

PARKING UTILIZATION ANALYSIS AND RECOMMENDATIONS



Section Overview

This section of the report addresses available parking capacity and parking utilization patterns in Springdale. The analysis and recommendations in the other sections of this report are closely tied to those in this section, including visitor orientation and wayfinding to and from parking (Section 2), and pedestrian access to and from parking (Section 4).

Objective of Analysis

The primary objectives of this analysis have been to clearly understand and analyze parking capacity and utilization patterns during peak periods and to identify the full range of issues affecting parking use in Springdale.

Analysis Approach

The consultant team analyzed two separate sets of parking utilization data collected in 2007 by the NPS transportation scholar and the Springdale Parking Committee. In addition, members of the project team monitored areas

that had been identified as available for shared use by the community and park visitors. This monitoring occurred concurrently as the other field work conducted as part of this technical analysis.

Although it was originally thought that the team would be monitoring twelve high use parking areas, we actually extended the monitoring to cover all known shared parking areas throughout the town. The field work focused on the following observations:

- Was the parking identified or signed?
- Are “no parking” signs posted there that would deter visitor parking? (no parking signs existed in several locations)
- Was the availability of the parking area for visitor use readily apparent and was the location for parking clearly perceptible?
- Could visitors find their way to their desired location?



New upper parking area, recently paved and improved near entrance to Giant Screen Theater and Visitor Center complex



"No parking" signs are posted in many locations in Springdale.

- For areas being actively used, how full were these areas throughout the two-day monitoring period?
- What was the condition of the pedestrian route to and from the parking area?

Results of these field observations are summarized on the Streetscape, Shuttle Stops, and Parking Inventory Sheets provided in Appendix A.

After the field work, the consultant team further analyzed the data and information collected to prepare this report of observations, findings, and recommendations.

Observations and Findings

The following observations and findings were developed from field review of existing conditions (approach discussed above), meetings with Springdale Parking Committee representatives, and review of parking use data collected in 2007 and the technical report entitled Assessment of Parking in Zion Canyon, completed in 2007 by Jeff De Bellis Zion National Park Transportation Scholar.

Springdale Parking Committee Activities

The Springdale Parking Committee is made up of representatives from the planning commission, town council, town staff, and Zion National Park staff, who are tasked with working on parking issues in town. The town adopted a general plan update in December 2005 with the key theme being to preserve and promote a village atmosphere in town. Thus, there is a focus in Springdale on promoting a pedestrian oriented and walkable town.

The parking committee is interested in resolving the parking issues that occur in Springdale in the busy months of the tourism season, particularly during busy weekends. There are many issues, described in this section, that are contributing to congestion creating problems for visitors, residents, customers, and business operations.

Due to a lack of available funding, the parking committee is challenged to develop additional parking areas in town. A few property owners have expressed interest in providing parking for the shuttle in their proposed developments.

However, since agreements are typically informal, it is difficult to determine the longevity of such agreements. Ideally, the committee would prefer to make use of existing parking by providing clear direction to parking areas and shuttle stops. They have also considered the possibility of one large park and ride lot with a comfort station, but have concerns regarding the visual impact this would create.

Other action items the parking committee is considering include campaigning Zion National Park as a “Car Free Vacation” and increasing public relations with business owners.

In addition to parking, the committee is interested in increasing connections for other types of mobility, such as biking and walking. A multi-use trail is currently in the planning stage to connect Rockville to the Zion National Park main gate. Bike lanes and sidewalk improvements would contribute much value to a car free experience in Springdale. See Section 4 for the multi-modal connectivity analysis and recommendations.

One of the main issues compromising the village atmosphere and walkability is the congestion and confusion in town created by cars backing up at the park gate. This congestion could be reduced if visitors are informed beforehand of where to park in town. The parking committee has implemented a number of temporary and permanent actions to help reduce this congestion and confusion and to improve conditions related to parking in general. These measures, which include enhanced signing to clearly communicate where visitors are to park in Springdale, are described in more detail in Section 2. The parking committee is committed to continuing to work toward resolving parking problems in town and would be a good committee around which to form a broader “Zion Canyon Transportation Committee” to address the full range of issues and needs related to the Zion Canyon transportation system in addition to parking.

Field Observations Related to Parking

Data collection and analysis have confirmed that there is more than sufficient parking capacity throughout Springdale through parking areas that are available for shared community and



“Shuttle parking” sign



On-street parking on Lion Boulevard



NPS staff directing visitors to parking area



Parking lot behind Pizza & Noodle

park visitor use. However, there are several issues related to the parking system that are contributing to its inefficient use:

- Many of the parking areas available for public and park visitor use are not well identified, marked, mapped, or otherwise made known to people. Incoming visitors simply do not have a clear understanding of where to park in Springdale (particularly first time visitors). Many of the available parking areas are “invisible” to northbound travelers. Parking needs to be more visible and more identifiable upon entry to Springdale and as you proceed through town.
- Many business parking areas display “No Shuttle Parking” or “Customer Parking Only” signs. Nothing clearly identifies available parking areas or indicates what to look for. For example, The Pizza and Noodle business currently allows shuttle riders to park, but the lot is set back from the highway and is only identified with one park and ride sign on the highway. From this sign it is not clear where visitors are to park.
- Visitors seem to want to continue to drive through town all the way to the park gate. They do not have a sense of arrival in Springdale, that they are “there,” until they have reached the gateway to Zion National Park. Currently nothing exists that prompts them to pull over and find a place to park to ride the shuttle.



Park gateway sign

- Related to the observation above, visitors need to be made more aware that their national park experience begins upon entry to Springdale. As part of their park experience, visitors need to be made comfortable that they can leave their car at a parking area and ride the shuttle to the park in a convenient and efficient manner.
- The back up of cars at the gate causes congestion which degrades the park experience. Due to the lack of direction for parking in Springdale and because drivers continue all the way to the gate, a large amount of traffic will become backed up. Ideally, visitors should be able to enter the park at ease without the added stress of getting trapped in a line of traffic. This congestion also creates problems for the local community, making it difficult to get to destinations in town on busy weekends.
- Although there is some advance information that encourages people to park in town and ride the shuttle (including displays at the Virgin roadside pull off, small signs upon entry to town, information posted on the Internet, and the 1610 radio message), visitors still aren't getting the message that the preference is for them to park in town and ride the shuttle. Some of the means for conveying this message are not clear or are confusing. This message needs to be broadcasted more clearly, and widely and repeated often through various means. People need to be told and



A motorist turns back at the “parking lot full” sign near the park entrance.



The Desert Pearl vacant lot is sometimes designated for shuttle parking with a temporary sign.

shown very specifically where they can park in Springdale. See Section 2 for more information.

- Formal use agreements (memorandums of agreement) with private property owners do not exist, and there appears to be a lack of clarity about who has agreed to allow public parking and who has not. Also – these informal agreements and arrangements are subject to change when properties and businesses turn over.

Parking Survey Results

The Springdale Parking Task Force surveyed the usage of all existing private and public off-street parking areas in the town on April 7, May 22, May 26 (the Saturday of Memorial Day weekend), July 3, and July 25, 2007. See Figures 3-1 and 3-2 for parking area locations. Figure 3-3 illustrates the amount of total parking available at each parking area.

Parking areas were checked at 10:00 am, 1:00 pm, 4:00 pm and 7:00 pm. This survey showed that even during one of the busiest times of the year (Memorial Day weekend), Springdale parking areas still had plenty of capacity:

10:00 am	Parking areas were 48.1 % full
1:00 pm	Parking areas were 49.6 % full
4:00 pm	Parking areas were 61.5 % full
7:00 pm	Parking areas were 63.5 % full

Figure 3-4 shows the parking area usage

on Saturday, May 26, 2007 (Memorial Day weekend). Figure 3-5 shows the parking area usage on Wednesday July 25, 2007.

On the other days surveyed, parking utilization ranged from 24 to 47 percent depending on the time of the survey. During field observations August 6-9, 2008, it appeared that the on-street parking on Zion Park Boulevard was less than 20 percent utilized. On Lion Boulevard less than 50 percent of available parking was utilized during the peak period of visitation.

Parking capacity is available, but visitors are not always using it. Many visitors who approach the gate for entry into the park are turned around and directed to nearby parking areas, such as Lion Boulevard. Many of these visitors have stated they were unaware of where they should park to ride the shuttle.

Parking Capacity and Efficiency

There has always been a synergistic relationship between Zion National Park and the town of Springdale. The millions of visitors who come to the park annually bring substantial direct and indirect economic benefits to the community. However, visitation levels also require extensive management and resources on an ongoing basis from the National Park Service, the town of Springdale, the Utah Department of Transportation, and others.

When shuttle service was initially established in 2000, there was a general understanding that park visitors would leave their cars at

hotels and parking areas in Springdale and ride the town shuttle to the visitor center plaza to transfer to the park shuttle. Town representatives recognized the benefits and opportunities of visitors parking, walking, and riding the shuttle in proximity to businesses. It was also understood that leaving cars at parking areas in town would result in less traffic congestion on the town's limited road network. These benefits have clearly been realized and continue to occur each year.

In spite of the ongoing benefits of the park and ride relationship between Springdale and Zion National Park, traffic congestion in town has been increasing, particularly near the park entrance at the north end of town (as noted in the above discussion). Questions about the level of parking available in town have been raised, and some hotels and businesses previously supportive of visitors parking at their establishments to ride the shuttle have recently put up "no parking" signs. These issues have raised the need for a careful evaluation of parking capacity and problems related to parking so that effective solutions can be identified and implemented.

Although this technical analysis has confirmed there is ample parking capacity in Springdale to serve park visitors, many of these areas are "invisible" or unknown to visitors coming into town – particularly first time visitors. Many

visitors are confused about how and where to park and ride the shuttle and how to make the connection to the park shuttle. Visitors often drive right up to the gate, without realizing they should leave their cars in town. Another issue is that property owner agreements for providing parking are not formalized and should be in order to ensure ongoing certainty and reliability of parking areas for visitors.

Recommendations

A variety of solutions can be pursued to improve parking efficiency and help people understand where to park. Some lower cost solutions could be implemented right away. Other more intensive solutions, such as adding new parking areas either inside or outside the park, would take time to implement.

Lower Cost Solutions

- Consider more intensive management and focus on higher capacity parking areas available in town. Key candidates include Lion Boulevard, the Desert Pearl vacant lot, on street parking, and at Majestic View Lodge. Community should spearhead and organize a system to provide best outcome. For example, if the existing Desert Pearl parking lot were to be improved, it could hold approximately 85 vehicles.



If improved, the Desert Pearl parking lot could hold approximately 85 vehicles.



Visitors at the Majestic pull off



Downtown Springdale

- Intensify visitor wayfinding and communication efforts. This is described in further detail in Section 2.
- Formalize parking use agreements with property owners and confirm exact locations and quantities available for visitor parking.
- More heavily promote the shuttle system and park and ride opportunities through local businesses, hotels, and community venues. A strong campaign using a variety of communication media, tools and strategies should be implemented to encourage people to park and ride the shuttle and clarify where parking is available. Television, websites, podcasts, and radio are excellent forms of communication that could be implemented. These tools are described in further detail in Section 2.
- Initiate a community-based “parking ambassadors” volunteer program. Motels, hotels, and other town representatives need to be more active in encouraging visitors to use parking in town. Analysis needs to identify potential tools and strategies to help business owners improve outreach to visitors related to parking and shuttle use. (Engage them in the new campaign.)
- Identify locations in Springdale for visitors to learn about parking and shuttle (kiosks).
- Continue the Springdale Parking Committee efforts.
- A detailed plan for parking management and use by park visitors should be developed, building upon the 2007 parking study completed by the park’s transportation scholar and the work of this study.
- Zion National Park should appoint either a full time or part-time transportation specialist to act as the liaison with the shuttle service contractor as well as the parking coordinator with town representatives. This position with Zion National Park would have several responsibilities, one of which would be to secure memorandums of agreement from business and property owners related to visitor use of their parking areas.
- In order to improve the efficient and effective use of parking in Springdale, signing and wayfinding to, from, and at parking areas and shuttle stops needs to be clarified and made more distinctive. See Sections 2 and 6.
- There is an existing wide pull off area just south of the Majestic shuttle stop that could serve as a pull off/orientation point for visitors. Perhaps a small kiosk or gatehouse with the NPS logo and a welcome to Zion National Park sign could be located there. This would also enhance the sense of entry to Springdale and Zion National Park.
- The use of various ITS applications – including electronic message signs

(sensitively designed to fit the context of Springdale) – should be considered. See Section 2.

- See Section 2 for additional recommendations related to signing, wayfinding, and visitor communications.

Zion National Park and Springdale, as well as other members of the Springdale Parking Committee, should monitor the effectiveness of these solutions as they are implemented, and make adjustments as needed.

Higher Cost Solutions - Potential New Parking Areas

Are More Visitor Parking Lots Needed? As the parking utilization analysis shows, there is more than sufficient existing parking capacity in Springdale to serve park visitors. However, it is clear from analysis of parking data and observations of conditions in Springdale, that visitors are not fully utilizing the parking that is available. In some cases, visitors are unaware of where to park. In other cases, they are following a natural inclination to drive right to the park gate without stopping in town to find a place to park. There is a possibility that these issues can be resolved through better communication and signing (as discussed in Section 2) and the recommendations above. However, with increases in visitation in the coming years,

more people driving to Springdale and Zion National Park will be needing places to park, and there will be more pressure more pressure on town businesses to provide parking for their customers. As such, now is a good time to start planning for and thinking about how to sensitively expand parking inside the park and/or in Springdale. Potential new parking areas have been depicted in Figures 3-8, 3-9, and 3.10 at the end of this section.

Zion National Park is interested in increasing the capacity of parking inside the park near the visitor center and has identified an area where approximately 200 vehicles could be accommodated. They have also identified another smaller area in the campground where additional overflow parking could be accommodated. Zion National Park management foresees that adding this parking would reduce some of the problems with visitors parking in unwanted areas of Springdale and parking congestion that occurs in the vicinity of the gate on busy days.

There are also some areas in Springdale that have been identified as possible locations for visitor parking, such as additional area along Lions Boulevard and an area off of Elm Street on the west side of SR 9.

Another possibility for improving parking capacity in town includes formalizing the vacant lot near the Desert Pearl, which is now used



One of the potential parking areas in Springdale is open land on south Paradise Road



by park visitors, but parking patterns on the existing dirt lot there are not very efficient. If this area were reorganized paved (perhaps with a pervious paving materials) and parking spaces clearly delineated – through wheel stops and/or striping, it is estimated that 85 cars could be accommodated here.

On Lion Boulevard, more capacity could be gained with the on-street parking areas by parking cars diagonally (at a 45 degree) angle along the street rather than horizontally on at least one side of the street. The street is wider than it needs to be to accommodate local traffic. This would increase capacity from __ spaces currently to approximately __ spaces.

These opportunities will need to be further assessed and reviewed in more detail as planning continues in the coming year. A few considerations related to the ongoing assessment of where to add parking are provided below. In the near term, it is recommended that the park and town representatives focus on some of the lower cost solutions listed above to better orient visitors to available parking areas in town. The Zion Canyon Visitor Bureau has expressed interest in assisting with some of these activities.

However, it will take time to obtain funding and go through the design, environmental approvals, and construction process to build a new parking area. So in the interim, other parking management activities will be needed.

Several suggested locations for new parking areas were offered during this process – including areas in the park (such as adjacent to the bus operations center and visitor center) and areas in Springdale (such as an area off of Lion Boulevard and vacant pasture lands).

If it is ultimately determined that more parking is needed to serve visitor demand, potential locations both inside and outside the park should be further evaluated. The following important considerations factor into the evaluation of potential new parking improvements. See Figures 3-6, 3-7, and 3-8 for identified potential parking locations.

Inside the Park

- No land acquisition would be required (less costs).

- The NPS would be responsible for maintenance of the parking area.
- With any new parking and access improvements, it must be demonstrated that there would be minimal effects to park resources and that a full range of alternatives have been considered in compliance with the National Environmental Policy Act (NEPA).
- More traffic going through the gate at peak periods of visitation may cause further delays unless the entrance area could be reorganized to allow through movement of vehicles with passes, and/or a fast pass or pre-visit pass purchase program could be implemented. It will be important to resolve the issue of shuttles being stuck in the traffic queue (discussed in Section 5) prior to adding more parking in the park.
- Adding parking inside the park may reduce interactions with town businesses and may reduce the amount of service needed for the town shuttle route.

Outside the Park

- Land acquisition through a willing seller agreement would be required (higher costs).
- Either the town or another entity would need to be responsible for maintenance of the parking area unless a cooperative agreement with the NPS is established.
- NEPA compliance may still be required given the purpose of the parking as relates to park shuttle access and/or funding sources.
- The potential for impacts to adjacent properties (visual, noise, etc.) would need to be carefully considered.
- Candidate locations should not require changes to shuttle route (should be within easy walking distance from a town shuttle stop).

Under either scenario (inside or outside the park) there are a variety of funding sources available, but given current federal economic conditions, some funding sources may be limited.



- Potential Areas for New Parking Outside the Park
- Potential Areas for New Parking Inside the Park
- Existing Parcel Boundary
- Zion National Park Boundary

Feet
 0 355 710 1,420

Figure 3-5. Potential Springdale Parking Locations (South)

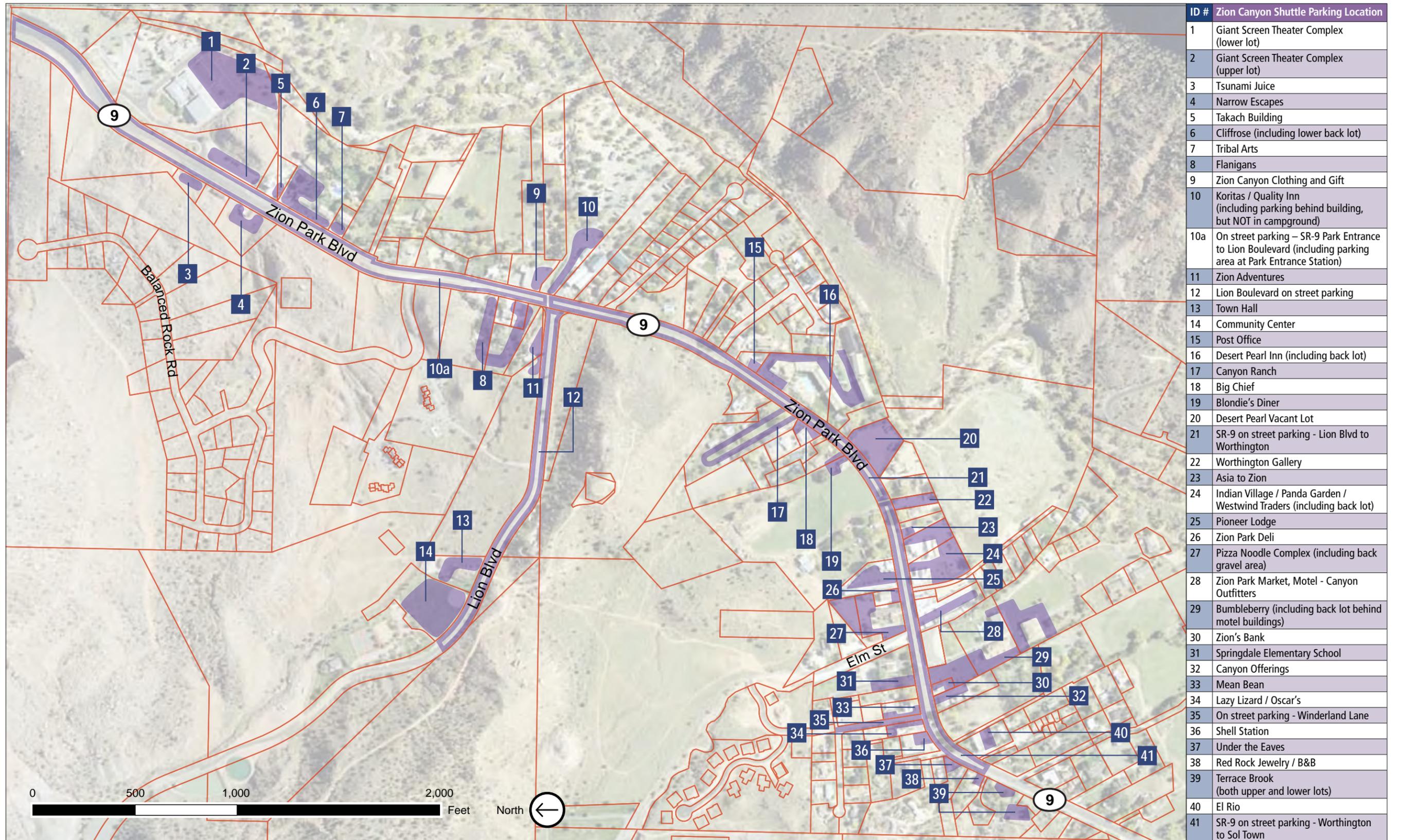


Figure 3-1. Town of Springdale Shuttle Parking Locations (North)

ID #	Zion Canyon Shuttle Parking Location
42	Bit and Spur
43	Zion Park Inn
44	Zion Rock and Gem
45	Bike Zion
46	Quality Inn and Suites
47	Driftwood (including back and side lots)
48	Chevron
49	LDS Church
50	River Park
51	Majestic View (both sides of SR-9)

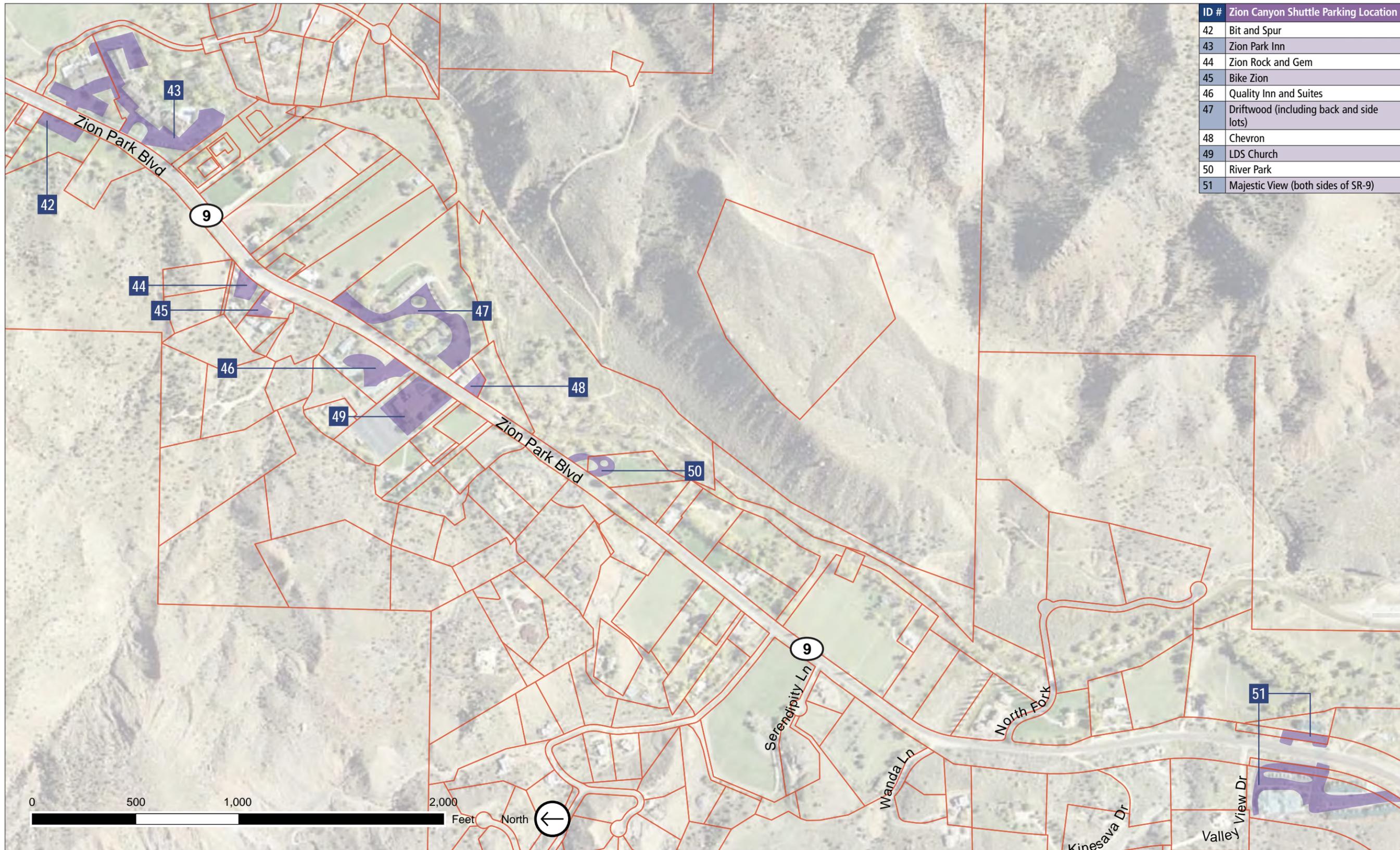
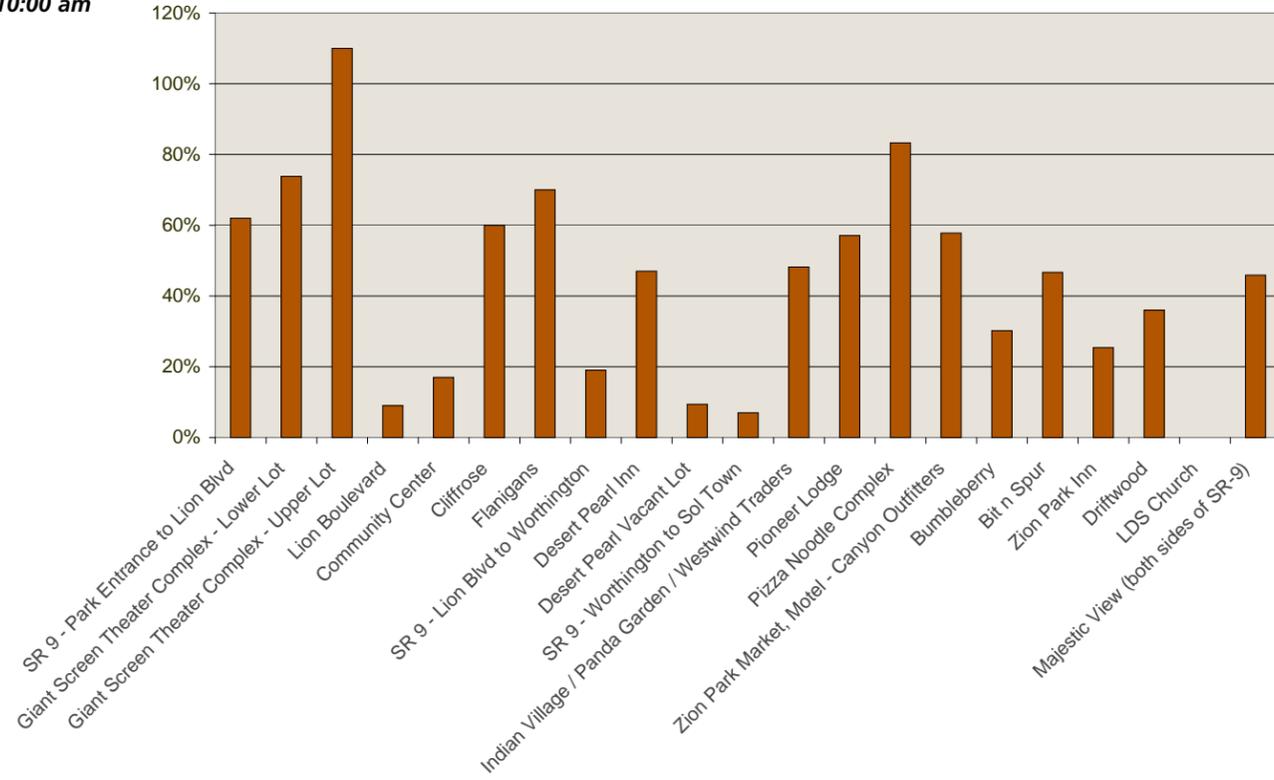
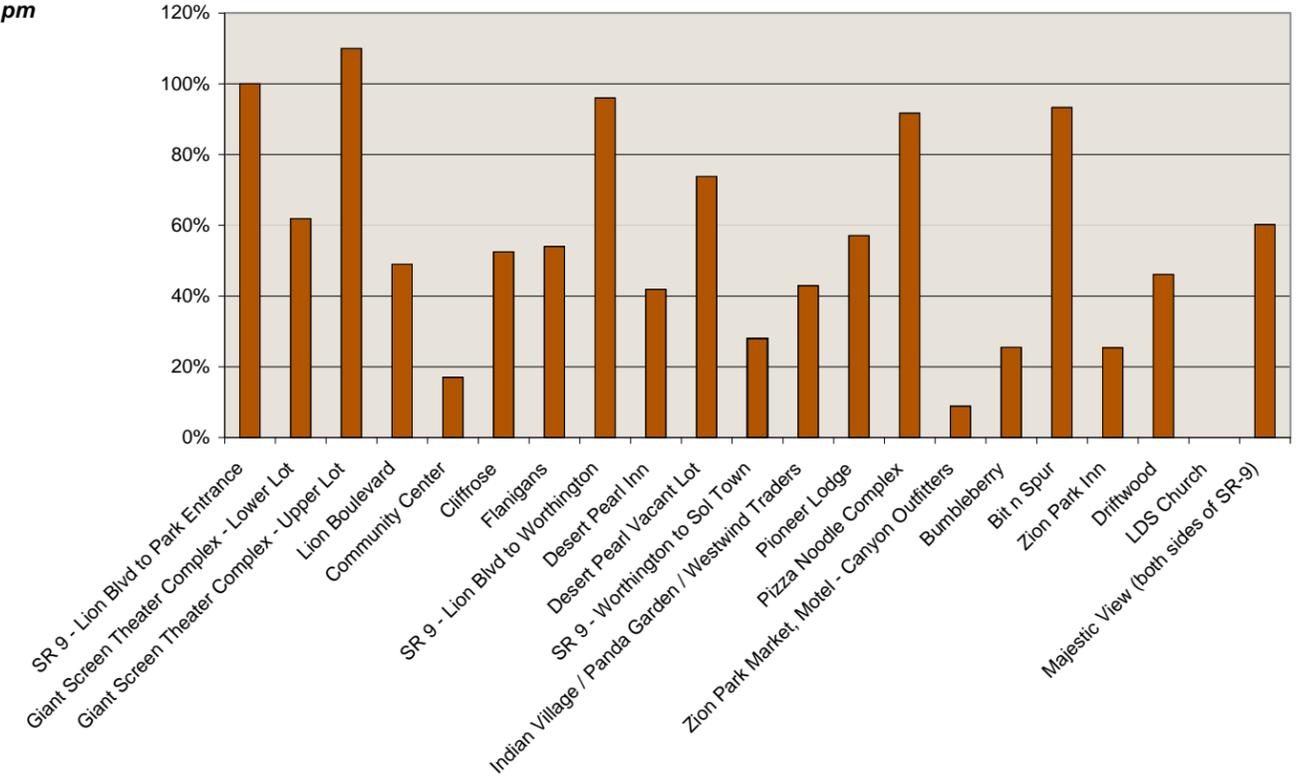


Figure 3-2. Town of Springdale Shuttle Parking Locations (South)

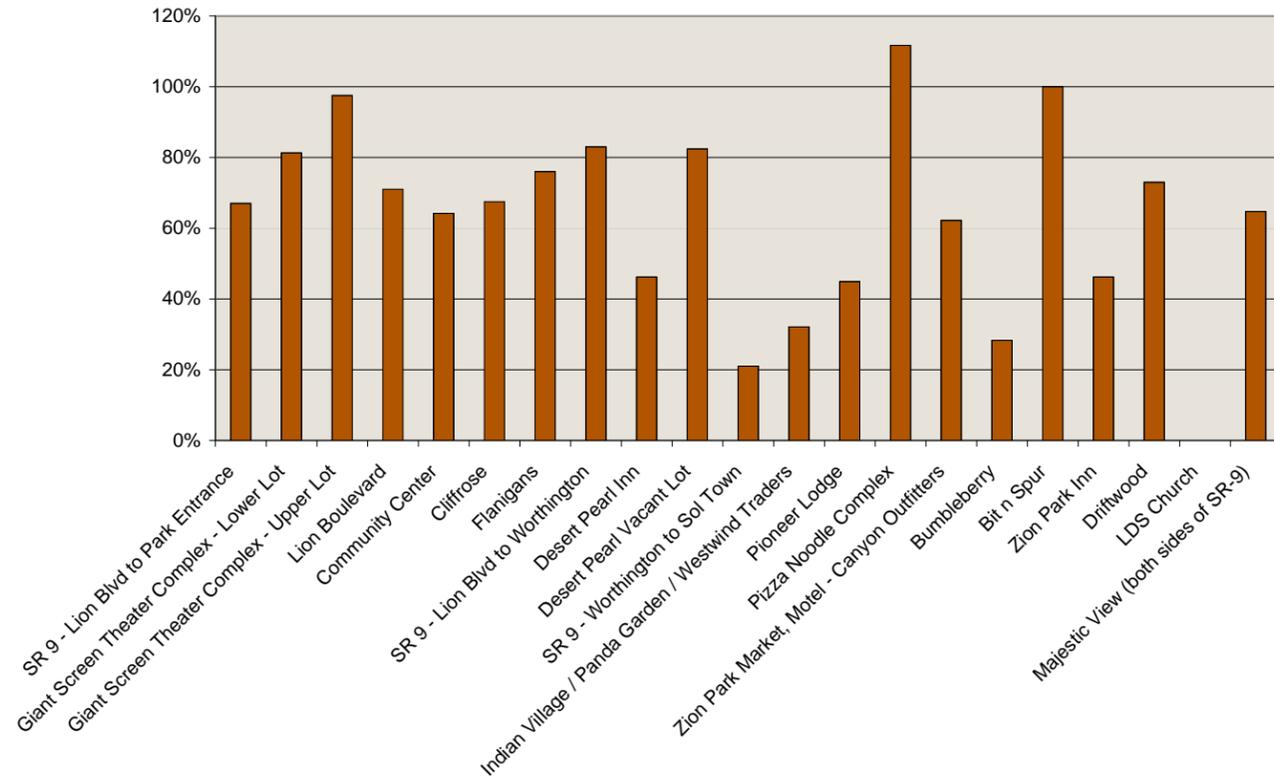
10:00 am



1:00 pm



4:00 pm



7:00 pm

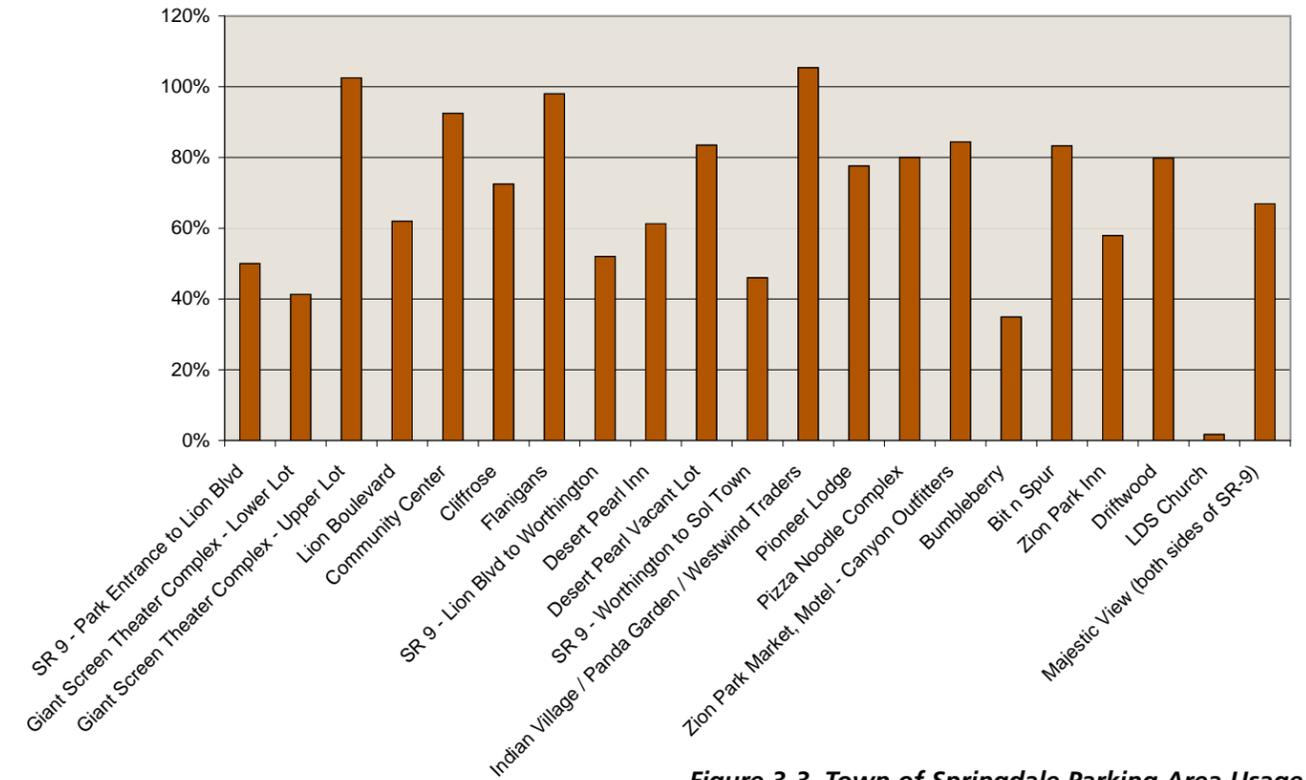
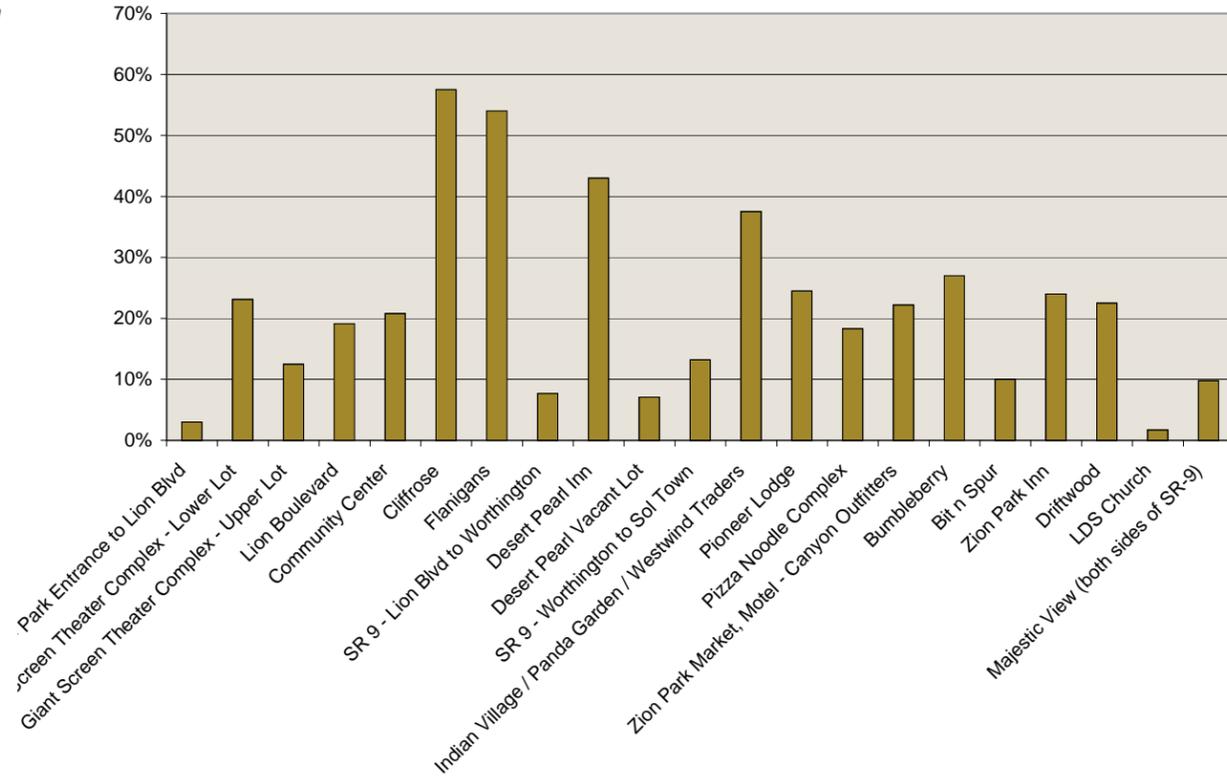
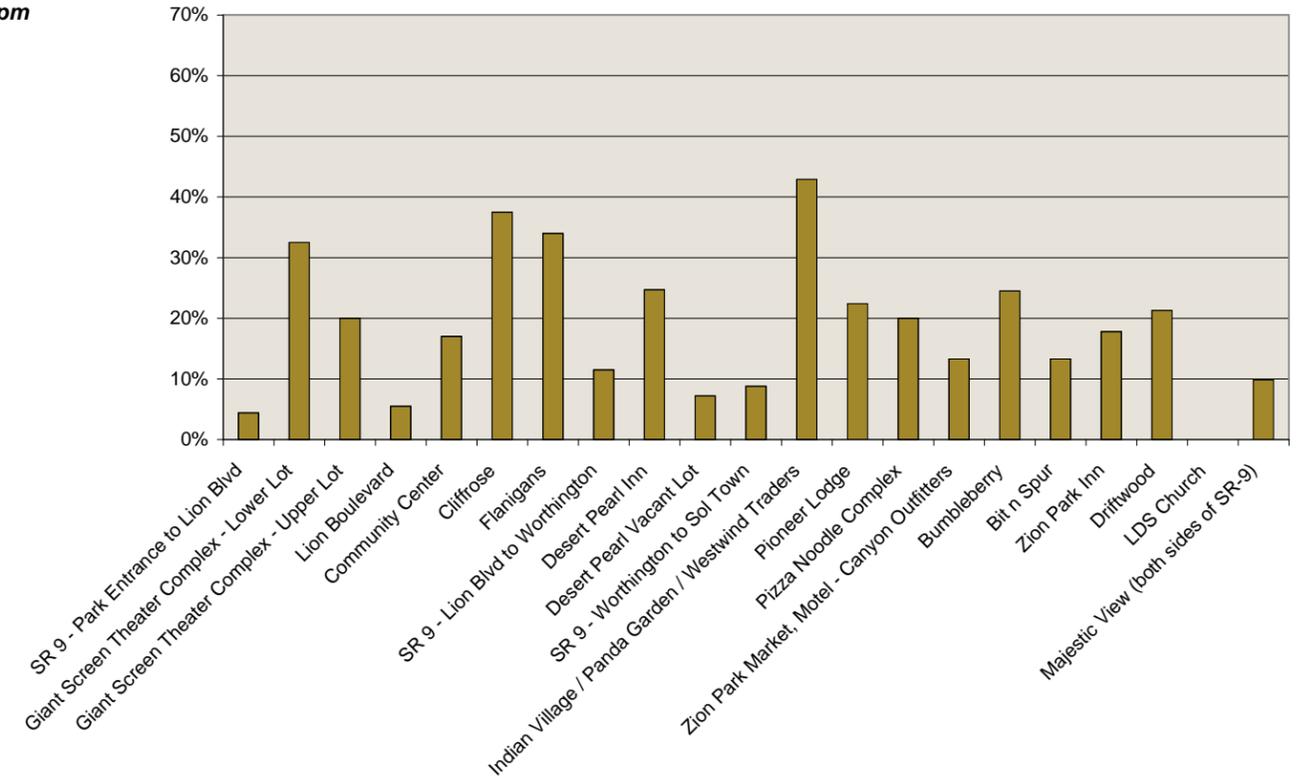


Figure 3-3. Town of Springdale Parking Area Usage - Saturday, May 26, 2007 (Memorial Day weekend)

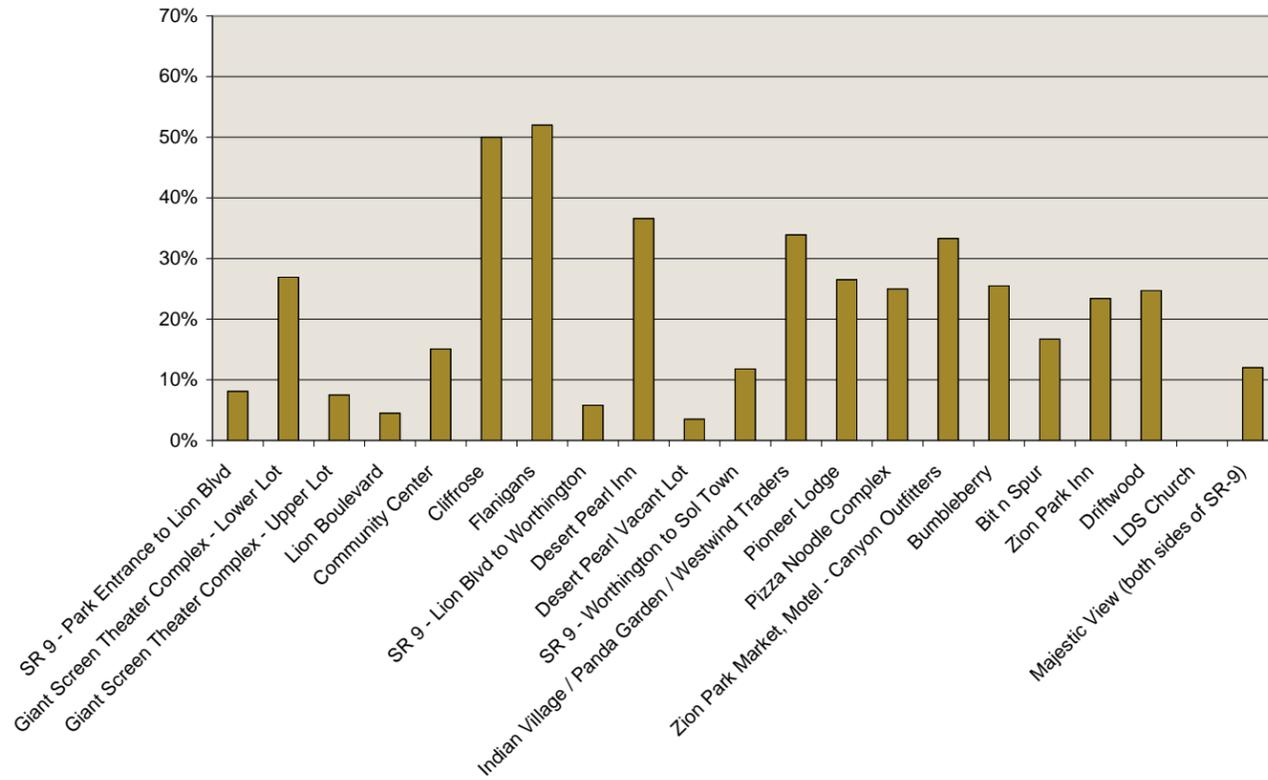
10:00 am



1:00 pm



4:00 pm



7:00 pm

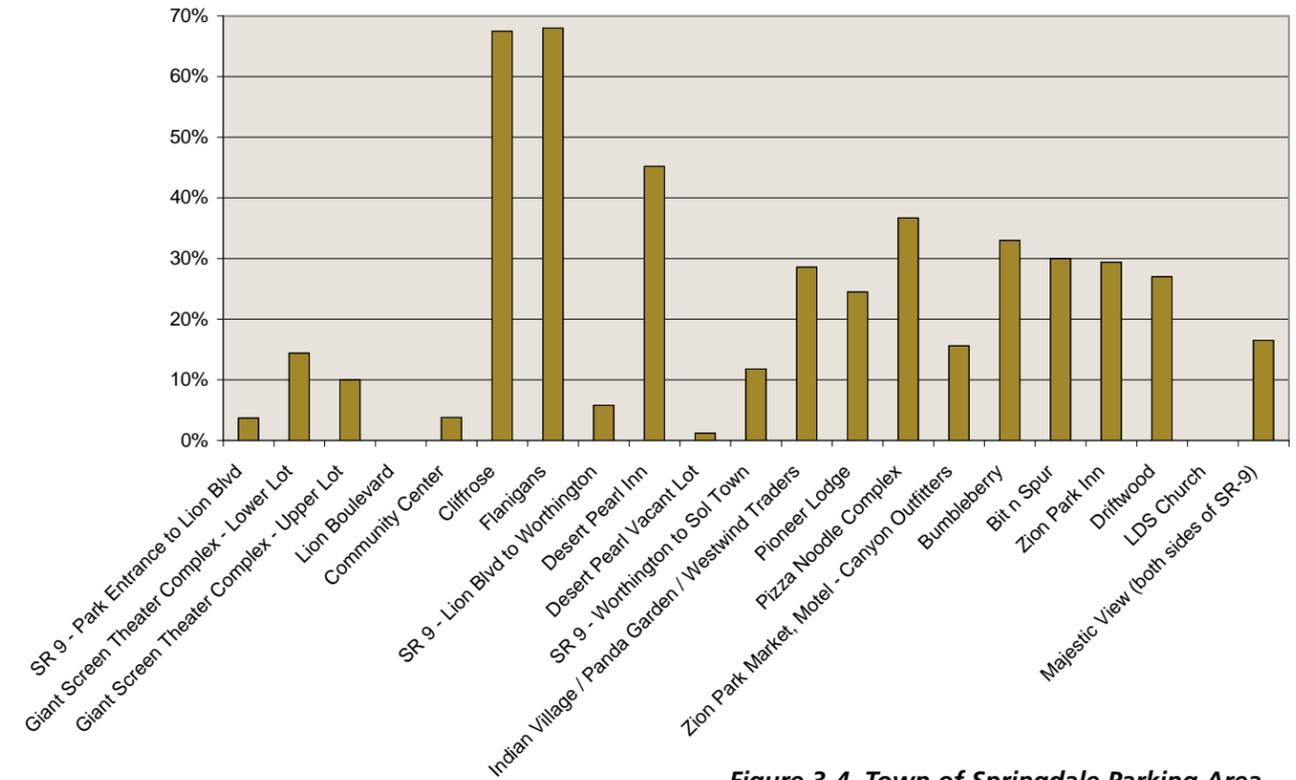


Figure 3-4. Town of Springdale Parking Area Usage - Wednesday, July 25, 2007



Potential Areas for New Parking Outside the Park
 Existing Parcel Boundary

Potential Areas for New Parking Inside the Park
 Zion National Park Boundary

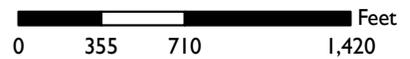


Figure 3-6. Potential Springdale Parking Locations (Central)



- Potential Areas for New Parking Outside the Park
- Potential Areas for New Parking Inside the Park
- Existing Parcel Boundary
- Zion National Park Boundary

0 355 710 1,420 Feet

Figure 3-6. Potential Springdale Parking Locations (North)

SPRINGDALE STREETSCAPES AND MULTI-MODAL CONNECTIVITY ANALYSIS AND RECOMMENDATIONS



Park visitors arrive in vehicles, on foot, and on bicycles.

Section Overview

This section addresses analysis and recommendations for the Springdale streetscape, pedestrian and bicycle connectivity and access in Springdale, and conditions at shuttle stops. Streetscape conditions were inventoried and evaluated throughout the entire length of Springdale. Detailed inventory sheets (keyed to aerial photo mapping) are provided in Appendix A. Conditions related to the park road, pedestrian and bicycle access in the park, and shuttle stops in the park are addressed in Section 5.

Objective of Analysis

The objective of this element of analysis was to inventory the existing pedestrian and bicycle network in Springdale and identify missing gaps and needs to improve access between parking and other major origins in Springdale and shuttle stops. The analysis also assessed existing conditions of the streetscape and shuttle facilities.

Pedestrians need to be able to have safe and efficient access between parking areas and shuttle stops in order to maximize ridership and use of the system. There were concerns that there may be missing gaps in system and that improvements

may be needed to enhance connectivity, safety, and multi-modal mobility. Field evaluation was needed to confirm this.

This analysis addressed the basic question asked during the scoping process for this study: “Can improved multi-modal connectivity help address traffic congestion and mobility issues?” As part of framing this question, a variety of multi-modal connectivity and mobility issues and opportunities were identified during the study scoping process:

- The current sidewalk/streetscape system in Springdale is not complete. There are missing gaps along some segments of the roadway between hotels and other origins and shuttle stop locations.
- There is a need to improve pedestrian connectivity between parking areas and shuttle stops throughout the town, which may in turn help improve effectiveness and efficiency of parking and shuttle use.
- In addition, it is anticipated that improvement of pedestrian and bicycle connectivity and mobility could help relieve pressure on the shuttle system, entrance gate, and parking areas during peak visitation periods.



Data on existing pedestrian crossing locations and non-crosswalk locations where people are crossing was inventoried and analyzed.

Analysis Approach

Concurrently with the shuttle system ridecheck and other field analysis, team members conducted a thorough review of the general conditions along the Zion Park Boulevard corridor (main shuttle route) and adjoining areas in Springdale.

During the same period that other data collection tasks were being conducted, members of the consultant team completed a detailed inventory of the existing sidewalk and streetscape network in Springdale. This inventory recorded:

- Completed segments of the sidewalk and streetscape as well as incomplete segments (missing gaps) on both sides of the roadway from the outer limits of Springdale to the park gate
- Condition of existing sidewalk, curb and gutter, and crosswalks
- Existing pedestrian crossing locations and non-crosswalk locations where people are crossing
- Existing plantings
- Shuttle stop locations in proximity to parking areas, hotels, and other major origins/destinations along the highway
- Shelter locations and amenities at each stop
- Existing roadway profile and pinchpoints for bridge traffic

- Other features and elements incidental to the above list

As part of the fieldwork, members of the consultant team identified needs for strategies and potential improvements. Following the field observations and data collection, the team studied and analyzed information collected and prepared inventory and analysis products. The results of the inventory are presented in Appendix A – Springdale Streetscape, Parking, and Shuttle Stop Inventory.

Observations and Findings

Overall the general streetscape and shuttle stops in Springdale are in excellent condition as the system nears its tenth year in operation. Shuttle structures and furnishings appear to be in sound condition and functioning well.

However, some features are beginning to show some wear and tear and the need for maintenance and repair. See the list below for observations made in the field. These features are also highlighted in Appendix A – Springdale Streetscape, Parking, and Shuttle Stop Inventory.

Sidewalks

- Sidewalks are worn and deteriorating in some places. Signs of deterioration include spalling and erosion of edges/corners.
- In many instances, sidewalks that cross driveways are not up to ADA standards.
- Where sidewalks cross gravel driveways or are adjacent to gravel surfaced parking areas, gravel is spilling over onto sidewalk surface.



Sidewalk cracking at manhole cover



The view of the park pedestrian entrance and shuttle stop from Zion Park Boulevard (topographic conditions are steeper than this photo depicts)

- See sidewalk gap details in Table 4-1.
- Pedestrian connections are lacking at many of the park and ride locations to aid visitors in finding their way to the correct shuttle stop.
- There are circulation and accessibility challenges at the Zion Canyon Giant Screen Theater driveway entrances, shuttle stop, and pedestrian entrance to Zion National Park. It is difficult to spot the pedestrian entrance from Zion Park Boulevard as well as when disembarking the shuttle.

Crosswalks

- The central part of downtown Springdale experiences a large amount of pedestrian traffic. Many people cross the road at non-crosswalk locations.
- Many of the crosswalks are not well lit at night, making it hard for vehicles to spot pedestrians.
- The majority of the shuttle stops (regular and flag) do not have crosswalks.

Bicycle Facilities

- Zion Park Boulevard does not have designated bicycle lanes or symbols/signs indicating shared use of the road. However, bicycling in Springdale appears to be popular.
- Southbound, between the park vehicular entrance gate and the Cliffrose flagstop, there is no shoulder. The roadway has

become pinched by a landslide area, forcing bicycles to travel in the vehicle travel lane.

Shuttle Stops

- A few of the shuttle stops, mainly Bumbleberry/Zions Bank and Pizza & Noodle, are placed at a far distance from each other. The placement of these shuttle stops makes them less legible as shuttle riders become confused about which stop leads to the park as they cannot readily see both shuttle stops.

(Continued on page 4-8)



Pedestrians in downtown Springdale



Bicyclists riding in the travel lane at the landslide

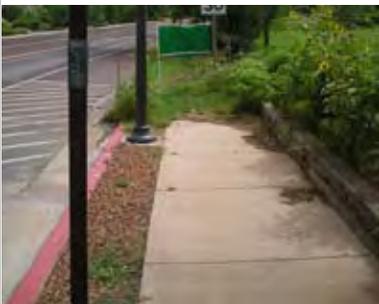
Table 4-1. Sidewalk Gaps Inventory (1 of 5)

Direction		Gap Location	Example(s)	Description
NB	SB			
•	•	From Springdale Fruit Company to the LDS Church and Driftwood Lodge.		Road condition south of the Driftwood Lodge Silver Bear shuttle stop
•		There is a small gap between the Driftwood Lodge Shuttle Stop and the northern property line of the Driftwood Lodge.		Sidewalk gap at the Driftwood Lodge
	•	There is a gap that extends from the Quality Inn to the Bit & Spur Shuttle Stop.		The sidewalk ends just north of the Quality Inn.
				Typical road condition between Driftwood Lodge and Zion Park Inn

NB = Northbound
 SB = Southbound



Table 4-1. Sidewalk Gaps Inventory (2 of 5)

Direction		Gap Location	Example(s)	Description
NB	SB			
•		The sidewalk transitions to a meandering sidewalk on Zion Park Inn property. This sidewalk ends at the northern edge of the property line, but a regular sidewalk adjacent to the road continues NB from here. There is a small gap between the end of the Zion Park Inn sidewalk and regular sidewalk.		Sidewalk diverts away from road at Zion Park Inn
				Gap between sidewalks at Zion Park Inn
				Sidewalk ends at Bit and Spur shuttle stop
	•	There is no sidewalk at the Shell Station. This area is used as driveway for access to gas pumps. It is concrete, but is spalling heavily.		Shell Station driveway
•		There is a sidewalk gap from the southern edge of the Zion Park Motel driveway to the Springdale Candy Company/Simply Birkenstock storefront. This area has asphalt surfacing which is exhibiting many cracks and is buckling.		Asphalt surface in front of the Zion Park Motel

NB = Northbound

SB = Southbound

Table 4-1. Sidewalk Gaps Inventory (3 of 5)

Direction		Gap Location	Example(s)	Description
NB	SB			
	•	There is another gap at the driveway north of Zion Park Laundry to the Indian Village Gift Shops. It is also asphalt surfacing for driveways and parking.		Asphalt surface at Zion Park Laundry
	•	There is a gap in the sidewalk at Big Chief. It is asphalt surfacing for perpendicular parking at business.		Driveway at Big Chief
	•	There is a narrow concrete sidewalk at the Canyon Ranch Flag Shuttle Stop, but it ends at the driveway to the Canyon Ranch Motel.		End of sidewalk at Canyon Ranch
	•	There is no sidewalk from Canyon Ranch Motel to the North Side of Lion Boulevard.		There is no sidewalk on the southbound side of the road between Canyon Ranch and Lion Boulevard.

NB = Northbound
 SB = Southbound



Table 4-1. Sidewalk Gaps Inventory (4 of 5)

Direction		Gap Location	Example(s)	Description
NB	SB			
	<ul style="list-style-type: none"> The sidewalk gap begins again at the Flanigan’s Shuttle Stop and continues to the Cliffrose Flag Shuttle Stop. 	  	<p>The sidewalk picks up again at Lion Boulevard but ends just north of the Flanigans shuttle stop.</p> <p>The road condition between the Flanigans shuttle stop and Cliffrose shuttle stop</p>	
	<ul style="list-style-type: none"> There is no sidewalk from the driveway of the Tsunami Juice & Java Café to the Park Entrance. 		 	<p>The sidewalk picks up again at the Cliffrose shuttle stop, but ends at the Tsunami Juice driveway.</p>

NB = Northbound
 SB = Southbound

- The Bumbleberry/Zion's Bank shuttle stop has a platform made of vertically placed wood slats. These slats have large gaps in between them that could be difficult to pass over for wheelchair or stroller users. Multiple concerns and problems have been raised about this shuttle stop, in addition to the wood slat surface. The metal railing on either end of the wood slat decking provides some protection from the ditch drop down on either side, but it does not meet typical standards. Shuttle operators have reported that it is a difficult location to pull in and out of due to the proximity of nearby driveways for the bank drive through. These conditions also make pedestrian access to and from this stop more challenging. The location is



Wood slat platform at Bumbleberry/Zion's Bank shuttle stop platform

Table 4-1. Sidewalk Gaps Inventory (5 of 5)

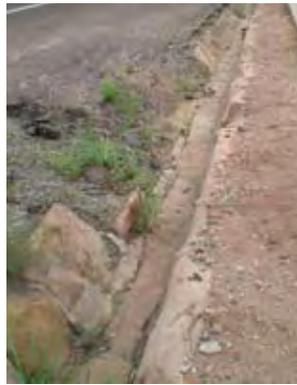
Direction		Gap Location	Example(s)	Description
NB	SB			
•		The sidewalk ends at the northern driveway to the Zion Canyon Giant Screen Theater. It does not continue to the Park Entrance.		The sidewalk ends before entering the park.
				The road condition at the park vehicle entrance
		At Lion Boulevard, only the north side of the road has a sidewalk.		Lion Boulevard sidewalk

NB = Northbound
SB = Southbound





Concrete shuttle pad at Driftwood Lodge



Eroding gutter at Terrace Brook Lodge



Rock ditch in disrepair between the elk ranch and Pioneer Lodge



Debris in gutter and deterioration of the rock ditch wall at the elk ranch

- surrounded by activity and businesses signs, and as such, the shuttle stop is not as highly visible or “legible” as some of the other locations.
- It appears that the Canyon Ranch and Desert Pearl/Post Office Flag Stops are used more regularly than the other designated flag stops. However, the Canyon Ranch flag stop is very exposed to vehicular movement and is without shade or weather protection.
 - Several pavement pads at shuttle stops are spalling and eroding. See Figure 4-1 for specific locations.

Utilities

- The existing historic stone curb and gutter is in disrepair in several locations.
- Some utility boxes and conduits are in need of repair.
- Debris is building up in the curb and gutter/ditch at some locations.

Vegetation and Landscape

- There are many plants along the sidewalk that have thorns or sharp spines. These plants are not pedestrian friendly.
- The red rock mulch in the planting beds has shifted in many areas, exposing the black geotextile fabric beneath.



Prickly pear along the sidewalk, heading north towards Lion Boulevard



- The landscape areas in the vicinity of the Giant Screen Theater need improvement. The planting beds are mostly exposed soil.
- Lion Boulevard and Zion Park Boulevard are in need of vegetation maintenance.

Recommendations

Otak recommends improving existing facilities as well as prioritizing new improvements identified in this report in an effort to improve the multi-modal connectivity in Springdale.

Encourage walking and bicycling by creating a pleasant and safe environment for people. Keep sidewalks, curbs, and gutters clear of debris and maintain plantings in planting strips. Where sidewalks cannot be installed, primarily in parking areas, mark the pavement to improve legibility for circulation. Plant shade trees and keep site furnishings at a pedestrian scale. Use plants that are friendly and do not have thorns or spines.

The addition of bicycle facilities (lanes, symbols, striping, signs) to the roadway will encourage bicycling as people (especially families with children) will feel safer riding in a designated area. Bicycle facilities will also inform vehicles that bicyclists are on the road and increase awareness of their presence.

It is anticipated that increased pedestrian and bicycle mobility within Springdale and in the Zion Canyon portion of the park would help to expand options for visitor access and relieve pressure on the shuttle system during peak periods. The technical analysis identified missing gaps in the sidewalk system in Springdale (see Table 4-1), as well as locations for new pedestrian crosswalks and signing. Inside the park, potential areas for extending the Pa'rus Trail are being evaluated. See Section 5 for more information on the Pa'rus Trail extension.

Given the costs that Zion National Park will incur related to ongoing operations and maintenance of the shuttle system, as well as vehicle replacement, it will be important to actively pursue a variety of funding and partnership opportunities to implement these needed maintenance improvements. Funding sources, such as the federal transportation



Plantings and amenities create a pleasant pedestrian environment



People walking on road shoulder, just south of Lion Boulevard



Pedestrians on driveway to pedestrian park entrance; notice how they are walking on the side of the road with no sidewalk because this is less steep

enhancement and congestion management programs should be pursued.

Following is a list of specific recommendations. Please refer to Figure 4-1 for further details regarding recommendations in the vicinity of shuttle stops.

Sidewalks and Pedestrian Facilities

- Repair and/or replace all sidewalks that are worn and unsafe.
- Repair and/or replace sidewalks at driveway entrances to meet ADA standards.
- Add sidewalk in areas where it is missing along Zion Park Boulevard. This may not be appropriate towards the southern extent of town. The southbound lane of Zion Park Boulevard north of Canyon Ranch is a high priority area as pedestrians are using the shoulder in this area which is highly unsafe.
- Install sidewalks at designated parking lots shuttle users walking to shuttle stops. Sidewalks and marking in the pavement are especially needed for people parking their cars at the northern end of Zion Park Boulevard to aid them in finding the park pedestrian entrance. See Figure 4-1 for details and specific locations.
- Create a clear, designated pedestrian connection (sidewalk or markings in

pavement) between Zion Park Boulevard and the pedestrian park entrance.

- Further study of the pedestrian circulation between the Zion Canyon Giant Screen Theater shuttle stop and Visitor Center is recommended. Improvements could include reconfiguration of the space, a hierarchical network of wayfinding signs, and/or a pattern in the sidewalk.
- Recommend reorienting the wooden slats to run horizontally at the Bumbleberry/Zions Bank shuttle stop, or potentially moving this stop. Improvements should be made here to the surfacing and railing. As an alternative, this stop could be relocated and rebuilt at a nearby location. There is an open area adjacent to the street in front of the Zion Park Motel, and the owners there have indicated a willingness to consider moving the stop to that location. To construct the stop here, parking places (which appear to be little used) in front of the motel and pool area would need to be removed. This could be a better location for the shuttle stop because it aligns more directly across from the southbound stop and it is located in place with less vehicular conflict/driveway activity.

Crosswalks

- Add crosswalks in areas with high pedestrian

traffic. The three most active areas are at the intersection with Lion Boulevard, and between Pizza & Noodle and Asia to Zion and at the Desert Pearl vacant parking lot for people trying to reach the ranch.

- Add pedestrian scale (dark sky compliant) lighting and signs at all crosswalks and shuttle stops. Lighting could be designed in a sensitive manner so that it does not compromise town regulations regarding lighting at night.
- Add crosswalks wherever there is a shuttle stop (regular and flag). See Figure 4-1 for details.

Bicycle Facilities

- Designate a bicycle lane in the road or place shared use bicycle symbol (sharrow) especially in roadway at constricted areas.
- Implement the proposed Zion Canyon Trail (begins in Rockville and continues to Park) and creating connections between Springdale shuttle stops and the multi-use trail.

Shuttle Stops

- Consider relocating Zions Bank shuttle stop to improve safety and legibility. Potential site for relocation is in front of the Zion Park Motel which would place it directly across the roadway from the Pizza & Noodle shuttle stop.
- Convert the Canyon Ranch, Cliffrose, and Desert Pearl/Post Office shuttle stops from flag stops to regular stops with shelters. See Figure 4-1 for details.
- Repair or replace shuttle pads as described in Figure 4-1.



People boarding shuttle at the Desert Pearl flag stop



Spiky plants in planting bed near Red Rock Jewelry

Utilities

- Repair the historic stone curb and gutter where it is cracking, eroding, or falling apart.
- Keep the gutter clear of debris along the entire corridor.
- Repair utility boxes and conduits where needed.

Vegetation and Landscape/Pedestrian Environment

- Replace thorny and spiny plants with “softer” species.
- Use native and low maintenance plants. The planting should extend the park environment into Springdale.
- Replace and add red rock mulch where it is missing.
- Keep planting beds free of weeds.
- Consider engaging the community in a vegetation maintenance regime.
- Improve the landscaping in the planting beds at the Giant Screen Theater area.
- Plant shade trees where space allows, without blocking important scenic vistas, and continue to enhance the pedestrian environment along Zion Park Boulevard (working closely with adjacent property owners) to encourage walkability and pedestrian activity.

1. Park Entrance

Install crosswalk and better pedestrian linkage from parking lot to shuttle stop and park entrance

Install shuttle stop identification sign on this side of shelter for people leaving park

Move kiosk so it does not block park entrance sign or move park entrance sign so it is more visible for people disembarking shuttle

4. Canyon Ranch/Desert Pearl, Post Office

Install crosswalk

Recommend converting these shuttle stops from flag stops to regular stops and installing shelters, seating, waste receptacles, bike racks, and signing

7. Quality Inn/Driftwood

Concrete shuttle pads are chipping and spalling in places, maintenance is recommended, restripe "no parking" zones

Continue to maintain concrete crosswalk as well as the existing shelters, sidewalks and other amenities

2. Cliffrose

Install crosswalk

Either upgrade shuttle stops to formal stops or eliminate them due to their proximity to the visitor center/park entrance.

5. Pizza & Noodle/ Bumbleberry, Zions Bank

Existing kiosk is not very visible or informative, recommend installing more prominent wayfinding signs

Recommend restriping pavement

Recommend adding rock mulch in planting bed

Maintenance on painted striped crosswalk needed

Install pedestrian crossing area adjacent to southbound shuttle stop

8. Silver Bear

Install crosswalk

Maintain these shuttle stops as flag stops (although they receive low use)

3. Flanigans/Zion Canyon Clothing

Maintenance is needed on colored concrete crosswalk and shuttle pads due to cracking

Repaint striping in "No Parking" areas

Install crosswalk at Lion Boulevard

6. Bit & Spur/Zion Park Inn

Some chipping occurring on concrete pad, recommend maintenance

Possibly install crosswalk here due to distance between shuttle stops

Complete pedestrian link between two sidewalks here

Colored concrete crosswalk in good condition, some chipping

Create pedestrian link between Bit & Spur parking lot and southbound shuttle stop

Concrete pad is spalling extensively, recommend maintenance or replacing

9. Majestic View

Provide shelter

Complete pedestrian linkage to shuttle stop with sidewalk

Replace asphalt with concrete pad

Create better connection from parking lot to shuttle stop w/ designated pedestrian paths

Install crosswalk

North  ● Shuttle Stop Note: For additional field observations, refer to Appendix A: Springdale Streetscape, Shuttle Stops, and Parking Inventory.

Figure 4-1. Town of Springdale Pedestrian Crossing and Shuttle Stop Recommendations