NHTSA LEVELS OF AUTOMATION

**LEVEL 0**
- **AND**
- driver controls steering and brakes

**LEVEL 1**
- **OR**
- **BY VEHICLE**
- driver controls steering or brakes

**LEVEL 2**
- **AND**
- **BY VEHICLE**
- driver has to be ready to take control

**LEVEL 3**
- **AND**
- **BY VEHICLE**
- ample warning in rare conditions that driver has to control vehicle

**LEVEL 4**
- vehicle can drive itself empty or with a passenger
## Transit Levels of Automation

<table>
<thead>
<tr>
<th>Year</th>
<th>Guideway/ Level of Segregation</th>
<th>Level of Automation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
</tr>
<tr>
<td>2020</td>
<td><img src="image3.png" alt="Image" /></td>
<td><img src="image4.png" alt="Image" /></td>
</tr>
<tr>
<td>2035</td>
<td><img src="image5.png" alt="Image" /></td>
<td><img src="image6.png" alt="Image" /></td>
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<tr>
<td>2050</td>
<td><img src="image7.png" alt="Image" /></td>
<td><img src="image8.png" alt="Image" /></td>
</tr>
</tbody>
</table>

*Envisioning Automated Vehicles within the Built Environment: 2020, 2035, 2050*  
Ancillary Workshop to the TRB Automated Vehicles Symposium 2014, Friday, 18 July