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## On Track for Green Locomotives

In April the Capitol Corridor Joint Powers Authority (JPA) announced that it is procuring Tier 4 locomotives. The new locomotives are Siemens Charger Clean Diesel-Electric Locomotives, which are powered by high-performance, environmentally friendly, 4,400 horsepower-rated Cummins QSK95 diesel engines, are designed to operate at speeds up to 125 miles per hour, and are equipped with electronically-controlled regenerative braking systems that use energy from the traction motors during braking to feed the auxiliary and head-end power systems to minimize fuel consumption. Also, the new Charger locomotives provide a 16% improvement in fuel efficiency over the non-Tier 4 certified locomotives currently used by Capitol Corridor trains. In 2008 when the EPA adopted the final locomotive regulations, EPA estimated 90 percent particulate matter (PM) reductions and 80 percent nitrogen oxide (NOx) reductions from Tier 4 engines compared to engines meeting the Tier 2 standards, the current engine standard at that time.

Although not widely publicized, at its February 2017 Board meeting, the Capitol Corridor JPA approved a pilot program to test the use of renewable diesel fuel (R99) in California owned, Capitol Corridor trains. The testing of R99 will be conducted with the California F-59 locomotives first and if successful then tested on the new Charger locomotives. R99 is chemically identical to standard diesel except that it is made from recently living

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## NEW EXECUTIVE OFFICER NAMED

On May 25, 2017, the SMAQMD Board of Directors appointed Dr. Alberto Ayala as the SMAQMD's new Executive Director/Air Pollution Control Officer starting in July. Dr. Ayala holds B.S., M.S., and Ph.D. degrees in Mechanical Engineering from the University of California, Davis and currently serves as a Deputy Executive Officer at the California Air Resources Board (CARB). According to his biography on CARB's website, Dr. Ayala has a wealth of experience with air monitoring and laboratories, mobile source programs, and greenhouse gases. SMAQMD's current Executive Director/Air Pollution Control Officer, Mr. Larry Greene will be retiring at the end of August.

## Changes, Changes and More Changes

As SMAQMD obtains new information and experiences changes in environmental review, SMAQMD staff updates guidance documents and tools to keep up with the changing times. Here's a summary of updates to California Environmental Quality Act (CEQA) and land use related documents the SMAQMD publishes to assist practitioners in environmental analysis. All documents are available at [www.airquality.org](http://www.airquality.org).

**Mitigation Fee Rate:** Each year on July 1st the SMAQMD updates the mitigation fee rate used to estimate the cost of off-site air quality mitigation. The current fee rate is \$18,260/ton of emissions. Historically, SMAQMD based the mitigation fee rate on the Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer) cost effectiveness limit. Over the past several years, the Moyer cost effectiveness limit has risen slightly each year, until this year, where the base limit was established at \$30,000/ton of emissions when CARB adopted the updated Moyer Guidelines in April 2017. According to the CARB, the increase in the cost effectiveness limit will "allow for meaningful funding amounts for a wide range of currently typical projects, such as diesel replacement projects for early compliance with the Truck and Bus Regulation. The level is consistent with the cost of compliance with regulations and will enable grants of sufficient size to encourage off-road engines to be replaced or repowered sooner to a Tier 4 standard." In simplified terms, it takes more funds to get emission reductions! Therefore, on July 1, 2017, the SMAQMD mitigation fee rate for off-site mitigation will increase to \$30,000/ton of emissions.

For upcoming **workshops showcasing vehicle and fuel technologies** that can be used to mitigation criteria and greenhouse gas emissions VISIT: [www.cleancitiessacramento.org](http://www.cleancitiessacramento.org)

**Guide to Air Quality Assessment in Sacramento County** (CEQA Guide): Chapter 3 regarding construction emissions analyses was updated to reflect the use of the Road Construction Emissions Model, which was updated in 2016, and to clarify mitigation information, including the best management practices appendix.

**Recommendations for Siting New Projects Near Existing Sources that Emit Odors and Toxic Air Contaminants:** Links were added to SMAQMD's new permitted source map and the *Recommended Protocol for Evaluating the Location of Sensitive Land Uses Adjacent to Major Roadways* document. Also, reference to the California Air Resources Board's Air Quality and Land Use Handbook was removed.

**SMAQMD Tips for Using CalEEMod:** Minor clarifications were made to Sacramento specific tips regarding material hauling and the user's tips provided on [www.CalEEMod.com](http://www.CalEEMod.com) were incorporated into the document to provide Sacramento users with one comprehensive document for CalEEMod tips.

### MARK YOUR CALENDARS AND SIGN UP

The American Planning Association, California Chapter, Sacramento Valley Section has announced its 2017 Speaker Series, **Working Together to Build Vibrant Communities**. There is one session each month from June-November. All sessions except for September are held from 8:30-10:30 a.m. at the West Sacramento Community Center.

VISIT [www.svsapa.org/](http://www.svsapa.org/) for more information on sessions topics and to register!

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## Final Landscaping Guidance for Improving Air Quality Near Roadways

SMAQMD published the final *Landscaping Guidance for Improving Air Quality Near Roadways* on May 1st. The document is intended to guide planning, planting and maintenance of a vegetative barrier alongside a proposed or existing sensitive receptor land use (homes, schools, for example) adjacent to a freeway or heavily traveled roadway. Users will find information on utility precautions; vegetation barrier thickness, length and height with illustrations; sample conditions of approval, and a detailed table of vegetation appropriate for the Sacramento region. This is a living document and will be updated as new information become available.

The Landscaping Guidance can be downloaded from the SMAQMD's Roadway Protocol webpage: [www.airquality.org/businesses/ceqa-land-use-planning/roadway-protocol](http://www.airquality.org/businesses/ceqa-land-use-planning/roadway-protocol).

If you have any comments or questions, or would like to provide a success or challenge story about planning and implementing a roadside vegetative barrier, please contact Rachel DuBose at (916) 874-4876 or [rdubose@airquality.org](mailto:rdubose@airquality.org).

Special thanks to the Sacramento Tree Foundation and various commenters from local agencies who helped shape this document.

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biomass rather than from crude oil, and provides a significantly lower carbon footprint over the life cycle of the fuel.

SMAQMD commends the Capitol Corridor JPA for its leadership in advancing clean air technology. This leadership will result in fewer NOx emissions and lower ozone formation in our region, dramatically reduced exposure to toxic PM emissions along the train routes, including many disadvantaged communities, and significant greenhouse gas emission reductions in support of California's climate change initiatives.

Locomotive emissions can be a significant source of emissions, making up 5.5% of the statewide mobile NOx inventory and 2.4% of the statewide mobile PM2.5 inventory. Promoting clean air technology in the locomotive industry is a great strategy to reduce large amounts of emissions and make a positive impact on air quality.

Article sources:

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