Chapter One
MDT ORGANIZATION

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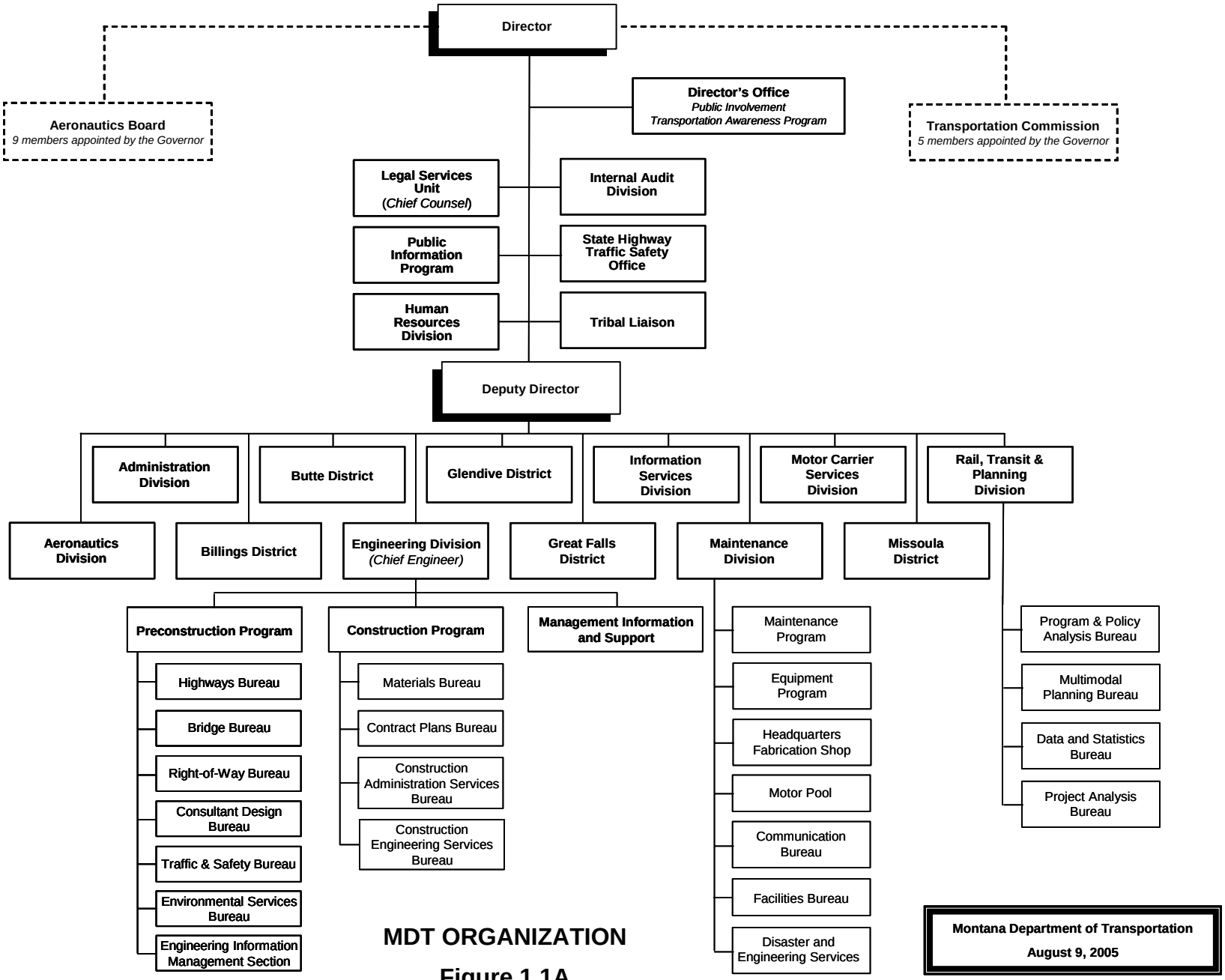
Chapter One
MDT ORGANIZATION

Chapter One discusses the organization and functions of those units within the Montana Department of Transportation which consistently interact with the Traffic Engineering Section. The Chapter summarizes this information for:

1. selected units outside of the Engineering Division,
2. each Bureau within the Construction Program,
3. each Bureau within the Preconstruction Program, and
4. each section/unit within the Traffic and Safety Bureau.

1.1 ORGANIZATIONAL CHART

Figure 1.1A presents the organization of the Montana Department of Transportation as of August 9, 2005.



MDT ORGANIZATION

Figure 1.1A

1.2 COORDINATION WITH TRAFFIC ENGINEERING SECTION

The Traffic Engineering Section, in the administration of its responsibilities, must interact with many MDT units. The specific nature of the coordination is discussed elsewhere in the Traffic Engineering Manual as follows:

1. Chapters Eight and Nine describe the coordination between the Electrical Unit and other units within the MDT.

2. Chapters Fifteen and Sixteen describe the coordination between the Signing Unit and other units within the MDT.

3. Chapters Twenty-one and Twenty-two describe the coordination between the Geometrics Unit and other units within the MDT.

4. Chapters Thirty-three and Thirty-four describe the coordination between the Safety Unit and other units within the MDT.

1.3 UNITS OUTSIDE ENGINEERING DIVISION

This Section briefly describes the organization and functions of those units not within the Engineering Division which consistently interact with the Traffic Engineering Section.

1.3.1 Transportation Commission

The Transportation Commission is composed of members appointed by the Governor; the Commission reports to the Director of the Montana Department of Transportation. The duties and responsibilities of the Transportation Commission are delineated in the Montana Code Annotated. In consultation with other applicable entities, the functions of the Montana Transportation Commission include:

1. Project Prioritization (§60-2-110). The Commission establishes priorities for construction and reconstruction projects on the Montana State Highway system.

2. Contract Letting (§60-2-111). The Commission lets all contracts for the construction or reconstruction of those highways administered by the Department.

3. System Designation (§60-2-126). The Commission designates which public highways within the State are located on the:

    a. national highway system
    b. primary highway system,
    c. secondary highway system, or
    d. urban highway system.

4. Allocation of Funds (§60-2-127). The Commission allocates the available Federal-aid funds for expenditure on the various highway systems.

5. Maintenance (§60-2-128). The Commission designates those public highways which are on the State highway maintenance system.

6. Speed Limits (§61-8-303). This Section of the Code presents the legal speed restrictions in force throughout the State. The Transportation Commission may alter the speed restrictions in §Section 61-8-303 consistent with other provisions of the Montana Code Annotated.

1.3.2 Rail, Transit and Planning Division

The Rail, Transit and Planning Division is responsible for the development and implementation of the processes, systems and planning programs necessary for informed programming decisions for the Department's program of transportation projects. The Division ensures that the Department meets all State and Federal planning requirements. The Division also maintains an effective public involvement program ranging from news releases to formal public hearings. The Division consists of four Bureaus to administer its various functions, which are described in the following sections.

1.3.2.1 Program and Policy Analysis Bureau

This Bureau provides support to the Department on national policy issues and oversees the Department involvement for Systems Impact Analysis Process. The Bureau is responsible for interpreting State and Federal law, especially the Transportation Acts passed by Congress. Its role includes providing advice to top Department officials on legislative issues, analyzing funding strategies and recommending new legislation. The Program and Policy Analysis Bureau is also responsible for the Department's involvement in System Impact Analysis Process, which are those projects initiated outside of the MDT that may significantly impact the transportation network.

1.3.2.2 Multimodal Planning Bureau

In cooperation with the public, representatives of stakeholder groups and local, tribal, Federal and State elected and appointed officials, the Multimodal Planning Bureau develops and implements the programs, processes, systems and planning products necessary to make informed policy and programming decisions. Bureau responsibilities include:

1. State rail, transit, highway and urban planning and program administration;

2. the statewide multimodal transportation planning process;

3. air quality planning and programs;

4. tourism, economic development, trade corridor and freight planning and programs;

5. bicycle and pedestrian planning and transportation demand management programs; and

6. development of special studies and research products (e.g., reports required by the Legislature).

The Bureau includes the Statewide and Urban Planning Section, Transit Section, Bicyclist and Pedestrian Coordinator, and Congestion Mitigation and Air Quality Improvement Program.

1.3.2.3 Data and Statistics Bureau

The Data and Statistics Bureau collects, processes, analyzes and stores data and manages information systems for Montana's transportation infrastructure. The information is then made available to users for their specific applications. The data includes the Project History File, Congestion Management System, traffic data (e.g., traffic volumes), roadway mileage, maps of jurisdictions throughout the State, and the Highway Performance Monitoring System. The Bureau is divided into the Planning Systems Section, Road Inventory and Mapping Section and Traffic Data Collection Section.

1.3.2.4 Project Analysis Bureau

The Project Analysis Bureau is responsible for establishing Montana's statewide transportation plan, setting a direction and vision for how its transportation system will be managed and developed into the future. This is accomplished through the use of the Performance Programming Process which establishes investment decisions to ensure the best overall direction, available resources and system performance monitored over time. This Bureau is also responsible for preparing the Statewide Transportation Improvement Program (STIP), which identifies all transportation-related capital and operating projects Montana expects to be implemented or constructed each fiscal year. This Bureau is also responsible for administering the Engineering Relief Program.

1.3.3 Maintenance Division

The Maintenance Division is responsible for the development and monitoring of the Maintenance, Equipment and Motor Pool programs; all State-maintained roadways; State Motor Pool and equipment; all Department facilities; and a Statewide communications system. The Programs of the Division are discussed in the following sections.

1.3.3.1 Maintenance Program

The Maintenance Program's primary function is to maintain State roadways for the safety of the traveling public and to prevent the roadway from wearing out prematurely. Maintenance activities include pothole repair, crack filling, patching, blading of gravel shoulders and roadways, clearing drainage ditches and pipes of debris, vegetation control, sign replacement, roadway striping, guardrail maintenance, upkeep of rest areas and winter roadway maintenance. Maintenance activities also include physical improvements to the traveled way such as seal coating and thin lift resurfacing to extend roadway life until reconstruction can occur.

1.3.3.2 Equipment Program

The Equipment Program establishes policies, procurement and distribution of new and used equipment and the repair and maintenance of the Department's fleet of 4000 units. The Program provides administrative and management support to 11 field equipment shops and manages the central headquarters shop fabrication and assembly of trucks, component rebuild program, new unit receipts and surplus vehicle and equipment programs.

1.3.3.3 Motor Pool Program

The Maintenance Division is responsible for the acquisition, operation, maintenance, repair, rental rates and administration of motor vehicles used for transportation by Helena-based State agencies conducting official business. Administrative duties include:

1. dispatching vehicles for daily use, monitoring long-term leases, maintaining an authorized signature list and offering ride share to users;

2. maintaining the fleet in a safe operating condition at prescribed levels and composition;

3. ensuring crash reports are completed for vehicular damage, establishing accounts receivable for reimbursable damages, and securing body damage estimates and repairs; and

4. establishing a program performance budget.

1.3.3.4 Communications Bureau

The Helena Communications Bureau coordinates all engineering, installation and maintenance for land mobile communication systems. This includes all radios, mobiles and base stations.

The Bureau also oversees the installation and maintenance of the Gascard program sites providing fuel to many State Motor Pool and Equipment Bureau vehicles.

In addition, the Bureau provides support for the installation and maintenance of Local Area Networks (LAN) for the Department's Field offices, including all aspects of communications (phone, radio and computer systems).

The Communications Bureau also oversees all maintenance of the Department's extensive statewide Road Weather Information System (RWIS).

1.3.3.5 Facilities Bureau

The Facilities Bureau administers and monitors MDT's long-range building and facility repair and maintenance program. The Bureau prioritizes facility requests from the Area offices and coordinates long-range building through the Department of Administration.

The Bureau Chief assists the field in reviewing and evaluating MDT's sites and facilities.

1.3.3.6 Disaster and Emergency Services

The Disaster and Emergency Services Coordinator acts as the primary point of contact for the Department and is the liaison with the State Disaster and Emergency Services Operations Center. The coordinator initiates Disaster Incident Command Processes; provides advice to the Department and State on emergency operations; advises on disaster policies, procedures and capabilities; reports status of disasters/emergencies; and coordinates recovery activities with State, Federal and local entities.

1.3.4 District Offices

The Department maintains five District Offices based on geographic areas in the cities of Missoula, Butte, Great Falls, Glendive and Billings. The basic function of each District Office is to provide the necessary field services for the Department within their geographic boundaries. Some of the responsibilities include:

1. maintaining the State highway system (e.g., snow removal, pavement maintenance);

2. providing construction inspection for Department construction projects;

3. nominating projects for capital improvements and identifying the Project Scope of Work;

4. designing selected projects;

5. reviewing and approving requests for private access onto the State highway system;

6. serving as liaison between the local governments and Department Central Office;

7. performing field surveys;

8. performing soils surveys;

9. scheduling and conducting public hearings and public information meetings;

10. providing unit prices to assist in the preparation of construction cost estimates and, in some cases, determining the total project cost estimate;

11. reviewing and commenting on the proposed traffic control plan during construction and, in some cases, developing the traffic control plan for direct insertion into the final plan assembly;

12. responding to public inquiries;

13. assisting in the maintenance of the Department's Sign Inventory;

14. primary investigation of high-crash locations; and

15. collect and formalize data in support of or for completion of various engineering studies as required.

1.3.5 ADA Program

The ADA Program, within the Human Resources Division, is responsible for coordinating with the Design Bureaus to provide plans for accessible sidewalks and street crossings.

1.4 CONSTRUCTION PROGRAM

This Section briefly discusses the functions of the Construction Program within the Engineering Division. The Preconstruction Programs are discussed in Section 1.5.

1.4.1 Materials Bureau

The Materials Bureau is responsible for ensuring the quality of all materials, through testing and certification, incorporated into the State highway system. The following summarizes the functions of the sections within the Bureau.

1.4.1.1 Physical Testing Section

This Section is responsible for the laboratory testing of all materials, either through providing guidance to the District labs or performing the testing itself. All testing is based on the AASHTO Standard Specifications for Transportation Materials and Methods of Sampling and Testing (Parts I & II), adapted for application in Montana. The Physical Testing Section is also responsible for conducting lab inspections and maintaining the Materials Manual.

1.4.1.2 Geotechnical Section

This Section is responsible for all subsurface investigations required for Department projects (e.g., for bridge foundations, earth slope stability, bearing capacities, rock cuts, muck excavation, erosion control, subdrainage). Where needed, the Section also prepares the design of retaining walls, reinforced earth walls, bin walls and gabions.

1.4.1.3 Materials Services Section

This Section is responsible for:

1. determining the pavement design for Department projects;

2. conducting non-destructive testing on existing pavements to determine, for example, the bearing capacity of the existing pavement structure;

3. providing quality control and certification for materials used in Department projects; and

4. determining the need for any new materials and/or experimental items in the project and developing the specifications and special provisions for the items.

1.4.1.4 Pavement Management Section

This Section operates the Department's Pavement Management System (PMS). The overall objective of the PMS is to develop a strategy for the preservation and improvement of the pavement structures on the State highway system which optimizes the Department's expenditure of funds on pavements.

1.4.2 Contract Plans Bureau

The Contract Plans Bureau lets to contract all highway projects in Montana. The Bureau:

1. completes and produces final engineering documents, plans, specifications and estimates;

2. advertises, amends, lets to contract and recommends award of contracts;

3. completes the award process for a multitude of civil engineering and highway construction projects for the Department;

4. maintains and distributes standard drawings, plan holders lists, standard road and bridge specifications and posts to website; and

5. is responsible for revising, maintaining and updating the Contract Management System (CMS) and other automated systems associated with the contract letting process.

1.4.3 Construction Administration Services Bureau

The Construction Administration Services Bureau is responsible for planning and administering construction program operations and contract administration activities including:

1. developing and implementing new standards and methods as well as administering current projects;

2. ensuring that projects in development reflect the most recent standards for administration purposes;

3. directing the development and administration of construction and contract administration computer programs and automated systems; and

4. managing the Department's general construction staffing and equipment budgets, as well as the Construction Administration Services Bureau's budget, policies and equipment.

1.4.4 Construction Engineering Services Bureau

The Construction Engineering Services Bureau is responsible for:

1. issuing direction on technical construction issues;

2. general construction issue resolution;

3. construction oversight and uniformity;

4. construction project review findings;

5. implementation and follow-up of constructibility and post construction review findings;

6. change order discussions;

7. value engineering proposal investigation and recommendations;

8. non-uniformity compliant resolution; and

9. implementation of new construction processes, procedures and specifications.

1.5 PRECONSTRUCTION PROGRAM

This Section briefly discusses the functions and responsibilities of the Bureaus and Sections within the Preconstruction Program.

1.5.1 Highways Bureau

The Highways Bureau handles all technical activities on highways from the time a project is programmed until the start of actual construction.

1.5.1.1 Road Design Section

The Road Design Section is responsible for all capital improvement projects for which the Section serves as the lead unit for project development. The Section has five Area Engineers who are assigned to each of the five geographic Districts within the State. The functions of the Section include:

1. coordinating all activities necessary for the design of a roadway project (e.g., surveying, environmental evaluation, right-of-way, hydraulics, traffic engineering);

2. preparing the detailed roadway design plans, quantities, special provisions, etc., to advance the project to advertisement;

3. maintaining the Department's Detailed Drawings, which document the details for roadway design elements;

4. providing technical assistance to local jurisdictions on road design issues;

5. providing road design support as needed on projects for which another Department unit is lead (e.g., roadway approaches for bridge replacement projects);

6. developing and promulgating Department policies and procedures on road design issues (e.g., sidewalk warrants, roadside barrier end treatments, geometric design policies); and

7. maintaining the Department's Road Design Manual.

1.5.1.2 Hydraulics Section

The Hydraulics Section is responsible for the hydrologic and hydraulic analyses for roadway drainage appurtenances and bridge waterway openings. The Section's responsibilities include:

1. developing and promulgating Department policies and procedures on hydraulics (e.g., hydrologic methods, culvert hydraulics, design of closed drainage systems);

2. providing hydraulics input to the project lead units (e.g., Road Design Section, Bridge Bureau) as needed during project development;

3. working with District Offices to respond to public inquiries on drainage problems;

4. evaluating proposed project features to be consistent with FEMA adopted floodplain regulations and obtains floodplain permits from local jurisdictions as required;

5. coordinating and providing input to the Environmental Services Bureau with regard to environmentally sensitive hydraulic designs, and providing technical input and background on designs as needed to assist in obtaining environmental permits;

6. determining field surveying needs for hydraulic analyses and working with the District Offices to secure the field information;

7. designing irrigation systems (e.g., siphon details);

8. providing technical assistance on hydraulics as needed to other Department units and local jurisdictions;

9. conducting System Impact Reviews with regard to drainage impacts on the highway system;

10. evaluating of existing bridges for scour problems and recommending scour countermeasures for scour critical structures;

11. providing assistance to maintenance and construction personnel on hydraulic-related issues; and

12. reviewing consultant design project submittals and recommending approvals and/or revisions with regard to hydraulic-related design.

1.5.1.3 Photogrammetry and Survey Section

The Photogrammetry and Survey Section, in combination with the District field survey crews, is responsible for all surveying needs required for the Department's program of projects. The Section's responsibilities include:

1. developing and promulgating Department policies and practices for surveying activities on Department projects for both design and construction;

2. maintaining the Surveying Manual;

3. maintaining survey datums and coordinate systems for a reference or base for all surveys in the State;

4. purchasing and maintaining surveying equipment needed Statewide by the Department;

5. checking the District's control traverse survey data and plotting the control traverse diagram;

6. maintaining the necessary records and filing system for all Department surveys;

7. coordinating as necessary with the National Geodetic Survey; and

8. providing technical assistance on surveying as needed to other Department units and local jurisdictions.

1.5.2 Bridge Bureau

The Bridge Bureau is responsible for the design and operation of bridges and other structures on Montana's highway system, and provides input into the construction and maintenance of these structures. This applies fully to the State-maintained system and, to a lesser extent, the locally maintained systems. The following briefly discusses the sections within the Bridge Bureau.

1.5.2.1 Bridge Management Section

The Bridge Management Section is responsible for the operational programs administered by the Department for the State's bridges. This includes:

1. Bridge Management System (PONTIS). Through the PONTIS, the Bridge Management Section prioritizes the replacement, rehabilitation and maintenance of the State's bridges. It also assists in the prioritization of Federally funded

county and city bridge replacement projects. The overall objective of the PONTIS is to systematically identify that combination of bridge improvement and maintenance work which optimizes the benefits from the Department's expenditures on bridges.

2. National Bridge Inspection Standards (NBIS). The NBIS Program, mandated by the FHWA, is a systematic program of periodic bridge inspections intended to detect structural problems to minimize the probability of a catastrophic structural failure. The Bridge Management Section manages a Statewide Bridge Inspection Program for both State and county/city bridges. This includes:

   a. as required by the National Bridge Inspection Standards, coordinating the inspection of all bridges open to the public in Montana;

   b. providing guidance to the District bridge inspectors;

   c. managing and using the collected data;

   d. developing and maintaining a written guide for the inspectors and providing training;

   e. preparing and processing Structural Inventory and Appraisal (SI&A) data for all public bridges in the State;

   f. maintaining an inventory on the structural and functional condition of all public bridges in Montana;

   g. in coordination with the Districts, determining and posting (where needed) the load-carrying capacity of all bridges under the jurisdiction of the Department; and

   h. for locally owned bridges, recommending to the local government the posting of the load-carrying capacity of public bridges.

3. Operations. The Bridge Management Section, in coordination with the Motor Carrier Services Division, reviews, evaluates and approves/rejects any requests for permits to exceed the legal load over structures.

4. Construction. The Bridge Management Section checks structural shop drawings for all structural elements and provides some fabrication inspection services for bridge contracts involving structural steel.

5. Maintenance. The Section oversees and/or performs structurally critical maintenance and provides guidance to the District Offices for the less critical

routine bridge maintenance. It is not routinely involved in maintenance of local bridges but does offer technical assistance to the locals if requested.

6. Seismic Analysis. The Seismic Crew within the Bridge Management Section reviews existing bridges for seismic vulnerability and designs the appropriate seismic retrofit. This Crew also supports the Bridge Design Section in the seismic design and analysis of new and rehabilitated bridges.

1.5.2.2 Bridge Design Section

The Bridge Design Section manages and develops the Department's capital improvement program for new and rehabilitated bridges and other structures. This includes the coordination of preliminary design work among other Department Bureaus and Sections and the coordination of documents, approvals, permit acquisition, etc., that are necessary for project development. The Section also performs the structural design analyses and prepares project plans for construction. This includes specification writing and preparation of estimates.

The Bridge Design Section also provides any technical advice needed to the Construction Bureau or District Offices during the construction of bridges.

1.5.3 Right-of-Way Bureau

The Right-of-Way Bureau is responsible for designing right-of-way, acquiring land for highway facilities, managing acquired land, and providing assistance and payments to individuals, businesses and utilities that are relocated as a result of highway construction. Right-of-way operations are partially decentralized. The administrative organization and all functional sections are located in the Department's headquarters in Helena. Field right-of-way operations are performed by personnel working in the Right-of-Way sections of the five District Offices. The functions performed by the Right-of-Way Bureau are described in the following sections.

1.5.3.1 Appraisal Section

The Appraisal Section is responsible for the valuation of interests in real property to be acquired by the Department. It is responsible for:

1. developing appraisal policies, procedures and special instructions;

2. providing technical education for the training and continuing development of staff appraisers;

3. arranging services for outside (fee) appraisers when needed;

4. providing technical assistance to staff and fee appraisers;

5. reviewing all appraisals prepared for the Department;

6. making determinations as to the compensation the Department should pay for each parcel of real property to be acquired and testifying in court in support thereof; and

7. monitoring the quality of appraisals that are prepared for the Department.

1.5.3.2 Acquisition Section

The Acquisition Section is responsible for the acquisition of real property for MDT. It is responsible for:

1. developing acquisition policies, procedures and guidelines;

2. for establishing property acquisition priorities and schedules;

3. for reviewing acquisition activities to ensure conformance with applicable Federal and State laws and regulations;

4. for reviewing and approving administrative settlements;

5. for providing relocation assistance to persons who are displaced by Department projects;

6. for coordinating the processing of right-of-way parcels for condemnation; and

7. for providing education and training for staff negotiators.

In addition, this Section provides liaison and coordination among other organizational units of the Right-of-Way Bureau, MDT and the FHWA in matters concerning right-of-way negotiations. This Section manages the Local Public Agencies Program for acquiring right-of-way for local government projects receiving Federal funds and coordinates actions to resolve damage claims from landowners. It also is responsible for overseeing the acquisition policies and activities of the District Right-of-Way Sections in coordination with the respective District Administrators.

1.5.3.3 Design/Plans Section

The Design/Plans Section is responsible for the design of right-of-way plans, right-of-way limits, easement limits, construction permits and utility plans. The Section also:

1. develops right-of-way cost estimates;

2. prepares legal descriptions, deeds and exhibits required for right-of-way acquisitions;

3. resolves boundary problems; and

4. determines the appropriate method for taking particular properties.

In addition, the Design/Plans Section determines which takings will involve Federal-aid funding and establishes policy for implementing corridor preservation and access management plans adopted by the Department.

1.5.3.4 Real Estate Services Section

The Real Estate Services Section is responsible for:

1. administering MDT's Property Management Program;

2. managing the Land Records Management Program, which ensures proper management of and safeguards the Department's public and private records;

3. supervising the Audit and Compliance Program;

4. authorizing payments for land and improvements;

5. determining special assessments and miscellaneous right-of-way expenses;

6. maintaining land acquisition statistics; and

7. disposing of, leasing and permitting the use of excess land owned by the Department.

The Property Management Program includes encroachment control, clearing the right-of-way of acquired improvements, perfecting ownership records of land titles on state-owned property, and collecting and maintaining records of rents and accounts receivable. Property management tasks also include creating, issuing and processing right-of-way easements, land use licenses, special recreational and parking leases, land

sales, exchanges, abandonments, transfers of jurisdiction, wetland mitigation, special land use studies, timber sales, air space agreements and clearing contracts.

The Audit and Compliance Review Program consists of internal audits to ensure conformity with State and Federal laws and regulations, accounting rules and Departmental policies. Audit duties include complex internal, contract, compliance and performance audits. The Real Estate Services Section also prepares formal reports of audit findings; reviews, organizes and follows up on results; and presents and defends those results, as required.

1.5.3.5 Special Programs Sections

This Section is responsible for:

1. conducting all specialty acquisitions, including acquisition for maintenance sites, wetlands, environmental mitigation sites, small sites and Motor Carrier sites;

2. preparing right-of-way estimates and various studies, including access, irrigation, stock pass and route location;

3. preparing valuation estimates and appraisal reports for excess lands;

4. providing right-of-way training;

5. controlling outdoor advertising, including monitoring, record maintenance and enforcement;

6. keeping the Right-of-Way web page updated; and

7. maintaining the Right-of-Way Operations Manual in accordance with FHWA regulations.

1.5.3.6 Access Management Section

The Access Management Section is responsible for the development and administration of the Department's Access Management Program and subprograms to ensure the effective, efficient and legal administration of program operations and activities. The purpose of access management is to sustain the safety and capacity of the highway network, maintain the flow of traffic, preserve the public's investment and reduce maintenance costs through the implementation of a sound access management policy. The Special Programs Section conducts access management studies needed to plan and develop access control projects.

1.5.3.7 Utilities Section

This Section is responsible for:

1. obtaining cost estimates and securing agreements with utility and railway companies for the relocation and adjustment of their facilities, as required for highway construction;

2. conducting direct negotiations with utility and railway companies to acquire portions of their operating rights-of-way for highway purposes;

3. developing policies and procedures governing the occupancy of highway rights-of-way by public utility facilities; and

4. reviewing utility plans.

1.5.3.8 District Right-of-Way Sections

There are 5 District Right-of-Way Sections located in Missoula, Great Falls, Butte, Glendive and Billings. These Sections are responsible for providing the field services required for acquisition and other right-of-way functions that are performed in the field. Right-of-way functions include:

1. the appraisal of and negotiation for interests in real property needed by the Department;

2. management of appraisal contracts and reviews;

3. relocation of displaced persons, and

4. preparation of preliminary studies and cost estimates.

In addition, initial sign permitting is performed in the Districts; sign surveillance, monitoring and removal are Headquarters' duties.

1.5.4 Consultant Design Bureau

The Consultant Design Bureau manages and develops design projects including coordinating and documenting design work between consultants and the MDT, compiling road plan packages and obtaining, reviewing and distributing consultant work products (e.g., specialty plans and reports). The Bureau also manages the Community Transportation Enhancement Program (CTEP) and the suballocation of funding to

qualifying Montana local government units for the construction and development of eligible projects under the Federal enhancement set-aside provision.

Consultant services include but are not limited to:

1. road design,
2. bridge design,
3. traffic engineering,
4. location surveys and ground control,
5. legal land surveys and monumentation,
6. hydraulics,
7. soils and pavements,
8. geotechnical,
9. materials,
10. utilities,
11. construction,
12. exploration, and
13. numerous environmental matters.

The various narrative documents, plans, specifications, details and agreements are prepared directly by the applicable Department unit.

1.5.5 Environmental Services Bureau

The basic function of the Environmental Services Bureau is to provide guidance for all units within the Department on all environmental issues. Environmental issues normally include Federal and State environmental laws, and the Bureau represents the Department on these laws with other agencies, States and private entities.

1.5.5.1 Engineering Section

The Engineering Section is directly involved with the lead unit in project development to ensure that the project complies with Federal and State environmental laws and regulations. The Section's responsibilities include:

1. determining the application of the National Environmental Policy Act (NEPA) to all Department projects, including project environmental classification (i.e., categorical exclusion, environmental assessment or environmental impact statement);

2. determining the need for early coordination with other State and Federal agencies and initiating contacts;

3. identifying and contacting the cooperating agencies;

4. coordinating with the lead unit on project scoping;

5. coordinating with the lead unit in the identification and evaluation of project alternatives;

6. preparing or reviewing the environmental document;

7. preparing Section 4(f) and Section 6(f) Statements;

8. coordinating with the applicable State or Federal agency to secure the necessary project permits/approvals, including:

    a. Section 404 permit,

    b. Section 10 permit,

    c. Section 401 certification,

    d. Section 402 (NPDES) permit,

    e. floodplains encroachment approval (FEMA) in coordination with the Hydraulics Section),

    f. farmland preservation impacts (NRCS),

    g. Stream Preservation Act (SPA) permit, and

    h. Tribal Employment Rights Office (TERO) agreement;

9. coordination with the lead unit, developing a plan to mitigate environmental impacts;

10. reviewing and commenting on the plan for temporary erosion control during construction; and

11. determining Department compliance with the public involvement process.

1.5.5.2 Resources Section

The Resources Section is responsible for identifying all environmental resources within the proposed project limits and for evaluating the potential project impacts on these resources. The Bureau's responsibilities include:

1. conducting environmental surveys and inventories or supervising contractor's surveys and inventories;

2. evaluating potential project impacts on biological resources, including:

    a. wetlands,
    b. threatened and endangered species,
    c. fish habitat, and
    d. water quality;

3. evaluating potential project impacts on cultural resources, including:

    a. historical,
    b. archaeological, and
    c. socio-economic;

4. preparing or reviewing those portions of environmental documents that address biological and cultural resources;

5. coordinating with the applicable State or Federal agency to secure selected project permits/approvals, including:

    a. Section 106 (SPHO) concurrence, and
    b. Montana Department of Fish, Wildlife and Parks approvals;

6. coordinating with the Engineering Section in securing other permits and approvals (e.g., Section 401, SPA); and

7. coordinating with the Engineering Section in developing a plan to mitigate impacts on biological and cultural resources.

1.5.5.3 Hazardous Waste Section

The Hazardous Waste Section is responsible for identifying and evaluating various potential project impacts, including:

1. evaluating the potential project impacts on air quality (during and after construction) and determining the project's consistency with State and Federal laws on air quality;

2. evaluating the potential noise impacts (during and after construction) precipitated by the project and determining the project's consistency with State and Federal laws on noise impacts;

3. identifying hazardous waste sites and determining the needed mitigation measures;

4. reviewing the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) site listing for Montana; and

5. implementing the Montana clean-up program for underground storage tanks.

1.5.6 Engineering Information Management Section

The Engineering Information Management (EIM) Section provides support the Design Bureaus within the Preconstruction Program. This includes the following:

1. CADD. The EIM Section maintains, administers and provides training and support for the Department's Computer Aided Design and Draft (CADD) system. This includes:

   a. developing uniform conventions for the use of CADD,

   b. maintaining the Statewide CADD network,

   c. providing technical support to all CADD users,

   d. upgrading the CADD packages as necessary, and

   e. maintaining the MDT CADD Users Guide and the MDT GEOPAK Users Manual.

2. Management System. The EIM Section maintains, administers and provides training and support for the Department's Program Management System and Document Management Systems.

3. 3D Graphics. This Section develops and maintains three-dimensional visualization documentations and animations.

4. Engineering Costs. The EIM Section provides, monitors and reviews preliminary engineering costs for Federal-aid projects.

1.5.7 Traffic and Safety Bureau

1.5.7.1 Traffic Engineering Section

This Section discusses the responsibilities of the units within the Traffic Engineering Section. As a summary, the Section is responsible for:

1. traditional traffic engineering activities (e.g., signals, signing, speed studies);
2. selected geometric design elements (e.g., intersections, interchanges); and
3. detailed design of safety improvement projects.

As a general statement, the Traffic Engineering Section is responsible for maintaining the Traffic Engineering Manual.

1.5.7.1.1 Geometrics Unit

The responsibilities of the Geometrics Unit include:

1. preparing the detailed design for at-grade intersections and interchanges;

2. selecting the type of median and its basic geometric dimensions;

3. developing and promulgating geometric design policies and practices;

4. reviewing and commenting on other geometric design elements of road design and safety design projects;

5. determining the pavement marking design at intersections;

6. on geometric-lead projects, coordinating with the applicable Department units to advance the project to advertisement (e.g., hydraulics, environmental evaluation, surveying, right-of-way);

7. assisting District Offices in responding to public inquiries on geometric-related issues; and

8. providing technical assistance to local jurisdictions on geometric design issues.

1.5.7.1.2 Safety Design Unit

The primary responsibility of the Safety Design Unit is to perform the detailed design of those projects identified by the Safety Management Section for safety improvements. In this capacity, the Unit:

1. coordinates all activities necessary for the detailed design of the project (e.g., surveying, environmental evaluation, right-of-way, hydraulics, traffic engineering);

2. prepares the detailed design plans, quantities, special provisions, etc., to advance the project to advertisement; and

3. where the local jurisdiction will construct the project, develops the Agreement for performing the work.

1.5.7.1.3 Signing Unit

The Signing Unit is responsible for signing and pavement marking designs on most Department projects. The Unit's responsibilities include:

1. on signing-lead projects, coordinating or performing all activities necessary to advance the project to advertisement (e.g., right-of-way, environmental evaluation, preparing detailed plans and quantities);

2. on projects for which another unit is lead, providing support services to determine the proper project signing and pavement marking design and, if necessary, preparing the detailed plan sheets;

3. assisting District Offices in responding to public inquiries on signing-related issues;

4. developing and promulgating Department policies and practices on signing and pavement markings; and

5. providing technical assistance to local jurisdictions on signing issues.

1.5.7.1.4 Electrical Unit

The Electrical Unit is responsible for traffic signals, highway lighting and other electrical designs on most Department projects. The Unit's responsibilities include:

1. on electrical-lead projects, coordinating or performing all activities necessary to advance the project to advertisement (e.g., right-of-way, environmental evaluation, preparing detailed plans and quantities);

2. on projects for which another unit is lead, providing support services to determine the proper electrical design and, if necessary, preparing the detailed plan sheets;

3. assisting District Offices in responding to public inquiries on electrical-related issues;

4. developing and promulgating Department policies and practices on electrical design;

5. working with the Utilities Section to arrange for electrical service for new traffic signals and highway lighting;

6. working with the District Office to process the Roadway Lighting Agreement for highway lighting installations; and

7. providing technical assistance to local jurisdictions on electrical issues.

1.5.7.1.5 Traffic Engineering Investigations Unit

The Traffic Engineering Investigations Unit is responsible for investigations conducted by the Department including speed studies and school crossing studies. The Unit's responsibilities include:

1. developing and promulgating Department policies and practices on traffic engineering investigations;

2. providing support services when needed to other Department units for project development (e.g., determining legal speed limits for signing projects);

3. assisting District Offices in responding to public inquiries on traffic engineering issues; and

4. providing technical assistance to local jurisdictions on traffic engineering issues.

1.5.7.1.6 Engineering Analysis Unit

Engineering Analysis is responsible for traffic engineering studies, traffic operational analysis and selection of traffic control devices. Areas of responsibility include:

1. providing detailed operational analysis of existing and projected highway elements including individual intersections, urban and rural corridors, open-highway conditions, truck-climbing lanes, and freeways including interchange operations;

2. evaluating intersection geometrics including the number and configuration of traveling lanes, auxiliary lanes, turn bays and roundabouts;

3. determining the selection and placement of appropriate intersection traffic control devices including yield, two-way and all-way stop control, and evaluation of warrants and justification for consideration of traffic signal control.

4. providing preliminary traffic signal timing plans for both individual traffic signals and coordinated traffic signal networks based on operational analysis;

5. reviewing traffic impacts studies and plan sheets for operational sufficiency, including:

    a. providing comments pertaining to the Systems Impact Analysis Process (SIAP) to promote the safety and mobility of the highway network and to minimize impacts caused by the additional traffic demands imposed by development, and

    b. coordinating development comments with other units within the Traffic Engineering Section (e.g., electrical, signing, geometrics);

6. providing specialized operational analysis of unique traffic and/or geometric issues;

7. providing technical assistance to other outside agencies and local entities with traffic operational issues; and

8. working with the Rail, Transit and Planning Division to identify and gain approval for new access points onto the Interstate highway system.

1.5.7.2 Safety Management Section

The Safety Management Section is responsible for three major Department functions:

1. Safety Improvement Program. The Safety Management Section is responsible for identifying and programming all projects that will use the categorical and set-aside funds for highway safety improvements. The Program procedures include a benefit/cost analysis to determine if the proposed improvement is cost

effective, and it is used to prioritize safety improvement projects to optimize the safety benefits from the available funds. The benefit/cost methodology is primarily based on the estimated crash-reduction potential of the safety countermeasure (e.g., install an exclusive left-turn lane) and the estimated construction, operations and maintenance costs of the improvement.

Once the Safety Management Section identifies its list of priority improvement projects, the safety project is transferred to the lead unit, which may be the Safety Design Unit (within the Traffic Engineering Section), the Road Design Section or the Consultant Design Bureau (if consultant designed). The Safety Management Section works with the lead unit as necessary during detailed project development.

The MDT publication Safety Engineering Improvement Program discusses the Department's program in detail, including a discussion on the Department's procedures to identify and analyze high-crash locations.

2. Crash Surveillance System. The Safety Management Section is responsible for reviewing the crash history on projects through the use of its Crash Surveillance System. The review will identify correlations between crash characteristics compared to Statewide trends and any crash cluster areas. The Section makes recommendations for safety enhancements based on the crash analysis. In addition, the Safety Management Section provides crash data to other entities that may request the information (e.g., local jurisdictions).

3. Safety Management System. The Safety Management System is a multi-disciplinary team approach to traffic safety. Their goal is to reduce the number and severity of traffic crashes.

1.5.7.3 Rail/Highway Safety

The purpose of the Rail/Highway Safety Section is to identify and determine appropriate safety improvements to public highway-rail grade crossings in order to reduce the number of train vehicle collisions across the State. There are four primary functions performed by this section:

1. Rail/Highway Safety Program. This program has set aside funds for the elimination of hazards at public highway-rail grade crossings. An annual list of highway-rail grade crossing improvements are submitted to the Transportation Commission for approval. The projects are programmed and then approved by the Federal Highway Administration. The Rail/Highway Safety Section

administers and oversees these stand-alone projects. Typical projects funded through this program include the following:

a. Crossing Signal Installation. Proposed signal locations are determined by using the Rail/Highway Safety Sections TIS Crossing Inventory System. This system calculates a ranking value for each crossing based on the geometrics, train data and vehicle data. Once a crossing ranks high enough in this database to be considered for safety improvements, the Rail/Highway Safety Section will initiate a Diagnostic Review of the location to determine the need for signalization or other safety improvements.

b. Circuitry Upgrades. This program is used to upgrade obsolete crossing signal equipment, which may include the installation of newer electronics, gates, additional lights or the total replacement of signal equipment.

c. Crossing Closure Program. This program provides funding to local governmental agencies for the elimination or consolidation of public at-grade crossings that are redundant or of safety concern.

d. Special Projects. Other grade crossing safety projects may be developed through this program if a safety benefit is determined needed. This may include, but not be limited to, replacement of crossbuck signs, replacement of advance warning signs, roadway improvements, etc.

2. Diagnostic Reviews. Rail/Highway Safety Section is responsible for initiating, organizing and coordinating Diagnostic Review Teams to meet on-site an at-grade crossing. This Team reviews the location and determines what type of safety improvements are needed to a particular crossing.

3. TIS Crossing Inventory System. Rail/Highway Safety Section maintains an inventory of all public at-grade crossings throughout the State. Information is collected through field surveys and by data provided by the railroad. Information collected by this Section is entered into the TIS Crossing Inventory System. This Section does not inventory private crossings.

4. Support Functions. The Rail/Highway Safety Section provides technical assistance and information to other entities concerning grade crossing safety. This may include information to consultants, tribes, local governmental entities, law enforcement, reporters, general public, etc.