What Will Stick?
Understanding the Impacts of COVID-19

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Professor – Dept. of Architecture
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numo.global

September 30, 2020
THANK YOU
URBANISM NEXT PARTNERS AND SPONSORS!

WHAT WILL STICK?
PERFECTING POLICY WITH PILOTS
#UNEXT2020 | @URBANISMNEXT
WWW.URBANISMNEXT.ORG
What Will Stick?
Understanding the Impacts of COVID-19

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COVID-19

Lockdown → Re-Opening → Recovery / New Normal

(we are here.)
Impacts of COVID Webinar - Sept. 30, 2020

URBANISM NEXT | FRAMEWORK

Forces of Change
New Mobility
Autonomous Vehicles
E-Commerce
Urban Delivery
COVID-19

Implications
Equity
Health & Safety
Environment
Economy

What to Do?
Governance
Design
Education & Outreach
Research

urbanismnext.org

Impacts of COVID Webinar - Sept. 30, 2020
COVID Impacts

Transportation

- Work From Home (WFH)
- Reduced Overall Transportation and Travel
- Increased Driving alone
- Increased Bicycle Purchases and Use
- Reduced Public Transit Ridership
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42%

of US Labor Force Working from Home Full Time

Stanford Institute for Economic Policy Research (SIEPR)
June 29, 2020

COVID Impacts

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**Impact of the COVID-19 recession on key economic indicators**

53 very large metro areas with populations over 1 million

**August 2020**

<table>
<thead>
<tr>
<th>Metro area</th>
<th>Jobs</th>
<th>Unemp. rate</th>
<th>UI claims</th>
<th>Work trips</th>
<th>Small biz hours</th>
<th>Small biz open</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Jose-Sunnyvale-Santa Clara, CA</td>
<td>-8.7%</td>
<td>+6.6%</td>
<td>N/A</td>
<td>-46.1%</td>
<td>-26.1%</td>
<td>-27.0%</td>
</tr>
<tr>
<td>San Francisco-Oakland-Berkeley, CA</td>
<td>-11.6%</td>
<td>+8.4%</td>
<td>N/A</td>
<td>-45.7%</td>
<td>-45.3%</td>
<td>-33.7%</td>
</tr>
<tr>
<td>Washington-Arlington-Alexandria, DC</td>
<td>-7.3%</td>
<td>+4.9%</td>
<td>N/A</td>
<td>-39.7%</td>
<td>-31.7%</td>
<td>-23.5%</td>
</tr>
<tr>
<td>Seattle-Tacoma-Bellevue, WA</td>
<td>-8.1%</td>
<td>+6.3%</td>
<td>N/A</td>
<td>-39.2%</td>
<td>-26.2%</td>
<td>-11.7%</td>
</tr>
<tr>
<td>Austin-Round Rock-Georgetown, TX</td>
<td>-4.0%</td>
<td>+5.9%</td>
<td>N/A</td>
<td>-28.5%</td>
<td>-18.8%</td>
<td>-16.2%</td>
</tr>
<tr>
<td>Boston-Cambridge-Newton, MA-NH</td>
<td>-11.4%</td>
<td>+12.8%</td>
<td>N/A</td>
<td>-56.7%</td>
<td>-24.7%</td>
<td>-23.5%</td>
</tr>
<tr>
<td>Raleigh-Cary, NC</td>
<td>-10.4%</td>
<td>+4.6%</td>
<td>N/A</td>
<td>-36.5%</td>
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[https://www.brookings.edu/interactives/metro-recovery-index/]
COVID Impacts

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Maturity of Delivery Business Models

Increased Tactical Urbanism

Increased Goods and Meal Delivery

Reduced Dining Out/# of Restaurants

Reduced # of Brick-and-Mortar Stores

Reduced Economic Activity

Small Businesses Closing

Reduced Venture Capital Funding

Retail/Rest.

Econ.

Trips Per Week (US)

77% of Pre-Pandemic levels

September 2020

Bureau of Transportation Statistics, USDOT

https://www.bts.gov/daily-travel

Impacts of COVID Webinar - Sept. 30, 2020
COVID Impacts

- Work From Home (WFH)
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**Increased Bicycle Purchases and Use**
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**A Boom Year For Bicycling**

Bike trips on Strava surged during the pandemic in several U.S. cities

- Houston
- Portland
- Los Angeles
- Chicago
- Washington, D.C.
- New York City

Data: Strava Metro
Chart shows year-over-year percent change in Strava bicycle trips each month, 2019 vs 2020.

COVID Impacts

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**Reduced Public Transit Ridership**

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MTA (New York City)
Subway Ridership week beginning September 20, 2020

MTA Subway Ridership

27% of Pre-Pandemic levels

https://www.bts.gov/covid-19/week-in-transportation#transit

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**Rideshare - Monthly Sales**

- August 2020 Share of Sales

- 32% of Pre-Pandemic levels

* Indexed to rideshare Jan 2016 sales (+100).
* Some Uber Eats sales are indistinguishable from Uber rides sales, especially in May-Aug. 2019. Corporate spending and purchases made with Uber Cash are not included.

[https://secondmeasure.com/datapoints/rideshare-industry-overview/](https://secondmeasure.com/datapoints/rideshare-industry-overview/)

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Bikeshare and E-scooter System Operation Changes March through August 2020

- Docked bikeshare
- Dockless bikeshare
- E-Scooter

Number of systems

- Number of systems that closed permanently
- Number of systems that suspended operations
- Number of systems that remained open


Impact of COVID Webinar - Sept. 30, 2020
COVID Impacts

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**E-Commerce Sales Penetration, United States**

E-Commerce as a % of Total Retail Sales

- **Post-pandemic**
- **Pre-pandemic**

Source: U.S. Census Bureau, Euromonitor, Prologis Research forecast

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Meal Delivery - Monthly Sales

100%+ Increase Compared to Pre-Pandemic levels


Impacts of COVID Webinar - Sept. 30, 2020
COVID Impacts

More than 100,000 restaurants and bars have permanently closed due to COVID
National Restaurant Association Survey, July 2020

More than restaurants and bars have permanently closed due to COVID

100,000

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Econ. Retail/Rest.

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Retail Vacancy Rates in the US (Q2-2019 to Q2 2020)

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Impacts of COVID Webinar - Sept. 30, 2020
# COVID-19 Disruption Effects on First Order Impacts

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<thead>
<tr>
<th>First Order Impacts</th>
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<tbody>
<tr>
<td>Parking Demand</td>
<td><img src="image" alt="No Change" /></td>
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<tr>
<td>Vehicle Miles Traveled</td>
<td><img src="image" alt="Increase" /></td>
</tr>
<tr>
<td>Congestion</td>
<td><img src="image" alt="Decrease" /></td>
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<tr>
<td>Ease of Travel</td>
<td><img src="image" alt="Increase" /></td>
</tr>
<tr>
<td>Shift in Work Styles</td>
<td><img src="image" alt="Decrease" /></td>
</tr>
<tr>
<td>Shift in Nature of Freight</td>
<td><img src="image" alt="Decrease" /></td>
</tr>
<tr>
<td>Focus on Modal Shift</td>
<td><img src="image" alt="Increase" /></td>
</tr>
<tr>
<td>Demand for Warehousing Space</td>
<td><img src="image" alt="Decrease" /></td>
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<tr>
<td>Back-end Workers</td>
<td><img src="image" alt="Decrease" /></td>
</tr>
<tr>
<td>Interest in Experiential Retail</td>
<td><img src="image" alt="Decrease" /></td>
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### Work from Home (WFH)
- Work from home (WFH)
- Driving alone
- Goods and meal delivery
- Maturity of delivery business model
- E-commerce
- Bicycle purchases and use
- Tactical urbanism
- Fear of crowded public space
- Interest in automated delivery devices
- Transportation and travel
- Economic activity
- Dining out and number of restaurants
- Number of brick-and-mortar stores
- Small businesses
- Public transit ridership
- Public transit services and revenues
- TNC ridership
- E-scooters and number of companies
- Interest in passenger AV technology
- Venture capital funding
Store Closings and Office Space = Reduced Need for Zoned Land (?)

7,500 Store Closings to Date
On path for 2020 to have most store closings in history.
Business Insider, September 2020

https://www.businessinsider.com/stores-closing-in-2020-list-2020-1
Store Closings and Office Space = Reduced Need for Zoned Land (?)
Continued Growth of Warehouse Needs

E-Commerce % of Overall Industrial Leasing

11.8%  →  20.8%

2019  →  2020

Continued Growth of Warehouse Needs

Checkout

Amazon Plans to Put 1,000 Warehouses in Suburban Neighborhoods

Seeking to compete with Walmart on same-day deliveries, the company is opening small shipping hubs around the U.S.

By Spencer Soper
September 16, 2020, 2:00 AM PDT
Shift From Urban Areas to Suburban Areas (?)

Change in YoY Pending Sales from February 2020, by urban and suburban ZIP codes

United States | West | Midwest | South | Northeast
---|---|---|---|---
0% | -50% | -100% | -50% | 0%

Shift From Urban Areas to Suburban Areas (?)

Change in YoY Inventory from February 2020, in MSA and city proper


Impacts of COVID Webinar - Sept. 30, 2020
Shift From Urban Cores to Neighborhood Centers (?)
URBAN DESIGN

STREETS as Places

Boston Dining Streets

Impacts of COVID Webinar - Sept. 30, 2020
96 Temporary Bike Actions in US Cities
As of Sept 1, 2020

NYC – Temporary Bike Lanes
Increased Need to Manage Package and Goods Deliveries
Parking Demand Changes (?)
Increased Vehicle Ownership (?)

TOTAL VEHICLE SALES
(US, By Quarter)

https://fred.stlouisfed.org/series/TOTALSA

Impacts of COVID Webinar - Sept. 30, 2020
Reduced Land Value with Reduced Demand (?)
Reduced Project Feasibility Due to Reduced Capital

‘Investment volumes in the Americas region saw the biggest half-yearly decline, with a 37% fall.’

JLL – August 2020

Pause in Experiential Retail
COVID IMPACTS ARE NOT EQUITABLE
WHAT WILL STICK?
NOT KNOWING EVERYTHING ABOUT THE FUTURE DOESN’T MEAN WE DON’T KNOW ANYTHING ABOUT THE FUTURE
Variables That Will Decide What Sticks

- Length of Time in Pandemic (Habits)
- Entry Barriers Overcome
- Business Model Maturity – and Consolidations
- Large Decision Points
- Timeline Thresholds
- Continued Fear of Future Pandemics
- Policy Decisions
Welcome to The Nexus!

The Nexus examines the potential impacts that new mobility, autonomous vehicles, e-commerce, and other innovations will have on cities and communities.

Understanding how new technologies might impact cities is essential for smart decision-making. Use the below links to explore The Nexus by topics, view examples of how to address these issues, and access resources for researching and sharing this information.
COVID-19 - RESOURCE PAGES

COVID-19
Examining the near- and long-term impacts on cities.

GENERAL INTEREST
Here are a collection of articles, podcast, webinars, and other resources that we’ve found interesting and/or useful that aren’t directly related to any of the more specific topics we’ve been delving into.

TRANSIT
Since the onset of the pandemic, transit ridership has fallen substantially, and transit operators are struggling to find the right balance between keeping people moving, especially essential workers, and sufficiently protecting transit workers from the risk of exposure. There are also serious concerns about budget shortfalls with the precipitous drop-off in ridership. To what extent will people return to transit as stay-at-home orders are lifted? Which temporary service changes, if any, will be made permanent?

TRANSPORTATION NETWORK COMPANIES

urbanismnext.org
Find mobility responses to COVID-19

Search initiatives by keywords (New York, transit, delivery...)

And/or browse by
- Type
- Purpose
- Approach
- Mode type
- Country

Insights

- How are communities using open streets to accommodate economic recovery during the COVID-19 pandemic?
- How are communities reallocating the street right-of-way to safely accommodate recreational and social activities during the COVID-19 pandemic?
- How did taxis and mobility service providers in the United States shift their focus to moving goods as an impact of COVID-19?

covidmobilityworks.org
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