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## **130 TRAFFIC ENGINEERING GROUP FUNCTIONS AND RESPONSIBILITIES**

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The Traffic Engineering Group is responsible for formulating and administering a statewide traffic engineering program to provide for the safe and efficient movement of all users of the State Highway System. The following are examples of activities necessary to accomplish this goal:

- Adopt a Manual on Uniform Traffic Control Devices for use on all streets and highways used for public travel
- Develop and maintain the Traffic Control Design Guidelines
- Design, operate, maintain, and approve traffic engineering projects
- Maintain ADOT Traffic Engineering Guidelines and Processes for use by the traffic engineering staff
- Maintain a traffic records system to serve the needs of the State and local agencies for crash data

The Traffic Engineering Group is divided into 5 sections:

- Traffic Design Section
- Traffic Operations Section
- Traffic Records Section
- Traffic Safety Section
- Traffic Administration Section

### **130.1 TRAFFIC DESIGN SECTION**

The Traffic Design Section is responsible for providing a variety of traffic engineering services:

1. Review scoping documents such as project assessments, design concept reports, and proposed plans to evaluate the design of safety and operational features on freeway projects, principal arterial system projects, and miscellaneous projects.
2. Prepare and review:
  - traffic control plans, specifications, and estimates for construction projects
  - plans, specifications, and estimates for contract pavement marking projects
  - plans, specifications, and estimates for signing projects
  - plans, specifications, and estimates to update and overlay existing freeway signing to meet current standards
  - plans, specifications, and estimates for traffic signal projects, including updating/modifying existing traffic signals to meet current standards and traffic safety/operational needs

- plans, specifications, and estimates for highway, tunnel, and underpass lighting projects, including updating/modifying existing lighting to meet current standards and traffic safety/operational needs
  - plans, specifications, and estimates for miscellaneous highway construction projects involving electrical features and communications equipment
3. Assist the Districts with materials reviews on signing, traffic signal, and highway lighting projects.
  4. Prepare as-built drawings of in-house and contract traffic signals, highway lighting, and miscellaneous electrical highway construction projects.
  5. Review and approve construction and maintenance intergovernmental agreements on traffic signal and lighting projects developed outside the MAG and PAG transportation corridors.
  6. Conduct, review, and evaluate traffic engineering studies, including traffic signal needs, speed zoning studies, lighting, crosswalk needs, and predesign traffic analysis.
  7. Prepare administrative rules on the application of specific traffic control devices or programs.
  8. Prepare work orders for miscellaneous sign installations and modifications.
  9. Process speed limit resolutions which establish all speed limits on the State highway system.
  10. Administer Lump Sum for Traffic Signals in Five Year Highway Construction Program for new signals, new lighting, and other intersection improvements.
  11. Administer Lump Sum for On-Call Consultants for Construction Preparation in Five Year Highway Construction Program.

## 130.2 TRAFFIC OPERATIONS SECTION

The Traffic Operations Section is responsible for a variety of statewide traffic operational services:

1. Fabricate and distribute traffic signs used on the State highway system.
2. Construct and install interstate and freeway signing and all overhead sign structures.
3. Maintain long line striping on rural highways.
4. Purchase and distribute traffic paint and beads.
5. Administer funding contracts for raised pavement marker maintenance. Administer contract for loop detector replacement.
6. Set up and test all traffic signal control cabinets to be used at ADOT maintained signals.

7. Review ADOT signal designs before acceptance.
8. Provide support to Regional Signal Maintenance shops regarding timing and phasing issues.
9. Provide signal control cabinet schematics and other material to Regional Signal Maintenance shops as requested.
10. Establish clearance and initial signal timing.
11. Oversee signal activations in conjunction with Regional Signal shops.
12. Purchase and warehouse electrical components for signal control equipment.
13. Troubleshoot and repair signal control equipment.
14. Administer Lump Sum for Signal Warehouse in Five Year Highway Construction Program for replacement or upgrading of traffic signal and lighting components statewide.
15. Payment of utility bills for signals and lighting (except the I-10 tunnel and rural permanent variable message boards).
16. Prepare specifications and bid packages for procurement of equipment and supplies for Traffic Operations. Evaluate bids and make recommendations for award.
17. Maintain standard specifications for traffic products.

### 130.3 TRAFFIC RECORDS SECTION

The Traffic Records Section is responsible for entering Arizona motor vehicle crash data into a State database, entering fatal crashes into a national database, and disseminating crash information to various customers.

Data entry involves:

1. Determination of whether the crash meets the criteria defined in ARS 28-667.
2. Evaluation of whether the report constitutes a reportable crash, and, if so, it is checked, coded, and processed for computer input. Information concerning location, physical surroundings, environmental factors, traffic unit types, and driver and passenger data is included.

The Fatal Accident Reporting System (FARS) involves:

1. Preparation and coding of fatal crash data and transmittal of the data to the National Highway Traffic Safety Administration.
2. Maintenance of a complete and accurate file of all fatal traffic crashes occurring in Arizona, including police crash reports, fatal supplements, death certificates, engineers' reports, drivers license records, and newspaper accounts.

3. Maintaining and providing the official traffic crash fatality count for the State of Arizona.

Dissemination of crash information involves:

1. Maintenance of an accessible file of processed traffic crash reports.
2. Providing copies of traffic crash reports to qualified governmental agencies.
3. Processing of special requests from the Traffic Records databases, including:
  - a) crash data tabulations for specified locations
  - b) special reports based on user-defined criteria and parameters
4. Production and distribution of standard Traffic Crash Summary reports to State and local agencies.
5. Production and distribution of Arizona Traffic Crash Annual Summary.
6. Preparation and maintenance of Off-Mainline Roadway Markers Log.

#### 130.4 TRAFFIC SAFETY SECTION

The Traffic Safety Section performs a variety of work related to traffic safety. The Section manages the State Highway Safety Improvement Program (HSIP), Local HSIP, and High Risk Rural Roads Program. The Section is responsible for implementing the Highway Safety Improvement Manual. The Section analyzes crash data and implements cost-effective countermeasures to improve traffic safety. The Section works with staff from the Federal Highway Administration, ADOT, Department of Public Safety, local governments, universities, consultants, and others.

### 130.5 TRAFFIC ADMINISTRATION SECTION

The Traffic Administration Section is responsible for the administrative services for the Group which includes fiscal and budget management, personnel administration, training, and facilities management.

The Traffic Administration Section also is responsible for technical services which includes local area network and support and responses to citizens' and politicians' technical issues, concerns, or requests. In addition, the Section develops and maintains a No-Passing Zone Program on all rural State 2-lane and 3-lane highways. The Traffic Administration Section develops and maintains horizontal curve data for warning signs on the State Highway System. The Section manages the Speed Regulation Program for all State Highways. Furthermore, the Traffic Administration Section develops and maintains the following publications:

1. Traffic Engineering Guidelines and Processes
2. Traffic Engineering Manual of Approved Signs
3. Traffic Control Design Guidelines
4. Signing and Marking Standard Drawings
5. Traffic Signals and Lighting Standard Drawings
6. Traffic Impact Analysis for Proposed Development Guidelines
7. ADOT School Safety Program Guidelines.