notable exceptions such as New York City-being the city that never sleeps). This implies that these vehicles would generate 56,000 revenue miles per year out of 70,000 annual miles driven (analysis is based on an average of 11.5 MPH traveled for a typical NYC taxi; typical taxi drives 70,000 miles per year over 2 driver shifts and generates 34,230 revenue miles).

Figure 3: Miles Driven and Utilization of On-Demand Autonomous Vehicles

	nationwide
driverless vehicle price	$ 50,000
miles driven	
average driverless miles driven per hour	11.5
miles traveled annually	**70,000**
utilization on trip	*80%*
revenue miles	**56,000**

Source: NYC TLC, Industry Experts, DB estimates

To estimate the actual cost of operation, we adjust the depreciation of the vehicle to reflect a 3-year life expectancy. This implies that these vehicles will last 210,000 miles (compared with a 202,000-223,000 lifetime vehicle miles traveled for passenger cars and light trucks). Even after adjusting the price of an Autonomous vehicle upwards by $20,000 (We used a $50,000 total vehicle price; companies such as Delphi believe that the cost premium to produce a fully autonomous vehicle will ultimately decline to $5,000-$5,500), the improved amortization of fixed costs implies that the total cost per mile will decline to ~ $0.53/mile ($0.48 per mile variable cost plus $0.05/ mile for fixed costs, which is ~$3,800 in fixed cost per year spread over 70,000 miles).

Keep in mind our fuel cost assumption of $0.11/mile assumes only ICE vehicles are used in a hypothetical autonomous fleet. In reality, we would expect strong adoption of EVs, where fuel/recharging costs are far less (~$0.03-$0.04/mile). Indeed, roughly 2/3 of the incremental growth in GM's Maven carsharing fleet is expected to be Bolt EVs, with GM's Autonomous vehicle platform also based on the Bolt.

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