

South Bay Cities Council of Governments

February 13, 2017

TO: SBCCOG Steering Committee

FROM: Steve Lantz, SBCCOG Transportation Director

RE: SBCCOG Transportation Update – February 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

Posturing and Polling Begin Regarding Trump’s Trillion \$ Transportation Proposals

At her confirmation hearing on January 11th, Trump’s Transportation Secretary, Elaine Chao, noted that the new Administration plans to pump up to \$1 trillion into infrastructure. One element of the proposed plan would grant close to \$140 billion in tax credits to investors who put their money into roads, bridges and transit in return for the right to impose tolls.

However, 66% of those surveyed in a January 17th Washington Post – ABC News poll said they would oppose a plan if it includes new tolls on existing roads and bridges. Only 29 percent of the 1,005 polled said they would support that plan, with 11 percent saying they backed it strongly and another 18 percent saying they were somewhat supportive. In contrast, 44 percent said they were strongly opposed to the idea and 22 percent said they were somewhat opposed.

Chao, who was confirmed by the Senate on January 20th, said in her confirmation hearing that the administration wants to address the trust fund issues, but cautioned that to fix it "the pay-fors are all challenging," with both supporters and detractors for each.

Some in Congress, and among industry groups including the American Association of State Highway and Transportation Officials, have called for the Trump administration to include in the infrastructure plan a permanent revenue fix to cover the annual shortfalls of the Highway Trust Fund.

Senate Democrats laid out their version of a \$1 trillion proposal on January 24th. Rather than relying on tax credits that the Trump administration believes will pay for the programs, the Democrats propose continuing and expanding existing “stimulus” programs and are willing to consider adding to the deficit.

With GOP leaders being wary of adding to the deficit to pay for infrastructure and more interested in tackling health care and tax reform, it is not clear when the administration will unveil its investment proposals; some reports indicate it will be this spring. Others suggesting summer, and there is some speculation that the bill could be included in the tax reform negotiations.

Mayor Garcetti Co-chairs New U.S. DOT Automation Committee

On January 11th, the U.S. Department of Transportation announced a new federal committee on automation related to autonomous driving, drones or other self-guided modes of getting around. The committee is designed to help the department learn from academic, political and industry experts how it should be shaping policy and research in these emerging fields. The committee is co-chaired by Eric Garcetti (LA Mayor) and Mary Barra (GM CEO).

Here's the full list of automation committee members from the DOT:

Co-Chair: Mary Barra- General Motors, Chairman and CEO

Co-Chair: Eric Garcetti- Mayor of Los Angeles, CA

Vice Chair: Dr. J. Chris Gerdes- Stanford University, Professor of Engineering

Gloria Boyland- FedEx, Corporate Vice President, Operations & Service Support

Robin Chase- Zipcar; Buzzcar; Veniam, Co-founder of Zipcar and Veniam

Douglas Chey- Hyperloop One, Senior Vice President of Systems Development

Henry Claypool- Community Living Policy Center, Policy Director

Mick Cornett- Mayor of Oklahoma City, OK

Mary "Missy" Cummings- Duke University, Director, Humans and Autonomy Lab, Pratt School of Engineering

Dean Garfield- Information Technology Industry Council, President and CEO

Mary Gustanski- Delphi Automotive, Vice President of Engineering & Program Management

Debbie Hersman- National Safety Council, President and CEO

Rachel Holt- Uber, Regional General Manager, United States and Canada

Lisa Jackson- Apple, Vice President of Environment, Policy, and Social Initiatives

Tim Kentley-Klay- Zoox, Co-founder and CEO

John Krafcik- Waymo (formerly Google Car), CEO

Gerry Murphy- Amazon, Senior Corporate Counsel, Aviation

Robert Reich- University of California, Berkeley, Chancellor's Professor of Public Policy,

Richard and Rhoda Goldman School of Public Policy

Keller Rinaudo- Zipline International, CEO

Chris Spear- American Trucking Association (ATA), President and CEO

Chesley "Sully" Sullenberger- Safety Reliability Methods, Inc., Founder and CEO

Bryant Walker Smith- University of South Carolina, Assistant Professor, School of Law and (by courtesy) School of Engineering

Jack Weekes- State Farm Insurance, Operations Vice President, Innovation Team

Ed Wytkind- President, Transportation Trades Department, AFL-CIO

John Zimmer- Lyft, Co-founder and President

FHWA Completes Rules That Change Federal Performance Measurement

For generations, federal performance measurement was based on reducing vehicle delay and congestion principally by expanding road capacity. But that changed on January 18th, when the

Federal Highway Administration (FHWA) released the final rules for national transportation performance management measurement. The final rules had been under development since 2012.

Based on the concept that you get what you measure, reformers hope the rules will get states to reconsider highway expansion as a method of dealing with congestion and emissions, since the advocates believe widening roads induces more traffic and pollution. Although the federal government cannot punish states based on how their transportation infrastructure performs, state departments of transportation are required to track the performance of their transportation networks and report to the federal government using the new performance measurements. By introducing new metrics and reporting requirements, their thinking goes, U.S. DOT could compel states to document the failure of highway expansion.

An early draft of these rules would have emphasized the movement of cars and trucks as a primary goal. More than 5,000 comments were submitted seeking an approach that factors in the value of transit, biking, and walking. The revised U.S. DOT standards will lead agencies to assess their work in ways that consider investments in transit and active transportation and advocates will have new data to hold transportation policy makers accountable.

There are three key changes in the final regulation from U.S. DOT, as follows:

1. States will measure the movement of people, not just vehicles - The final rule incorporates a measure of “person-hours” of delay rather than just “vehicle hours.” U.S. DOT’s previous version of the rule measured road performance based on moving the highest number of vehicles. A bus carrying 40 people was counted the same as a single person driving an SUV.
2. State DOT’s will have to track their impact on carbon emissions - For the first time, state transportation agencies will be required to monitor and forecast the greenhouse gas emissions impact of their projects on roads that are in the National Highway System many state highways and major urban streets as well as Interstate routes.
3. People who walk, bike, or ride transit will be counted - The U.S. DOT rule creates a “multi-modal” performance measure that will track “non-single-occupant-vehicle travel.” States will have to establish targets to increase walking, biking, and transit use.

USDOT Reveals A \$926 Billion Highway And Bridge Investment Backlog That Is Up 3.4%
U.S. Transportation Secretary Anthony Foxx on January 12th released a new congressionally-mandated biennial report on the state of America's transportation infrastructure, “2015 Status of the Nation's Highways, Bridges and Transit: Conditions and Performance.” The new report identifies an \$836 billion backlog of unmet capital investment needs for highways and bridges, or about 3.4 percent more than the estimate made in the previous report.

In 2012, the most recent year in which the report’s data were available, federal, state and local governments combined spent \$105.2 billion on this area. The report also indicates that \$26.4 billion is needed per year to improve the condition of transit, rail and bus systems. In 2012, total spending to preserve and expand transit systems was \$17 billion

STATE

Senators Bates and Nguyen Introduce “Repatriate, Rebuild and Repave” Bill

California Senators Patricia Bates (R-Laguna Niguel) and Janet Nguyen (R-Garden Grove) announced on January 30th that they will introduce legislation that could help fund California’s transportation infrastructure with foreign earnings from U.S.-based multinational corporations. Should congressional leaders and the President reach an agreement on the “repatriation” of those earnings, the “Repatriate, Rebuild and Repave” bill would direct California tax windfall from those earnings towards transportation after Proposition 98 and Rainy Day Fund requirements are met.

While the amount of such a windfall cannot be determined until federal action is taken, their bill would:

- Direct the state Department of Finance to annually provide a revenue estimate of funds derived from repatriation.
- Mandate the Legislature and Governor to direct an amount based upon the prior year estimate provided by the Department of Finance for transportation infrastructure.
- Require a continuous appropriation of funds derived from repatriation to the California Transportation Commission, which would be required to direct:
 - 65 percent to the existing Trade Corridors Improvement Fund,
 - 30 percent to local streets and roads, and
 - 5 percent to public transportation.
- Expire after seven years from the date of the first appropriation.

Repatriation is the federal process by which corporations can bring offshore earnings back to the U.S. at a reduced tax rate or through a tax holiday. U.S.-based multinational corporations do not pay U.S. corporate tax on their foreign profits until the profits are repatriated to the U.S. According to the U.S. Congress Joint Committee on Taxation, the total of “undistributed” and “not previously taxed” foreign earnings of American companies amounted to \$2.6 trillion as of 2015. U. S. House of Representatives Speaker Paul Ryan, Senate Democratic Leader Chuck Schumer, former U.S. Senator Barbara Boxer and others have favored tax changes that would encourage corporate repatriation.

Ca. Senator Hill Introduces Bill to Expedite Deployment of Self-Driving Cars in California

State Senator Jerry Hill introduced S. B. 145 on January 17th to eliminate a 180-day waiting period for companies that file an application to deploy driverless vehicles in California. The bill will also remove a requirement that the DMV notify the Legislature each time such an application is submitted.

In 2012, the Legislature and Governor enacted SB 1298 by then-Senator Alex Padilla to set up the framework for authorization of autonomous vehicles in California. The legislation sought to balance the testing and deployment of the new technology with rules to ensure their safe operation and the safe transport of passengers and cargo. The Department of Motor Vehicles published regulations related to autonomous vehicle testing in 2014 that included a waiting period and required notification of the legislature of each application. Although the original regulations required a driver to be in the test vehicle, the DMV is working to finalize regulations for testing and deployment of fully autonomous vehicles, which would not have a human operator aboard.

The 2012 law does not specify what the Legislature should do, if anything, during the 180-day waiting period, and the Legislature has many other means for oversight – such as through the budget process or hearings – that would not entail a six-month gap between application and action.

Botts Dots Being Retired from California Highways

California's iconic Botts Dot, that endless string of white ceramic discs that warns you're drifting out of your lane, has reached the end of its road. The safety device created in 1953 by Elbert Botts in a Caltrans test lab in Sacramento is expected to be relieved of duty sometime this year. California is removing nearly 20 million of the discs from state freeways and highways as the lanes are re-surfaced.

Few states use the Botts Dot and the ceramic discs appear to be a bad fit as a lane marker in the emerging new world of driverless cars that rely on cameras, radar and computers to "read" and understand lane lines. In addition, Federal officials and the vehicle industry say they want more uniformity nationally on lane lines and few other states use the Botts Dots.

Paul Carlson, of Texas A&M University, is leading a national effort to explore what types of roadway devices, including lane markings, are best for the self-driving car era. His project is sponsored by the American Association of State Highway and Transportation Officials, of which Caltrans is a member, and by a group of engineers and commercial vehicle researchers, SAE International.

The most promising replacements are reflective thermoplastic lane lines and plastic lane markers. The reflective thermoplastic lines are more durable than paint and newer reflective plastic markers are easier for older eyes to see since Botts Dots are not considered reflective.

Although drivers can sometimes feel the vibration from Botts Dots while changing lanes, Caltrans officials say they believe the thumping sound is at best a minimal safety enhancement. They point to a Caltrans study in the 1990s on several highways that suggested crash numbers are the same with dots as they are with newer reflective lane lines and markers.

REGION

Metro Bike Share Reaches 100,000+ rides in 6 months

Metro Bike Share launched in downtown Los Angeles last July 7th. Almost six months later, the program has reached its 100,000th ride, 3,365 passes have been sold, and the bikes have travelled 255,728 miles saving 242,514 pounds of carbon dioxide emissions.

The Metro Board in October 2016 approved expanding the system to Pasadena, Port of Los Angeles and Venice this year with costs shared by Metro and the communities. The expansion will increase the system to 1,475 bicycles and up to 125 stations. Metro is also studying the feasibility of further expansion to more than 20 other parts of Los Angeles County.

L.A. Expands Smart-Parking Coverage Area To San Pedro

With more than 40,000 smart parking meters deployed throughout the city, Los Angeles City will expand its dynamically priced LA Express Park program to three new communities this year, including San Pedro, Venice Beach and the University of Southern California. The technology is designed to reduce inner-city traffic congestion with pricing that reacts to demand and mobile apps that supply real-time information about parking availability.

When the program was implemented in 2012, parking revenues nearly doubled due to a rate hike at parking meters. Apps like ParkMe and Parker have enhanced the system with features to notify drivers about current rates, hours, locations, and occupancy. They also provide support for mobile payments, voice guidance to parking spots and the ability to filter parking searches by permit type.

Traffic in the city's denser areas is compounded by drivers circling to find parking spaces. A study by UCLA professor Donald Shoup found that during peak traffic, 68 percent of drivers were hunting for parking. LA Express Park endeavors to reduce the impact of this phenomenon by keeping parking occupancy at 70 to 90 percent at any given time.

Manhattan Beach Introduces Free Electric Vehicle Shuttle Service

The City of Manhattan Beach on February 1st initiated the Downtowner, a pilot electric vehicle shuttle service. The pilot program will operate for at least six months within a roughly three-mile area of Manhattan Beach extending north to El Segundo and south to Hermosa Beach and as far east as Pacific Avenue. If successful, the service could be expanded citywide after the pilot period.

Those who need a ride will be able to use a mobile app to call any of the Downtowner's six electric shuttles, similar to services like Uber or Lyft, with the option of tipping the driver afterwards. Downtowner shuttles will be available from 11 AM to 11 PM daily. Those interested in downloading the app can find links on the Downtowner website, www.ridedowntowner.com.

The service is a city public-private-partnership with the Downtowner, which offers its advertisement-based services in Tampa and Del Ray, FL; Aspen, CO; and Newport Beach, CA.

TRENDS

Las Vegas Nation's First Driverless Public Transit Shuttle In Week-long Pilot

The city of Las Vegas debuted the first driverless, completely autonomous, fully electric shuttle to be deployed on a public roadway in the United States on January 10th. The dozen-passenger shuttle was demonstrated in Las Vegas' new Innovation District. The public rode the shuttle Jan. 11th – 20th, along east Fremont Street between Las Vegas Boulevard and Eighth Street, in regular street traffic.

The city recently established an Innovation District in downtown Las Vegas to create a center for testing groundbreaking technology in the areas of alternative energy, citizen participation, transportation and social infrastructure. The city plans to transform the downtown urban core into a technology incubator focused on safe, efficient, sustainable and environmentally conscious mobility including autonomous and connected vehicles and establishing a platform for deploying innovation.

Santa Monica Is Testing Smartphone-Based Public Input Tools For Urban Planning

Imagine if next time you saw a plan for an out-of-scale building proposed for your street, you could get out your smartphone and swipe left to oppose it? Or see a scheme for a new neighborhood library and swipe right to support it? Or help choose the design and color scheme for street furniture by choosing your preferred picture.

City of Santa Monica authorities are trying to gauge public opinion on everything from street furniture and parking, to murals and market stalls for their forthcoming urban plan, using a digital tool modelled on CitySwipe, which is based on a dating app. CitySwipe presents local residents with pictures and graphic representations of potential choices or scenarios and simple yes/no questions, encouraging people to swipe through the options, as if assessing prospective partners. For the time being, it's fairly basic: a photo of some street art appears with a caption asking: "Do you want more of this?" Folding cafe tables and chairs are shown next to pink park benches, asking: "Which do you prefer?"

It might initially seem superficial, but the questions also solicit attitudes towards walking, bike lanes, housing and beyond. It makes the consultation process effortless, compared with the usual feedback mechanisms of filling in lengthy mailed-out response forms, downloading wordy PDFs, sitting through endless testimony at public meetings, or being accosted by a surveyor with a clipboard.

At the most futuristic end of the public input continuum, augmented reality technology is also spawning one of the potentially most useful innovations in the planning field. In Switzerland, metal frames of proposed buildings have to be erected during the planning process to demonstrate their true bulk, but this app could make a detailed model appear with the swipe of a smartphone screen. The UrbanPlanAR platform, being developed by Heriot-Watt University and Linknode, could allow 3D models of new developments to be superimposed on to their real-world sites, letting local residents virtually walk around future proposals and feel their true impact. To express their reaction, they would simply swipe left to vote no or right to vote yes.

When Do Pedestrian Scrambles Make Sense?

Pedestrian scrambles have enjoyed some increased popularity lately, popping up at Hollywood & Highland in LA and Brand & Harvard by the Americana in Glendale. Pedestrians are given their own signal phase and simultaneously cross the street using traditional and diagonal crosswalks.

There are several advantages to the scramble:

- Pedestrians have their own phase, with no traffic movements, which decreases the likelihood of drivers crashing into pedestrians.
- People wishing to cross both streets can do so in one crosswalk phase rather than two.
- There are no pedestrians during the auto phases, which increases the throughput of the turning movements for cars.

However, there are also several disadvantages to the scramble:

- If the scramble is added at the expense of left turn arrows, the capacity of left turn movements will be negatively impacted. Right turns, which rarely have their own turn arrow, also will be significantly delayed.
- If the scramble is added but the other phases of the light cannot be shortened, the cycle time will increase and all traffic will be delayed.
- Vehicular capacity in general may be reduced, simply by reducing the percentage of green time in each cycle for vehicle movements.
- Pedestrians only wishing to cross one street may wait longer for their signal phase.

Scrambles make sense when pedestrian volumes are very high compared to auto traffic and vehicle turning movements. When pedestrian volumes are low or moderate, all pedestrians can step off the curb at more or less the same time, leaving the tail end of the green cycle for right turns. When there are huge numbers of pedestrians, though, pedestrian flow will continue right until the end of the cycle, and almost no traffic can safely make a right or left turn. This leads to dangerous turns by frustrated drivers and more congestion on city streets.

Autonomous Delivery Drones Are Coming

The company that makes Vespa scooters is testing a drum-like, knee-high robot branded as Gita that functions like an intelligent, agile pack mule and is able to carry 40 pounds. Gita is leaving the boulevards and highways to the car companies and focusing on solutions for smaller urban pathways: the sidewalks, the bike lanes, the corridors of buildings.

The autonomous delivery robot can follow a human—trailing just a couple of feet behind—through doorways, down hallways, around corners and along crowded sidewalks. The robot is programmed to turn on a dime and is capable of moving at up to 22 miles per hour (though for now its top speed is limited by software to half that). According to the firm, Gitas will be able to convoy, following each other in linked teams and wirelessly sharing maps of buildings and neighborhoods. Once Gita has traversed a given route, it can operate autonomously—finding its way back by itself and stopping at previously designated points along the way.

Competing slow speed autonomous light cargo robots already exist—among them one from Starship Technologies and another from Dispatch—that can perform autonomous deliveries, moving along a sidewalk at a few miles per hour. There's also a hotel-specific robot from Savioke that can autonomously ferry room service to guests.