Traffic signal design

Appendix A – Design plan checklist
The traffic signal design guidelines have been developed to assist in designing traffic control signals.

The guidelines are to comprise 16 sections and 5 appendices. These are initially being released individually and in no specific order. The sections which are to be released are as follows:

<table>
<thead>
<tr>
<th>Part</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 1</td>
<td>Investigation</td>
</tr>
<tr>
<td>Section 2</td>
<td>Warrants</td>
</tr>
<tr>
<td>Section 3</td>
<td>Design Process</td>
</tr>
<tr>
<td>Section 4</td>
<td>Plan Requirements</td>
</tr>
<tr>
<td>Section 5</td>
<td>Geometry</td>
</tr>
<tr>
<td>Section 6</td>
<td>Pavement Marking</td>
</tr>
<tr>
<td>Section 7</td>
<td>Phasing and Signal Group Display Sequence</td>
</tr>
<tr>
<td>Section 8</td>
<td>Lanterns</td>
</tr>
<tr>
<td>Section 9</td>
<td>Posts</td>
</tr>
<tr>
<td>Section 10</td>
<td>Signs</td>
</tr>
<tr>
<td>Section 11</td>
<td>Detectors</td>
</tr>
<tr>
<td>Section 12</td>
<td>Controller</td>
</tr>
<tr>
<td>Section 13</td>
<td>Provision for Future Facilities</td>
</tr>
<tr>
<td>Section 14</td>
<td>Signalised Mid-block Marked Footcrossings</td>
</tr>
<tr>
<td>Section 15</td>
<td>Special Situations</td>
</tr>
<tr>
<td>Section 16</td>
<td>References</td>
</tr>
<tr>
<td>Appendix A</td>
<td>Design Plan Checklist</td>
</tr>
<tr>
<td>Appendix B</td>
<td>Traffic Signal Symbols</td>
</tr>
<tr>
<td>Appendix C</td>
<td>Location and Function of Lanterns</td>
</tr>
<tr>
<td>Appendix D</td>
<td>Location and Dimensions of Components</td>
</tr>
<tr>
<td>Appendix E</td>
<td>Left Turn on Red</td>
</tr>
<tr>
<td>Appendix F</td>
<td>Level Crossing Interface – Concept of Operations</td>
</tr>
<tr>
<td>Appendix G</td>
<td>Level Crossing Interface – Traffic Signal Design Guidance</td>
</tr>
</tbody>
</table>

To determine which sections are currently available go to:  

The information contained in the various parts is intended to be used as a guide to good practice. Discretion and judgement should be exercised in the light of the many factors that may influence the design of traffic signals at any particular site. The guidelines make reference, where relevant, to current Australian Standards and are intended to supplement and otherwise assist in their interpretation and application.
APPENDIX A

DESIGN PLAN CHECKLIST

Special Note:

As of 17 January 2011, the RTA is adopting the Austroads Guides (Guide to Traffic Management) and Australian Standards (AS 1742, 1743 & 2890) as its primary technical references.

An RTA Supplement has been developed for each Part of the Guide to Traffic Management and relevant Australian Standard. The Supplements document any mandatory RTA practice and any complementary guidelines which need to be considered.

The RTA Supplements must be referred to prior to using any reference material.

This RTA document is a complementary guideline. Therefore if any conflict arises, the RTA Supplements, the Austroads Guides and the Australian Standards are to prevail.

The RTA Supplements are located on the RTA website at www.rta.nsw.gov.au

RTA

Version 1.0

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For policy and technical enquiries regarding these guidelines please contact:

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Email:  technical_directions_publication@rta.nsw.gov.au

To access electronic copies of these and other guidelines go to:


For the latest amendments (if any) to these guidelines go to:


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Contents

DESIGN PLAN CHECKLIST........................................................................................................ A-1
Amendment record

Please note that the following updates have been made to this document.

<table>
<thead>
<tr>
<th>Amendment No</th>
<th>Page</th>
<th>Description</th>
<th>Issued</th>
<th>Approved By</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
DESIGN PLAN CHECKLIST

Evaluation
Warrants
Flows
Delays
Queue lengths
Accidents
Pedestrians
Future development
Political
Alternatives (roundabout, signs, channelisation)

Phasing
Recent traffic count
Accident correction
Pedestrian needs
Conflicts
Left turn on red
Future implications (other sites)
Suits controller
Bus needs
Bicycle needs

Turn bans
Alternative routes
Effect on other locations
Bus route
Effect on other users (pedestrians/bicycles)

Simulation
Phase/cycle times
Delays
Queue lengths
Blockages
Capacity

Title block
Registration No.
Sheet No.
Issue No.
Superseded plan or sheet No.
Amendment details (for job instruction)
File No.
LGA, Shire, municipality or city
Main Road No. and street names
Suburb
Region or Division
UBD reference
Reference plans

Job Instruction details
Issue No.
Job Instruction No.
Amendment details
Date
Initials

Base plan
Kerb lines and/or edge of pavement
Gutter crossings
Stormwater grates and inlets
Property boundaries, fences
Footpaths
Poles, pillars, pits, public utilities
Bus stops, shelters, seats, telephone booths, gardens, garbage bins
Awnings
Overhead wires
Tree trunks and spread of foliage
North point
Main Road Nos. and street names
Approach grades
"To" and "From"
Date in Service
Compare road construction plan
Compare old traffic signal plan
Transparency for cable installation and duct plan

Locality sketch
Orientation
North point
Other sites
ISG coordinates

Movement diagrams
Movements
Approach numbers
Phase labels
Future phasing
Normal and alternative sequence

Medians
Alignment
Length
Width at post
Nose radius
Widths for pedestrian/bicycle movements
Width for pedestrian/bicycle storage
Minimum length of nose
Traffic Signal Design – Appendix A Design Plan Checklist

Turning paths (clearance width for opposed turns)
Setting out dimensions

**Islands**
- Turning paths
- Offsets
- Clearance for posts
- Pedestrian/bicycle storage and passage
- Barrier kerb (type 6 post or mast arm)
- Setting out dimensions

**Marked foot crossings**
- Warrants (flows, schools, shops)
- Clearance from vehicular conflict
- Width (flows, platoons)
- Length (two-stage - corner island or mid-block staggered)
- Angle
- Pedestrian crossings (zebra)
- Setting out dimensions

**Stop lines**
- Distance apart (clearance times)
- Clearance from marked foot crossing
- Clearance from vehicular conflict
- Distance to starter lantern
- Angle
- Setting out dimensions
- Bicycle storage area

**Pavement marking**
- Lane lines (approach, departure, width, length)
- Barrier lines
- Continuity lines
- Edge lines
- Turn lines
- Painted islands and medians
- Chevrons
- Arrows
- Bicycle pavement markings

**Lanterns**
- Number per approach
- Obstructions (trees, poles)
- Sight distance (curve, crest)
- Size
- Phase label or signal group number
- Identification of signal groups for lamp monitoring

**Visors**
- (type, length, cut-off angle, trains)
- Louvres (horizontal or vertical)
- Special mounting height
- Special mounting straps or brackets
- Pedestrian lanterns
- Bus lanterns
- Bicycle lanterns
- Tram lanterns
- Special signal group display sequence
- Table or signal group/phase chart or sequence table

**Posts**
- Position (stop line, marked foot crossing, clearance from kerb)
- Height (awning, overhead wires)
- Numbering
- Type (need for mast arm or type 6)
- Special footing
- Post chart (reconstruction)
- Concurrence for joint use of poles
- Setting out dimensions

**Signs**
- No right turn
- No left turn
- No U-Turn
- No entry
- One-way streets
- Left turn on red
- Turn left at any time with care
- Give way to pedestrians
- Turn bans
- Special stop signs
- Stop here on red signal
- Scramble crossing
- Signs on type 6 posts and mast arms

**Vehicle detectors**
- Type (stop line, queue, advance, violation, special counting, microwave)
- Phase label
- Lane label
- Numbering
- Orientation
- Width
- Distance from stop line
- Detector Specification Schedule
- Logic special notes
**Pedestrian push-button detectors**
- Orientation
- Audio-tactile (one per post)
- Phase label
- Numbering

**Controller**
- Supply
- Type (ground-mounted or post-mounted)
- View of approaches
- Access for maintenance
- Safe from accidents
- Noise (residential)
- Above flood level
- Telecom access for SCATS
- Clear of future roadworks
- Clear of high voltage earthed situations
- Not obstructing road reserve

**Special facilities**
- Emergency service (fire/ambulance) facilities
- Railway level crossing
- Bicycles/cycleways
- Buses
- Transitways
- Trams

**Notes**
- Reference to road construction plans
- Reference to other sheets
- Adjustment to kerbs, medians, islands
- Pavement improvement or resheeting
- Construction of kerb ramps
- Special post details
- Special lantern details
- Asterisk for lamp monitoring
- Location of audio-tactile push buttons
- Location of special stop signs
- Coordination details
- Arterial
- Provision for future facilities