

CHAPTER 1

INTRODUCTION

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PURPOSE

This manual consolidates road design policies, standards and procedures in a convenient reference for designers and plan recipients. Designers and other users will follow the policies, standards and procedures described in this manual.

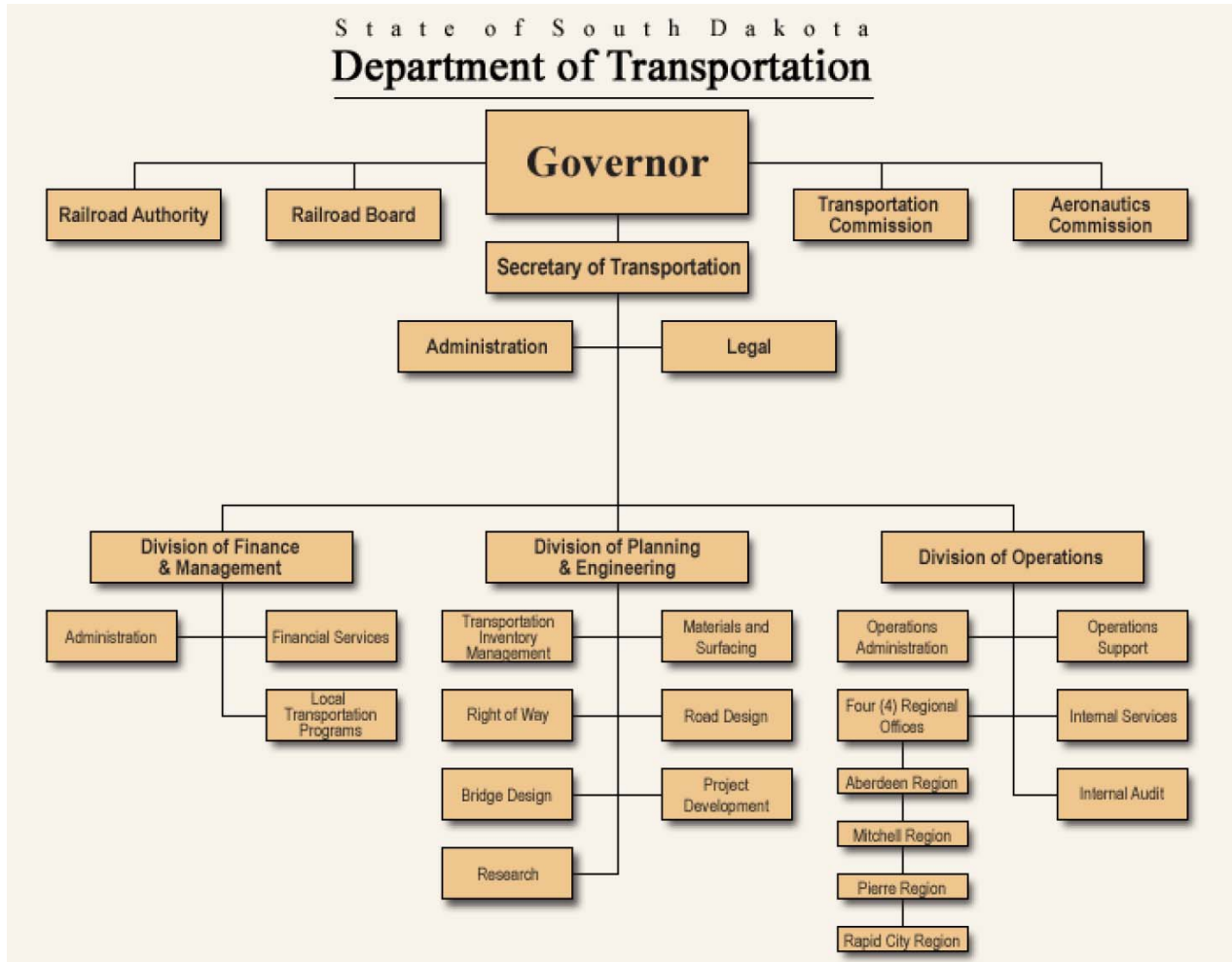


Figure 1-1 South Dakota Department of Transportation Organization

The SD Department of Transportation's mission statement is "To provide a Transportation System to satisfy diverse mobility needs while retaining concern for safety and the environment. To accomplish this mission we must maximize the use of our assets, which include: tax dollars, buildings, equipment, supplies, and people."

Core activities associated with this are 1) preserving the Transportation System, 2) providing User Safety and Mobility, and 3) increasing System Capacity.

The Department is organized with a central office located in Pierre, the state capital, providing planning, finance and design operations for the Department and four Regions. The Regions and their Areas perform the construction inspection, maintenance and maintenance inspection and some design operations. The Department organization chart identifies the programs in each of the DOT central office Divisions. The following Internet address provides information about the Programs or Offices of each Division.

<http://www.sddot.com/div.asp>

OFFICE OF SECRETARIAT

This Office provides the necessary administrative support functions for the Secretary of Transportation and assists the South Dakota Transportation Commission in the exercise of their statutory duties and responsibilities. The special staff prepares reviews of contracts for legality and administers an internal audits program on all Department business.

http://www.sddot.com/div_sec.asp

DIVISION OF FISCAL & PUBLIC ASSISTANCE

This Division provides financial and technical services and oversight to the public, contractors, local governments and the department to facilitate the expenditure of state and federal money in the most cost effective way, in accordance with laws and regulations and to ensure and promote public safety; and, to provide aviation services to agencies of state government.

http://www.sddot.com/div_fpa.asp

DIVISION OF OPERATIONS

This Division of Operations' purpose is to economically and effectively utilize personnel and other resources to accomplish maintenance activities and manage construction projects on roads, bridges and airports across South Dakota in a manner that is considerate of the safety and convenience of the traveling public.

http://www.sddot.com/div_op.asp

DIVISION OF PLANNING & ENGINEERING

This Division purpose is to provide and continually improve technical advice and plan, propose, design and develop safe, efficient and environmentally sensitive alternatives which promote a cost-effective transportation system. Also the Division purpose is to enhance the economy of the State and safety of the travelling public through timely letting to contract of construction projects.

http://www.sddot.com/div_pe.asp

The following table lists offices and their basic responsibilities that are under the direction of the Division of Planning & Engineering.

Table 1-1 Offices and Responsibilities within the Division of Planning & Engineering

OFFICE	BASIC RESPONSIBILTIES
Bridge Design	Maintenance, Design, Hydraulics, Construction, Inventory, Management
Materials & Surfacing	Certification & Accreditation, Materials, Geotechnical, Surfacing Plans
Planning and Programs	Coordination, Project Planning, Systems Planning
Project Development	Administration, Bid Letting, Environmental, Utilities
Research	DOT Library, Research Program
Right of Way	Title Work, Appraisals, Review Appraisals, Negotiations, Relocation Assistance, Certifications Right-of-Way acquisition
Road Design	Bid Items, Standard Plates, Plan Reviews, Miscellaneous Surveys, Roadside Development, Traffic Design, Roadway Design
Transportation Inventory Management	Mapping, Pavement Condition, Traffic Monitoring

To see the highways the Division is responsible for, refer to the current 'State Highway Systems Map' at http://www.sddot.com/pe/planning/systems_mapping.asp.

OFFICE OF ROAD DESIGN

The mission of the office is to perform road design functions in preparation of construction plans for roadway grading, roadway lighting, traffic signalization, roadside landscaping and rest areas; property plat preparation; and supervision of field surveys, maintenance of the geodetic reference system and establishment of Global Positioning System (GPS) procedures. Office contacts can be found at the following Internet address:

http://www.sddot.com/pe/roaddesign/office_contacts.asp

Office of Road Design Functions

Although a major portion of the Road Design Office produces construction plans, many other services are provided when requested:

- Roadside development advice (seeding, fertilizing and other erosion control measures)
- Bid item maintenance/distribution
- Standard design maintenance/distribution
- Review other office's plans
- Project survey control, special surveys (Missouri River Bridge monitoring), GPS base station operation/maintenance, Bench Mark/HARN data, BM/HARN monument maintenance, survey training and other survey related items
- Consultant contracting, monitoring and guidance
- General road design expertise to outside agencies
- Special projects like special fencing, emergency relief consultation, drainage issues, etc.
- Maintain design standards, standard plates (less structures and signing), and the design manual
- Determine highway routes; make route selections
- Conduct public meetings and hearings
- Set control points for preliminary surveys
- Locate legal property corners
- Arrange for photogrammetry and aerial survey
- Provide survey guidance to Regions

- Prepare and certify right-of-way plans and plats for use in property right of way acquisition
- Prepare plans for grading, drainage, erosion control, roadside development, traffic signals, roadway lighting and safety projects
- Provide coordinated direction for the field engineer design process
- Prepare construction staking data for field personnel
- Assemble plans for projects, to include plans with designs from other programs
- Perform plan set quality control.
- Maintain data input, conduct analyses, and research improved methods on computer programs used in road design to include internal training
- Provide consultants and field personnel technical assistance as required
- Perform design inspections; attend landowner meetings
- Review consultant and region prepared plans for technical completeness
- Maintain High Accuracy Reference Network (HARN) for use of state, federal, general public and global positioning system interface.

Coordination

Open communications and coordination among personnel assigned to the Office of Road Design is critical for mission and function success. Equally critical to mission and function success is the same open communications and coordination through or with the concurrence of established supervisory channels with persons in other department offices and the field. In subsequent chapters the communication and coordination interface needed in the road design process is outlined in detail.