

Redlining in an Applied Calculus Course

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- Loyola University Maryland



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- predominantly white Jesuit University



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- Baltimore, Maryland





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Economics and Applied Calculus?



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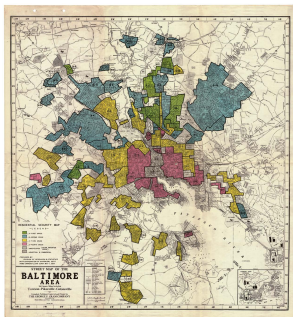
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May 2017: Baltimore Racial Justice Action (BRJA) workshop
Continued discussing with BRJA 2017-2018 for tie-ins

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- Discriminatory housing practice - a way of “block-busting”
- Red neighborhoods = high financial risks
- Home values suffered
- Families had a difficult time moving away (“moving up”)
- Contributed to housing segregation and systemic poverty
- Baltimore is infamous for redlining and other discriminatory housing practices



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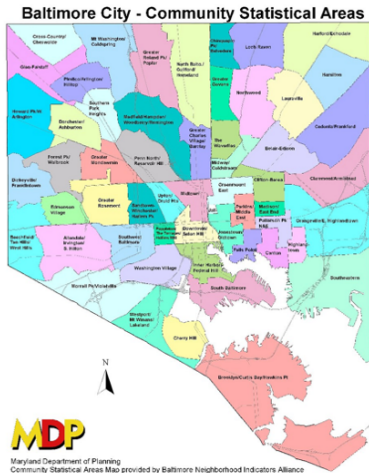
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- 2 Reflection worksheet from BRJA, discussion



During another 50-minute Enrichment Hour

- 1 Map activity
- 2 Baltimore Neighborhood Indicators Alliance (BNIA) stats worksheet
- 3 Share results
- 4 Quotes from Baltimore City 1910 ordinance, etc.
- 5 1937 Security Map, other maps

Find Loyola, York Road, other popular places in Baltimore



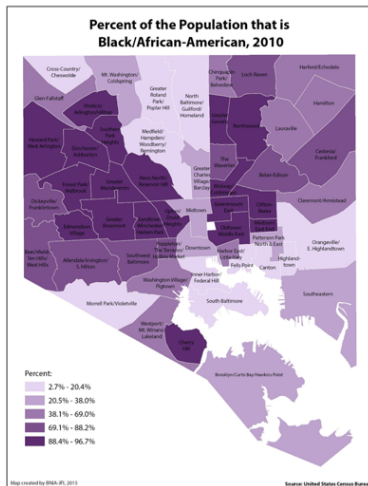
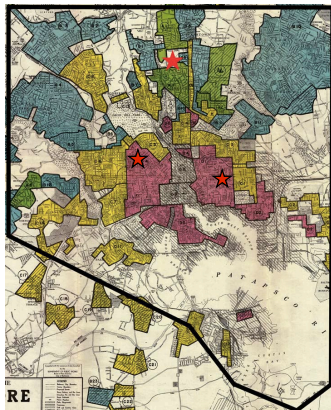


bniajfi.org, split into 4 groups

- ① Percent of Residents - White/Caucasian (Non-Hispanic)
- ② Percent Population (25 years and over) With Less Than a High School Diploma or GED
- ① Unemployment Rate
- ② Percentage of Residential Properties that are Vacant and Abandoned
- ① Percent Population (25 years and over) with a Bachelors Degree or Above
- ② Percent of Children Living Below the Poverty Line
- ① Median Household Income
- ② Life Expectancy

(2015 data)

Neighborhood	Median Income	Life Expectancy
Greater Govans	41,249.8	73.3
North Baltimore/ Guilford/ Homeland	90,704.5	82.4
Oldtown/Middle East	19,127.4	69.4
Sandtown-Winchester/ Harlem Park	25,208.9	68.6
Max	Greater Roland Park: 113,496.1	Cross-Country- Cheswolde: 85.0
Min	Oldtown: 19,127.4	Downtown/ Se- ton Hill: 65.7



Wikipedia Images



(a) Sandtown-Windchester



(b) Guilford



Compound Interest Unit



Compound Interest Unit

For the past 50 years, median housing prices have grown on average 5.4% per year.

Assuming 5.4% annual growth on median housing prices, what would the median price be in 5 years? In year 2065?

Median Price of Homes Sold	in 2015	in 5 years	in 2065
Govans	50,000	65,038.88	693,426.68
Guilford	305,000	396,737.17	4,229,902.76
Sandtown	12,550	16,324.76	174,050.10



Compound Interest Again

Many sub-prime mortgages have higher interest rates, sometimes the difference between a rate of 4.15% and 7.25%.

Suppose a 15 year mortgage of \$120,000 is given at these two different rates of interest. Find the total amount of the loan in that amount of time if it is compounded:

Monthly at 4.15% per year: Monthly at 7.25% per year:

Continuously at 4.15%: Continuously at 7.25%:



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- Lots of stats with BNIA
- Environmental and health data



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`http://math.loyola.edu/~loberbro/Talks/RedliningInfo.html`

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