recovery requires open and frequent communication, transparent decision making with clear metrics and timelines, established channels for feedback, and regular coordination with communities and community groups. Ensuring the voices of a wide variety of local stakeholders is essential to project development and implementation. Local groups can provide key information to ensure projects meet community needs and help disseminate information wider and deeper than government channels typically can.

6 Act now and adapt over time.

Action is needed now. Adopting an open and iterative approach to transportation planning will allow for rapid implementation, phased roll-out, continuous feedback, and course correction that will enable cities to respond better and faster to future COVID-19 outbreaks. Quick-build strategies today can inform lasting improvements over the course of recovery and beyond. Regular dialogue with local groups can provide essential on-the-ground information about how efforts are working and what should be modified over time.

A Public Health Perspective

People of all ages, races, and ethnicities deserve access to safe outdoor spaces. Especially now, when data suggests that COVID-19 transmission rates may be significantly lower outdoors than indoors, and when safe, distanced exercise is encouraged by public health officials as a part of COVID-19 response efforts, we must strive to support our communities with public policy and urban design that create opportunities for healthy outcomes.

To reduce the further spread and resurgence of COVID-19 and to help individuals better manage their personal risk as societies and commerce re-open, city governments can provide infrastructure that supports safety and the ability for individuals to comply more easily with public health guidelines around physical distancing. These efforts are critical during the pandemic and into the future because of the tremendous benefits of physical activity for reducing the risk of heart disease, improving mood, mental health, and weight control, along with significant benefits for one's immune system.

Healthy, safe, and equitable communities are possible—communities where everyone who wants to walk has access to well-maintained sidewalks, where bicyclists have access to dedicated bicycle lanes that are part of city-wide networks, where kids can play in the road, and where transit users can travel safely and reliably. These strategies can be adopted and implemented by city leaders who embrace the urgent need for lasting change during this unprecedented time.

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Street Policies
for an Evolving Crisis

What we need from our streets will change at different moments throughout the COVID-19 crisis.

We will use our streets differently during moments of emergency response than we may as restrictions are changed. Underlying structural vulnerabilities in different neighborhoods may require governments to provide more or more-specialized services in some areas than in others. Needs will differ on neighborhood streets with primarily houses or apartments and schools compared with needs on major thoroughfares where office, retail, or institutional uses may predominate. The phases of this pandemic may not follow a predictable sequence and cities should be prepared to employ different strategies in non-linear fashions as necessary. Considering all these factors will be key to nimble, strategic policy response today, tomorrow, and throughout our recovery.

For example, **strategies that allow people to safely access essential services without traveling long distances are paramount**. During emergency response phases and in the long-term recovery phases to come, cities can support their residents by rapidly reconfiguring streets to slow motor vehicle speeds in residential areas and along neighborhood commercial corridors. These changes ensure that people can safely get the goods and services they need while staying in close proximity to their homes. Streets can transform into new spaces, helping people to access food, information, local options for play and exercise, and medical and testing services, without requiring them to get on transit or drive. Quick-build materials—for example, signs, cones, and saw-horse barricades—will be essential tools to roll out these types of projects as quickly as needed.

During periods of stabilization and long-term recovery, when restrictions are relaxed and businesses are starting to re-open but a vaccine is not yet developed or widespread, cities will need to focus on how to **help people maintain physical distance while moving around the city**. Transit-only lanes will be essential to ensure that buses can move freely and frequently, allowing people to use transit without fear of overcrowding. Expanded sidewalks, speed management strategies, and protected bike lane networks will be necessary to keep people safe as vehicular traffic returns. Stores, markets, and restaurants will need outdoor space for seating and queuing in order to stay financially solvent. Schools, libraries, venues, and religious and cultural institutions may need outdoor space to safely conduct classes and programming or provide essential social services. Interim and permanent materials—for example, rubber and precast concrete curbs, paint, delineators, planters, and jersey barriers—will be key tools to develop and maintain these projects over time.

Types of Policies to Consider

Public Health Response	Neighborhood Streets (local/residential)	Neighborhood Main/High Streets (small retail/office, residential, schools, institutions)	Major Urban Streets (transit, retail/offices, institutions, schools)	Edge Streets & Boulevards (in/alongside parks, waterfronts, etc.)
Stay-at-home orders in place	• "open streets" (pop-up parks) • slow streets or local access only • speed management (movable barriers, gateway treatments, signs) • WiFi hotspots • open-air cooling zones/sanitation	• sidewalk expansions for queuing, outdoor markets, & access • pop-up bike and roll lanes • temporary pick-up/drop-off delivery zones	• sidewalk expansions for access & queuing • temporary pick-up/drop-off zones • shorten signal cycles • put pedestrian signals on recall	• street closures to vehicular traffic, for medical services, recreation, markets, etc.
Pre-vaccine re-opening	• local-access only treatments • lane removal/street closures for schools & religious/cultural service providers	• tactical lane/parking space removal, street closures for outdoor restaurant seating, outdoor markets, etc. • sidewalk expansions for queuing & access • tactical bike lanes • designated pick-up/drop-off delivery zones • bike & shared micromobility parking corrals • lane removal/street closures for schools & religious/cultural service providers	• bus-only lane, tactical islands/in-lane stops, bus priority signals, expanded bus stops • lane removal/parking space removal for outdoor restaurant seating, outdoor markets • sidewalk expansions for queuing & access • protected bike lanes • speed management	• street closures to vehicular traffic, e.g. for recreation, markets, schools, etc. • expanded bike lanes & bike/shared micromobility parking zones • speed management
Vaccine/post-COVID-19	• speed management (e.g. speed limit changes & geometry) • play streets, slow streets, and local-access-only policies & design	• sidewalk widenings • speed management (e.g. speed limit changes & geometry) • expanded bike lanes & bike/shared micromobility parking zones	• bus-only lanes with offboard fare collection, bus islands, and amenities • high frequency bus service • expanded bike lanes & bike/shared micromobility parking zones • sidewalk widenings • speed management	• open space expansions • expanded bike lanes & bike/shared micromobility parking zones • speed management

Emerging Practices for **Implementation**

Emerging Practices,
Planning and Engagement

Rapid-response infrastructure can be implemented as temporary traffic control under the authority of most roadway-owning agencies. Cities can use those powers now to support public health guidance on physical distancing; to help essential workers move safely and efficiently; to protect the needs of more vulnerable users, including children; and to access goods and essential services during the COVID-19 pandemic and recovery. The following sections document ongoing and emerging practices for rapid response mobility improvements, whether temporary or permanent, while maintaining accessibility for all in cities around the world.

Finding Space

There is often enough room for physical distancing on streets, but much of this space is currently assigned to motor vehicles by default. Most cities can find space for safe mobility and physical distancing through one or more of the following space reassignments:

- **Remove individual parking space(s)** or a curbside parking lane.
- **Narrow** motor vehicle lanes.
- **Shift parking or loading** away from the curb, even where it requires closing a vehicle lane.
- **Designate a street as local access only** to reduce vehicle volumes and speed to levels where street space can be shared.
- **Close motor vehicle lane(s)**, or the entire street, to enable adequate physical distancing or improve accessibility and safety for other road users.

Planning & Evaluation

- **Use an on-call or general contractor**, in-house staff, and supplies on hand. City leaders can support this work by approving the use of operational funds or staff in other divisions.
- **Establish clear project goals and metrics**, and ensure that agency partners understand project, evaluation, and enforcement objectives.
- **Monitor projects** every day or twice daily at first, then weekly, to ensure that barriers remain in place and signs are understood.
- **Align projects with ongoing plans** for sustainability, accessibility, or public health to facilitate next steps or scaling up projects and programs.

Engagement

- **Engage with stakeholders** through community groups, social service providers, business associations, local shops; reach workers through employers and advocates.
- **Ask stakeholders and advocates** to place flyers, circulate notices to local/hyper-local online networks, or safely contact local residents.
- **Work with community groups** to identify key obstacles or issues affecting design.
- **Encourage feedback** from neighbors and stakeholders to inform adjustments, modifications, and future phases.
- **Convey clear goals;** periodically solicit feedback via brief survey(s) to users, businesses and residents, to ensure input in refinements or any future phases of work.
- **Use the street** at the location of the project to support communication of project goals or public health updates, with posters, banners, and boards. Consider offering wifi access for communities without access.

Emerging Practices,
Materials and Design

Materials & Design

The initial wave of the COVID-19 pandemic significantly reduced traffic volumes, which allows traffic engineers to use a wider palette of materials in reconfiguring streets. In addition, narrowing or re-assigning motor vehicle lanes typically results in slower speeds, enabling engineers to use lighter separation materials. Cities should align materials to project duration, maintenance and stewardship capacity, and key conditions, such as observed speeds. Lighter materials can be used for temporary implementation. More durable materials should be examined for lengthier deployment.

In the months or years prior to development and widespread distribution of a reliable treatment or vaccine, it may be in the public interest to transition some projects from short-term or pop-up into interim or permanent by using more durable materials as needed and adjusting designs to reflect evaluation results, evolving virus mitigation strategies, and more robust community dialogue. Cities should consult existing design guidance including NACTO's *Transit Street Design Guide, Urban Street Design Guide, Urban Bikeway Design Guide*, and *Global Street Design Guide*.

Placement & Visibility

- Place barriers and signs **at the points along the street where drivers and riders need to do something new**.
- **All-conditions visibility and reflective surfaces** can be provided by conventional construction zone material or temporary traffic control devices.

Signs & Markings

- **Signs** can be made of paper, coroplast, or other temporary material and can be combined with plywood or metal regulatory signs (such as "Local Traffic Only") if available.

- **Spray paint, acrylic latex, spray chalk, or traffic tape** can be used create a temporary lane line if needed or otherwise outline expanded/altered space for walking, cycling and merchant or public transport.
- **Consult local guidance** and state/provincial/national standards for official colors, signs, and symbols. Standards documents may be insufficient for pedestrian and bicycle needs but can be helpful for familiar motor vehicle traffic control.

Separation

- **Light separation:** for visibility and to emphasize the new edge of the motor vehicle roadway. Light separation can also be used for projects that are limited to specific times of day or days of the week. Light separation includes: traffic cones, free-standing delineator posts, traffic barrels, sawhorses, movable parade barricades ("French barricades"), small planters, and traffic control barricades such as A-frames.
- **Heavy separation:** for the most sensitive locations such as the beginning of lane closure on high-volume streets. Heavy separation includes: water-filled barriers, concrete barriers, filled barrels, large planters, flexible posts and delineators, and armadillos.
- Spray-chalk or spray-paint the preferred locations of barriers to ease implementation.


Berlin, Germany
Credit: Joerg Carstensen/dpa via AP

Emerging Practices,
Network Strategies

Coordinated planning is necessary for successful transit/bus, biking, walking, and public space networks. In some places modal plans and priorities will overlap. To ensure the appropriate space allocation, cities should first prioritize the needs of the most vulnerable segments of their population and consider the new spatial requirements caused by this coronavirus in addition to consulting pre-existing modal plans. Cities may need to reevaluate their current transit, biking, and walking networks to reflect and support new work patterns and to ensure that vulnerable and transit-dependent communities do not get stranded. In commercial districts, where demands are high across multiple modes, cities should identify opportunities to combine multiple facilities - e.g. include parklets or streateries into expanded bus boarding areas - to maximize options in the street.
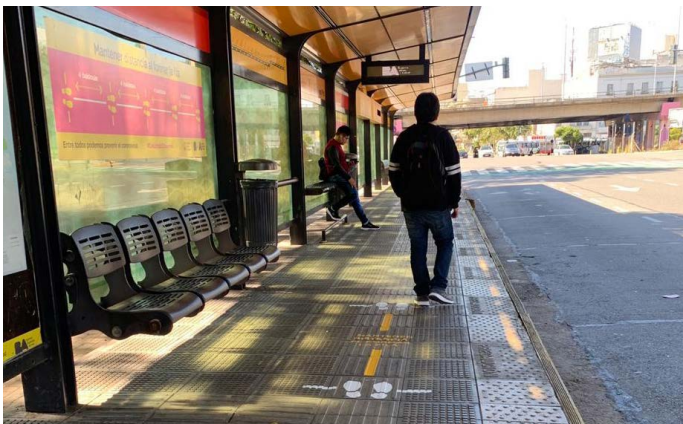
Buenos Aires, Argentina
Credit: Secretary of Transportation and
Public Works of Buenos Aires

Transit Priority Networks

On most major streets, transit networks should take priority. Many essential service workers are reliant on transit. They must be able to get to work reliably, safely, and efficiently. As cities begin to reopen and people return to offices and stores, prioritizing street space for buses will be essential to avoid economy-crushing gridlock that will stymie our recovery and exacerbate health externalities. Congestion will overwhelm us if cities do not take action.

The initial response to COVID-19 in many cities included reduction in transit use and service. However, our current understanding of the virus transmission and its economic impacts suggest that in order for our COVID-19 response strategies to be effective and sustainable, cities and transit agencies should expand and prioritize transit networks. To date, preliminary studies and data from Paris, Austria, Seoul, Hong Kong, and Tokyo have not shown transit to be hotspots of contagion.

In developing transit neworks, cities should consult existing transit network design guidance and focus on providing service to transit-dependent neighborhoods, high volume corridors, and essential institutions, in addition to current transit plans. In many places, current transit networks focus on bringing workers to downtown cores. Revised plans should take into account the fact that many office buildings are now largely empty and may remain at reduced capacity until reliable COVID-19 treatment or a vaccine is available. Grid-based transit networks that offer reliable service between neighborhoods may be particularly valuable at this time.

Bike/Walk Networks

Many cities have noted significant increases in biking and walking in response to COVID-19. These ridership increases should be supported with the expansion of bike lane and sidewalk networks, especially in areas that serve populations with limited access to mobility options. Cities should consult existing guidance on all-ages-and-abilities bike networks, pre-COVID traffic crash data, and pre-and-current speed data in planning bike and walk networks.

Slow/Play/Open Streets

The physical distancing requirements, bans on large gatherings, and growing scientific understanding that outdoor spaces typically pose fewer transmission risks than indoor ones, necessitates a significant expansion of outdoor public spaces. Public spaces should be equitably distributed in residential and mixed-use neighborhoods throughout the city. In determining where slow, play, or open streets should go, cities should prioritize communities that lack official park or recreation areas, neighborhoods with high concentrations of children or multi-family housing, and neighborhoods where residents typically lack yards or other personal outdoor space. Cities should avoid compromising transit service. In developing these spaces, cities should consult existing tactical street design guidance. In some places, slow and open streets can serve as portions of bike/walk networks.
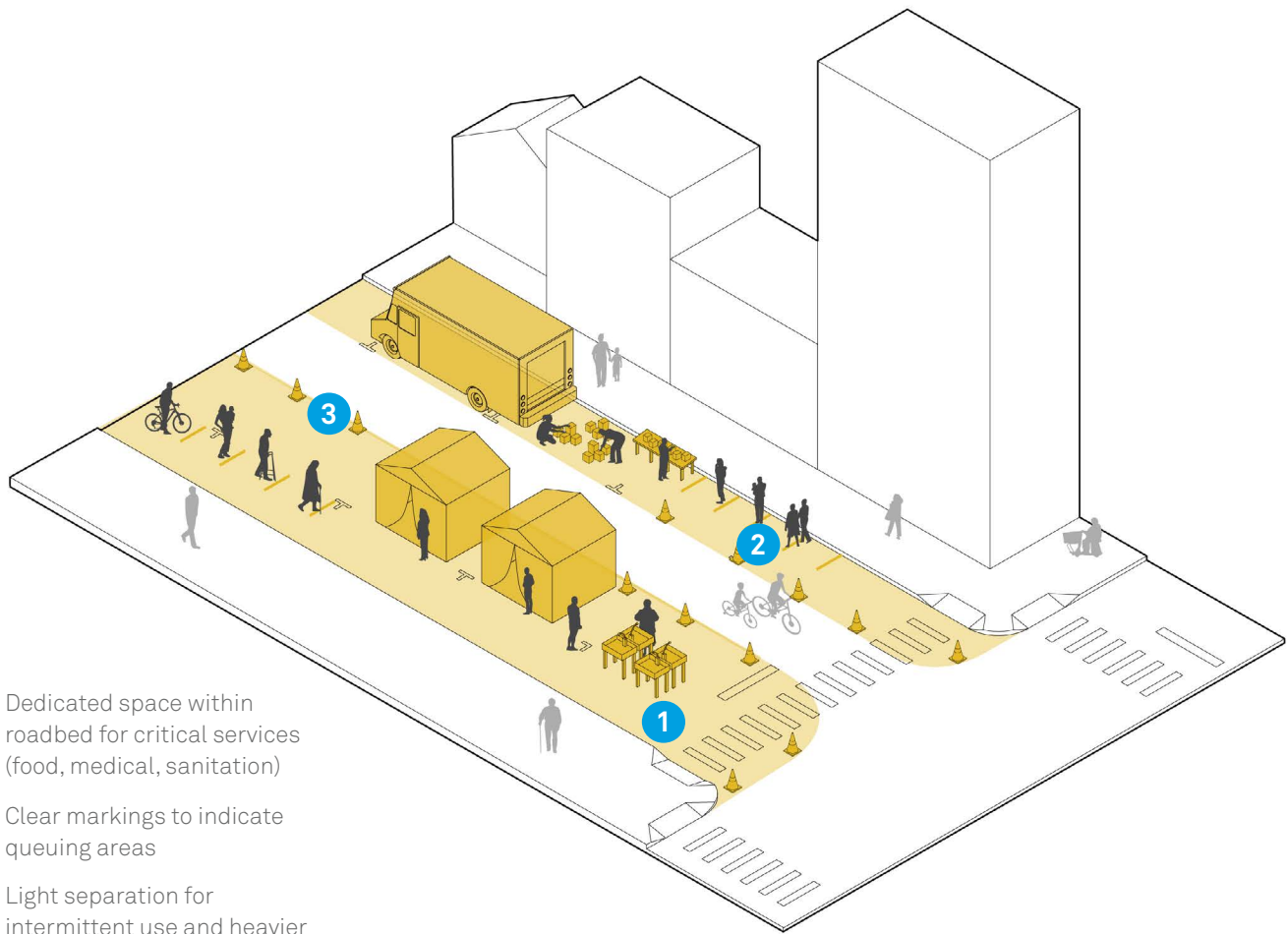

Paris, France
Credit: @C_Najdovski

Denver, CO, USA
Credit: City and County of Denver

1 Dedicated space within roadbed for critical services (food, medical, sanitation)

2 Clear markings to indicate queuing areas

3 Light separation for intermittent use and heavier separation for continuous use

Provide space for critical/temporary food, sanitation, health, medical, or social services distribution centers.

CONTEXT
- Near key essential destinations such as markets, clinics, community centers, and transit stops.
- Adjacent to hospitals or medical centers that require additional capacity.

KEY STEPS
- Identify and prioritize relevant locations based on city demographic/health data and medical center locations.
- Work with local medical centers to forecast where expanded capacity might be needed.
- Fully or partially close streets to erect tents, distributions centers, or mobile stations.

TIMELINE: Days to weeks.

DURATION: Hours, days, weeks, or months.
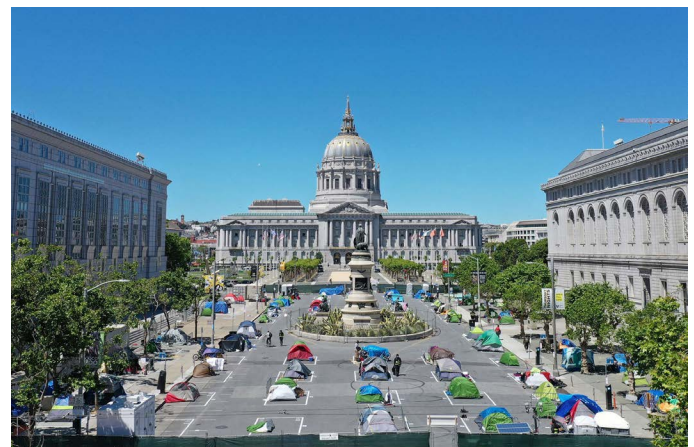
Credit: Justin Sullivan/Getty Images

San Francisco, CA, USA

A sanctioned tent encampment for people experiencing homelessness in San Francisco provides physical distance markers for tents and amenities.

Planning

- Identify which services are the highest priority for each neighborhood/medical center.
- Clarify the most relevant areas and locations that can be converted (for hours, days, or months) to offer required services.
- Consider tents, centers, and stations, as well as mobile clinics.
- Provide clear information on the provided services, locations, times, and eligibility for access at each location.
- Consider food distribution directly to single parents and elderly, pregnant, disabled, and immuno-compromised individuals to reduce demand or transmission on site.
- Plan safe transportation routes between isolation or medical centers and testing or medical stations.
- Consider access to power or space for generators that might be needed for medical equipment, refrigeration of food items, and lighting and other electronics.

Engagement

- Engage with hospitals to extend testing or treatment capacity into adjacent streets.
- Partner with community centers, and local residents and businesses, to set up temporary stations, as needed.
- Partner with mutual aid organizations, stakeholders, and advocates to place flyers or safely contact local residents.

Design + Implementation

- Consider full or partial street closures, sidewalk extensions, or parking lanes to locate the offered service. Provide physical separation and consider using traffic-calming strategies when tents or stations are adjacent to vehicular traffic.
- Provide adequate space and markings for people receiving and waiting for the service to respect physical distancing requirements.
- Use temporary signage, in multiple languages if needed, to highlight the station and service.

Monitoring

- Key criteria: crowding in waiting areas, demand and capacity of services.
- Interview stakeholders and qualify which services are most in demand to determine adjustments.

Credit: Eric Romero/PMSCS
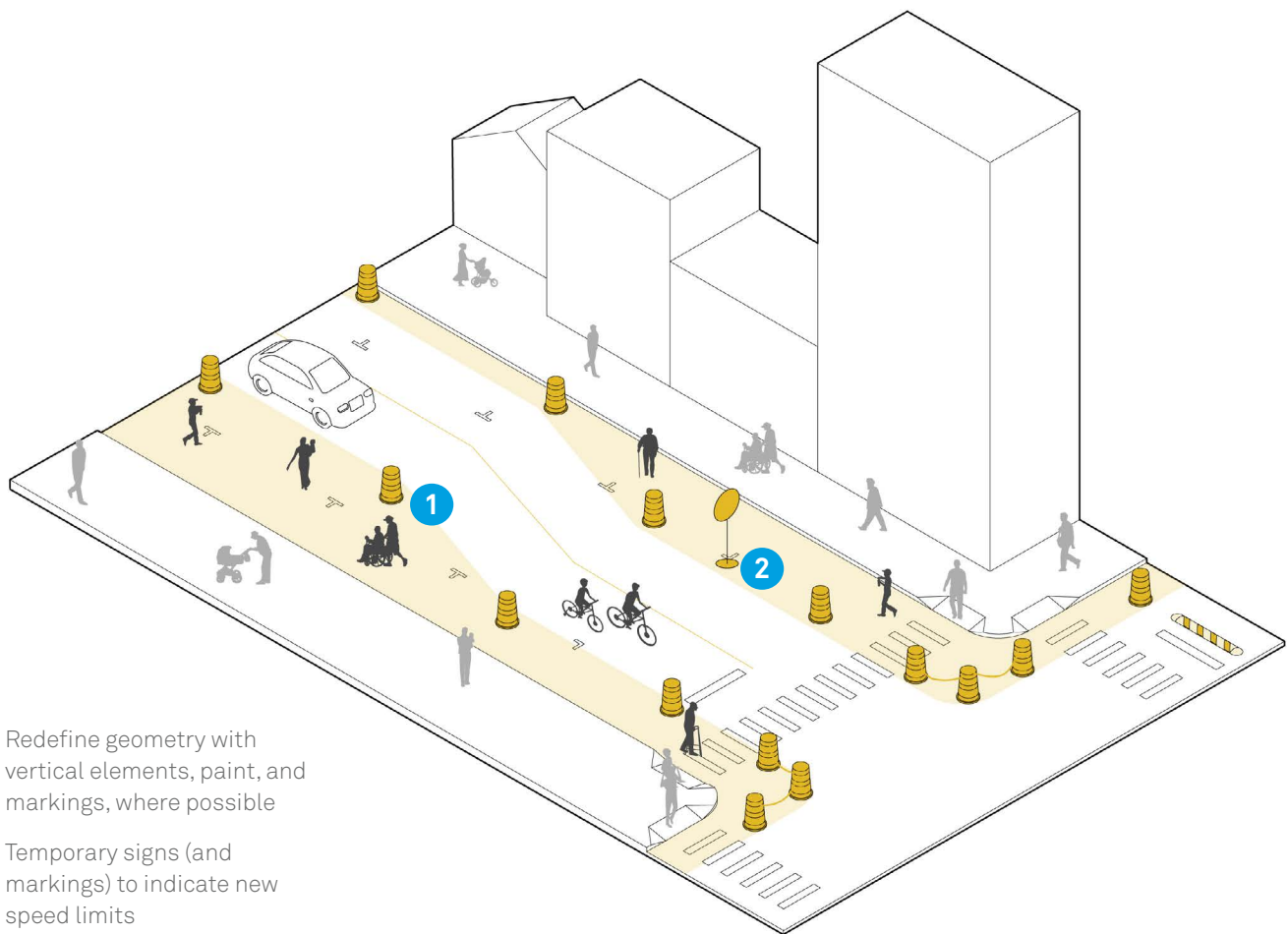
São Caetano, Brazil

São Caetano installed hygiene stations near transit stops.

Credit: AP Photo/Themba Hadebe

Lenasia, South Africa

South Africa expands testing locations with quick-build tents and spread out waiting areas in Lenasia, south of Johannesburg.

1 Redefine geometry with vertical elements, paint, and markings, where possible

2 Temporary signs (and markings) to indicate new speed limits

Manage vehicle speeds to enhance the safety of all street users.

CONTEXT
- Streets with long, straight stretches or inadequate traffic-calming infrastructure; intersections with wide turning radii.
- Wide, typically congested streets currently experiencing higher vehicle speeds.
- Citywide speed limit reductions, critical corridors; specific streets, intersections, and zones.

KEY STEPS
- Reduce the posted speed limit to a level consistent with eliminating serious injuries and update markings and signs.
- Deploy quick-build designs and/or pair with other street or public space interventions.
- Publicize speed limit and anti-speeding message with media campaigns.

TIMELINE: Days to weeks to plan, hours or days to implement.

DURATION: Days to months.

Credit: @otucis

Sigulda, Latvia

Sigulda created a high-comfort bike street using interim curb extensions and reduced speeds.

Planning

- Plan citywide, district-wide, or corridor speed limit reductions based on the extent to which modes and movements interact on the street. Deploy automated enforcement over time to minimize cost and person-to-person contact and to increase equitable application.
- Gather available data on sites with increased speeding. Allow community to help prioritize interventions and locations. Focus on greatest impact for vulnerable groups.
- Implement measures in combination with all other interventions to maximize impact and safety.

Engagement

- Partner with community groups and local associations to identify key obstacles or issues affecting design and to help prioritize locations.
- Use flyers, temporary signs, and social and digital media to notify all street users of design changes.
- Engage transit operators and emergency services to reduce undue impacts to response time.
- Convey clear goals for managing the space among agency partners.

Design + Implementation

- Post a speed limit at which the expected use of the street does not result in severe injuries.
- Reduce design speeds through traffic-calming strategies, using quick-build materials such as paint, barriers, planters, cones, and delineators.
- Reduce the width of vehicle lanes. Install bike lanes and interim sidewalk extensions.
- Prevent speeding on straight streets using chokepoints and chicanes. Conduct on-site trials with cones to confirm proposed geometry.
- Use quick-build asphalt or pre-cast modular elements (speed humps, raised crosswalks).

Monitoring

- Key criteria: monitor speeding within the block or at intersection before and after implementation.
- Check placement of equipment daily for the first few weekday and weekend days, then weekly.
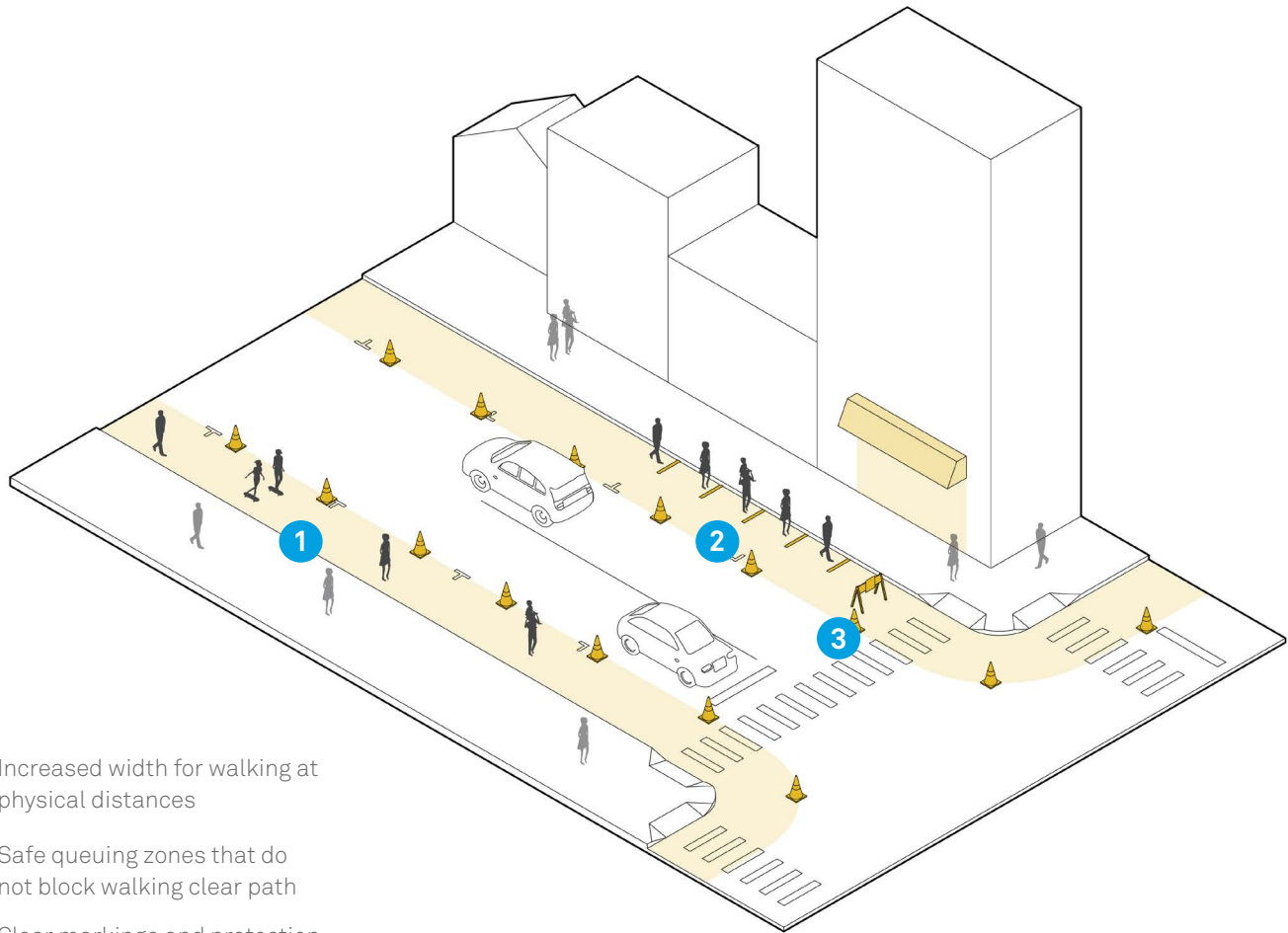

Credit: El Tiempo

Bogotá, Colombia

Bogotá implemented a city-wide speed limit of 50 km/h.

Credit: @nevitate

Pasadena, CA, USA

The Pasadena Department of Transportation placed traffic calming signs along the city's major roads to remind drivers to slow down for neighbors who may be walking, running, or bicycling.

1 Increased width for walking at physical distances

2 Safe queuing zones that do not block walking clear path

3 Clear markings and protection for pedestrians

Provide space for people to comply with physical distancing guidelines while walking or waiting.

CONTEXT
- Along main/high streets and major thoroughfares with essential businesses/services, high transit use, or crowded recreational paths.
- On streets with narrow or missing sidewalks that cannot be converted to local traffic only.

KEY STEPS
- Convert curbside parking or motor vehicle lane to pedestrian space.
- Protect lane with reflective barriers such as freestanding delineators or traffic barrels.

TIMELINE: Days to plan, hours to implement.

DURATION: Days to months.
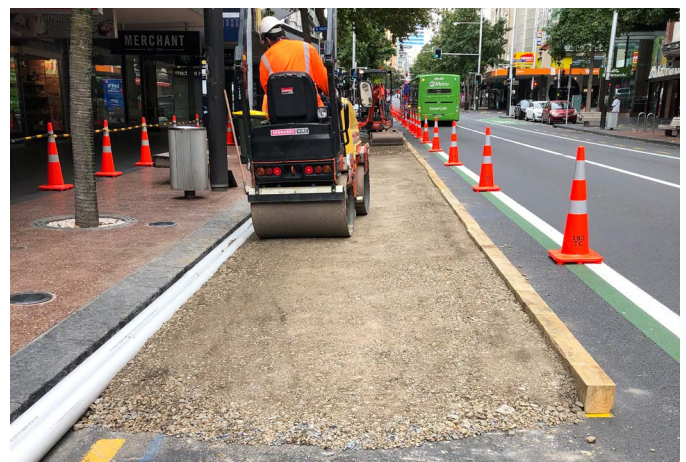
Credit: Auckland Transport

Auckland, New Zealand

Auckland created more space for physical distancing on Queen Street using asphalt ramps, white safety posts, and paint to delineate extended sidewalks.

Planning

- Prioritize sidewalks where pedestrian queuing or waiting is already a known issue, locations near grocery stores and markets, and on main streets in neighborhoods with high infection rates.
- Convert streets leading to key health destinations or along key transit routes to improve safety, especially for essential workers.
- Consider converting vehicle lanes to pedestrian space adjacent to shared-use paths, parks, or waterfronts to ease overcrowding.
- If local requirements for pedestrian protection in temporary traffic control plans cannot be met within the timeline of pandemic response, document rationale for departing from rules rather than delaying the project.

Engagement

- Use flyers and temporary signs to notify people who use the street.
- Partner with stakeholders and advocates to place flyers or safely contact neighbors about upcoming changes.
- Tap community groups and business associations to identify key obstacles or issues affecting design or segment length.

Design + Implementation

- *Use light separation to delineate walking space.*
- *Use heavy separation at endcap locations and other sensitive points (e.g. major intersections, T-intersections).*
- *If parking lane exists, move it away from curb or prohibit parking. 'Floating' parking lane can provide additional protection for sidewalk space.*
- *For pedestrian queuing space, apply temporary markings to roadway with tape or spray chalk; consider incorporating seating and/or playful elements for children and others.*
- *Use temporary signs, such as Park Here/Walk Here or Park Here/Queue Here signs.*
- *Use typical temporary lane control signs (Lane Closed Ahead, Right Lane Ends, or local equivalent) ahead of the vehicle closure.*
- *Consider a framework for locations and markings with permitting for local organizations, where staff resources are constrained.*

Monitoring

- Key criteria: sufficient space for physically distant walking and/or queuing; few or no observations of people waiting in queues walking on sidewalk.

Credit: AMAT Officina Urbana/Comune di Milano

Milan, Italy

Milan created a citywide plan to implement new pedestrian and bike facilities on 35 km of streets. On this 4.5-km corridor over its busiest subway line, the City used paint and markings to widen sidewalks and add a parking-protected bike lane.

Credit: @BLineTransport

Brookline, MA, USA

Brookline used cones and temporary signs mounted on freestanding delineator posts to extend sidewalks and create bike lanes along four high-volume streets.
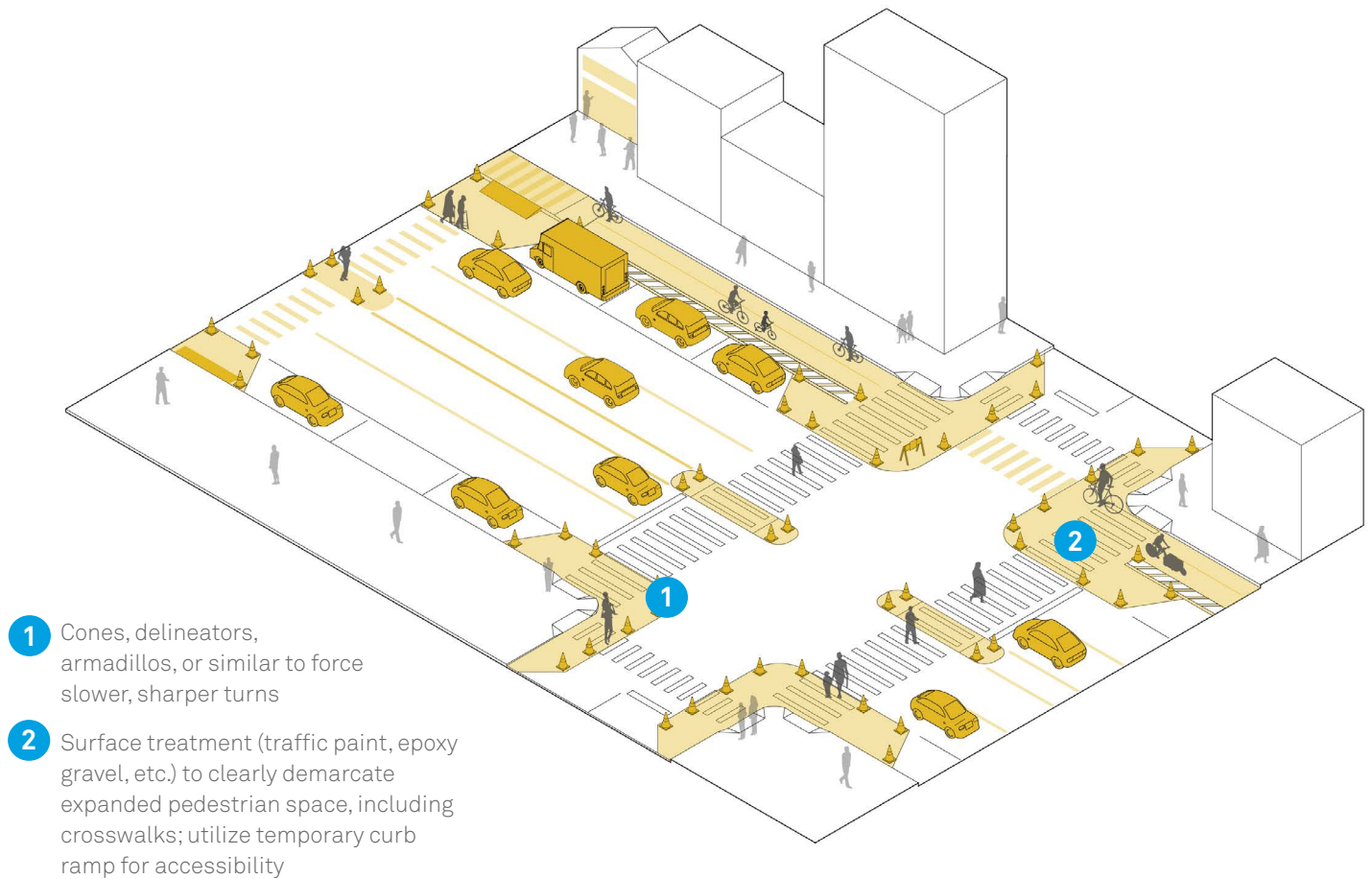
1 Cones, delineators, armadillos, or similar to force slower, sharper turns

2 Surface treatment (traffic paint, epoxy gravel, etc.) to clearly demarcate expanded pedestrian space, including crosswalks; utilize temporary curb ramp for accessibility

Improve crossings to help people walk/bike safely given increased volumes and changing travel patterns.

CONTEXT
- Crossings at or near essential services (pharmacies, hospitals, grocery stores, transit stops, parks, etc.)
- Mid-block locations with high crossing demand, especially on multi-lane streets.
- Streets with transit stops at unsignalized locations, fast or high-volume traffic, and/or high crash rates.

KEY STEPS
- Use vertical elements to delineate curb extensions or refuge islands.
- Shorten crossing distance and reduce speeding by repurposing or narrowing vehicle lanes.
- Apply reflective traffic tape or paint to delineate pedestrian space and increase crosswalk visibility.

TIMELINE: Days.

DURATION: Weeks, months, years.

Credit: @MedySejai

Montreuil, France

Montreuil created safer conditions for pedestrians by implementing a painted crosswalk and refuge island outlined with flex posts.

| **Planning** | • Identify streets or intersections with safety/accessibility challenges, such as missing crosswalks, long crossings, or large gaps between marked crossings; create/upgrade crossings at locations with high pedestrian demand and desire lines. |
| | • Prioritize underserved neighborhoods, essential employment or service sites, and transit stops. |

Engagement	• Leverage existing communications networks and social media channels.
	• Work with road safety advocacy groups, universal accessibility groups, and other local associations. Post notices on site, online, and in newsletters to inform and solicit feedback from the community.
	• Place health notices close to crossings for visibility.
	• For reprogrammed actuated signals, cover push-buttons with signs noting that pushing is unnecessary.

Design + Implementation	• Extend sidewalk or median curbs into parking lane or intersection to reduce length of pedestrian and bike crossings to reduce exposure of unprotected users.
	• Prioritize heavy separation materials at endcap locations, at intersections with high vehicular and/or pedestrian volumes, and other sensitive locations.
	• For intervals of months or years, consider installing modular plastic, rubber, or concrete refuge islands.
	• Retain recently-shortened signal cycles and set pedestrian signals to recall to reduce pedestrian crowding at corners as activity levels rise.

| **Monitoring** | • Key criteria: pedestrian volumes, demand, crashes/conflicts, and desire lines. |
| | • Monitor pedestrian crossing on and outside the crosswalk, and adjust crossing location or design to accomodate safe and physically distant crossing for pedestrians. |
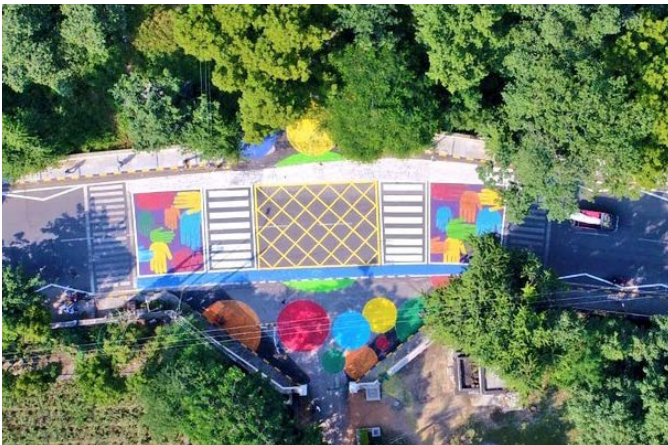
Credit: @0to5ChildDevp

Udaipur, India

The Udaipur Municipal Corporation created a pleasant and safe surrounding for caregivers and children to walk to school.
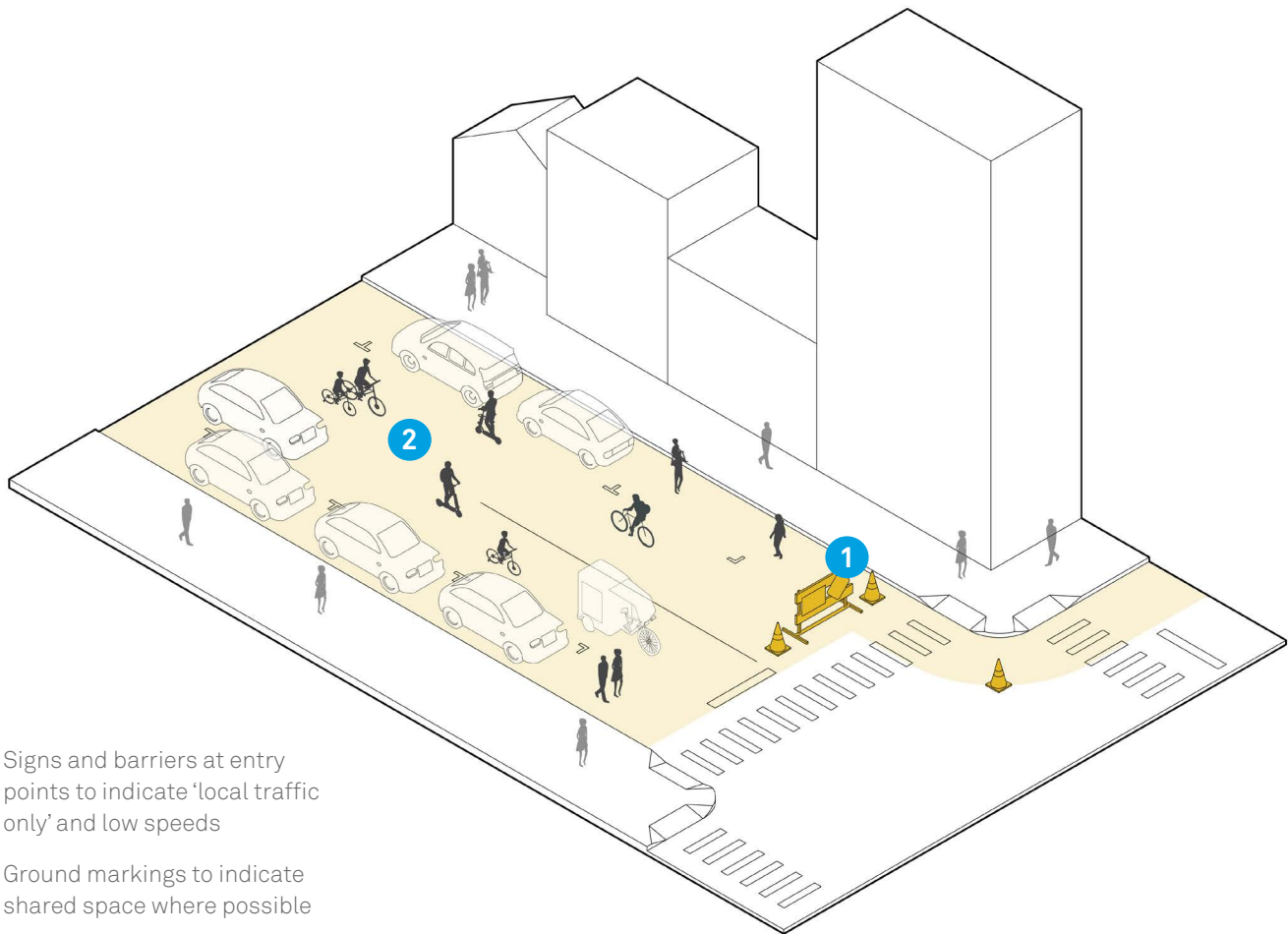

Credit: Anda Chu
/Bay Area News Group

Oakland, CA, USA

Oakland used cones to increase pedestrian visibility at crosswalks, helping people walk to essential services such as grocery stores, food distribution sites and coronavirus testing sites.

1   Signs and barriers at entry points to indicate 'local traffic only' and low speeds

2   Ground markings to indicate shared space where possible

Reduce traffic volume and speed to a minimum so that people can walk, bike, and run safely.

CONTEXT
- Streets with low vehicle volume and low to moderate speeds, where vehicle volumes have dropped, or serve redundant through-traffic role during COVID disruptions.

KEY STEPS
- Install temporary traffic barriers and "Local Traffic Only", Slow/Shared, or branded signs (e.g. "Stay Healthy Streets") at main vehicle entry points.
- For neighborhoods, establish a grid of entry points into the local street network where barricades should be installed.
- Identify stewards to take care of and monitor barricades.
- Allow local access, deliveries, and emergency vehicles.

TIMELINE: One week.

DURATION: Days to months.

Credit:European Cyclist's Federation

Brussels, Belgium

Brussels created a 20 km/h (12 mph) zone in the downtown core, allowing pedestrians to walk more safely in the roadbed.

Planning

- Identify a network of streets that can be closed at key entry points, where interior intersections remain unobstructed.
- Examine proposed neighborhood greenways, bike boulevards, or routes that await implementation.
- Consider including other low-volume streets or those with low to moderate speeds.

Engagement

- Reach out to homeowners associations or other residential district organizations.
- Partner with bike/walk and health coalitions and bike shops; reach workers through advocates and employers.
- Partner with stakeholders and advocates to place flyers or safely contact local residents.
- Tap community groups to identify key obstacles or issues affecting design or segment length.

Design + Implementation

- Identify which intersections to close fully and which to partially close, preserving local access but preventing most through-movements.
- Place light separation to partially block streets and indicate restricted use and lower speeds (typically 5-10 mph / 10-15 km/h).
- Use temporary "Local Traffic Only" signs, which can be attached to barricades or A-frames if necessary.

Monitoring

- Key criteria: number and percent change in demand; use an automated device, such as a tube counter, to gather bike volume counts and short (15-minute to 1-hour) sample pedestrian counts if practical.
- Use counts or conduct surveys to determine whether and where segments should be expanded.
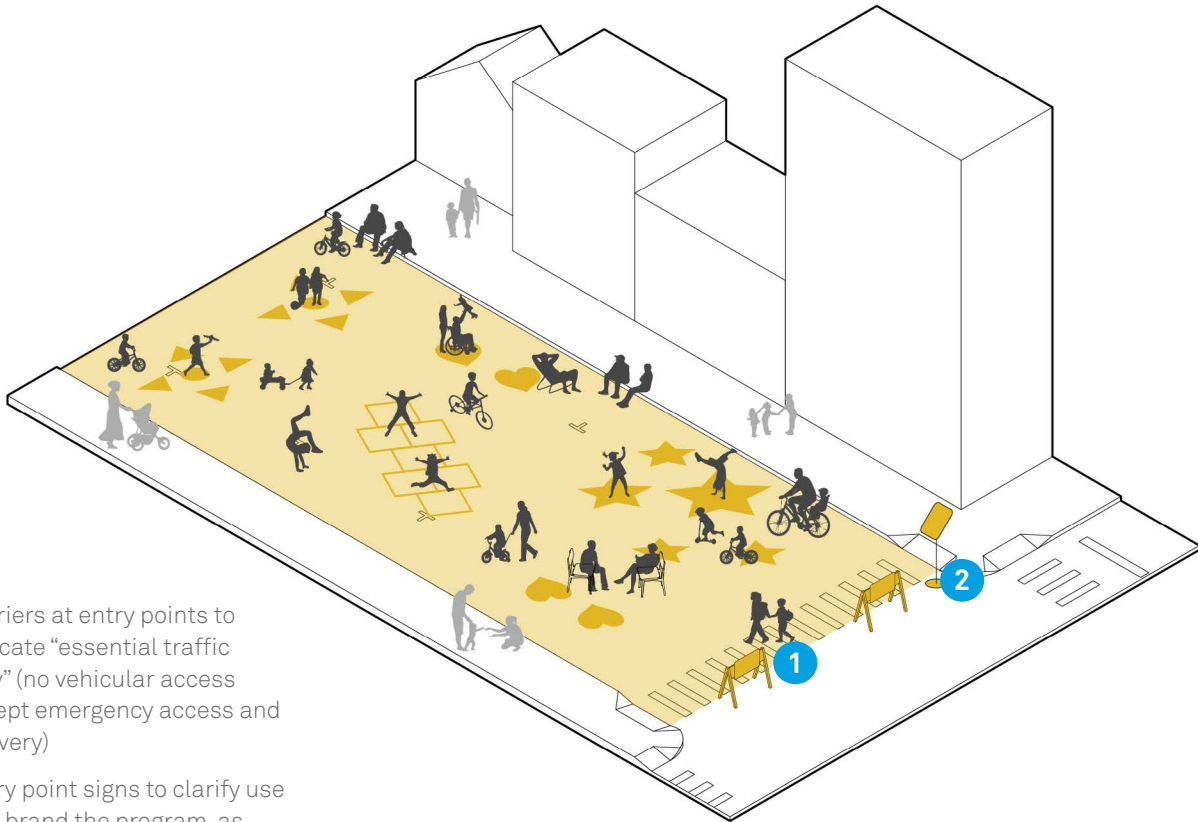

Credit: @jonobate

Oakland, CA, USA

Oakland used signs mounted on A-frames to designate streets as local access only, creating a 74-mile "slow streets" network.

Credit: NACTO-GDCI

Dunedin, New Zealand

Dunedin approved a plan that reduced speeds to 10 km/hr and allowed city center businesses to extend into the streets, creating shared spaces for multiple modes.

1 Barriers at entry points to indicate "essential traffic only" (no vehicular access except emergency access and delivery)

2 Entry point signs to clarify use and brand the program, as well as offer traffic control or guidance to motorists

Provide safe space for physical activity, play, distant socializing, etc.

CONTEXT
- Parkways or waterfront corridors with few intersections.
- Low-volume residential streets.
- Commercial streets with local restaurant/retail clusters and no transit.

KEY STEPS
- Install temporary traffic barriers and "Emergency Vehicle/Delivery Only" signs at intersections.
- Establish grid of entry points into local streets where barricades should be installed.

TIMELINE: One week.

DURATION: Time of day, day of week, weekends, or ongoing (weeks, months).
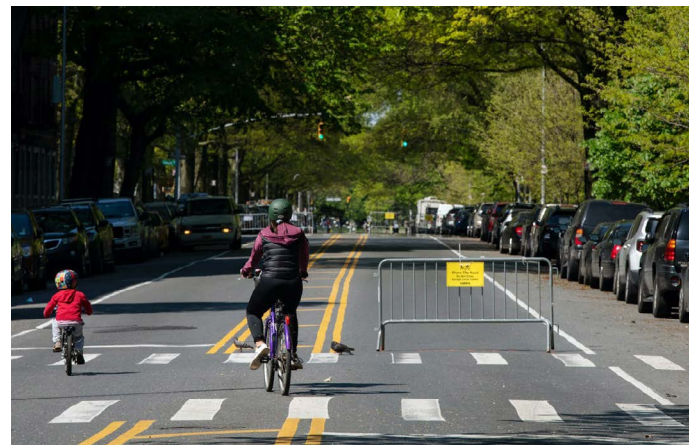
Credit: Bryan Thomas/Getty Images

Brooklyn, NY, USA

Open streets in Brooklyn and other boroughs of New York City provide space for pedestrians to gather and stay active.

Planning

- Identify a single corridor or a network of streets that can be closed to vehicular traffic during select hours of the day or days of the week, or permanently.
- Unlike Slow Streets, on-street vehicular parking should be disallowed over the duration.
- Examine proposed neighborhood greenways, bike boulevards, or routes that await implementation. Where full closures are difficult, consider Slow Streets instead.
- Where resources are constrained, prioritize one- to two-block Play Streets adjacent to closed or inadequate playgrounds and schoolyards.
- Ensure that programs and activities support safe physical distancing.

Engagement

- Reach out to resident associations, business districts, community organizations, bike/walk and health coalitions, schools, and mutual aid organizations.
- Partner with stakeholders and advocates to place flyers or safely contact local residents.
- Connect with community groups to identify obstacles or issues affecting design or length.

Design + Implementation

- Identify corridors to fully close to through traffic and target times of day or week. Partial closures can preserve local access but prevent most through-movements.
- Consider open/play streets at a corridor scale to move people safely to essential services (medical care, grocery stores, pharmacies, transit).
- Use temporary "Road Closed" signs, which can be attached to barricades or A-frames if necessary; adding pedestrian or bicycle warning signs is optional.

Monitoring

- Key criteria: number and percent change in overall demand during specific hours.
- Use automated devices, such as a camera or tube counter, to gather bike volume and short (15-minute to one-hour) sample pedestrian or user type counts (younger and older children, elderly people, etc.) if practical.
- Use counts or conduct surveys to determine adjustments, if necessary.
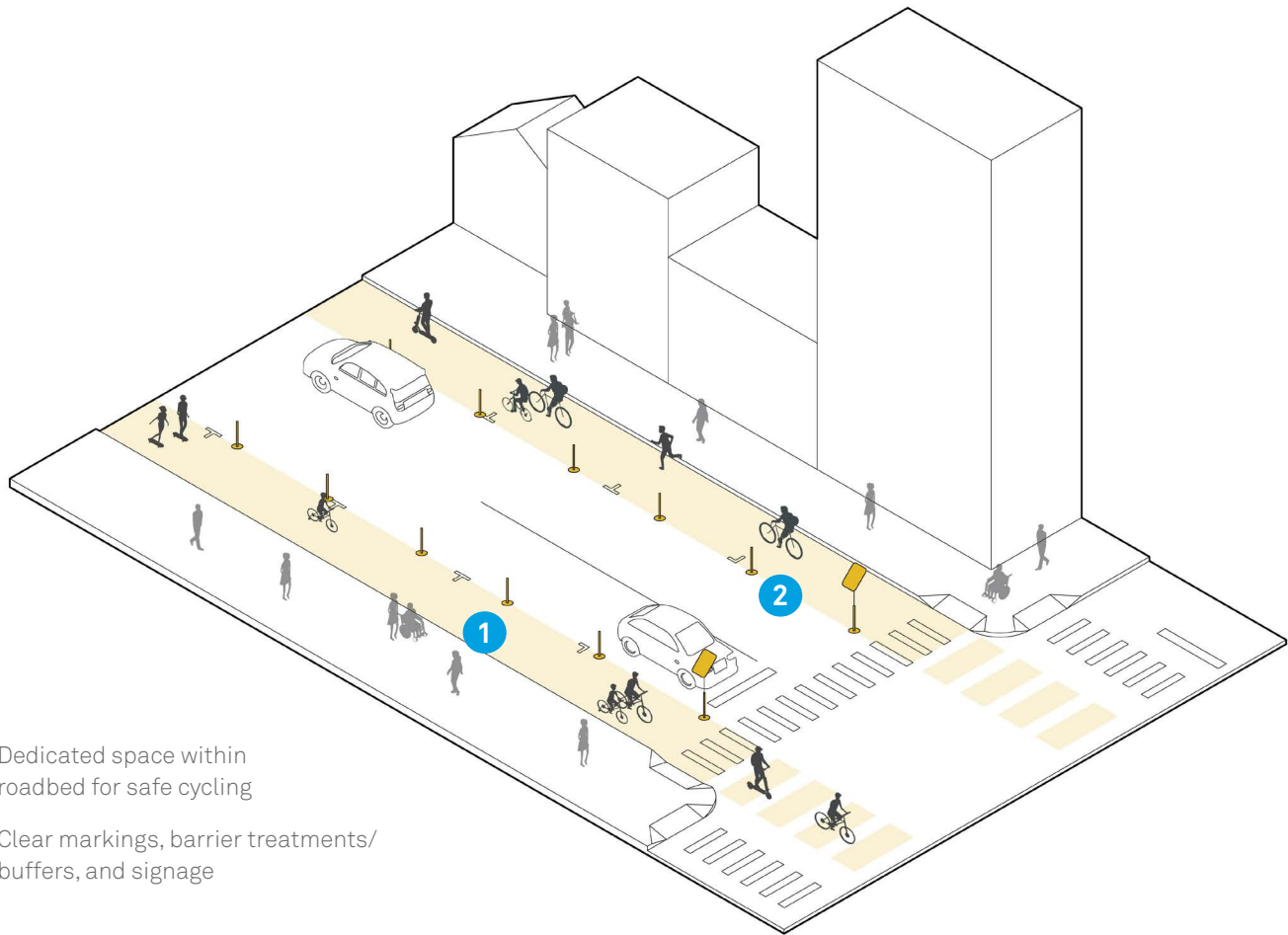

Credit: Natalia Bomtempo

Brasilia, Brazil

Brasilia opens its streets for pedestrians and cyclists on Sundays.

Credit: DPA

Berlin, Germany

Berlin prohibits vehicles on several streets to create space for play and gathering.

1. Dedicated space within roadbed for safe cycling

2. Clear markings, barrier treatments/buffers, and signage

Provide space for essential workers and others to bike and roll safely while maintaining sufficient physical distance from others.

CONTEXT
- Multilane streets, streets with wide lanes where demand is high.
- Streets that provide access to hospitals and other essential services; connector routes to parks and other open spaces.

KEY STEPS
- Convert curbside parking or motor vehicle lane to bike lane. Optional: convert adjacent vehicle lane to passenger or freight loading, or parking.
- Designate start of lane with a barrier and sign, positioned so as not to block cyclists.
- Use reflective barriers such as traffic cones, flexible posts, bollards, plastic barriers, freestanding delineators, or traffic barrels.

TIMELINE: Days to plan, hours to implement.

DURATION: Days to months.

Credit: City of Toronto

Toronto, Canada

ActiveTO rolled out new protected bike lanes marked with paint and dividers.

Planning

- Prioritize filling gaps in existing bike networks, transit routes, bike routes awaiting implementation, and streets that already have ridership.
- Consider streets leading to hospitals, key health destinations, or along key transit routes to improve safety, especially for essential workers.
- Consider vehicle lanes adjacent to shared-use paths, roads, parks, or waterfronts.

Engagement

- Partner with community groups, social service providers, bike coalitions, and bike shops; reach workers through employers.
- Ask stakeholders and advocates to place flyers, circulate notices to local/hyper-local online networks, or safely contact local residents.
- Tap community groups to identify key obstacles or issues affecting design or segment length.

Design + Implementation

- Use light separation materials to separate bike and roll lane from other lanes.
- Use heavy separation at endcap locations and other sensitive points (e.g. major intersections, T-intersections).
- If parking lane exists, move away from curb or prohibit parking to make protected bike lane; 'floating' parking can provide additional protection for cyclists.
- Place signs on movable barriers at beginning of bike and roll lane, major intersections, and other high-volume turn locations.
- Use typical temporary lane control signs (Lane Closed Ahead, Right Lane Ends, or local equivalent) ahead of vehicle closure.
- Use temporary signs and markings to indicate where to bike or park.
- For recovery planning, upgrade from temporary to permanent materials. See Urban Bikeway Design Guide.

Monitoring

- Key criteria: number and percent change in demand; use an automated device, such as a tube counter, to collect counts.
- Check placement of equipment daily for the first few weekday and weekend days, then weekly.
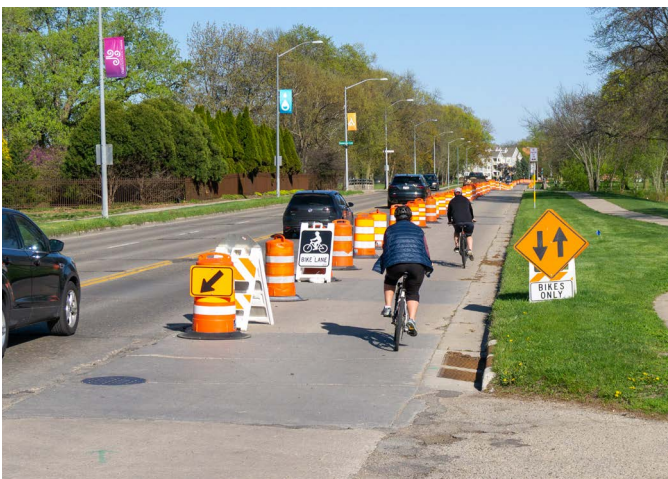
Credit: madisonbikes.org

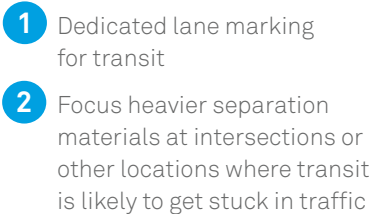### Madison, WI, USA

Madison added new bike lanes using freestanding delineator posts and closure signs mounted on traffic barricades to support more space for active recreation while maintaining physical distance between users.

Credit: Kledina Skendo

Tirana, Albania

Tirana converted parking lanes into protected bike lanes using plastic flexible delineator posts and yellow paint markings.

1 Dedicated lane marking for transit

2 Focus heavier separation materials at intersections or other locations where transit is likely to get stuck in traffic

Provide or expand transit-only/transit-priority lanes to make on-street transit a reliable and efficient form of transportation for the people who need it most.

CONTEXT
- High-ridership transit corridors and routes that serve transit-dependent communities and essential businesses/services.

KEY STEPS
- Convert curbside parking or motor vehicle lanes to surface transit lanes.
- Designate the transit lane with lane markings, regulatory signs, electronic signs if available, and vertical elements such as cones.

TIMELINE: Weeks to plan, days/weeks to implement.

DURATION: Several months to two to three years.

Credit: City of Boston

Boston, MA, USA

MBTA installed a new permanent bus lane on Washington Street, which was preceded by a temporary lane using orange traffic cones.

Planning

- Prioritize routes and implement improvements, such as transit lanes and signal priority, in transit-dependent communities and routes leading to essential locations with higher ridership or demand.
- Focus heavier interventions around intersections known to cause transit delays, as well as new emerging pinch points based on changes in travel patterns.
- Identify locations for relief vehicles if riders are frequently passed up due to overcrowding.
- Change signs, signals, and markings to mitigate significant turning conflicts where necessary.
- Consider removing parking, curb access, or loading zones; minimize impacts on essential businesses.
- Determine most critical segments based on speed and delay; lanes can be as short as a block or as long as several miles.

Engagement

- Leverage existing communications networks and social media channels, such as transit advocacy groups, neighborhood associations, and large employers.
- Post notices in vehicles, at stops, online, and in newsletters to publicize changes and solicit feedback.
- Message goals from the outset to align with current performance and signal future changes to traffic conditions and transit ridership.

Design + Implementation

- Measure and mark locations and add signage to indicate hours of operations.
- Install cones and/or barrels, delineator posts, or paint with "Bus Only" markings.
- Signage may be static or VMS, depending on availability and resources.
- For recovery planning, upgrade from temporary to permanent materials. See Transit Street Design Guide.

Monitoring

- Key criteria: collect ridership, crowding, and travel time data; adjust for operational performance as well as public health guidance.
- Coordinate with parking and traffic enforcement agents to prevent private vehicles from stopping, parking, or traveling in lanes; focus attention as implementation begins.
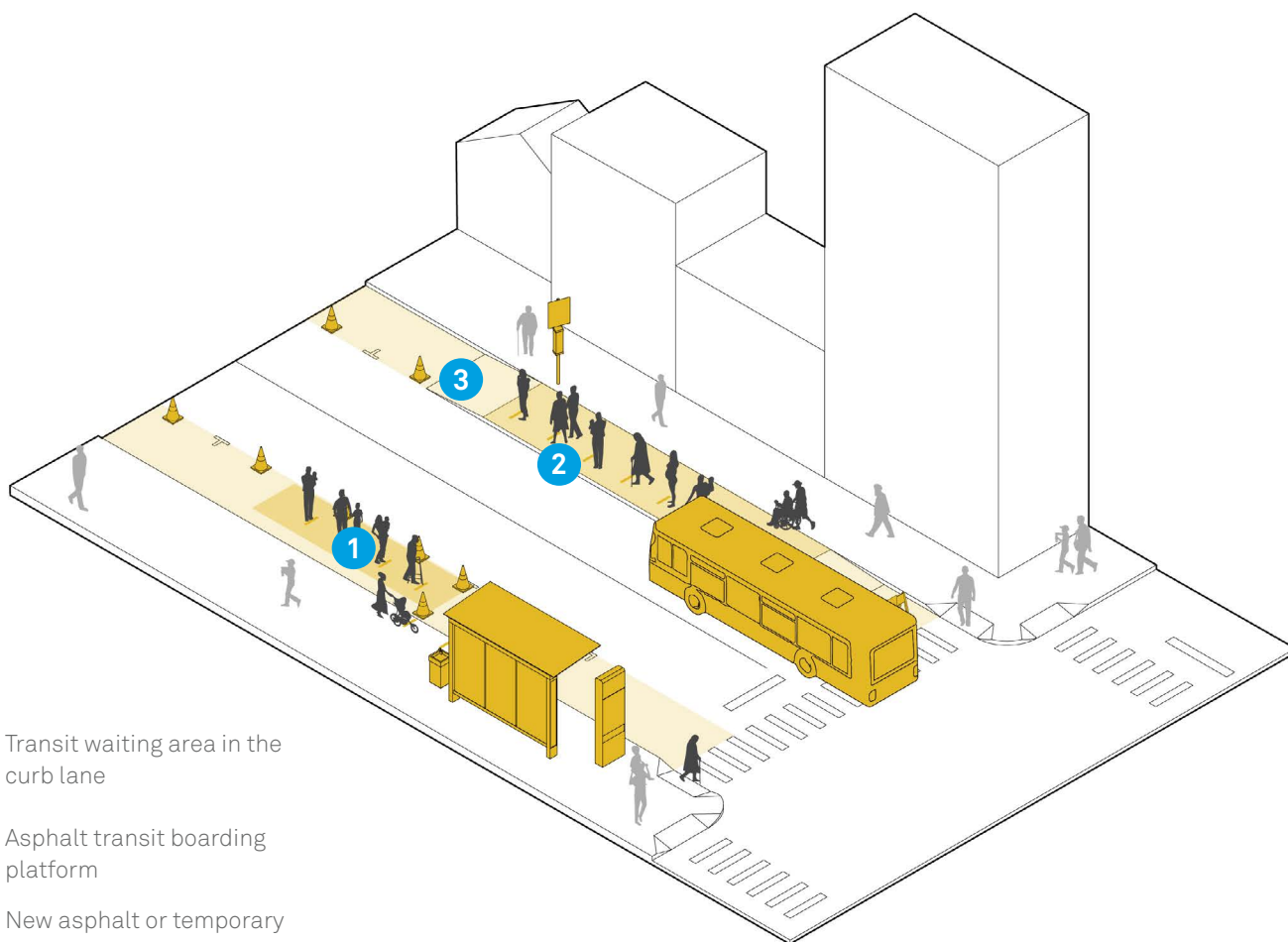

Credit: SFMTA
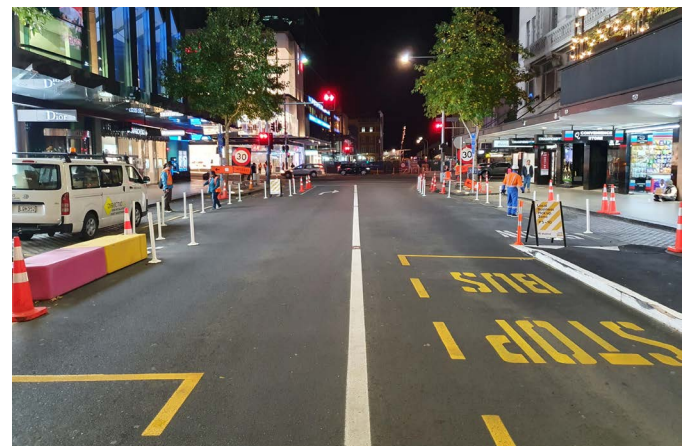
Credit: Auckland Transport

San Francisco, CA, USA

SFMTA prioritized a core network and began improvements to enhance transit performance for essential workers.

Auckland, New Zealand

Auckland makes space for new bus stops and transit lanes on Queen Street.

1 Transit waiting area in the curb lane

2 Asphalt transit boarding platform

3 New asphalt or temporary curb ramp

Provide sufficient waiting area for transit passengers and allow rear-door/all-door boarding to reduce queuing and boarding time.

CONTEXT
- Transit stops with high daily boardings or boardings concentrated at specific times of day.
- Transit stops on sidewalks that are too busy or too narrow for physically distant waiting.

KEY STEPS
- Deploy platforms with interim materials, such as curbs plus asphalt and modular islands
- Install ramps, crosswalks, and safety islands to access mid-block stops.
- Ease rear boarding via mobile ticketing, on-board contactless payment, and off-board fare collection.

TIMELINE: Days to weeks to plan, hours to weeks to implement.

DURATION: Months to years.

Credit: Reuters/Maggie Andresen

Kigali, Rwanda

Rwandan authorities have installed hand washing stations at bus stops in the capital city of Kigali.

Planning

- Empower a working group of city and transit agency staff, including network planning, speed and reliability, service planning, and operators.
- Prioritize stops with ongoing ridership or areas with high COVID-19 cases.
- Implement at locations where both needs and feasibility are high, then expand the program to more challenging sites.
- Coordinate with bike, public space, or sidewalk programs to determine whether a bulbout or island is appropriate.
- Focus on rear-/all-door boarding and offer online/offboard payment options.

Engagement

- Provide opportunities for transit riders, civic groups, associations for disabled passengers, businesses, and medical/service employee unions to nominate sites for boarding improvements.
- Post flyers at stops ahead of implementation to solicit rider feedback. Promote online feedback, in-vehicle and at stops.
- Announce shortlist of sites, along with abbreviated planning process for more locations.

Design + Implementation

- Maintain accessible boarding via platform flush with existing curb or within accessible slope tolerances.
- Support rear boarding with platforms at least 30' long.
- Provide access across bikeways by ramping bikeway up, using asphalt or modular ramps.
- Convert parking stall(s) to parklet or sidewalk extension. Maintain access to curb at existing stop.
- Mark queue lines/circles 6' / 2 m apart.
- Include wooden platforms for short term use and modular boarding bulbs or concrete curbing with asphalt filling for more durability.

Monitoring

- Key criteria: minimal rider queueing, adequate physical distancing.
- Check modular or interim boarding platforms for integrity days after implementation and/or if operators report platform friction.
- Invite feedback on design from operators, supervisors, and dispatchers.
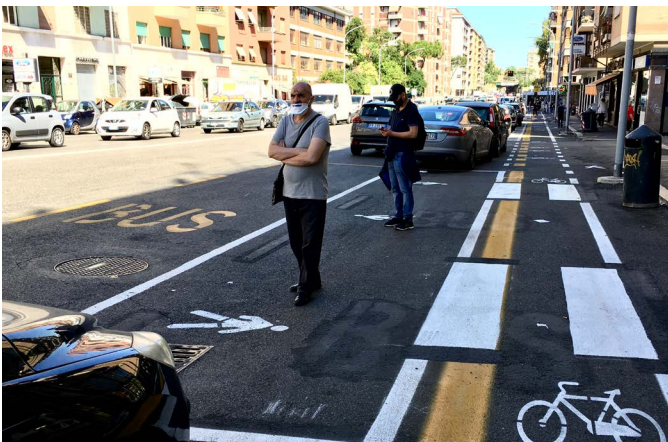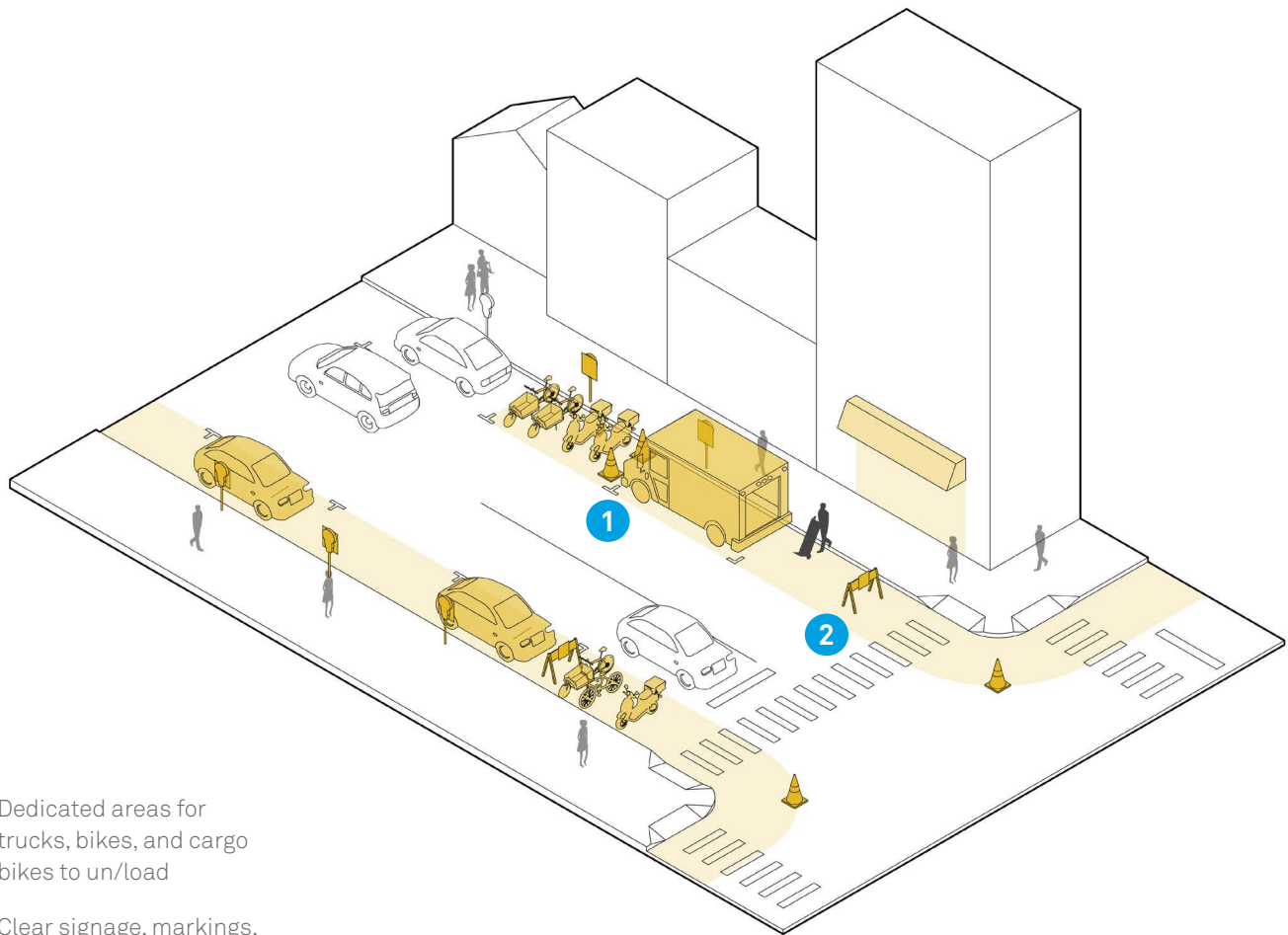

Credit: @Fab_Benvenuti

Rome, Italy

Rome implemented new temporary bus stops and a new parking protected bike lane on a major street.
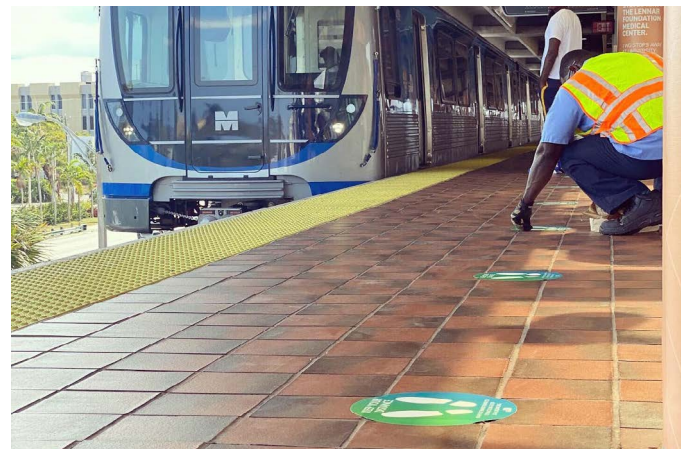
Credit: Miami-Dade Transportation & Public Works

Miami, FL, USA

Miami marked appropriate spacing for physical distancing at public transit stations.

1 Dedicated areas for trucks, bikes, and cargo bikes to un/load

2 Clear signage, markings, and protection

Convert curbside parking spaces or travel lanes to high-turnover pick-up or delivery zones serving essential businesses.

CONTEXT
- Most relevant at restaurants, laundromats, pharmacies, and other essential services.

KEY STEPS
- Use spray chalk, paint, stickers, or traffic tape, as needed to delineate space.
- Alter management and enforcement policy, and cover meters or machines.
- Set time limits (~10 minutes max.) to enable turnover/quick access to essential services.

TIMELINE: Days to plan, hours to implement.

DURATION: Days to months.

Credit: City of Raleigh

Raleigh, NC, USA

Raleigh used cones and signs to create temporary curbside pickup zones.

Planning

- Select locations that support essential services, are crowded, and/or are in areas with high infection rates.
- Commit to initial timeline and associate adjustments with public health guidance or mobility changes.
- Include maintenance and replacement of materials in budgets.

Engagement

- Notify patrons, businesses, and residents along the route using flyers and circulate notices to online networks.
- Use business associations, partners, and stakeholders to spread information and check details on the ground.
- Keep lines of communication open with emergency services and local businesses.

Design + Implementation

- De-activate or cover affected parking meters and cover parking regulation signs as needed.
- Install light separation materials (e.g. cones, saw horses, barricades) to designate space.
- Use spray chalk, paint, stickers, or traffic tape if no lane line or parking markings exist.
- Make room in roadbed to unload packages, and add bike racks as needed, to maintain a clear path for pedestrians on sidewalk.
- Create and post temporary signage to clearly communicate shifted uses and policies.

Monitoring

- Key criteria: pick-up and delivery spaces occupied by motorists and cyclists for appropriate durations of time.
- Examine interference with pedestrian areas and with street operations (e.g. double parking, emergency access).
- Check placement of equipment daily for the first few weekday and weekend days, then weekly.

Credit: Dongho Chang

Seattle, WA, USA

Seattle introduced a program to convert parking spaces near food establishments into pick-up and loading zones for customers and delivery workers.

Credit: City of Alexandria

Alexandria, VA, USA

Alexandria used temporary signage to designate pick-up zones outside food establishments, allowing customers and delivery workers to safely access businesses.
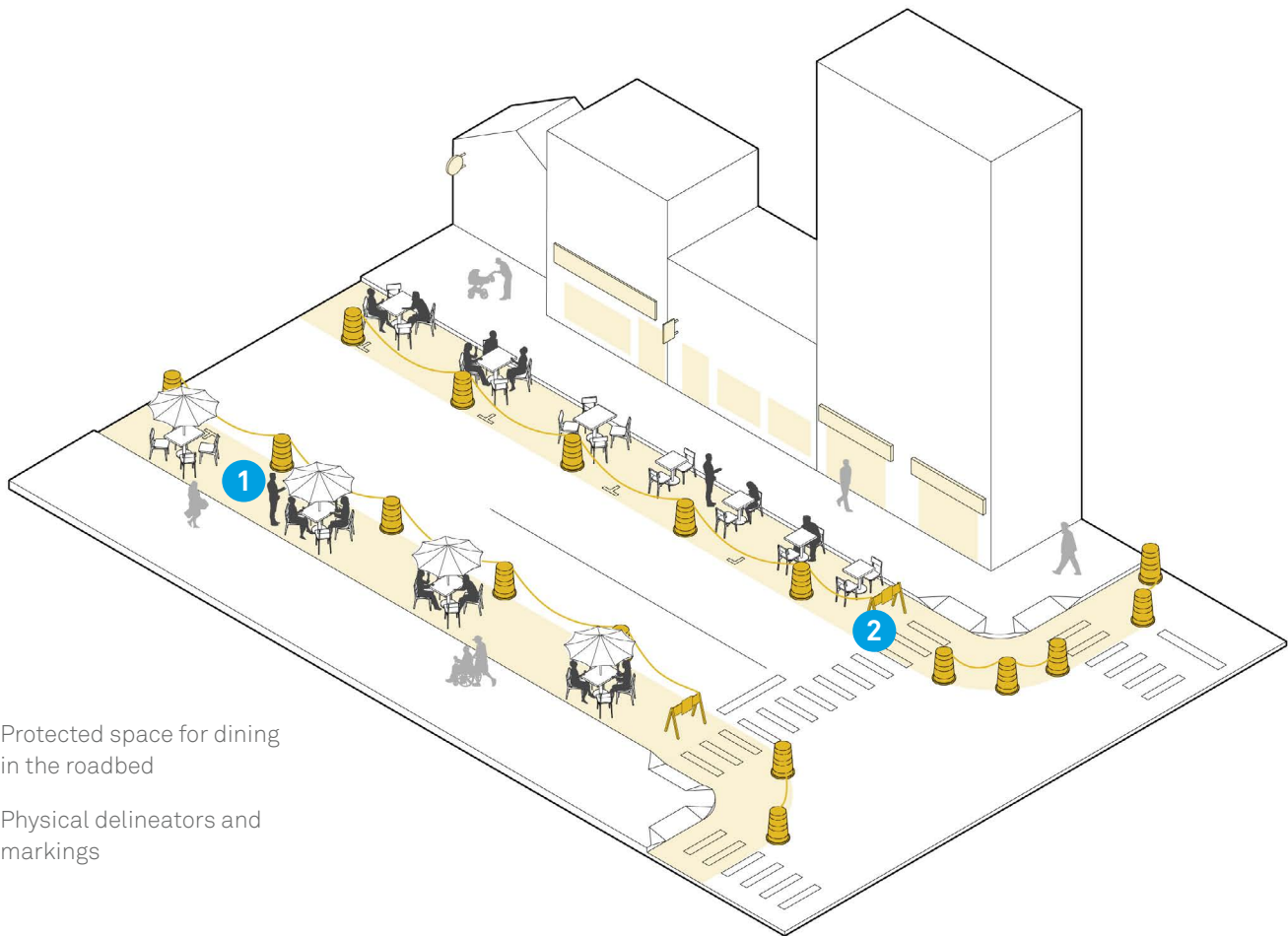
1 Protected space for dining in the roadbed

2 Physical delineators and markings

Provide space for outdoor dining so that restaurants can comply with physical distancing guidelines while resuming dine-in operations.

CONTEXT
- Where restaurants, cafes, food stalls, and/or street food vendors are clustered along several blocks.

KEY STEPS
- Identify restaurant clusters and designate 'dining street' zones.
- Waive existing permit fees for outdoor dining within preselected zones, as necessary.
- Establish clear occupancy standards (e.g. table counts) for 'dining street' zones.

TIMELINE: One week.

DURATION: Months.

Credit: Go Vilnius

Vilnius, Lithuania

Eighteen public spaces in Vilnius, including the central Cathedral Square, have been opened for outdoor cafes and restaurants to allow businesses to operate safely. More spaces are expected to open during the summer.

Planning

- Establish "street dining" zones by temporarily closing streets or lanes or repurposing parking space within emergency executive orders, as needed.
- Waive sidewalk dining permit fees; set occupancy standards and adjust ordinances that restrict pedestrian movement or active in the public right-of-way.
- Tap parking enforcement officers and public works to assist with support tasks; local associations can be asked to assist with cleaning and monitoring.
- Commit to an initial duration and hours of operation, noting any city or state "stay-at-home" restrictions that govern operations.
- If present, consider transit performance and access for essential workers before finalizing changes. Not advised for major transit routes serving essential workers or destinations.

Engagement

- Create brief form allowing businesses and street vendors to register interest, as necessary. Message an iterative approach from the outset.
- Use local business groups and BIDs, local associations, and other partnerships to publicize programs; fast-track assessment and notification within each neighborhood.
- Keep interagency communications open, especially emergency services and any cleaning or maintenance crews.

Design + Implementation

- Use heavy separation at endcap to close street to vehicle traffic, as needed.
- Use tables, chairs, and umbrellas as needed; establish guidance for storage and deployment of equipment to ensure pedestrian, bike, and vehicular access in off-hours (to maintain ample pedestrian access).
- Establish a delivery protocol for restaurants based on hours of operation, overall access.
- Measure from back-of-seat to back-of-seat when using markings to indicate distancing standards or public health guidelines.
- Maintain sidewalks clear of tables and chairs to allow ample, physically distant pedestrian movement.

Monitoring

- Key criteria: confirm table spacing according to public health guidelines; maintain clear zone for pedestrian movement.
- Survey restaurants and vendors periodically for feedback, and adjust hours of operation as needed.

Credit: NACTO-GDCI
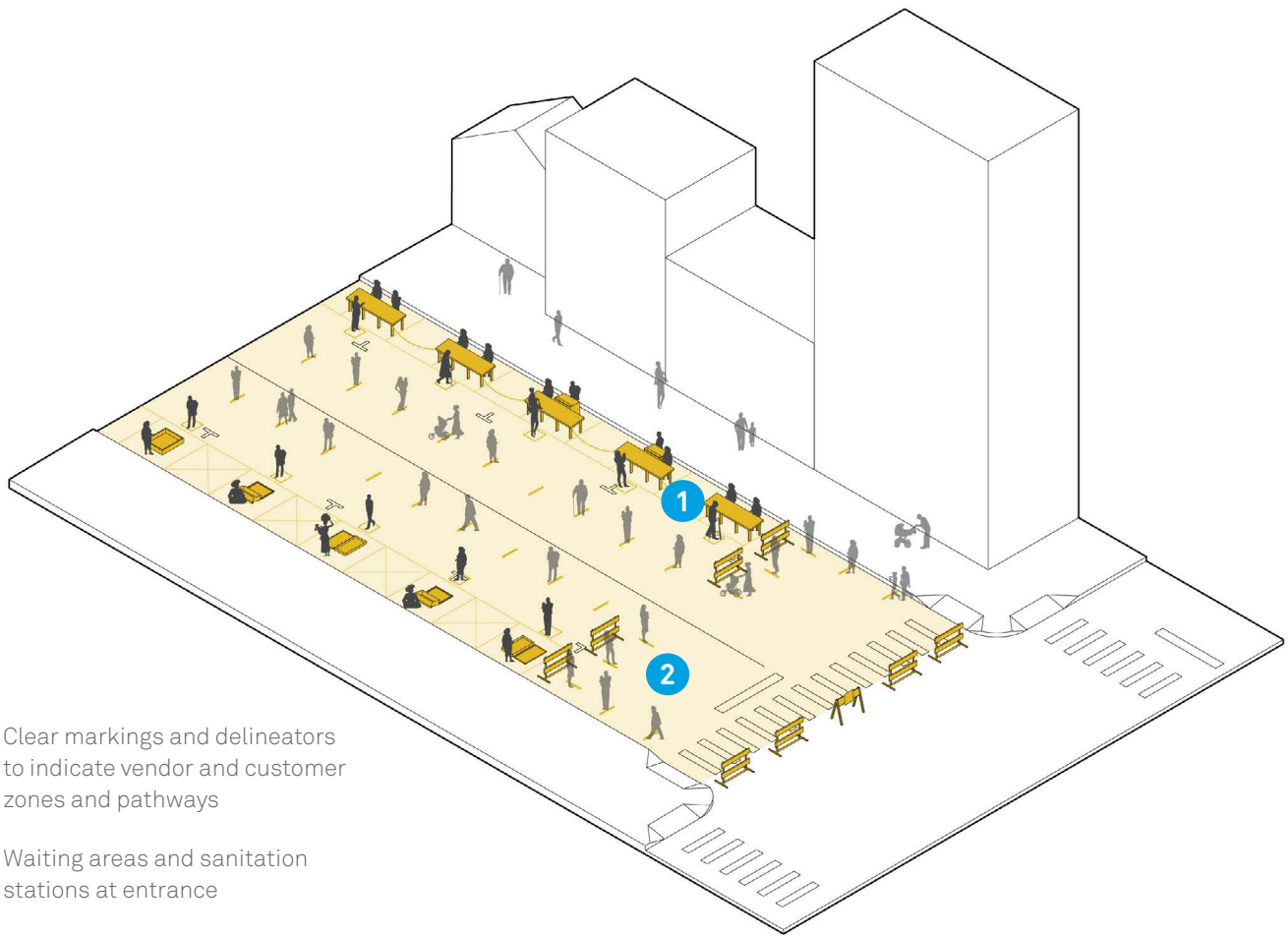
Chicago, IL, USA

Chicago's Broadway Street transformed into a public space for pedestrians, using parking lanes as outdoor seating space for restaurants.

Credit: @demescope

Milan, Italy

Milan has designated outdoor dining areas by repurposing parking spaces.

1 Clear markings and delineators to indicate vendor and customer zones and pathways

2 Waiting areas and sanitation stations at entrance

Expand market footprints into adjacent streets to relieve crowding and support physical distancing.

CONTEXT
- Streets with permanent or active open-air markets.
- Streets adjacent to market buildings or public spaces with markets.
- Periodic farmers markets.

KEY STEPS
- Allocate street space to allow markets an expanded footprint to operate with safe physical distancing.
- Alter management and enforcement policy.
- Define safe layout and spacing for vendor stalls and circulation routes based on local physical distancing guidelines.

TIMELINE: Days to plan, hours to implement.

DURATION: Hours, days, months, or permanent.

Credit: Jain Weraphong

Kalaw, Myanmar

In Kalaw, paint was used to mark vendor stall locations in the marketplace, separating vendors and allowing customers to shop safely.

Planning

- Prioritize food and essential goods markets and ensure that locations are equitably distributed across neighborhoods.
- Extend market footprint to adjacent blocks if necessary, divide vendors among different locations, or alternate vendors throughout the week.
- Assess total vendor and customer capacity based on current physical distancing guidelines.
- Amend or update permits to reflect the new operation scheme, if needed.
- Allocate space and schedules to allow for safe loading and drop-off outside market operating hours.

Engagement

- Focus on vendors and local residents and businesses.
- Use clear signage to communicate adjusted operations, including maximum capacity and physical distancing regulations, to vendors and customers.
- Rely on partners and stakeholders to spread the message and share operational tasks.

Design + Implementation

- Use barriers and signs to demarcate where market boundaries abut vehicle traffic.
- Create large signage for entrance areas. Create queuing zones at entrances for customers to use when occupancy is at capacity.
- Use paint and other ground markings to indicate locations for vendor stalls and safe circulation routes.
- Use barriers and markings (e.g tables, ropes, paint) to minimize interactions between vendors and customers and to maintain physical distances at purchase points.
- If necessary, provide facilities for hand washing and sanitation.

Monitoring

- Key criteria: ratio of customer/vendor/hour and ratio of customer/area/hour.
- Track customer counts and conduct surveys to inform updated market protocols as necessary.
- Ensure market area is cleaned and sanitized at the end of each day.

Credit: Sistema FAEG/Senar

Goiânia, Brazil

Goiânia implemented a "Safe Fairs" pilot project, encouraging open markets to operate in accordance with World Health Organization guidelines to avoid contagion.

Credit: Jason Roberts/Better Block

Dallas, TX, USA

In Dallas, local nonprofit Better Block is providing wooden fruit and vegetable racks to shuttered restaurants to allow them to sell excess inventory in outdoor grocery markets.
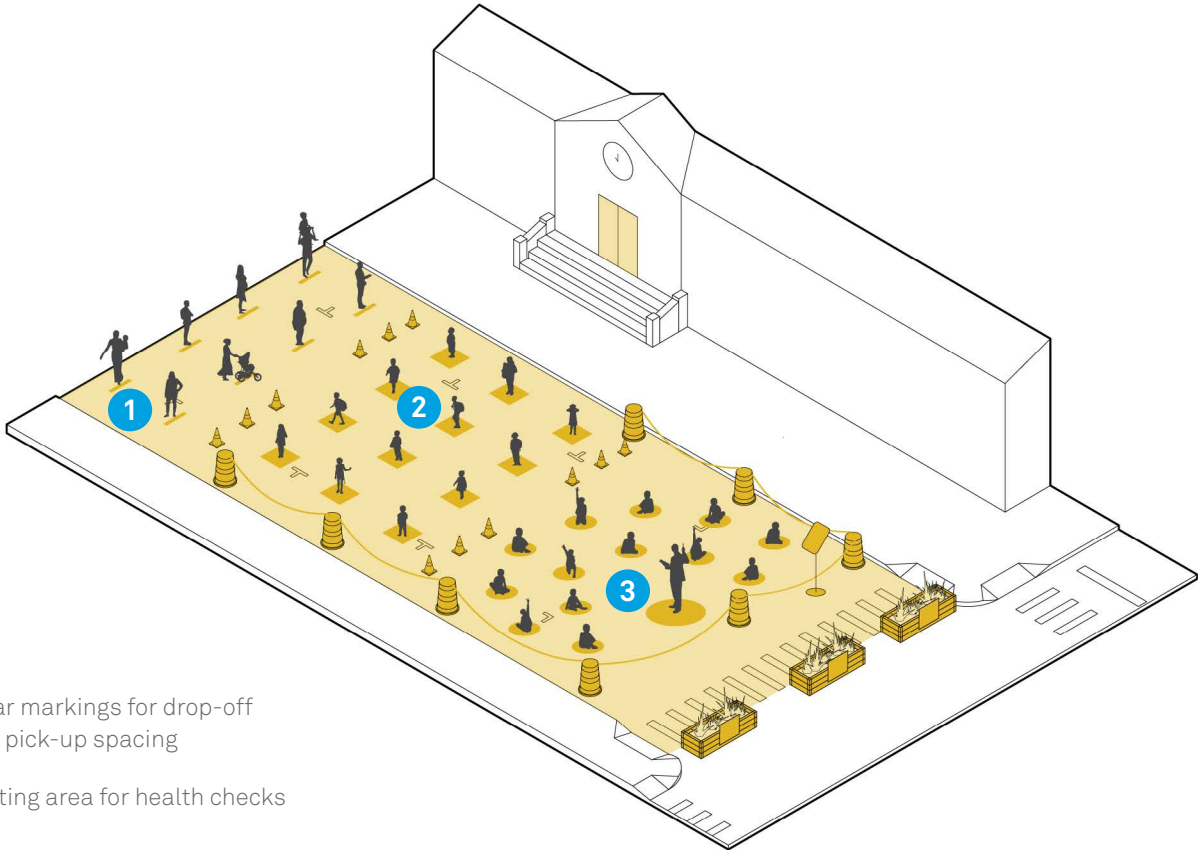
1. Clear markings for drop-off and pick-up spacing

2. Waiting area for health checks

3. Outdoor classroom and education space

Provide outdoor classroom and recreation space, and safe pick-up/drop-off and health check zones.

CONTEXT
- Streets and parking lots adjacent to schools, daycares, and facilities used by students and children.
- Streets near and around schools used as routes for walking and rolling to school.

KEY STEPS
- Provide car-free on-street space for schools and care facilities to conduct classes and hold recess and assemblies.
- Create safe routes to schools using expanded sidewalks, bike and roll lanes, safe crossings, and speed management.

TIMELINE: Days to weeks to plan, hours to implement.

DURATION: Hours, months, or long-term.

Credit: LightRocket via Getty Image

Turin, Italy

Public spaces have been transformed into learning spaces in a school garden in Turin.

Planning

- Coordinate with schools/districts to plan for outdoor facilities and access needs, such as staggered start times and pre-entry health checks.
- Prioritize schools and education/care facilities with limited space on school grounds, that will be over capacity under public health guidelines, or serve vulnerable groups.
- Develop contingency plans for extreme or inclement weather.
- Analyze impact of removing some or all travel lanes. Consider adjacent streets and bike/transit facilities to inform options and possible duration of street closure.
- Allot space for pre-entry health and temperature checks; create waiting spaces for caregivers near entrances.
- For children unable to walk or bike, improve transit options and provide sanitized school buses and vehicular access with safe waiting areas.

Engagement

- Post large, brightly colored signage to clearly indicate different zones, such as queuing, health checks, or instruction.
- Work with school and parent leadership to communicate changes to school facilities, access, and health policies.

Design + Implementation

- Fully or partially close streets adjacent to or around school facilities.
- Place physical separation at entrances to indicate restricted or limited vehicular access. Large planters can serve as barriers and incorporate nature.
- Use paint, color, and other markings on surfaces to invite play and learning at safe physical distances. Indicate locations and spacing for drop-off and pick-up.
- Place handwashing and temperature check stations outside entrances.

Monitoring

- Survey parents, children, and teachers for feedback; use this to revise and improve design and operations.
- Use temporary interventions as pilot projects for future capital construction, using both qualitative and quantitative data to inform changes.
- Assess how children commute to school, including local routes, to inform where to prioritize upgrades on adjacent streets.

Credit: @Anne_Hidalgo

Paris, France

Markings are made on streets in front of the schools to ensure physical distancing in Paris.

Credit: @CGTNOfficial

Wuhan, China

High school seniors line up to enter their school in Wuhan by following markings on the ground, and get their temperatures checked upon entry.
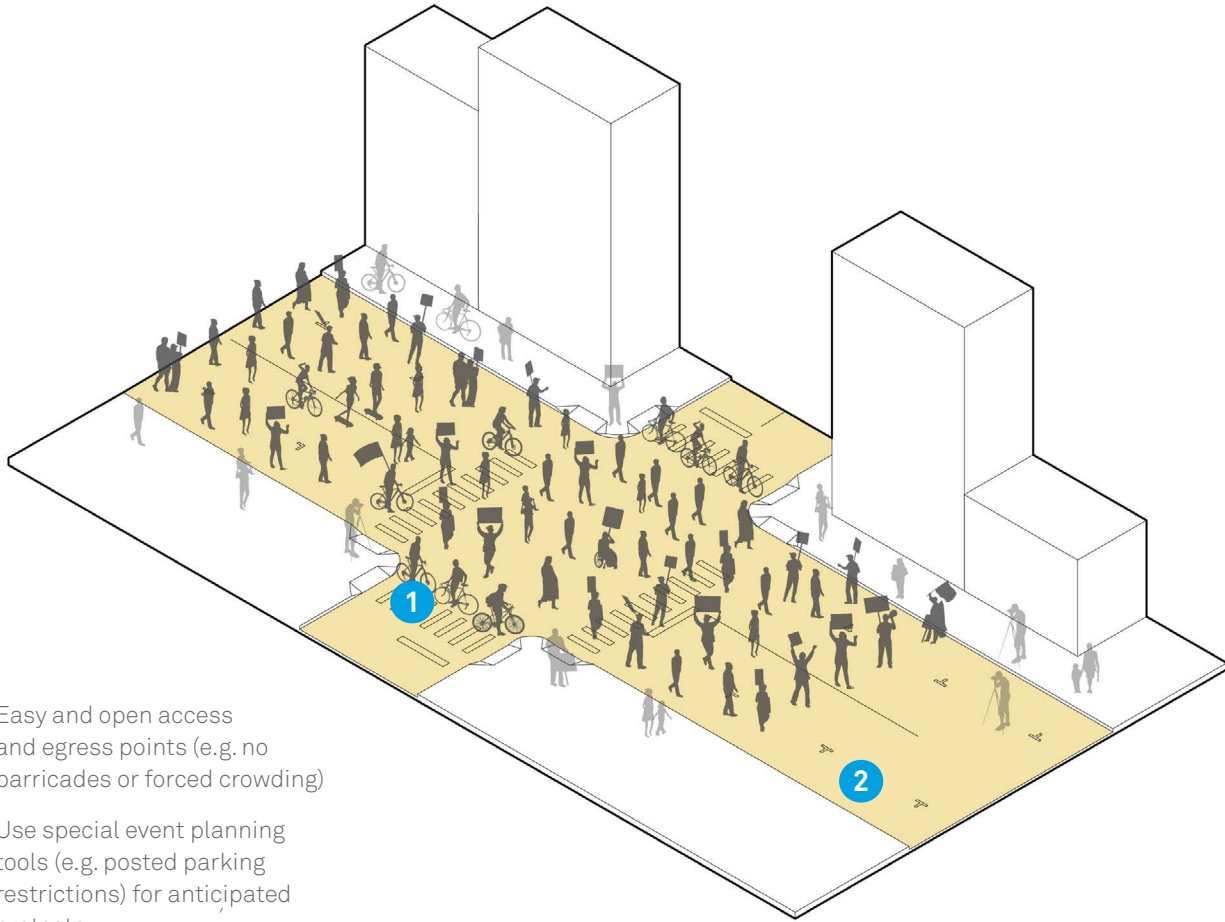
1 Easy and open access and egress points (e.g. no barricades or forced crowding)

2 Use special event planning tools (e.g. posted parking restrictions) for anticipated protests

Facilitate safe access to public spaces for demonstration and protest as a fundamental civic right.

CONTEXT

- Iconic parks, streets, and squares typically used for demonstrations or rallies.
- Decentralized in neighborhood public spaces and streets.
- Large streets and bridges; locations of community or historical significance.

TIMELINE: Hours to days.

DURATION: Days, weeks, months.

Credit: @clarendipity

Minneapolis, MN, USA

In Minneapolis, members of the community and local artists commemorate George Floyd, killed by police. Local organizations offer water and sanitizer to demonstrators and residents nearby.

Policy + Engagement

- Reaffirm the rightful role of public plazas and streets as places for protest and demonstration, even during the pandemic.
- Establish and convey clear goals for on-site management, de-escalating conflict, allowing unimpeded movement, and addressing medical/safety needs for all.
- Assure that permit/notice requirements do not criminalize spontaneous protest or people moving in the vehicular right-of-way for civic action.
- Ensure all on-site staff wear equipment consistent with public health guidance to prevent transmitting the virus, among themselves or to others in proximity.

Design Approach

- Ensure safety of protestors, medical professionals, journalists, and Legal Observers with abundant space for physical distancing.
- Maintain free movement of participants along route and at intersections, pause points, etc., to prevent bottlenecks or forcing participants into confined spaces.
- Deploy heavy materials (or fixed vehicles) in real time along march routes to prevent motor vehicle violence and conflicts.
- Consider smaller, more maneuverable EMT vehicles or perhaps sanitation vehicles, which can also serve as receptacles for debris clean-up.
- Ensure that materials or vehicles are flexible to allow safe, easy egress in case of emergency. Leave gaps to prevent pinch points or corralling.
- If protests are noticed/ongoing:
  - Pedestrianize gathering space and remove unfixed barricades.
  - Post route or station changes for transit, bike/scooter share, ride-hail, etc., to ensure options for essential workers and residents.
  - Reconfigure temporary furnishings to maintain participant safety and access.

Management Practices

- Coordinate on-site logistics through social service providers such as social workers, EMTs, or firefighters.
- Refine detour plans and update app data for affected transit routes and stations, as with other major street closures.
- Avoid crowd management strategies that imply need for detention, such as no-go zones, curfews, and designated access/egress points.
- Adjust parking requirements, providing clear information to businesses and residents.
- Revise interagency agreements and employee guidelines periodically based on agency values, common goals, and public health guidance.

Credit: @seinahpets

Seattle, WA, USA
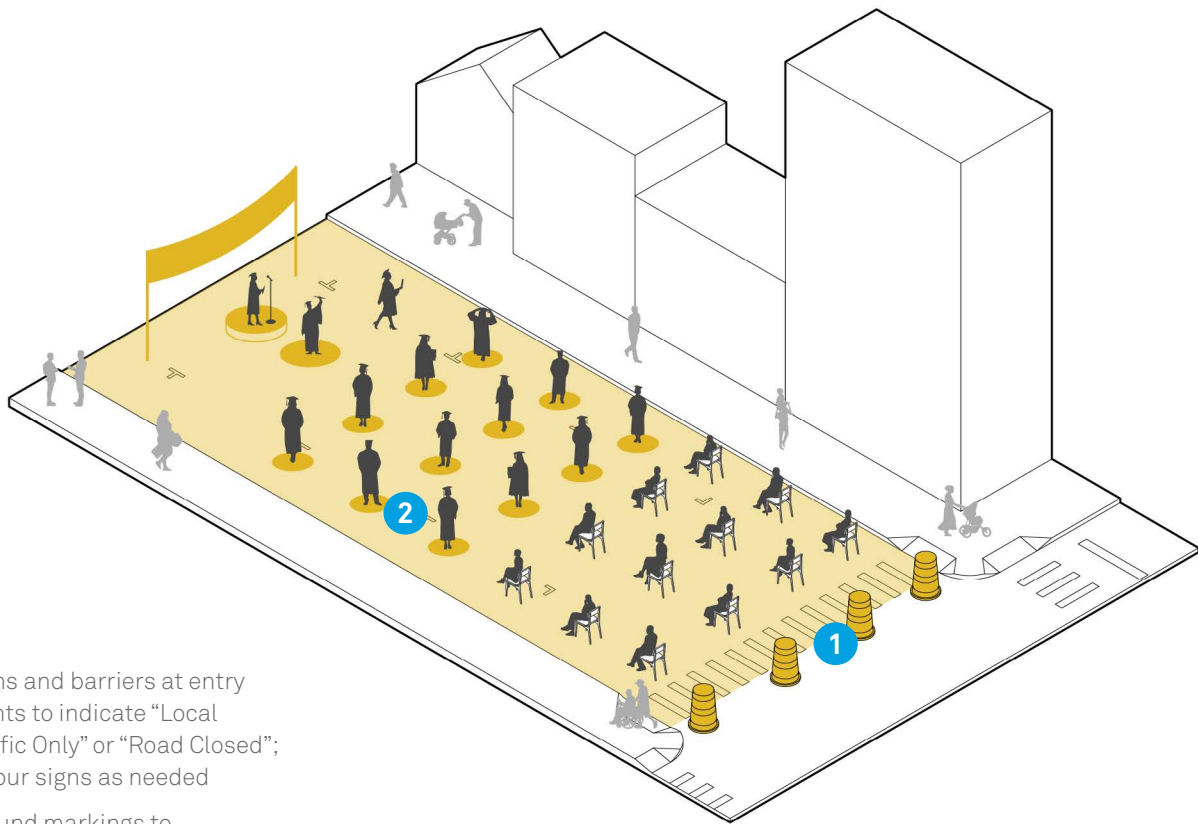
Protestors in Seattle block an intersection with their bicycles, allowing for safe movement of the group behind them.

Credit: @longfellowfilms

Kathmandu, Nepal

Protestors gather near the Prime Minister's official residence in Nepal.

1 Signs and barriers at entry points to indicate "Local Traffic Only" or "Road Closed"; detour signs as needed

2 Ground markings to indicate physical distancing requirements as needed for larger gatherings

Use full or partial street closures to provide outdoor space for cultural, religious, or civic gatherings.

CONTEXT
- Low-volume residential streets, laneways, or pedestrian streets.
- Commercial streets or other corridors with no transit.
- Multi-lane streets with low vehicular volumes
- City or organization-owned parking lots and open-air garages.

KEY STEPS
- Install temporary traffic barriers and "Local Traffic Only" or "Road Closed" signs matching closure type.
- Identify agency and local stewards to install and monitor barricades during events.
- Ensure access for essential deliveries and emergency vehicles.

TIMELINE: Days to one week.

DURATION: Hours, days, weeks.

Credit: Thierry Gouegnon/Reuters

Abidjan, Republic of Côte d'Ivoire

Muslims in the neighborhood of Adjame attend prayers to celebrate the end of Ramadan.

Planning

- Create/alter and publicize simple applications to allow cultural, religious, and civic institutions to implement closures as needed. Use applications to anticipate street management needs. Include any sanitation needs, responsibilities, and costs, per typical event management plans.
- Establish and publicize specific closure criteria including: volumes and speed, jurisdiction, availability of other outdoor space, presence of transit or bike routes, adjacent land use, frequency, time, etc. Be clear about types of institutions eligible for temporary use of streets.

Engagement

- Publicize options for closures and events via cultural groups, churches, neighborhood associations or other residential district organizations, and business groups.
- Proactively consult local arts, culture, and neighborhood event and holiday calendars to engage interested groups.
- Partner with stakeholders, advocates, and mutual aid organizations to distribute messages.
- Contact community groups to identify key obstacles or issues affecting cultural sensitivities, design, programming, or street segment selection.

Design + Implementation

- Use criteria established during planning to confirm intersections/streets to fully or partially close to vehicular traffic.
- Place light separation to partially block streets and indicate restricted use and lower speeds where partial closures are to occur (5-10 mph / 10-15 km/h).
- Use temporary "Local Traffic Only," "Road Closed," or "New Traffic Pattern Ahead" signs, which can be attached to barricades or A-frames if necessary.
- Install surface markings to delineate physical distancing (where applicable).
- Consider other materials and traffic control elements that may be responsive to the type of gathering (pick-up/drop-off zones, event staging areas, etc.).

Monitoring

- Key criteria: perform periodic "peak hour" counts and empirical observation to ensure safe physical distancing is being observed.
- Monitor and report any traffic control deficiencies (signs, barriers, etc.).
- Ensure design and operational guidance complies with overall local, state, and national health guidance and standards.
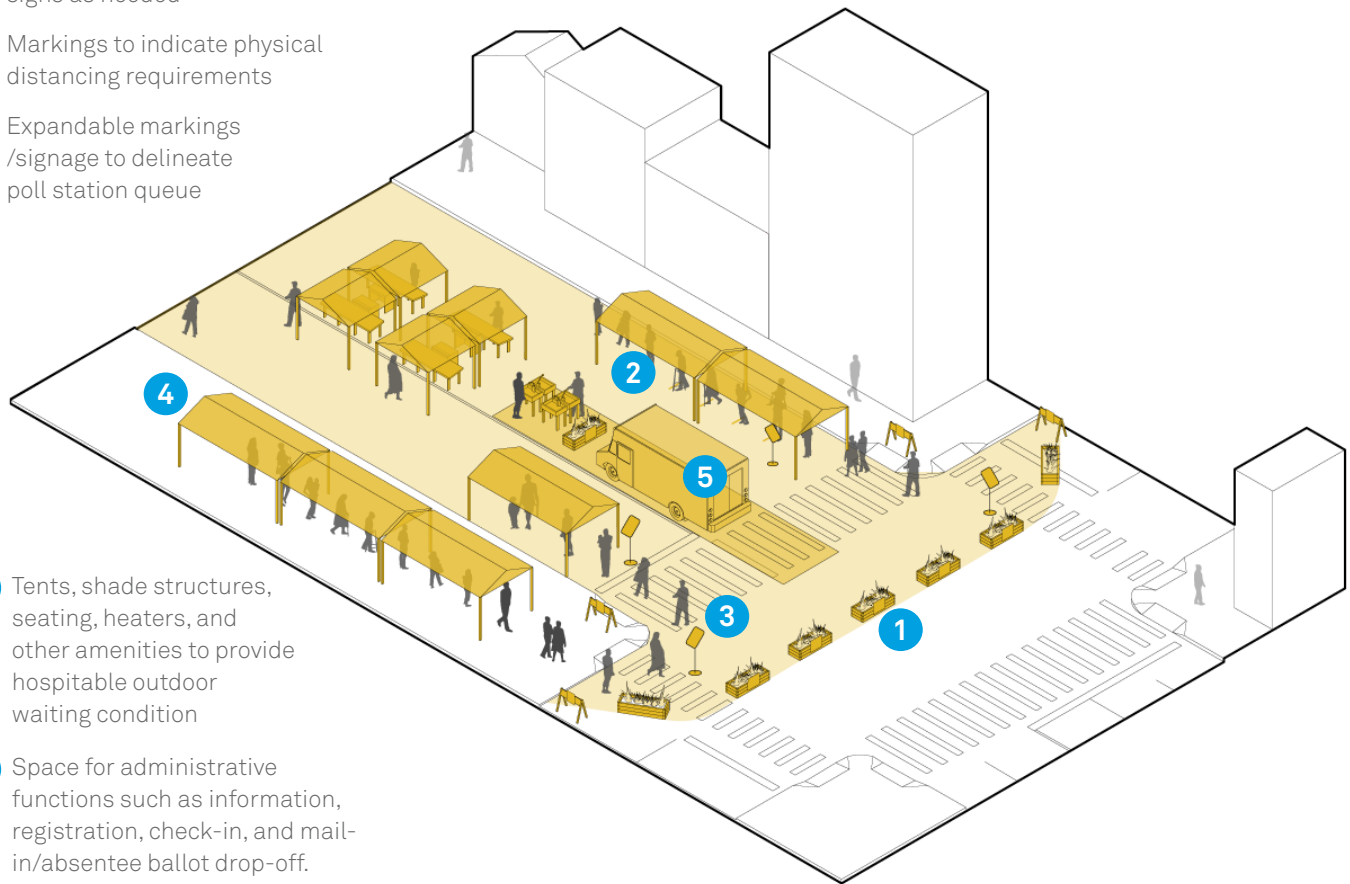

Credit: NACTO-GDCI

New York City, NY, USA

Wedding guests stand appropriate physical distances apart at an outdoor marriage ceremony while the City Marriage Bureau was closed.

Credit: Michael Cavazos / News-Journal Photos

Longview, TX, USA

St. Mary's Catholic School class of 2020 graduated its seven seniors in a limited ceremony.

STREETS FOR VOTING

1. Signs and barriers at entry points indicate "Road Closed"; detour signs as needed

2. Markings to indicate physical distancing requirements

3. Expandable markings /signage to delineate poll station queue

4. Tents, shade structures, seating, heaters, and other amenities to provide hospitable outdoor waiting condition

5. Space for administrative functions such as information, registration, check-in, and mail-in/absentee ballot drop-off.

Use street closures and open spaces to enable distancing during election activities.

CONTEXT
- Streets without transit service that are adjacent to polling locations
- Poll location parking lots (schools, libraries, city halls, municipal lots etc.)
- Parks, playgrounds, or other public spaces adjacent to poll locations

KEY STEPS
- Install temporary traffic barriers, and signs.
- Identify agency and election volunteers to install and manage barricades / queuing activity.
- Provide amenities such as shade/shelter/heating as needed
- Ensure access for emergency vehicles.

TIMELINE: Weeks

DURATION: One day to weeks, depending on local voting regulations, eg early voting, drop-off, etc.

Credit: Genie Godula

Paris, France

Plazas and public spaces are already being used to extend socially distant queuing areas, such as this Paris schoolyard.

Planning

- Partner with local election boards/departments and relevant city agencies to develop location prioritization and site plan criteria that includes sanitation, disabled access, weather protection, signage, etc. for voters, poll workers, and elections observers.
- Estimate maximum turnout to determine space needs; depending on context, identify overflow locations for walk/bike &/or drive-up voters.
- Identify which aspects of the voting process (eg registration, queuing, filing ballots, dropoffs, etc) can be accomodated outside and which require electricity and/or indoor facilities.
- Allocate staging space and align staffing schedules to allow for safe loading and drop-offs; separate parking areas from voters queuing on foot.
- Consider additional access and safety improvements, including Safe Crossings, Pick-Up & Delivery Zones, Sidewalk Extensions, Transit Stops & Access, and Critical Services.

Engagement

- Develop an expansive communication plan to broadly publicize pandemic polling protocols and election-day amenities offered. Partner with cultural groups, nonpartisan civic associations, schools, etc to publicize options and logistics.
- Station polling 'ambassadors' throughout the queue to answer questions, field concerns etc.
- Contact community groups to identify key obstacles or issues affecting design, programming, or street segment selection.

Design + Implementation

- Use temporary "Local Traffic Only," "Road Closed," or "New Traffic Pattern Ahead" signs, which can be attached to barricades or A-frames if necessary.
- Install removable surface markings and/or cones and signs to delineate physical distancing; provide sanitation stations throughout the site (bathrooms, voting machines, etc.)
- Ensure that queue markers can be easily expanded in real-time to ensure that everyone on line is able to vote, even after polls close.
- Where partial or full street closures prove difficult, utilize sidewalks, parking lanes, parking lots, or other open spaces adjacent to polling stations for queuing.
- Consider a range of possible weather conditions and plan election day infrastructure for voters, poll workers, and election observers.
- Use temporary signage, in multiple languages as needed, to communicate estimated wait time and queuing, voting, and sanitation protocols.

Monitoring

- Ensure design and operational guidance complies with overall local, state, and national health and election laws and standards.

Credit: P.E. Jemming

Burlington County, NJ, USA

Burlington ballot drop boxes are clearly marked in multiple languages, accessible to pedestrians and drivers.

Credit: Sanika Bhargaw

Madison, WI, USA

Madison's mobile libraries double as voter registration and ballot drop-off site.