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**Main Roads Western Australia  
Traffic Engineering Associate Program Outline  
December 2010**

**12 Months -Traffic Operations and Services Branch-Traffic Services/Traffic Management Sections**

**Duties:**

- Primarily assist existing Traffic Services Officers
- On site investigations
- Review pavement marking and signing drawings submitted by Councils/Developers
- Traffic investigations - public enquiries/complaints / routine traffic signal queries
- Write letters of reply to the public/Councils/Developers
- Participate in Road Safety Audits
- Advertising / service / tourist / guide sign reviews
- Speed zoning reviews
- Level crossing reviews
- Road safety reviews
- Review Regional requests including short term in regional office

**Training Courses to be attended:**

- Business Writing Skills
- Road Safety Audit Seminar
- Crash Investigation
- Basic and Advanced Traffic Management at Roadworks
- Advance driver training
- Traffic Signals-Basic skills

**Outcomes:**

Acquisition of skills in the design of pavement markings and signs, traffic investigations, road safety auditing, letter writing, customer service, advertising signs, speed zoning and road safety

**12 Months -Traffic Operations and Services Branch-Project Development Section**

**Duties:**

- On site investigations to develop design options
- Preparation of crash diagrams/tables
- Prepare relatively simple concept design drawings using AutoCAD
- Prepare relatively simple cost estimates
- Prepare relatively simple project charters
- Prepare and manage relatively simple investigation/design contracts
- Attend Road Safety Audits as an observer
- Attend community consultation sessions as an observer
- Attend stakeholder meetings as an observer

**Training courses to be attended:**

- AutoCAD (if required)
- CRASHTool
- Non-Motorised Transport
- Disability Awareness
- Main Roads Traffic Design Seminars

Outcomes:

Acquisition of skills in design, AutoCAD, investigation, pedestrian and cycling facilities, universal access principles, heavy vehicle requirements awareness, Road Safety Auditing, cost estimates, project charter development and community consultation/stakeholder management

### **6 Months-Local Government**

Note: The local government placement will be reciprocal to provide a training opportunity for staff from local government and build on relationships already established.

Duties:

- Assist traffic engineers
- Assist in development reviews
- Preparation of simple designs
- Preparation of line marking plans
- Traffic investigations
- Traffic counts
- Subdivision inspections
- Engineering comment on planning applications
- Funding applications
- Survey assistant
- Participate in a road construction team

Training courses to be attended:

- To be discussed with LGA's

Outcomes:

An appreciation of the issues that local government face, construction techniques/issues, understanding local politics, customer service, development planning and land use principles.

### **3 Months-Traffic Operations and Services-Traffic Operations Centre**

Duties:

- Assist Traffic Operations Officers
- Monitor traffic flow on the metropolitan road network.
- Identify traffic flow problems and arrange routine adjustments to variable message signs
- Modify linked traffic signals through SCATS to improve traffic flow
- Activate and implement Incident Management Plans
- Assist with on scene traffic control
- Assist in Incident Management
- Receive, record and distribute fault reports

Training courses to be attended:

- Internal basic training by TEO in the SCATS system
- Advanced Traffic Management at Roadworks
- Traffic Signal Design modules [through Downer] if available

Outcomes:

An appreciation of the roles carried out by the Traffic Operations Centre; Use of the SCATS system for referencing signal sites and operational features; Practical Application of real time traffic management and understanding of the networks; ITS features.

### **3 Months-Traffic Engineering Standards**

#### **Duties:**

- Assist traffic engineers with analyses using SIDRA (and HCS+ if the opportunity arises)
- Assist in the development / updating of standard drawings (will need AutoCAD experience)
- Assist in the management of the Main Roads Signs Index – process involved in making an amendment / addition.
- Carry out sign post designs and prepare post schedules.
- Familiarity with Austroads Guide to Traffic Management Series
- Familiarity with AS1742: Parts 1 -15. AS1743.
- Structural design of posts for multiple-post signs.
- Sign face design (intersection direction signs) and use of the SIGNS package.
- Familiarity with Specifications 601 and 604.

#### **Training Courses to be attended:**

- Internal training on AS1742 series and Austroads GTM series.
- Internal training on Highway Capacity Manual and SIDRA.
- Training with Jo Voke on SIGNS package (if competent in AutoCAD).
- Internal training on sign post design.
- Internal training in the use of basic planning tools: use of “Sum of critical lane volume” method for determining signalised intersection layouts; “Rules of Thumb”.

#### **Outcomes:**

Become familiar with “Level of Service” concepts and competent at using SIDRA software. Develop an understanding of the relationship between Traffic Engineers and Geometric Designers and the interaction between the two in the design process. Understand the basic concepts related to signs and line marking and be familiar with Main Roads standards and guidelines in the same area and the importance of applying consistent standards across the network. Be familiar with the SIGNS package and be able to carry out post designs for multiple post signs.