

## Chapter Five

### 5.0 TRANSPORTATION

**GOAL:** To achieve a safe, efficient, and convenient transportation system that is well coordinated with existing land use activities occurring throughout Pennington County and allow for future planned growth.

**POLICIES:**

1. Transportation planning for Pennington County shall be coordinated between the Pennington County Highway Department, South Dakota Department of Transportation, all municipalities located within Pennington County and other interested agencies.
2. Coordinate County transportation plans with the metropolitan area transportation process in the development of a regional transportation system and improvements.
3. Circulation in Pennington County shall be based upon a system of major and minor arterial roads as indicated by the Pennington County Transportation Plan Map. Road improvements shall be based upon the accompanying classification standards, the Pennington County Subdivision Regulations, traffic demands and changes in land use and traffic patterns.
4. Encourage land use patterns that utilize existing roads in an efficient manner that minimizes the need for further transportation improvements.
5. Improvements, the upgrading and/or new construction of major and minor arterial routes shall be specified and prioritized within this section of the Comprehensive Plan.
6. Encourage energy conservation and a decrease in fuel consumption through the proper planning and location of future land-uses.
7. Review new road design, location and construction to ensure that areas sensitive to physical limitation such as topography, soils and floodplains are considered.
8. Develop standards that limit and effectively control the number of ingress and egress points onto major and minor arterial roads.
9. Require new development to finance road improvements that are needed to support the increased traffic volumes.
10. Review and implement Subdivision Regulation standards to ensure proper design and construction of subdivision roads when property is platted within Pennington County.

Transportation in Pennington County involves the movement of people and goods to their various destinations. Transportation issues are readily apparent to people everyday because of the time spent traveling. Congestion, roads in poor condition, non-through streets and safety hazards are all daily problems faced by the residents of Pennington County. The purpose of the transportation element is to identify and address these transportation problems. In an area faced with growth such as is found in Pennington County, a certain amount of road issues cannot be avoided. Due to the rural nature that has existed in the past in Pennington County, many have been accustomed to easy movement. As the county becomes more urbanized and the influx of tourists increases, conflicts and congestion will increase. Land use and transportation planning, nonetheless, attempts to mitigate the negative effects.

Land use and transportation are closely related. The transportation network often dictates the land use pattern. For example the location of major U.S. Highways and Interstate 90 have increased the commercial and residential development along these corridors. On the other hand, land use activities have a direct influence on the viability of the transportation system. A major shopping mall, an industry or a large apartment complex can generate enough traffic to negatively affect the surrounding transportation network. Transportation and land use can hardly be separated because of the strongly connected relationship.

Because of the size of Pennington County the transportation system includes all variations of roads. The types of roads vary from a major U.S. Interstate to old mining and logging trails now being use for access.

The circulation system in Pennington County is based on a system of major and minor arterial roads, collector and local roads. Much of the road system in Pennington County is based on older trails and topographic features. Arterial roads are intended to accommodate major movements of traffic. Collector roads are intended to serve internal traffic movements within an area and to connect that area with the arterial roadway system. Local roads have the sole purpose of providing access to immediately adjacent land. Because of land use changes that constantly occur, revisions to Pennington County's roadway system should be considered from time to time. Currently, there are approximately 893 miles of road maintained by the Pennington County Highway Department and approximately another 200 miles of roads that are not maintained by any governmental organization.

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Pennington County's future roadway system needs to be based on several factors including:

- The relationship with the regional transportation network
- Traffic volumes and road capacity
- Existing and future land uses in the surrounding area
- Safety
- Available right-of-ways
- Major traffic generators

Pennington County has an excellent regional transportation network with Interstate 90 traversing the majority of the County east to west. Interstate 90 traverses the northern portion of Pennington County for a distance of 74.3 miles. There are nineteen (19) interstate exits located within Pennington County. Of these exits, five (5) exits are primarily associated with Rapid City, but are certainly used to access property outside of any municipality. Traffic volumes on the portion of Interstate 90 located within Pennington County range from 31,130 ADT<sup>2</sup> at Haines Avenue Exits in Rapid City to 4950 ADT<sup>3</sup> between Exits 121 and 127 east of Wall. In addition there are two United States Highways, US Highway 14/16 and US Highway 385 and seven (7) South Dakota Highways, SD Highway 44, 240, 79, 40, 244, 87, 79. These state and federal highways provide the backbone of the major arterial roadway system in Pennington County.

A major emphasis has been place on the construction of the Heartland Express. The Heartland Express is the construction or reconstruction of a four lane, divided highway extending from Canada to Denver. A portion of expressway has already been constructed between Rapid City and Hermosa. Construction is continuing as state and federal funding becomes available.

In order to better facilitate traffic movement, traffic improvement projects have been determined. These projects have been discussed with the citizens of Pennington County through a number of open houses held in various locations throughout the County during 2000. The proposed list of highway improvement projects was then discussed by the Pennington County Commission and prioritized. When these projects are completed Pennington County's transportation system will be enhanced.

#### 5.1 Major Improvements

1. Sheridan Lake Road reconstruction from the Rapid City Limits to Old Hamm Saw Mill, approximately 5 miles at a projected cost of 4.8 million dollars to be completed in 2012.
2. Deerfield Road reconstruction from the city limits of Hill City to Newton Lake, approximately 4.5 miles at a projected cost of 3.0 million dollars to be completed in 2011.
3. Covington Street reconstruction from Twilight Drive to Haven Street approximately .4 miles at a projected cost of \$420,000.00 dollars to be completed in 2003.
4. North Haines Avenue reconstruction from the city limits of Rapid City to the Meade County line approximately 1 mile at a projected cost of \$720,000.00 dollars to be completed in 2003.
5. Reservoir Road reconstruction from S.D. Highway 44 to Meadowridge Drive approximately 1.5 miles at a projected cost of 2.7 million dollars to be completed in 2007 to 2009.

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<sup>2</sup> 2000 S.D. Department of Transportation traffic counts.

<sup>3</sup> Based on 2000 S.D. Department of Transportation traffic counts.

In order to have the street classification system consistent with function and right-of-way widths, the following street classification should be considered:

<b>Classification</b>	<b>Right-of-way width</b>	<b>Function</b>
Major Arterial	100'	Major roads that carry large volumes of traffic and serve as major thoroughfares within the county. Access points should be restricted whenever possible.
Minor Arterial	80'	These roads also serve as movers of traffic, but do not carry the higher volumes of traffic that are associated with major arterial roads. Access may be limited in some areas.
Collector Road	66'	Collector roads serve as links between local roads and arterial roads moving traffic from neighborhoods to destinations.
Local Road	40'-66'	The primary function of local roads is to provide access to immediately adjacent land.

Maps 5-1 and 5-2 show the Major and Minor Arterial road network for Pennington County. The following categories outline the various road designations and some examples of important roads located within Pennington County.

Major Arterial – Interstate 90, US Highway 16, and US Highway 385 are all examples of major arterial roads found in Pennington County. Major arterial roads often have multi-lanes and carry large volumes of traffic. The traffic occurring on major arterial roads often are of a regional nature and are passing through Pennington County. Major arterial roads should be designed for maximum speed and capacity with controlled access. Major arterial roads usually handle trips between different parts of the county and typically are in excess of one mile.

Minor Arterial - Neck Yoke Road, Old Folsom Road, Deerfield Road and Nemo Road are all classified as minor arterial roads. Often minor arterial roads have some of the same characteristics of major arterial roads in that they are used for longer trips, but have lower traffic counts than major arterial roads. Minor arterial roads serve to connect collector and local roads to major arterial roads. Direct residential access onto minor arterial roads should be limited whenever possible and right-of-ways should be

maintained for future expansion of minor arterial roads into major arterial roads should the need arise.

Collector Roads – These are primarily streets connecting major neighborhood areas with major and minor arterial roads. Collector roads often have moderate traffic.

Local Roads – Local roads are the main interior streets within neighborhoods and subdivisions. Typically local roads have lower traffic counts. Local roads constitute the majority of roads within Pennington County.

## 5.2 Alternate Means Of Transportation

The major focus of this section of the Comprehensive Plan has been on private vehicular transportation. Not all methods of transportation revolve around the personal automobile. Indeed, there are other alternative methods of transportation. Listed below are some alternative methods of transportation used by the citizens of Pennington County.

Bike & Walking Trails – While bicycle paths can be an important part of a transportation system, they are primarily suited to higher densities and urban development. Given the large geographical area covered by Pennington County, it is not realistic to anticipate wide usage of bike trails for the movement of people. There could be minor usage of bicycles in the outskirts of more urban development as a method of transportation.

There is a significant amount of bike trails for recreational use. The Mickelson Trail runs through the western portion of Pennington County. The Mickelson Trail is 114 miles long and extends from Deadwood to the north to Edgemont to the south. The Mickelson Trail is a multi-use trail that is also accessible to hikers, walkers and horseback riders. Approximately 32.1 miles of the Mickelson Trail are located within Pennington County. According to South Dakota Game, Fish and Parks approximately 6,511 people used the Mickelson Trail at the Mystic counting site during 2000.

In addition to the Mickelson Trail, the Centennial Trail meanders through Pennington County. The Centennial Trail is designated exclusively as a walking/hiking trail. Many other Forest Service trails are available for hiking and biking throughout the portion of the Black Hills National Forest in Pennington County. Rapid City also has an extensive bike path system located primarily along Rapid Creek. Rapid City has approximately 21.5 miles of bike paths, which are also accessible to pedestrians. Maps of the Rapid City Bike Path system may be obtained from the Rapid City Parks and Recreation Division.

Public Transportation – All public transportation found in Pennington County is provided either by the various municipalities or private businesses. Rapid City has established bus routes that provide public transportation. Other towns have senior citizen buses, but not transportation that is available to all citizens. Pennington County does not provide any public transportation or participate in any public transportation programs.

Rail Service – Historically the railroads played an important role in the settlement and development of Pennington County. They brought settlers west and once railroads were established in Pennington County, they were used to move timber, mineral and agricultural goods. South Dakota and Wyoming are the only two states in the Union that currently do not have passenger rail service. Passenger rail service may once again be available if the Dunrail system comes to fruition. The Dunrail would operate under the authority of the Northern Hills Railroad Authority. The proposed Dunrail would extend from the Rapid City Regional Airport to Whitewood, South Dakota. The intent is to provide a scenic and nostalgic trip from the major airport in the area to a terminal near the Dunbar Resort in Deadwood. The rail service would utilize newly constructed tracks, rails owned by the DM&E and railroad right-of-way owned by the State of South Dakota that were previously abandoned.

The railroad is still used to transport goods into and out of the area. Currently the DM&E operates rail lines running through Pennington County. There has been interest expressed in the construction of new rail lines in order to supply coal from Wyoming to power plants in eastern South Dakota and Minnesota. The proposed route for the new rail line is planned to run through eastern Pennington County.

Air Service – All commercial air transportation is provided by the Rapid City Regional Airport, which is located outside of the Rapid City municipal boundary. The Rapid City Regional Airport is located approximately 7 miles east of Rapid City along S.D. Highway 44.

The Regional Airport provides a host of services in addition to regularly scheduled passenger services, such as charter services, commercial freight services, miscellaneous airplane services, car rental and food services. The terminal building has 90,000 square feet of floor space with three gates.

Currently there are two runways servicing Rapid City Regional Airport. The longest runway, Runway 14-32 is 8,701 feet long and 150 feet wide and made of a grooved concrete surface. Runway 5-23 is 3,600 feet long and 75 feet wide and constructed of asphalt.

Pennington County's location near major tourist attractions and serving as a major retailing and service center means significant use of the Regional Airport. A need for better connecting flights within South Dakota exists.

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There are two other airports located in Pennington County. The town of Wall owns and operates an airport, which does not provide passenger services. The Ellsworth Air Force Base located in Box Elder has the largest airport in Pennington County, but this airport is restricted to military use only. No other air facilities are anticipated to develop in Pennington County in the near future.

### 5.3 Conclusion

The connection between the transportation network and land uses cannot be denied. A well thought out, planned, and maintained transportation network is vital for livable communities. This portion of the Comprehensive Plan is intended to evaluate how Pennington County deals with its transportation network and to identify to property owners and developers what is expected for any future development with the county.

**Table 5-1**  
**Road Classification**  
**As proposed by the Planning Department**

**Major Arterial Roads**

1. Interstate 90
2. U.S. Highway 16
3. U.S. Highway 385
4. S.D. Highway 44
5. S.D. Highway 79
6. S.D. Highway 40
7. S.D. Highway 240
8. S.D. Highway 14
9. S.D. Highway 244
10. S.D. Highway 87
11. Sheridan Lake Road
12. Nemo Road
13. County Road
14. Radar Hill Road
15. Deadwood Avenue

**Minor Arterial Roads**

1. Old Hill City Road
  2. Neck Yoke Road
  3. Deerfield Road
  4. Rochford Road
  5. Mystic Road
  6. South Rochford Road
  7. South Rockerville Road
  8. North Haines Avenue
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9. Twilight Drive
  10. Reservoir Road
  11. Twin Springs Road
  12. Spring Creek and Lower Spring Creek Road
  13. Universal Road
  14. Antelope Creek Road
  15. Sage Creek Road



16. Old Folsom Road
17. Silver City Road
18. Longview Road
19. Creighton Road
20. Playhouse Road
21. Slate Prairie Road
22. Norris Peak Road
23. 160<sup>th</sup> Avenue
24. Edelweiss Mountain Road
25. Moon Meadows Drive
26. Dunsmore Road
27. Elk Vale Road
28. Bombing Range Road
29. Anderson Road
30. South Side Drive
31. Seger Drive
32. Dyess Avenue
33. 143<sup>rd</sup> Avenue
34. Quinn Road



