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# Litter Index: Past and Present

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# Litter Index: Past & Present

By: Christine Prinz & Keep Carbondale Beautiful



## Abstract

Since 2001 Keep Carbondale Beautiful has been rating different sections of Carbondale to judge how clean the city is each year. Every year a group of members drives through town rating all subsections on a scale of 1 to 5 with 1 being perfectly clean and 5 being heavy amounts of litter everywhere. It is critical to keep track of these records and even map them out if possible because then it is simple to look back and compare over certain years to see if environmental programs around town are doing their job and being successful or if they need to change their approach to these programs. This study was done using annual data from 2001 through 2008 from Keep Carbondale Beautiful as well as city shapefiles that were obtained from the City of Carbondale offices. Then with the help of ArcGIS 9.3, we were able to map out each area of Carbondale as well as study the differences over those 8 years.

Now that this study as been started Keep Carbondale Beautiful is hoping to keep it up with additional interns who can not only bring skills in creating and carrying out environmental programs but also those who have the GIS skills to create new maps each year as additional data is collected.

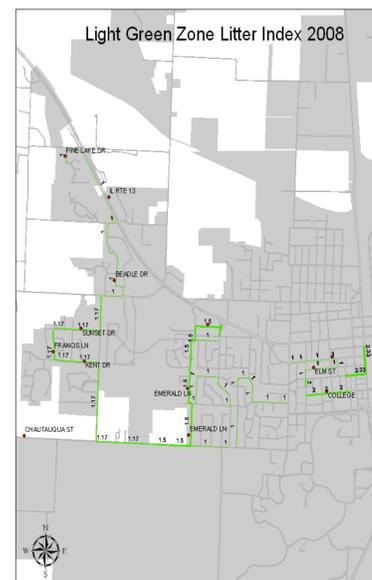
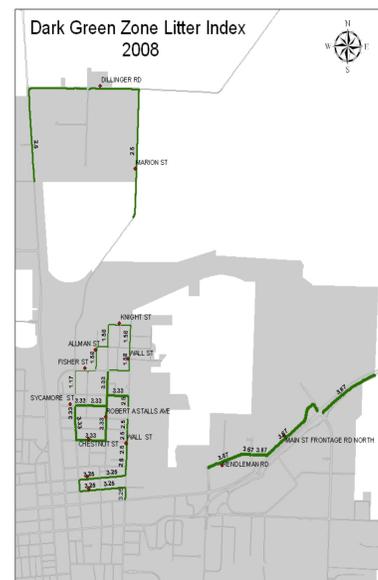
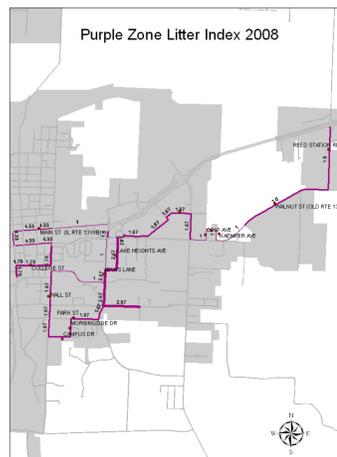
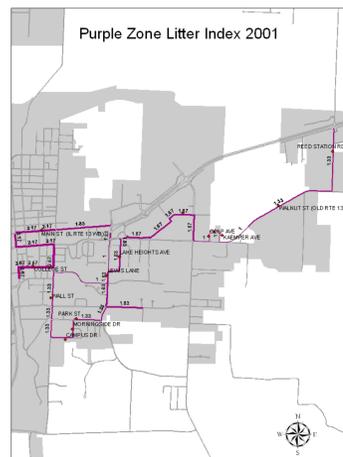
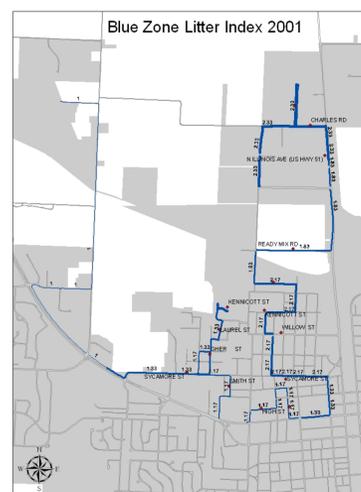
## Map 1 Explanation

In order to understand the maps, the legend must be explained first. Each colored zone or route was colored the same as the name so it would be easy to distinguish the zones when put together. As the scores increase or as the subsections get worse and collect more litter the line representing that part of the route is increased in width. This makes it appealing to the eye and easy for viewers to understand that the thicker the colored segment is the worse a particular area was scored. The number next to color name is the actual score that each thickness represents.

There are some key points about the maps themselves that are important to note. To make it easier to understand that recognize the regions, key street names have been put it. Also, the score that each subsection received is next to the section it represents due to the fact that as small as these images are it is hard in some cases to see the difference in thickness between lines.

As mentioned in the Table 1 Explanation, the dark green and purple zones seem to have been the worst areas overall and the light green and orange areas are proving to be the best. The dark green region is the northeast side of town by the shopping centers including Walmart and Best Buy. The purple zone is the mirror image of the dark green zone over route 13. It is the southeast side around the mall and adjacent restaurants. The light green zone is the southwest area of town between 13 east and 51 south while the orange zone is basically the SIUC campus but a little ways further south on 51.

Diagram 1: Litter Index Maps



## Legend

- ST\_NAMES
- STREETS
- Carbondale Streets**
- <all other values>
- Zone\_Color\_Score**
- 0
- 0
- Blue, 1
- Blue, 1.17
- Blue, 1.33
- Blue, 1.83
- Blue, 2.17
- Blue, 2.33
- Dk. Green, 1.5
- Dk. Green, 1.67
- Dk. Green, 1.83
- Dk. Green, 2.33
- Dk. Green, 2.5
- Lt. Green, 1
- Lt. Green, 1.5
- Lt. Green, 1.67
- Lt. Green, 2
- Orange, 1
- Orange, 1.17
- Orange, 1.33
- Orange, 1.5
- Orange, 2
- Purple, 1
- Purple, 1.33
- Purple, 1.67
- Purple, 1.83
- Purple, 2.17
- Purple, 2.67

## Map Observation

• With these first two maps located in the Blue Zone of Carbondale, it is easy to see the overall difference over the eight years. Out of the nine subsections, only three increased over the years but they were still substantial increases. The most significant increase in litter starts at the intersection of Sycamore St. and 13 W. up along 13 W. until the intersection with Striegel Rd. and left from Striegel Rd. onto New Era Rd. Overall the Blue Zone has remained fairly constant.

• With these two images of the Purple Zone from 2001 and 2008, one can see the significant change and how they are both good and bad. The subsection beginning at Walnut and S. Lake Heights, continuing from S. Lake Heights to Lewis, and from Lewis to Grand has dramatically increased over the years, whereas the subsection from Main to Washington, Walnut, Wall, College, Washington, & Freeman have dramatically decreased over the years.

Table 1: Overall Ratings Per Year & Per Zone

	Blue	Dark Green	Light Green	Orange	Purple
2001	1.54	1.83	1.31	1.22	1.65
2002	1.65	1.98	1.28	1.56	1.85
2003	1.35	1.93	1.29	1.27	1.66
2004	1.22	1.70	1.25	1.16	1.80
2005	1.48	2.50	1.07	1.07	1.83
2006	1.67	2.24	1.36	1.37	1.86
2007	1.45	2.38	1.30	1.11	1.78
2008	1.56	2.57	1.33	1.15	1.51

Table 1 Explanation

This table may just look like a bunch of numbers with little to no significance but in fact this table shows us a great deal about how Carbondale has been doing with cleaning up the town and promoting environmentally friendly lifestyles and habits. Each section shows some sort of pattern, but whether its good or bad is up to interpretation.

The dark green and purple zones are shown to be the worst areas of town with litter issues ranging between 1.51 and 2.57 while zones such as the light green and orange are showing to be some of the best areas ranging between 1.07 and 1.56 and the blue zone is in between ranging between 1.22 and 1.67.

## Conclusion

My conclusion after doing this study is that the environmental programs need to be expanded more into the urban regions of Carbondale on the eastern half of town along all the shopping centers while keeping up the current work in the residential areas of Carbondale such as the western half of town as well as SIUC campus.

## Thanks

I want to thank Keep Carbondale Beautiful for letting me have this opportunity to intern with them and work on this project on their behalf.