

Streets for Pandemic Response & Recovery



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.

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Chair, National Association of City
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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.

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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.

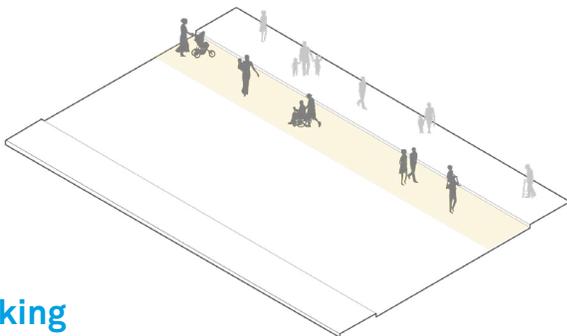
But, as COVID-19 has made clear, our streets support more than just movement. Around the world, streets are providing space so people can safely **access food and essential services**. Our streets provide places for queuing outside grocery stores, markets, and essential businesses. As restrictions are 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.

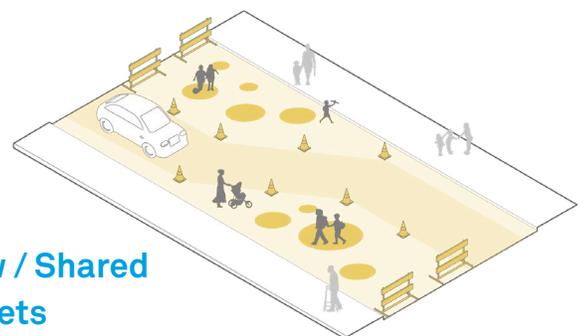
Our streets are key to our mental, physical, and immunological **health**. In cities across the globe, streets are places for essential outdoor respite for people without yards or balconies. Streets are fundamental tools in a risk-reduction public health approach that creates space for people to exercise 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.

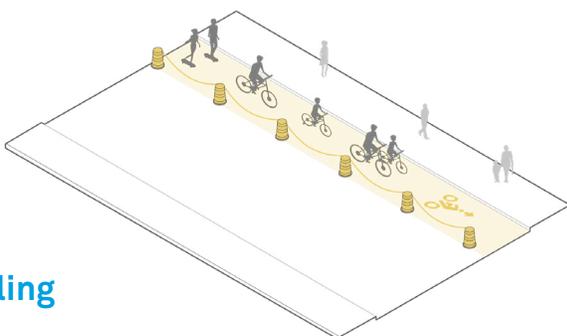
The streets and cities we see on the other side of the pandemic will be different from the ones we knew a few short months ago. As city and transportation leaders, our job is not to return to the inequitable, dangerous, unsustainable patterns of the past, but to help shape a better future. The streets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



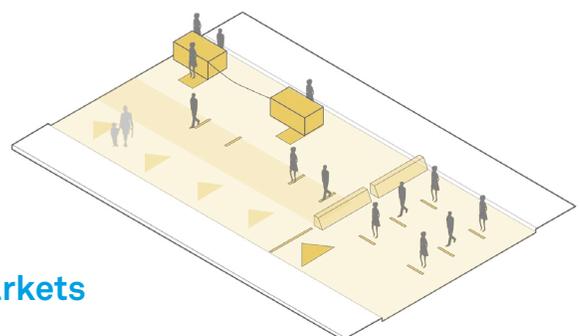
Walking



Slow / Shared Streets

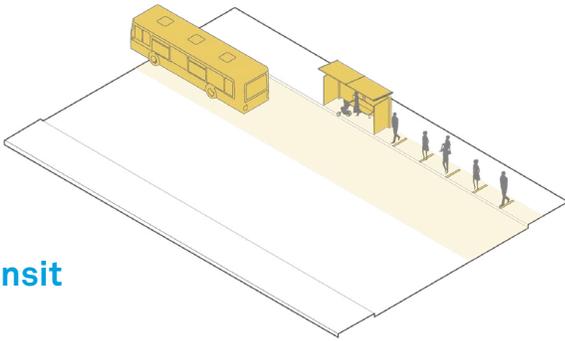


Cycling

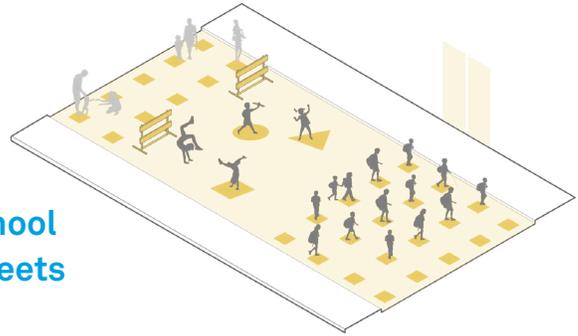


Markets

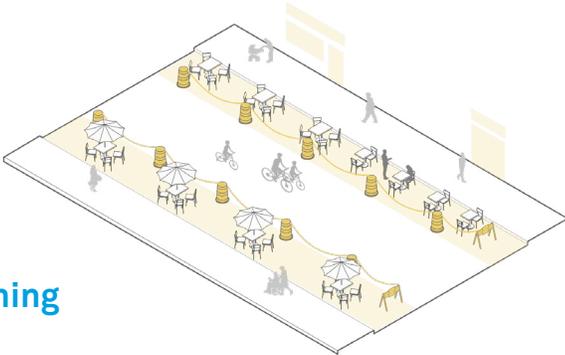
Transit



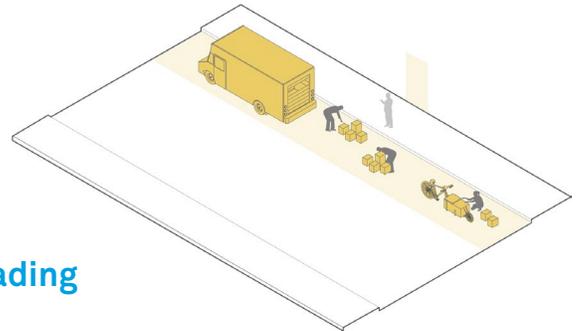
School Streets



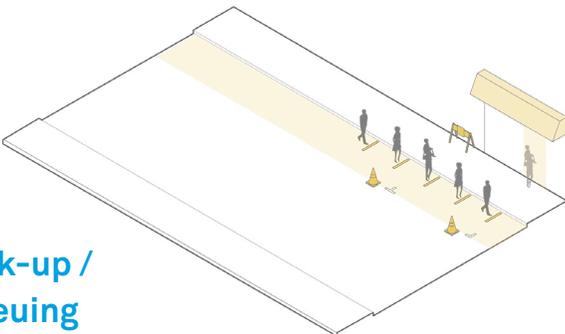
Dining



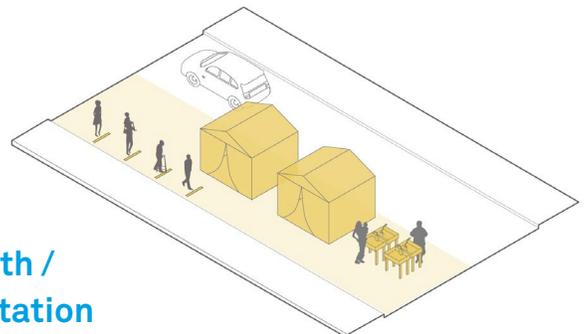
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**Pick-up /
Queuing**



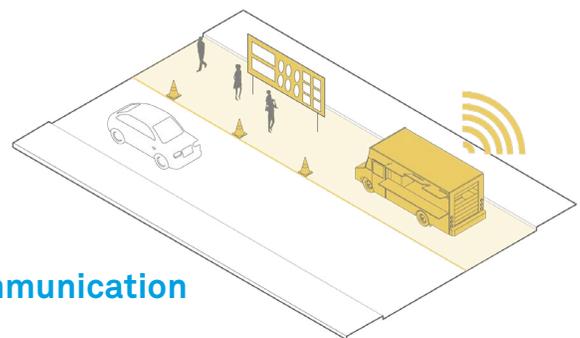
**Health /
Sanitation**



**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,

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	<ul style="list-style-type: none"> • “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 	<ul style="list-style-type: none"> • sidewalk expansions for queuing, outdoor markets, & access • pop-up bike and roll lanes • temporary pick-up/drop-off delivery zones 	<ul style="list-style-type: none"> • sidewalk expansions for access & queuing • temporary pick-up/drop-off zones • shorten signal cycles • put pedestrian signals on recall 	<ul style="list-style-type: none"> • street closures to vehicular traffic, for medical services, recreation, markets, etc.
Pre-vaccine re-opening	<ul style="list-style-type: none"> • local-access only treatments • lane removal/street closures for schools & religious/cultural service providers 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • speed management (e.g. speed limit changes & geometry) • play streets, slow streets, and local-access-only policies & design 	<ul style="list-style-type: none"> • sidewalk widenings • speed management (e.g. speed limit changes & geometry) • expanded bike lanes & bike/shared micromobility parking zones 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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.

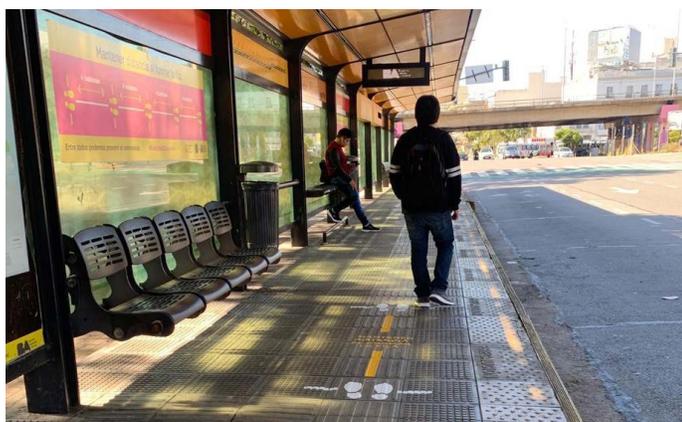


Berlin, Germany

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 networks, 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