

The Future of Mobility

Section 01 – Introductions

Section 02 – Mobility in a Global Pandemic

Section 03 – On the Road

Section 04 – Below the Road

Section 05 – Above the Road

Section 06 – Way Above the Road

Section 07 – Anywhere and Everywhere



Today's Presenters



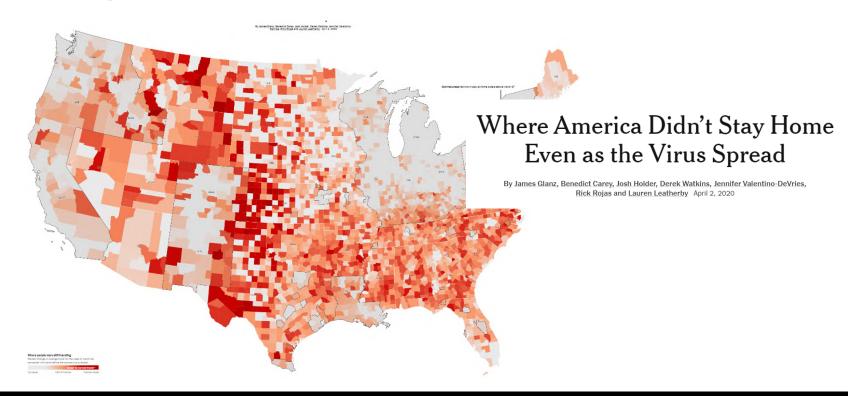
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Tracking Mobility



Limiting Mobility

How Digital Contact Tracing Slowed Covid-19 in East Asia

by Yasheng Huang , Meicen Sun and Yuze Sui April 15, 2020

. . .

downloaded app in Korea. A vibrant democracy that has also won praise for its Covid-19 containment, Taiwan is believed to be the first to have used mobile phone tracking to enforce quarantines, which the government reportedly reinforces by calling those in quarantine twice a day to ensure they do not evade tracking by leaving their phones at home.



Tracing Mobility

NOTRAC

How Bluetooth could unleash the world's largest experiment in digital contact tracing

3 hours ag



By Amrita Khalid & Amanda Shendruk



Guiding Mobility



Electrical worker safety startup launches a COVID-19 workplace distance and contact tracker





Stranger Than Fiction





Car Free Sections of Cities



Historic day in #SF **. Market Street is officially car-free! #MarketStreet2020



12:07 PM - Jan 29, 2020 from Embarcadero Plaza - Twitter for iPhone





Times Square crowded and empty

Barcelona's Super-Blocks

Road hierarchy in a Superblock model

CURRENT SITUATION

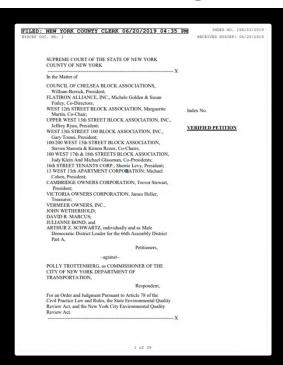


SUPERBLOCK 400 meters PASSING **VEHICLES** Local network: 10 km/h DO NOT GO THROUGH EXERCISE OF ALL THE RIGHTS THAT THE CITY

OFFERS. HIGHEST AIM: CITIZEN.



Council of Chelsea Block Associations et al v. Trottenberg



"DOT has come up with a new 'rationale' for the Corridor Plan, since the original rationale was no longer viable," the suit alleges. "That rationale (making bus service faster) amounts to no more than PR material. The result, Petitioners contend, will be increased vehicular traffic on all east and westbound streets between 12th Street and 20th Street, bringing with it air pollution, noise, and vibrations endangering the 19th century buildings which line these blocks, challenging the character of the Greenwich Village, Chelsea, and Flatiron communities, and likely causing delay in the crosstown transit of emergency vehicles."

Other Challenges and Legal Implications

- Cooperation between government agencies and developers
- Regulatory hurdles
- Unintended secondary effects of congestion
- Safety risks when transitioning out of pedestrian zones
- Pushback from businesses and transportation companies

Scooters and Bikes – Tremendous Growth













Industry Developments Due to COVID-19

In Italy, we've lent some scooters to the **Croce**Rossa Italiana in Rimini, so they can deliver

medicine quickly to residents. ...see more



Even during a pandemic, life doesn't stop.

People still need to go places, whether they're medical personnel working the ...see more



Lime Aid Brings Safe Essential Services For Cities, Free Rides To Health Care Workers...

San Francisco Case Study

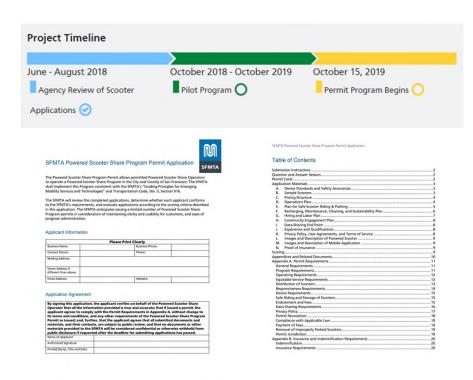
SAN FRANCISCO MUNICIPAL TRANSPORTATION AGENCY BOARD OF DIRECTORS

RESOLUTION No. 190716-098

WHEREAS, In May 2018, the SFMTA Board of Directors approved changes to the Transportation Code, Division II, to establish the Powered Scooter Share Pilot Program (Pilot); and,

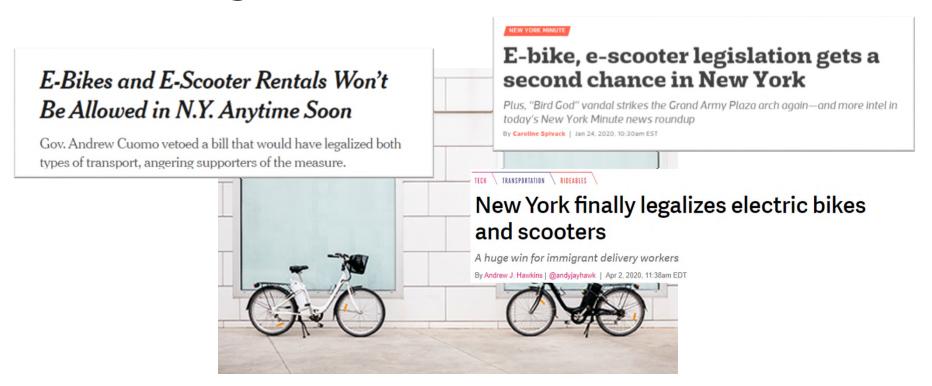
WHEREAS, The SFMTA reviewed 12 applications and granted two 12-month permits to the strongest applicants effective October 15, 2018-October 14, 2019; SFMTA staff released a Mid-Pilot Evaluation in April 2019 to the Board of Directors summarizing key findings including that the Pilot yielded notable public benefits as a useful component of San Francisco's transportation system; and,

WHEREAS, The proposed Transportation Code revisions amend the Transportation Code, Division II, to modify existing Powered Scooter Share Permit Program requirements to, among other things, remove the limitations of the pilot program, authorize the Director to determine the appropriate number of permitted scooters and permittees, require that powered scooters have integrated lock-to devices, revise distribution and rebalancing requirements, update data sharing terms, adjust the permit fee schedule and endowment fund amounts, revise the fine structure for parking violations as between permittees and non-permittees, require a more robust community engagement process, and require that applicants provide sample scooters for inspection and evaluation by the SFMTA; and,



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Statewide Regulation – New York State

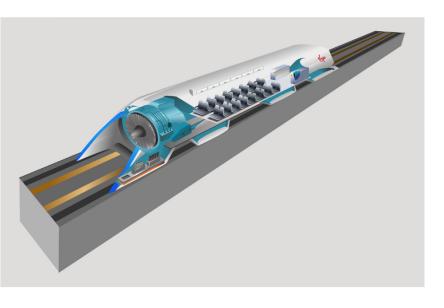


Scooters and Bikes – Other Legal Implications

- Municipal Regulations and Exclusivity Agreements
- Environmental Regulations and Impact
- Labor and Employment Issues
- High M&A Activity
- Liability/Personal Injury Issues



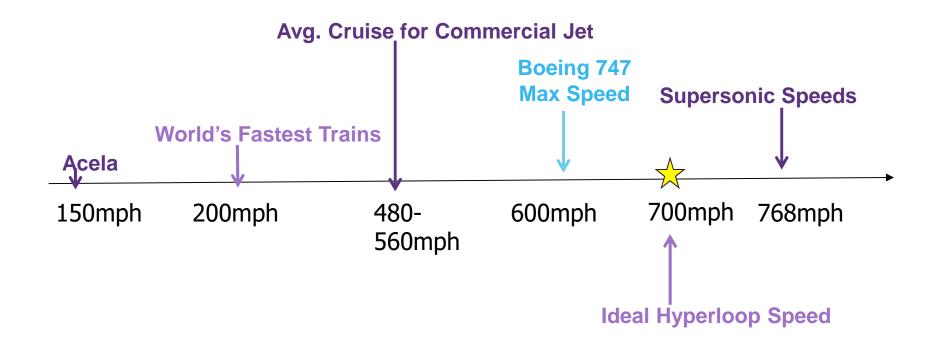
Concept – Virgin Hyperloop One



- New proposed method of transportation.
- Passengers or cargo are loaded into the hyperloop vehicle and accelerate gradually via electric propulsion through a low-pressure tube. The vehicle floats above the track using magnetic levitation and glides at airline speeds for long distances due to ultra-low aerodynamic drag.
- Active development since 2013.

Source: Virgin Hyperloop One & Hyperloop Transportation Technologies

How Fast is Hyperloop?



Who is Developing Hyperloop?









Boring Company and Urban Tunneling





Photos: The Boring Company

Lawsuits to Stop Tunneling



REPORT NO. R 18 - 0 1 3 5

REQUEST FOR CLOSED SESSION PURSUANT TO GOVERNMENT CODE SECTION 54956.9(d)(1)

REPORT RE:

STATUS OF PENDING LITIGATION

BRENTWOOD RESIDENTS COALITION ET AL. V. CITY OF LOS ANGELES LASC CASE NO. BS 173523 - COUNCIL FILE 17-1342-S1 (COUNCIL DISTRICTS 5 AND 11)

The Honorable City Council of the City of Los Angeles Room 395, City Hall 200 North Spring Street Los Angeles, California 90012

Honorable Members:

This Office recommends that discussion with, and advice from, legal counsel with respect to this pending litigation be scheduled and held in closed seasion pursuant to Calfornia Government Code Section 54956.9 (e)(1). Government Code Section 54956.9 (e)(included to the Calfornia Government Code Section 54956.9 (e)(included to the Calfornia Government Code Section 54956.9 (e)(included to the Calfornia Government Code Section 64956.9 (e)(included to the Calfornia Government Code Section (included to the Calfornia

This matter involves a proposed tunnel excavation permit for the Boring Company's Proof of Concept Tunnel Project.

City Hall East 200 N. Main Street Room 800 Los Angeles, CA 90012 (213) 978-8100 Fax (213) 978-8312



Lawsuits to Stop Tunneling



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Jetpacks

Own the Sky: David Mayman launches jetpack documentary with thunderous public flight demo



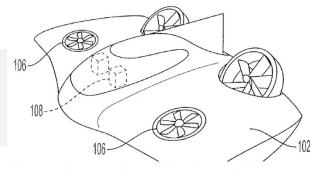
Flying Taxis



Jan. 16, 2020

Toyota and Joby Aviation are Flying to New Heights Together

Boeing Partners with Porsche



Bell and Hyundai Soar Into the Air Taxi Race

At CES, the helicopter maker and the global manufacturing giant unveil their concepts for flying urban mobility.



Flying Taxis



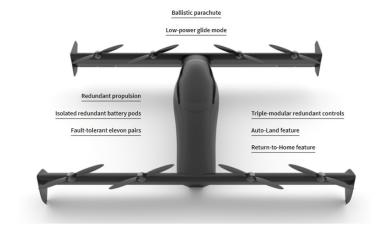
'GoFly' Fly-Off Showcases the Future of Personal Flight

By David Cardinal on March 2, 2020 at 10:02 am 6 Comments

Wisk strikes a deal to conduct a flying taxi trial in New Zealand

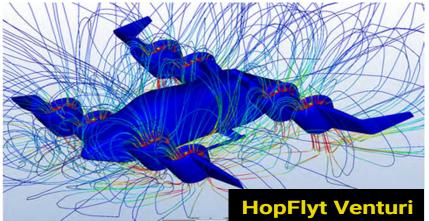
Wisk is a joint venture between Boeing and Larry Page's Kitty Hawk

By Andrew J. Hawkins | @andyjayhawk | Feb 4, 2020, 11:57am EST



Flying Taxis







White House: 2021 R&D Budget Priorities

Policy Memorandum M-19-25

Office of Science & Technology Policy (August 30, 2019)

American Leadership in Industries of the Future

The Trump Administration continues to prioritize the technologies that power Industries of the Future (lotF) . . . Departments and agencies should support the development and deployment of advanced communications networks by prioritizing R&D consistent with the National Spectrum R&D Strategy. They should prioritize R&D to lower barriers to the deployment of surface, air, and marine autonomous vehicles with a focus on developing operating standards, integration approaches, traffic management systems, and defense/security operations. **Departments and agencies should prioritize R&D that enables electric vertical-takeoff-and-landing** and civil supersonic aircraft, including for type certification, the creation of over-land supersonic flight noise standards, and low-sonic-boom aircraft research....

NASA: UAM Grand Challenge

Grand Challenge Will Bring NASA, FAA And Industry Together On UAM NASA / FAA (September 18, 2019)

Our next step for realizing UAM begins in 2020 with preparations for a series of activities called the Grand Challenge.

The Grand Challenge series will offer something more valuable than a prize purse – valuable knowledge that will be given to the organizations working to establish the certification requirements and standards needed for the market to move forward.

It's about promoting public confidence in advanced air mobility systems, and helping organizations and companies learn what it really takes to operate air vehicles safely in an urban environment.

Air Force: Agility Prime

- The Air Force recently launched Agility Prime, a non-traditional program seeking to accelerate the commercial market for advanced air mobility vehicles
- Agility Prime aims to bring together industry, investor, and government communities to establish safety and security standards while accelerating commercialization of this revolutionary technology.
- The Innovative Capabilities Opening establishes a rapid contracting mechanism beginning in 2020 with a "Race to Certification" series to drive government procurement of operational capability by 2023.

FAA: "[W]e're out in front with urban air mobility"

Daniel Kevin Elwell, Acting Administrator, FAA

Uber Elevate Urban Air Mobility Summit 2019 (June 11, 2019)

We learned that the hard way when UAS technologies and an entirely new industry sprung up practically overnight and we weren't ready for it.

We're sort of caught up now, but we are also determined not to let it happen again.

That's why we're out in front with urban air mobility, or UAM, working with the industry and with NASA to make sure we get it right.

FAA: "Yes, this is more than just hype."

Jay Merkle, Executive Director, UAS Integration Office, FAA

Transportation Research Board (January 13, 2020)

I want to close with some thoughts on the next very, very innovative piece of technology that we see emerging, and that's urban air mobility. . . . And probably the biggest question I get on this is, is this real? Are they really happening? Yes, this is more than just hype. This is more than just promotional videos. We have at least six aircraft well along in their type certification, which is the first step in introducing the new aircraft into operation.

We are beginning to work on integrating them operationally, so the pilot requirements, the airline operating requirements, and then were also beginning to work on the air space integration as well. . . . So we think that's going to be a very important area over the next few years, and we see that as we solve the problems with small UAS, and beyond visual line of site, we'll be turning more and more of our attention to these urban air mobility.

FAA and DOT

Federal Aviation Administration (Large UAS)

- Special Airworthiness Certificate (SAC)
- FAA Order 8130.34D
- Proposed operation does not present an unreasonable safety risk
- Certification for research and development

Department of Transportation

- Certificate of public convenience and necessity (or exemption)
- Streamlined procedures for UAS operators proposing to delivery "goods" as an "air taxi."

State and Local

Roy Cooper, the North Carolina Governor, said, "We are proud to have the first autonomous aerial vehicle flying in North America, in North Carolina. . . . It's taking off. North Carolina has become the pilot that can help move this kind of business forward. We are excited about that."

North Carolina hosts first U.S. flight of EHang pilotless air taxi





Space Tourism



Space Tourism

SpaceX tourist trips to space station reportedly to cost \$55M each

Axiom Space signed a contract with Elon Musk's rocket company, and could bring tourists to space in 2021.



Informed Consent

Commercial Space Launch Amendments Act of 2004 and regulations adopted on December 15, 2006 by the Federal Aviation Administration (FAA): "The FAA is establishing requirements for human space flight as required by the Commercial Space Launch Amendments Act of 2004, including rules on crew qualifications and training, and informed consent for crew and space flight participants. The requirements should provide an acceptable level of safety to the general public and ensure individuals on board are aware of the risks associated with a launch or re-entry. The rule also applies existing financial responsibility and waiver of liability requirements to human space flight and experimental permits. Experimental permits are the subject of a separate rulemaking".

Informed Consent

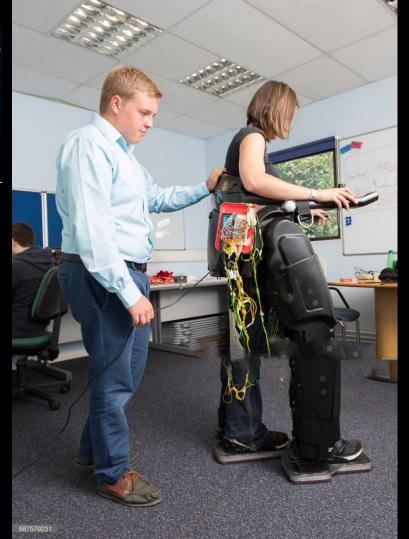
- The state of New Mexico, from which Virgin Galactic will operate, has developed a law on "informed consent for spaceflight":
 - "Civil immunity for space flight entities" that "a space flight entity is not liable for a participant injury resulting from the risks of space flight activities, provided that the participant has been informed of the risks of space flight activities as required by federal law pursuant to federal law and this article, and the participant has given his informed consent that he is voluntarily participating in space flight activities after having been informed of the risks of those activities as required by federal law and this article".

Source: New Mexico Expanded Space Flight Informed Consent Act



Robotic Exoskeletons, Like This One, Are Getting More Practical

By Jason Dorrier - Dec 18, 2019 @ 6,815



Regulatory Implications

- Department of Labor: Occupational Safety and Health Administration (OSHA)
 - Guidelines for Robotics Safety (STD 01-12-002-PUB 8-1.3) (1987)
 - Technical Manual TED 01-00-015, Section IV (1999)
 - U.S. Department of Labor Signs Alliance with Robotic Industries Association and NIOSH to Improve Worker Protections in Emerging Tech Industry (November 2, 2017)
- Americans with Disabilities Act (ADA)
 - Employers are required to provide reasonable accommodations to qualified employees with disabilities
 - Generally, this means providing an accommodation that does not cause an undue hardship to the employer's operations.

Telepresence in the Workplace



Explosive Growth of Remote Work Solutions

Microsoft Teams jumps 70 percent to 75 million daily active users

Microsoft Teams is getting closer to Zoom than many expected

By Tom Warren | @tomwarren | Apr 29, 2020, 6:02pm EDT

TECH

Zoom buys the identity service Keybase as part of 90-day security push

Keybase serves as a secure home for online identities

By Jacob Kastrenakes | @jake_k | May 7, 2020, 9:38am EDT

Verizon will buy video conferencing company BlueJeans

PUBLISHED THU, APR 16 2020-9:00 AM EDT | UPDATED THU, APR 16 2020-10:01 AM EDT

Lauren Feiner

SHARE







Legal Implications

- ADA
- Labor and Employment
- Tax

Morgan Lewis Coronavirus/COVID-19 Resources

We have formed a multidisciplinary Coronavirus COVID-19 Task Force to help guide clients through the broad scope of legal issues brought on by this public health challenge.

Find resources on how to cope with the post-pandemic reality on our <u>NOW. NORMAL.</u> <u>NEXT. page</u> and our <u>COVID-19 page</u> to help keep you on top of developments as they unfold.

If you would like to receive a daily digest of all new updates to the page, please visit either resource page to <u>subscribe</u>, and download our biweekly <u>COVID-19 Legal Issue</u> <u>Compendium</u>.







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