MEMORANDUM

To: Oregon Task Force on Autonomous Vehicles  
From: ODOT Staff  
Date: April 4, 2019  
Re: Law Enforcement Interaction Plan Review

Introduction
The Subcommittee on Vehicle Code and Safety requested information about law enforcement interaction plan requirements established by other states, as well as law enforcement interaction plans released by automated vehicle manufacturers. One of the final products the subcommittee intends to submit to the Legislature in September is a set of recommendations for law enforcement and first responder training, including any necessary data.

Background
In the first report submitted to the Legislature, the Task Force on Autonomous Vehicle recommended the following regarding a law enforcement/first responder interaction plan for testing automated vehicles on public roads:

1. The testing permit must require that manufacturers submit a law enforcement/first responder interaction plan.
2. The law enforcement/first responder interaction plan must be shared with state police and with local law enforcement and first responders.
3. The law enforcement/first responder interaction plan must be made available to other local law enforcement agencies and first responders.
4. The task force recommends that the law enforcement/first responder interaction plan include:
   a. How to communicate with a remote operator
   b. Where in the vehicle to obtain owner information, vehicle registration, and proof of insurance
   c. How to safely remove the vehicle from the roadway
   d. How to recognize whether the vehicle is in autonomous mode
   e. If possible, how to safely disengage autonomous mode
   f. How to detect and ensure that autonomous mode has been deactivated
   g. When applicable, how to safely interact with hybrid and electric vehicles
   h. A description of the operational design domain of the vehicle

Scope
This memo compares requirements and aspects of law enforcement interaction plans for automated vehicles. It draws from multiple sources: California and Arizona’s requirements for law enforcement interaction plans, recommendations for requirements from the first report of Oregon’s Task Force on Autonomous vehicles, and law enforcement interaction plans released by the automated vehicle manufacturers Waymo and Nuro.

Results
The table below compares the different components of the included law enforcement interaction plans and plan requirements.
<table>
<thead>
<tr>
<th>Means of communication with operating entity</th>
<th>OR ATVF 2018 Report</th>
<th>CA Autonomous Vehicle Code</th>
<th>Arizona Law Enforcement Protocol</th>
<th>Waymo</th>
<th>Nuro (redacted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Means of communication with remote operator</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Method of accessing insurance, registration and owner information</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructions on how to pull vehicle over in a traffic stop²</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Instructions on how to remove vehicle from the road</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Instructions on how to recognize and disable autonomous mode</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Instructions on how to verify autonomous mode is not engaged</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Safety information regarding battery/hybrid systems</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Vehicle Operational Design Domain</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cities or geographic area of operation</td>
<td>*1</td>
<td>*1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

1. Oregon’s Task Force on Automated Vehicles 2018 report and California’s administrative code on the deployment of autonomous vehicles both require notification of the jurisdictions/locations specifically for testing of autonomous vehicles without human backup drivers.
2. The interaction plans released by Nuro and Waymo include specific instructions about how to pull a vehicle over. This element could be understood to be included in the language of Oregon and California’s requirements to have instruction on how to remove a vehicle from the road, but this has been separated here for extra clarity.