

# Traffic Operations

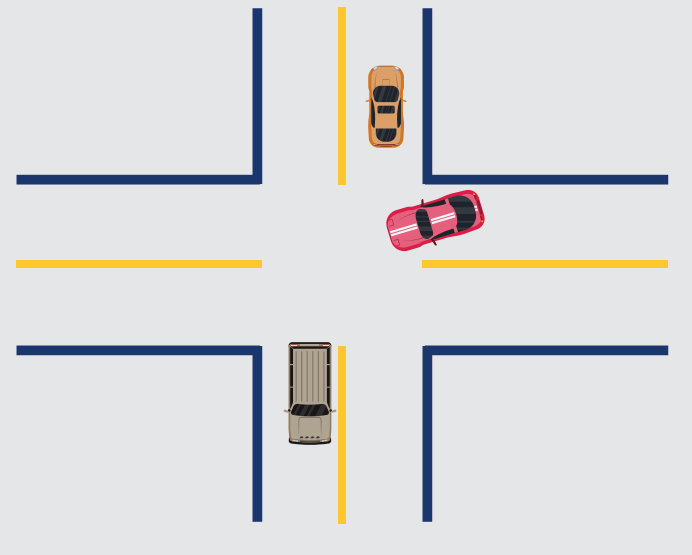
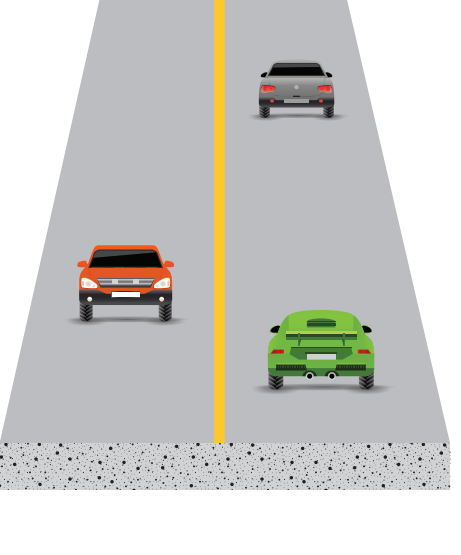
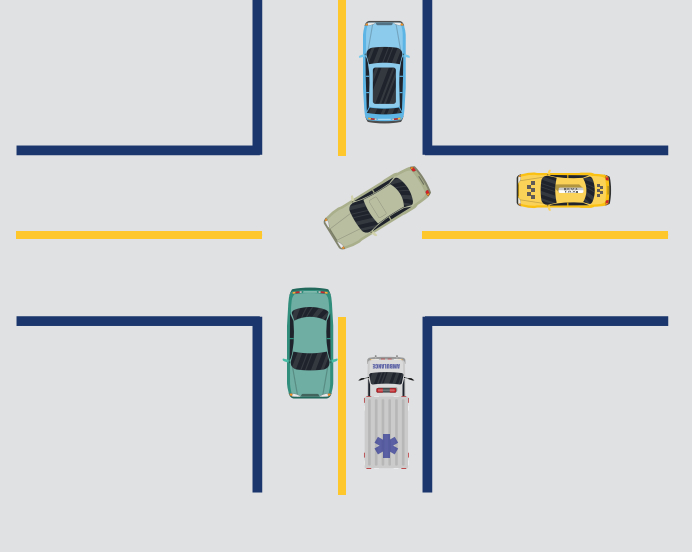
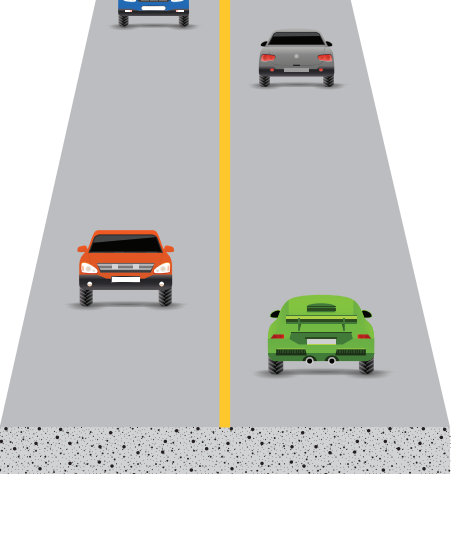

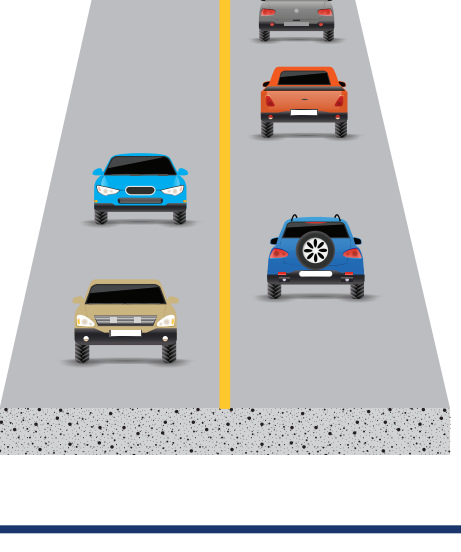
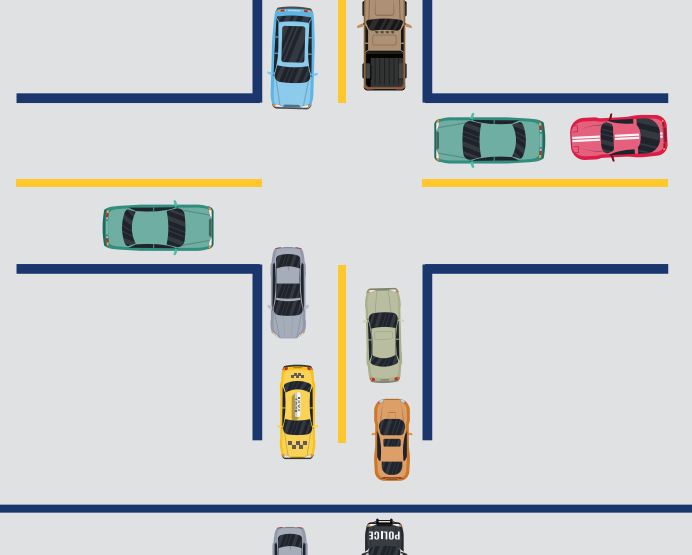
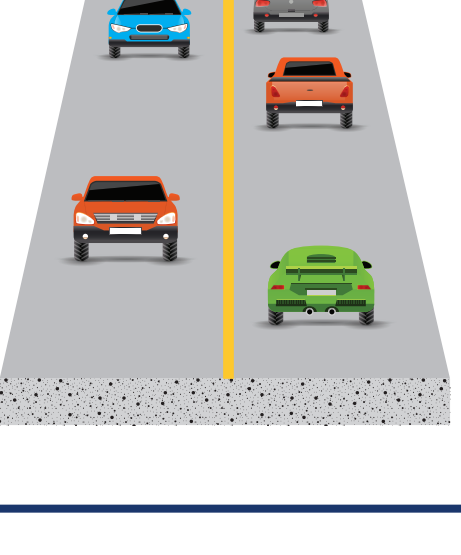
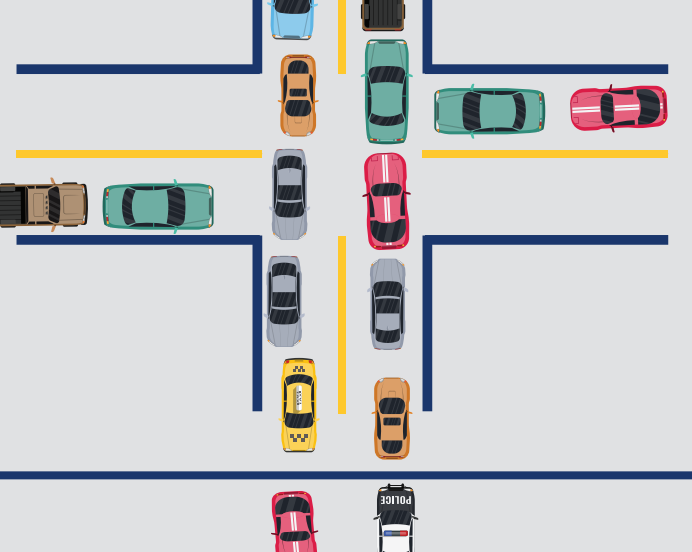

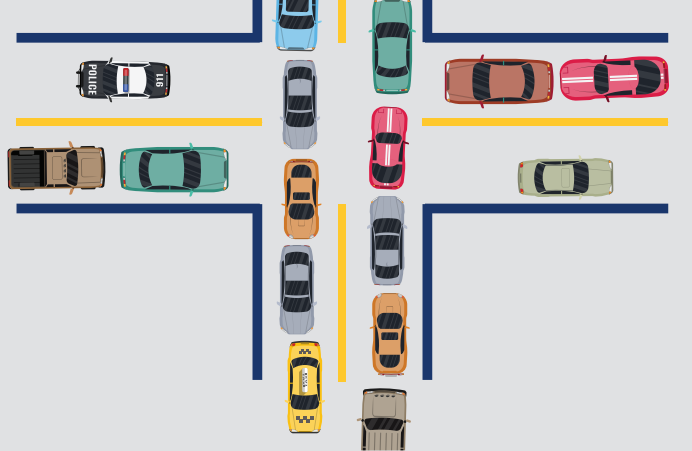
## LEVEL OF SERVICE (LOS) \*

LOS is a qualitative measure describing operational conditions within a traffic stream, based on measures such as speed, travel time, freedom to maneuver, traffic interruptions, comfort and convenience.

Six levels of service are defined for each type of roadway section and are given letter designations from A to F, with A representing good operating conditions and F representing unsatisfactory operating conditions.

\* Based on LOS concepts as described in the Highway Capacity Manual (HCM), December 2010.



LEVEL OF SERVICE	INTERSECTION	ROADWAY
<b>A</b>	<ul style="list-style-type: none"> <li>Highly stable with little or no congestion.</li> </ul> <p><b>Delay:</b> &lt;10 seconds/vehicle</p> 	<ul style="list-style-type: none"> <li>Free traffic flow with few restrictions on maneuverability or speed.</li> <li>Highest Quality of Service</li> </ul> <p><b>NO DELAYS</b></p> 
<b>B</b>	<ul style="list-style-type: none"> <li>Stable, free-flow condition with little congestion.</li> </ul> <p><b>Delay:</b> 10 to 20 seconds/vehicle</p> 	<ul style="list-style-type: none"> <li>Stable traffic flow.</li> <li>Speed becoming slightly restricted.</li> <li>Low restriction on maneuverability.</li> </ul> <p><b>NO DELAYS</b></p> 
<b>C</b>	<ul style="list-style-type: none"> <li>Moderate congestion.</li> </ul> <p><b>DELAY:</b> 20 to 35 seconds/vehicle</p> 	<ul style="list-style-type: none"> <li>Stable traffic flow, but less freedom to select speed.</li> </ul> <p><b>MINIMAL DELAYS</b></p> 
<b>D</b>	<ul style="list-style-type: none"> <li>Approaching unstable condition with increasing congestion.</li> </ul> <p><b>DELAY:</b> 35 to 55 seconds/vehicle</p> 	<ul style="list-style-type: none"> <li>Traffic flow becoming unstable.</li> <li>Speeds subject to sudden change.</li> </ul> <p><b>MINIMAL DELAYS</b></p> 
<b>E</b>	<ul style="list-style-type: none"> <li>Unstable, congested condition.</li> </ul> <p><b>DELAY:</b> 55 to 80 seconds/vehicle</p> 	<ul style="list-style-type: none"> <li>Unstable traffic flow.</li> <li>Speeds change quickly and maneuverability is low.</li> </ul> <p><b>SIGNIFICANT DELAYS</b></p> 
<b>F</b>	<ul style="list-style-type: none"> <li>Stop and go.</li> </ul> <p><b>DELAY:</b> &gt;80 seconds/vehicle</p> 	<ul style="list-style-type: none"> <li>Heavily congested traffic.</li> <li>Demand exceeds capacity and speeds are drastically reduced.</li> </ul> <p><b>CONSIDERABLE DELAYS</b></p> 