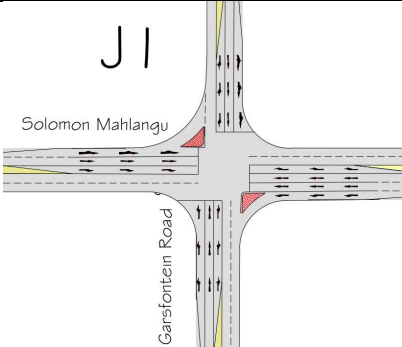
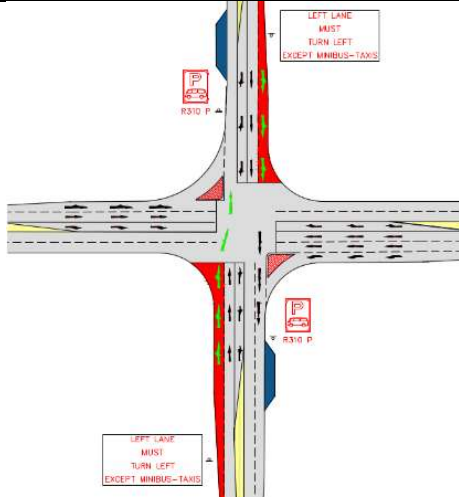
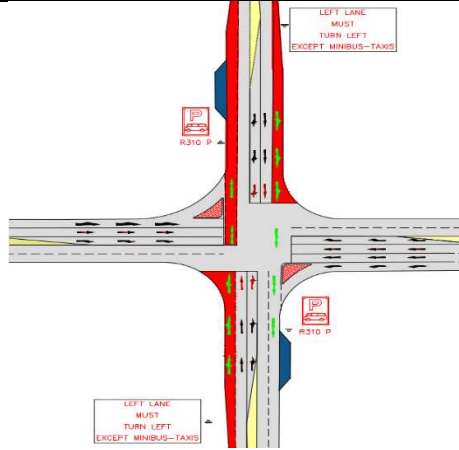
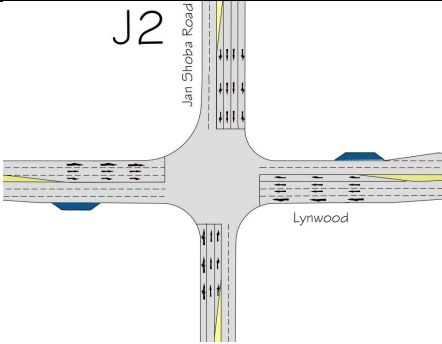
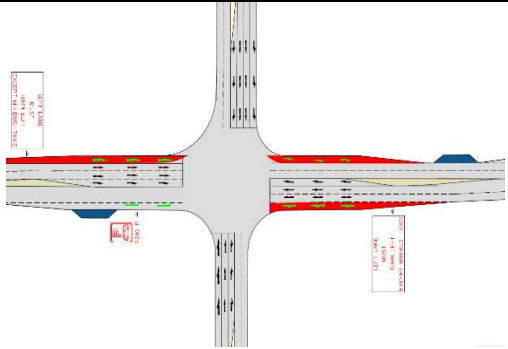
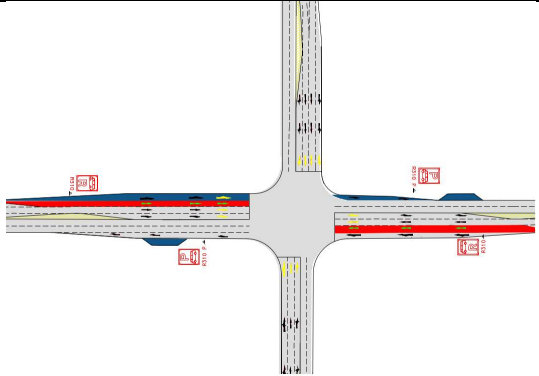
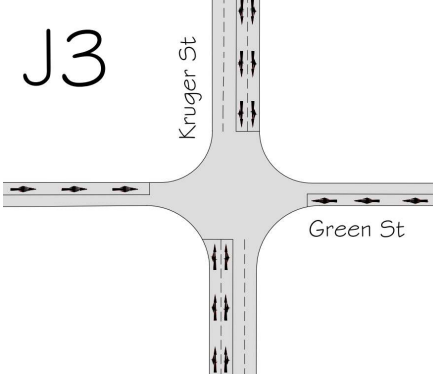
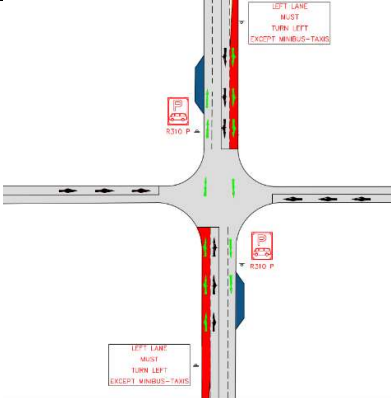
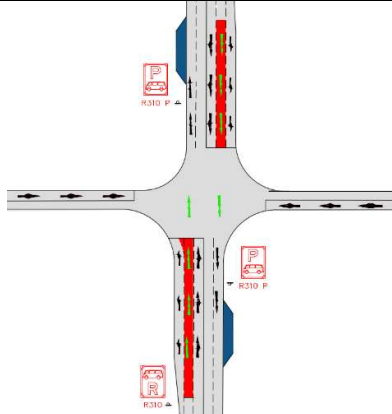
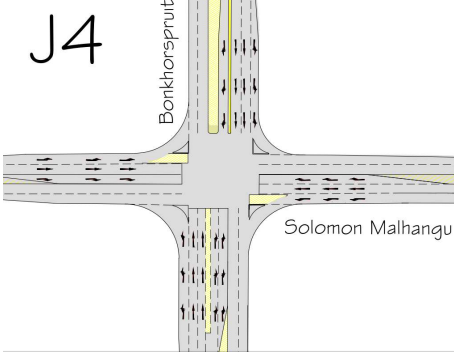
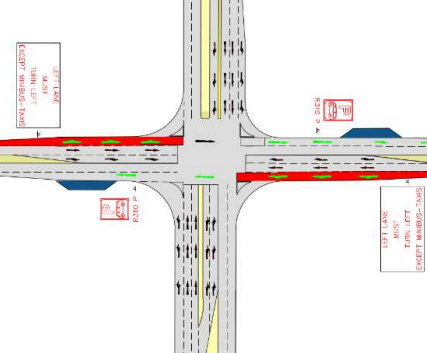
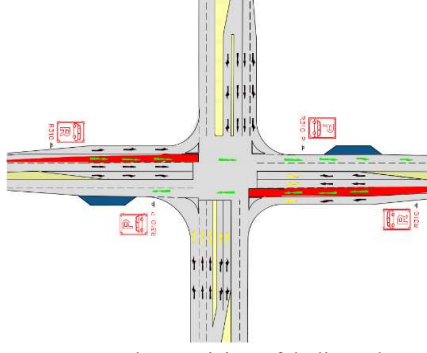


Existing Layout & Geometric Conditions (See also Table 4-2)	Evaluation of Design Strategies for Garsfontein & Solomon Mahlangu (J1) (See also Appendix B)	
 <p><b>Name of Junction:</b></p> <ul style="list-style-type: none"> <li>Garsfontein &amp; Solomon Mahlangu (J1)</li> </ul> <p><b>Target corridor for priority facilities:</b></p> <ul style="list-style-type: none"> <li>Garsfontein (N-S/S-N Corridor)</li> </ul> <p><b>Geometric &amp; Traffic Conditions on targeted corridor</b></p> <ul style="list-style-type: none"> <li>Exclusive auxiliary left turning (LT) lane on north bound approach.</li> <li>Shared or mixed (turning and through) auxiliary lane on south bound approach.</li> <li>Receiving lane for south bound approach present</li> <li>Unlimited space available for geometric improvement</li> <li>No MBT stops available on both ends of intersections</li> </ul>	<p><b>Design Option One: 1-15-23 (North Bound); 3-13-23 (South bound)</b></p>  <p><b>Comments on Design Option One:</b></p> <ul style="list-style-type: none"> <li><u>NB Approach:</u> queue jump lane with early GREEN priority traffic signal (PTS)</li> <li><u>SB Approach:</u> a shared MBT lane.</li> </ul> <p><b>Proposed Road Signs &amp; Markings:</b></p> <ul style="list-style-type: none"> <li>Paint priority lanes with a different colour, preferably RED or yellow.</li> <li>Use GREEN arrows for traffic movement on priority lanes.</li> </ul> <ul style="list-style-type: none"> <li>Provide a signage for turning traffic EXCEPT minibus-taxis at recommended sight distance before the start of the auxiliary left turning lanes.</li> </ul> <p><b>Design Concerns:</b></p> <ul style="list-style-type: none"> <li>Queue jump could lead to high chance of traffic build up in cases of minibus-taxis arriving at the end of early GREEN interval.</li> <li>Queue jump lane without receiving or accelerating lane on the exit end could be unsafe at night for minibus-taxis considering aggressive behaviour of minibus-taxi drivers.</li> </ul> <p><b>COMMENT:</b> Partially feasible due to highlighted safety concerns related to aggressive driving behaviours of MBT drivers.</p>	<p><b>Design Option Two: 3-13-23 (south bound); 1-16-18-23 (North bound)</b></p>  <p><b>Comments on Design Option Two:</b></p> <ul style="list-style-type: none"> <li><u>NB Approach:</u> shared MBT lane</li> <li><u>SB Approach:</u> Shared MBT Lane.</li> </ul> <p><b>Road Signs &amp; Markings:</b></p> <ul style="list-style-type: none"> <li>Paint priority lanes with a different colour, preferably RED or yellow.</li> </ul> <ul style="list-style-type: none"> <li>Use GREEN arrows for traffic movement on priority lanes.</li> <li>Provide a signage for turning traffic EXCEPT minibus-taxis at recommended sight distance before the start of the priority lanes.</li> </ul> <p><b>Design Concerns:</b></p> <ul style="list-style-type: none"> <li>Higher initial implementation cost than Option One due to additional receiving lane and physical reconfiguration of traffic signal poles.</li> </ul> <p><b>COMMENT:</b> Highly feasible</p>

Existing Layout & Geometric Conditions (See Table 4-2)	Evaluation of Design Strategies for Lynwood & Jan Shoba (J2) (See also Appendix B)	
	Design Option One: 7-17-19-21-16-18-23 (East Approach); 3-13-23 (West Approach)	Design Option Two: 6-16-18-22-23 (East Approach); 12-14-23 (West Approach)
 <p><b>Name of Junction:</b></p> <ul style="list-style-type: none"> <li>Lynwood &amp; Jan Shoba (J2)</li> </ul> <p><b>Target corridor for priority facilities:</b></p> <ul style="list-style-type: none"> <li>Lynwood (W-E/E-W corridor)</li> </ul> <p><b>Geometric &amp; Traffic Conditions on targeted corridor</b></p> <ul style="list-style-type: none"> <li>Shared nearside auxiliary lane present on West bound approach.</li> <li>Shared nearside auxiliary lane present on East bound approach.</li> <li>Straight inside lane present on the West bound approach.</li> <li>Receiving lanes present for both approaches.</li> <li>Space available for geometric improvements on both approach and exit sides.</li> <li>Minibus-taxi stops present on both far sides of exit lanes</li> </ul>	 <p><b>Comments on Design Option One:</b></p> <ul style="list-style-type: none"> <li><u>EB</u> <u>Approach:</u> shared MBT lane on a new LT auxiliary lane</li> <li><u>WB</u> <u>Approach:</u> shared MBT lane on existing turning lane</li> </ul> <p><b>Road Signs &amp; Markings:</b></p> <ul style="list-style-type: none"> <li>Paint priority lanes with a different colour, preferably RED or yellow.</li> <li>Use GREEN arrows for traffic movement on priority lanes.</li> <li>Provide a signage for reserved minibus-taxi lanes at recommended sight distance before the start of the priority lanes.</li> </ul> <p><b>Design Concern:</b></p> <ul style="list-style-type: none"> <li>Higher initial cost due to additional lane on EB approach.</li> <li>Requires space for additional lane.</li> </ul> <p><b>Alternative Design 1b:</b> 8-13-23 (EB Approach); 3-13-23 (WB Approach)</p> <ul style="list-style-type: none"> <li>Shared MBT lane on both approaches using existing nearside lanes (without geometric improvements)</li> </ul> <p><b>Design Concern:</b> On EB approach, with one remaining through lane, the level of service could be tremendously reduced.</p> <p><b>COMMENT:</b> This option is more feasible than the alternative option. The alternative option is partially feasible due to capacity constraints described above.</p>	 <p><b>Comments on Design Option Two:</b></p> <ul style="list-style-type: none"> <li><u>EB Approach:</u> dedicated MBT lane with new addition of auxiliary LT lane.</li> <li><u>WB Approach:</u> <ul style="list-style-type: none"> <li>MBT dedicated lane.</li> </ul> </li> </ul> <p><b>Road Signs &amp; Markings:</b></p> <ul style="list-style-type: none"> <li>Paint priority lanes with a different colour, preferably RED or yellow.</li> <li>Use GREEN arrows for traffic movement on priority lanes.</li> <li>Provide a signage for reserved minibus-taxi lanes at recommended sight distance before the start of the priority lanes.</li> </ul> <p><b>Design Concern:</b></p> <ul style="list-style-type: none"> <li>Higher initial cost due to new additional lane.</li> <li>Requires space for upgrades.</li> </ul> <p><b>COMMENT:</b> Feasible</p>

Existing Layout & Geometric Conditions (See also Table 4-2)	Description of Design Strategies for Paul Kruger & Green (J3) (See also Appendix B)	
<div data-bbox="191 345 621 716">  </div> <p><b>Name of Junction:</b></p> <ul style="list-style-type: none"> <li>Paul Kruger &amp; Green (J3)</li> </ul> <p><b>Target corridor for priority facilities:</b></p> <ul style="list-style-type: none"> <li>Kruger street (N-S/S-N corridor)</li> </ul> <p><b>Geometric &amp; Traffic Conditions on targeted corridor</b></p> <ul style="list-style-type: none"> <li>Full length shared nearside lanes present on both approaches.</li> <li>No space available for upgrades</li> <li>Two lanes on both approaches</li> <li>Right turns shared with through lanes.</li> <li>No auxiliary lanes</li> </ul>	<p><b>Design Option One: 8-13-23 (Both Approaches)</b></p> <div data-bbox="653 337 1041 732">  </div> <p><b>Comments on the Proposed Design Option One:</b></p> <ul style="list-style-type: none"> <li><u>NB approach:</u> a shared MBT lane.</li> <li><u>SB:</u> a shared MBT lane.</li> </ul> <p><b>Proposed Road Signs &amp; Markings:</b></p> <ul style="list-style-type: none"> <li>Paint priority lanes with a different colour, preferably RED or or yellow.</li> </ul> <ul style="list-style-type: none"> <li>Use GREEN arrows for traffic movement on priority lanes.</li> <li>Provide a signage for the priority lanes at recommended sight distance before the start of the priority lanes.</li> </ul> <p><b>Design Concerns:</b></p> <ul style="list-style-type: none"> <li>Possibility of queue build-up on both approaches due to blockages by right turning traffic.</li> </ul> <p><b>Alternative Design: 7-17-19-21-16-18-23 (Both Approaches)</b></p> <ul style="list-style-type: none"> <li>Add new auxiliary shared MBT by lane with receiving lane on both approaches allowing through MBTs and turning traffic on both approaches. However, this approach requires space which is not available on this intersection.</li> </ul> <p><b>COMMENT:</b> Not feasible due to potential traffic blockages that could arise as a result of right turning traffic. The alternative approach also not feasible due to lack of space for geometric upgrade</p>	<p><b>Design Option Two: 2-16-18-22-23 (Both Approaches)</b></p> <div data-bbox="1283 337 1671 748">  </div> <p><b>Comments on the Proposed Design Option Two:</b></p> <ul style="list-style-type: none"> <li><u>NB approach:</u> provision of a dedicated MBT lanes and addition of a new LT lane</li> <li><u>SB approach:</u> provision of a dedicated MBT lanes and addition of a new LT lane</li> </ul> <p><b>Road Signs &amp; Markings:</b></p> <ul style="list-style-type: none"> <li>Paint priority lanes with a different colour, preferably RED or yellow.</li> </ul> <ul style="list-style-type: none"> <li>Use GREEN arrows for traffic movement on priority lanes.</li> <li>Provide a signage for the priority lanes at recommended sight distance before the start of the priority lanes.</li> </ul> <p><b>Design Concern:</b></p> <ul style="list-style-type: none"> <li>More costly than Option One due to new LT lanes and physical reconfiguration of signal poles.</li> <li>Ideally this can only work where there is enough space to accommodate extra lanes.</li> <li>Could be a viable option on roads with wider road reserves.</li> </ul> <p><b>COMMENT:</b> Not feasible because the space is currently not available to accommodate these upgrades.</p>

Existing Layout & Geometric Conditions (See also Table 4-2)	Description of Design Strategies for Solomon Mahlangu & Bronkhorstspuit (J4) (See also Appendix B)	
<div data-bbox="191 345 642 695">  </div> <p><b>Name of Junction:</b></p> <ul style="list-style-type: none"> <li>Solomon Mahlangu &amp; Bronkhorstspuit (J4)</li> </ul> <p><b>Target corridor for priority facilities:</b></p> <ul style="list-style-type: none"> <li>Solomon Mahlangu (W-E/E-W Corridor)</li> </ul> <p><b>Geometric &amp; Traffic Conditions on targeted corridor</b></p> <ul style="list-style-type: none"> <li>One approaching through lane available.</li> <li>Additional space available for upgrades</li> <li>No minibus-taxis stops on both far sides ends of the intersection.</li> <li>Slip lane present on both approaches.</li> <li>Islands with no kerbs present on both approaches separating slip lanes from other approaching lanes.</li> </ul>	<p><b>Design Option One: 3-13-23 (Both Approaches)</b></p> <div data-bbox="663 345 1087 695">  </div> <p><b>Comments Proposed Design Option One:</b></p> <ul style="list-style-type: none"> <li><u>EB</u> approach: provision of a shared MBT lane</li> <li><u>WB</u> approach: provision of a shared MBT lane</li> </ul> <p><b>Proposed Road Signs &amp; Markings:</b></p> <ul style="list-style-type: none"> <li>Paint priority lanes with a different colour, preferably RED or yellow.</li> <li>Use GREEN arrows for traffic movement on priority lanes.</li> <li>Provide a signage for the priority lanes at recommended sight distance before the start of the priority lanes.</li> </ul> <p><b>Design Concerns:</b></p> <ul style="list-style-type: none"> <li>Slip lanes are associated with heavy traffic hence converting to shared traffic with minibus-taxis could worsen levels of service.</li> <li>Could be feasible in situation where traffic volumes are low.</li> </ul> <p><b>COMMENT:</b> Not feasible due to a high volume of traffic associated with slip lanes on this intersection</p>	<p><b>Design Option Two: 2-16-18-22-23 (Both Approaches)</b></p> <div data-bbox="1314 345 1738 695">  </div> <p><b>Comments on the Proposed Design Option Two:</b></p> <ul style="list-style-type: none"> <li><u>EB</u> approach: Provision of dedicated MBT lane with addition of a new slip lane.</li> <li><u>WB</u> approach: Provision of dedicated MBT lane with addition of a new slip lane</li> </ul> <p><b>Proposed Road Signs &amp; Markings:</b></p> <ul style="list-style-type: none"> <li>Paint priority lanes with a different colour, preferably RED or yellow.</li> <li>Use GREEN arrows for traffic movement on priority lanes.</li> <li>Provide a signage for the priority lanes at recommended sight distance before the start of the priority lanes.</li> </ul> <p><b>Design Concerns:</b></p> <ul style="list-style-type: none"> <li>High initial costs due to new slip lanes.</li> <li>Requires more space.</li> </ul> <p><b>COMMENT:</b> This option could be more feasible than option 1</p>