Springdale Streetscapes and Multi-Modal Connectivity Analysis and Recommendations

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Park visitors arrive in vehicles, on foot, and on bicycles, in addition to riding the shuttle.

Section Overview

This section addresses analysis and recommendations for the Springdale streetscape, pedestrian and bicycle connectivity 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 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 locations 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. If there are gaps in the system, 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?"

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 incompleted segments (missing gaps), on both sides of the roadway from the outer limits of Springdale to the park gate;

Existing pedestrian crossing locations and non-crosswalk locations where people are crossing were inventoried and analyzed.

- Condition of existing sidewalks, curbs, gutters, and crosswalks;
- Existing pedestrian crossing locations and non-crosswalk locations where people are crossing;
- Existing plantings and landscape conditions;
- 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 traffic; and
- 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.

Observations and Findings

Overall the general streetscape and shuttle stops in Springdale are in excellent condition even though the system is in 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. The following general problems and needs were observed in the field.

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

More specific findings and observations are described below and in Figure 4-1. A summary of field notes from the corridor inventory and observations is presented 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 Americans with Disabilities Act (ADA) guidelines.
- Where sidewalks cross gravel driveways or are adjacent to gravel surfaced parking areas, gravel is spilling over onto sidewalk surface in some locations.
- See sidewalk gap details in Table 4-1.

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.)

- The Town of Springdale is in the process of constructing the first phase of the Zion Canyon Trail, which will help by providing a continuous pedestrian and bicycle access route between the pull off area south of Majestic View Lodge and the vicinity of Silver Bear. However, even with construction of the trail, it will be important to continue to work toward implementing sidewalk connections along the street leading to shuttle stops. The town's priority for the sidewalk network is to complete a continuous pedestrian way on the northbound side of SR-9 from the Majestic View Lodge to the park entrance. After this is complete, the town will prioritize filling the gaps on the southbound side.
- Pedestrian connections are lacking at many of the park and ride locations. These are needed 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 the 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 high level 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 motorists to see 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. *(Continued on page 4-8)*

Pedestrians in downtown Springdale

Bicyclists riding in the travel lane at the landslide area

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

Direction		Gap Location	Photo	Gap Description
NB	SB			
•	•	Springdale Fruit Company to the LDS Church and Driftwood Lodge		The typical road condition in this segment has asphalt/gravel shoulders on both NB and SB lanes. Springdale is in the process of constructing the first phase of the Zion Canyon Trail. The first section will start in the dirt pull-out south of Majestic View Lodge and continue to Silver Bear. The trail will be on the NB side of the road.
•		Driftwood Lodge		There is no sidewalk between the Driftwood Lodge shuttle stop and the northern property line of the Driftwood Lodge. It is currently lawn.
	•	Quality Inn to the Bit & Spur Shuttle Stop		The sidewalk ends just north of the Quality Inn. It becomes an asphalt/ gravel shoulder.
				The typical road condition between Driftwood Lodge and Zion Park Inn is an asphalt/gravel shoulder on the NB side and a concrete sidewalk on the SB lane.

NB = Northbound
SB = Southbound

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

Direction		Gap Location	Photo	Gap Description
NB	SB			
•	•	Zion Park Inn Driveway		Along the Zion Park Inn frontage, the sidewalk ends at the northern driveway. A regular sidewalk adjacent to the road continues NB from here.
				The sidewalk ends in a planting bed at the Zion Park Inn northern driveway.
				The SB side sidewalk ends at the Bit and Spur shuttle stop and becomes grass.
	•	Shell Station Driveway		The driveway is concrete, with no sidewalk, and is spalling heavily.
•		Zion Park Motel Driveway to the Springdale Candy Company/Simply Birkenstock Storefront		The material in this area is asphalt, with no adjacent sidewalk, and is exhibiting many cracks and buckles.

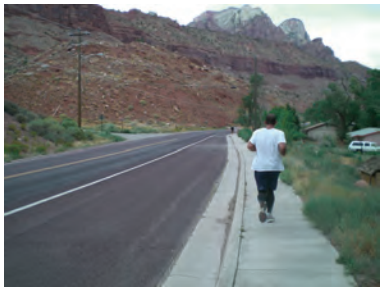
NB = Northbound
SB = Southbound

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

Direction		Gap Location	Photo	Gap Description
NB	SB			
•		Zion Park Laundry to the Indian Village Gift Shops		Asphalt surface with no sidewalk adjacent to Zion Park Laundry
	•	Big Chief Frontage		Asphalt surface with no sidewalk at Big Chief
	•	Canyon Ranch Frontage		There is no sidewalk at Canyon Ranch. There is a shuttle stop near the driveway with asphalt surfacing. A concrete strip covers utilities at the shuttle stop. The town plans to install a sidewalk in the future on the Canyon Ranch side of the road.
	•	Canyon Ranch Motel to the North Side of Lion Boulevard		The SB lane is an asphalt/gravel shoulder and the NB lane has a continuous concrete sidewalk. Many pedestrians opt to use the SB shoulder instead of crossing the street to the sidewalk.

NB = Northbound
SB = Southbound

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

Direction		Gap Location	Photo	Gap Description
NB	SB			
	•	Flanigan's Shuttle Stop to the Cliffrose Flag Shuttle Stop		There is a short concrete sidewalk segment at the Flanigan's frontage. It ends just north of the shuttle stop, where it becomes asphalt/gravel shoulder.
				There is only an asphalt shoulder on the SB side of the road, but the NB side has a continuous concrete sidewalk.
	•	Tsunami Juice & Java Café to the Park Entrance.		There is a short segment of concrete sidewalk at the Cliffrose shuttle stop in this gap area, but otherwise it is an asphalt/gravel shoulder.

NB = Northbound
SB = Southbound

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

Direction		Gap Location	Photo	Gap Description
NB	SB			
•		Zion Canyon Giant Screen Theater to the Park Entrance.		The sidewalk ends just beyond the northern driveway to the Zion Canyon Giant Screen Theater.
				The road north of the Zion Canyon Giant Screen Theater leading to the park entrance has wide asphalt shoulders for parking.
		South Side of Lion Boulevard		Lion Boulevard has concrete sidewalks on the northern side of the road, but only wide dirt shoulders for parallel parking on the southern side.

NB = Northbound
SB = Southbound

- Southbound, between the park vehicular entrance gate and the Cliffrose flag stop, there is no shoulder. The roadway has become pinched by a landslide area, forcing bicycles to travel in the vehicle travel lane.

Shuttle Stops

- At some of the shuttle stops, mainly Bumbleberry/Zions Bank and Pizza & Noodle, the northbound and southbound waiting areas are placed apart from each other. The split distance of the placement of these shuttle stops makes them less legible, and shuttle riders become confused about which stop leads to the park as they cannot readily see both shuttle stops.

Rock ditch in disrepair between the elk ranch and Pioneer Lodge

Concrete shuttle pad at Driftwood Lodge

Eroding gutter at Terrace Brook Lodge

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

- The Bumbleberry/Zions Bank shuttle stop has a platform made of wood slats (2x4s on end). These slats have large gaps in between them that are 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 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.

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

Prickly pear along the sidewalk, heading north towards Lion Boulevard

Plantings and amenities create a pleasant pedestrian environment

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.
- 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

Improvements to the streetscape facilities are recommended as described below to enhance multi-modal connectivity in Springdale.

Walking and bicycling should be encouraged by creating a pleasant and safe environment for people. Sidewalks, curbs, and gutters should be kept clear of debris and maintain plantings in planting strips. Where sidewalks cannot be installed, primarily in parking areas, the pavement should be marked to improve legibility for circulation. Shade trees, site furnishings, and pedestrian lighting should be provided at all shuttle stops and other areas where there is active pedestrian use. Plants that do not have thorns or spines are preferred along sidewalks.

The addition of bicycle facilities (lanes, symbols, striping, signs) to the roadway will encourage bicycling, because people (especially families with children) 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

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

to expand options for visitor access and relieve pressure on the shuttle system during peak periods. The technical analysis identified 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 were evaluated. See Section 5 for more information on the potential for 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 improvements and maintenance activities. Funding sources, such as the federal transportation 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. As previously mentioned, the town is proceeding to build sidewalks as funding allows. The southbound lane of Zion Park Boulevard north of Canyon Ranch is a high priority area as pedestrians are currently using the shoulder in this area.
- Install sidewalks between designated parking lots and shuttle stops. Sidewalks and wayfinding signs 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 to clearly direct visitors to the park entrance.
- Reorienting the wooden slats to run horizontally at the Bumbleberry/Zions Bank shuttle stop is recommended, 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, between Pizza & Noodle and Asia to Zion, and at the Desert Pearl vacant parking lot for people trying to reach the ranch.
- Add crosswalks wherever there is a shuttle stop (regular and flag). See Figure 4-1 for details. Representatives from the park and the Town of Springdale are supportive of additional crosswalks. However, the Utah Department of Transportation (UDOT) has mentioned various concerns about adding crosswalks. Some additional discussion between park and town representatives and UDOT staff regarding safety issues surrounding the lack of crosswalks and the unique nature of SR-9 through Springdale is needed.

An example of an installed "sharrow" symbol

Spiky plants in planting bed near Red Rock Jewelry

- Add pedestrian scale lighting and signs at all crosswalks and shuttle stops. Lighting should be designed in a sensitive manner so that it complies with Springdale's dark sky requirements.

Bicycle Facilities

- Designate a bicycle lane in the road or place shared use bicycle symbol (sharrow) in the roadway especially at constricted areas. Sharrows indicate that motorists should expect to see and share the lane with bicycles. Unlike bicycle lanes, sharrows do not designate a particular part of the roadway for the use of bicyclists, but rather that the roadway is to be shared.
- Implement the proposed Zion Canyon Trail (begins in Rockville and continues to park) and create connections between Springdale shuttle stops and the multi-use trail.

Shuttle Stops

- Consider relocating Zions Bank shuttle stop to improve safety and legibility. A 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.

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 in the Pedestrian Environment

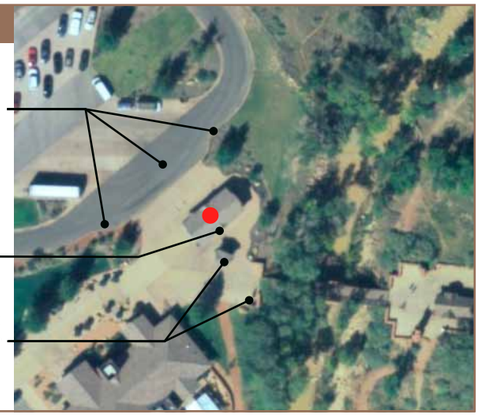
- Replace thorny and spiny plants with other plants.
- Use native and low maintenance plants. The landscape should extend the park environment into Springdale.
- Replace and add red rock mulch where it is missing.
- Keep planting beds free of weeds.
- Consider engaging the community in a clean up and vegetation maintenance program.
- 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



2. Cliffrose

Install crosswalk

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

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

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

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

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

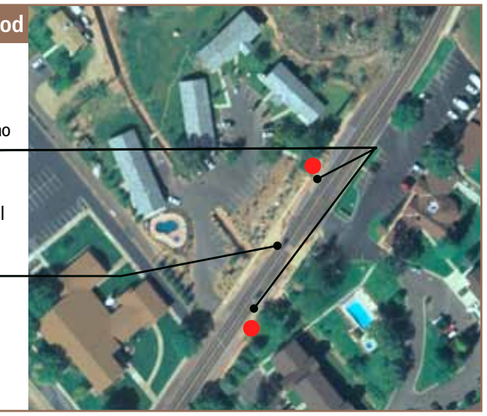
Create pedestrian link between Bit & Spur parking lot and southbound shuttle stop

Concrete pad is spalling extensively, recommend maintenance or replacing

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



8. Silver Bear

Install crosswalk

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

9. Majestic View

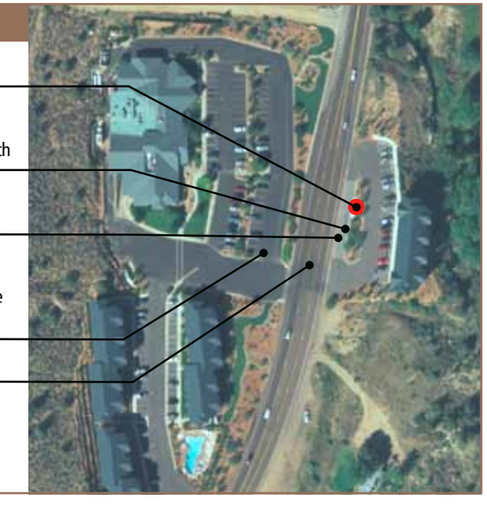
Provide shelter

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. Springdale Pedestrian Crossing and Shuttle Stop Recommendations