

The Economy, Going Green, and the Purpose-Built Patrol Cat

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The Command College Futures Study Project is a FUTURES study of a particular emerging issue of relevance to law enforcement. Its purpose is NOT to predict the future; rather, to project a variety of possible scenarios useful for strategic planning in anticipation of the emerging landscape facing policing organizations.

This journal article was created using the futures forecasting process of Command College and its outcomes. Defining the future differs from analyzing the past, because it has not yet happened. In this article, methodologies have been used to discern useful alternatives to enhance the success of planners and leaders in their response to a range of possible future environments.

Managing the future means influencing it—creating, constraining and adapting to emerging trends and events in a way that optimizes the opportunities and minimizes the threats of relevance to the profession.

The views and conclusions expressed in the Command College Futures Project and journal article are those of the author, and are not necessarily those of the CA Commission on Peace Officer Standards and Training (POST).

The Economy, Going Green, and the Purpose-Built Patrol Car

Over the past two years, our Nation and the law enforcement profession has become victim to an economic downturn with devastating effects. State and municipal budgets have been compressed, agencies have had officers laid off, and the statement, *do more with less* has become the law enforcement administrators theme of the day. With these thoughts in mind, how will our Nation's current economic crisis affect the patrol car of the future?

The answer could be found in the current economic status of the American automobile industry, the trend towards hybrid vehicles and the emergence of the "purpose-built" patrol car. On the pages that follow, we will look at the impacts of the government effort to "bailout" American auto manufactures, the emergence of the hybrid patrol car, and a glimpse at the patrol car of the future. All three issues will affect the look, deployment capability, performance, and officer acceptance of the police car of the future.

The Status of Detroit

The federal government has taken significant steps to save two of the three largest American automobile corporations. On April 30th, 2009, the Treasury Department procured an eight percent equity stake in Chrysler Motors and agreed to make an additional \$4.7 billion available in a term loan (Treasury, Obama Administration Auto Restructuring Initiative Chrysler-Fiat Alliance, 2009). One month later, the United States Treasury Department acquired 61 percent of General Motors' equity through the purchase of preferred stock and made an additional promise to loan the automobile manufacturer over \$18 billion dollars for its restructuring plan (Treasury, 2009).

In *What the future of the auto industry will look like* (2009), Christian Science Monitor staff writers, Peter Grier and Mark Clayton, related that the American auto industry would be a lot greener in the future as a result of the federal government's investment. Both authors pointed out that President Obama wanted one million hybrid plug-in vehicles on America's roads by the year 2015. They also noted that by 2016, the federal government, through the Corporate Average Fuel Economy (CAFÉ) regulations, would require American automakers to produce vehicles with a 35.5 average miles per gallon. The authors concluded by forecasting that 47 percent of the automobile market would be a hybrid or have a hybrid derivative by the year 2020.

A related issue emerged last year from another government agency, In April 2009, the General Services Administration (GSA) announced it would spend \$285 million for 17, 600 commercially available fuel-efficient vehicles and dedicate \$15 million to pilot advanced technology vehicles in the GSA fleet. These funds would be in addition to any funds spent by the federal government through the Recovery Act (GSA, 2009).

In July 2010, President Obama recently visited two auto plants in the state of Michigan. During both visits, the President touted the effects of the federal financial packages received by both General Motors and Chrysler (Memoli, 2010). The President stated the automobile industry had added 55,000 new jobs, the strongest job growth in the industry for the past decade. The president then proceeded to get behind the wheel of a 2011 Chevy Volt, a plug-in hybrid vehicle anticipated to be introduced in November 2010 (Memoli, 2010).

Detroit appears to be on the road to recovery with a new business partner, the federal government. From the press releases the Administration has issued, and the money they are

willing to loan, their economic blueprint for the automobile industry seems based on the hybrid of the future.

The Hybrid Patrol Car is Here to Stay

Ford Motor Company may have unintentionally deployed the first hybrid patrol car. In October 2007, The Borough of Westwood in New Jersey purchased a Ford Escape Hybrid and became the first Police Department on the East Coast and the second in the United States to deploy hybrid vehicles for police patrols (Hoffman, 2008). The move by Westwood to deploy the hybrid was in anticipation of rising fuel prices.

The Borough's administrator, Robert Hoffman (2008) stated in an article in the New Jersey Municipalities magazine the Ford Motor Company Crown Victoria Police Interceptor averaged 8 miles per gallon as compared to the Ford Escape Hybrid's 20 mpg average. By utilizing the Ford Escape, the Borough was saving \$403 dollars a week. Hoffman predicted within fifteen months, savings on fuel costs would pay for the purchase of the Township's new hybrid. According to Hoffman, two Westwood Officers, Matt McClutchy and James Quaglino were assigned to test drive the hybrid Escape. Officer McClutchy a 6'3" and 245 pound officer found the hybrid patrol vehicle very comfortable to operate during a twelve shift. Officer Quaglino complimented the vehicle's maneuverability and turning radius (Hoffman, 2008).

Hoffman noted an additional factor considered with regard to the purchase of the Ford Escape is that vehicle pursuits were not an issue in his community. New Jersey has strict pursuit guidelines with some limited exception. Other agencies have also independently acquired hybrid vehicles for general police use regardless of their size or topography.

The Mercer Island Police Department in Washington State recently deployed a 2010 Toyota Highlander Hybrid. Mercer Island is a 32 officer department having jurisdiction over a 6.2 mile area (Rosenthal, 2010). The Department's Operations Commander, Dave Jokinen's, stated to the Seattle Times, the vehicle has better gas mileage and a lower level of carbon emissions than the Ford Crown Victoria and it can accelerate from zero to 60 and zero to 100 faster than traditional models (Rosenthal, 2010). Jokinen related the Toyota Highlander did cost more than a standard patrol car, but believed the cost would be made up in fuel savings during the service life of the vehicle (Rosenthal, 2010).

Even the largest agencies are exploring the use of hybrids. The New York Police Department recently deployed hybrid Nissan Altimas for general patrol use in the City's precincts. The vehicles purchased in part by funds from Mayor Bloomberg's Energy Conservation Steering Committee, which aims to reduce the city's global warming emissions by 30 percent (Mentel, 2010). The Department's Fleet Services Director, Robert Martinez reported there was not any significant increase in repair costs for the hybrid patrol vehicles. Martinez felt the Nissan hybrid has allowed the Department to "go green" and still fulfill its patrol mission (Mentel, 2010). Because of this success, the Department plans to purchase an additional 203 hybrids this fiscal year.

The police hybrid patrol vehicles have not been on the streets long enough for any empirical data to be compiled to determine if their performance is challenged as compared to the Ford Crown Victoria or the new "purpose-built" patrol vehicles. However, their documented cost saving and "go green" engineering appear to be the future of the American automobile industry and American law enforcement as well.

The New Trend in Law Enforcement Vehicles: The Purpose-Built Patrol Vehicle

During this decade, the phrase “purpose-built” has become a new trend in American law enforcement patrol vehicles. As of the beginning of this year, Carbon Motors, Ford, and General Motors have touted the phrase “purpose-built.” Giving credit where credit is due, Carbon Motors Chairman Santana Li first used the term “purpose-built patrol vehicle to introduce the Carbon E7, the world’s first purpose built patrol vehicle. He used the term during his keynote address to the International Motor Vehicle Program conference (Carbon Motors Corporation-Purpose Built Police Car, 2009).

Carbon Motors E7

In 2003, a former Ford Motors Company Executive, William Li introduced the concept of the purpose built police car and formed the Carbon Motors Corporation. Working with Georgia Tech and a group of law enforcement officers known as the Carbon Council, Carbon designed the Carbon E7. Carbon advertised the E7 will have a road life of 250,000 miles, be powered by a turbo diesel engine, and will contain onboard electronics such as license plate readers, radiation detectors, heads-up display and more. Production for the E7 is scheduled to begin in 2012 at their new manufacturing facility in Connersville, Indian.

Carbon Motors recently partnered with several well known manufacturers (Halley, 2010) such as Bosch, BMW (Hoffman, 2008), and Inteva Products. BMW will be supplying the E7’s drive train, while Bosch and Inteva Products will focus on the E7’s interior design and onboard electronics (Word on the Street, 2010). Only Carbon Motors can claim that their sole business mission is to manufacture a “purpose-built” patrol vehicle.

Carbon Motors is still waiting for a 310 million dollar loan through the Department of Energy's, Advanced Technology Vehicles Manufacturing Incentive Program. According to Michael Halley of Autoblog.com, a decision is expected by the end of this summer. Carbon plans on delivering the first purpose built patrol vehicles 36 months after receiving their federal loan (Halley, 2010).

Ford Motor Company's Police Interceptor

On March 13, 2010, Ford Motor Company introduced the replacement to their legendary Crown Victoria Police Interceptor, the purpose-built *Police Interceptor*. The new Ford Police Interceptor is built on a Taurus platform and will feature a 365 horse power twin-turbo EcoBoost 3.5 liter engine and all wheel drive (Abuelsamid, 2010). The interior of the Police Interceptor will feature more room in both the front and rear compartments to afford third party vendor equipment such as interoperable communications, mobile computers, and automated license plate reader.

Ford also is introducing FORD-SYNC, a patented product that can be incorporated into the vehicles third party emergency lighting system. Like Carbon Motors, Ford also utilized a focus group of law enforcement professionals, the Ford Advisory Board to make recommendations during the Police Interceptor's development. The Board focused specifically on vehicle safety, performance, durability, driver comfort and functionality. The Ford Police Interceptor will be made available to law enforcement agencies in 2012.

Chevrolet Caprice Police Patrol Vehicle

The Chevrolet Caprice Police Patrol Vehicle is set to be offered to the law enforcement community in 2011 which is occurring at the same time Ford's Crown Victoria Police Interceptor is ending production. The Chevrolet Caprice PPV is built on an Australian-built Zeta sedan and will feature an E85 compatible 6.0-liter V8 engine equaling 355 horsepower (Nunez, 2009). The Web site for the Chevy Caprice PPV asserts the PPV is not based on existing retail passenger car models sold in North America, but built specifically for police duty. Law enforcement options include two trunk mounted batteries and special front seats designed to accommodate duty belts (Chevy Caprice Police Patrol Vehicle, 2009).

Chrysler Dodge Charger

Two years ago, Chrysler reentered the police sedan market with the Dodge Charger. Chrysler has not advertised the Dodge Charger as a purpose built police sedan, but has focused its marketing efforts on the Charger's speed and acceleration capabilities. The Charger is powered by a 5.7- liter Hemi engine which generates 368 horsepower. The Charger is currently being deployed by several law enforcement agencies including the California Highway Patrol and the Department of Homeland Security and the U.S. Customs and Border Protection.

The Patrol Car of the Future

In September 2009, a focus group was presented the challenge of providing feedback in the form of trends and events to address the question of how the federal government's control of America's automobile industry could affect the patrol car of the future (NGT, 2009). The focus group was comprised of a law enforcement command level officer and a front line supervisor, a fleet manager from a federal law enforcement agency, a municipal purchase agent, a technical

editor from a law enforcement magazine, a founder of a non-profit organization and a free lance writer.

The group identified three key trends that would affect the future of police vehicles due to the federal government's bailout of the American automobile industry. They were:

- The physical size of patrol vehicles will be smaller
- Cooperative purchasing by municipal and state law enforcement agencies to reduce current budgetary challenges.
- The use of alternative fuels in patrol vehicles

The group's consensus was if the current recession were to worsen in the next five years, the federal government would eventually nationalize the car industry and would develop and mandate the deployment of a federally mandated patrol vehicle (FMPV). The group believed the FMPV would be a sole source vehicle required for all law enforcement agencies to purchase due to new federal requirements concerning alternative fuels and the acceptance of federal law enforcement grants by local and state agencies. They believed the FMPV would be far smaller and lighter than today's current law enforcement sedans.

A Possible Future

No data yet exists to support the theory that a "mandated purchase" patrol vehicle is in the minds of those in the federal government. Given the government's investment into the domestic auto industry, and the possibility of a sustained economic downturn, one does not have to stretch that far to envision a scenario where the government would strongly desire to support domestic auto sales through inducements or legislation to "encourage" local agencies to purchase specific brands and models.

Research does show the federal government has clearly made inroads into America's automobile industry. Further, through federal grant offerings and statements made by the Administration, hybrid vehicles will be a strong component of the industry's recovery. During the next two years, the "purpose-built" patrol vehicle will hit the street and empirical research will be conducted to determine if the end user input was utilized or was just private industry hype. Regardless, "go-green" efforts as exemplified by NYPD could result in a hybrid variation of the "purpose-built" units. Certainly, their experiences may, and will, become out own.

Conclusion

The patrol vehicle of the future will be a product of our current economy, the nation's environmental mantra, and the trend towards a patrol car that is manufactured for the purpose of patrolling this nation's communities. Current trend data, recently published articles on law enforcement vehicles, and published commentary on the automobile industry that law enforcement's selection of patrol vehicles among American automobile manufacturers will diminish as the manufacturers will streamline the number of models they offer to the general public.

The future patrol vehicle will be "purpose-built," powered by a hybrid engine that will support an integrated communications system and in camera monitoring equipment. The advanced on-board electrical system will be powered by the hybrid vehicle's batteries as well as the kinetic energy derived from a regenerative braking system. LED lights will further reduce the drain on the vehicles electrical system. The "purpose-built" hybrid will support both a sedan and SUV platform. Law enforcement executives will be ecstatic, low maintenance costs, longevity, innovated technology, and a political correct carbon footprint.

Detroit do we have your attention?

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