



6

Efficient Transportation & Infrastructure Systems



Our community will have a well-maintained network of infrastructure and transportation systems that meets the needs of our residents and businesses, and supports other community-wide objectives such as community health and safety, fiscal stability, and connected neighborhoods. Our transportation system will provide for multiple modes of travel (air, vehicular, bicycle, walking, transit, and freight), making it possible to ensure mobility of goods and of people of all ages and abilities. This multi-modal system will connect our neighborhoods with community destinations including employment and shopping areas, schools, parks and recreation facilities. Our future growth areas will be served by infrastructure that is efficient and cost-effective.

OVERVIEW

Rapid City's transportation network is a multi-modal system that includes a range of roadways, established and planned pedestrian and bicycle routes, and transit service. The transportation network also provides options for intermodal freight and travel, including the Rapid City Regional Airport, railroad, and truck routing. Connectivity across the community and the needs of different travel modes are important challenges to the movement of people and goods in the City and across the region and also play an important role in

economic development. Since many residents cannot drive or do not have personal automobiles, demand for safe pedestrian and bicycle routes and transit service is increasing. However, many of the City's existing roadways are older and integrating all of these needs into reconstruction projects may be cost or space-prohibitive.

Like the City's transportation network, the City's network of utility infrastructure is also predominantly established, and while it functions well, it is beginning to show its age. Water, wastewater, stormwater, and solid waste utility services are generally provided by the City, whereas energy service and

telecommunications are provided by other service providers. The City focuses on the delivery of utility services within the City limits as a priority, with the Urban Services Boundary (shown on the Future Land Use Map) serving as the plan limit for future service delivery.

New development is required to adhere to City Infrastructure Design Criteria, and the construction of new arterial and collector roadways is guided by the Major Street Plan. In addition, the City conducts its transportation planning efforts within the regional framework implemented by the Rapid City



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Metropolitan Planning Organization (MPO).

Because much of Rapid City’s transportation and utility infrastructure is mature, maintenance and repair needs usually outpace available funding. Due to these fiscal constraints, careful planning is needed to ensure that future growth is served by infrastructure that is efficient and cost effective, while also balancing the ongoing maintenance, repair, and upgrading of existing systems.

In order to support the vision for efficient transportation and infrastructure systems, the principles, goals, and policies in this chapter address the following:

- Planning for the efficient provision and maintenance of infrastructure;
- Providing a safe and efficient multi-modal transportation system; and
- Supporting an integrated intermodal network.

PRINCIPLES, GOALS, AND POLICIES (TI)

Principle TI-1: Planning for the Efficient Provision and Maintenance of Infrastructure

Public infrastructure facilities and services needed to serve the community, such as potable water, sanitary sewer, and storm drainage, will be provided for, maintained, and expanded efficiently. The City will make efforts to improve the linkage between infrastructure planning and land use planning to ensure that infrastructure is used as a tool to help manage growth, not as a service that is provided in reaction to growth pressures.

Goal TI-1.1: Coordinate the planning, construction, and maintenance of utility and transportation infrastructure projects to maximize benefits and efficiency.

TI-1.1A: PROJECT ALIGNMENT AND PRIORITIZATION

Coordinate infrastructure-planning efforts between Public Works and Community Planning to align the prioritization horizons of projects that use the same right-of-way.

TI-1.1B: INTEGRATED MAPPING SYSTEMS

Coordinate utility, transportation, and land use mapping and database systems.

TI-1.1C: UTILITY UNDERGROUNDING

Pursue opportunities to underground existing overhead utility lines during the construction or reconstruction of public infrastructure projects to increase service quality and enhance aesthetics.

TI-1.1D: SEWER DISTRICTS

Coordinate with local Sewer Districts as needed to promote efficiency in the provision of sanitary sewer service and support necessary transitions to City service, where applicable, for existing development.

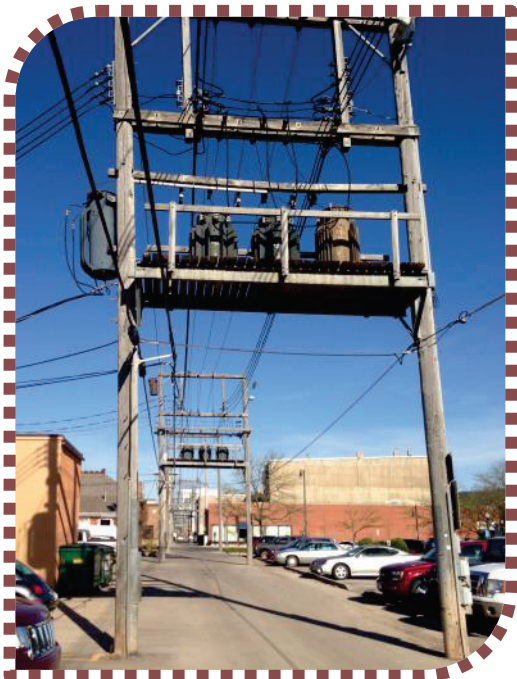
Goal TI-1.2: Proactively plan for utility and transportation infrastructure construction, maintenance, and improvements.

TI-1.2A: ASSET MANAGEMENT

Employ asset management practices to prolong the remaining service life of existing infrastructure and deploy funds in an efficient and effective manner.

TI-1.2B: INFRASTRUCTURE PROJECTS INFORMED BY PLANS

Use the land use and transportation plans (including, but not limited to the Future Land Use Plan and Major Street Plan) to inform and help prioritize infrastructure projects.





TI-1.2C: DOCUMENT NEEDS

Maintain thorough documentation of existing and anticipated future infrastructure needs and priorities, including maintenance, repair, replacement, upgrades, reconstruction, and new construction.

TI-1.2D: AIRPORT INFRASTRUCTURE

Invest in additional infrastructure to include the Rapid City Regional Airport in the City's water and wastewater systems.

Principle TI-2: Providing a Safe and Efficient Multi-Modal Transportation System

Rapid City will maintain a safe transportation system that provides for efficient travel within and through the community for all motorized and non-motorized modes. This will include linking the City's many neighborhoods, employment areas, parks, schools, and recreational facilities with a comprehensive system of roadways, multi-use pathways, bicycle facilities, and sidewalks. Additionally, the City will seek opportunities to expand existing transit services to increase travel choices for the community.



Goal TI- 2.1: Synchronize the transportation system with land use needs.

TI-2.1A: MAJOR STREET PLAN INTEGRATION

Integrate the Major Street Plan into land use planning and the development review process in order to ensure the development and maintenance of a complete roadway network.

TI-2.1B: MULTI-MODAL REVIEW

Consider and address all travel modes (including automobile, pedestrian, bicycle, and transit) in the development review process.

TI-2.1C: CONTEXT SENSITIVE SOLUTIONS

Provide context sensitive transportation improvements, as defined by the Federal Highway Administration, to balance roadway classification and land use needs, provide network efficiency, and establish desired character.

TI-2.1D: COORDINATED LAND USE AND TRANSPORTATION PLANNING

Coordinate land use planning and transportation planning, addressing topics such as the provision of sidewalks when developing land use plans and reviewing development proposals.

TI-2.1E: ACCESS MANAGEMENT PLANNING

Apply access management techniques to major corridors, including developing access management plans for key development areas along arterial roadways and/or corridors demonstrating higher frequencies of access-related crashes.

T1-2.1F: TRANSPORTATION STANDARDS AND PLANS

Ensure all development and redevelopment projects conform to the City's adopted engineering standards and criteria, and help to implement all adopted transportation plans.



TI-2.1G: ACTIVITY CENTER ACCESS

Establish multi-modal transportation access to and between the community's Activity Centers (as identified on the Future Land Use Plan), including vehicular, pedestrian, and bicycle connections and transit service.

TI-2.1H: INFILL AND REDEVELOPMENT COORDINATION

Pursue opportunities to enhance vehicular circulation, pedestrian and bicycle connections and amenities, and transit service as reinvestment, infill development, and redevelopment occur across the community, especially in the Activity Centers and Revitalization Corridors identified on the Future Land Use Plan.

Goal TI-2.2: Develop a network of complete streets to enable safe mobility for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities.

TI-2.2A: BALANCED MODES

Consider and strive to balance the needs of all transportation modes in improvement project review and decision-making.

TI-2.2B: COMPARABLE ALTERNATIVE ROUTES

Establish comparable or parallel alternative routes for travel modes that cannot be accommodated along or are incompatible with major arterial routes. For example, if a major roadway cannot accommodate on-street bicycle lanes, explore opportunities to accommodate

bicycle travel on a parallel local street or multi-modal pathway.

TI-2.2C: CROSS-SECTION ENHANCEMENTS

Expand and enhance standard street cross-sections to provide more options for various contexts and multi-modal needs using design guidelines provided in the Bicycle and Pedestrian Master Plan.

TI-2.2D: COMPLETE STREETS GUIDE

Adopt Complete Streets guidelines and integrate them into transportation planning and implementation to ensure all users—motorists, pedestrians, bicyclists, and transit riders are accommodated.

Goal TI-2.3: Enhance connectivity and safety for pedestrians of all abilities.

TI-2.3A: SIDEWALK INVENTORY

Monitor, analyze, and document City sidewalk locations, conditions, and gaps, including level of compliance with Americans with Disabilities Act (ADA) requirements.

TI-2.3B: PRIORITY SIDEWALK IMPROVEMENTS

Maintain a prioritized list of necessary sidewalk improvements, including building new connections, maintaining current facilities, and upgrades to existing sidewalks. Prioritize improvements that enhance pedestrian accessibility to and within Activity Centers (as defined on the Future Land Use plan), and as recommended in the City's

Bicycle and Pedestrian Master Plan.

TI-2.3C: PEDESTRIAN CROSSINGS

Prioritize improvements to pedestrian crossings in areas that enhance the safety of crossing major thoroughfares, especially in high-accident areas and high-activity areas such as Activity Centers and schools.

TI-2.3D: ADA ACCESSIBILITY

Prioritize the replacement of non-ADA compliant sidewalks in areas with high levels of pedestrian activity and around schools.

TI-2.4E: PEDESTRIAN LINKS TO ACTIVITY CENTERS

Preserve and pursue opportunities to establish sidewalks and trails that provide pedestrian connections from neighborhoods to nearby activity centers.

Goal TI-2.4: Develop a comprehensive and connected network for bicycle travel and recreation.

TI-2.4A: MULTI-USER BICYCLE NETWORK

Develop a bicycle network that accommodates and supports all types of bicycling, including paved and unpaved recreational trails and commuter routes.

TI-2.4B: CONNECTED ROUTES

Grow the bicycle network in a manner that provides direct connections between destinations and enhances links between existing bicycle facilities.



TI-2.4C: ON AND OFF STREET LINKAGES

Enhance signage, visibility, and other connections between on-street and off-street bicycle facilities.

TI-2.4D: BICYCLIST AMENITIES

Accommodate and encourage bicycling by integrating amenities such as secure bicycle parking, shower facilities, bus racks, ramps, and lighting into the design of new development, and as reinvestment and redevelopment occur.

Goal TI-2.5: Expand transit participation, service, and coordination.

TI-2.5A: BUS STOP AMENITIES

Pursue opportunities to enhance bus stops, especially those that are highly used and/or located within or near Activity Centers (as shown on the Future Land Use Plan). Focus on improvements that enhance safety and functionality for users such as elderly or disabled residents, including ramps, shelters, benches, trash receptacles, lighting, and route information/signage.



TI-2.5B: MULTI-MODAL CONNECTIONS TO TRANSIT

Enhance the connections to transit from other travel modes such as pedestrians, bicyclists, and motorists, and air service. Coordinate transit stops and routes with sidewalk and trail locations, and park-n-ride opportunities.

TI-2.5C: ACCESS TO ACTIVITY CENTERS AND SERVICES

Improve direct transit access to and connectivity between key community destinations including Regional, Community, and Employment areas, as well as to health and social service providers such as City and County offices, Food Bank, and South Dakota Job Services.

TI-2.5D: PROVIDER COORDINATION

Facilitate and support ongoing collaboration and communication between transit service providers to provide cohesive transit services and maximize available resources.

TI-2.5F: SERVICE EXPANSION

Explore opportunities to enhance and expand service hours, coverage, and frequency to better serve and connect the Rapid City community and greater region, especially for the underserved and transit dependent.

Goal TI-2.6: Build a culture of multi-modal transportation awareness and use.

TI-2.6A: TRAVEL DEMAND MANAGEMENT EFFORT CHAMPIONS

Develop and empower resident and agency champions for Travel Demand Management efforts.

TI-2.6B: MULTI-MODAL MARKETING

Market and advertise various travel modes and transportation options to local residents and visitors.

TI-2.6C: REGIONAL COLLABORATION

Develop and nurture regional transportation relationships, and champion collaborative regional planning efforts and activities.

TI-2.6D: LAST MILE CONNECTIONS

Increase multi-modal travel options and transit accessibility by including bicycle racks at bus stops and on buses and enhancing pedestrian and bicycle connections between neighborhoods, activity centers, employment areas, and other community destinations and existing or planned transit stops.

Goal TI-2.7: Enhance regional roadway connectivity.

TI-2.7A: MULTI-STATE CORRIDOR PLANNING

Participate in multi-state corridor planning efforts and support improvements that align with Rapid City’s vision, principles, and goals.



TI-2.7B: PRESERVE ROADWAY AND BELTWAY ROUTE OPPORTUNITIES

Identify and preserve opportunities for new regional connections and beltway routes through suburban growth areas.

Principle TI-3: Supporting an Integrated Intermodal Network

An integrated network of intermodal facilities including rail, air, and freight will support the movement of people, goods, and products, to, from, and within Rapid City and the Region. The City will balance the transportation needs of people and those of businesses and industry.

Goal TI-3.1: Preserve and enhance an efficient and compatible freight network.

TI-3.1A: TRUCK, AIR, AND RAIL CONNECTIVITY

Coordinate to identify needs and enhance connectivity between truck, rail, and air transport to support the efficient movement of goods in and through the region.

TI-3.1B: TRUCK ROUTING

Designate and maintain truck routes to expedite the movement of trucks through the community and region. Avoid designating truck routes in areas that pose compatibility conflicts with land uses, such as through residential neighborhoods.



TI-3.3C: FREIGHT FACILITIES

Designate and protect important freight facilities, such as railroads, truck routes, distribution and logistics areas, and the Rapid City Regional Airport, and support their continued operation.

TI-3.1D: AIRPORT EXPANSION

Preserve opportunities to expand the Rapid City Regional Airport to the east, and support the development of facilities near the airport, in accordance with the Rapid City Airport Master Plan, that take advantage of air service and help expand the intermodal freight network.

TI-3.1E: LAND USE COMPATIBILITY

Support development that is compatible with freight operations, and encourage employment and industrial land uses in areas with high freight activity.

TI-3.1F: GRADE-SEPARATED CROSSINGS

Explore opportunities to upgrade or add grade-separated crossings of highways and/or rail lines to promote the safe and efficient movement of people and goods.

TI-3.1G: IMPACT MITIGATION

Minimize freight-generated impacts, such as noise, odor, or traffic on nearby uses through means such as landscaping, screening, buffering, hours of operation, and other measures.

Goal TI-3.2: Enhance regional freight connections.

TI-3.2A: RAIL NETWORK

Coordinate with railroad providers, the Rapid City Regional Airport, and other regional stakeholders to enhance the regional rail network to improve rail access and effectiveness for the region and to minimize rail impacts, such as noise and delays, to the local community.

**TI-3.2B: PORTS TO PLAINS**

Support and participate in planning efforts to connect Rapid City to the Ports to Plains highway corridor.

TI-3.2C: REGIONAL CORRIDORS

Collaborate with regional entities including Pennington and Meade Counties and the Metropolitan Planning Organization to extend and prioritize major corridors to improve regional mobility.

TI-3.2D: SHIPPING COSTS

Coordinate with local businesses and economic development organizations to understand the reasons behind high shipping costs to the City and to explore opportunities to reduce shipping costs and barriers.