See and Be Seen:
Pedestrian Visibility Underground
Causes of Underground Mobile Equipment Incidents
Ontario incidents in which visibility may have been a factor - 10 years

<table>
<thead>
<tr>
<th>Category</th>
<th>Medical aid injuries</th>
<th>Lost-time injuries</th>
<th>Fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>50%</td>
<td>47%</td>
<td></td>
</tr>
<tr>
<td>Visibility</td>
<td>50%</td>
<td>53%</td>
<td>100%</td>
</tr>
</tbody>
</table>

See and Be Seen:
Pedestrian Visibility Underground

Workplace Safety North
A Health & Safety Ontario Partner
Researchers mounted a bright light above the seat on a pole, approximately at the eye level of an average LHD operator.
Visibility Research

Reference Light
Visibility Research

Causes of Restricted Visibility
8 Yard LHD Without Cab

- Bucket
- Lights & Fire Extinguisher
- Remote Control Box
- Engine

Legend:
- Red: Roadway is not visible from operator's position
- Yellow: 1.7 meter tall pedestrian is not visible from operator's position
- Blue: Kneeling pedestrian is not visible from operator's position
- Black: LHD vehicle

See and Be Seen:
Pedestrian Visibility Underground

Workplace Safety North™
A Health & Safety Ontario Partner
The driver of an 8-yard load-haul-dump machine can’t see a standing pedestrian within 20 feet.
See and Be Seen: Pedestrian Visibility Underground
Driver’s eye view...three miners almost invisible behind the engine cover of a load-haul-dump machine.
It’s vitally important for both operators and pedestrians to be aware of visibility limits.
In a dark environment like an underground mine, seeing and being seen is critical to safety.

Ontario’s Regulations for Mines and Mining Plants (Regulation 854) require everyone working in an underground mine to wear reflective materials on hard hats and outer clothing.
Notifying LHD operators at the start of their shift when pedestrian visitors may be expected will help to avoid surprises and possible accidents.
What You Can Do

• Be aware of visibility limitations

• Follow company safety procedures when operating an LHD or walking through a work area

• Wear reflective materials on your hat and outer clothing

• Make sure an LHD operator knows you’re walking through the area

• Use cap lamp and hand signals