

COVID-19 Commute Predictions for the Bay Area

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April 16, 2020, By Kruti Ladani and Steve Raney,
ALTRANS TMA Inc, providers of staffing to Palo Alto TMA



Silicon Valley Traffic. Photo credit: Shutterstock

Below are some Bay Area-centered predictions as of April 16 that we hope will provoke further discussion/insights. Our predictions will evolve week-by-week as more information comes in.

Predictions: Commuting during COVID "loosening"

When shelter-in-place begins to loosen we expect the following will occur compared to pre-COVID conditions:

- higher SOV mode share because of shorter commute times from less traffic ("induced demand")
- increased telework mode share will "stick"
- a bit more bike commuting mode share because social distancing can be maintained
- lower transit, carpooling, and vanpooling share because of safety concerns
- A few Bay Area bus operators will choose to limit occupancy to maintain 6' social distance. In Eugene, Lane Transit District is limiting riders on buses - 15 for a 40' bus, 20 for a 60' bus. One other TDM program has similar "low-density bus seating" under consideration.
- Lyft Line and Uberpool suspensions will stay in place because of social distancing concerns. For single-passenger Lyft/Uber, some drivers are installing plastic shielding in their vehicle

interior to reduce virus exposure. (Based on medical advice, Didi Chuxing supported plastic sheeting in Chinese cities.)

- Sharing services for bikes, scooters, and cars will continue to be curtailed because of the inability to guarantee a deep clean between uses and per demand reduction.
- Commute with Enterprise allows splitting vanpools to comply with social distancing guidelines as well as vanpool scheduling to match staggered work shifts.

As the economy recovers, the return by commuters to the workplace offers a unique opportunity to establish new commute habits and to reduce SOV. TDM programs/organizations will exploit this habit-formation period to further distance post-COVID commuting from business-as-usual.¹

Predictions: Post-COVID-recovery commute pattern

During COVID, many workers have proven their ability to work from home (WFH). For the approval of new office space, suburban cities (where the default SOV expectation was previously 75%) can now convincingly request 65% or lower SOV mode share, on the assumption of enlarged telework commute mode share. If properly managed, tenants can accommodate more employees in the same building space for almost the same cost. The use of the excellent ITE Trip Generation Manual (10th edition with 2020 multimodal supplement) in setting TDM targets will become suspect.

Further strengthening the WFH argument is an analysis by [Global Workplace Analytics](#):

- 56% of the U.S. workforce holds a job that is somewhat compatible with remote work.
- COVID has increased managers' trust in WFH productivity.
- Employers will improve their bottom line from cost-savings from fewer employees needing office space each day. This will result in reduced demand for office space moving forward. (One unconfirmed rumor has major credit card companies already shedding office space on the assumption of fewer staff in-office each day post-COVID.)
- Employees are increasingly requesting more work-from-home days to provide more personal flexibility. Offering WFH serves as a way to increase employee retention.

There are a handful of US suburban employers with very effective commute programs that deliver SOV mode share well-below 75%. Some employers that operate private commute buses will find blanket, twice-per-month COVID19 commuter testing will be cost-effective, ensuring that buses are free from the virus. Movement by Amazon's Jeff Bezos towards testing all employees is supportive of this prediction.²

As the analysis of wearing masks and "droplet spread" becomes better understood, there is some chance that some transit and mobility services may require riders to wear masks (in order to increase ridership faster).

¹ This idea originated from the national commute program professionals listserv.

² Amazon's Jeff Bezos wants to test all employees for Covid-19 - Bloomberg,
<https://www.bloomberg.com/news/articles/2020-04-16/amazon-s-jeff-bezos-wants-to-test-all-employees-for-covid-19>

MTI's Frances Edwards predicts that when traffic ramps back up to bring congestion to freeway corridors, transit ridership in those corridors will rapidly spring back to 75% of pre-COVID and to 100% within 12 months.

Some startup mobility services that were struggling pre-COVID will not survive. GM shut down their Maven car sharing effort as of April 21.

Pro-climate urban centers that have closed off streets to car traffic will maintain a few of these streets dedicated to bikes/pedestrians.

To allow employees to safely re-enter the physical workplace, Wuhan employers are requiring each employee to be tested to be virus-free.³ In the Bay Area, measures such as requiring the wearing of colored wristbands to signal "virus-free as of X date" could work to accelerate economic recovery, but are probably not politically viable because of privacy concerns.

Current COVID commute pattern modifications

- INRIX finds peak hour speed has doubled from 30 to 60 mph along some portions of Hwy 101.
- As of April 10, Streetlight shows an 86% reduction in VMT, compared to Jan 2020 baseline. A proportionate reduction in GHG can be inferred. INRIX finds a smaller reduction on a different set of measures, 61%, for the Bay Area.
- Both BART and Caltrain ridership are down about 94%, resulting in service cuts.
- VTA, SamTrans, and AC Transit are now free services. VTA ridership is down 89%. Rear door passenger bus entry helps protect drivers. Transit vehicle cleaning frequency/thoroughness has been increased.
- For safety, Scoop (carpooling app) has shrunk and adjusted their service.
- Lyft Line and Uberpool are suspended for safety concerns.
- Bridge and Express Lane human-in-booth staffing is suspended, but drivers will pay tolls by one way or another.

Appendix with Details

- **Transit**

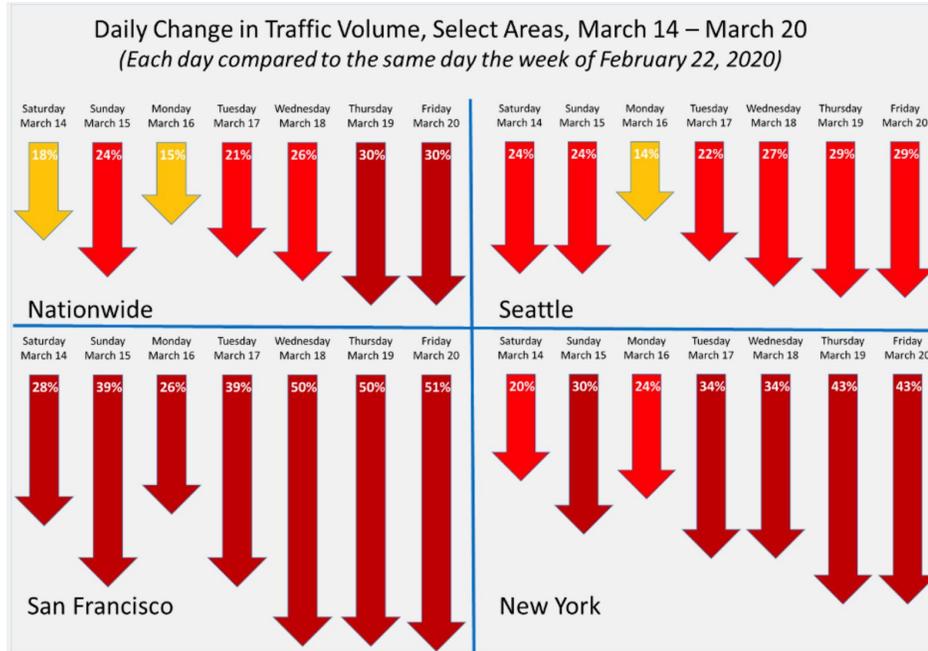
There are several **transit service modifications or reductions** due to coronavirus (COVID-19) and "shelter in place" orders for all 9 SF Bay Area counties. Ridership is down across the board (as low as 95%) which affects farebox revenues; Sales tax revenues and Gasoline tax revenues.

- **Caltrain:** As of March 26, One-way and Day Pass ticket sales have declined by approximately 86% from levels prior to the current health crisis. On the first day of the Bay Area-wide Public Health Order, Caltrain recorded a 95% decrease in average daily

³ Sharon Chen, Bloomberg, <https://twitter.com/sharonchenhm/status/1248785969072881666>

- ticket sales. Limited and Baby Bullet service will be suspended until further notice. Caltrain is running a modified weekday schedule operating 42 trains per day, rather than the usual 92. Caltrain's tight cash position amidst foreseeable-future revenue decline resulted in schedule reduction to reduce costs, while still providing essential transit services to all stations along Caltrain's corridor. (Source: [Caltrain webpage](#))
- **SamTrans** is operating on a non-school day weekday schedule via rear passenger boarding. Since the COVID-19 containment efforts began, SamTrans has experienced a 65-70% average weekday ridership loss. (Source: [SamTrans webpage](#))
 - **VTA** not collecting fares at this time. VTA bus service ends at 9 PM. VTA dropped 89% of passengers (Source: [511.org](#), [MTI⁴ Webinar](#))
 - **BART** is logging daily ridership data. BART ridership for Monday, April 13 was 24,271 representing a 94% drop when compared to April ridership budget projections. Reduced service hours and temporary station closures executed. (Source: [bart.gov/news](#))
 - **Express Lane Tolling Suspended.** Express Lanes on Interstate 580 in Alameda County; Interstate 680 in Contra Costa County; State Route 237 in Santa Clara County; and southbound I-680 over the Sunol Grade in Alameda and Santa Clara counties will be open to all motorists. (Source: [511.org](#))
 - **Bay Area Bridges Suspend Cash Toll Collection**
 - **ACE** down 85% of passengers, downsizing trains, Saturday suspended.
 - **SF Muni** closed subways and light rail, some bus routes; "bus within 1 mile of all SF residents"
- **Scoop** told program members that the probabilities for carpool matching are down. Additionally, they have shifted to only serving essential workers and have changed carpooler experience so that their matching protocol will only be 2 people (no 3 person carpools, regardless of route). (Source: [Scoop webpage](#))
 - GM shuts down Maven car sharing, April 21: <https://techcrunch.com/2020/04/21/gm-exits-car-sharing-business-and-shuts-down-maven/>
 - Marsh Risk Management: *Reopening for Business in a Post-Coronavirus World*. "Once at work, it is reasonable to assume that employees will be regularly tested and screened for COVID-19 symptoms, which will likely raise both privacy and employment law issues." <https://www.marsh.com/us/insights/research/reopening-for-business-in-a-post-coronavirus-world.html>
 - **"Bay Area Traffic Disappears"** Tues March 10: 5:10 pm live google maps shows green freeways versus the typical orange & red. (Source: <https://www.mercurynews.com/2020/03/10/before-and-after-coronavirus-traffic-nearly-disappears-for-commuters/>)
 - "For the first time ever, there is no congestion nationally on America's roadways." (Source: [INRIX](#))

⁴ MTI - Mineta Transportation Institute



- “SF Travel speeds are up by 18 MPH in the morning and by 16 MPH in the afternoon on average. Highway 101 is fully congestion free traveling southbound and nearly congestion free northbound. Southbound travel was going faster on average Tuesday during the peak commute periods than the average free flow speed. Drivers on 101 southbound were actually going over the speed limit on average during both the morning and afternoon peak commute periods.” (Source: [INRIX](#))

Seleta Reynolds, Tpap, Karina Ricks [webinar](#). Transportation in the Coronavirus Era

Transportation in the Coronavirus Era

Come and hear our three panelists share their current thinking on the transportation challenges that we are facing and how they are responding and planning ahead.



Karina Ricks
Director of Mobility & Infrastructure - City of Pittsburgh



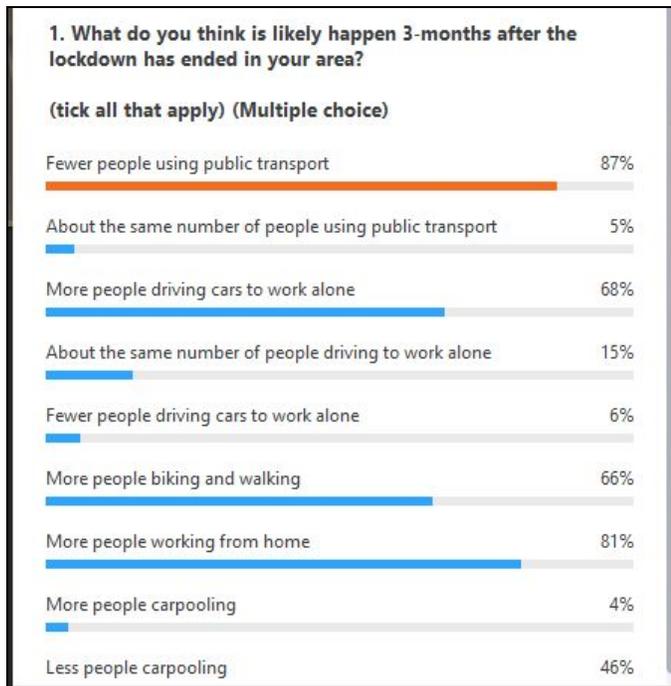
Timothy Papandreou
Founder
Emerging Transport Advisors



Seleta Reynolds
General Manager
Los Angeles DOT

Wednesday, April 22, 4pm ET / 1pm PT - register at ride-healthy.com/webinars

Attendee 3-month forecast:



- Seleta: Many jobs for undocumented workers are never coming back.
 - Transit ridership is off 90%. Auto speeds are increasing.
 - Made public transit free w/ backdoor boarding
 - A holistic LA approach: Created new service to move unhoused people to hospitals, etc.
 - Creating a food delivery service for adults.
 - Companies with gig workers - won't provide safety plastic sheet because that would be treating workers like employees (and that's an ongoing battle)
 - Opportunity to improve social equity. LA Black Lives Matter not looking what progressive planners are pushing (slow streets and better bike lanes). That's not where they are at.
- Karina:
 - opportunity for a radical re-think.
 - concerned that teleworking benefits are for upper income earners, worsening equity issues
 - need a childcare solution over the next six months
 - how do we maintain the non-driving city that we built up? We want the return to transit, but if it shifts to micromobility & biking, that's OK.
 - [Pittsburgh mobility collective](#). Urban MaaS. Objectives: Integrated, seamless.
- Tpap:
 - expect a deeper recession because so many businesses were built on funny money (like leveraged private equity-owned companies that can't cover costs).
 - Will need contactless transit fare payment
 - Hopes bikes and scooters will win mode share. Wants more efficient use of urban asphalt via smaller vehicles. Can we subsidize these modes?
 - Loves Oakland's 74 miles of slow streets & Milan's bold move to reduce cars

- Wants feebate pricing: fee on the bad thing and rebate to good thing. Current system is upside down. He leans towards multidimensional pricing: occupancy, age, income, current conditions, GHG, use of city ROW, etc. a la proposed by UC Davis's Gil Tal (and others).
- Thomas Stokell:
 - raise the gas tax?

April 21 blog post: AMERICA ON PAUSE: VEHICLE TRAVEL DURING COVID-19 AND WHAT COMES NEXT, By Tony Dutzik, Associate Director and Senior Policy Analyst, Frontier Group

- <https://uspimg.org/blogs/blog/usp/america-pause-vehicle-travel-during-covid-19-and-what-comes-next>
- Nice summary of Streetlight Data across the US. Rather than making bold predictions for the future, he says VMT could snap back or could stay lower.

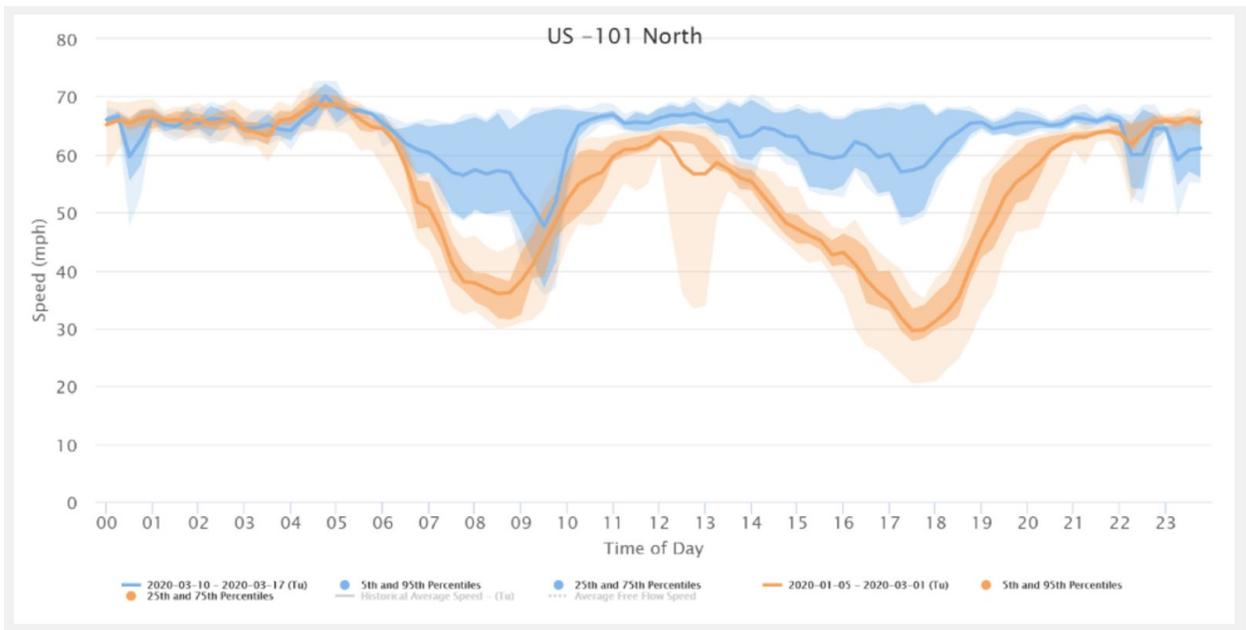
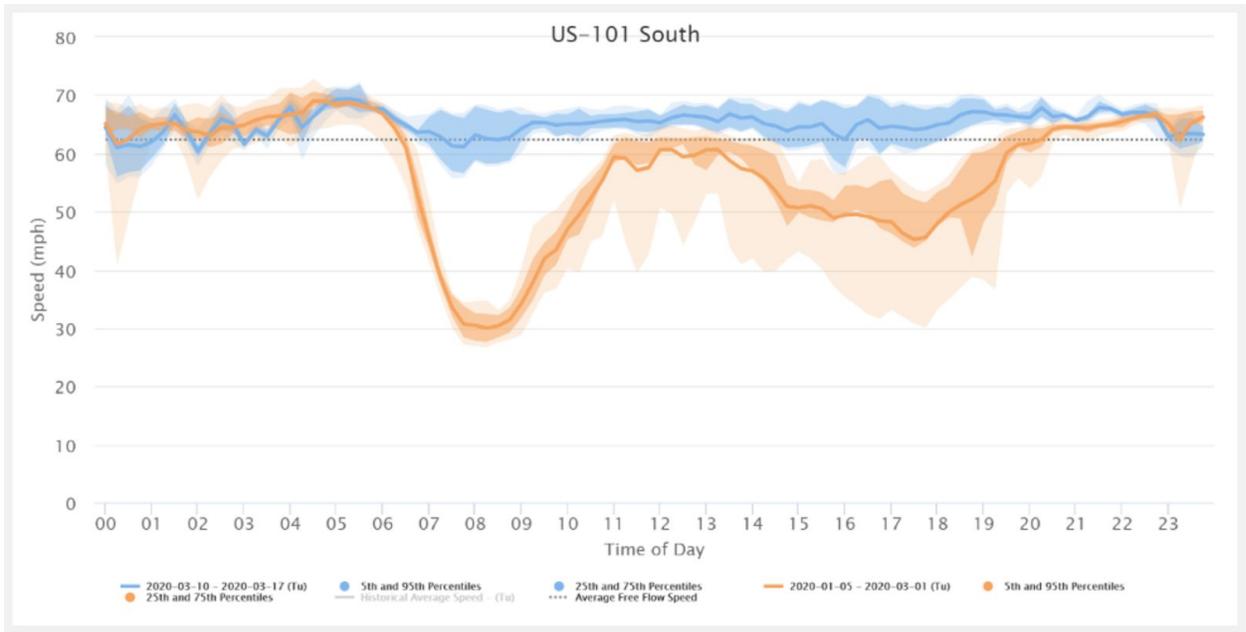


April 27 Webinar by UC Davis 3 Revolutions (shared, electric, autonomous vehicles) Project

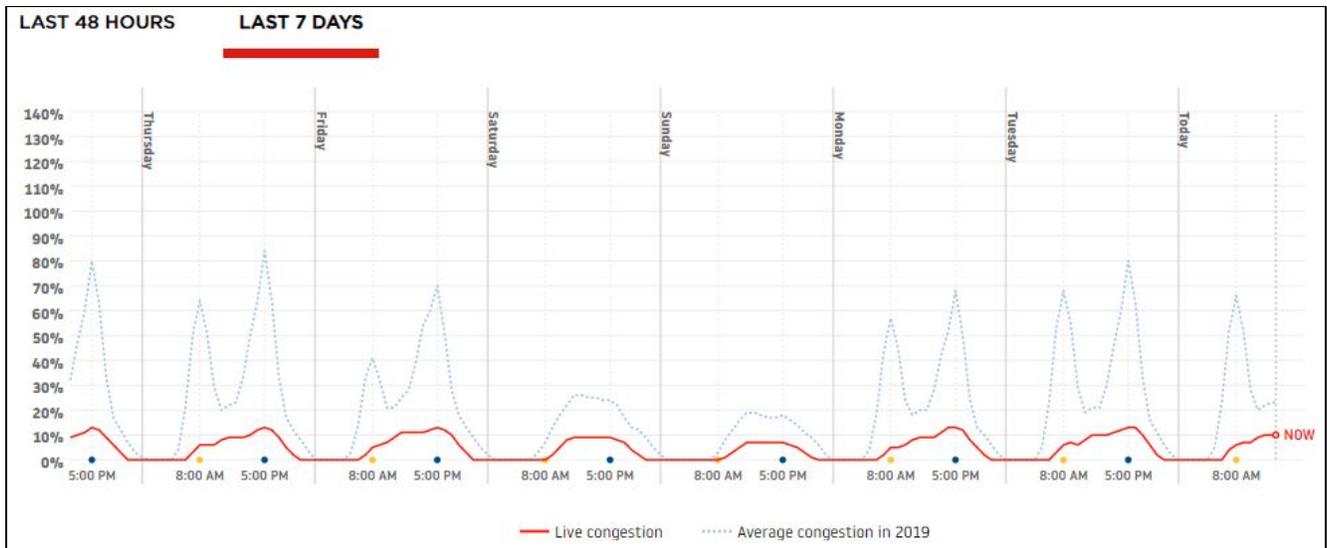
- 700 people attended the webinar!

Accompanying article: [What the Present Pandemic Means for the Future of Transportation](#)

- Reports on current changes in the system, equivalent to the Altrans Medium article and this google doc. Adds some new references. Mentions that some public transit buses are being equipped with plexiglass barriers to reduce driver exposure.
- Emphasizes the precarious financial situation public transit is in.
- Scooter share: Lime and Bird paused operations. Sacramento shut down Jump. Recommends more study of the health risks.



- Tom-Tom SJ traffic index, https://www.tomtom.com/en_gb/traffic-index/san-jose-traffic/:



- Some Uber/Lyft drivers are taping up ad-hoc plastic shielding in their vehicle interiors to prevent exposure to riders:



- **Teleworking**

- A white paper by UChicago implies that 37% of U.S. jobs can plausibly be performed at home. Data sources: O*NET and Bureau of Labour Statistics (Source: [How many jobs can be done at home. April 2020](#))
- Association for Commuter Transportation (ACT), through the Telework Council might do a post COVID case study and recommendation for preparing future events. (Source: [ACT Virtual Discussion](#))
- For those organizations (eg hospitals and universities) that have not previously promoted telework as a standard practice are now actively discussing integrating telecommuting as a standard practice.

- An article in Forbes describes the pandemic as “the biggest experiment in working from home in history”. ([Why The Coronavirus Is A Great Opportunity To Really Put Remote Working To The Test](#))
- [Global Workplace Analytics](#) has launched a work from home experience survey.
 - Current estimates are that 56% of the workforce could work-from-home at least part of the time.
 - Only 3.6% of the employee workforce currently works from home. (half-time or more)
 - Predicts that 25-30% of the workforce will be WFH multiple days a week by the end of 2021.

- **Recovery Scenarios**

- Biking and walking will be clear winners for those that live close to workplaces (Transp-tdm thread, majority of opinion on post-pandemic discussion)
- Dr. Frances Edwards, the presenter at [Mineta Transportation Institute’s webinar on Transit and COVID-19](#), predicts the following based on past events that disrupted transit and ridership. Service in a congested area where people are limited by the traffic situation returns to 75% transit ridership levels within a few weeks and then ramps up to 100% within a year. On the other hand, areas with moderate traffic (or work around traffic issues), the transit system recovered slowly.

Transit Ridership Impacts

Role of Public Perception of Safety

- * 1993: Long Island Railroad Murders
 - * 2001: 9/11 New York Subway damage
 - * 2001: Anthrax mail attack/DC Metro
 - * 2004: Madrid Train Bombing
 - * 2005: London Transit Bombing
 - * 2005: Hurricane Katrina
 - * 2012: Hurricane Sandy NYC
- Congested areas = little/short term impact
 - Moderate traffic areas = slow return



9/11/01

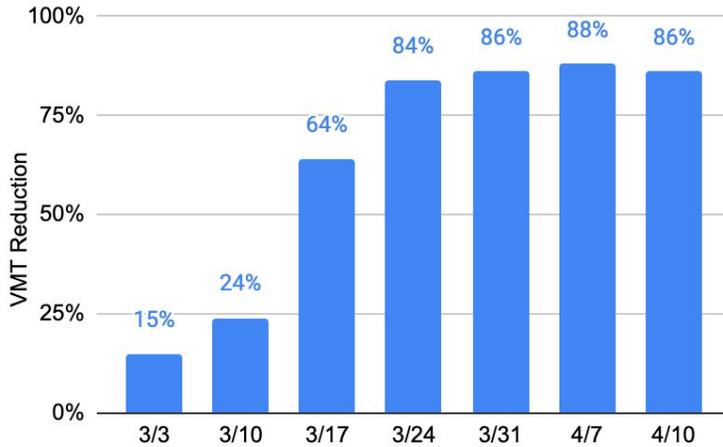


Hurricane Sandy

- **VMT Reduction**

1. [Streetlight Data](#)

As of April 10, shows an 86% reduction in VMT, compared to Jan 2020 baseline



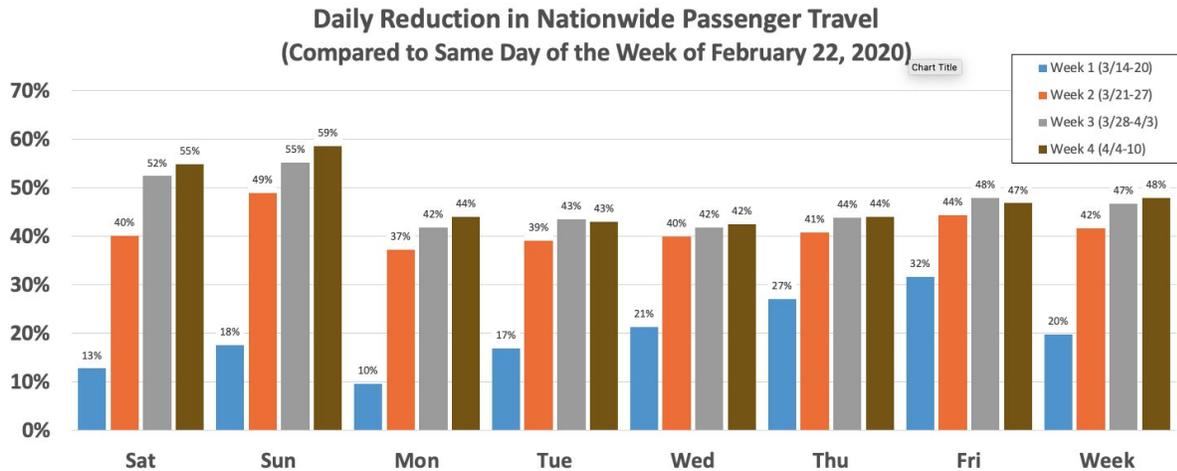
(Source: [Streetlight Daily VMT Monitor, Santa Clara County](#))

2. INRIX

Nationally, travel declined for the 4th consecutive week, but passenger travel showed signs of stabilizing

- Personal travel down 48%
- Long haul truck travel down 9.6%
- Local area commercial travel down 16%

(Source: [Inrix National Traffic Volume Synopsis](#))



- **GHG Reduction**

- As of 4/10 Streetlight data, approximately 16,900 MT transportation GHG have been reduced. (Source: [Streetlight VMT Monitor, GHG Calculation](#))

- **US Commute mode share, source [enotrans](#) from ACS 2018**

- 76% drive alone, 9% carpool, 5% transit, 2.5% walk, 5% work from home.
There are six US metropolitan areas with high transit use: NYC, SF, Boston, DC, Chicago, and Seattle (from 32% in NYC down to 11% in Seattle).