

# Compactness Analysis Report

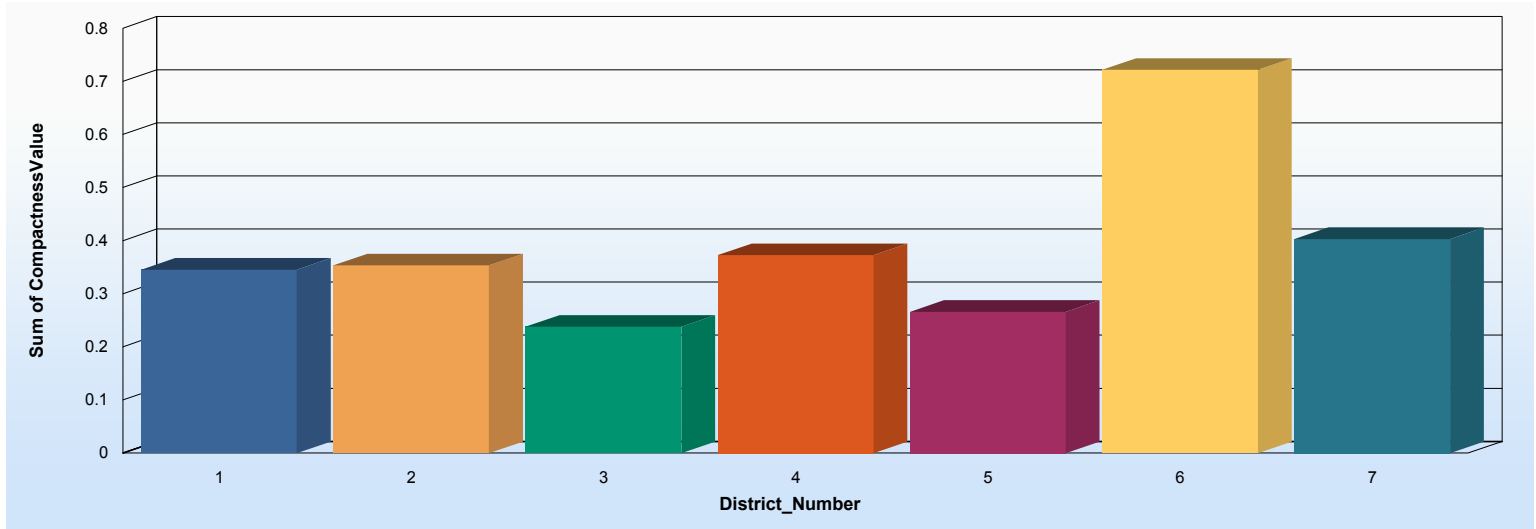
Plan Name:    Workspace: AB Plans>>Option 5p  
 Plan Last Edited on:    2/9/2012 11:01:57 PM

2/10/2012

**Data Driven Detroit donated this report.**

## Compactness Measure:

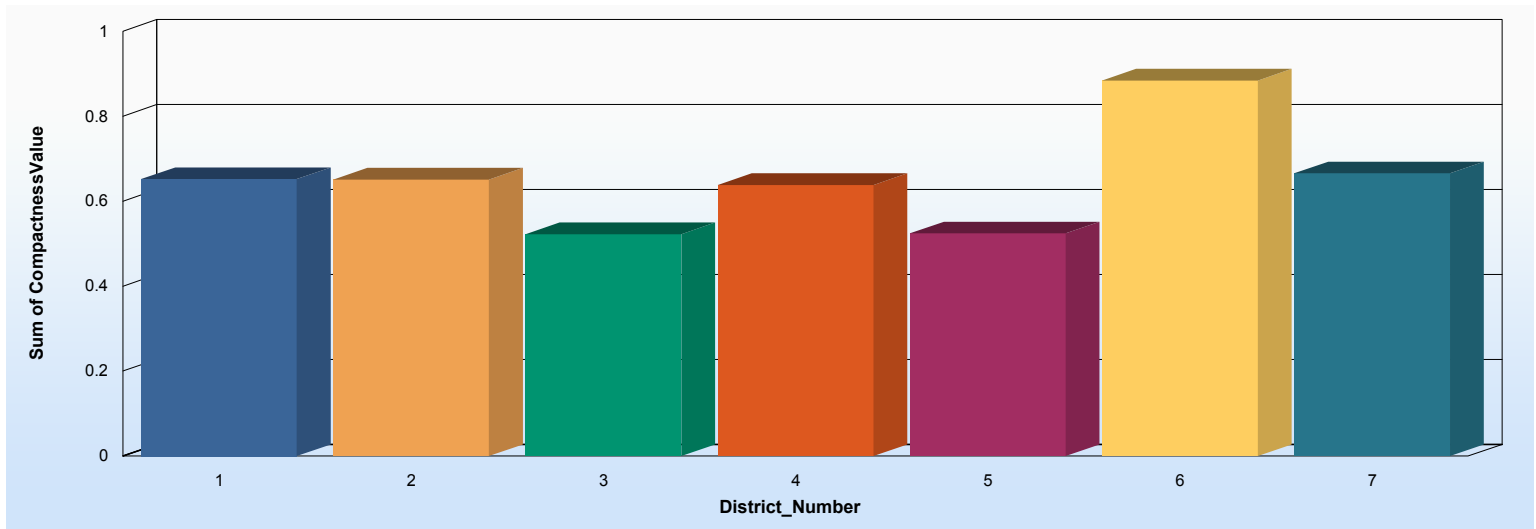
**Circularity Ratio** - Ratio of the area of the District to the area of a circle (the most compact shape) having the same perimeter. That ratio is expressed as  $M = 4\pi(\text{area}) / (\text{perimeter})^2$ . For a circle, the ratio is one. This

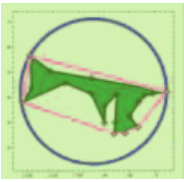


District:	1	Compactness Value:	0.35	As Percent:	34.6%
District:	2	Compactness Value:	0.35	As Percent:	35.4%
District:	3	Compactness Value:	0.24	As Percent:	23.8%
District:	4	Compactness Value:	0.37	As Percent:	37.3%
District:	5	Compactness Value:	0.27	As Percent:	26.6%
District:	6	Compactness Value:	0.72	As Percent:	72.2%
District:	7	Compactness Value:	0.40	As Percent:	40.4%

## Compactness Measure:

**Circumference of an equal area circle divided by the perimeter of the district**





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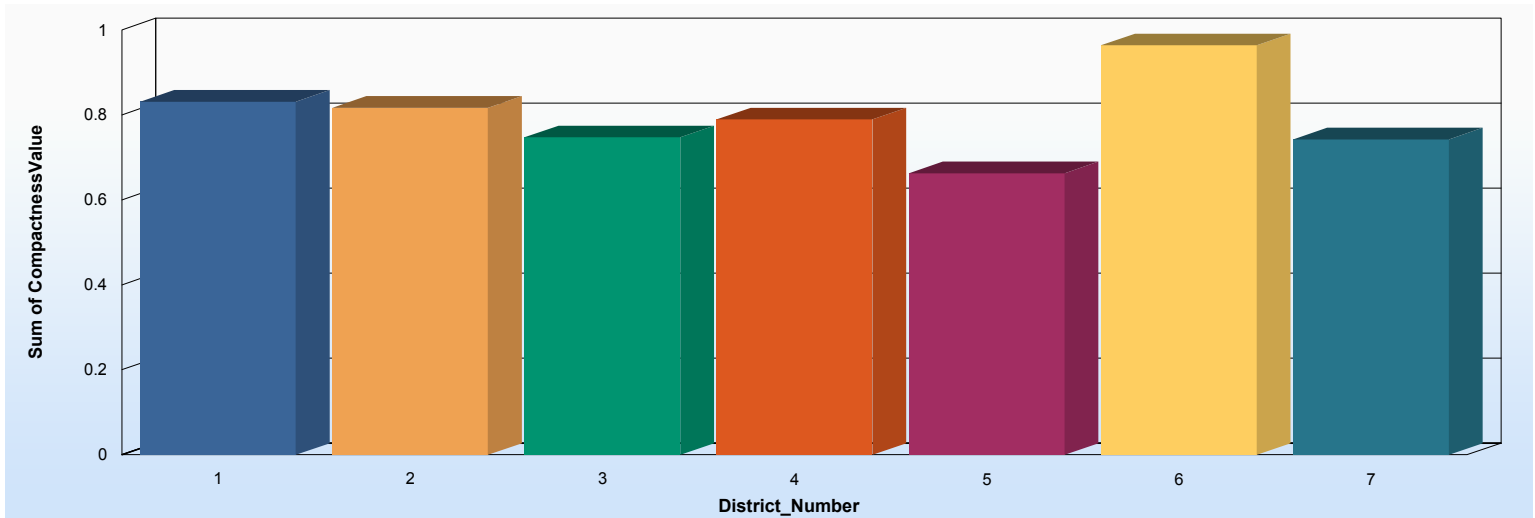
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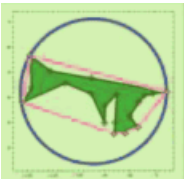
District:	1	Compactness Value:	0.65	As Percent:	65.2%
District:	2	Compactness Value:	0.65	As Percent:	65.1%
District:	3	Compactness Value:	0.52	As Percent:	52.3%
District:	4	Compactness Value:	0.64	As Percent:	63.8%
District:	5	Compactness Value:	0.52	As Percent:	52.4%
District:	6	Compactness Value:	0.88	As Percent:	88.4%
District:	7	Compactness Value:	0.67	As Percent:	66.6%

## Compactness Measure:

District area divided by the area of the district's Convex Hull. This method is also known as the Schwartzberg test.



District:	1	Compactness Value:	0.83	As Percent:	83.2%
District:	2	Compactness Value:	0.82	As Percent:	81.7%
District:	3	Compactness Value:	0.75	As Percent:	74.8%
District:	4	Compactness Value:	0.79	As Percent:	79.0%
District:	5	Compactness Value:	0.66	As Percent:	66.3%
District:	6	Compactness Value:	0.96	As Percent:	96.4%
District:	7	Compactness Value:	0.74	As Percent:	74.3%



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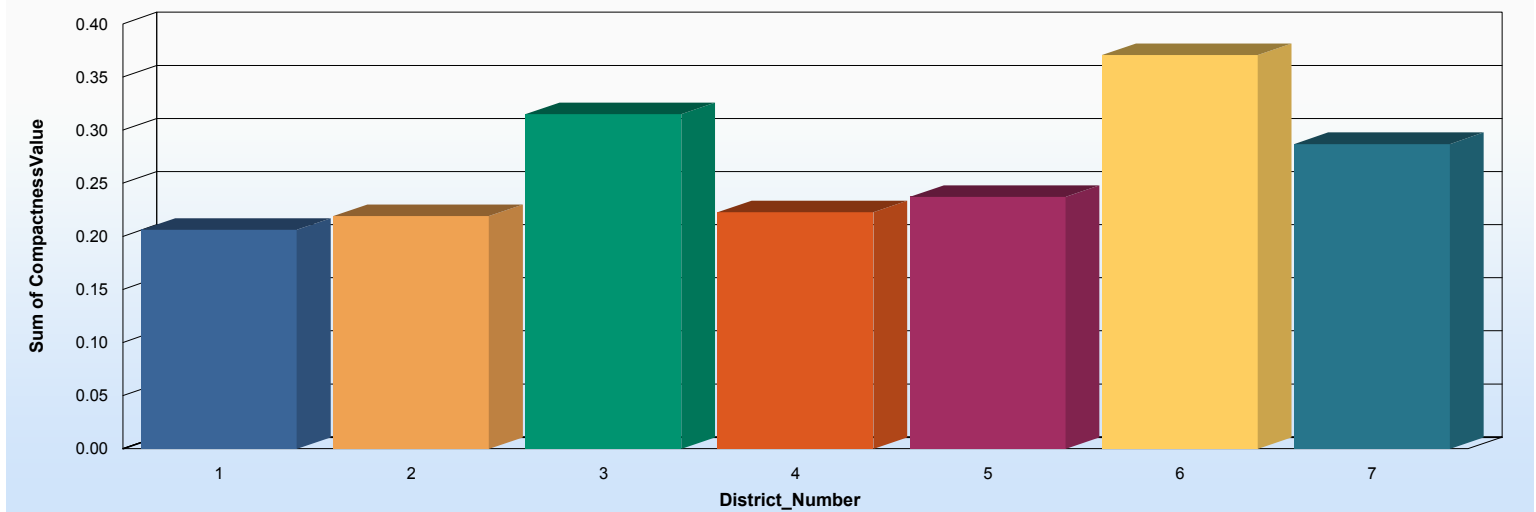
Plan Name: Workspace: AB Plans>>Option 5p

Plan Last Edited on: 2/9/2012 11:01:57 PM

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## Compactness Measure:

District area divided by the area of the minimum circle bounding the district. This method is also known as the Roeck or Ehrenberg test.



District:	1	Compactness Value:	0.21	As Percent:	20.6%
District:	2	Compactness Value:	0.22	As Percent:	21.9%
District:	3	Compactness Value:	0.32	As Percent:	31.5%
District:	4	Compactness Value:	0.22	As Percent:	22.3%
District:	5	Compactness Value:	0.24	As Percent:	23.7%
District:	6	Compactness Value:	0.37	As Percent:	37.1%
District:	7	Compactness Value:	0.29	As Percent:	28.7%

**Total Perimeter for all Districts**

**702.22 Miles**