



“In the Works”

Striving to be the Leading Public Works Department Through Innovative Stewardship of Infrastructure and Environment

Stanislaus County
Public Works

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Parklawn Neighborhood – Not so Neighborly!

Submitted by Matt Machado

The rains are here, thank goodness. We really need the water! Unfortunately, not everyone sees it that way. Some homeowners in the Parklawn neighborhood have decided to fill in drainage swales thereby pushing their water on to their neighbors. Drainage swales were constructed as part of a new sewer system built approximately one year ago.

Last winter, we had near average rainfall. The newly constructed drainage swales worked by eliminating street flooding. A dry street and shoulder meant there would be a dry place to walk and drive. (See photo on right).

This winter we have seen that in locations where the swales have been filled in, there is street flooding. (See photos below).



Swales in place; no street flooding.



Swales filled in caused street flooding. (Photos on left and below).



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Ethics Quotes
Martin Luther King, Jr.

“The time is always right to do what is right.”

Word of the Quarter
Compassion

"Health & Safety Byte"

Safety is gainful, accident is painful.

Safety is no accident!



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Morgan Shop's Shocking New Addition

Article and Photo Submitted by Olivia Tanner



Public Works' 2015 Toyota

Slowly with key in hand, I approached it with curiosity. As its blizzard pearl exterior glistened in the sun, a silver emblem on the tailgate caught my eye. Mesmerized by the word Synergy, I quickly jumped back from the 4,090 lbs. (GVW) beast. What is that noise? It unlocked itself, what? I didn't touch it. I slid into the driver's seat cautiously. Pushing the start button, it hummed. A screen on top of the dash flashed a "Welcome to Prius" logo.

Awe-struck by its futuristic design, I glided it into drive. I decided to be adventurous and stomped on the pedal that seemed to power it until the odometer read 10 miles per hour (mph). As I navigated around the Morgan Road yard, my blondish locks rustled in the wind. This was my first adventure driving Public Works' new Toyota Prius hybrid plug-in.

Morgan Shop purchased the Toyota Prius hybrid plug-in with the aid of the San Joaquin Valley Air Pollution Control District's (SJVAPCD) Public Benefit Grant in August of 2015. It runs on both electricity and unleaded gasoline. The hybrid ranges 95 miles per gallon (mpg) combined city and highway running on both electricity and gasoline, and 50 mpg combined city and highway on just gasoline. The battery alone can handle a 20-60 mile commuter range and only takes 1.5 hours to charge on Morgan Shop's 220 volt battery charger.

"The car is great, handles well, quiet, and very comfortable to drive. The best part, it goes about 500 miles on a tank of gas!"

*Sambuth Chrun
Associate Civil Engineer*

The Prius runs on an electrical motor powered by 4.4 kWh lithium-ion battery and an internal combustion engine powered by unleaded gasoline. It is made solely to run on the battery. The engine operates the hybrid when the battery is drained, with strenuous use of the heating or air conditioning systems, or during rapid acceleration. The gas engine is a backup that increases the hybrid's drive range.

Regenerative braking causes the battery to recharge when the electric motor applies pressure to the drivetrain prompting the wheels to slow down. The energy from the wheels rotate the motor. The motor than functions as a generator, transferring energy normally lost during cruising and braking into electricity. This electricity is housed in a battery until needed by the motor. In idling mode, the vehicle automatically shuts off the engine to prevent further loss of energy and restarts it when the accelerator is pressed.

"It took a little time getting used to it. I couldn't tell whether it was on or not! HA! But I found it very comfortable and it drove really well! The range it has on a single tank and charge is unbelievable."

*Francis Baldonado
Senior Engineering Technician*

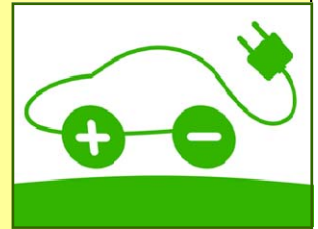
If you recall, in the beginning of this article, I described the fascination I experienced when glancing at the word Synergy that is embedded on the bed of the Prius. Synergy refers to the drive train technology of the hybrid plug-in. The Hybrid Synergy Drive (HSD) substitutes the normal geared transmission with an electromechanical system. The normal transmission is limited to a fixed set of gears. With the HSD, the transmission is not limited because there is no direct mechanical relationship between the engine and engine mechanisms: both the accelerator and gearshift lever in an HSD car send electrical signals to a main computer. This lack of limitation liberates the engine to function at its most favorable speed (revolutions per minute) when the power is needed to charge the battery or accelerate the car, turning off the engine merely to save power when less power is needed.

The benefits of owning a plug-in hybrid vehicle include:

- * Reduced fuel costs. The Toyota Prius Plug-in can save the typical driver \$6,250 in fuel costs over a five year period and have an annual fuel cost of \$950.
- * Reduced United States dependency on imported petroleum products and boosted energy security because the plug-in hybrid uses an estimated 30% to 60% less fuel than a standard vehicle.
- * More mpg. The Prius obtains 51/48 mpg city/highway compared to 30/37 mpg city/highway obtained by an equivalent 2015 Toyota Yaris 5-Door LE non-hybrid.
- * Less greenhouse gas emissions depending on the power source (using electricity versus fuel).
- * Hybrid plug-in batteries can be recharged on any 110-volt household electrical outlet.
- * There are many federal and state incentives to buying a hybrid vehicle. Public Works obtained a portion of the grant from the SJVAPD Public Benefit grant and a rebate from the California Clean Air Project when buying the Toyota Prius hybrid.

Continued on top of next page

The few disadvantages to using a hybrid plug-in vehicle compared to using a regular unleaded or diesel powered vehicle. It could take a long time to charge a hybrid plug-in depending on the outlet's voltage if you are trying to maximize the benefits of less pollution. The hybrid plug-in also costs more to purchase than a standard vehicle, but the reduced fuel costs will replace this difference in the future.



Is driving a Toyota Prius hybrid plug-in as scary as I first described? No. In fact, I correspondingly traveled in it as a backseat passenger roundtrip to Sacramento and experienced a smooth and comfortable ride. Are you still wondering how it unlocked itself? I was holding the Hybrid's smart key when I touched the door handle.

The 2015 Toyota Prius hybrid plug-in vehicle is practical when Public Works employees' tasks require them to be at other County sites or trainings since it costs less fuel to operate. Operating the Prius using electricity only also reduces emission particles discharged into the air thus reducing pollution. By purchasing the Toyota Prius hybrid plug-in vehicle, Public Works promoted our County's priorities of "a well-planned infrastructure" and "efficient delivery of public services" by encouraging innovation and supporting better technology access and by improving energy efficiencies.

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Public Works Staff Updates

New Employees:

Deborah Hawkins (Confidential Assistant III) joined our Administration Division on 10/5/15.

Nate Tumminello (Associate Civil Engineer) joined our Design Engineering Division on 10/5/15.

Ben Kozlow (Assistant Engineer) joined our Development Services Division on 11/9/15.

Del Gann (Engineering Technician) joined our Traffic Engineering Division on 12/14/15.

Elena Locarnini (Accountant I) joined our Finance Division on 12/28/15.

Welcome aboard!

Birth:

Jeff Rufo (Roads Supervisor in our Road & Bridges Division) has a new grandson named Jack Calvin Mast who was born on 11/11/15.

Congratulations!

Departures:

Road Maintenance Workers III in our Roads & Bridges Division:

Robert Rocha left County employment on 10/30/15 with 8 years of service.

John Ramazzina retired on 11/3/15 with over 30 years of service.

Rodrigo Rodriguez on 12/12/15 transferred to our County Library with 18 years of service.

Best wishes!

Annual Campaign United Way—CHEF Program

Submitted by Denae Davis

United Way of Stanislaus County focuses on uniting our community through education, health, and financial independence. After recognizing a need for food education, United Way of Stanislaus County included the "CHEF" program into its focus. CHEF stands for "Cooking - Healthy - Eating - Food". This program focuses on teaching parents of elementary students healthy eating and cooking habits through hands-on cooking classes and nutrition education. Students in this program will receive healthy food bags twice a month that include produce and shelf-stable foods as well as recipes.

This year, Public Works contributed \$1,774 to help our community.
Great job!



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Stanislaus County's Assistance Hotline:

1 (877) 2ASSIST / 1 (877) 227-7478

Stanislaus Regional Transit

StART

Transit Division's website is:

www.srt.org

For route info call **StART** at
1-800-262-1516

Stanislaus County Public Works

Annual Report 2014



Public Works' 2014 Annual Report is available online at the link below.

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<http://www.stancounty.com/publicworks/pdf/2014-annual-report.pdf>



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PLANNED NEW COMMUTER EXPRESS BUS SERVICE TO BE PROVIDED BY STANISLAUS REGIONAL TRANSIT (StART)

Submitted by Eunice Lovi

In September 2014, the Stanislaus Council of Governments (StanCOG) Policy Board awarded a Congestion Mitigation Air Quality (CMAQ) grant funding of \$1.2 million to the Public Works Transit Division to implement a new commuter express bus service in the County's transit service area. The CMAQ grant funds awarded to Stanislaus County will cover operational costs for the new commuter express bus service. As part of the preliminary service planning activities for the new commuter express service, the Transit Division evaluated three options as follows:

Option One - The bus would travel from the Turlock Regional Transit Center along West Main to Highway 33 to Sperry Road and pick up commuters at the bus stop on Ward Avenue in the City of Patterson and continue to the Dublin BART Station along the I-5/580 corridors.

Option Two - The bus would travel from the Turlock Regional Transit Center along Crows Landing Road to Highway 33 to the park and ride in the City of Newman. From Newman, the bus would continue along Inyo Avenue, Draper Road, West Stuhr, and I-5 to pick up commuters at the bus stop on Ward Avenue and then proceed to the Dublin BART Station along the I-5/580 corridors.

Option Three - The bus would travel from the Turlock Regional Transit Center along Crows Landing Road to Highway 33 to the park and ride in the City of Newman. From Newman, the bus would continue along Highway 33 to pick up commuters at the bus stop on Ward Avenue and then proceed to the Dublin BART Station along the I-5/580 corridors.

Based on the test run conducted by staff to evaluate all three options, option one was selected as the preferred route due to the bus driving fewer miles to get to the BART station. The biggest advantage of option one is the trip length which would get commuters to the BART Station in a timely manner. Additionally, we plan on coordinating the schedule with BART's train schedules.

Staff plans to work with Wal-Mart to lease space in the parking lot to use as a park and ride for potential commuters. In addition, staff is planning to work with the City of Patterson to install amenities at the bus stop on Ward Avenue, including a commuter style bus shelter and potentially, a ticket vending machine. The new commuter service will offer two daily trips Monday through Friday and will include an early morning trip and a late afternoon trip. Additional trips may be added depending on usage. The preferred routing is shown below.



After extensive research on which commuter style bus to use for the service, staff is proposing to purchase a commuter bus from Motor Coach Industries (MCI). The bus is a 45 foot bus and will have additional features such as overhead reading lights and Wi-Fi. A sample of the bus shown to the left.