

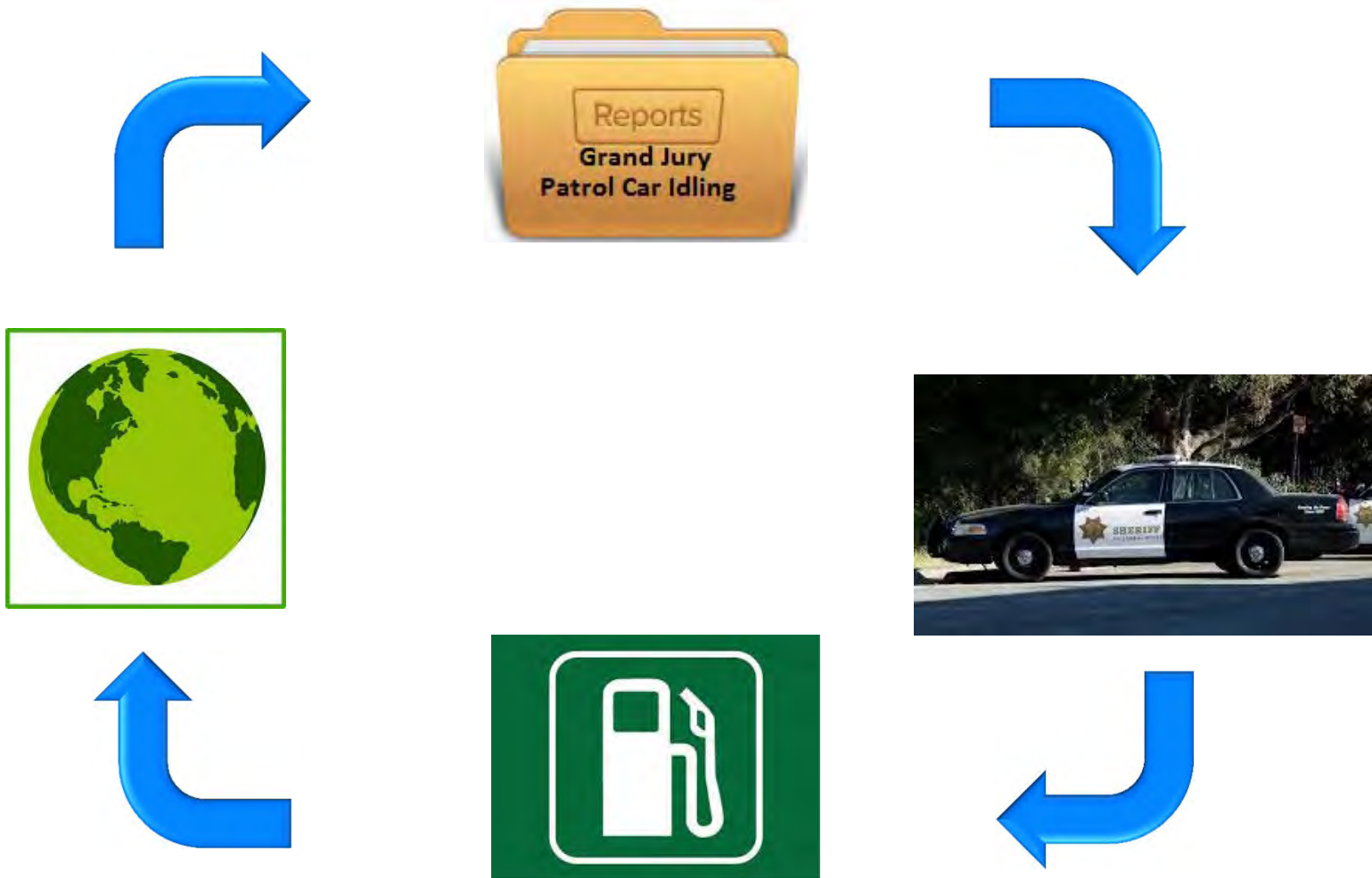
County of Santa Barbara Vehicle Operations Division Patrol Vehicle Anti Idle Project April 8, 2015



Greg Chanis, Assistant Director
General Services Department



Project Origination



What is the Problem?

Patrol car Idling cost calculator

Update data in cells with red arrows to change scenarios

Number of Patrol units per shift	30	←	Price per fuel gallon	\$3.25	←
Number of Patrol shifts per day	2	←	Gallons used per idle hour	0.80	←
			Average idle hours per shift	3.00	←
			Idling fuel gallons used per day	144.00	
			Idling fuel cost per day	\$468.000	
			Idling fuel gallons used per week	1,008.00	
			Idling fuel cost per week	\$3,276.0	
			Idling fuel gallons used per month	4,262.40	
			Idling fuel cost per month	\$13,852.8	
			Idling fuel gallons used per year	51,148.80	
			Idling fuel cost per year	\$166,233.60	

Why So Much Idling?

- Patrol unit battery concerns due to all of the electronics in today's patrol cars
- Patrol unit's mobile data terminals time out after one hour requiring Deputies to log back into their mobile data terminal if they were out of their units for more than one hour
- Deputies require their mobile data terminal to be up and running in the event that received a priority call for service
- Climate control of patrol unit

Project Objectives

- Compliance with Grand Jury Report response
- Ensure mobile data terminals are up and running during a Deputy's entire patrol shift, even after leaving their vehicle unattended for extended periods of time
- Ensure patrol units always start with no dead battery issues
- Eliminate unsecured patrol unit idling, securing the unit and the unit's weapons 100 percent of the time
- Reduce the Sheriff's Department's fuel usage, saving fuel and tax payer dollars
- Reduce the Sheriff's Department's carbon footprint
- To comply with the County's "No idle" policy

System Components



Idleright 2 battery monitor module mounted on the front of the radio console



System no/off switch top of radio console



Viper car alarm/auto start system mounted under the dash



Viper system fob Vehicle's primary Key set

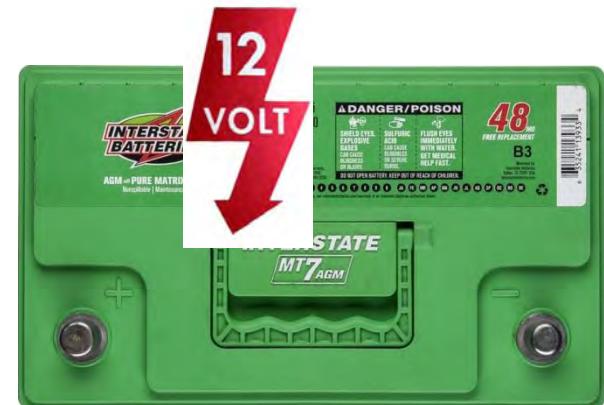
System Operations

At the start of patrol shifts, Deputies log onto MTD and turn on “Battery Monitoring System”. The system’s activation switch is located at the top of the unit’s radio console



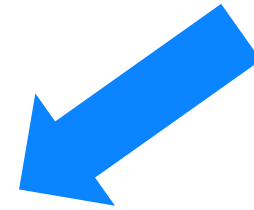
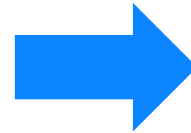
System Operations

IdleRight module monitors the voltage level of the vehicle battery.



System Operations

When the unit's battery state drops below 12 volts a signal is sent to the Viper system to start the vehicle.



System Operations

After the vehicle auto-starts, it runs for 12 minutes to replenish battery Charge



System Operation

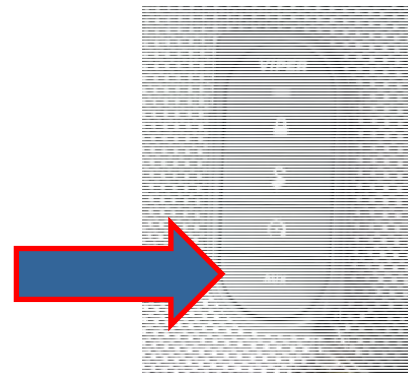


System Operations

- If you are on a call for service and you don't want the unit to auto-start or if you park your unit in a confined space turn off the "Battery monitoring system" using the system's activation switch



- The system's door lock\unlock fob can also electronically open the unit's truck. To open the truck using the fob press and hold the fob's "AUX" button for three seconds



Project Scope and Cost

- The battery monitoring system has been installed on 55 County patrol units
- System installation requires approximately, 4 hours of Shop labor time per vehicle
- System Parts cost approximately, \$380.00 per car
- Total cost per vehicle approximately \$900.00
- Installations were completed in September of 2014

Early Results

- Fuel economy improvement ranges from 7.5 % increase to 22% increase depending on vehicle station assignment
- Overall average MPG improvement of 9.82% for entire patrol fleet to date.
- Estimate annual reduction in fuel consumed = 14,229 gallons
- Estimated Savings = \$42,687.00 annually @ \$3.00/gal
- Estimated annual carbon emissions reduction = 276,042 pounds

Fleet Miles Driven

CLASS_class_pm = 17010,1710,1730,36010,3610,3630
 X_datetime_insert Between 01/01/2014 07/01/2014
 PROCST_proc_status = A
 LOC_station_loc = CARP
 fuel_qty > 20

CARPINTERIA SUB STATION

Equip ID	Year	County Vehicle Model	In Service Date	Class Code	Life Status	Life Miles	Miles Used	Fuel Used	MPG
5061	2009	CROWN VICTORIA	3/1/2011	17010	A	150,751	17,675	2071.8	8.5
5119	2010	CROWN VICTORIA	8/8/2012	1710	A	97,158	21,486	2250.8	9.5
5120	2010	CROWN VICTORIA	8/7/2012	1710	A	90,757	18,179	2094.2	8.7
5150	2010	CROWN VICTORIA	2/5/2013	1710	A	72,170	18,006	2438.1	7.4
5155	2010	CROWN VICTORIA	10/8/2013	1710	A	39,787	15,410	2192.9	7.0
5160	2010	CROWN VICTORIA	3/13/2014	1710	A	22,521	10,441	1123.9	9.3
5458	2013	EXPEDITION	11/21/2013	3610	A	40,670	17,240	2289.6	7.5
							118,437	14461.3	8.4

Data Sources Fields Summary Chart Gauge Misc Style Filters Preview

Report List | New Save Save As... Print SQL | | | | | | | | | | Results 1000

Fleet Miles Driven

CLASS_class_pm = 17010,1710,1730,36010,3610,3630
 X_datetime_insert Between 09/01/2014 01/01/2015
 PROCST_proc_status = A
 LOC_station_loc = CARP
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CARPINTERIA SUB STATION

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5119	2010	CROWN VICTORIA	8/8/2012	1710	A	97,158	12,388	1066.6	11.6
5120	2010	CROWN VICTORIA	8/7/2012	1710	A	90,757	11,854	1053.9	11.2
5150	2010	CROWN VICTORIA	2/5/2013	1710	A	72,170	12,516	1151.3	10.9
5155	2010	CROWN VICTORIA	10/8/2013	1710	A	39,787	10,674	1040.5	10.3
5160	2010	CROWN VICTORIA	3/13/2014	1710	A	22,521	8,702	804.4	10.8
5458	2013	EXPEDITION	11/21/2013	3610	A	40,670	12,975	1270.5	10.2
							80,366	7481.7	10.7

Questions



www.countyofsb.org

