

Fiscal Impacts of Connected and Automated Vehicles in Delaware

By Philip Barnes and Brett Swan, October 2018

Connected and automated vehicles (CAVs) will alter the state and municipal fiscal landscape. As CAVs become more widely adopted, state and municipal revenue from metered parking and tickets, traffic violations, vehicle registration and licensing fees, and the gas tax are expected to be impacted.

Fuel Tax Revenue

In fiscal year 2017, Delaware collected \$123 million in revenue from the state's 23 cents/gallon fuel tax.¹ CAVs are expected to consume less fuel than standard vehicles because they will be lighter, possess platooning capabilities, and be able to interact with their environment. These improvements will lead to decreased congestion and improved fuel efficiency.² At the same time, CAVs will increase total vehicle miles traveled (VMT) because they reduce the burden of attentive driving. These two factors will partially offset each other, but it is not clear which will have a greater impact. CAVs may place downward pressure on fuel tax revenue if efficiency gains overwhelm the VMT rebound effect. In any case, Delaware's fuel tax revenue will be negatively impacted when electric CAVs become more prominent.

Insurance Tax Revenue

Delaware levies a tax on all insurance premiums written in the state. Total receipts for 2017 amounted to approximately \$100 million, with about 15%, or \$15 million, coming from taxes on auto insurance premiums.^{3, 4} CAVs will fundamentally alter the nature of motor vehicle insurance because the individual owner will not



be manual operating the vehicle. Insurance may therefore be carried by the manufacturer rather than the owner. Fewer claims are expected because CAVs are predicted to be safer than manually driven vehicles.⁵ On the other hand, each claim is likely to be more expensive because CAV-enabling technology is costly.

Parking-Related Revenue

Parking-related revenue (meters, fines, etc.) will decrease because owners can send their vehicles to free spaces outside pay-for-parking areas and summon them back when needed. The losses could be significant for municipalities. Newark collected about \$3 million in parking-related revenue in fiscal year 2017, which is about 6% of the city's operating budget.⁶ The University of Delaware recently generated \$6 million in parking-related revenue in one year.⁷ The City of Wilmington is projected to collect \$3 million just from parking tickets and booting fines in fiscal year 2019.⁸

CAVs will have an even greater impact on city operating budgets in Southern Delaware.

Between parking meters, permits, fines, and fees, Rehoboth Beach is predicted to generate \$6 million in fiscal year 2019, or 28% of its overall budget, which is the city's largest single revenue source.⁹ In Dewey Beach, parking-related revenue will be over \$1 million in fiscal year 2019, which is nearly a third of the city's total budget.¹⁰ This income subsidizes and offsets the costs of operating a popular summer tourist destination.



Traffic Violations

Municipalities and the State of Delaware generate some revenue by ticketing traffic violations. The City of Seaford collected approximately \$75,000 in police fines and fees in the fiscal year 2018.¹¹ Wilmington generated over \$3 million in revenue from red light traffic cameras in the same fiscal year.⁸ Yet CAVs will be programmed to abide by the rules of the road, therefore lowering overall receipts. The State itself collected over \$16.5 million for traffic violations in fiscal year 2018.¹²

General Cost Savings

As CAVs continue to grow in popularity, state and local governments will have cost saving

opportunities. Fewer traffic violations and accidents would allow police forces to downsize their traffic enforcement or reassign officers to higher priority areas. More importantly, CAVs will lead to a reduction in motor vehicle crashes, which amounted \$2.8 billion in society-wide costs for Delaware in 2017.¹³

Policy Recommendations

Innovative policies must be explored and adopted by the State of Delaware and its municipalities to prepare for changing revenue streams. To recover fuel tax revenue, the State should continue to explore and pilot a mileage-based user fee system where vehicles are charged on distance driven rather than the volume of fuel consumed. This system would entirely replace the state fuel tax, ensuring that travelers, including electric vehicle owners, pay a fair share for usage of public roadways.

Delaware's municipalities should not expect their parking- or traffic-violation revenue to evaporate entirely, but they should anticipate reduced receipts. The beach communities that rely heavily on these budget items could evaluate alternative revenue sources such as beach tag programs like those in New Jersey.

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¹ Delaware Department of Finance, 2017

² Kockelman et. al., 2017

³ Navarro, 2018

⁴ Personal communication with the Delaware Insurance Commissioner's Office

⁵ Albright, Bell, Schneider, & Nyce, 2015

⁶ City of Newark, 2017

⁷ University of Delaware, 2017

⁸ City of Wilmington, 2018

⁹ City of Rehoboth Beach, 2018

¹⁰ Town of Dewey Beach, 2018

¹¹ Personal communication with City of Seaford official

¹² Personal communication with Delaware's Justice of the Peace Court official

¹³ Contact author for calculation details.

For the full work cited visit: www.sppa.udel.edu/ipa/serving-delaware/transportation/cav