What is Micromobility?

It's an exciting time in the transportation world. Recent news has been with remarkable new automobile technologies, from efforts to make the all-electric Tesla more affordable, to whiz-bang stories about driverless cards and self-driving tractor trailers.

And while there are big changes afoot, there might be even bigger changes underfoot via the rapid growth of micromobility. Micromobility describes the growing range of tools and technologies that help enable shorter, carless trips – from tried-and-true solutions like Roanoke's Zagster bikeshare system, to up-and-coming devices like e-scooters. Microbility devices and systems are being developed, tested, and deployed rapidly, creating both opportunities, and sometimes headaches, for the communities in which they are operated.

Whereas automated vehicles and electric cars still require big infrastructure to operate, micromobility takes advantage of dense urban and neighborhood-center design to move people at a human scale, generally within existing pedestrian and bicycle infrastructure. The major benefit of such systems is that they make it easy to travel short distances without a car, distances that are inconvenient for walking but if driven generate short automobile trips that can cause traffic, emissions, and parking problems. Most micromobilty solutions are intended to replace automobile trips of five miles or less.

Currently, the most common micromobility solutions you are likely to encounter are:

- The good-old bicycle: Whether you're riding your personal bicycle or using a bikeshare system, the bicycle remains the most common form of micromobility when used for transportation. In the Roanoke Valley, the growth of on-road bicycle facilities and greenway expansion has caused a boom in bicycle commuting and other practical uses.

- Electric bicycles: Electric bicycles can fall into one of a number of categories depending on top-speed, motor power, etc., but in general they all look like a traditional bicycle but have an electric motor capable of fully powering the bicycle, or assisting the rider with additional motive power when tackling hills or long distances. In the latter case, such vehicles are often called pedal-assist bicycles. Electric bicycles are becoming more common in the valley, with some bike shops able to retrofit existing bikes with electric engines. Roanoke City's Handsmith Bicycles can rent electric bikes for those who are interested in trying them out.

- E-scooters: You've mostly likely read about e-scooters in the news in the last few months, and most likely not in a flattering light. E-scooters are dockless, two-wheeled vehicle that, unlike most electric bicycles, don't actually require human power to run. Management systems vary, but generally scooters are reclaimed every night and recharged, then put back on the streets in designated locations the next day.

The biggest change new micromobility solutions have introduced to communities are dockless systems. Unlike traditional, station-based bikeshare that operates with the predictability of transit, many new electric bike and e-scooter systems are dockless, meaning once you're done with your ride you leave the vehicle where your trip ended, making it available for anyone else to check out. Dockless systems have challenges balancing the convenience of ending your trip anywhere you want against safe and equitable use of public space, but many cities are beginning to work out the kinks.

What does micromobilty hold in store for the Roanoke Valley? It's hard to tell, but the success of our Zagster bikeshare system and an ever-increasing focus on, and participation in, an outdoor lifestyle focused on getting outside and enjoying the valley's natural beauty, suggests that we're likely to see experiments with pedal-assist bikes and scooters on our streets in the very near future.