

CHAPTER 3: CIRCULATION ELEMENT

The Circulation Element of the Santaquin General Plan is required by State Code and established to provide for the safe and efficient movement of people and goods in the City. Owing to the inter-connection of land use with transportation—the circulation element is arguably the third most important element of the General Plan after the Community Vision and Land Use Elements. Changes in one element, either the land use or circulation element, will undoubtedly effectuate changes in the other element. Close consideration should be given to the affects that a change in either element will have on the other element and any studies required to make a change should address both elements.

It is intended that this element mirror the Santaquin Transportation Capital Facilities Plan as it may be amended from time to time, in accordance with State laws pertaining to Impact Fee Facilities Plans.

INTRODUCTION

Each roadway, street and non-motorized transportation facility functions as a part of a larger network designed to create a logical and safe pattern for moving goods and people through the community. Each segment, or facility, in the network is highly dependent on many other segments. This system must meet the mobility needs of future residents, employees and visitors to Santaquin while maintaining a workable balance between the movement of goods and people with automobiles, public transportation, pedestrian facilities, bicycles and other non-motorized means and being sensitive to the built and natural environment. The city should consider how each new facility planned or constructed will affect the transportation and circulation system as a whole.

All future expansions must be planned and designed to be within the fiscal capacity of the city. These expansions must also maintain enough flexibility to evolve as needs and technology change. The location and design of any new facility should be integrated into the surrounding neighborhood and the community as a whole protecting the character of the city as changes occur. New transportation facilities should be designed to provide maximum durability and minimize maintenance costs.

Some of the streets in Santaquin City are under the jurisdiction of other public entities such as the State of Utah or Utah County and play a major role in the City's connection to the region and surrounding communities. Expansion or modification to these multi-jurisdictional systems, Main Street (Highway 6) in particular, can have dramatic affects on surrounding land uses and neighborhoods.

TRANSPORTATION FACILITY REVIEW CRITERIA

As new transportation facilities are planned or constructed within Santaquin City they will be reviewed for compatibility with the following key issues.

New Facility Review Criteria:

- Compatibility with Built Form
- Neighborhood Integration
- Protection of Environment
- Safety
- Maintenance
- Planning Priority

CHAPTER 3: CIRCULATION ELEMENT

Compatibility with Built Form

The transportation system of Santaquin City is strongly affected by the existing land use pattern and environment in which it occurs. Likewise, the future development pattern of the city is strongly affected by the development of the transportation system. As plans for transportation facilities are developed, efforts should be made to ensure that the facility and the desired future land use pattern are mutually supportive. The facility should reflect the desired future development pattern in scale, function and intensity.

Appropriate transportation facilities should service development patterns. Retail and commercial areas should be convenient not only for automobiles, bicycles and pedestrians, but should also include design for ample off-street parking, unloading zones, and access via public transportation. Residential areas should have facilities designed with safety, walkability, and function as the key concerns rather than cost. Parks and other recreational areas should be well served by trails and other pedestrian modes of transportation along with automobiles and transit service.

In-fill development facilities should be constructed in a manner which strikes an appropriate balance between existing transportation facilities and those planned for future use. Generally, new facilities should enhance and improve the existing system and not add to any existing deficiency in the current transportation system.

Integration into Neighborhoods

New transportation facilities should be designed to improve the mobility and circulation in existing neighborhoods, which may include pedestrian connections, trails, and appropriate block lengths and locations for public transportation connections. Smooth transitions, functional intersections, and safety will be given special consideration. All facilities should be completed in compatibility with the Transportation Capital Facilities Plan and with future desired development patterns in mind so development intended to use the same facilities will be adequately handled when built.

Protection of Natural Environment

While construction of any transportation facility will inevitably impact the adjacent natural environment, it is a goal of Santaquin City to minimize these impacts. Noise, air pollution, cuts and fills, and run off of oils and other pollutants are all concerns related to protection of the natural environment. These issues are of greater concern along the east bench and in developments with varied natural terrain.

Noise impacts can be reduced with appropriate speed limits, noise barricades or barriers, vegetation and berms, enforcement of local and endorsement of state and federal vehicular noise reduction regulations and methods, and appropriate facilities in heavy traffic areas for large trucks.

The reduction of air pollution can be aided by enforcement of local and endorsement of state and federal air quality regulations including emissions testing, reducing vehicular trips, and promoting non-motorized means of travel and mass transit.

CHAPTER 3: CIRCULATION ELEMENT

Cuts and fills should be minimized to the extent possible without jeopardizing safety of the facility. All cuts and fills should be properly repaired through the use of vegetation, retaining walls, decorative rip-rap, or other appropriate methods in accordance with the City and industry standards and specifications.

New facilities should be designed to filter out oils and other pollutants prior to their deposit into any water course. Grease traps and other means of cleaning run off pollutants should be included in all projects.

In addition to the concerns listed above, it is a requirement of Santaquin City to enhance the environment adjacent to transportation facilities with appropriate landscaping while limiting signs and other unnatural objects, which may distract motorists and thus cause a potential threat to public safety. Additionally, all transportation facilities should be kept in good repair.

Safety

Transportation facilities should enhance safety in the community. Circulation, simplicity, and maintenance should be addressed with safety in mind. The circulation system should provide each neighborhood with adequate access to police, fire and medical services. The transportation system should be designed so that visitors and other users unfamiliar with the city can easily find their desired locations. All new and existing facilities should be properly maintained to minimize the possibility of accidents and injuries. Pedestrian facilities should be properly lighted to reduce the possibility of personal crimes. Finally, proper signage should be placed throughout the community to control traffic and guide users.

Maintenance Responsibilities

Circulation facilities should be designed and constructed to minimize City maintenance costs not just provide for low cost installation. Where facilities are under the jurisdiction of the State, County or other public entity, the City shall work to enforce agreements for the ongoing maintenance of those facilities.

Planning and Priority of Facilities

All major construction and maintenance of transportation facilities should be included in the Capital Facilities Program of Santaquin City and planned to increase the effectiveness of each transportation dollar. If the city is required to prioritize transportation facility projects, the criteria should include safety, number of citizens that will receive benefit, and linkages between facilities.

FACILITY CLASSIFICATIONS

Important to the success of the Santaquin City transportation system is the need for an effective and complete hierarchy of roadways with transportation corridors and nodes, which reflect access management strategies and alternatives to corridor access. Each road or street and non-motorized facility in the community has been classified according to its intended use and capacity based on the City's buildout potential in accordance with the Land Use Element of the General Plan.

CHAPTER 3: CIRCULATION ELEMENT

Each of the following classifications represents a different type of roadway or street, or non-motorized facility. The classifications represent a local definition and description and are not intended to reflect any County, State or Federal definitions, but rather provide an effective method for designing a circulation system.

Circulation Classification

- Arterial Road
- Collector Road
- Major Local Road
- Local Road
- Rural Lane
- Trails
- Pedestrian

Arterial

An arterial street serves the transportation needs of not only residents of Santaquin City, but also for travelers moving through the community and on to other destinations. Access should be strictly limited on arterial facilities in order to preserve the best possible traffic flow. Developments should drain onto other collector roads before emptying onto an arterial and should not be designed to allow users to back onto arterial roads. Developments adjacent to arterials should provide adequate on-site parking, circulation routes and loading and unloading areas rather than utilize arterial roads for such.

Because these facilities are designed for carrying greater amounts of traffic, pedestrian facilities such as sidewalks, trails and paths should be separated from the traffic flow through the use of planter strips, detached sidewalks and landscaping. Elementary schools should not be located on arterial streets without additional precautions being taken to assure student/pedestrian safety.

Collector

A collector typically serves the transportation needs of the residents of Santaquin City. Although collectors are meant to service mainly residential development, they also serve to provide transportation routes to residential support uses such as parks, churches and schools. Associated pedestrian facilities should be designed to link with other sidewalks, trails or paths to make all services in the community accessible to pedestrians.

Access should be limited where possible on collector facilities in order to preserve traffic flow and promote safety. If possible, subdivision lots should internally drain onto major-local or local roads before merging with collectors. If possible, private driveways should be avoided on collectors, and special design features such as shared, circular or hammerhead driveways should be considered.

Because these facilities are generally designed for carrying greater traffic than major-local and local streets, pedestrian facilities such as sidewalks, trails and paths should be separated from the traffic flow through the use of planter strips, detached sidewalks and landscaping. Developments adjacent to collectors should provide adequate on-site parking, circulation routes and loading and unloading areas rather than utilize collector roads for such.

Major-Local Street

A Major-Local Street serves local residents. Its design allows for slow traffic and safety while accommodating on-street parking of guests or visitors to residential dwellings. Non-motorized access is a part of the local system and such facilities should link to other sidewalks, trails or paths to

CHAPTER 3: CIRCULATION ELEMENT

make all services in the community accessible to pedestrians. Pedestrian facilities should blend into the system and be a key part of the transportation review of a proposed subdivision. The pedestrian facilities should be not attached to the street curb, but separated by a planting strip with large canopy trees. The street design should be narrower for the travel lanes and parking lanes and should have traffic calming elements to keep travel speeds low.

Local Street

A Local Street serves neighborhood residents. They are intended to be an element within a neighborhood but not an intrusion or dividing factor between residents. Its design allows for slow traffic and safety while accommodating on-street parking of guests or visitors to residential dwellings. Furthermore, the design acknowledges the high amounts of pedestrian traffic in neighborhoods by incorporating sidewalks, street trees, traffic calming elements, etc. These roads should be designed to discourage through traffic with the use of traffic signs or other appropriate means.

Rural Street / Country Lane

A rural street may be appropriate in areas where vehicle trips are less than 100 per day and the surrounding uses are more agricultural in nature. These roads may include gravel or asphalt surfacing with drainage swales rather than curb and gutter along shoulders. Natural shoulder areas would be maintained for drainage and may be appropriate areas for pedestrian or equestrian travel. It is recognized that development along these roads will likely occur in the future and would necessitate the installation of facilities found on local streets. City development standards and zoning requirements will need to address this conversion time frame or events.

Trails and Paths

Trails and Paths are utilized by non-motorized commuters, tourists, recreationists, and neighborhood users. They can provide access to major retail and recreational facilities in the city, but also provide linkages to regional and state non-motorized transportation systems. They may include amenities such as park benches, landscaping, exercise stations, wayfinding signs, etc. Details about the location and types of trail facilities are found in the Parks and Recreation Master Plan.

Pedestrian Facilities

All of the above circulation facilities should incorporate facilities to address pedestrian needs and neighborhood connectivity. Safety of pedestrians shall always be the primary concern of the city in approving pedestrian facilities in a new development.

FUNCTIONAL DESIGN

Each road in the city is assigned a functional class, which is detailed in the City's Transportation Plan. Examples of level of service for each class are shown in Table 1, below. If a proposed new facility will have a negative impact on the existing system, which would cause traffic loads to occur

CHAPTER 3: CIRCULATION ELEMENT

beyond the currently planned or built facilities, the applicant will be required to address the impact by upgrading existing facilities to meet new demand caused by the development.

In order to determine when a transportation facility has reached its intended capacity and should be expanded or a new facility should be constructed, the city has adopted a level of service for the functional class of each facility in the community. Table 2 describes these levels of service.

Table 1: Functional Class Levels of Service

Functional Class	Adopted Level of Service	Example Roads
Arterial	D or Better	Center Street, Summit Ridge Parkway
Collector	C or Better	Highland Dr., Summit Ridge Parkway (west of railroad tracks), 400 East
Major Local	B	200 North, 200 South
Local	B	General neighborhood streets

¹See Table 2 below

Table 2: Description of Level of Service.

Level of Service	Traffic Flow	Service Description
A	Free Flow	Posted speeds attainable with very little or no interference between vehicles.
B	Stable Flow	Posted speeds attainable with minor amounts of delay and interference. Smooth traffic flow.
C	Less Stable Flow	Posted speeds attainable with periods of delay during peak hours. Congested flow during peak periods of traffic.
D	Approaching Unstable Flow	Posted speeds not attainable during peak periods of traffic. Significant congestion during peak periods of traffic.
E	Unstable Flow	Posted speeds not attainable during peak periods of traffic. Intersection failure and heavy congestions in peak periods.
F	Forced Flow	Heavy congestion even during non-peak periods of traffic. Intersection failure most of the time.

PUBLIC TRANSPORTATION

Santaquin joined the Utah Transit Authority District in 2010, which allowed public bus services to begin in 2011. There is one bus route in Santaquin with 5 bus stops along Main Street and a park and ride lot at the LDS church located at 45 S. 500 W. In addition to bus routes, UTA provides for flex-trans and van-pool options for persons who desire to use a UTA van for carpool purposes during the week.

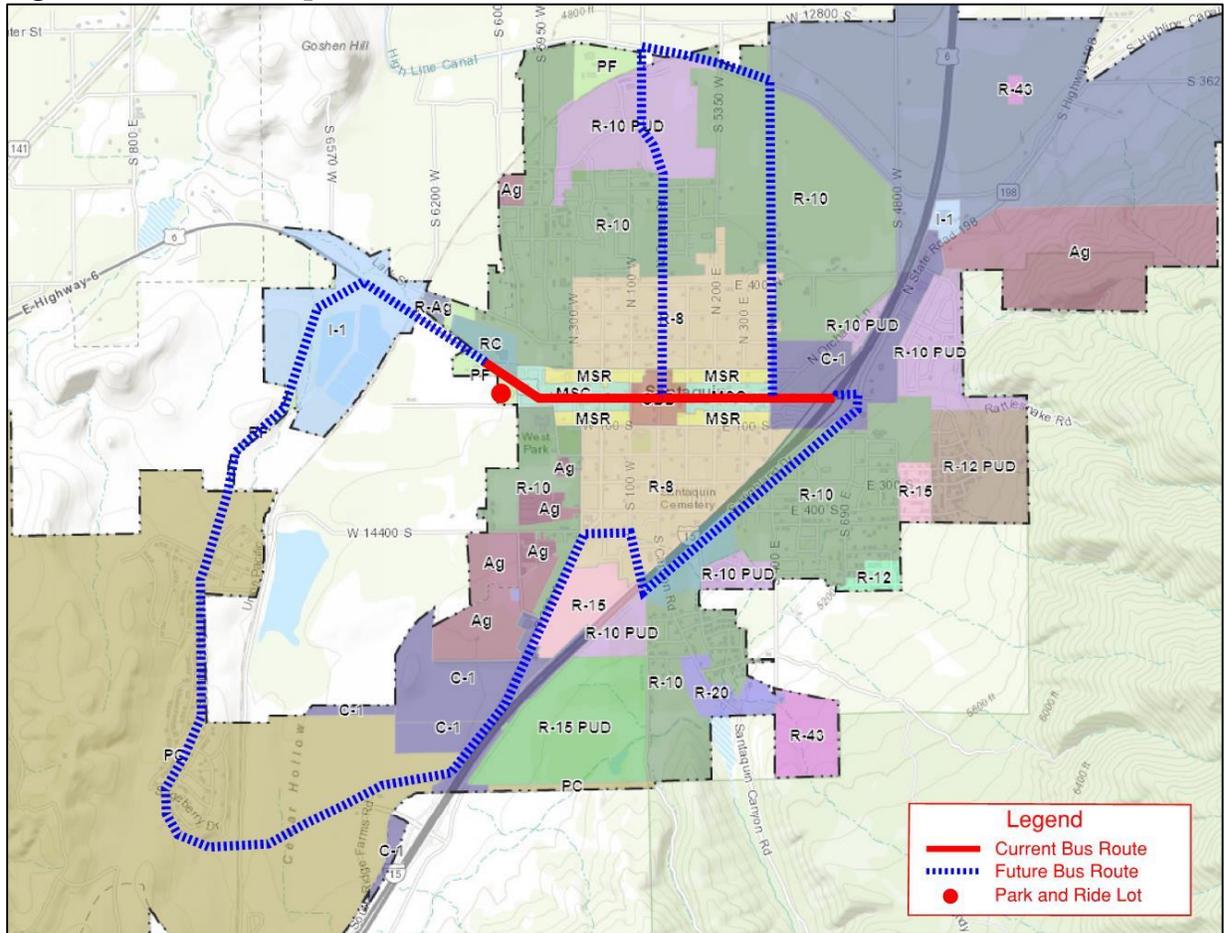
Santaquin City would like to see a front runner station in the city so commuter rail can service Santaquin City residence. This commuter rail system will travel along the Tintic line corridor and

CHAPTER 3: CIRCULATION ELEMENT

then will need to run new track until it can meet with the Union Pacific freight line to head towards Nephi. Santaquin owns 35 acres for an end of the line station near the Summit Ridge Development and some of the corridor needed to bring the line to that land. Additional corridor needs to be purchased or reserved to assure the commuter rail system can make it to Santaquin.

Santaquin City needs to work with UTA on establishing a more effective bus route that will be centered around the cities major transportation corridors and be accessible to more Santaquin City residents. The major transportation corridors are located next to commercial/employment centers and high density housing.

Figure 2: Public Transportation Plan



TRANSPORTATION MASTER PLAN

Santaquin City is a growing community with undeveloped land on all sides. It is anticipated that population growth will continue along the major transportation corridors. Santaquin City also anticipates economic development that will provide economic opportunities along these corridors.

As the community continues to expand in population and employment opportunities, new transportation facilities will need to be constructed in order to maintain an efficient and effective motorized and non-motorized transportation system. Once a development is proposed which could adversely effect the transportation and circulation system, either the whole system will need to be adjusted or in some cases even demolition of the structure will need to occur. In either case,

CHAPTER 3: CIRCULATION ELEMENT

development approval without considering long term effects can prove costly to the community. A Master Transportation Plan map has been prepared to help anticipate some of the impacts of development.

The primary purpose of the Transportation Master Plan is to balance future demands generated by population and employment growth with future roadway improvements, thereby developing a long-range circulation system plan which would efficiently support future land development. The Transportation Master Plan identifies future transportation corridors and designates the functional class of each facility. Exploratory facilities, as shown on the circulation map of this element, are intended to represent future corridors or possible transportation routes that ought to be preserved when adjacent lands are developed. A number of methods for financing and construction of these facilities can be utilized, including exactions, impact fees, capital improvements programming, and cooperation with other appropriate government entities such as the Utah Department of Transportation and Utah County. The design of such roads will need to be evaluated at the time adjacent lands development. The Transportation Master Plan should be reviewed prior to any development approval, including issuance of a Building Permit.

Appropriate use of Santaquin's long-range Transportation Master Plan should be to:

1. Secure right-of-way prior to or concurrent with land development.
2. Determine if outlying potential development could degrade existing streets, and consider actions to limit or concentrate future land-use densities, if required.
3. Anticipate long-range financial demands and search for additional methods of street improvement funding.
4. Verify that a comprehensive transportation process has been completed as is often required when applying for federal or state transportation funds.

Thus, recommendations of the long-range Transportation Master Plan should be noted, but actual improvements would be tied to future growth.

GOALS AND POLICIES OF THE CIRCULATION ELEMENT:

Goal 1 To have a balanced circulation system which provides for safe and efficient movement of vehicles and pedestrians.

- Policy 1 Ensure that all roadways in the community have properly designed surfaces and drainage facilities which are in adequate condition.
- Policy 2 Provide for safe and convenient bicycle and pedestrian movement.
- Policy 4 Intersections should be located at intervals which maximize street capacities, provide necessary access, and allow for pedestrian connectivity between blocks and neighborhoods.
- Policy 5 Provide access to schools, parks and churches without requiring automotive travel.
- Policy 6 Minimize non-local and commercial traffic within residential neighborhoods.

CHAPTER 3: CIRCULATION ELEMENT

Goal 2 To have a circulation system which reinforces surrounding land development patterns, and enhances regional circulation facilities.

- Policy 1 Coordinate land-use and circulation planning to maximize the land development opportunities created by major transportation routes and freeway exits within and around Santaquin.
- Policy 2 Design an adequate thoroughfare system within future growth areas and designate sufficient rights-of-way prior to land development or through the plan approval process.
- Policy 3 Protect arterial street traffic flow through management of access points to adjacent land-uses.
- Policy 4 Ensure that decisions regarding future land development and roadway construction are closely coordinated and mutually supportive.
- Policy 6 Existing streets should be upgraded to minimize congestion. Where congestion can be attributed to new construction, needed improvements should be the responsibility of the developer.
- Policy 7 Minimize localized traffic congestion and operational problems.

Goal 3 To have a circulation system which is harmonious with the natural environment and an enhances the aesthetics of the City.

- Policy 1 Improve the overall design and appearance of roadways within the community through the use of parkstrips, street trees, decorative lighting, etc.
- Policy 2 Ensure that circulation facilities are designed and developed in harmony with the natural environment and adjacent land uses, including protection of hillside areas, culturally or historically significant properties, etc.
- Policy 3 Develop standards for cuts and fills for new roads as well as reclamation and stability of hillsides after road construction is completed.
- Policy 5 Develop streetscape standards for gateway roads, major thoroughfares, and around commercial centers.

Goal 4 To cooperate appropriately with other public and private agencies in the provision of convenient public transportation services within Santaquin, and between Santaquin and other nearby destinations.

- Policy 1 Santaquin will coordinate with the Mountainland Association of Governments for long range transportation planning efforts.
- Policy 2 Work with all appropriate agencies to assure adequate and appropriate design or modifications of multi-jurisdictional roads will further the goals and policies of this

CHAPTER 3: CIRCULATION ELEMENT

General Plan.

- Policy 3 Become part of regional transportation districts that can service the Santaquin area.
- Policy 4 Work with and support regional transportation initiatives, e.g. commuter rail, bus rapid transit (BRT), carpool services, etc.
- Policy 5 Plan for Commuter Rail Stations within Santaquin and work on right of way corridor preservation with Utah Transit Authority. Coordinate a land use plan for a Transit Oriented Development at the station location.

Goal 5 To provide an economically feasible circulation system.

- Policy 1 Private development participates in major street system improvements through street impact fees, dedication of land, and construction of facilities.
- Policy 2 Where congestion can be attributed to new construction, needed improvements should be the responsibility of the developer.
- Policy 3 Work with all appropriate agencies to assure adequate and appropriate design or modifications of multi-jurisdictional roads will further the goals and policies of this General Plan.
- Policy 4 Implement road design and construction standards which utilize historically adequate drainage patterns and resources rather than construct hard surface areas uncharacteristic of rural areas.

Goal 6 To provide a circulation system which enables the establishment of major commercial or business park developments.

- Policy 1 Ensure adequate access to and circulation around commercial and industrial areas, public facilities, and other activity centers.
- Policy 2 Provide for the safe and efficient movement of trucks and service vehicles within the community in a manner that does not adversely affect nearby land-uses, including but not limited to weight restrictions and signage.

Official Circulation Map

The following Circulation map and those neighborhood or area specific master plan maps incorporated into this document shall constitute the official Circulation map of the Santaquin General Plan. These maps shall be effectual in directing the establishment of policy and development practices throughout Santaquin City. Enforcement of these maps shall be as established in the Santaquin City Municipal Code and as allowed under Utah Code Sections 10-9a.

CHAPTER 3: CIRCULATION ELEMENT

