


**CITY OF LOS ANGELES**  
INTER-DEPARTMENTAL MEMORANDUM

Date: November 13, 2015

To: Honorable City Council  
c/o City Clerk, Room 395  
Attention: Honorable Bob Blumenfield, Chair, Trade, Commerce and Technology  
Committee

From: Seleta J. Reynolds  General Manager  
Department of Transportation

Subject: **CARBON DIOXIDE/GREENHOUSE GAS EMISSIONS/REDUCTIONS – LADOT ACTIONS TO  
REDUCE GREENHOUSE GAS EMISSIONS BY 2050 (CF# 14-0907)**

**SUMMARY**

The City of Los Angeles is committed to reducing greenhouse gas emissions. Given that transportation generates a significant portion of California's greenhouse gases, the City of Los Angeles Department of Transportation (LADOT) is conducting several actions to reduce the amount of emissions in our area by 2050.

**RECOMMENDATION**

That the City Council receive and file this report.

**DISCUSSION**

LADOT engages in numerous efforts to reduce emissions that create climate change or negative health impacts. This report seeks to outline the various ways in which the Department contributes to the City's overall efforts to reduce emissions.

The Department adopted a Strategic Plan in 2014 that put sustainability front and center. These efforts include support for sustainable development, clean travel modes and healthy living. Ways of reducing air pollution include, but are not limited to, environmentally-friendly transportation planning, the use of fuel efficient and clean burning vehicles, introducing electric buses housed at solar powered facilities, signal synchronization, supporting bike and pedestrian infrastructure, supporting transit and providing options such as car and bike sharing programs.

Key programs for reducing greenhouse gasses (GHG) target reduced automobile idling and reducing vehicle miles travelled. This includes:

- Automatic Traffic Surveillance and Control System (ATSAC)
- Transportation Planning and Land Use Review Program
- Plans for a City-Regional Integrated Transit System
- 100% clean-fueled transit fleet
- Sustainable transit bus operating and maintenance facilities

- Solar powered-real time transit information signage at bus stops
- Expansion of LA Express Park to additional communities
- Installation of electric vehicle charging stations
- Development and support for alternatives to private automobile use
- Introduction of electric transit buses in LADOT's DASH fleet

#### Mobile Source Air Pollution Trust Fund

LADOT administers and oversees the expenditures of the State's AB2766 funds (Mobile Source Air Pollution Trust Fund) citywide in various air quality programs within other departments and in-house. These funds support ATSAC, air quality demonstration programs, car share, program development and reporting.

#### Automated Traffic Surveillance and Control (ATSAC)

The ATSAC system consists of 4,453 signalized intersections with over 25,000 vehicle detectors and 550 traffic cameras that monitor over 6,000 centerline miles of city streets. The ATSAC System monitors traffic conditions and correspondingly adjusts traffic signal timing to improve traffic flow to reflect changing traffic conditions, thereby reducing congestion and vehicle idling. The ATSAC system improves speeds, reduces total delay, fuel consumption and emissions (CO, NO<sub>x</sub>, VOC) by 3 to 4%. LADOT operates this system on city streets/state highways within the city's geographic boundaries, and at certain intersections in other municipalities and unincorporated areas of Los Angeles County.

According to a December 2012 evaluation of ATSAC by the Texas A&M Transportation Institute (TTI), ATSAC has proven to be "responsive to fluctuations in traffic patterns by changing cycle length, phase splits, and offsets.... (we) expect ATSAC corridors using same methodologies to improve speeds by 13% and to decrease average stopped delay for heavier flows along the arterial by 32 to 43%. ATSAC may also reduce the total delay, fuel consumption and emissions (CO, NO<sub>x</sub>, VOC) by 3 to 4%."

#### Transportation Planning and Land Use Review

The Transportation Planning and Land Use group works closely with the Department of City Planning to further land use policy that promotes a better balanced, multimodal transportation network in the City. Most recently this collaboration was highlighted in the development of the Mobility Plan 2035 that seeks to promote walking, cycling and transit accessibility. The Plan stresses the importance of linking transportation and land use policies and decisions; recommends improvements that would reduce vehicle-miles-traveled (VMT) and green-house gas emissions; and includes policies and programs that would facilitate access to transit for people by leveraging and integrating with the transportation infrastructure investments made in Los Angeles County via Measure R. According to the Plan's environmental impact report, implementation of the Plan's complete streets policies and modal networks would improve key transportation indicators when compared to the "no project" scenario, as follows:

- reduce total vehicle-miles-traveled, thereby reducing green-house gas emissions;
- reduce the percent of people that drive during peak commute hours; and
- increase the percentage of people that walk, bike and use transit during peak commute hours and throughout the day.

Transportation Planning and Land Use staff also reviews transportation impact studies and environmental impact reports for proposed new developments. Staff requires transportation mitigation measures on new development to off-set the adverse impacts of proposed projects on the transportation system. Staff commonly imposes transportation demand management strategies on new development to reduce vehicle trips. Such measures include the formation of carpool and vanpool programs, private shuttles connecting major employment centers to transit stops, subsidized transit fares, shared-use mobility, on-site bicycle amenities (parking, bike-share, repair tools, etc.), creating a safe and walkable environment, bus shelter enhancements, trip reduction goals, parking strategies (unbundling, cash-out), etc. These measures can collectively lead to reduced greenhouse-gas-emissions by reducing the number of commuters that drive alone to work.

Staff is currently collaborating with the Department of City Planning to revise the City's traffic study guidelines to conform to Senate Bill 743, which changes the way transportation impacts are measured under the California Environmental Quality Act (CEQA). SB743 will replace the current Level of Service (LOS) measurement, which solely measure vehicle delay or congestion, to a performance metric that better accounts for multi-modal transportation solutions and greenhouse gas emissions. The State's Office of Planning and Research has indicated that the new CEQA guidelines will replace LOS with VMT as the new transportation impact metric. Evaluating the effects of a project on an area's VMT will help to promote the goals of SB743 which are to reduce greenhouse gas emissions, to develop multimodal transportation networks, and to incentivize a diversity of land uses.

Staff is also the lead on the Integrated Mobility Hubs program, which is a project funded by the Federal Transit Administration (FTA) through the Jobs Access Reverse Commute program. A mobility hub is a suite of services that offers first/last mile multimodal solutions to link individuals from transit to employment centers and related activities (including job training facilities and community colleges). Innovative mobility options include secured bicycle parking, bikesharing, carsharing, and shuttle/jitney services. Users will be able to access these services at select Metro stations through a streamlined electronic platform. This pilot project aims to provide new first/last mile mobility services at designated locations throughout Downtown and Hollywood by 2017. The Mobility Hubs program includes overlapping services also planned by Metro (i.e., Regional Bikeshare and Bike Hubs); therefore staff is coordinating the scopes and schedules of these projects with Metro.

#### City-Regional Integrated Transit System

LADOT operates transit services including Commuter Express (peak hour freeway express service), DASH (intra-community shuttle services), Cityride Program (for seniors and persons with disabilities) and Charter Bus Program. LADOT Transit operates the second largest transit fleet in Los Angeles County (next to Metro), and one of the 50 largest transit fleets in the country. LADOT Transit services carry approximately 26 million passenger trips annually. Commuter Express supplements Metro regional services by providing high speed luxury bus service between residential locations/park & ride facilities and major work centers. DASH services intra-community trips as well as important first-last mile links to the regional transit network.

LADOT transit services help to reduce traffic congestion and associated vehicle emissions. One of our primary goals is to improve the operation and integration of our systems with the regional transit system, and other modes to enhances mobility and provide viable alternatives to single occupant vehicle use. To make using transit more convenient for riders, LADOT has introduced the first on-line transit

pass and ticket purchasing application for mobile phones in the region as well as an innovative discount fare for DASH riders who pay their fare using stored value on their TAP smart card. In addition, LADOT offers real time bus arrival information by telephone, smart phone app and on-line. It has also introduced ten solar powered real time displays mounted on Downtown Los Angeles bus stop signs. It has recently added Wi-Fi on selected Commuter Express routes and is planning a system-wide service and uses social media to alert riders of service changes. LADOT is currently conducting a major Transit Service Analysis to evaluate its existing services, identify potential unmet transit needs in the City and modify/ expand transit services to best meet these needs. This study is expected to be completed by January 2016.

#### 100% Clean Fueled Transit Fleet

LADOT Transit was named a 2014 Sustainability All Star award winner by Green Fleet Magazine for its significant contributions to environmental sustainability and bus fleet efficiencies. LADOT Transit operates a 100% clean fueled transit fleet including vehicles powered by compressed natural gas (CNG) and liquid propane gas (LPG). LADOT Transit conducted a 45-day pilot in 2014 operating a pure electric, zero emission 26' bus manufactured by BYD on LADOT's Downtown DASH Route A service in 2014. The pilot demonstrated that the bus was consistently able to complete a full day of DASH service on one overnight charge of the battery pack.

LADOT also partners with CALSTART, a national non-profit dedicated to the growth of advanced transportation technologies, and BYD to be awarded nearly three million dollars from the California Energy Commission (CEC) for the purchase of four new pure electric zero mission bus (ZEB) DASH buses. These buses would be the first pure electric, long range mid-sized (under 35') public transit buses in the country. The new buses are expected to start operations in mid-2016. LADOT has also received funding from Metro to acquire three more pure electric ZEB and is actively funding opportunities to add more electric buses to the LADOT fleet.

The Department is developing a sustainable bus operating and maintenance facility in downtown Los Angeles. The facility will include bus maintenance and storage areas, an administration building, and infrastructure for fueling of buses including compressed natural gas (CNG) and electric bus charging. LADOT's goal is to achieve Gold LEED certification and include multiple sustainability features including a solar power electrical generation system, water conservation and a roof garden. The facility is expected to start construction in early 2016 and be completed by late 2017.

#### LA Express Park Expansion

LA Express Park is an innovative approach to curb traffic congestion through demand-based parking pricing and real-time parking guidance. It is part of the congestion reduction demonstration initiatives for Los Angeles, and has expanded from Downtown to now include Westwood Village. Future expansion areas include Hollywood, Venice, and Exposition Park/University of Southern California. The goals of LA Express Park are to: 1) increase the availability of on-street parking with demand-based parking pricing that is convenient to pay; 2) reduce traffic congestion and pollution with fewer cars hunting for parking; and 3) create a modal shift from cars to transit or other modes of transportation. The project includes new parking meter technology to accept credit cards, on-street vehicle sensors, off-street occupancy systems for City-owned parking facilities, real-time parking guidance system with an internet website, smartphone applications, on-street dynamic message signs, use of Metro's 511 system with cell phones, and at the heart of it all an integrated parking management system.

### Installation of Electric Vehicle (EV) Charging Stations

LADOT is currently working with the Bureau of Street Lighting to install 30 on-street EV charging stations. By creating more convenient charging station locations, we hope to further promote EV usage, thereby reducing emissions from fossil fueled cars. Currently, two on-street EV charging stations have been installed in the City (one at 4<sup>th</sup> Street east of Main Street and another on Hill Street south of Olympic Boulevard).

LADOT currently has 20 EV chargers installed at the Department's off-street parking facilities at the following sites:

- Hollywood & Highland Parking Garage Lot# 745 - 4 chargers located at 6801 Hollywood Blvd., Hollywood 90028
- Cherokee Parking Garage Lot# 670 - 4 chargers located at 1710 N. Cherokee Ave., Hollywood 90028-7203
- Broxton Parking Garage Lot# 680 - 4 chargers located at 1036 Broxton Ave., Westwood 90024-2824
- Robertson Parking Garage Lot# 703 - 6 chargers located at 123 S. Robertson Blvd., Carthay 90048-3207
- Vermont Parking Lot# 744 - 2 chargers located at 8463 S. Vermont Ave., Vermont Knolls 90044-3448

In coordination with the Department of Water & Power, an additional 50 EV chargers will be installed in Fiscal Year 2016 through a California Energy Commission grant. Besides parking facilities, EV chargers are also installed at five Metrolink stations and Park & Ride lots managed by LADOT's Transit Group. LADOT is seeking funding for eighty (80) additional EVs to complete our goal of installing one hundred fifty (150) EVs in off-street parking facilities.

LADOT is also actively pursuing the installation of solar canopies in surface parking lots and garage decks to possibly charge vehicles and offset electricity used by the parking facilities. LADOT has been approached Absolutely Solar (contracted by DWP under the FiT50 program) to install solar canopies in Lots #701 located at 2150 Dell Avenue, and Lot #731, located at 200 N Venice Boulevard, both located in the community of Venice. LADOT is also working with Samsung C&T to install solar canopies on top of municipal-owned garages. Samsung C&T has initially pinpointed Lot #690 (Studio City Garage) located at 12225 Ventura Blvd, Studio City as the possible site for a pilot program.

### Shared Use Mobility

LADOT established a car sharing program in 2009 to provide convenient, affordable access to vehicles that will reduce personal automobile ownership, thereby improving the environment and the livability of the City. LADOT operated in partnership with Zipcar the car sharing program with up to 40 cars in two limited areas near the USC and UCLA campuses. Based on the success of the program, the City is expanding the program during the next two fiscal years to include an additional 250 vehicles citywide. Plans for a point-to-point car sharing model (no fixed car share spaces) are also being developed with an additional 250 vehicles made available for public use.

In 2015, the City received grant funds from the California Air Resources Board to reduce GHG emissions through the introduction of an EV car sharing pilot project in disadvantaged communities of Central, South and East Los Angeles that fall within the top 10 percent of the CalEnviroScreen index.

As part of this program, LADOT will add 100 car share vehicles comprised of 50 percent Battery Electric (BEV), 30 percent Plug-in Hybrids (PHEV), and the remaining 20 percent hybrid gas-electric. To support the fleet, the City will install 110 charging units at public parking locations where EV car share vehicles will be parked.

The City is also currently partnering with Metro for the pilot of a regional bikeshare program, which will begin next Spring with up to 80 stations and 1,000 bikes in Downtown Los Angeles. Ultimate build out of the program envisions 4,000 bicycles throughout the county available for short-term rentals. The bikeshare system is meant as an extension of public transit to help solve the first/last mile program.

Finally, LADOT is part of a regional Mobility Hubs project, funded by the Jobs Access Reverse Commute program, to consolidate Shared Use Mobility options at regional transit hubs in low income communities; provide investments to offset user costs; and create an app that consolidates options.

#### Green Taxi Program

LADOT staff worked with taxi operators to develop the City's green taxi program and establish standards of compliance to encourage taxi operators to exchange their higher emissions vehicles to green taxis, either hybrids or those that use alternative fuels. Per the Los Angeles Taxicab Greening Program, each taxicab operator must insert into service an increasing number (or percentage) of qualifying green vehicles as part of the taxicab fleet each year, resulting in a reduction in both smog pollution and greenhouse gas emissions.

As of June 30, 2015 there are 1,806 green taxis in service out of a total of 2,359 taxicabs. In 2010, there was an average 32.51 lbs./year of smog emitted per taxicab, for a total of 74,871 lbs./year smog pollution emission for the 2,303 taxicab vehicle fleet. As of year-end 2014, taxicabs emitted an average 7.31 lbs./year of smog per vehicle, for a total of 17,259 lbs./year of smog pollution emission for the 2,361 taxicab vehicle fleet. The reduction in average Los Angeles taxicab vehicle smog pollution emission was 77% (32.51 lbs./year down to 7.31 lbs./year).

In 2010, there was an average 36.36 tons/year of CO<sub>2</sub> emitted per taxicab, for a total of 83,737 tons/year greenhouse gas emission for the 2,303 taxicab vehicle fleet. As of year-end 2014, there were an average 17.96 tons/year of CO<sub>2</sub> emitted per taxicab vehicle, for a total of 42,404 tons/year of greenhouse gas emissions for the 2,361 taxicab vehicle fleet. The reduction in average taxicab vehicle greenhouse gas emission was 51% (36.36 tons/year down to 17.96 tons/year).

#### Alternative Fuel Fleet Vehicles, Trucks and Infrastructure

Annually, LADOT provides AB2766 funding through the Mobile Source Air Pollution Reduction Trust Fund for the Department of General Services (DGS) and the Department of Public Works, Bureau of Sanitation for either maintenance facility upgrades, or a subsidy per vehicle to subsidize the incremental cost of purchasing new clean, CNG alternative fleet fuel vehicles, including street sweepers, super dump trucks, truck tractors, and tractor trailer trucks. We seek to convert all City heavy duty vehicles to green vehicles by 2050.

We are seeking additional funding through the California Air Resources Board to replace diesel-fueled City vehicles with liquefied natural gas (LNG) or CNG by 2050. Reducing diesel-fueled emissions by replacing the City's heavy duty vehicles will decrease emissions associated with respiratory ailments.

#### Active Transportation infrastructure

The Active Transportation Program plans, seeks funding, designs, and implements policies, standards, and infrastructure projects focused on people walking, bicycling, and accessing transit. These strategies increase connectivity and help create a more livable and sustainable city through an increase in non-motorized transportation, reduced greenhouse gas (GHG) emissions, and decreased negative health outcomes.

The program has an emphasis on safe and interconnected mobility. This program plays a major role in ensuring that the safety and comfort of all road users is not just a consideration, but a priority throughout Los Angeles. Transportation research has shown that thoughtfully interconnected facilities encourage more walking, bicycling and transit use.

In the City of Los Angeles, there has been a 56% increase in bicycling to work from 2000-2010, and 1.5 million people ride Metro rail and buses on a typical weekday - 3rd in public transit usage of cities nationwide. Walking and bicycling serve as the first- and last-mile mode of travel for many transit trips for people traveling to work, school, and other activities.

The LADOT Strategic Plan calls for the expansion of the quality and connectivity of the Mobility Plan's Bicycle Enhanced Network (BEN) and for funding and design of gaps within the LA River Bike Path by the year 2020. In addition, the Plan calls for the installation of 15 bike corrals and 400 bike racks per year and the establishment of Bicycle Friendly Business Districts and 10 bicycle repair stations.

#### Transportation Technology Strategy

Transportation is on the verge of a historic disruption due to the arrival of new modes, smart phone-based apps, and ultimately, connected and autonomous vehicles. To prepare the city for the future, LADOT is currently creating a Transportation Technology Strategy. The purpose of the strategy is to lay out a clear vision for the desired outcomes of technology in transportation and invests in incentives and disincentives to reach our goals. Further, the strategy is an opportunity to articulate partnership opportunities between the city and private companies and to identify infrastructure investments necessary to continue to bring innovation into transportation.

