

# *Balloon Fiesta Traffic*

New Mexico  
Supercomputing Challenge  
Final Report  
April 05, 2006

Team 22  
Bosque School

## Team Members:

Brie Seebinger  
Hannah Lester  
Nick Rienstra

## Teacher:

Thomas I. Allen

## Mentor:

Paul R. Smith

## Summary

Our problem, Albuquerque International Balloon Fiesta Traffic, was created because there was room for improvement for the traffic problem at the park and we wished to change that by decreasing the time that it took to exit the park. We began by researching basic information on the Balloon Fiesta. We then started modeling the park, using using the turtles as cars. After we began modeling we realized that we needed more information about the Balloon Fiesta. To find that information we found our mentor Paul R. Smith who helped us acquire the information that we needed to further our progress with the modeling. We figured that a good way to reduce the time it takes to exit would be to add another exit, and authorities will be located by the road to direct them as normal.

## Statement of Problem

The parking at the Albuquerque International Balloon Fiesta is inadequate for the amount of people that attend it annually, therefore we sought to model the exiting process of one of the parking lots with Star Logo with the addition of an extra exit. We obtained information through research and one of the knowledgeable Balloon Fiesta Employees.

## Method

The first thing that we did for our project was we acquired information on the Balloon Fiesta Parking. We found out general information such as how many people attended the Balloon Fiesta each year and a map (as seen below) showing where the parking lots were located inside the park. After finding where the parking lots were located in the park, we found the major routes that people took exiting the park with another map (also seen below as map 2). We then began to model the parking lot and the cars exiting. We started out with one line of cars (turtles) that moved together and made then navigate the interior of the box. We planned to add more of the cars into the box, but were advised to make the model so all the turtles moved freely from one another. After some trial

and error with the code we decided to acquire more information about the parking lot situation, so we contacted one of the employees from the Balloon Fiesta help desk, Paul R. Smith. From him we acquired vital information to improve our model.

### Results

We have discovered that it takes about 45 minutes to exit the balloon fiesta park using what the APD call the "flush". The "Flush" is the process that the APD use to conduct traffic out of the parking lots. It however is not working as well as they want it to. We wanted to cut the time of egress down to around 30-40 minutes. To accomplish this we decided to add another exit to the park for easier and faster exiting. Our code has not been as successful as we wanted because of the difficult modeling process. Our code proved that adding another exit does reduce the exiting time.

### Conclusions

We realize that we can't change the amount of people that come to the Balloon Fiesta, but by adding another exit from the park it disperses the congestion to another road. We would add a road to the east off of one of the general parking lots to San Mateo. Then the people would go south to Alameda. This will cut time down to less than 40 minutes.

### Acknowledgments

We would like to thank Paul R. Smith from the Balloon Fiesta for answering our questions about the parking lots in the Balloon Fiesta parking. Also our teacher Thomas Allen has been very helpful in this challenge.

[National Highway Traffic Safety Administration, Albuquerque Safe Streets, 2005](http://www.nhtsa.dot.gov/people/outreach/safedige/Winter1998/n5-39.html)  
<http://www.nhtsa.dot.gov/people/outreach/safedige/Winter1998/n5-39.html>

[Albuquerque International Balloon Fiesta, 2006,](http://en.wikipedia.org/wiki/Albuquerque_International_Balloon_Fiesta)  
[http://en.wikipedia.org/wiki/Albuquerque International Balloon Fiesta](http://en.wikipedia.org/wiki/Albuquerque_International_Balloon_Fiesta)  
[http://www.aibf.org/guests/at the Event/dir park weekends.jpg](http://www.aibf.org/guests/at_the_Event/dir_park_weekends.jpg)  
[http://www.balloonfiesta.com/Guests/Travel\\_Help/fiestarv.jpg](http://www.balloonfiesta.com/Guests/Travel_Help/fiestarv.jpg)



