

# East Colorado Boulevard Area Study

A Planning Partnership With:



**LAWRENCE COUNTY**  
SOUTH DAKOTA

*"Where Beauty and Adventure Meet"*

Adopted by the  
City of Spearfish City Council on:

Adopted by the  
Lawrence County Commission on:

# East Colorado Boulevard Area Study

## Study Committee

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## Introduction and Purpose

Ongoing development at Elkhorn Ridge and the recent development of the Sky Ridge neighborhood and sports complex have resulted in an increase in development interest for the Colorado Boulevard corridor between Maitland Road and Highway 85. The purpose of this document is to provide policy guidance as requests for changes in land use are made to either the City of Spearfish or to Lawrence County.

This Study Will Make Recommendations For:

- a) A mix of development types within the context of public utility service, present and future street network, and trends in residential, commercial, and industrial land uses.
- b) Preferred locations for urban/suburban and rural/low intensity land uses.
- c) Water, Sewer, and transportation infrastructure.

This Study Will Not:

- a) Change the existing zoning or land use rights of any individual property.
- b) Replace the traditional process whereby changes in zoning are requested or initiated.

Using historic growth and development trends, the following is a projection of the number of dwellings and commercial square footage that could be expected within a ten-year planning horizon within the study area. This timeline has been chosen because it represents the most accurate forecasting based on recent growth and development trends. Estimates for development past 2032 are difficult to quantify due to the number of economic variables involved. For this reason, there must be realistic expectations so that resources can be directed toward the critical infrastructure both within the Colorado Boulevard corridor as well as the primary gravity sewer infrastructure west of the study area and the wastewater treatment plant.

The following are the ten-year growth assumptions for the study area, using a straight-line projection based on 2020 Census data\*:

- a. Spearfish growth rate = 16% (from 2010 to 2020)\*
- b. Current Spearfish population = 12,193\*
- c. New projected residents 2020-2030 = 1,950
- d. People per household = 2.12\*
- e. New homes 2020-2030 = 300 (assumes 1/3 of all new homes built in the next ten years will be in the study area)
- f. New non-residential land use estimate: 72,000 square feet - retail, food service, light industrial

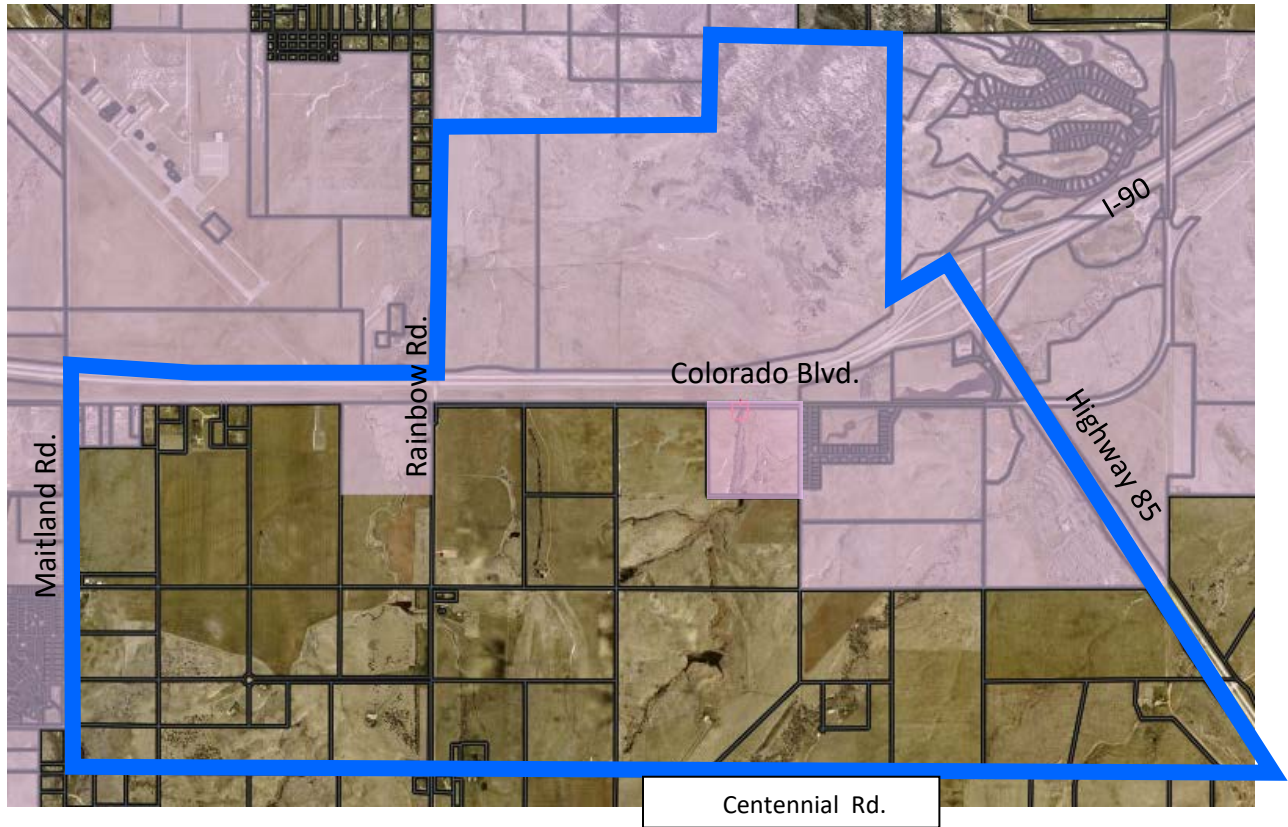
## **Study Area**

The study geography includes the area between Maitland Road and Highway 85 and 3/4 mile north of Interstate 90 and south to Centennial Road as illustrated by the map below. Within this overall boundary lie undeveloped and sparsely developed areas that are likely to change land use in the future, depending primarily on the availability of water and sewer infrastructure and land use compatibility. Areas within the study area where development has taken place (Sky Ridge, Elkhorn Ridge) require no re-evaluation for future land use but are included in the area study for context. The Spearfish airport is provided for context on the study area maps, but there is no development potential on this property at this time.

Most of the study area is rolling terrain with slopes generally 2% to 10% with locally steeper areas in drainageways and at the hillside landform north of Exit 17. Floodplain is limited to Miller Creek toward the east edge of the study area. The primary vegetative cover is prairie grass with stands of trees along drainageways and shelter belts.

Maitland Road is the highest point at the west edge of the study area and all drainage at this point flows west toward Spearfish. Two localized drainage low points exist: Miller Creek and at Rainbow Road extending east and west for 1/4 and 1/2 mile respectively. This topography plays a major role in how the area is provided with gravity sewer.

Pink = City Limits  
Blue Line = Study area geography



**Existing Conditions**

*Land Use and Zoning*

Beginning at the intersection of Maitland Road and Colorado and moving eastward, the following are existing land uses and zoning districts. Except for the Maitland Road Area, the corridor is mostly undeveloped, open land until the west boundary of the Sky Ridge subdivision.

City Limits - C-2 Highway Service Commercial for ¼ mile east of Maitland Road; storage buildings, retail and repair businesses, equipment, and automotive dealerships.

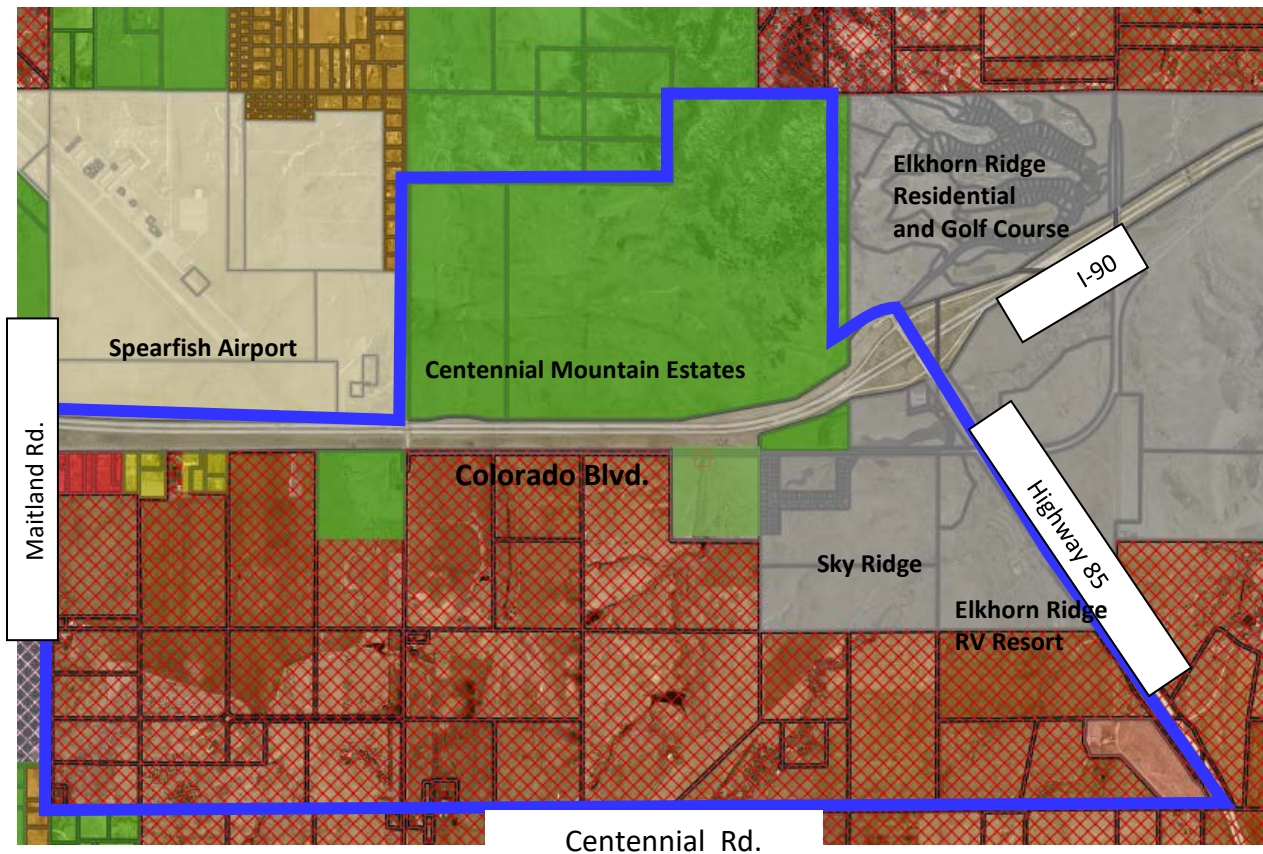
Unincorporated County – HSC Highway Service Commercial and Ag-1; office, residences, barns.

City and County Ag zoning – homes and barns in the Rainbow Road vicinity and east to the west edge of the Sky Ridge neighborhood.

City Ag zoning north of Interstate 90 and east of Rainbow Road – Ag zoning with recent preliminary plat approval for a new 54 lot subdivision consisting of one acre lots known as Centennial Mountain Estates.

City Development Review District Zoning – Sky Ridge single family residential neighborhood soccer and softball sports complex, storage buildings, and Elkhorn Ridge travel center (convenience market and gas station).

An aviation easement related to the Spearfish Airport exists in the Colorado Boulevard and Rainbow Road vicinity. This easement limits building heights based on the applicable conical surface of the easement and the specific ground elevation for where a building is to be constructed. Determination of allowable building height requires an assessment performed by a registered land surveyor.



### Zoning Map

#### County Zoning

- Red Cross Hatched – Ag-1
- Bright Yellow – Highway Service Commercial

#### City Zoning

- Pale Yellow - Airport
- Green – Agriculture
- Gray – Development Review District
- Red – C-2 Highway Service Commercial



## *Public Utilities*

In 2003, the City of Spearfish partnered with the developer of Elkhorn Ridge to pay for the extension of water and sewer infrastructure to serve the needs of that mixed use residential, commercial, and healthcare development.

A 12 inch water main exists on the south side of Colorado Boulevard and provides adequate pressure and flow to support the ongoing growth of the area. The source of the water is the Green Acres tank, owned and operated by the City of Spearfish, and located approximately two miles southwest of Maitland Road. All of Elkhorn Ridge and Sky Ridge sewer flow is conveyed by gravity sewer to a city owned and operated lift station just west of Miller Creek. From here, the flow is pumped uphill in two six-inch force mains west to Maitland Road where it then returns to a gravity flow condition. Electric, natural gas, and communications serve the area.

## *Colorado Boulevard*

Serving as a major east/west arterial street parallel to I-90, this is a two lane highway with minimal roadside shoulders. The posted speed limit is 55 mph but changes to 45 mph west of Maitland Road. In its present conditions, there are safety concerns for both bicycle and pedestrian use of the highway surface. With the Sky Ridge development, a traffic study was completed and it recommended the widening of the highway along the project frontage to construct left-turn lanes into Sky Ridge. Due to the future westbound volumes modeled in the study, a left turn lane at Rainbow Road to facilitate access to northbound Rainbow Road was also recommended. The turning lanes for Sky Ridge are slated for construction within the next 5 years by the City of Spearfish. It is undetermined when the left turn lane at Rainbow Road will be constructed. In addition to the lack of on-street bicycle lanes on Colorado, the city's trail and path network has yet to reach this area of the community.

## **Future Land Use**

The primary consideration for if land in the Colorado corridor is developed as low intensity rural uses or city residential and commercial uses depends on the availability of water and sewer infrastructure. The City of Spearfish has designated the areas immediately south of Colorado Boulevard as the preferred location for where annexation and intensification of land use should occur because of the public services available. In late 2021, the City of Spearfish committed to add capacity to the Elkhorn Ridge lift station upgrade, thus securing future sewer services for the growth of this area.

The land use recommendations are divided into what is a preferred scenario for property annexed to the city for more intense land use, and property that will remain more rural in character according to county zoning. The division between these city/county land uses is the City Services Boundary (see map on page 8 for location).

## ***Land use within the City Services Boundary***

The overall goal for this land area is that it should develop in an infill fashion with urban and suburban land uses, versus be an area of rural/ag land preservation. The following are recommendations to guide requests for development through annexation to the City of Spearfish with a change of zoning.

1. Provide for a mix of land uses are envisioned to include a range of residential densities, commercial, and light industrial uses.
2. Encourage residential densities and lot sizes that support affordable housing.
3. Consider requests for annexation/rezoning requests only when the owner has a specific plan of development that will enable the city to understand the benefits of the project as well as the impacts of the project on city infrastructure.
4. Provide appropriate transitions to achieve land use compatibility where more intense land uses are abutting/adjoining land uses of lesser intensity. Examples:
  - a. Larger lot sizes at the perimeter of an area unlikely to be developed at an urban/suburban density.
  - b. Increased setbacks above ordinance requirements, vegetational buffers, fences, berms.
  - c. Commercial development along Colorado Boulevard should occur in clusters where there is the ability to share access and for efficient traffic control.
5. Discourage requests for annexation that lie outside of the City Services Boundary .

Visual quality is an important factor in growth management. The following are recommendations to guide and direct this aspect of community development, and are primarily related to multi-family and commercial/industrial structures:

1. Encourage architectural creativity to include variations in overall design style, roof forms, exterior finishes, and building color.
2. Create a unified and finished look along site frontages through landscapes that include a variety of trees and shrubs with an overall preference for drought resistant types.
3. Arrange outdoor display of equipment and vehicles within a setting that incorporates plant material, changes in landform, boulders, decorative walls/fences, and similar landscape architectural features that complement the display.
4. Require that all outdoor lighting and illuminated signage to meet the criteria as established by the International Dark Sky Association, [www.darksky.org](http://www.darksky.org)

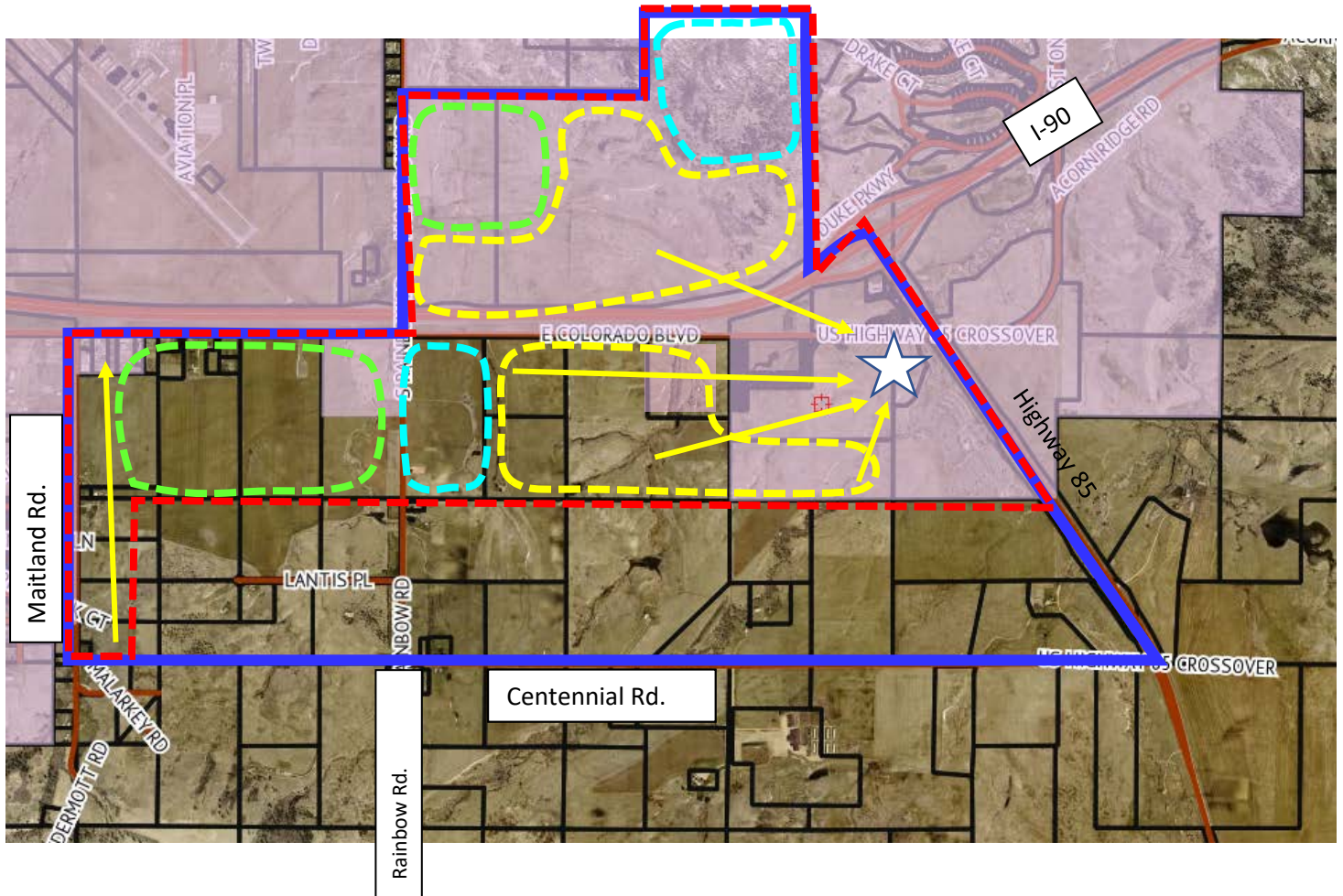
#### ***Land Use outside of the City Services Boundary - Lawrence County zoning authority***

The overall goal for land outside of the City Services Boundary is to maintain a more rural setting than what would result by annexation and change to city zoning. The following are recommendations for these areas:

1. Encourage the use of Rural Residential, Park Forest and A-2 Residential Agriculture zoning districts to serve as a land use buffer between the more urban forms of development within city limits and the lower density A-1 General Agriculture district.
2. Invite the City of Spearfish to review and provide comments on conditional use permit requests within the overall study boundary as described in this report.
3. Encourage the use of Planned Unit Development zoning for development involving mixed land uses and/or development intensity greater than what the Rural Residential zoning district allows.

## Spearfish Airport Land Use Compatibility

The approach to the Spearfish Airport is immediately northwest of the Rainbow Road and Interstate 90. Privately owned lands in this vicinity should be evaluated for future compatibility with air traffic with commercial land uses being preferred over residential land uses.



**City Services Boundary Map**

- Blue Line = Study area geography █
- Dashed red = City Services Boundary - - -
- Yellow arrows and dashed line = general direction of gravity sewer flow and area served by Elkhorn Ridge Lift Station capacity allocation █
- Dashed green = areas within City Services boundary where gravity sewer is not possible - - -
- Dash aqua blue = areas requiring further study for gravity sewer potential - - -
- Star = Elkhorn Ridge lift station ★
- Pink = Existing city limits █



## **Water / Sewer Infrastructure**

### *Water*

The present water delivery system can support growth and development for the next several years and a new well and water storage reservoir is included in the City's capital improvement program to be designed within the next two years. This will be the primary water supply to the area with additional support from the system feeding from the Green Acres tank. The following are recommendations involving water services in addition to standard city ordinances.

1. Where technically necessary, provide looping of new water mains to existing water mains to increase pressure and flow. If no point of connection exists, mains should be stubbed out for future connection.
2. For requests for water service outside of city limits, consider the number of users served, the potential for expansion of the system beyond the property requesting service, and the cost/benefit of the service.
3. Up-size water mains when it is evident that additional areas may be served, and it is financially feasible for the City of Spearfish to pay for the upsize.

### *Sewer*

A key consideration for future growth is the capacity of the Elkhorn Ridge sewer lift station and force main system. An upgrade to this system will take place during 2022-2023 to add more sewer capacity to the area since the current system is nearing capacity now. The city's costs for this added capacity will enable up to 854 gallons per minute (GPM) of sewer flow from the presently undeveloped area within the City Services Boundary. Of this total, 419 GPM is allocated to the areas south of Colorado Boulevard and the remainder is allocated to the Centennial Mountain Estates development. The following are recommendations to guide the development of the gravity sewer infrastructure expansion that will link to the newly upgraded lift station:

1. Assign the costs of gravity sewer infrastructure connecting to the Elkhorn Ridge lift station to the property developer.
2. Require construction of gravity sewer at the time the property is developed with structures or other infrastructure that will be municipally owned.
3. Implement a one-time charge based on sewer flows directed to the lift station and collect the funds at the time of annexation and change of zoning to reimburse the city investment for the lift station upgrade.
4. Allow for sewer capacity to be traded or sold between private parties, with the city to develop a method to track these exchanges.
5. Implement a special tap fee for users connecting to the Elkhorn Ridge lift station. This special rate is justified by the additional resources and costs required in lift station operation that gravity sewer does not require.
6. Develop the gravity sewer system in areas that can support land use patterns that are more urban/suburban in character:
  - a. East side of, and immediately adjacent to Maitland Road, and south of Colorado Boulevard.
  - b. ¼ mile east of Rainbow Road to the west boundary of the Sky Ridge neighborhood.
  - c. Portions of the Centennial Mountain Estates property north of I-90 and east of Rainbow Road.

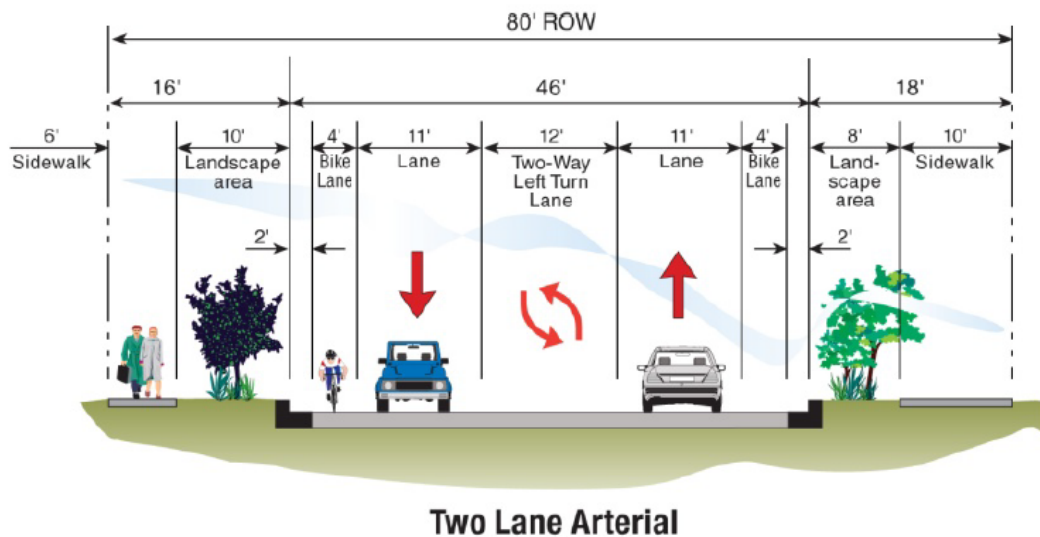
7. Where gravity sewer is not possible, encourage a more rural character for the near term unless alternate methods for wastewater treatment are provided.
8. For requests for sewer service outside of city limits, consider the number of users served, the potential for expansion of the system beyond the property requesting service, and the cost/benefit of the service.
9. Up-size sewer mains when it is evident that additional areas may be served, and it is financially feasible for the City of Spearfish to pay for the upsize.

### **Colorado Boulevard Upgrade**

Colorado Boulevard will require upgrading from its present condition to a configuration as recommended by traffic analysis and final engineering design as guided by the Spearfish Area Master Transportation Plan (MTP). For property fronting Colorado Boulevard, the following recommendations should be evaluated at the time of a request for annexation/change of zoning to City of Spearfish, or at the time of a request for preliminary plat approval for parcels that are not annexed but within the 3-mile extra territory for subdivision approval.

1. Require a traffic study if the development request meets the criteria of the MTP Section VI.B of the plan, or for projects generating 100 trips at the morning or evening peak hour. The purpose of the traffic study is to determine:
  - a. Levels of service for new streets connecting into Colorado Boulevard, and the appropriate traffic control methods.
  - b. Spacing of intersections and driveway access points.
  - c. Need for dedicated left and right turning lanes.
  - d. Potential for widening of Colorado Boulevard.
2. Dedicate right-of-way for Colorado Boulevard at the time of final plat approval.
3. Incorporate collector level streets shown on the Major Streets Plan of the MTP into individual property development plans.

The City of Spearfish has tentative plans to widen Colorado Boulevard within the next 5 years along the Sky Ridge frontage. Although design has not started, a possible cross section for a two lane arterial per the MTP in Section VI.C, Figure 16 of the plan, is shown below.

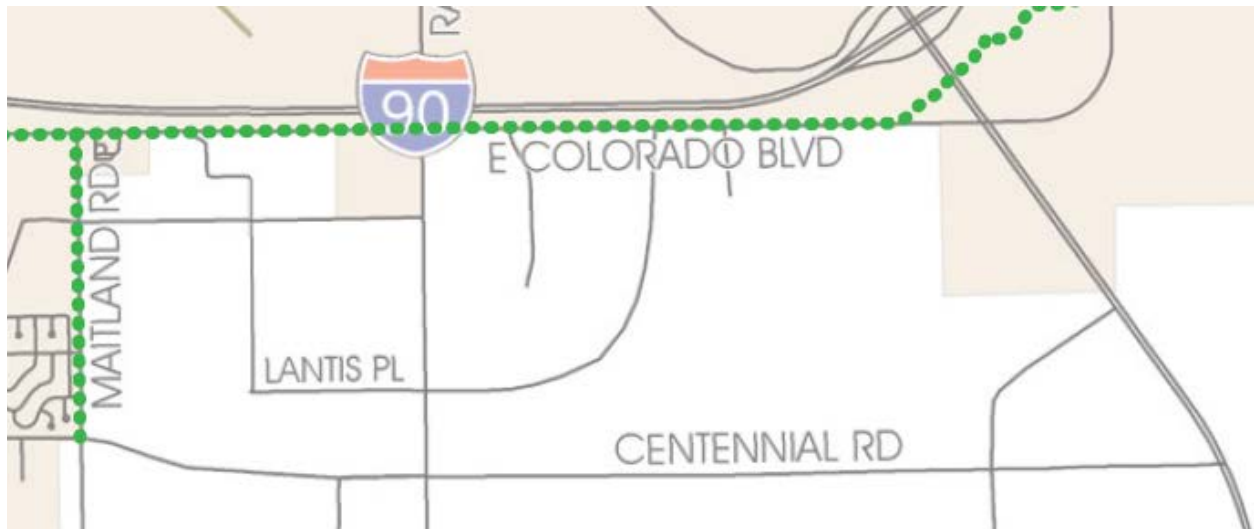


In addition to city funding sources and grants, property owners should also participate in costs of the upgrade if their development approval results in new traffic added to the roadway. The following recommendations should be evaluated:

1. Enter into cost sharing agreements with property owners at the time of development approval, based on a proportional amount of new traffic generated by the individual development compared to the overall volume on Colorado Boulevard.
2. Recover costs through special assessments and based on a proportional amount of new traffic generated by the individual development compared to the overall volume on Colorado Boulevard.

### **Paths/Trail System Expansion**

The MTP illustrates a multi-use path along the Colorado Boulevard corridor and along Maitland Road, as shown on the next page. This path will provide an important link for pedestrians and recreational bike travel from the study area to the remaining portions of the Spearfish recreational path system. The City of Spearfish should conduct a feasibility analysis to determine the best location for the path prior to incorporating recommendations for specific development proposals.



Green dotted line = recommended location of multi-use path/trail per the MTP.

### **Conclusion and Summary**

The area within the study area is envisioned to develop with a mix of land uses where public infrastructure is available to serve it. Where public infrastructure is not available, options for rural development and agricultural preservation remain. Orderly growth and development depend upon clear criteria to guide and direct this growth. The recommendations of this plan serve as a guide so that decision making is based on an informed set of parameters, rather than on an ad-hoc basis and without an overall vision.