

Policies on Required Use of Masks to prevent the spread of COVID-19: An Updated Nationwide Review ¹

Date: July 1, 2021

(With new map & CDC & Biden
federal updates)

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OVERVIEW: The use of cloth face coverings or face masks has been one of the central issues and tools in the global fight to prevent the spread of COVID-19. This has been a simple, low cost or no-cost action that virtually any individual can take.

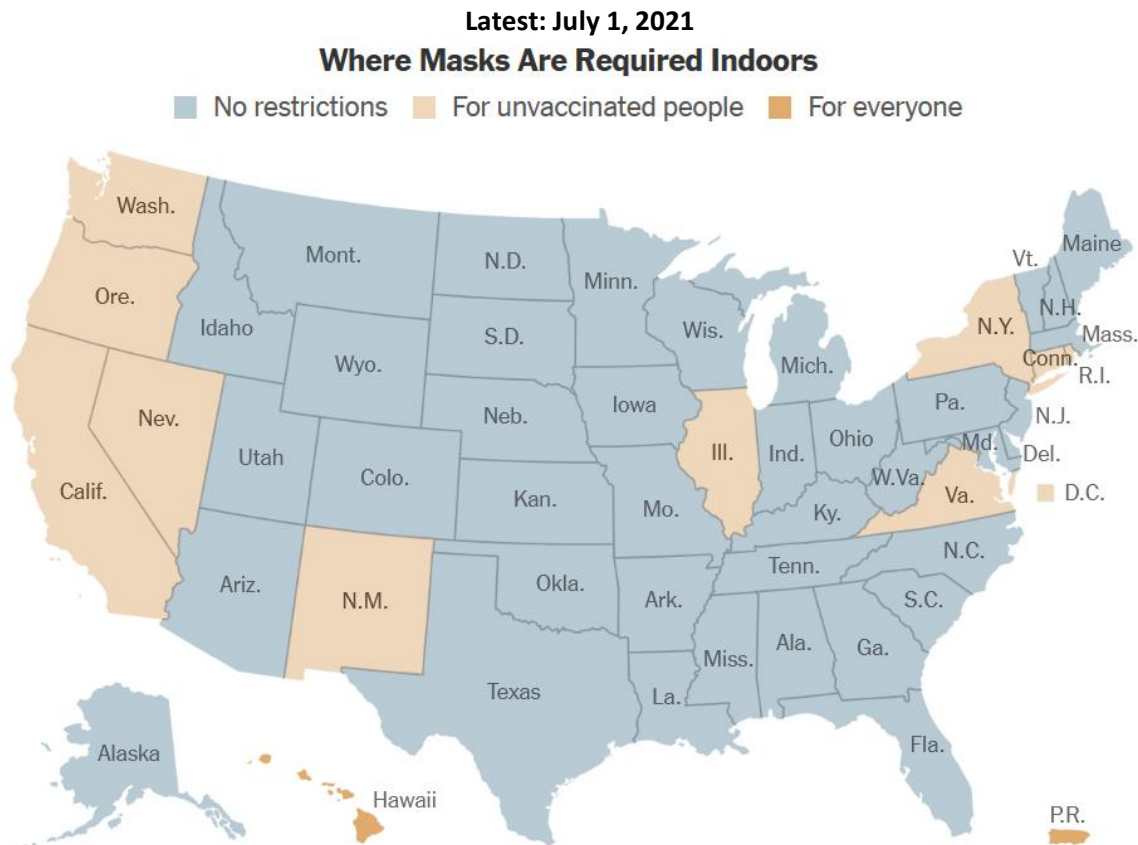


Colorado Governor Polis announced 2020 face covering policies

Fast-changing rules and guidelines

For 2020, and now 2021, state, local and federal government agencies have issued numerous binding executive orders, and even more non-binding recommendations, guidelines and advice.

This report was designed as a review of latest available [data on states and other jurisdictions](#) that moved to **mandatory or required uses**. The **map below on page 1** is the most up-to-date visual summary. As of late June only Hawaii, plus Puerto Rico still retained broad required mask regulations. California lifted such statewide restrictions June 15.



Note: Masks may be required indoors for everyone in certain settings.

(Excerpt) See pages 2-16 online for a history and chronology of the previous state-based mask requirements. Use links for state and local descriptions posted through May 2021.

> [“Masks Do Work:” New Evidence and Examples for Broad and Required Public Use of Masks](#) - latest medical science data, designed and compiled for policymakers. (April 2021 edition with integrated reports, 46 pages)

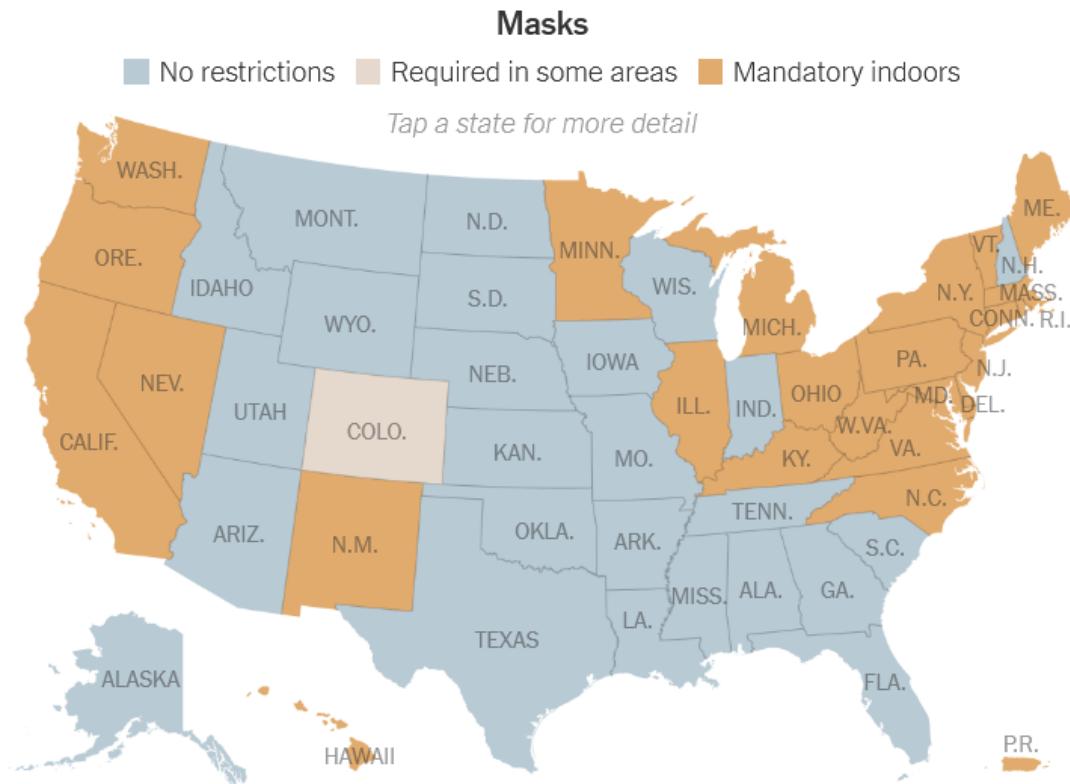
Policies on Required Use of Masks for COVID-19: A Nationwide Chronology and Review, May 2020 to May 2021 ³

As of December 2020, more than 40 states had COVID mask requirements. By May 1, 2021, 25 states summarized policies as “no restrictions” while 24 summarized as “mandatory indoors.”

The lists below (pp 3-9) include links to sources and citations, but this document itself is not intended as legal or medical advice. Some mandatory use plans have varied expiration dates. or may be [rescinded](#) due to opposition. Because all policies are subject to change, sometimes on short notice, readers should note listed dates and also rely on source web links to identify future updates.

Historical Map of Required Use of Masks

Adopted from NGA and New York Times graphics ([Link](#); snapshot Update: **May 1, 2021**)



Recent History (January-April 2021)

On April 27, 2021, the CDC issued new nationwide guidelines that effectively superseded earlier state and local orders requiring masks in indoor and/or outdoor settings. This report does not attempt to reconcile the legal status in such jurisdictions. Use state agency links provide below for breaking news or updated policies.

On Feb. 10, 2021 the CDC released [a report](#) and [updated guidance](#) highlighting that two methods substantially boost fit and protection:

- One is wearing a two-part mask, using a cloth mask over a disposable surgical mask.
- The second is improving the fit of a single surgical mask by knotting the ear loops and tucking in the sides close to the face to prevent air from leaking out around the edges and to form a closer fit.

Both of those methods reduced exposure to potentially infectious aerosols by more than 95 percent in a laboratory experiment using dummies.

Previously in November, the CDC officially [recommended use](#) of such masks, now reenforced and expanded by the incoming Biden Administration (Jan. 21, 2021). As widely agreed, masks can prevent person-to-person COVID infections and literally save lives in any local or neighborhood setting, worldwide. The device can be a simple manufactured or do-it-yourself one, using age-old, low-tech cloth material (including multilayer cloth or as a fallback, a temporary cotton bandana or scarf.) With commercially sewn or home-made face coverings now encouraged worldwide (often free or costing a few dollars), billions of people globally can protect themselves. ¹

> Read more about the science, scarcity and economics of face coverings, p. 10 and sources, p. 11-12.

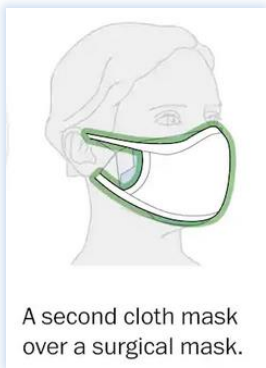
THE BIDEN FEDERAL INITIATIVE. Beginning Inauguration Week, on January 21, 2021, President Biden issued both binding requirements and expanded guidelines affecting broad use of face masks. The report states:

“Implement masking nationwide by working with governors, mayors, and the American people.

*The President has asked the American people to do what they do best: step up in a time of crisis and wear masks. He has issued an **Executive Order Protecting the Federal Workforce and Requiring Mask-wearing** which directs compliance with CDC guidance on masking and physical distancing:*

- *in federal buildings, on federal lands, and by federal employees and contractors.*
- *Additionally, the President will issue Executive Order Promoting COVID-19 Safety in Domestic and International Travel which directs applicable agencies take immediate action to require mask-wearing on many airplanes, trains, and certain other forms of public transportation in the United States.*
- *Develop options for expanding public health measures for domestic and international land and sea travel.*
- *He has called on governors, public health officials, mayors, business leaders, and others to implement masking, physical distancing, and other CDC public measures to control COVID-19.”*

(Excerpt from “[National Strategy for the COVID-19 Response and Pandemic Preparedness](#),” posted by The White House, 1/21/2021) ⁴



A second cloth mask over a surgical mask.

STATES AND LOCALS FIRST IN THE LEAD: In the U.S., as of mid-January 2021 there were at least 45 states and territories, as well as local and regional jurisdictions, that had acted on the medically indicated need to make mask/face covering use a mandatory, legal requirement, not just a recommendation. Evolved over a 10-month period, about 35 states’ orders were broadly aimed at protecting individuals in public settings and/or employees in public-use buildings. Others focused or limited to certain specified employees or professions. One calculation shows that by August 2020 about 285 million or 85 percent of the nation’s population were in states and/or local areas with such orders. ^v Of these, 251 million (or 75 percent) were covered by statewide orders. ⁵ Another 34 million were counties and cities with mainly local mandatory orders. Exemptions by age and health, plus uncounted travelers, make actual totals vary. For 2021, note that three states have rescinded required use.

These differences became more distinct and urgent with the phased reopening of businesses and federal, state and local orders allowing indoor dining and group gatherings. For these next phases, the broader, near-universal use of masks in “appropriate settings” is seen as a low-cost tool that supports community interaction and freedom of movement. Compared to lockdowns and “stay-at-home” orders, required masks, combined with required 6-foot social distancing and handwashing became the three tools that allow businesses and recreation to reopen more safely. Some states added enforcement and even fines for non-compliance. ⁶

STATES: Mandated Masks/Cloth Face Coverings in Public

RECENT CHANGES & NEWS:

Established: Federal Executive Order ([Jan. 21, 2021](#)). Utah ([Nov. 14, 2020](#)), and West Virginia ([Nov. 17, 2020](#)) governors each established a broad required use of masks order for the first time or expanded earlier limited requirements.

Expired: Mandatory mask orders expired in Louisiana (May 2, 2021) Arkansas ([March 30, 2021](#)), Arizona ([Mar. 25, 2021](#)),

Wyoming ([March 16, 2021](#)), Texas ([Mar. 10, 2021](#)), Mississippi (March 2), Iowa ([Feb 2](#)), North Dakota ([Jan. 18](#)), Iowa ([Feb. 5](#)) and Montana ([Feb. 12](#)). California expired June 15, 2021.

> [“Masks Do Work:” New Evidence and Examples for Broad and Required Public Use of Masks](#) - latest medical science data, designed and compiled for policymakers. (April 2021 edition with integrated reports, 46 pages)

> [“Masks Work, an interactive graphic](#) (Oct 31, NY Times)

> Special mask requirements only for schools are not tallied in this report.

Updates added 5/2/2021 [Examples in Detail](#) ^{7, 8}

Date notations, such as (Jan. 2021) and *-updated-* indicate policies implemented for next phases related to reopening public space and facilities.⁹ Use links or local sources to determine exact or proposed end dates, which may be extended or canceled. Also see list of related actions summarized by The Washington Post¹⁰ and New York Times.¹¹ Summary descriptions are for general information, and are not intended as medical, travel or legal advice. This table integrates author research, National Governors Association (NGA)¹², ASTHO¹⁰, Masks4All¹³, AARP¹⁴, AMA, and a university-based collaboration that measures 30 policy or legal actions by states. This report only covers face masks and cloth coverings.^{15*} Excerpts accessed regularly 4/28/20 – 2/1/2021. Some dates reflect historical key steps, not latest policy. For legal text, links and details, see pp. 3-9. The category “essential businesses” now also includes individuals or employees in public-facing businesses, with exceptions for safety and medical conditions.¹⁶ Special requirements for schools are not tallied in this report.

State/Local ¹⁷	General descriptions (<i>Italics</i> indicates actual text excerpts as approved)
Alabama (also city/county) <i>-updated Jan. 2021-</i>	Gov. Kay Ivey issued an order, July 15, extended to Jan 22: requires people statewide to wear masks in public settings (indoor space, transportation service vehicles, outdoor public space where 10 or more people are gathered). • City of Birmingham and Jefferson Co. (June 29): require all individuals over two to use a face covering or mask in public places. (April 28, 2020)
Alaska	All mandatory orders rescinded; <u>changed</u> to “recommended” in Reopen plan (May 22, 2020) “ Reopen Alaska Responsibly ” 4/24/2020; Mandatory for visitors and employees in retail, restaurants, businesses and personal services. (May 7, 2020; phase 4)
Arizona <i>-updated Mar. 2021-</i>	Executive Order #2021-06 by Gov. Ducey lifts local mask mandates, starting March 25, 2021. Previously, eliminated mandatory language; bans local orders that contradict (May 12, 2020). Masks required only for <u>employees</u> of barbers/cosmetologists and all at gyms. Also in 2020: Gov. Ducey announced local governments could put in effect required face-covering rules – as requested by Casa Grande, Chandler, Flagstaff, Gilbert, Glendale, Mesa, Phoenix/Maricopa County (June 20), San Luis, Tempe, Tolleson, and Tucson .
Arkansas <i>-updated April. 2021-</i>	Statewide order by Gov. Hutchinson expired; replaced by recommended Face Coverings Guidance effective April 1, 2021. Previously, mandatory order 20-53 as of July 20, 2020; Cities and towns authorized by Order 20-41 to establish mandatory mask orders. (announced July 3). <i>Included</i> essential business employees and patrons while on premises; gyms & fitness ; personal services ; theaters, gatherings “ <i>shall wear a face covering.</i> ”
California (also Major cities and counties) <i>-updated Jan. 2021-</i>	Mandatory for public, per Gov. Newsom statewide order (June 18, ongoing). Excerpt: “ <i>People in California must wear face coverings when they are in the high-risk situations listed below: • Inside of, or in line to enter, any indoor public space; 1 • Obtaining services from the healthcare sector in settings including, ... a hospital, pharmacy, medical clinic, laboratory, physician or dental office, veterinary clinic, or blood bank; 2 • Waiting for or riding on public transportation or paratransit or while in a taxi, private car service, or ride-sharing vehicle; • Engaged in work, whether at the workplace or performing work off-site, when: • Interacting in-person with any member of the public; ...</i> ” April order covered only essential business employees . At least 20 counties and cities: Los Angeles effective April 10, 2020, <u>residents must wear a mask, bandana or other type</u> of covering over their noses and mouths when in grocery stores and other essential businesses. Workers at most essential and other businesses must wear face coverings,

	<p>which business owners must either provide or reimburse workers for buying. Additional communities: include counties of Alameda, Contra Costa, Marin, Riverside (\$1,000 fine), San Bernardino (\$1,000 fine), San Mateo, Santa Cruz, Sonoma and Yolo; also <i>cities</i> of Buena Park, Burbank, Costa Mesa, Fremont, Inglewood, Irvine, Long Beach, Pasadena, Pleasant Hill and San Francisco.</p>
<p>**Colorado -updated May 2021-</p>	<p>A mandatory mask-wearing requirement for Colorado first went into effect in July 2020 and recently was amended in Executive Order D 2021 095 on May 2, 2021. The updated Executive Order continued to require mask-wearing for all counties in schools (including extracurricular activities), child care centers, indoor children's camps, public-facing state government facilities, emergency medical and other healthcare settings, personal services and limited healthcare settings as defined by Public Health Order (PHO) 20-36, congregate care facilities, prisons, and jails.</p> <ul style="list-style-type: none"> • In counties with higher incidence rates, over 35 per 100,000 -- masks must also be worn in public indoor settings where 10 or more unvaccinated individuals or individuals of unknown vaccination status are present. • Individuals are permitted to remove their masks in public indoor spaces if 80% of the individuals in the space have shown proof of vaccination, even if there are 10 or more unvaccinated individuals in the space. The full guidance is summarized by Colorado for download, 5/2/2021
	<p>Local Public Health Orders in Place</p> <p>No Public Health Orders in Place</p> <p>★ Enforcing Local Public Health Orders</p>
C O L O R A D O	<p>For local health jurisdictions & activities: see Colorado Association of Local Public Health Officials (CALPHO); Note that <u>earlier local orders may suspended if duplicative or contradictory with the updated state order</u>. See Local orders and variances:</p>
	<p>Aspen -updated-</p> <p>Public health order requires face coverings inside businesses and outdoors, for ages 2 and above. Effective April 29-extended Nov. 4 (AP news article)</p>
	<p>Adams & Arapahoe Co's</p> <p>New required mask order by county officials (adopted July 8- for 90 days). Douglas County withdrew (Post news for 7/9/2020)) Mask compliance survey (51% to 95%, reported 8/16/2020)</p>
	<p>Boulder County & cities</p> <p>(Boulder County order: May 9; extended indefinitely "requiring face coverings for every person older than 12 years old whenever in public anywhere in Boulder County that social distancing of six feet cannot be maintained." Boulder City Council voted on emergency order 2020-15, requiring face coverings for customers and employees inside businesses; and extending "stay-at-home" provisions through May 8. Louisville mask order. (May 7-June 5); Lafayette; Erie (reviewed Oct. 6)</p>
	<p>Denver -updated April 2021</p> <p>Public health orders require "all individuals three (3) years of age or older must wear a face covering over their nose and mouth when entering, inside, or moving within any Public Indoor Space" and while inside of, or waiting in line to enter, businesses, facilities or... retail stores, bus stops or health care facilities. Violations "may also be subject to a civil penalty of up to \$999." Extended April 2021.</p>
	<p>Durango</p> <p>Mandatory order</p>
	<p>Edgewater</p> <p>City Ordinance 2020-08 "Face Coverings are required within (all) businesses" open to the public that have signs that state masks are required., (Extended June 23-no expiration date.)</p>
	<p>Ft. Collins</p> <p>(also Westminster, Northglenn, Englewood, and Fort Collins.) City public health order requires masks in "Any enclosed area, including retail and commercial businesses or on-site service providers, to which the public is invited or (with) workers, including volunteers." (June 1; Extended indefinitely) MSN news</p>
	<p>Glenwood Springs</p> <p>Glenwood Springs Public health order (No. 2 of 2020) requires face coverings for people "when entering and while inside of a place or conveyance open to the public and other public indoor or outdoor places" Extended June 5.</p>

L O R A D O	I-70 corridor and area	Masks required in Avon (Order) Basalt, Carbondale, Gunnison Co. (April 2020 until vaccine is available); Pitkin Co. Order & Guidance (2021) , Winter Park (Order)
	Jefferson Co.	Jeffco Order 20-008 requires mask when outside of a private residence, including indoor and outdoor spaces (effective July 24; no expiration date)
	Larimer Co.	County order : “Businesses can choose to require face coverings for customers, or to implement approved alternative controls” (May 16; no expiration date). Previous: public health order : “Business employees and clients/customers must wear face covers at all times when in the business.” -May 15);
	Lone Tree	Lone Tree’s mask order . For people “inside any indoor retail establishment” (May 8-26, 2020)
	Routt County	Order required all people entering businesses to wear face coverings. (April 10-)
	Summit Co.	Public health order “Individuals must wear face coverings that cover nose and mouth whenever in indoor areas open to the general public or outdoors.” (May 7-June 30, 2020, unless extended, rescinded or amended)
	Superior	Town of Superior requires all people to wear cloth face coverings whenever entering local businesses (May 4)
	Wheat Ridge	(Expired; see statewide order) City Resolution #30 , anyone entering a business...“ Effective April 27-May 30,
Connecticut <i>-updated Jan. 2021-</i>		Mandatory effective April 20, Extended through Feb. 14, 2021: Governor Ned Lamont’s Executive Order 7BB for state mask requirement applies to “any person in a public place in Connecticut who is unable to or does not maintain a safe social distance (6 ft.) <u>shall</u> cover their mouth and nose with a mask or cloth face-covering.” Also applies to people who use public transportation, taxis or rideshare services. The state released mask guidelines for essential workers : Employees at essential businesses <u>must wear</u> masks or material that covers their mouth and nose at all times while at work. Employers must provide masks or the materials to make them. People who refuse to wear masks aren't required to provide proof that they're medically exempt.
Delaware <i>-updated Jan. 2021-</i>		Mandatory: Order 13 by Gov. Carey, “Requiring Delawareans to wear face coverings in public settings, including in grocery stores, convenience stores, pharmacies, doctor’s offices, and on public transportation.” (April 28, 2020; extended to Jan. 11, 2021)
District of Columbia		Mandatory Mayor’s Order 2020-053: Closure of Non-Essential Businesses “When you leave your home you <u>must</u> wear a mask.”
Florida (+ cities and counties)		Statewide recommendation only. Partial statewide mandate for employees in certain businesses. (Exec. Order 20-112 , May 4, 2020) Miami-Dade County Executive Order 20-20 requires visitors and employees of grocery stores, restaurants, pharmacies and other essential businesses to wear masks, effective April 9. Other cities also require masks: Boca Raton, Broward, Cooper City, Fort Lauderdale, Gadsden County, Hollywood, Miramar, Delray Beach, Palm Beach. For Orlando/Orange county “every person working, living, visiting or doing business in Orange County,” will be required to wear face coverings”
Georgia		<ul style="list-style-type: none"> Local orders only in place for Atlanta, Clarke county and East Point. Previously, Limited EO: Required for businesses that reopen. Restaurants and food service 5/12/2020; partly ended 6/11/20, 7/15/20: “Require all workers to wear face coverings at all times...” Gyms, fitness centers, bowling alleys, body art studios, estheticians, hair designers, and massage therapists <u>must comply</u> with sanitation requirements, including providing “personal protective equipment as available and appropriate.”
Hawaii <i>-updated Jan. 2021-</i>		Mandatory: All persons in the State shall wear a face covering over their nose and mouth when in public. Extended through Feb.14, 2021 Gov. David Ige's Executive Proclamation (17 th Supplemental), 11/23/2020 ; In effect as of: April 20 “All customers shall wear a face covering as described and recommended in Section I.A., or as required by any applicable county order, while waiting to enter and while at an essential business or operation. All employees of essential businesses or operations who have any contact with customers or goods to be purchased shall wear the cloth face covering recommended by the CDC while at their place of employment.” Emergency proclamation extends the stay-at-home order through May 31; Kauai Mayor announced everyone over age 5 required to wear a mask outdoors.
Illinois		Mandatory order by Governor Pritzker: Individuals required to wear a face-covering or a mask when in public places where they are unable to maintain six-feet of social distancing. (news) (May 1, 2020) New law (S471) makes it a felony to assault a retail worker who is enforcing a mask-wearing policy. (effective Aug. 2020)

Indiana -updated Jan. 2021--	" Back on Track IN " Gov. Holcomb announced a first-time mandatory mask order 20-48 for the public Inside a business, public building, or other indoor place open to the public (not including private offices where social distancing can be maintained); outdoor places where social distancing cannot be maintained; when using public transportation, taxi, private car service, or ride-sharing. (Effective July 27; extended through Jan. 24, 2021)
Iowa -updated Feb. 2021-	Gov. Kim Reynolds (R) state order expired , resulting in <u>no</u> mask requirement (Feb. 5, 2021). Previously issued an Exec. order : all over age 2 must wear a mask "when inside a (public) indoor space." Originally effective Nov. 17-Feb. 5;
Kansas (+ city))	Gov. Laura Kelly (R) announced order 20-52 ; updated as Order 20-68 on Nov 18, mandates "most Kansans <u>must wear</u> masks in stores and shops, restaurants, and in any situation in which social distancing of 6 feet cannot be maintained, including outside." A state law passed in June allows counties to opt out of the mandate. More than 60 of Kansas' 105 counties adopted the mask rule, an increase from 25 before Kelly announced the second order on Nov. 18. Previously only Kansas City required use (lifted May 2020)
Kentucky	Gov. Beshear signed a statewide order requiring residents and visitors to wear masks in most forward-facing businesses, like grocery and retail stores, and in outside public spaces when one can't stay 6 feet away. (Effective July 10-Aug. 9, 2020)
Louisiana -updated April 2021	Gov. Edwards lifted a statewide mask mandate effective April 28. Masks are still required in K-12 schools and colleges, on public transit, in hospitals and in state government buildings. Previously, Proclamation 89-JBE-2020 "I am now mandating face coverings statewide...in public...indoor or outdoor;" covers all 64 parishes, effective July 13
Maine	Mandatory: Gov. Mills order "requires Maine people to wear cloth face coverings in public places where physical distancing is difficult to maintain" (May 1-31, 2020)
Maryland	Gov. Larry Hogan's order requires that commuters and employees must wear face coverings while using Maryland public transit. Employees and customers over age 9 must wear face coverings inside essential businesses, though adults accompanying young children should make an effort to get them to wear a mask if they are in an essential business. In effect as of April 18- continues into July
Massachusetts .	Mandatory: Governor Baker issued a Safer at Home order May 18 continuing required masks in public spaces when six feet of physical distance cannot be maintained. Order requiring the use of masks or face coverings in public places. (May 1, 2020; ongoing). Earlier non-binding public health guidance issued April 10, 2020.
Michigan -updated Oct.-	On Oct. 2, Michigan's Supreme Court overturned parts of the Governor's binding orders (news), effective Oct 22. Gov. Gretchen Whitmer's executive order No. 2020-59 , required face coverings "when in any enclosed public space," effective April 27. Previously, Michigan reopened at reduced capacity under a new executive order the governor issued May 18. It allows bars and restaurants to operate at 50 percent capacity, with face coverings required for servers.
Minnesota	Gov. Tim Walz signed an Executive Order 20-81 , July 22, effective July 25, requiring "a face covering in all public indoor spaces and businesses, unless alone. Additionally, workers are required to wear a face covering when working outdoors in situations where social distancing cannot be maintained." Previously: " Stay Safe for Employers : Mandatory use in certain businesses: Employees: "Require the use of source control face coverings..." "Have customers and clients wear a face covering or mask, other than when outside" (June 15) (Gov. Exec. Order 20-56 , May 13, 2020) – now recommended only. Employees who may have limited interaction with customers for purposes of curbside or outdoor pickup or delivery <u>must</u> wear a non-medical cloth mask. ¹⁸
Mississippi -updated Mar. 2021-	Gov. Reeves: rescinded required masks by Exec Order 1549 ; requires masks at K-12 schools, signed March 2, 2021) Previously: Requirement in certain counties as outlined in the state order 1527 ; Indoor spaces (business, school, public building) whenever social distancing cannot be maintained. (expired 3/2/2021) August 4 expanded order : -- a face-covering mandate in all counties for public gatherings and retail settings for the next two weeks. Also, all adults and kids in schools must wear masks, unless there is a medical reason not to. (August 5; 2 weeks) Previously, individual counties (Hinds, DeSoto, Harrison, Rankin, Jackson, Washington, Sunflower,

	Grenada, Madison, Claiborne, Jefferson, Wayne, Quitman, Bolivar, Covington, Forrest, Humphreys, Panola, Sharkey, Simpson, Tallahatchie, Tate and Walthall counties) (added July 20, 2020) = 23. Exec. Order 1480 (May 8) Personal care and salons: <u>employees and patrons</u> “shall wear a face covering.” Gyms, also Restaurants and bars for dine-in service must provide & require use of cloth masks to <u>employees</u> who come into contact with customers. (news , May 5, 2020)
Missouri	Local orders only in Jackson, Kansas City and St. Louis city/counties
Montana -updated Feb. 2021-	Mandatory rescinded Feb. 12). Gov. Gianforte (R) allowed a statewide mask mandate to expire on Feb. 12, 2021. Previously, Gov. Bullock (D) issued a first-time statewide mask order (July 15), applied in counties with four or more active cases. Local order in Big Horn county
Nebraska	Mandatory for specified business employees and patrons while on premises. For personal care/salons: “The new Directed Health Measures will <u>require both workers and patrons of these establishments to wear masks.</u> ” (NGA , May 4, 2020). Local orders in Lincoln and Omaha .
Nevada -updated-	Mandatory: (Reopening Plan June 2020) “All employers shall <u>require employees who interact with the public to wear face coverings, to the maximum extent practicable.</u> ” Personal services: “employees <u>must wear face coverings. Customers or clients should wear face coverings to the extent practicable.</u> ”
New Hampshire -updated Aug.-	Gov. Chris Sununu of New Hampshire issued an order requiring masks at gatherings of more than 100 people (Aug. 11, 2020) Previously, “Mandatory for employees and patrons in certain businesses” while on premises. Mandatory for all health facilities (<i>limited impact on the general population</i>)** (NGA , June, 2020)
New Jersey	Governor Philip Murphy now requires face coverings outdoors when social distancing is not possible. (effective 7/8/2020). In April Executive Orders No. 122 and 125 Requires masks for essential business employees and customers while on premises and workers and customers in public transit. Businesses must supply workers with face coverings and gloves. (effective 4/13/2020, no expiration date stated) For “ <i>essential retail business... Require workers and customers to wear cloth face coverings while on the premises, except where doing so would inhibit that individual’s health or where the individual is under two years of age, and require workers to wear gloves when in contact with customers or goods. Businesses must provide, at their expense, such face coverings and gloves for their employees. “NJ Transit (subway and commuter rail) must adopt policies... Require workers and customers to wear cloth face coverings while on trains, buses and light rail vehicles except where doing so would inhibit that individual’s health or where the individual is under two years of age, and require workers to wear gloves when in contact with customers...”</i> Initial order in effect Apr. 7, described as the first state to take this action.
New Mexico	Mandatory gov. order : Masks are required of everyone in public places, with exceptions for eating, drinking, exercising & medical requirements; also for employees in certain businesses (May 13 2020)
New York ¹⁹	<u>Requires everyone in the state to wear a mask or a mouth/nose covering in public, with exceptions.</u> Gov. Andrew Cuomo's Executive Order 202.17 provides that “effective 4/17/2020, “any individual who is over age two and able to medically tolerate a face-covering <u>shall be required to cover their nose and mouth with a mask or cloth face-covering when in a public place</u> ” when social distancing is not possible. The state has a pre-existing law banning masks and “unusual or unnatural attire or facial alteration” in public; it allows masks if police or officials grant permission to wear them. In this case, residents have permission to wear masks. (see CNN story 4/20/2020): New Yorkers must wear masks when unable to socially distance, Gov. Cuomo says
North Carolina (+city mandates)	Mandate for public use: Executive Order 147 , extends North Carolina’s “Safer At Home Phase 2”, June 26-July 17, 2020. “Retail Businesses must have all customers wear Face Coverings when they are inside the establishment and may be within 6 feet” Cities: Raleigh by emergency order (June 17) requires masks while in public places. Durham has required masks since April; Orange County and Boone also requiring masks since June.
North Dakota -updated Jan. 2021-	Gov. Doug Burgum’s (R) mandatory provision expired on Jan. 18. Previously, he ordered (#2020-23) masks indoors and outdoors when not socially distanced (news release). Business restrictions limiting capacity also became recommendations rather than requirements (Nov. 13). Initially: ND Smart Start required masks for Personal services employees.(May 2020)
Ohio	Mandatory order in certain high-risk counties (at least 8 counties, effective July 17-)

	Director's Stay Safe Order Mandatory " <i>Businesses <u>must require</u> all employees to wear facial coverings</i> " with medical or practical exceptions. Permissive: " <i>Businesses <u>must allow</u> all customers, patrons, visitors... to wear facial coverings...</i> " 4/29/2020. (May 2020) Local mask orders in counties of Butler, Cuyahoga, Franklin, Hamilton, Huron, Montgomery, and Trumbull .
Oklahoma: (+ cities) <i>-updated Jan. 2021-</i>	Statewide Exec. Order for state property and buildings only. (extended to Feb 12, 2021) City orders in Tulsa (expanded Oct. 1-Dec. 31) and Oklahoma City; earlier in Guthrie (April 6-May 5: " <i>all individuals <u>shall wear</u> a cloth face covering when making a public outing. (news); Magnum city order, April 7-May 15,</i>
Oregon	Gov. Kate Brown order effective July 1: " <i>Require employees, contractors, volunteers, customers and visitors to wear a mask, face shield, or face covering...</i> " applies statewide unless varied. Previous order effective June 24 for Clackamas, Hood River, Lincoln, Marion, Multnomah, Polk and Washington counties : " <i>A business is required to Require employees, contractors, volunteers, customers and visitors to wear a mask, face shield, or face covering, unless an accommodation or exemption is required...</i> " May order requires face masks for employees of grocery stores and pharmacies—as well as other businesses where 6 feet of distance between people may not be possible. (May 7, 2020)
Pennsylvania	Governor's mandatory order from Department of Health . As of: April 19, <u>essential businesses</u> must provide masks for their employees and require them to wear the masks; Customers at these businesses must wear masks while on the premises or be denied entry. " <i>Measures for Businesses Permitted to Maintain In-person Operations (In effect as of: April 19, 2020)</i> Sec A10: <i>...provide masks for <u>employees</u> to wear during their time at the business, and make it a <u>mandatory requirement to wear masks</u> while on the work site, except to the extent an employee is using break time to eat or drink, in accordance with the guidance from the Department of Health and the CDC... Sec. B6 <u>...require all customers to wear masks</u> while on premises, and deny entry to individuals not wearing masks, unless the business is providing medication, medical supplies, or food...</i> "
Rhode Island	Gov. Gina Raimondo's Executive Order 20-24, (April 18, extended through Jan. 28, 2021 or as renewed. Sec.1 " <i>All employees of Rhode Island's customer/client facing businesses and non-profit organizations, office-based businesses... that are still in operation shall wear cloth face coverings unless an employee can easily...maintain at least six (6) feet of distance from other employees...</i> " Sec. 4 " <i>All customer-facing business shall take steps to require customers to wear face coverings....</i> " Businesses must provide materials for employees to make those masks. Doesn't require that customers wear masks while inside essential businesses, but it encourages businesses to post their own mask requirements.
South Carolina	Executive Order : Required (only) in state government offices, buildings, and facilities. Seven counties, Columbia, Dorchester, Georgetown, Horry, Myrtle Beach, Orangetown, Richland have had local orders requiring masks.
Tennessee	Executive order has <u>no requirement</u> ; but "provides local governments with authority concerning face coverings." (ongoing) Restaurant Guidelines : cloth coverings " <i>worn by all employees, at all times, unless unsafe...</i> " (May 13) Local orders in Knox county, cities of Memphis and Nashville.
Texas <i>-updated Mar. 2021-</i>	Executive Order GA-34 <u>rescinds</u> all state and local required mask orders: " <i>... no person shall be required to wear or mandate the wearing of a face covering.</i> "(signed Mar. 2, 2021; no expiration) Previously Order GA-29 for required masks, applied in all counties that have 20 or more cases of COVID-19. Fines up to \$250 after warning, exempting ages 0-10. Also, <u>Local governments</u> " <i>in major cities (Austin 4/13/20, Dallas County 4/18/20, Tarrant County/Fort Worth 4/18; order renewed 6/26 to 8/3/20, Harris County/Houston 4/27/20; renewed 6/24/20, Laredo 3/31/20, San Antonio & Bexar County 4/16/20; restored by court order, 6/17) were <u>requiring the use of face masks</u> in public places" including when using public transportation or when inside public buildings. <i>Legal challenge</i>: The Texas AG warned Austin, Dallas and San Antonio over defying state orders Including requiring masks. (news: NY Times, May 13). Mask use at polling places upheld by federal court, 10/29/2020</i>
Utah <i>-updated Feb. 2021-</i>	Gov. Gary Herbert (R) issued a mask mandate Nov. 10 "until further notice," Mar. 25 State Health guidance

	<p>Report: Impact of Masks on Economic Activity (11/27/2020)</p> <p>Previously: Legislature extended Emergency Order (HJR-504) to August 20. ^{xiii}</p> <p>Utah Leads Together IV.7 – June 26. Masks required in state buildings (effective July 17)</p>
Vermont	<p>Gov. EO-01-20 add. 12; Gov. E.O. 01-20, the “<i>traveling and commuting public shall wear face coverings over their nose and mouth any time they are using public transportation..</i>” (July 2020)</p> <p>Previously: addendum 10: Mandatory for employees and patrons in certain businesses. “Employees must wear non-medical cloth face coverings (bandanna, scarf, or non-medical mask, etc.) when in the presence of others.” (April 17-ongoing)</p>
Virginia	<p>Executive Order EO-72: Required use in Indoor public settings/Business patrons and employees. (Extended to Jan. 31, 2021)</p>
Washington	<p>State mandate order by Gov. Inslee: beginning June 26. Everyone in Washington must wear face coverings in public; includes both indoor and outdoor public spaces. Violations can be a misdemeanor. Seattle: “mandatory in certain retail establishments...” (May 11, 2020)</p>
West Virginia -updated Nov.-	<p>Gov. Jim Justice (R) updated policy, “<i>Face covering must be worn at all times in all public indoor places</i>” EO 77-20 effective Nov. 14, 2020</p> <p>Previously: “<i>required to wear face coverings in public indoor spaces where social distancing can't be maintained, ...under age 9 exempt.</i>” West Virginia Strong – The Comeback”</p>
Wisconsin -updated Jan. 2021-	<p>State mandate (summary): Gov. Tony Evers issued Emergency Order #1 requiring individuals to wear face coverings when indoors and not in a private residence, with some exceptions. Effective August 1, 2020; Extended through Jan. 19, 2021) See Executive Order #82 here.</p> <p>Wisconsin Supreme Court ruling striking down state “stay-at-home, does not affect requiring masks, which is <u>not contained</u> in the governor's orders. (news, May 13, 2020)</p>
Wyoming -updated Mar. 2021-	<p>State mandate rescinded March 16, 2021 : Previously: Inside, or in line to enter, any business or government facility; obtaining services at or visiting a healthcare setting; waiting or riding any public transportation. Order (rescinded): Mandatory use by patrons and staff at personal care operations. (May 2020)</p>
Territories	
Guam	<p>Executive Order 2020-09 Relative to Additional Isolation Measures. “...All essential businesses and government agencies shall require that their employees and patrons shall wear face masks while on their premises.</p>
Puerto Rico ²⁰	<p>Mandatory. Provides for the mandatory use of medical masks for all employees at work; employers responsible for providing masks; imposes penalties for violations. As of May 26 all people are required to wear a mask when outside or inside a business. See HB 2471 (NGA, May 2020)</p>
Virgin Islands	<p>Governor's Order Mandatory use: “<i>All patrons are required to wear a face mask when entering a business. All gatherings of people require face masks (except children 2 and younger or those with acute respiratory ailments)</i>” (May 4, 2020)</p>

No Masks to Pro-Masks: The recommendation of wearing masks in the U.S. was a dramatic, direct reversal of medical policy. Until February and early March 2020, both the WHO and CDC promulgated public announcements and cautions stating that civilians should NOT wear masks in public, and that masks do not protect the wearer. Then, in late March, government health experts, first at CDC²¹ and then WHO in April reversed that position and urged the use of masks by the general public.²² The high-level, federal promotions of use of masks in the United States have been to “recommend” and “urge”, rather than mandate or require such use. The federal CDC website includes [guidance and mask-making instructions](#). A mid-April peer reviewed report²³ analyzes the evolving conclusions and recommendations. On May 6, CNN posted a consumer-friendly [story](#) on Why Some People Won't wear masks.²⁴ CNN: “In many ways the U.S. is uniquely vulnerable to COVID, with its large health disparities, high number of uninsured, decentralized response and widespread skepticism over public health guidance like mask wearing.”

CDC strengthens public message on double & tight mask use (Feb. 10, 2021 Update)



CDC Director Dr. Rochelle P. Walensky, MD

This Executive Order “will require the wearing of masks by all travelers into, within, or out of the United States, e.g., on airplanes, ships, ferries, trains, subways, buses, taxis, and ride-shares. The mask requirement also applies to travelers in U.S. transportation hubs such as airports and seaports; train, bus, and subway stations; and any other areas that provide transportation... Masks are most likely to reduce the spread of COVID-19 when they are widely and consistently used by all people in public settings.” ([CDC News release, January 30, 2021](#))



Scientific Brief: Community Use of Cloth Masks Posted Nov. 10, 2020-

“The prevention benefit of masking is derived from the combination of source control and personal protection for the mask wearer...” Experimental and epidemiological data support community masking to reduce the spread of SARS-CoV-2. The prevention benefit of masking is derived from the combination of source control and personal protection for the mask wearer. The relationship between source control and personal protection is likely complementary and possibly synergistic, so that individual benefit increases with increasing community mask use.

Who should NOT use cloth face coverings: children under age 2, or anyone who has trouble breathing, is unconscious, incapacitated or otherwise unable to remove the mask without assistance.

[Posted April 3, 2020; Reviewed May 22, 2020](#)

WHO (World Health Organization)

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/when-and-how-to-use-masks>

Wearing a medical mask is one of the prevention measures that can limit the spread of certain respiratory viral diseases, including COVID-19. (Update June 8, 2020)

Global: Other Nations Act

[Approximately 95% of the world lives in countries](#) where the government and leading disease experts both agree that masks are effective at reducing the spread of COVID-19.

➤ **THE MEDICAL EVIDENCE-** Published materials

- Broad Public Use of Masks-Evidence-based research-COVID-July 2020 ([PDF](#)) – A companion summary and bibliography by Colorado Ideas 2.0
- [Supplement A1](#): CDC: Community Use of Cloth Masks to Control the Spread of CoV-2 - Nov. 10, 2020 ([PDF](#))
- [Supplement A](#): [Masks May Reduce Viral Exposure Some Experts Say](#) - NY Times -July 28, 2020 ([PDF](#))
- [Supplement B](#): [Yes, the Coronavirus Is in the Air](#)-NY Times-July 30-2020 ([PDF](#))
- [Supplement C](#): [Study Finds Evidence Virus Can Float in Air for Minutes or Longer](#). July 2020 ([PDF](#))

- [Supplement D](#): New Science Studies Confirm Value of Required Masks. August 2020 ([PDF](#))
- [Supplement E](#): Six feet of distance: It's more complicated than that. August 2020 ([PDF](#))
- [Supplement F](#): Spate of New research supports wearing masks.- July-Sept., 2020 ([PDF](#))
- [Supplement G](#): Masks do not restrict oxygen flow or cause CO2 Build-up. October 2, 2020 ([PDF](#))
- [Supplement H](#): New C.D.C. studies add to the evidence that masks can keep you out of the hospital -Feb '21-
- "Masks Work, Really. We'll Show you How" [an interactive graphic](#) (Oct 31, NY Times)
- Universal Masking in the United States (JAMA, Sept, 2020; posted Aug. 10) ([PDF](#)). Supplemental table by American Medical Association (AMA)
- Community Use of Face Masks and COVID-19: Evidence From A Natural Experiment Of State Mandates In The US. Health Affairs, August 2020. (Full text, [PDF](#))
- "Seeing is Believing: Effectiveness of Masks," FL Atlantic Univ, June 30, 2020 ([News release](#); Full Text [PDF](#))
- "Face Masks for the General Public" – [published](#) by The Royal Society (England), May 4, 2020. ([PDF-12 pp](#)); Summary by [The Guardian](#) – May 4, 2020
- "Face Coverings, Aerosol Dispersion and Mitigation of Virus Transmission Risk" - Heriot-Watt Univ., UK, May 19, 2020 (24 pp. [PDF](#)) |
 - "Face coverings can reduce COVID-19 transmission risk: study"; MedExpress, May 25, 2020. ([link](#))
- "Face Masks Against COVID-19: An Evidence Review" April 12, [posted as PDF](#) by preprints.org
- "To mask or not to mask: Modeling the potential for face mask use by the general public" - April 2020 [link](#) (16 pp)
- "Austria Has 90% Drop in Coronavirus Cases After Requiring People to Wear Face Masks" - [published](#) in Science Times, April 21, 2020.
- "Fast Action Saves Lives" – [published by Daily Mail](#) April 21, 2020
Two of the first countries to make masks compulsory in Europe, now enjoy a small infection rate per capita.
-- *Czech Republic*: "63 Czechs per 100,000 has been infected and less than two per 100,000 have died from the virus."
-- *Slovakia*. "21 per 100,000 people have caught it and just 0.2 per 100,000 have succumbed to the illness."
- Universal Masking is Urgent in the COVID-19 Pandemic: SEIR and Agent Based Models, Empirical Validation, Policy Recommendations – prepublication 4/21 by De Kai, PHD MBA, et. al. posted May 12 ([PDF, 19 pages](#))
- University of Illinois tested 10 different fabrics and found that the best material for protection and breathing was, the common t-shirt material made of cotton. The study found that they were even better to breathe in than a medical mask. <https://news.illinois.edu/view/6367/808377>
- Turbulent Gas Clouds and Respiratory Pathogen Emissions: Potential Implications for Reducing Transmission of COVID-19. [Published by JAMA](#), March 26, 2020

- **DATA and LIMITATIONS:** The factual data provided in this memo is derived primarily from original state government orders and state-funded research sources, with additional references from media sources, as cited. Special acknowledgment to NGA for extensive source materials. The goal is to include a relatively comprehensive, inclusive list. Because of rapidly changing policies and wide variations in those affected, data tables are not an exhaustive list of actions; rather they highlight key actions across states and territories as they prepared for and respond to the COVID-19 pandemic.
- **UPDATES:** State policy changes were reviewed regularly with new state changes added, March 2020 through April 2021.

Notes and Sources:

¹ In this document the term "masks" includes "cloth face coverings" (CDC-approved designs and informal solutions such as cloth scarfs and bandanas), and the range of commonly used "medical masks" and N95 masks approved by OSHA for various industrial or medical uses. Medical and N95 masks have been in short supply, and are still discouraged for casual public use. Individuals sometimes own and wear non-sterile medical masks and generally may use them safely without conflicting with guidance on donations. [Exceptions or exemptions](#) to mask wearing typically include "young children under the age of 2, anyone who has trouble breathing, or is unconscious, incapacitated, or otherwise unable to remove the mask without assistance."

² Author: Richard Cauchi is an independent health policy advisor. Previously he was Health Program Director at the National Conference of State Legislatures (NCSL) leading research and communication on state health coverage, regulation, access, and financing, from 1997 to Jan. 2019. This memo was prepared on a pro-bono basis, based on government actions and is not intended as legal advice or advocacy. Colorado Ideas 2.0 is based in Wheat Ridge, Colorado. © 2020. Distributed under a Creative Commons Attribution Non-Commercial License 4.0 (CC BY-NC).

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masks and generally may use them safely without conflicting with guidance on donations. Exceptions or exemptions to mask wearing typically include “*young children under the age of 2, anyone who has trouble breathing, or is unconscious, incapacitated, or otherwise unable to remove the mask without assistance.*”

⁴ -NEW- “National Strategy for the COVID-19 Response and Pandemic Preparedness,” Executive Summary [posted by The White House](#) on Jan. 21, 2021; [Full Text](#) (200 pp) also as reported by NY Times and other major media.

⁵ Cumulatively, between March 15 and May 30, 2020 at least 33 states and territories, plus major cities and counties in California, Colorado, Texas, Washington plus other locations not listed here. Counting states and cities with required masks for some employees, at least 42 states have or have had some mandatory mask rule, but not always during the same weeks. Regional or city-only actions added in June-July, plus numerous temporary adjustments and amendments in November, make a precise 50-state count more difficult. Varied definitions of children (e.g. 0-2 or 0-9) and medically defined exemptions also affect population totals.

⁶ Governing magazine “[Lawmakers get tough with mask requirements](#),” 9/11/2020. “New Jersey and Pennsylvania would make the refusal to wear a mask a crime. It’s a sign that consensus regarding the value of mask wearing has grown, but states are still unsure on penalties.”

⁷ [CNN online](#), April 20, 2020. Dr. S. Gupta on “[How to make your own mask at home.](#)”

⁸ ASTHO (Association of State and Territorial Health Officials) is tracking guidance on testing prioritization, elective medical procedures and other public health policies on their [COVID-19 Response Hub](#).

⁹ NGA and ASTHO: [Roadmap to Recovery](#), April 21, 2020.

¹⁰ “Where states reopened and cases spiked after the U.S. shutdown” [published summary](#) by The Washington Post, July 23, 2020.

¹¹ New York Times: [See Coronavirus Restrictions and Mask Mandates for All 50 States](#). Nov. 13, 2020, updated periodically.

¹² National Governors Association (NGA); [Coronavirus overview webpage](#) |

- State Action Tracking Chart: State Face Coverings Policies [Spreadsheet](#) | [Xcel](#) -update January 15, 2021
- NGA: Business Reopening Strategies: [50-state table](#) – Sept. 2020

¹³ Masks4All is a non-profit research project [tracking state and local activities](#); they placed a full-page ad on July 12 headlined “Over 100 Prominent Health Experts Call for Universal Mask Requirements.”

¹⁴ AARP also tracks state requirements, at <https://www.aarp.org/health/healthy-living/info-2020/states-mask-mandates-coronavirus.html>

¹⁵ See New Jersey order for an example of medical and practical exceptions to a mandatory order.

¹⁶ Joint research by Boston University, NYU and Bowdoin College and NGA, via offline data. Expanded source data [updated](#); [available on request](#). Cite as Raifman J, et al. (2020). “COVID-19 US state policy database.” Accessed by author 9/11/2020.

¹⁷ National Association of County and City Health Officials (NACCHO’s) Main site: <https://www.naccho.org/>; Coronavirus Resources for Local Health (updated frequently) at covid19-naccho.hub.arcgis.com/

¹⁸ Minnesota: Lieutenant Governor Peggy Flanagan. “We must continue to stay home, practice safe social distancing, and wear cloth masks while in public so we can carefully and responsibly turn the dial toward reopening society.”

¹⁹ New York State [Executive Order 202.17](#), signed by Gov. Andrew M. Cuomo. 4/15/2020.

²⁰ National Conference of State Legislatures (NCSL) <https://www.ncsl.org/research/health/state-action-on-coronavirus-covid-19.aspx> (state legislation and enacted laws only)

²¹ CDC “Use of Cloth Face Coverings to Help Slow the Spread of COVID-19” “[CDC recommends](#) wearing cloth face coverings in public settings where other social distancing measures are difficult to maintain (e.g., grocery stores and pharmacies), especially in areas of significant community-based transmission.”

²³ The Lancet “[Wearing face masks in the community during the COVID-19 pandemic: altruism and solidarity](#).” Online April 16, 2020

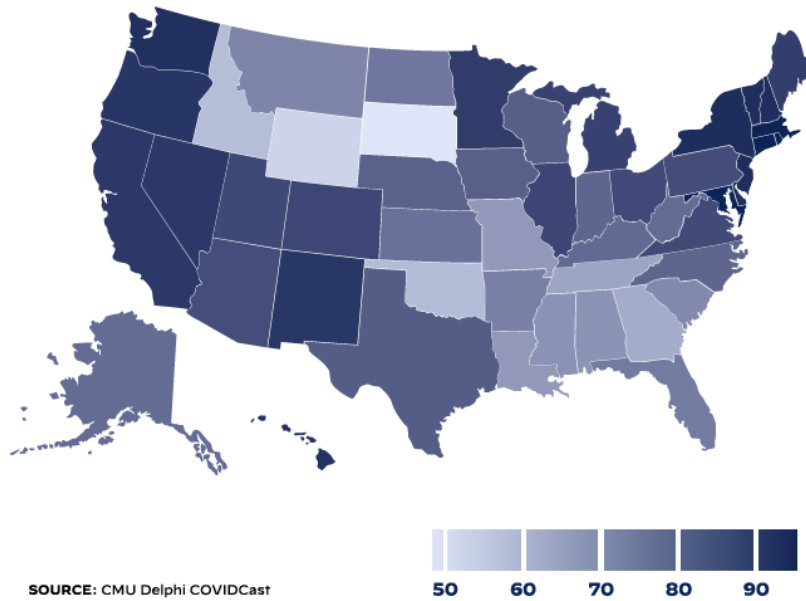
²⁴ CNN: “[The psychology behind why some people won’t wear masks](#).” May 6, 2020

Where Americans are wearing masks:

Map below is reprinted from President Biden’s “[National Strategy... COVID Response](#) and Pandemic Preparedness” [\(p. 56\)](#) January 2021

Also see [an interactive county map](#) by The New York Times with 2020 data (click link for detailed examples)

Respondents Reporting that Community Members Wear Masks All or Most of the Time



Download the latest update of this report:

https://www.colorado2.com/Policies_on_Required_Masks_CI2.pdf

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Latest edition -- Print update 8/28/2021 pm

Appendix A – Mask effectiveness graphics

Visualizing the effectiveness of face masks in obstructing respiratory jets (note positive result compared to no mask)

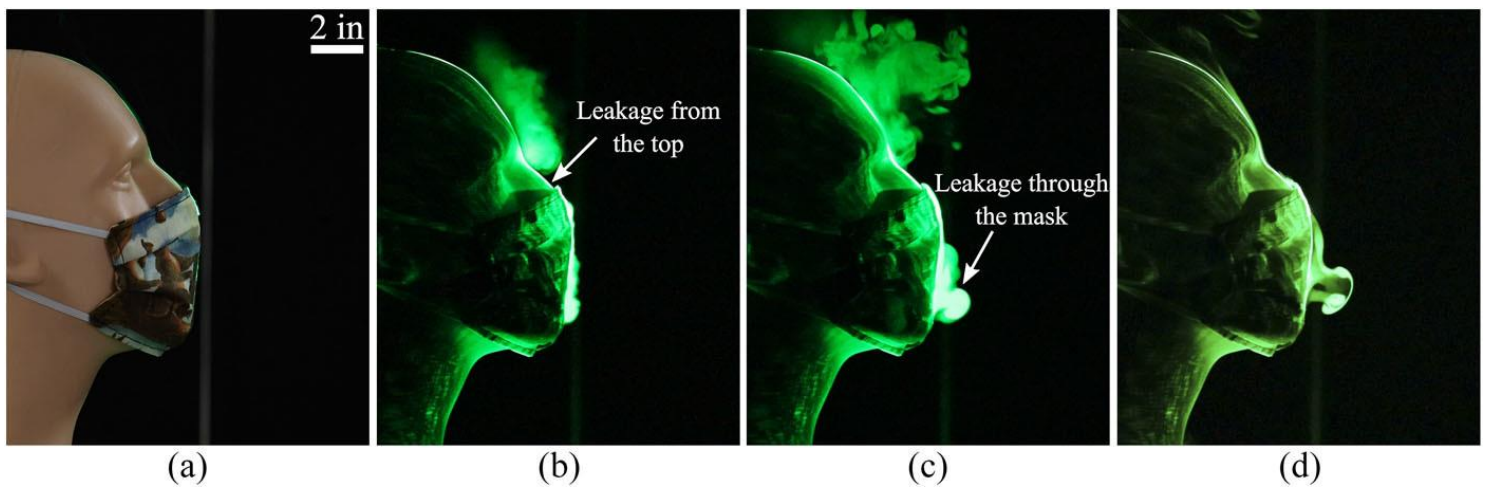
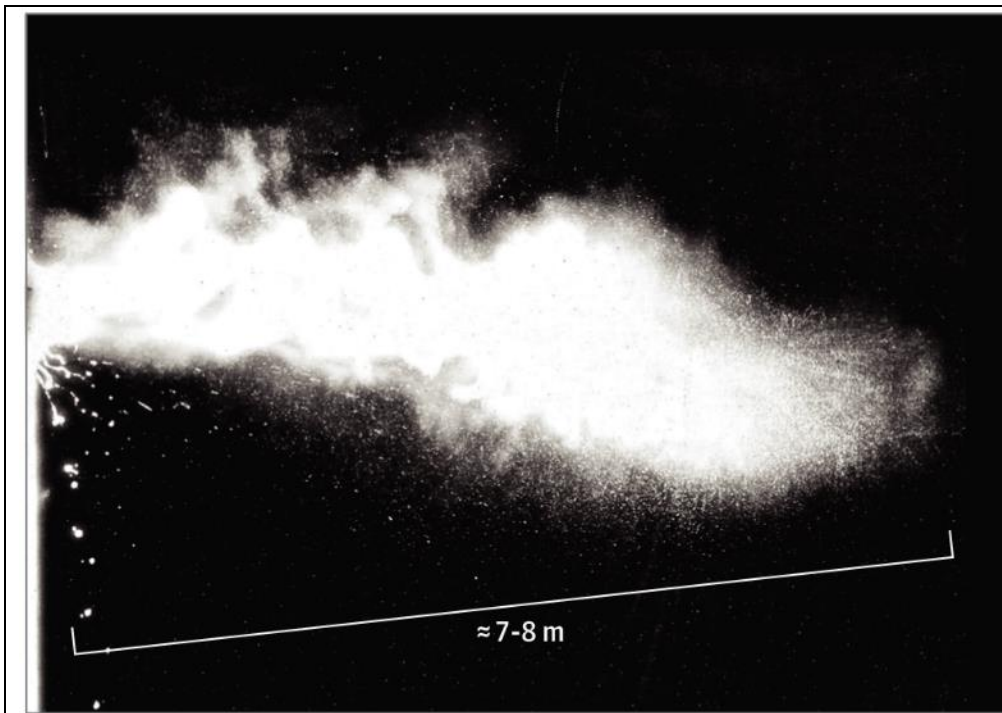


FIG. 4. (a) A homemade face mask stitched using two-layers of cotton quilting fabric. Images taken at (b) 0.2 seconds, (c) 0.47 sec., and (d) 1.68 sec. after the initiation of the emulated cough (Source: Florida Atlantic Univ. [Physics of Fluids Journal](https://aip.scitation.org/doi/10.1063/5.0016018): published June 30, 2020; <https://aip.scitation.org/doi/10.1063/5.0016018>)



Human Sneeze “Multiphase turbulent gas cloud”

Demonstrates the spread of infected breath up to 27 feet – with no mask or face covering.

Source: Author: Lydia Bourouiba, PhD, Massachusetts Institute of Technology, [JAMA](https://doi.org/10.1093/jama.2020.03.26.2007155), online March 26; 2020

14 Masks Compared Read graph below and full text [report](#) for results ([PDF repost](#))

Mask, Name	Description	
1, 'Surgical' *	Surgical mask, 3-layer	
2, 'Valved N95'	N95 mask with exhalation valve	
3, 'Knitted'	Knitted mask	
4, 'PolyProp'	2-layer polypropylene apron mask	
5, 'Poly/Cotton'	Cotton-polypropylene-cotton mask	
6, 'MaxAT'	1-layer Maxima AT mask	
7, 'Cotton2'	2-layer cotton, pleated style mask	
8, 'Cotton4'	2-layer cotton, Olson style mask	

9, 'Cotton3'	2-layer cotton, pleated style mask
10, 'Cotton1'	1-layer cotton, pleated style mask
11, 'Fleece'	Gaiter type neck fleece
12, 'Bandana'	Double-layer bandana
13, 'Cotton5' *	2-layer cotton, pleated style mask
14, 'Fitted N95'	N95 mask/no exhale valve, fitted

Summary:

Best for general use = #s 5, 13, 4, 14

Best for personal protection only = #1

Worst = #s 11, 12

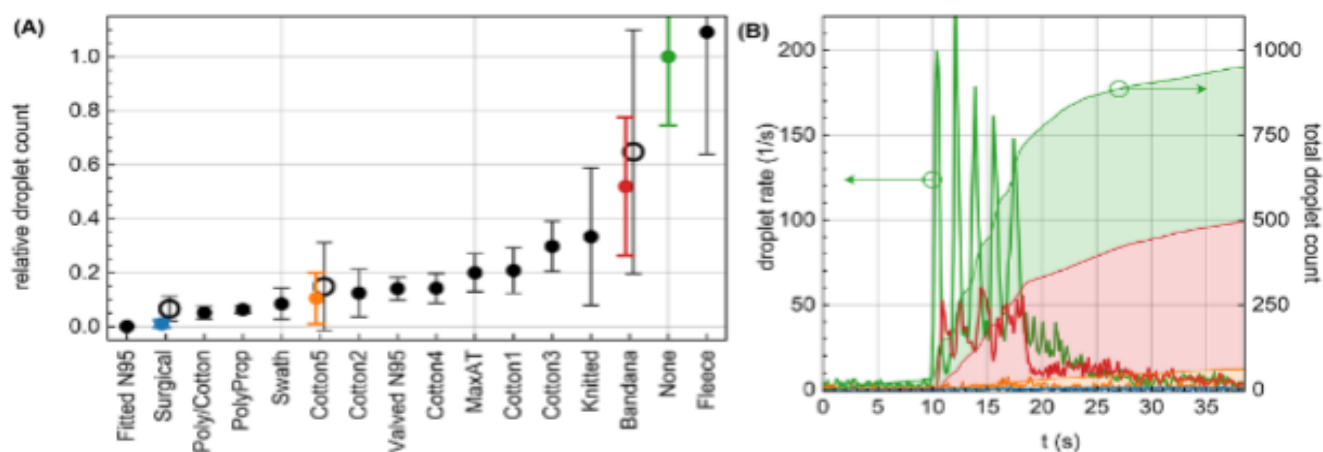


Fig. 3. Droplet transmission through face masks. (A) Relative droplet transmission through the corresponding mask. Each solid data point represents the mean and standard deviation over 10 trials for the same mask, normalized to the control trial (no mask), and tested by one speaker. The hollow data points are the mean and standard deviations of the relative counts over four speakers. A plot with a logarithmic scale is shown in Supplementary Fig. S1. (B) The time evolution of the droplet count (left axis) is shown for representative examples, marked with the corresponding color in (A): No mask (green), Bandana (red), cotton mask (orange), and surgical (blue – not visible on this scale). The cumulative droplet count for these cases is also shown (right axis).