



Safe Routes to Luray Elementary School



WALK THIS WAY



Safe Routes to Luray Middle School



Introduction/Hypothesis

What is the safest route to Luray Elementary and Middle School for students that walk from a quarter mile away? If we group students based on proximity to each other and execute the safest route to walk to school, they will arrive there safely and on time. Our buddy/group system is an efficient and safe way to get to school! We chose this project because it is realistic but also important for the safety of the students. Our county has identified a safe walking distance as a quarter mile through the Safe Routes to School organization.

Analysis

We began our project by gathering addresses of LES and LMS students by Mrs. Donna Whitley-Smith. We created two maps, one of LES and one of LMS. Then, we identified the schools and built a buffer a quarter mile around each school. We compared a clipped addresses layer to the addresses given and found homes of students in the buffer. We grouped the students and found meeting points. To test our hypothesis, we created shape files of homes, meeting points and routes to the meeting points and schools. We found distances and time it would take for each student and group to walk to school. We determined the safest and most efficient routes on quiet rural streets for the students to commute.

Results/Conclusion

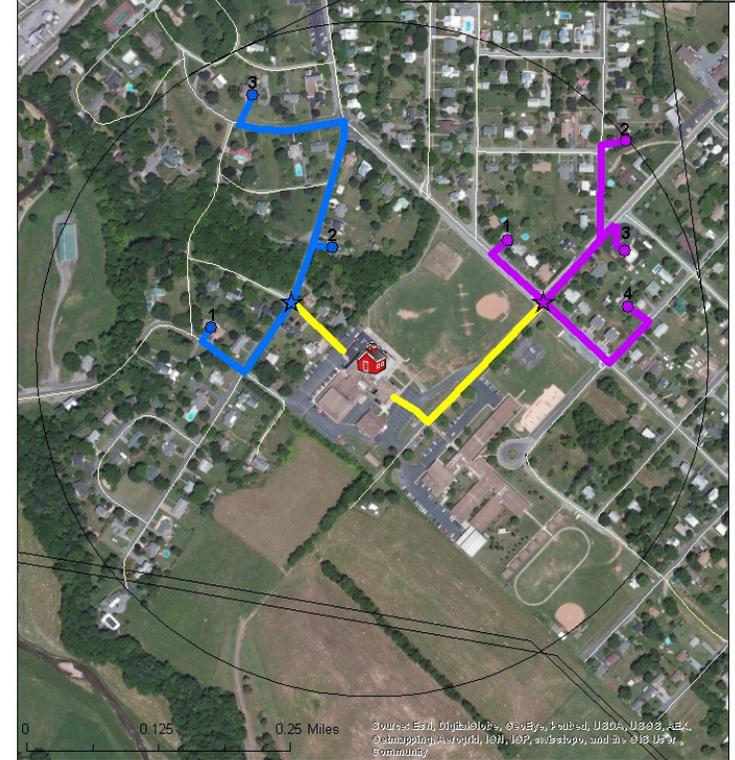
Grouping students based on proximity, finding a meeting point and executing a path to the meeting points and schools will get the students that walk a quarter mile to school safely and on time. This project is applicable to a real life issue of safe walking routes to school. We used spatial thinking to decide where the best meeting points should be and to make the routes. We learned how to incorporate GIS technologies and spatial thinking in solving a real world problem, issue or question.

Sources

Mrs. Donna Whitley-Smith
 Josh Wain
www.walkingenglishman.com
 Hannah Turner and Olivia Bryan, Luray High School
 GIS, Block 1
 May 23, 2014



LES Walking Distances					
Group	House Number	Individual Distance	Approximate Individual Time	Group Distance	Approximate Group Time
Green	1	.16 miles	4 minutes	.23 miles	6 minutes
	2	.20 miles	5 minutes		
	3	.08 miles	1 minute		
	4	.06 miles	1 minute		
	5	.02 miles	30 seconds		
	6	.08 miles	2 minutes		
	7	.07 miles	2 minutes		
	8	.19 miles	5 minutes		
	9	.12 miles	3 minutes		
Red	1	.19 miles	5 minutes	.20 miles	5 minutes
	2	.17 miles	4 minutes		
	3	.09 miles	2 minutes		
	4	.07 miles	2 minutes		
	5	.14 miles	3 minutes		
	6	.08 miles	2 minutes		
	7	.07 miles	2 minutes		
	8	.16 miles	4 minutes		
	9	.27 miles	6 minutes		
Light Blue	1	.20 miles	5 minutes	.24 miles	6 minutes
	2	.05 miles	1 minute		
	3	.06 miles	1 minute		
	4	.14 miles	3 minutes		



LMS Walking Distances					
Group	House Number	Individual Distance	Approximate Individual Time	Group Distance	Approximate Group Time
Blue	1	.15 miles	4 minutes	.07 miles	2 minutes
	2	.08 miles	2 minutes		
	3	.32 miles	8 minutes		
Purple	1	.09 miles	2 minutes	.20 miles	5 minutes
	2	.19 miles	5 minutes		
	3	.12 miles	3 minutes		
	4	.16 miles	4 minutes		