

Barclays Research Insights on

Disruptive Mobility

A SCENARIO FOR 2040...

BY 2040

Half of all cars could be autonomous.

A society of driverless cars is on its way.

In this new paradigm, vehicle ownership could decline by 50% and each shared driverless car could replace as many as 7 traditional vehicles. Shared autonomous driving could significantly disrupt annual car sales.



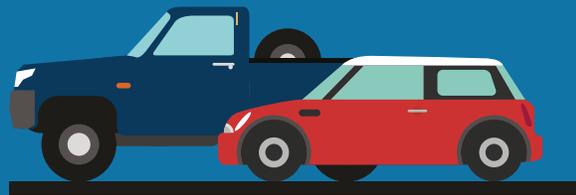
Driverless car:

A robotic vehicle designed to travel between destinations without a human operator.

4 types of vehicles will rule the road

Traditional Automobiles:

Performance and utility vehicles intended for personal or work use.



Family Autonomous Vehicles (FAVs):

Driverless vehicles owned and shared by a family.

Shared Autonomous Vehicles (SAVs):

On-demand chauffeur, minus the driver.



Pooled Shared Autonomous Vehicles (PSAVs):

SAVs that service multiple riders simultaneously.

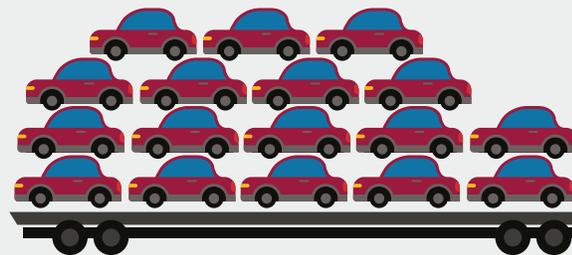
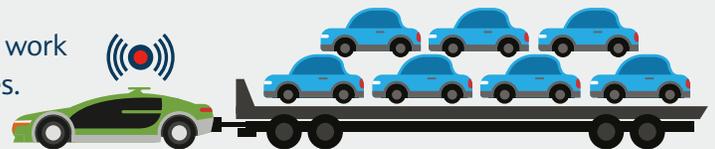
Speeding ahead

The vehicle market is set to be disrupted.



Fewer vehicles on the road.

One SAV could do the work of 7 traditional vehicles.



One PSAV could do the work of 17 traditional vehicles.

Decline in auto sales.

As many as half of the cars on the road could be autonomous, leading to a 40% decline in auto sales.

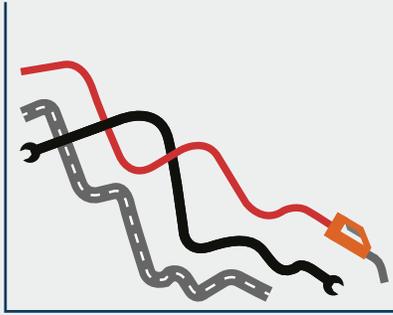
Source: UMTRI, Fagnant et al, Urban Mobility Institute, Barclays Research estimates

Fewer vehicles in use could mean less pollution.

A shift to PSAVs may result in CO₂ emissions being greatly reduced.



Decrease in total operating costs per mile.



TODAY 66¢ traditional vehicle operating cost per mile

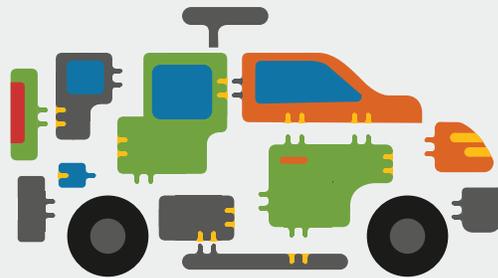
BY 2040 29¢ SAV operating cost per mile

12¢ PSAV operating cost per mile

Source: AAA, UMTRI, Fagnant et al, Columbia Earth Institute, Barclays Research estimates

Modular car designs.

Greater intensity of driving may provide a motivation for next-gen modular designs that would allow easy upgrading of worn parts like interiors and batteries.



Shorter car lifespans.

SAVs will need to be scrapped sooner as each car is driven more miles per year than a traditional car.

Upgrade for the masses.

As families move from owning multiple cars to one, they can spend more on a single FAV.



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Source: "Disruptive Mobility," prepared by Brian A. Johnson, Barclays Research Department

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