

South Bay Cities Council of Governments

May 25, 2017

TO: SBCCOG Board of Directors
FROM: SBCCOG Transportation Committee
RE: SBCCOG Transportation Update –May 2017

Adherence to Strategic Plan:

Goal A: Environment, Transportation and Economic Development. Facilitate, implement and/or educate members and others about environmental, transportation and economic development programs that benefit the South Bay.

FEDERAL

Federal Infrastructure Bill Faces Long and Winding Road

As of April 6, President Trump was reported to be considering borrowing as much as \$300 BILLION to fund his ambitious \$1 TRILLION public-private-partnership infrastructure financing program. Office of Management and Budget (OMB) Director Mick Mulvaney said that the Administration's proposed FY 2018 budget could include \$200 billion for infrastructure with the understanding that it would be leveraged at a 5-to-1 ratio to spur more than \$1 trillion in infrastructure investment. The Administration's full infrastructure proposal is not expected to be released until this summer or fall.

However, it may be well into 2018 before a comprehensive infrastructure bill reaches the President's desk. Any such measure would face three major roadblocks for Congress to determine what they want to build and how they want to pay for it.

- First, because there is no consolidated Infrastructure Committee in the House or Senate, the bill(s) would have to be considered in more than a dozen Congressional standing committees that are currently responsible for each category of infrastructure: surface transportation, air transportation, water resources, telecommunications, and energy.
- Second, specific criteria would need to be agreed upon to determine how project candidates will compete for massive, yet limited, funding. Current selection criteria does not consider cross-cutting tradeoffs between sectors. And the different federal agencies that guide development of the individual investment criteria, ex. USDOT vs USEPA, have differing missions and competing priorities. Without clear Congressional selection criteria, each infrastructure sector invests its political capital and rhetorical arguments to garner support for their high-priority projects.
- The third and biggest roadblock of all will likely be finding the money for a consolidated long-term infrastructure bill. If Congress' surface transportation fights between 2005 and

2015 are any indication, where a refusal to hike the federal gas tax made it difficult to pass a long-term bill, it will be next to impossible to move a bill without a dedicated and substantial new funding source.

Facing criticism that the projects should be selected before an arbitrary funding amount is committed, the president has established a commission to provide advice on which projects the administration should fund.

Annual Continuing Resolution Count Begins As Federal Funding Bills Are Considered

Congress passed its first Continuing Resolution of the federal programs on April 27th, one day before programs expired on April 28. The initial extension through May 5th allows the bills to be paid while Congress continues to deliberate on how much it will appropriate for several discretionary transportation programs for the balance of the current fiscal year and FY 2018. Republicans and Democrats are reportedly close to a deal that would combine the FY 2017 appropriations bills into a single Omnibus funding bill.

In March, the President proposed significant cuts to transportation programs in the Administration's FY 2018 "Skinny Budget" proposal released in March. This included cuts to the Capital Investment Grants program (New Starts) and completely zeroing out both the Transportation Investment Generating Economic Recovery (TIGER) grant program and the Essential Air Service (EAS) program. Additionally, the Administration suggested cuts to these programs for FY 2017 to offset an increase in Defense spending and funding for a southern border wall.

STATE

Governor Signs \$52 Billion State Transportation Funding Plan and \$900 Million Side Deal

The California legislature sent S. B. 1 to the Governor on April 6th. The measure authorizes the largest gas tax increase in state history in a move projected to raise \$52 billion over 10 years to fix the state's crumbling roads, bridges, and public transit systems. S. B. 1 will generate more than \$5 billion per year over the next decade for road repairs and local transit projects by indefinitely increasing gas and diesel taxes and hiking vehicle registration fees. The state estimates that the increases will cost the average driver roughly \$10 per month or less.

S.B. 1 was passed by the required 2/3 vote after a commitment was made to pass S.B. 132, the bill that included more than \$900 million in backroom vote-getting deals, which was sent to the Governor on Monday, April 10th. The deals could not be included in S. B. 1 because Prop 54, passed by voters in November, requires bills to be in their final form for at least 72 hours before being voted on. Amending S.B. 1 would have triggered a waiting period, and legislative leaders wanted to approve the bill before the start of their spring recess.

California truckers supported S. B. 1 after a provision was added to exempt trucks currently on the road from new state air-pollution regulations for as long as 18 years to give truck owners reassurance that they'll get to continue to use engines that meet current rules set by the California Air Resources Board.

S. B. 1 reaffirmed the state’s commitment to fund transportation with transportation-related user fees, namely fuel taxes and motor vehicle fees and nearly all sources are indexed to the Consumer Price Index, so they don’t lose value each year. The only new tax or fee in S. B. 1 that isn’t indexed is an increase in the sales tax on diesel fuel, which will rise and fall along with the price and consumption of diesel.

Overview of Revenue Increases in SB 1

Funding Source	Estimate of 10-Year Revenue	Indexed to the Consumer Price Index
12-cent per gallon gas tax	\$24.4 billion	yes
Vehicle registration surcharge (transportation improvement fee)	\$16.3 billion	yes
20-cent-per-gallon diesel excise tax	\$7.3 billion	yes
4% increase in diesel sales tax	\$3.5 billion	
\$100-per-year zero emission vehicle fee	\$0.2 billion	yes
General fund loan repayments (one time)	\$0.7 billion	

Language included in S.B. 1 sets the agenda for how the new funding will be spent, as follows:

“It is the intent of the California Legislature that the Department of Transportation meet the following preliminary performance outcomes for additional state highway investments by the end of 2027, in accordance with applicable state and federal standards:

- 98%** of pavement on the state highway system in good or fair condition
- 90%** level of service achieved for maintenance of potholes and cracks
- 90%** of culverts in good or fair condition
- 90%** of the transportation-management system units in good condition
- 500+** additional bridges are fixed”

Could California’s Traffic Generate Clean Electricity?

The California Energy Commission on April 19th agreed to allocate \$2.3 million to two independent road projects designed to test the viability of scaling up piezoelectricity arrays installed beneath roadway pavement to generate electrical power from traffic, a plan that involves harnessing road vibrations with the intent of turning the automobile, like the sun and wind, into a viable source of renewable energy.

“Piezo” is Greek for “squeeze” or “press” and refers to using pressure to create power. Piezoelectricity devices that convert mechanical force into electricity are used in watches and

lighters and are being tested for power generation on sidewalks and runways. A San Francisco nightclub has even leveraged the pulses of a dance floor to power its lights and music.

But it remains to be seen whether the science can be employed on a large scale — threaded beneath the state’s sprawling highway system and rigged to produce significant, cost-effective electricity. The resulting electricity could be used to power nearby lights and signs, stored in batteries or sent to the grid. The premise is that the more traffic there is, and the heavier the vehicles are, the more power can be created. Some state estimates suggest that just 400 cars an hour would need to pass over the arrays to make them economically viable. The new test projects will evaluate any potential harm done to the roads, while studying whether the technology can compete economically with solar and wind power and if the vibration and insertion of the devices increases the pavement maintenance more than the energy savings generate.

The first demonstration is scheduled for the eastern edge of the UC Merced campus where a 200-foot stretch of asphalt will be sowed with tiny piezoelectric generators stacked “like quarters” within numerous arrays beneath the pavement, where each will convert the force of passing cars into a small electrical charge.

The second piezoelectric project, which will be undertaken by the company Pyro-E in San Jose, is expected to build upon recent demonstrations with a design that would power up to 5,000 homes from a half-mile of highway. In addition to generating electricity, the company also intends to explore whether the technology could be used for data collection, recording traffic conditions and aiding navigation for self-driving cars.

Caltrans-Led Program Seeks to Ease Traffic Woes In Multi-Jurisdictional Corridors

Caltrans is leading a multi-jurisdictional program in the I-210 Corridor to reduce traffic congestion in the northern part of the San Gabriel Valley. The project, called Connected Corridors, is one of the first wide-scale, Caltrans-led attempts at using data, software and active traffic management to alleviate congestion through travel corridors. The connected corridor, in this context, refers to the entire traffic system: the highway, roads surrounding the area, transit, and bicycle and pedestrian paths.

The pilot program focuses on a 10-mile stretch along Interstate 210 through Pasadena and other cities in the San Gabriel Valley by coordinating efforts of more than 10 stakeholders, such as LA Metro, UC Berkeley’s Institute of Transportation Studies, local governments and transit agencies, who are working together to find an integrated approach — and considering innovative transportation technology systems — in order to ease congestion and improve efficiency. If the program is successful, it will be extended to the entire state — with extensions being added as early as 2018. Extending the program could reduce greenhouse gas emissions and create more reliable travel times.

REGION

LA Waterfront Bike Share program expected to launch in summer

The Los Angeles County Board of Supervisors on April 27th approved bringing the Metro Bike Share program to the LA Waterfront early this summer. No start date has been announced. The proposal calls for 120 bikes to be placed at 11 stations along the San Pedro and Wilmington waterfronts, including the Fanfare Fountain, Battleship Iowa, Downtown Harbor, Crafted, Ports O' Call and Banning's Landing. Payment kiosks at each station allow riders to use either their Metro TAP card or credit card to pay. Costs will vary depending on the options selected.

L.A. City Traffic Deaths Rose Sharply In 2016 Despite Mayor's Vision Zero Program

Traffic deaths in the City of Los Angeles rose sharply despite a high-profile Vision Zero campaign by Mayor Eric Garcetti and other city leaders to eliminate fatal traffic crashes, according to an April 3rd story in the L. A. Times. In 2016, the first full year that Garcetti's Vision Zero policy was in effect in L.A., 260 people were killed in traffic crashes on city streets, an increase of almost 43% over the previous year. And so far in 2017, pedestrian collisions were up 3% compared with 2015, but fatalities involving pedestrians surged 58% over the same period, according to LAPD data.

Seleta Reynolds, the L.A. Transportation Department's general manager, attributed the rising number of fatalities to increased car sales and car registrations, an increase of pedestrians and bicyclists in neighborhoods, and the fact that the Los Angeles Police Department is issuing dramatically fewer speeding tickets today.

The LAPD's speeding enforcement is challenged by a state law that prevents officers from using radar to catch speeders unless a new traffic study has been performed in that area. The number of speeding tickets issued annually has dropped from 100,000 in 2010 to about 17,000 in 2015, according to police data.

Pedestrians make up nearly half of the fatalities in traffic collisions, although they are involved in only 14% of total crashes, according to a city analysis of data from 2009 to 2013. The city saw about 55,350 traffic collisions in 2016, which represents a 7% increase over 2015 and a 20% uptick from 2014. Those crashes include collisions between drivers, between drivers and pedestrians or bicyclists, and hit-and-run and DUI-related crashes.

Officials spent more than a year studying collision data to pinpoint the city's most dangerous corridors, and have released a plan that targets about 450 miles of roads. Those streets represent about 6% of L.A.'s network, but see two-thirds of the pedestrian deaths. Many are broad thoroughfares, including Venice Boulevard in West L.A., Sepulveda Boulevard in the San Fernando Valley and Temple Street in Historic Filipinotown. This year, the Transportation Department will focus on 40 of those corridors, making changes that could include left-turn arrows, higher-visibility crosswalks and speed feedback signs. On some streets, officials are planning broader and more costly overhauls, including widening sidewalks or adding medians to eliminate traffic lanes.

One potential source of funding for Vision Zero is revenue from Measure M, the half-cent sales tax that Los Angeles County voters approved in the fall. Los Angeles City is expected to receive more than \$50 million annually from Measure M. City analysts have recommended spending two-thirds of the annual revenue on fixing the city's broken streets. However, Councilman Mike Bonin called for 60% of the city's Measure M Local Return to go toward Vision Zero.

TRENDS

Smartphone Ownership Growth, Broadband Penetration Growth Statistics Are Staggering
U.S. smartphone ownership reached record levels of 77% as of November 2016, according to the latest data from the Pew Research Center. In 2011, just five years earlier, U.S. smartphone ownership was 35 percent. There were more than 18 billion internet addresses in 2016, nearly three for every human on earth. But by 2020, the number of discrete addresses is expected to grow to 50 billion as the number of Internet of Everything devices needing discrete internet addresses explodes.

It's probably no surprise that 92 percent of young adults now own smartphones. Yet 74% of adults age 50-64 have smartphones, up 16% from 2015. The Pew analysis also reveals that 88 percent of Americans now use the Internet. That's up from 52% in 2000, when the independent, non-profit research organization began tracking Internet usage. Just 5 percent of Americans used social media when Pew began tracking usage in 2005. In the ensuing 11 years, that use had risen to 69 percent by last November. As expected, social media usage is highest among young adults (18-29), 86 percent of whom use it. A large majority of those 30-49 (80%) and 50-64 (64%) use social media as well. Only about one-third (34%) of Americans 65 and older do so, but that's up from around 10% as recently as 2010.

The percentage of U.S. households with broadband service rose to 73% as of last November. The National Cable Television Association claims that 88% of the US market has access to at least 2 wired internet service providers and 98% of US homes have access to 2 wireless providers.

Gains have been skewed toward those with higher levels of education and incomes. Although home broadband is present in 91 percent of those in which college graduates live, it is also available in 34 percent of households of Americans who haven't graduated high school. Furthermore, more Americans without broadband at home relied on their smartphones for Internet access. Twelve percent of those responding to Pew surveys said they are "smartphone dependent," up 4 points since 2013.

Telecommunications companies have invested more than \$1.5 trillion to provide fiber connections to American households. But private investments can't meet all the need, especially in markets that are not considered economically viable. To fill the gap, government-mandated programs subsidize low-income customers, rural health clinics, schools and libraries, and rural areas with poor connectivity. Funding for these programs comes from the Universal Service Fund, through a fee assessed on telecommunications providers based on how much their subscribers pay for service. Most companies charge their customers to recover this cost, making it another form of public funding of broadband expansion.

More Americans Now Work Full-Time From Home Than Walk And Bike To Office Jobs

In the United States, the past decade has been marked by booming cities and a crush of young workers flocking to job-rich downtowns. Yet another trend has been largely ignored. According to a Quartz analysis of the American Community Survey released on April 13th, a record 2.6% of American employees now go to their jobs without ever leaving their houses. That's more than walk and bike to work combined.

The data show that telecommuting has grown faster than any other way of getting to work—up 159% since 2000. By comparison, the number of Americans who bike to work has grown by 86% over the same period, while the number who drive or carpool has grown by only 12%.

With an average annual income of nearly \$80,000, people who work from home earn the highest wages of any major category of commuters tracked by the US census. Though managers are the largest group of remote workers, as a percentage of a specific occupation, nearly 8% of programmers now work from home, following a staggering increase of nearly 400% since 2000.

Nine Radical Transportation Technology Changes That May Reach The Market By 2020

If you want to keep track of the frantic pace of transportation innovation, you probably want to bookmark the following nine transportation technology innovations that already have working prototypes from well-funded companies aiming to bring their working products and services to market by the early 2020s:

- 1) Electric cars;
- 2) Self-driving cars;
- 3) Rolling delivery drones;
- 4) Flying delivery drones;
- 5) Vertical-takeoff airplanes for intracity travel;
- 6) Supersonic airplane renaissance;
- 7) Reusable rockets;
- 8) Autonomous long-distance shipping in ships and trucks; and,
- 9) The Hyperloop.