

## Roadway of the Future

### Goal:

The Roadway of the Future will increase mobility and promote safety while lowering infrastructure costs.

The characteristics of the road of the future include:

- Reduced infrastructure:
  - Traffic signals
  - Dynamic message signs
  - Traffic management “hardware” (e.g. lane control signals, ramp meters)
  - Guide and logo signs
  - Guardrail and other roadside safety hardware (e.g. chevrons)
  - Lane width/pavement depth
- Increased emphasis on data:
  - Lane closure (planned and unplanned)
  - Road condition (snow/ice, flooding, pavement deterioration)

### Timeline:

VDOT will begin implementing key elements of the Roadway of the Future over the next two years. The timelines for key components are shown below.

#### Traffic signals

- **August 2016:** Broadcast signal phase and timing (SPaT) messages from equipped intersections in Northern Virginia. Make original equipment manufacturers (OEMs) and 3<sup>rd</sup> party developers aware of availability of data.
- **June 2017:** Make signal state data available from Central System through a data sharing site. Work with Audi, BMW, Volkswagen, and others to use this data for in-vehicle applications.
- **June 2017:** Establish a test corridor in Blacksburg/Christiansburg to establish methods for 2-way communications between signals and vehicles that provides required level of security.
- **December 2017:** Replicate 2-way signal/vehicle communications in the Northern Region and integrate vehicle data as additional “detection” data.

### Dynamic Message Signs

- **June 2016:** Meet with Waze to determine the feasibility of public-private partnerships for traffic incident management application development and dissemination.
- **Summer 2016:** Recruit volunteers to test prototype traffic incident management (TIM) application. Solicit feedback for enhancements.

### Traffic Management “Hardware” and Guide and Logo Signs

- See the above Dynamic Message Sign timeline.

### Guardrail and Other Roadside Safety Hardware (Chevrons, etc.)

- **Summer 2016:** Meet with original equipment manufacturers (OEMs) to determine needs with respect to automated vehicle positioning and lane keeping.
- **Fall 2016:** Deploy infrastructure elements to address identified needs on selected facilities with input from the original equipment manufacturers.
- **Fall 2016 – Summer 2017:** Gather feedback from deployed strategies and modify as appropriate.
- **Fall 2017:** Update VDOT specification as appropriate.

### Lane Closure Data Availability

- **June 2016:** Demonstrate work zone application in Northern Virginia in conjunction with contractor.
- **Fall 2016:** Identify the most effective methods of obtaining real-time work zone information (VDOT system, contractor equipment, other).
- **Fall 2016:** Identify the most effective methods of obtaining real-time incident information.
- **Summer 2016 – Summer 2017:** Develop and deploy data sharing site/system for connected data.