

TREASURE COAST REGIONAL PLANNING COUNCIL

MEMORANDUM

To: Council Members

AGENDA ITEM 9

From: Staff

Date: February 17, 2017 Council Meeting

Subject: Autonomous and Connected Vehicle Presentation by Beth Kigel, President and CEO,
Palm Beach North Chamber of Commerce

Introduction

Council has invited Beth Kigel, President and CEO of the Palm Beach North Chamber of Commerce to make a presentation on autonomous and connected vehicle use in Florida. Ms. Kigel recently published an article on the subject, which is attached for your review.

Ms. Kigel was appointed to the Florida Transportation Commission in January 2012 by Governor Rick Scott, confirmed by the Florida Senate, and subsequently reappointed for a second term in 2016. Her additional public service includes the Palm Beach County Criminal Justice Commission, the Palm Beach County Sports Commission, the Palm Beach County Groundwater and Natural Resources Protection Board, and the Roger Dean Stadium Advisory Board. She has served as a Trustee and Board Member of area Chambers of Commerce, an Executive Committee member of the Economic Council of Palm Beach County, and the 2012 Chair of the William T. Dwyer Awards for Excellence in Education. Ms. Kigel serves on the Leadership Florida Board of Directors, and was elected to the post of Chair-Elect for 2016 – 2017. In 2015, she was appointed to the World Congress on Intelligent Transportation Systems Board of Directors.

Recommendation

For information only.

Attachment

Where do Autonomous and Connected Vehicles Fit In?



By Beth Kigel,
President and CEO,
Palm Beach North Chamber of Commerce
and Florida Transportation Commissioner

At national and global conferences, the conversation is changing regarding the role of those who serve in transportation departments and industry. With the rise of new technologies and population growth, the notion of providing “mobility as a service” is becoming more widespread. It is a notion of providing end-to-end mobility, including infrastructure, with the consumer needs and wants in mind. With respect to transportation infrastructure, this is a departure from the traditional approach of “asset management.”

The launch of Uber's and Lyft's ride hailing services ahead of government policy is a prime example of the consumer or market demand prevailing despite the concerns of policymakers and competitors. However, the concepts of these services are relatively easy to understand with respect to convenience and cost.

Autonomous vehicles (AV) and connected vehicles (CV), however, raise more questions than answers in the mind of the consumer (or public). It is important to generate trust and acceptance of these innovations. As the author of this article, it is my hope that the information presented can assist those of us that are immersed in transportation technology developments to effectively communicate the benefits and realities to Florida's consumers and businesses.

Florida by the Numbers – Projections

Economic activity is driven by the consumption of goods and services. Florida's global competitiveness and the proliferation of commerce depend on our ability to efficiently move people and goods inside and

through our state. So, let's look at our numbers.

The state of Florida is now the third most populous state in the nation, at more than 20 million residents. We continue to be popular, netting nearly 1,000 new residents per day last year.¹ Visitors enjoy our state's attractions and natural resources in record numbers with more than 106 million visitors in 2015 and another 85 million by the end of September 2016.² To serve Florida's residents and visitors, as well as consumers outside of our State, we move about 762 million tons of freight annually.³ Let's look at our future growth expectations:

- An additional 6 million residents by 2030,⁴
- 160 million visitors annually by 2025,⁵
- A 69% increase in freight tonnage by 2040.⁶

While this news appears great for the future viability of Florida, it will only be great if we can continue to provide and enhance efficient and safe mobility.

Benefits of AV/CV as Florida Grows

With the possibility of more people and freight on Florida's roadways comes the concern of more traffic congestion and, most importantly, the concern of more accidents and fatalities on our roadways.

Safety – The Primary Incentive

The safety benefits of autonomous and connected vehicles are the predominant factor driving policymakers in Florida, nationally and globally to expedite testing and implementing these technologies while not stifling the

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innovation through overregulation.

More than 35,000 road fatalities occurred in the U.S. in 2015.⁷ Nearly 3,000 occurred in the state of Florida.⁸ The National Highway Transportation Safety Administration (NHTSA) forecasts up to an 80% reduction in road fatalities involving unimpaired drivers through the implementation of autonomous vehicles.⁹

In order to achieve these safety outcomes as soon as possible, NHTSA released a Federal Automated Vehicles Policy in September 2016 to set an initial framework and guidance.

Efficiency – The Added Benefit

Additional benefits of driverless vehicles are the reduction in traffic congestion and increased fuel efficiency. 25 percent of congestion events result from traffic accidents.¹⁰ 94 percent of traffic accidents are due to human error.¹¹

While the Google car and key developments by auto manufacturers such as Mercedes, Audi and Tesla have been at the forefront for private owner use, innovations exist as well for autonomous vehicles that deal directly with commerce. In the area of ride hailing, Uber and Lyft, already considered disruptors in the market, are moving to driverless vehicles. Uber has already launched driverless vehicles in Pittsburgh, while General Motors has invested \$500 million in Lyft for the same purpose.

There are additional innovations and benefits that are significant to **freight mobility**. In Florida, 77% of freight is moved by truck.¹² Many have heard about “Driver Assistive Truck Platooning (DATP)” for long-haul freight movement. With DATP, trucks travel in close proximity of each other to enable fuel savings through drag. The first truck leads the way, with the trucks that follow operating semi-autonomously. While the driver maintains control of steering, acceleration/deceleration is controlled by vehicle to vehicle (V2V) communications via a combination of Digital Short Range Communications (in the 5.9 GHz band) and radar. In Auburn’s 2015 phase 1 study done for USDOT, it was determined that up to 10% fuel savings could be realized for the “following” truck and up to 5% for the “lead” truck, a significant cost savings.¹³ Platooning is being tested in various places, but most notable is the achievement of the Platooning Challenge issued by the Netherlands in October 2015. As early as March 29, 2016, truck platoons left Germany, Sweden and Belgium and arrived safely in Rotterdam on April 8, 2016.

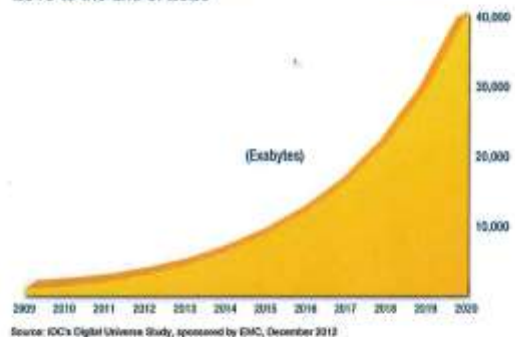
Uber, through its acquisition of Otto, has produced

a self-driving class 8 truck. In October, Otto moved a shipment of Budweiser 120 highway miles in Colorado with no driver at the wheel. The driver, after placing his rig in autonomous mode, was able to enter the back of the cab to do other work involving the delivery logistics. This type of solution addresses the trucking industry’s greatest challenge, Hours of Service regulations, which set rules for on-time duty and rest requirements for drivers. With the shortage of drivers (nearly 50,000 in 2015 and growing), the driverless truck can provide great efficiencies for the industry.¹⁴

A Key Challenge - Privacy and Security

In order to effectively implement AV and CV, the sharing of data is vital. If one thing was clearly emphasized through the recent Presidential Election, it was the issue of cyber security. What some are calling the “Digital Age” and “Big Data” others are calling a “Data Tsunami.” The digital universe represents all global digital information shared in one year. “From 2005 to 2020, the digital universe will grow by a factor of 300, from 130 exabytes to 40,000 exabytes, or 40 trillion gigabytes.”¹⁵

The Digital Universe: 50-fold Growth from the Beginning of 2010 to the End of 2020



If we do not get “privacy” right, the public will not accept these developments. Some of this responsibility lies with government and some lies with the private sector. The USDOT has invited private industry to help bring cyber security solutions to the table. The Federal Automated Vehicles Policy addresses expectations in this area by referencing existing guidelines established by the automotive industry and National Institute for Standards and Technologies. Although NHTSA has not yet proposed a regulatory standard, manufacturers and “other entities”

are held responsible. The Policy also emphasizes industry sharing, whereby NHTSA encourages the reporting of field incidents, testing results, or any other relevant information to the Automotive Information Sharing and Analysis Center (ISAC).

Talent and skills that involve cyber security are essential in both the public and private sectors; however the need for strong talent in the area of communications should not be overlooked. *The ability to effectively communicate to the public is essential to not only address privacy / security concerns, but also to generate trust in driverless solutions.*



SunTrax planned at Florida Polytechnic University in Polk County

Source: <https://floridapolytechnic.org/news-item/fdot-and-partnership-florida-poly-develop-suntrax/>

Florida – Paving the Way

Florida is uniquely positioned to implement autonomous and connected vehicles while addressing key concerns and regulating appropriately. Policymakers are paving the way for innovation, while the Florida Department of Transportation (FDOT) has employed methodologies that are collaborative with the private sector. Here are just a few examples of Florida's progress:

- **Legislation:** Florida was the 2nd state to enact legislation authorizing testing of automated vehicles and in 2016 the legislature opened the door to the testing of DATP and became the first state to allow driverless vehicle public roads without a driver behind the wheel. The 2017 session promises to continue the momentum.
- **Florida Autonomous Vehicle Initiative:** Begun by FDOT, this initiative recently held its 4th annual summit to convene thought leaders in the various fields related to autonomous vehicles. Three working groups were also formed that included public, private and civic leaders. They have issued white papers, and, by way of example, the Policy Working Group included private sector partners such as the insurance, legal and automotive industries. The inclusive position of FDOT allows for the acceleration of policy development, balancing of safety and efficiencies in technology implementation, and rapid response

to emerging opportunities and issues that arise. Several of Florida's universities are engaged in key research generating findings and reports that serve to accelerate implementation. Additionally, a transportation technology testing facility, called SunTrax, is being built at Florida Polytechnic University to test various ITS technologies culminating in autonomous and connected vehicle testing.

- **Support of the Business Community:** The collaboration of FDOT and the Florida Chamber of Commerce Foundation has led to annual transportation summits led by the business community, as well as innovations in mobility being discussed as a key part of the Foundation's Florida 2030 strategic planning process.

More to Come – Embracing the Innovation

This is an exciting time to be involved with transportation! What is described in this article is really just the tip of the iceberg in terms of what is to come. Envision Smart Cities that will make use of available data for the integration of connected vehicles and transportation infrastructure, smart grids, water

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management, government services, etc. Envision the day that an app will notify you of the best mode (or multiple modes) of transportation for you to get to your destination based on a knowledge of your personal preferences. All of these are in the process of being developed, and cannot be included in this article, but they are certainly worthy of exploration. We are truly in the age of an innovation economy. In order for Florida to effectively accommodate our anticipated growth, and remain globally competitive as a destination for residents, visitors and businesses, it is essential to continue to embrace this innovation.

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About the Author:

Beth Kigel is the President and CEO of the Palm Beach North Chamber of Commerce. With more than 20 years of experience serving the public sector, Beth began her career as a corporate representative in the telecommunications industry focused almost exclusively on government solutions at the federal, state, county, and municipal levels. She also has experience in government relations, public policy and political campaigns, and has served in several campaign leadership positions.

Beth was appointed to the Florida Transportation Commission in January 2012 by Governor Rick Scott, confirmed by the Florida Senate, and was subsequently reappointed for a second term in 2016. Her additional public service includes the Palm Beach County Criminal Justice Commission, the Palm Beach County Sports Commission, the Palm Beach County Groundwater and Natural Resources Protection Board, and the Roger Dean Stadium Advisory Board. Beth has served as a Trustee and Board Member of area Chambers of Commerce, an Executive Committee member of the Economic Council of Palm Beach County, and the 2012 Chair of the William T. Dwyer Awards for Excellence in Education. Beth serves on the Leadership Florida Board of Directors, and was elected to the post of Chair-Elect for 2016 - 2017. In 2015, Beth was appointed to The World Congress on Intelligent Transportation Systems Board of Directors.