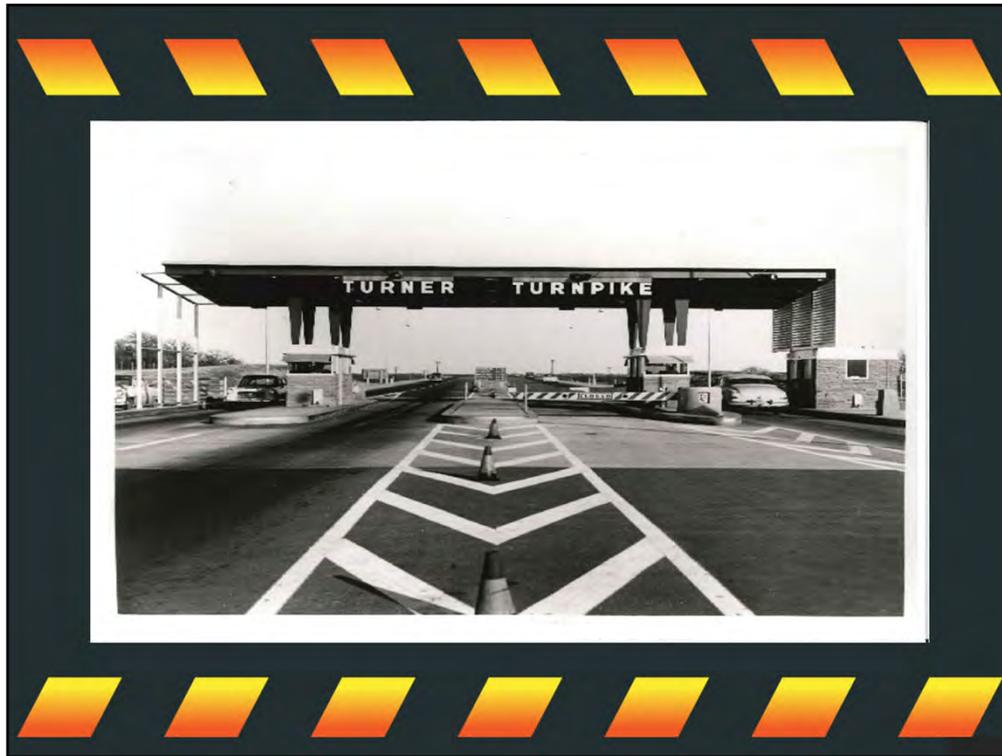
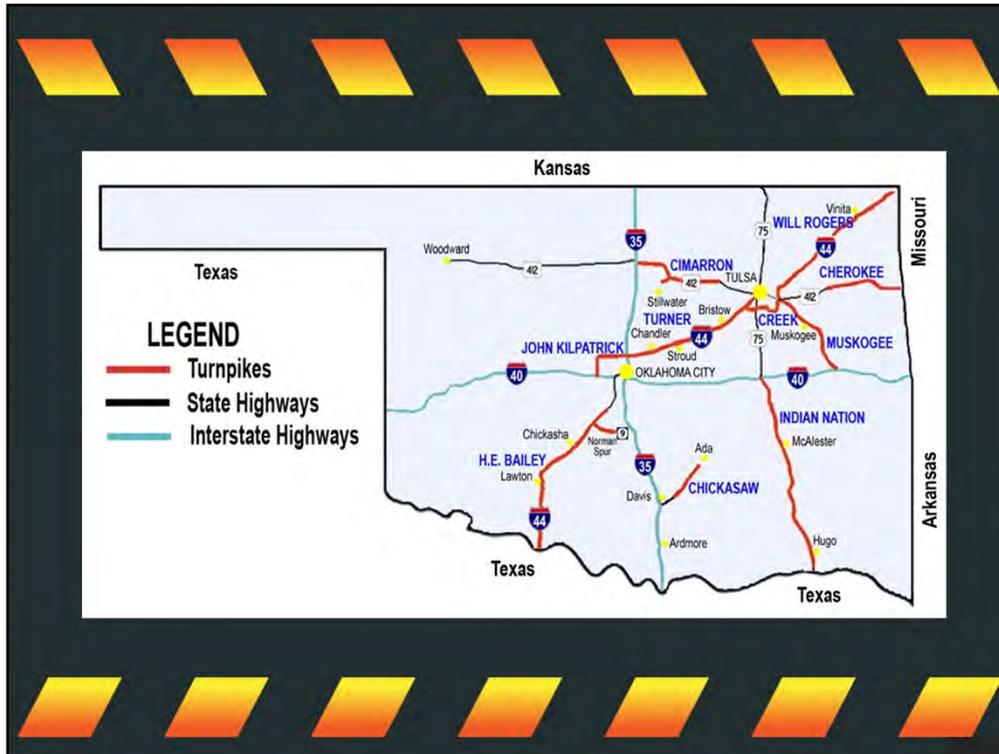




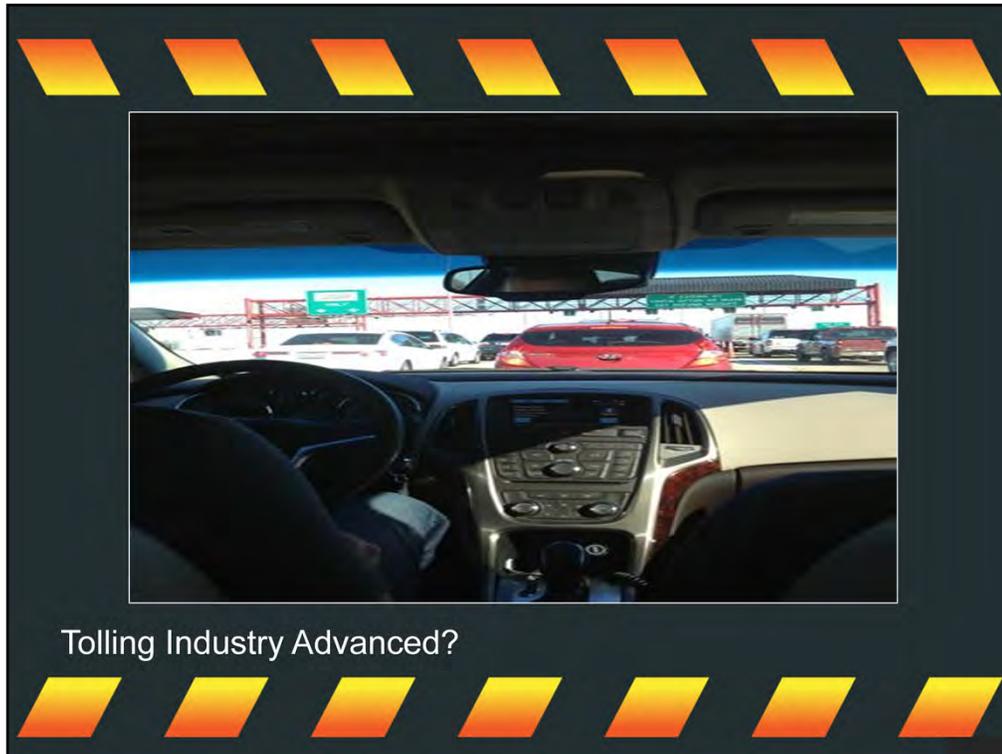
Today, I will be providing a brief overview of the different types of tolling equipment used by the Oklahoma Turnpike Authority. Also, I will provide reasons that the tolling industry is moving to AET all electronic tolling.



In 1953, the first Oklahoma Turnpike was open to traffic; the Turner Turnpike which connects OKC and Tulsa. Note the collector booths and the gates. All traffic was required to stop to pay the toll. Today, traffic pays the toll or pulls an entry ticket.



Since 1953, the Oklahoma Turnpike Authority has added 9 more turnpikes: Will Rogers, HEB, Muskogee, Indian Nation, Cimarron, John Kilpatrick, Cherokee, Chickasaw, and Creek

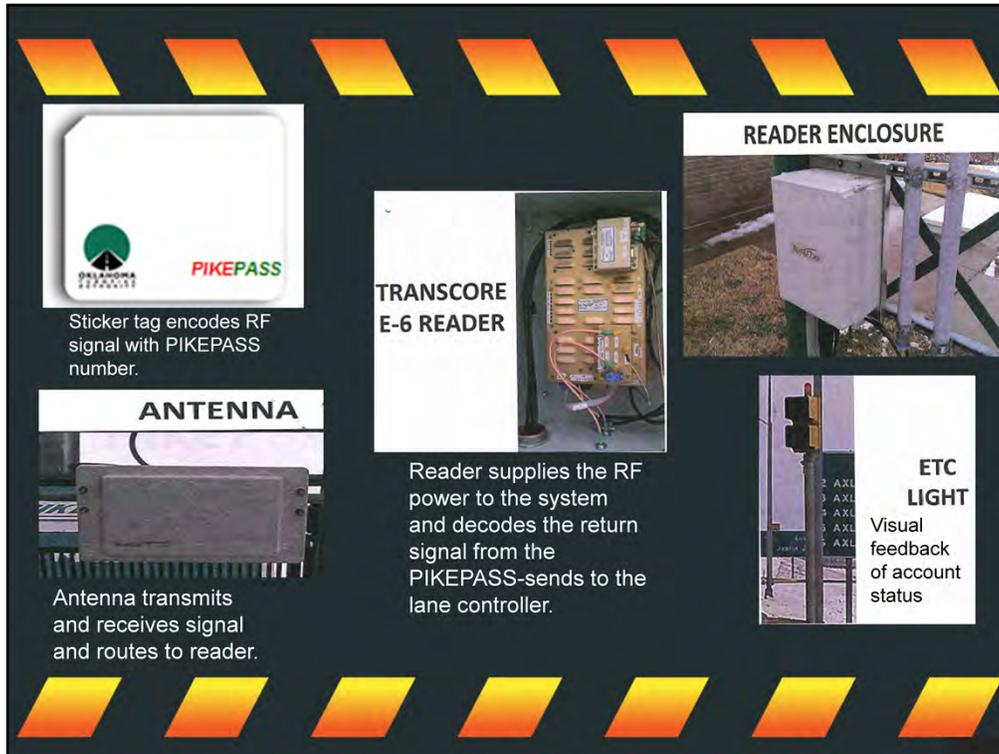


For years the tolling industry has anticipated technological advances that would allow tolling points where a vehicle is not required to stop thereby diminishing lines at toll booths.

Even today, customers traveling the turnpike continue to stop at toll booths to pay the toll.



In 1991, the OTA implemented electronic toll collection with the PIKEPASS. This advancement allowed tolling points where a vehicle is not required to stop. The PPS system consists of multiple components that allow for automatic toll processing through the use of RFID technology.



When the PPS Sticker Tag is passed underneath the antenna it detects the RF signal and encodes the signal with the PPS number, then reflects it back to the antenna.

The Antenna transmits and receives the RF signal and routes it to the reader.

The Reader supplies the RF power to the system and decodes the return signal from the PPS. After decoding the PPS #, it sends the number to the lane controller for processing.

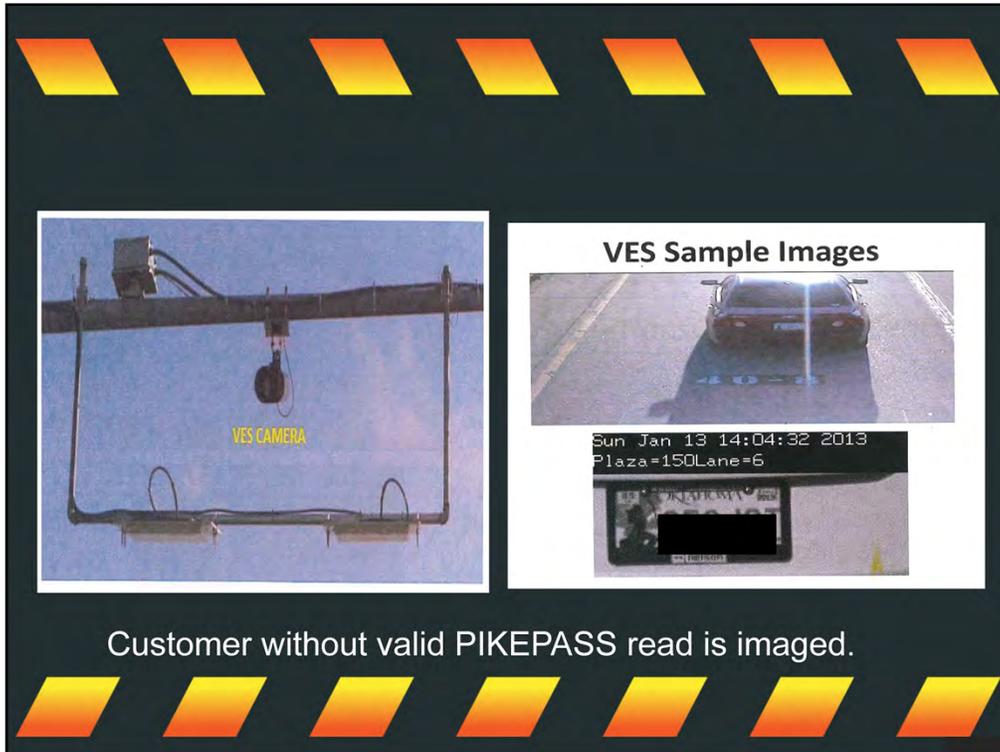
The lane controller provides the interface point between the roadside equipment and the host computer.

The lane controller takes the PPS # from the reader, verifies the PPS status, lights the appropriate lights and then transmits the transaction to the turnpike server for processing.

The ETC light gives the visual feedback to show the customer the PPS was read and also indicates the account status.



Lane controller (computer) interface between roadside equipment and host computer-verifies account and triggers light.

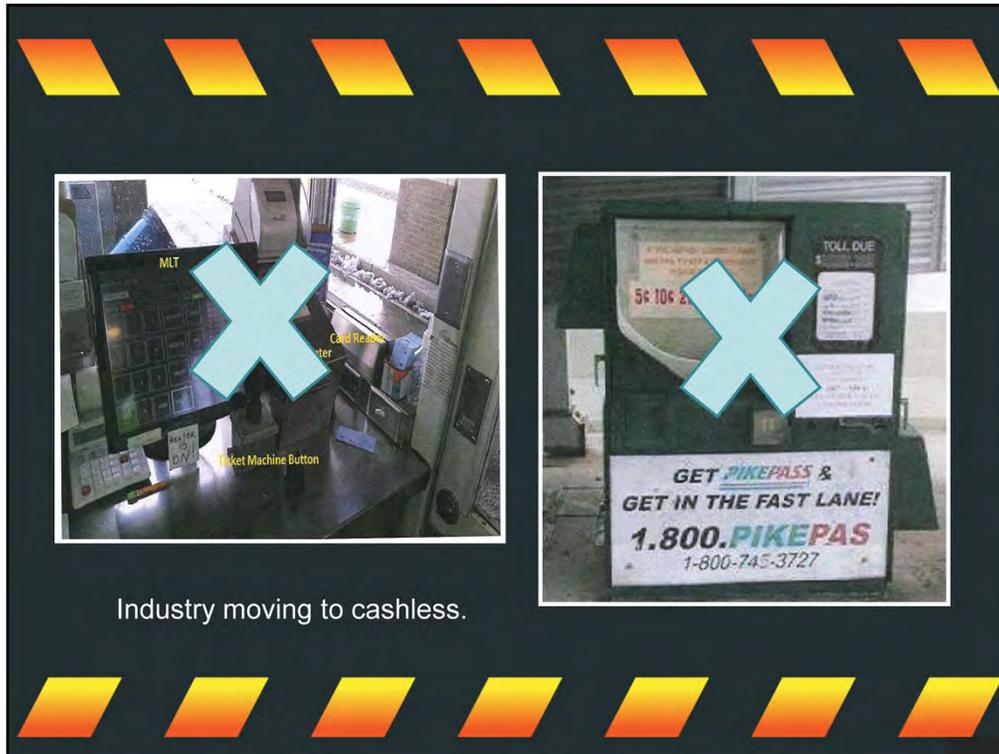


Customer without valid PIKEPASS read is imaged.

After the implementation of PPS, customers without a PPS were driving and violating in the designated PPS lane. The OTA implemented a video enforcement system. The system is used to capture images of the license plates of violators. A vehicle enters the tolling zone. If the reader does not read a valid transponder, the license plate of the vehicle is imaged and the customer is sent a violation notice.



For customers that continue to want to pay the toll with cash, the OTA collects cash with the toll collector in the booth and the ACM.



Industry moving to cashless.

Today, more and more tolling authorities are becoming cashless. Lanes are being expanded for high-speed tolling where no customer is required to stop or slow down to pay. The lines at the toll booth are no more.

AET

ALL ELECTRONIC TOLLING on the Golden Gate Bridge

Driving E-470

Smooth **ROAD** ahead

FLORIDA'S TURNPIKE ENTERPRISE

Zi

FLORIDA'S TURNPIKE ENTERPRISE

All electronic tolling system on Massachusetts

WE BILL YOU WITH TOLL-BY-PLATE
SUBJECT TO ADMIN CHARGES

Transponder or Invoice

All-electronic tolling: No toll plazas, coin buckets or waiting in line

All Electronic Tolling (AET) lanes that are all electronic read the transponder for customers with a valid transponder. For customers, without a valid transponder, an image is taken and the registered owner of the vehicle is sent an invoice.



AET is a long term solution to traffic congestion by eliminating stop points and travel time.

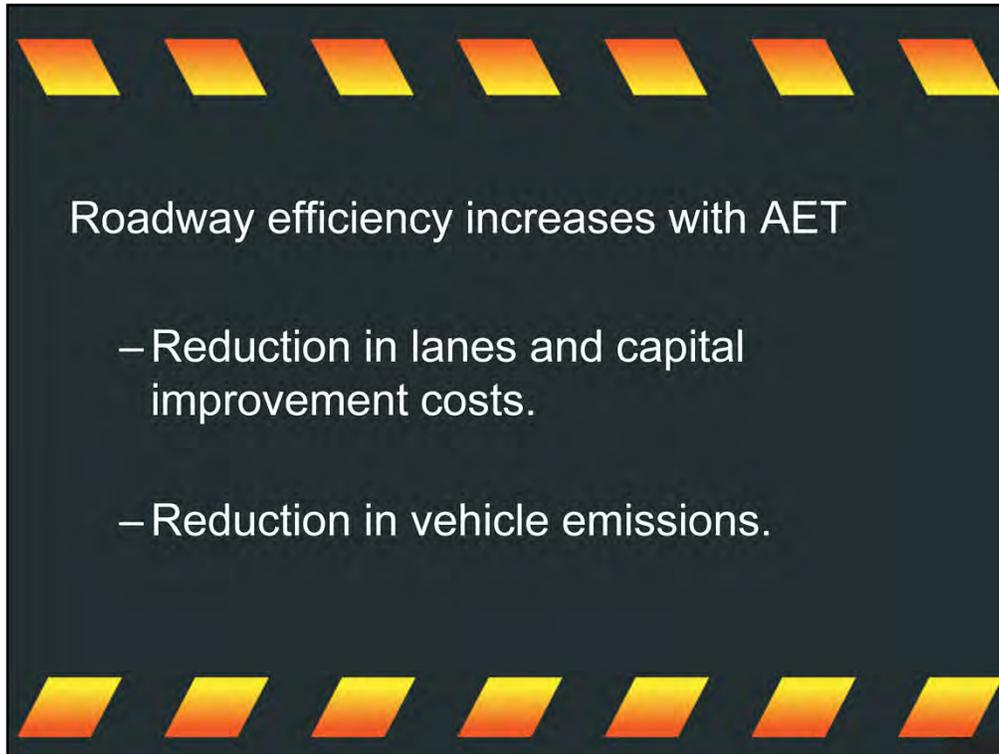
AET is a long term solution to traffic congestion. Per the Urban Mobility Report by the Texas Transportation Institute, highway congestion cost the United States \$101 billion in 2010 and will cost \$133 billion in 2015. By elimination stop points, congestion and travel time is reduced which allows customers to proceed to their destination.



AET enhances safety by removing conflicts between cash and electronic toll customers. The result is a reduction in lane weaving and abrupt vehicle speed changes.

Fatality rates on toll roads is about one-third (0.50) the rate of all U.S. roads (1.47 per 100 million vehicle miles traveled).

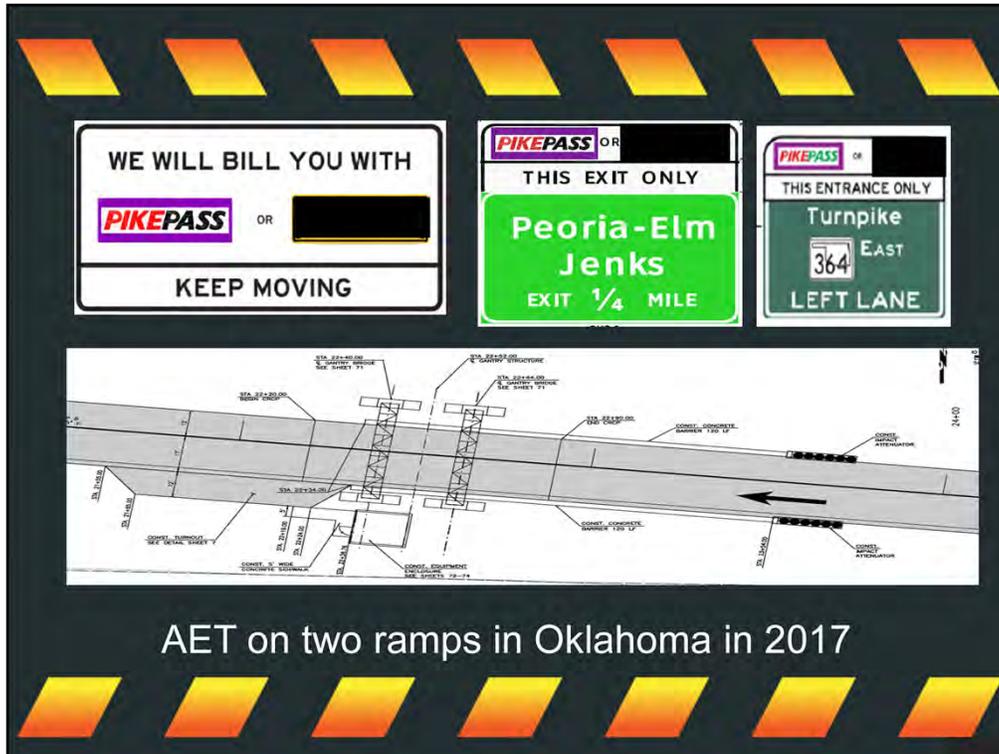
The Department of Civil, Environmental and Construction Engineering of the University of Central Florida evaluated the safety of AET. The study evaluated the safety effectiveness of conversion from a traditional mainline toll plazas in Florida to an all electronic toll system. The results of the study concluded that the conversion from a traditional mainline toll plaza to an all electronic toll collection resulted in an average of 67% in crash reduction.



Since AET is a single toll collection system, roadway efficiency increases. The need for more lanes and capital improvements is reduced.

With the elimination of unnecessary vehicle deceleration and acceleration at the toll plaza, less fuel is consumed and there are fewer vehicle emissions.

Central Texas Regional Mobility Authority completed a study and compared vehicle emissions on an AET toll road with a parallel tax-funded road. The emissions of various air pollutants were 28-56 percent lower on the toll road.



In a partnering effort with the City of Jenks, the OTA will be implementing AET on two ramps on the Creek Turnpike. The EB entrance and the WB exit. The ramps are scheduled for construction completion in early 2017. Success of this project could mean further expansion of AET on the OTA roadways.



All Electronic Tolling

- Eliminates traffic congestion.
- Enhances safety.
- Increases roadway efficiency.

In summary, AET is a solution to traffic congestion, enhances safety, and increases roadway efficiency.



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