

# PARK ENTRANCE AREA CONGESTION ANALYSIS AND RECOMMENDATIONS



## Section Overview

Analysis related to existing traffic congestion at the south park entrance area is presented in this section. Recommendations for reducing congestion and visitor confusion in this area are presented in this section as well.

## Objective of Analysis

On busy days at the park, visitors are being turned back from entering the park via vehicle and directed to nearby parking areas in Springdale. This is causing congestion and back up at the gate and in the upper area of Springdale (to Lion Boulevard on some peak days), as well as a multitude of issues and problems as described below. The technical analysis has evaluated these issues and problems in detail. Potential solutions and strategies to address these issues were identified.

At certain times of the day on peak visitation days, visitors who are trying to drive through the park or trying to reach the visitor center can get caught in a traffic queue at the south gate. Sometimes this queue can stretch for as much as one half mile to Lion Boulevard in Springdale. This queue of idling vehicles:

- Causes driver frustration;
- Contributes to unnecessary emissions of carbon monoxide, green house gases, and other pollutants; and
- Impacts the operation of the Springdale shuttle (buses must navigate the queue to reach the transfer station at the visitor center).

The objective of this analysis was to collect information from automobile drivers caught in the queue to see if there were any options



*Visitors being directed to park on Lion Boulevard by a park ranger*



**Traffic waiting to enter the south gate; pedestrians can get there faster**

for shortening or eliminating the queue. This enabled the team to gain a better understanding of the specific activities contributing to congestion and the possible range of solutions.

### **Analysis Approach**

Consultant team members spent time during the highest period of congestion at the south gate evaluating conditions. One member of the team stood with NPS fee collection personnel at the queue observing vehicles and NPS staff interactions with motorists. Pedestrian and bicycle movements in this vicinity were also observed. Observations were recorded in field notes.

### **Observations and Findings**

As stated above, the congestion at the park entrance area is causing considerable confusion, which affects visitor experience. Although some

visitors are allowed to pass through the south gate because they will be visiting other areas of the park and not the Upper Canyon, many visitors are seeking entry to the Upper Canyon, which is closed to motor vehicle traffic during the peak season. Visitors are confused about where to park in town and how to use the shuttle system.

Management of congestion at the gate requires a significant amount of park staff time. Park rangers have to stand in the road to redirect queuing motorists. Motorists then have to leave the line and park in nearby areas. This causes a lot of confusion and congestion in the vicinity of the park gate and upper Springdale as vehicles are redirected to other areas, and other cars have to wait while vehicles turn around and either park nearby or move to other locations. It also increases the amount of vehicles clustered in the vicinity of the south gate. Visitors entering the park are surrounded by parked vehicles on all sides near the entrance area, which may negatively affect the sense of arrival to Zion National Park.

Several conditions became obvious during the observations in the field as described in the following paragraphs.

**Language Barriers** - Not surprisingly, language barriers frequently impacted the exchange of information between NPS staff and drivers. For example, NPS staff would often ask drivers if they were going “through the park?” Most drivers who were not fluent in English often answered yes to this question. The NPS rangers would then wave them through to the gate.



**Pedestrians who have parked at Lion Boulevard need safe crossing facilities (striped crosswalk) to access shuttle stops.**



**Sandwich board sign and RV trying to turn around in the middle of the roadway**

When they reached the gate the next ranger was often able to gain a better understanding of the trip purpose (e.g., going *to* the park/canyon rather than *through* the park). Because cars are not allowed to proceed along the canyon road/scenic drive during the summer season without a lodge or campground reservation, some of the drivers were then turned back at the gate. Many of these drivers came back towards the theater parking lot to try and find parking to catch the shuttle, but often couldn't find spaces there and became confused about where to park. The communication problems resulted in unnecessary vehicle and turning movements and additional traffic at the gate.

**Requests for Other Information** - Interaction time between NPS rangers and drivers varied from as little as a few seconds to as much as a few minutes. Obviously, part of the job description for rangers involves giving information and interacting with visitors, but the primary job of the ranger in this instance is traffic control in the queue and directing people to the parking areas/shuttle stops as quickly as possible. Time spent answering other questions results in a longer queue. In addition, it was not unusual for vehicles traveling in the opposite direction to stop in the middle of the road to ask the ranger a question, and this resulted in traffic being stopped in both directions.

Also, it should be noted that these activities require significant park staff/ranger time that could be reallocated to other duties, such as visitor interpretation, if the problem were solved.

### **Insufficient Signage for On-Street Parking –**

When the queue first starts, rangers tell people to “park along the curb.” Many drivers were completely unclear about what “park along the curb” meant. There was/is insufficient signage along the curb and without other parked cars along the curb to use as a guide, drivers would slowly inch forward until the ranger was able to convey the idea to park along the curb. Again, the inability to communicate because of language barriers and, in this case, the lack of adequate signage, resulted in confusion for drivers and additional queuing. Once there were enough cars parked along the curb, it became easier for the ranger to convey the message to “park behind that car.”

### **Insufficient Signage for the Shuttle –**

Another case of inadequate signage that leads to driver confusion and impacts traffic operations is linked to the shuttle. People driving through the queuing area, regardless of whether or not there is an actual queue, can't see the visitor center or the shuttle stop. They have no point of reference related to where to go. Many can't even see where to go once they get out of the car and are standing along the curb on Zion Park Boulevard. Additionally, the means of pedestrian access is not clear, and the steep grade between the road and the lower area is not accessible or navigable for some visitors. Visitors are often confused about where to go to catch the park shuttle. Some see the town shuttle stop (which is more clearly visible) and think this is where they should wait. It is a fairly long walk from



**Parking along the curb near the south gate**

the road in this vicinity to the visitor center plaza where visitors must go to board the park shuttle. Drivers and pedestrians need to be able to quickly understand how to get to the visitor center or the shuttle stop.

**Many Springdale Hotel Guests are Driving to the Visitor Center** – The team did not conduct an actual survey of drivers but, based on direct observations and discussions with NPS staff, it quickly became clear that a significant number of the cars (perhaps as many as one third) passing through the queue area contained people who were spending the night in Springdale and were simply driving “someplace” to try and reach Zion Canyon. Some of these people were trying to reach the shuttle station at the visitor center and some were actually trying to drive through the canyon. An argument can be made that all of these people should have been on the Springdale shuttle bus, and it’s unclear at this time why this isn’t happening.

**Bus Operations at the Queue** – NPS staff commented that most of the time, if a Springdale bus gets caught in the queue, then the ranger will simply start waving all of the cars through until the bus reaches the theater driveway. This helps the buses, but it also defeats the purpose of putting a ranger in the queue in the first place. On one occasion, as many as 12 cars were waved through by NPS staff. Many of these drivers moved forward 100 to 200 feet and stopped in the road to try and figure out where to go and what to do. “Flushing out the queue” helped the shuttle bus but aggravated traffic conditions in the queue. On other occasions, Springdale buses were getting caught in the queue for as long as two minutes while waiting for vehicles to clear the area.

## Recommendations

Team members found NPS staff assigned to the queue to be very helpful and patient with visitors to the park. Having said that, it’s clear that there must be a better way to handle this queuing situation, because:

- It’s dangerous to have rangers standing in the middle of the road;

- This isn’t the highest and best use of ranger time and effort;
- Conditions are negatively affecting visitors experience; and
- The current approach to addressing the queuing issue is only partially effective.

For those reasons, it is recommended that the NPS consider the following potential strategies and solutions. (These recommendations can each be implemented separately or combined into packages of improvements. It would be advisable to try one or some of these as “pilot” actions, with park staff evaluating the effectiveness with each action taken. Using an adaptable management approach, staff can determine if certain actions should become permanent based on their effectiveness.)

**Develop a Multi-Language Flash Card** – A basic front/back multi-language flash card for interacting with drivers who aren’t fluent in English, with large print, and perhaps with graphics or pictures, could be used to determine exactly where drivers are planning to go – thus eliminating much of the guess work. Drivers who are actually going *through* the park can be sent to the gate. Those going *to the canyon* can be given a multi-language flyer showing where to park and where to find the park shuttle.

**Use a Flagger** – During the first 30 minutes of queuing activity it’s often difficult for drivers to understand exactly where to park along the curb. NPS could consider adding a second ranger to the queuing area during this period. This second ranger would be equipped with a flag. The ranger in the queue would tell the driver to go the flagger and the flagger would show the person exactly where to park.

**Improve Signage** – NPS should consider adding/improving signage along Zion Park Boulevard near the theater to give people a better sense of where to park and how to find the visitor center and park shuttle. In fact, the NPS should consider redesigning the entire pedestrian experience in this area to improve wayfinding and accessibility.



**Create a “Bus Only” Lane** – The NPS and the town should consider removing approximately 13 parking spaces<sup>1</sup> along Zion Park Boulevard immediately south of the southern entrance to the Giant Screen Theater parking lot and replacing them with a curbside bus only lane. This lane would allow buses to simply bypass the automobile queue at least 75 percent, if not 100 percent, of the time. Losing 13 spaces is probably not a big issue given that many of the cars using these spaces are most likely people staying in Springdale who are trying to reach the shuttle or the visitor center. It’s possible that the center bi-directional turn lane along this stretch of road might have to be moved over two feet to ensure that there’s enough room curbside for buses, especially as they make their turns into the theater driveway. It does appear that there is significant roadway width to accommodate this lane shift.

Another concern in this general vicinity that should be noted just south of the south gate, is the appearance of the area and the experience visitors are having as they enter Zion National Park. The area is severely congested with cars during peak visitation, as a result of cars filling the parking areas there and being parked along both sides of the street. As visitors approach the park gate, they are surrounded by cars. When visitors try to access the park’s entry monument for group and family photos, they are surrounded by cars. They have to watch closely for cars going in and out of driveways. This entry area has become a very “urban” experience for visitors seeking the tranquility and natural splendor of Zion National Park. As strategies are considered for reducing congestion in this area and resolving parking issues, the park should consider reducing the amount of cars and vehicular pressure in this vicinity. Eliminating roadside parking here would help.

**Improve Shuttle Visibility Within Springdale** – The shuttle system is an excellent operation and already transports nearly 3,500 passengers on busy weekend days.<sup>2</sup> However, people are still driving from their hotels to the visitor center

<sup>1</sup> The southern part of the lane would end just before the first commercial driveway along the same side of the street.

<sup>2</sup> Nelson\Nygaard ridecheck

or the gate in an effort to reach Zion Canyon. The correct answer to address these problems may reveal itself over time through a series of outreach measures and signage demonstration projects. More outreach to business owners may help to ensure that fewer overnight guests get in their cars to see the canyon.

**Evaluate the Potential for Alternate Ticketing** - Alternate ticketing (entrance fee collection) methods as a longer term strategy for reducing congestion at the gate should be considered. This would help alleviate vehicle congestion by moving vehicles through the entrance faster. A “fast lane” could be established for pre-ticketed visitors. Pre-ticketing could occur over the internet or through automated stations in town. Other examples could include selling park passes at hotels and restaurants in Springdale that visitors carry with them as they board the shuttle in town. This may also help to reinforce the option of taking the shuttle to the park rather than driving.

**Address Gate Congestion** - Strategies related to maximizing the use of parking and shuttle service in Springdale discussed in other sections of this report also factor into addressing the problem with congestion at the gate (e.g., clarifying parking locations and availability and encouraging more parking down canyon).

**Is Additional Parking Capacity Needed?** This is a difficult question to answer, and is explored in considerable detail in Section 3. As the parking utilization analysis in Section 3 indicates, there currently appears to be sufficient parking capacity in the shared parking system throughout Springdale to serve park visitors. However, the level of available parking is constantly changing, and some private business owners are starting to restrict public parking and park visitor parking (allowing parking only for their customers). While sufficient parking exists in Springdale now for visitors, this may not be the case over the long term.

As the level of shared parking available in Springdale decreases and frustrations related to traffic congestion and back up at the gate in the north part of town increase, Zion National Park representatives have been considering if more

parking should be developed inside the park near the visitor center. The park has identified an area that could accommodate 200 additional cars with the hope that the new parking area would offer a potential opportunity to reduce traffic congestion and parking pressures at the north end of Springdale.

Several other suggested locations for new parking were offered during the process of completing this technical analysis, including areas outside the park along and off of Lion Boulevard and at other vacant undeveloped parcels in Springdale (see Section 3).

However, moving forward with development of new parking areas could be premature without first exploring the full range of visitor communication and parking management strategies recommended in this report. With any major parking improvement project, either inside or outside the park, there will need to be careful evaluation and analysis of a number of factors. Development of large-scale parking areas can be expensive, and funds for public parking improvements may be challenging to obtain. Development in the sensitive environment of Zion Canyon will require thorough environmental analysis and identification of potential impacts that may be difficult and costly to mitigate. Although adding more parking inside the park intuitively seems like a beneficial solution, this approach could backfire by attracting more vehicles through

the gate during peak periods. Unless steps are taken to resolve congestion problems through a fast pass or pre-ticketing program along with improvements to facilitate additional vehicle through capacity, problems at the south gate could worsen.

Given the broader goals of the park and town to reduce the overall level of vehicle trips in the canyon, minimize environmental impacts, and encourage shuttle ridership maximizing the efficiency of the system, all possible measures to get more visitors using the shuttle should be explored. This should be a near term priority over building additional parking (either in town or in the park), because it will take considerable time to assemble funding and to complete design, environmental clearances, and construction of a new parking area anyway. A variety of measures to manage congestion and parking (as recommended in sections 2, 3, 4 and 5, as well as this section of the report) can be pursued in the interim. The park and town may find that implementation of these measures may minimize or resolve current problems to such an extent that the need for additional parking capacity can be postponed.

