

Road and public space lighting

WORKSHOP - MELBOURNE 26-28 June, 2007

A three-day intensive workshop based on the new **Australian Standard** 1158 series: Lighting for Roads and Public Spaces and the **Austrroads** Guide to Traffic Engineering Practice Part 12: Roadway Lighting.

Workshop purpose

- To familiarise people with current best practice in road and public space lighting design and practice.
- To obtain hands-on experience solving actual problems presented in the form of structured exercises using Perfect Lite software.
- To help you accelerate your understanding and use of new **Australian Standard** AS 1158 series.
- To present the background material underpinning the new revision of the **Austrroads** Guide to Traffic Engineering Practice on road lighting.

Workshop scope

- Roads – major to residential
- Intersections and bends
- Public spaces – carparks
- Walkways
- Hardware and software for public lighting
- Inspection and appraisal of public lighting installations



PART
12

GUIDE TO TRAFFIC
ENGINEERING
PRACTICE SERIES

Workshop supported by:



AUSTRALIAN INSTITUTE
OF TRAFFIC PLANNING
AND MANAGEMENT
INCORPORATED



Workshop Outline

AAPA, with the support of Austroads, is pleased to be able to present this three-day workshop on the latest practices applying to road and public space lighting design and practice. Used to support learning in the workshop is the **Austroads' Guide to Traffic Engineering Practice Part 12 - Roadway Lighting**, a general guide to road lighting standards and practice applicable to traffic routes and to a lesser extent, to local collector and minor roads.

This workshop, however, is based on the **Australian Standard AS1158-2005** and associated lighting standards. The workshop provides instruction on the basic principles and extends this instruction to lighting design from first principles through to a design completion for straight roads, intersections and bends in traffic routes, plus local roads and other public spaces such as: outdoor carparks; cycle and pedestrian pathways. Reference is included to other elements including subways; footbridges; ramps; steps; and other City and suburban public spaces.

The design and provision of public lighting is often arranged separately from other road improvements. It is therefore important for its design, installation and maintenance to be properly integrated with road design and traffic management practices to enhance the full achievement of traffic and community objectives.

All participants will be provided with a copy of workshop and speakers' notes. This documentation will be an ongoing useful technical resource for all traffic engineering and planning practitioners that have exposure to road and public space lighting design.

Participants will have access to computer for significant interactive learning and case study use throughout the workshop.

Workshop content

- Public lighting: A community service and safety issue – crash counter measure
- Basics of Light and Lighting – Concepts, terminology and units – lamp types
- Introduction and use of Standard A/NZS 1158 series
- Principles of road and public space lighting design
- Road Lighting as a performance based standard
- Principals of Computer Aided Lighting Design
- Selection and design of lighting
- Vehicle Route Lighting
- Lighting design for underpasses
- Pedestrian Lighting for carparks, pathways, transport interchanges & terminals
- Design exercises for roads and public spaces (carparks, walkways, rail crossings, etc)
- Lighting hardware - Luminaire Photometry
- Lamp & Luminaire Standards
- Maintenance of lighting systems and IP ratings
- Evening lighting inspections and appraisals - **Coach tour on day 2 in the evening**.

Who should attend?

- State road authority, local government and electricity distributors responsible for the provision, approval, design and maintenance of public lighting.
- Consulting engineers and verifiers responsible for road and public space lighting projects.
- Contractors and participants in PPV projects providing public lighting.
- Public lighting hardware and luminaire providers.
- Rail, tram and bus technical staff responsible for lighting of public spaces.
- Retail shopping centre staff responsible for design and safe operation of associated carparks and access roadways and walkways.
- Road design, road safety and traffic management consultants.
- Engineers requiring specialist training in Lighting design.
- Local Government engineers, planners and infrastructure managers.
- State Road Authority & Tollway operator staff who deal in road safety and traffic engineering.
- Engineering graduates looking for specialist skills for career development.

Lighting Installations Evening Tour

The tour will be on a chartered coach and will visit various selected sites for delegates' inspection and appraisal of the installed lighting. The workshop lecturers will point out examples of good and poor lighting and will provide commentary linking the workshop learnings with actual examples.

What to bring?

Participants will also need their own copy of the new Australian Standard AS/NZS 1158, a calculator, a 1:500 scale, pencil and eraser. Participants are also requested to bring their reflective vests for the night inspection tour - an essential part of the training.

Workshop size limited

Participant numbers are limited for this workshop, due to its interactive nature and computer componentry, so it is advisable that you register quickly to avoid disappointment. Due to its unique and targeted content, it is unlikely that this course will be offered again for some time.

Endorsements

This course is supported by the following professional groups:

Institution of Engineers, Australia (IEAust): This course is recognised by ENGINEERS AUSTRALIA for Continuing Professional Development (CPD) purposes.

Institute of Transportation Engineers, Inc (ANZ section)

Australian Local Government Association (ALGA)

Australian Institute of Traffic Planning and Management Inc (AITPM).

AAPA, a registered service provider, will provide a Certificate of Attainment upon the successful completion of set workshop design exercise.

The presenters

Dr Alec Fisher: Alec has a long association with lighting research and was past chairman of the CIE Road Lighting Committee. He was an Engineering faculty member of the University of NSW for many years. He is currently chairman of Standards Australia Road Lighting Committee LG/2 and works in private consulting.

John Rogers: John is a Lighting Engineering Consultant with the United Group Infrastructure Division. He is a long standing member of Standards Australia Committee LG/2 and a contributor to the Austroads Guide to Traffic Engineering Practice part 12: Roadway Lighting. John previously worked as Technical Manager at GEC Lighting and Rexel Lighting.

Course enquiries

Content: John Cullen: email: john_ccg@bigpond.net.au Ph: 0409 787 958

Registration and payment: AAPA: email: trainingcentre@aapa.asn.au;

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Cancellation policy

If you are unable to attend this event a substitute attendee may take your place, without penalty. However, if you wish to cancel your registration a full refund, minus a \$88 (inc GST) service fee, will be given provided you have notified us in writing, at least 10 days before the start of the conference. No refund is available for cancellations under 10 days.



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Workshop Program

| DAY 1 | | | |
|----------------------|--|---------------------|---|
| Time | Morning | Time | Afternoon |
| 8.30am | Tea and Coffee on Arrival & Registration | 1.00pm | Lunch Break (lunch provided) |
| 9.00am | "Official Opening - Setting the Scene" - Mr David Nash - Team Leader - Traffic Management, VicRoads | 1.30pm Session 3 | <ul style="list-style-type: none"> Category V Vehicle route lighting Discussion |
| | | 3.30pm | Afternoon Tea Break |
| 9.20am Session 1 | <ul style="list-style-type: none"> Introduction Public Lighting Basics of Light & Lighting Lighting hardware Discussion | 3.45pm Session 4 | <ul style="list-style-type: none"> Category P pedestrian lighting Discussion |
| 10.45am | Morning Tea Break | | |
| 11.00am Session 2 | <ul style="list-style-type: none"> Basics of Light & Lighting contd Introduction to AS/NZS 1158 series Performance based standard Lighting for Vehicles Lighting for pedestrians Principals of computer aided lighting design for vehicles & pedestrians Discussion | 5:15pm | Session ends |

| DAY 2 | | | |
|----------------------|---|---------------------|---|
| Time | Morning | Time | Afternoon |
| 8.30am | Tea and Coffee Review of Day 1 Learnings and Outcomes | 1.00pm | Lunch Break (lunch provided) |
| 9.00am Session 5 | <ul style="list-style-type: none"> In principal design exercise for computer verification Category V traffic routes – straight sections, intersections, bends Category P Pedestrian lighting Exercise discussion | 1.30pm Session 7 | <ul style="list-style-type: none"> Design exercise continued Individual instruction at computer Discussion of group design solutions |
| 10.15am | Morning Tea Break | 3.00pm | Afternoon Tea Break |
| 10.30am Session 6 | <ul style="list-style-type: none"> Computer aided design exercise using perfect lite software Step by step design instruction using software for traffic routes, intersections & roundabouts, collector/residential roads, traffic management devices, carparks, cycle paths, walkways, and public spaces Discussion of group designs comparing in principal design to CAD solutions | 3.15pm Session 8 | <ul style="list-style-type: none"> Design exercise continued Discussion |
| | | 5.00pm | Session ends |
| | | 6.00pm | Dinner at Rendezvous Hotel |
| | | 7.15pm - 9.30pm | Informative bus tour of lighting installations outlining design to practise. Please bring visibility vest. |

| DAY 3 | | | |
|-----------------------|--|----------------------|---|
| Time | Morning | Time | Afternoon |
| 8.30am Session 9 | <ul style="list-style-type: none"> Discussion on tour highlights Computer aided design exercise continued | 1.00pm | Lunch Break (lunch provided) |
| 10.30am | Morning Tea Break (flexible) | 1.30pm Session 11 | <ul style="list-style-type: none"> Road lighting Hardware and Software Luminaire Photometry AS/NZS 1158 Part 6 Luminaire standards Lamp & luminaire circuits Maintenance factor in road lighting design Introduction to underpass lighting design Discussion Review & evaluation |
| 10.45am Session 10 | <ul style="list-style-type: none"> Discussion on group designs Using supplier catalogues and information Design exercise for evaluation | 3.30pm | Workshop closing Forum |
| | | 4.00pm | Workshop close |

Program Subject to change

Workshop Participants MUST bring:

Copy of Standards AS1158 series
1:500 scale; Calculator; Pencil and eraser, and
Visibility Vest for night tour

