

# Neighborhood Litter Audit Methodology & Analysis

By Claire Jordan and Julie Lawson Trash Free Maryland

October 2017

#### Acknowledgements

Thank you to the auditors: Juliana Bilowich, Colson Campbell, Tricia Christensen, Charles Graham III, and Louis Kay. Thank you also to Leanna Wetmore of the Waterfront Partnership of Baltimore and Curtis Bennett of the National Aquarium for assisting with methodology development, training, and additional data.

We also appreciate the assistance of the Baltimore City Office of Sustainability, Office of Planning, Department of Public Works, and Environmental Control Board for additional data, mapping support, and project guidance.

This project was funded through a Technical Assistance Grant from the Maryland Department of Housing & Community Development. We are grateful to Assistant Secretary Carol Gilbert and her team for their commitment to reducing litter in Baltimore.

Copyright © 2017

Trash Free Maryland 3002 Laurel Avenue Cheverly, MD 20785

410-861-0412 www.trashfreemaryland.org

We encourage citation and use of this report to inform litter prevention programs and allow free reproduction and circulation, with credit to Trash Free Maryland.

#### **Methodology of Data Collection**

From September 2016 through March 2017, five auditors assigned to five different Baltimore neighborhoods walked through the same blocks of their neighborhood on the same day of each week at roughly the same time. Auditors were given agency in choosing their routes and which blocks to audit, but auditing residential areas was emphasized. While on these walks, some auditors were addressed by community members, auditors noted the type of land use¹ most prevalent in their neighborhood, and rated litter levels on a scale of 1-4; with the exception of Curtis Bay, which was scaled from 0-4. Auditors were instructed to not rate alleys and to not compare litter levels to weeks prior, just to rate the litter levels of that week independently. All of this data was recorded and put into spreadsheets indicating which neighborhoods, which blocks, and which weeks were audited, in addition to when street sweeping, trash collection, and recycling collection occur. That data is analyzed below.

#### **Neighborhood Narratives**

To provide context to the data, below is a narrative for each neighborhood. These narratives are informed by interviews with the auditors and data from the Baltimore Neighborhoods Indicators Alliance.

#### **Baltimore Highlands**

Baltimore Highlands neighborhood has 2,371 total households, 263 total businesses, and 253 total commercial properties. The largest age demographic of the population is 25-64 years old. There are 2,141 total residential properties, 48.5% of housing units are owner occupied, and the vacancy rate is 6.5%. In 2015, the rate of reported dirty streets and alleys made by residents was 53.4 per 1,000. The property crime rate was 45.7 per 1,000 residents and the violent crime rate was 22.8 per 1,000 residents. For this neighborhood trash collection is on Thursdays, recycling collection is on Tuesdays, and street sweeping is weekly on different days, depending on the block.

Baltimore Highlands is mostly residential with a couple of corner shops, bars, a cemetery, and one big retail area. According to the data collector for this neighborhood, who collected data on Mondays around 3pm, the parts of this neighborhood with corner stores and bus stops were cleaner than the quieter, more residential parts. There are no green spaces along this auditor's route and only two public trash cans at each of the bus stops. This data collector also noticed that for some streets, the even or odd side consistently littered more than the other. For one specific street, one side was mostly uninhabited due to a fire that caused the need for renovation; that side had significantly more litter than the side which had homes and people living in them.

#### **Curtis Bay**

Curtis Bay neighborhood has 5,012 total households, 457 total businesses, and 757 total commercial properties. The largest age demographic of the population is 25-64 years old. There are 4,249 total residential properties, 43.5% of housing units are owner-occupied, and the vacancy rate is

<sup>1.</sup> Types of land use recorded include residential, commercial, school building, store front, bus stop, separate space, power plant, church, industry, vacant buildings, apartments, fire station, and parks.

6.2%. In 2015, the rate of reported dirty streets and alleys made by residents was 91.1 per 1,000. The property crime rate was 42.3 per 1,000 residents and the violent crime rate was 18.7 per 1,000 residents. Data for this neighborhood was collected on Thursdays around 6pm. Trash collection is on Tuesdays, recycling collection is on Thursdays, and street sweeping is on the third Wednesday of the month for odd blocks and the fourth Wednesday of the month for even blocks.

This data collector described Curtis Bay neighborhood as having many corner stores, bars, and liquor stores with residential areas scattered throughout. There is also an industrial peninsula in this neighborhood, but it was not surveyed for litter levels. There is only one green space on the route and there are very few trash cans, especially along Pennington Ave. According to the data collector, Pennington Ave is significantly impacted by the lack of trash cans and community members even use their personal trash cans to try and mitigate the litter problem. Pennington Ave has most of Curtis Bay's convenience stores.

#### McElderry Park

McElderry Park neighborhood has 2,082 total households, 214 total businesses, and 186 total commercial properties. The largest age demographic of the population is 25-64 years old. There are 3,237 total residential properties, 24.3% of housing units are owner-occupied, and the vacancy rate is 19.9%. In 2015, the rate of reported dirty streets and alleys made by residents was 221.2 per 1,000. The property crime rate was 55.5 per 1,000 residents and the violent crime rate was 26.5 per 1,000 residents. Data collection for this neighborhood occurred on Saturdays during the early and mid-afternoon period of the day. Trash collection is on Thursdays, recycling collection is on Tuesdays, and street sweeping is weekly on different days, depending on the block.

This data collector described the neighborhood as a close-knit community with high levels of litter, many vacant lots, and few trash cans in the residential areas. The collector noticed trash levels were higher in common spaces, like outside of school and around parks, but less so in front of people's yards. The collector also noticed that weather impacted when people were hanging outside, and indicated that trash levels were lower when people were not outside because of inclement weather. There was almost constant construction happening all over the neighborhood, mostly the demolition or building of homes. There are relatively few businesses on this auditor's route due to the neighborhood sitting right on the edge of a commercial corridor. McElderry Park also had block captains on three of the blocks that were audited: 2400 block of McElderry St. even, 2400 block of McElderry St. odd, and 500 block of Milton even. These blocks had an average litter level of 2.25, 2.03, and 1.97, respectively. With the most common litter level being 1.5, these blocks all had higher averages, but in comparison to the neighborhood average, 2400 block of McElderry St. even and 500 block of Milton even had lower block averages. In comparison to the other blocks audited, the litter levels for these three blocks were in the middle.

#### Mondawmin

Mondawmin neighborhood has 3,132 total households, 239 total businesses, and 140 total commercial properties. The largest age demographic of the population is 25-64 years old. There are 3,444 total residential properties, 50% of housing units are owner-occupied, and the vacancy rate is 12.3%. In 2015, the rate of reported dirty streets and alleys made by residents was 67.8 per 1,000. The property crime rate was 74.9 per 1,000 residents and the violent crime rate was 28.4

per 1,000 residents. For this neighborhood, trash collection is on Fridays, recycling collection is on Wednesdays, and street sweeping is weekly on different days, depending on the block.

The auditor for this neighborhood collected data on Tuesdays at noon every week and noticed high levels of trash, which while on route, community members would frequently complain to this auditor about the trash levels. The majority of this neighborhood is residential with many vacant homes. There is only one liquor store on this auditor's route, but beyond the route and still in the Mondawmin neighborhood, there are many businesses. Other than the school in the neighborhood, there aren't many green spaces and there are no trash cans, about which residents also frequently complained to the auditor. Residents discussed with the auditor the desire for there to be less trash and more accessible trash cans.

#### Waverly

Waverly neighborhood has 3,114 total households, 253 total businesses, and 172 total commercial properties. The largest demographic of the population is in the age group of 25-64 years old. There are 2,690 total residential properties, 58.6% of housing units are owner-occupied, and the vacancy rate is 4.6%. In 2015, the rate of reported dirty streets and alleys made by residents was 68.2 per 1,000. The rate of property crimes was 64.2 per 1,000 residents and the violent crime rate was 20.6 per 1,000 residents. Data collection for this neighborhood occurred on Wednesdays at 2pm from September 27 to February 8, and then at 12pm from February 8, onward. Trash collection is on Tuesdays, recycling collection is on Thursdays, and street sweeping is on the third Wednesday of the month for odd blocks and the fourth Wednesday of the month for even blocks.

The data collector described this neighborhood as mostly residential with the southern half as detached homes with yards and the northern half as rowhouses. Within the blocks where data was collected, there are a few corner stores but it is almost exclusively residential. There is quite a bit of green space in this neighborhood and there are about 3 to 5 public cans that according to the auditor, seemed to be emptied regularly. The auditor noticed specific blocks would have extreme levels of trash that came in waves. For a couple of weeks straight, there would be large amounts of trash and then there would be none. The middle of the neighborhood, specifically 36th St. and McKewin Ave., consistently had greater volumes of trash than the outer streets. The blocks with the worst average litter levels were on 36th St. and McKewin Ave.

### **Analysis of Data**

After the full six months of data was placed into spreadsheets, analysis began by first looking at changes in litter levels between weeks for each of the five neighborhoods. This was done by averaging each week of litter levels and then comparing it to the week before by subtracting it. These numbers were then averaged out to decipher if, over time, litter levels went down or up on average for the full six months of collection. For each of the five neighborhoods, litter levels on average went down over time. The average of changes between weeks for each neighborhood are in Table 1. Table 2 shows the top three worst weeks on average for each neighborhood. Table 3 shows which blocks had the worst averages for each neighborhood. Table 4 shows the average and most frequent litter levels for each neighborhood.

Next, weather data and community events were compared to litter levels in order to see which and to what extent outside factors impacted litter levels. Community events were compiled into a spreadsheet and used to see if litter levels for that day or surrounding days were different, but overall, the community events didn't play a significant role in litter levels. There were a few outliers that could have indicated that the event decreased the amount of litter, but for the majority of the community events that occurred, they were either irrelevant to this study because they occurred outside the scope of data collection, or there was no data collected by specific auditors for the corresponding community events. However, the day after Halloween had particularly high levels of trash for the Mondawmin neighborhood.

Weather data, specifically average temperature, water, snow, average wind, and maximum wind, from weather.gov was collected for every day of the seven months of data collection and then analyzed to identify extreme weather data points. These extreme weather data points were then compared to litter levels for those days to see if there was any impact on the average litter level for that data collection day. Overall, weather and bad weather events didn't play a role in the level of litter on the streets, but 6 times bad weather correlated with bad days of trash.

Weather data and community events were also used in combination to see if there were any impacts on litter levels. In one instance, in the Baltimore Highlands neighborhood on the 3400 Leverton block, both odd and even, a community cleanup event occurred on October 8, 2016. In between when this event occurred and when data was collected for that neighborhood, October 10, 2016, the maximum wind on October 9, 2016 was 23 miles per hour. The litter level for October 10 on the even block of 3400 Leverton was a 4, the highest level of litter that can occur. The blocks surrounding Leverton St. were E. Baltimore St. and E. Lombard St. On October 10, 2016, two days after the community cleanup on the even and odd blocks of 3400 Leverton, 3400 E. Baltimore St. even scored a 4 and 3800 E. Lombard St. even scored a 2. The odd blocks of these streets weren't scored.

Baltimore City's Department of Public Works provided spreadsheets of 311 service calls for each of the five neighborhoods audited. The three types of 311 service calls analyzed were dirty alleys, dirty streets, and storm inlet chokes. The location of where these calls occurred were compared to which blocks in that neighborhood were audited. Table 5 shows the number of 311 service calls that occurred on blocks that were audited for each of the five neighborhoods.

Analysis of data also consisted of looking at land use in relation to particularly bad blocks and for each neighborhood except one, the blocks with the worst average litter levels were residential. Only one, in the Curtis Bay neighborhood, was commercial.

#### Discussion

This litter audit provides a baseline of litter levels in these five neighborhoods that can be used to compare many different data points over time. This litter audit is a study that could be easily replicated throughout the years and in other neighborhoods of Baltimore as well. Because it uses methodology similar to that used in Philadelphia and Washington, DC, it can also be applied to regional evaluations and comparisons. Additionally, the Department of Public Works or anoth-

er entity could determine approximate weight differences among the rankings and use repeated audits to report data per requirements in the City's stormwater permit and trash Total Maximum Daily Load.

Some margins for error in data analysis include data collection missed for some weeks in a few neighborhoods, land use not recorded each for each block for two of the neighborhoods, some collectors switched the time they surveyed their neighborhood halfway through the data collection period, not every block in these neighborhoods were done, and not all community events were compiled.

The following could be factored in and noted for future iterations of this study:

- Data collected from April to August
- The locations of fast food restaurants on the auditors' routes
- Data collected before and after street sweeping, trash collection, and recycling collection
- The locations of corner cans on the auditors' routes and description of how full those corner cans are
- Descriptions of storm drains on the auditors' routes, whether they are clogged or cleared
- Routes that specifically include schools, fast food restaurants, recreation centers, and parks

#### Conclusion

This study provides important data to inform our Trash Free Baltimore campaign and sets us up to have analysis of litter levels over time based on a variety of events and citywide measures.

### **Tables**

**Table 1. Average Change in Litter Levels** 

Neighborhood Name	Average Change between Weeks
Baltimore Highlands	-0.018146552
Curtis Bay	-0.031639929
McElderry Park	-0.018382353
Mondawmin	-0.002022245
Waverly	-0.006666667

Table 2. Top Three Worst Weeks on Average for Each Neighborhood

Neighborhood Name	Week	Average of That Week
Baltimore Highlands	11/14/16 (week 7)	2.793103448
Baltimore Highlands	11/28/16 (week 9)	2.810344828
Baltimore Highlands	3/13/17 (week 24)	2.793103448
Curtis Bay	10/13/16 (week 2)	0.96
Curtis Bay	11/5/16 (week 5)	0.960784314
Curtis Bay	11/17/16 (week 7)	0.970588235
McElderry Park	10/29/16 (week 5)	2.390625
McElderry Park	11/2/16 (week 7)	2.666666667
McElderry Park	1/14/17 (week 16)	2.40625
Mondawmin	11/1/16 (week 7)	2.197674419
Mondawmin	1/3/17 (week 15)	2.162790698
Waverly	10/5/16 (week 2)	2.162790698
Waverly	10/19/16 (week 4)	1.712121212
Waverly	11/9/16 (week 7)	1.681818182

Table 3. Worst Blocks on Average for Each Neighborhood

Neighborhood Name	Block Number	Average Litter Level
Baltimore Highlands	100 S. Eaton even	3.791666667
Curtis Bay	4300 Pennington even	1.52173913
McElderry Park	2700 Jefferson even	3.235294118
Mondawmin	2000 Wallbrook even	2.666666667
Waverly	600 36th St. even	2.365384615

Table 4. Average Litter Levels and Most Frequent Litter Level for Each Neighborhood

Neighborhood Name	Average	Mode
Baltimore Highlands	2.489010989	2
Curtis Bay	0.575149445	1
McElderry Park	2.222027972	1.5
Mondawmin	2.005087209	2
Waverly	1.539906103	1.5

Table 5. Number of 311 Service Calls for Each Neighborhood

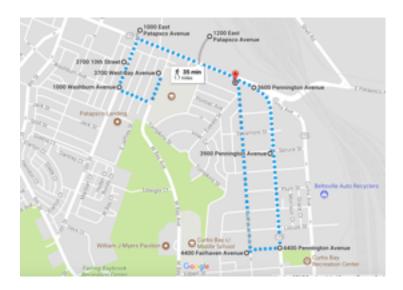
Neighborhood Name	<b>Dirty Alley Calls</b>	<b>Dirty Streets Calls</b>	Storm Inlet Choke Calls
Baltimore Highlands	113	57	0
Curtis Bay	23	3	0
McElderry Park	65	12	1
Mondawmin	2	1	0
Waverly	35	5	1

## Appendix A. Route Maps

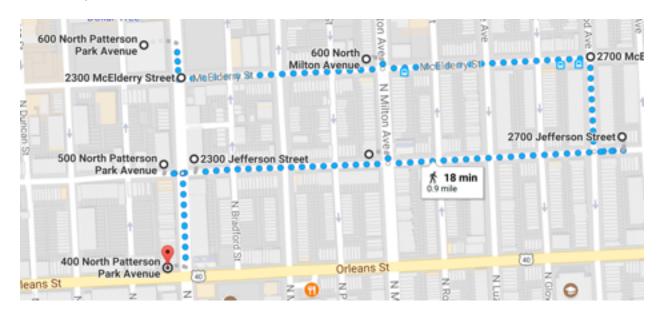
### **Baltimore Highlands**



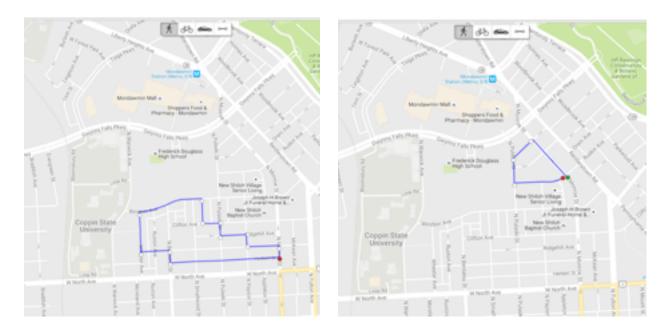
### **Curtis Bay**



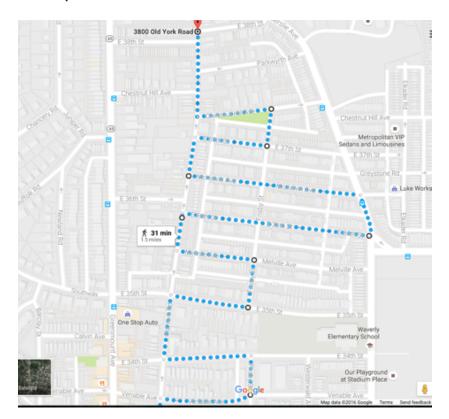
### **McElderry Park**



#### Mondawmin



## Waverly



## Appendix B. Block Averages

## **Baltimore Highlands**

Block	Block Average
000 block S. Highland odd	2.576923077
000 block N Highland odd	1.961538462
100 N Highland odd	1.980769231
3500 E. Fayette even	2.865384615
3500 E. Fayette odd	2.5625
3500 Esther Pl even	3.66666667
3500 Esther Pl odd	2.346153846
3400 E. Fairmount even	3.653846154
3400 E. Fairmount odd	2.354166667
3500 Noble even	3.519230769
3500 Noble odd	1.6875
3400 E. Baltimore even	3.538461538
3400 E. Baltimore odd	2.645833333
3400 Leverton even	3.442307692
3400 Leverton odd	2.1875
3800 Lombard even	1.653846154
3800 Lombard odd	1.895833333
3900 Mt. Pleasant even	2.076923077
3900 Mt. Pleasant odd	1.583333333
100 S. Eaton even	3.791666667
100 S. Eaton odd	2.173076923
3700 Mt. Pleasant even	2.541666667
3700 Mt. Pleasant odd	2.134615385
100 S. Dean even	1.75
100 S. Dean odd	1.596153846
3700 E. Pratt even	2.9375
3700 E. Pratt odd	2.134615385
100 S. Conkling even	2.8125
100 S. Conkling odd	2.115384615

### **Curtis Bay (scored 0-4)**

Block	Block Average
3800 West Bay evens	0.826086957
3800 West Bay odds	0.456521739
3700 West Bay evens	0.434782609
3700 West Bay odds	0.260869565
1000 Washburn evens	0.586956522
1000 Washburn odds	0.630434783
3700 10th St. evens	0.760869565
3700 10th St. odds	0.717391304
Patapsco/10th St. bus stop	0.782608696
1000 E Patapsco evens	0.847826087
1000 E Patapsco odds	0.652173913
1100 E Patapsco evens	0.826086957
1100 E Patapsco odds	0.652173913
1200-1300 E Patapsco evens	0.636363636
1200 E Patapsco odds	0.840909091
1300 E Patapsco odds	1
3600 Pennington evens	1.086956522
3700 Pennington evens	0.97826087
3600-3700 Pennington odds	0.260869565
3800 Pennington evens	0.5
3800 Pennington odds	0.652173913
3900 Pennington evens	0.673913043
3900 Pennington odds	0.304347826
4000 Pennington evens	0.695652174
4000 Pennington odds	0.717391304
4100 Pennington evens	0.543478261
4100 Pennington odds	0.413043478
4200 Pennington evens	0.630434783
4200 Pennington odds	0.782608696
4300 Pennington evens	1.52173913
4300 Pennington odds	0.47826087
4400 Pennington evens	0.326086957
4400 Pennington odds	0.086956522
4400 Fairhaven evens	0.695652174
4400 Fairhaven odds	0.195652174
4300 Fairhaven evens	0.52173913

4300 Fairhaven odds	0.391304348
4200 Fairhaven evens	0.47826087
4200 Fairhaven odds	0.434782609
4100 Fairhaven evens	0.347826087
4100 Fairhaven odds	0.282608696
4000 Fairhaven evens	0.47826087
4000 Fairhaven odds	0.413043478
3900 Fairhaven evens	0.456521739
3900 Fairhaven odds	0.456521739
3800 Fairhaven evens	0.369565217
3800 Fairhaven odds	0.347826087
3700 Fairhaven evens	0.52173913
3700 Fairhaven odds	0.369565217
3600 Fairhaven evens	0.47826087
3600 Fairhaven odds	0.543478261

## McElderry Park

Block	Block Average
600 block Patterson even	2.61111111
600 block Patterson odd	1.61111111
2300 block McElderry even	1.972222222
2300 block Mc Elderry odd	1.833333333
2400 block McElderry even	2.25
2400 block McElderry odd	2.027777778
600 block Milton even	1.972222222
600 block Milton odd	2.05555556
2500 block McElderry even	2.361111111
2500 block McElderry odd	2.416666667
2600 block McElderry even	2.861111111
2600 block McElderry odd	3.138888889
2700 block McElderry even	2.861111111
2700 block McElderry odd	2.833333333
2700 block Jefferson even	3.235294118
2700 block Jefferson odd	2.617647059
2600 block Jefferson even	2.61111111
2600 block Jefferson odd	2.30555556
2500 block Jefferson even	2.416666667
2500 block Jefferson odd	1.833333333
500 block Milton even	1.972222222
500 block Milton odd	1.88888889
2400 block Jefferson even	2.361111111
2400 block Jefferson odd	1.88888889
2300 block Jefferson even	1.77777778
2300 block Jefferson odd	1.63888889
500 block Patterson even	2.138888889
500 block Patterson odd	1.94444444
400 block Milton even	2.235294118
400 block Milton odd	2.029411765
400 block Patterson even	1.88888889
400 block Patterson odd	1.583333333

### Mondawmin

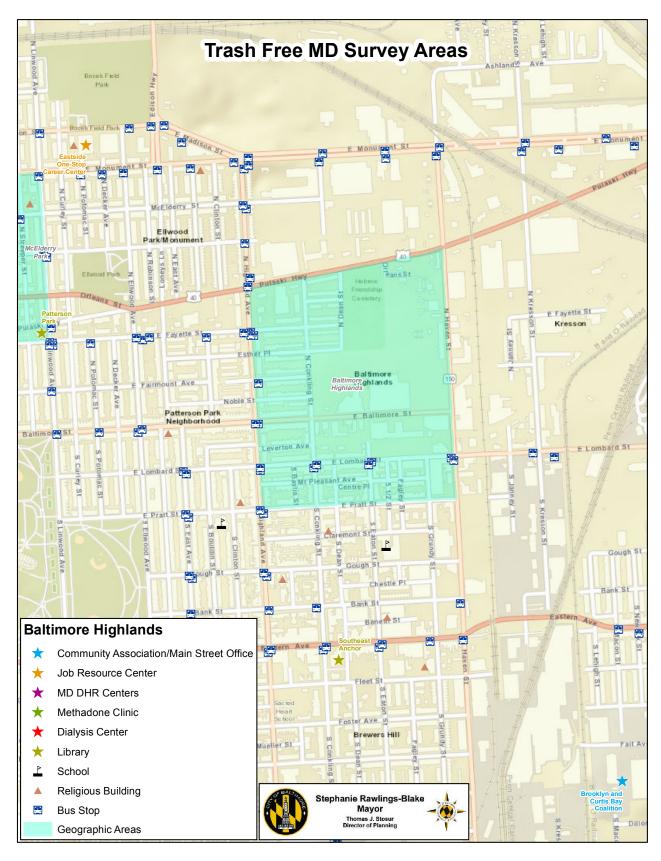
Herbert 1900 even   2.29166667     Herbert 1900 odd   1.75     N Payson 1900 even   2.125     N Payson 1900 odd   2.229166667     Wallbrook 2000 even   2.6666666666     Wallbrook 2000 odd   2.20833333     Wallbrook 2100 even   1.625     Wallbrook 2100 odd   1.791666667     Wallbrook 2200 even   1.875     Wallbrook 2200 even   1.875     Wallbrook 2300 even   2.645833333     Wallbrook 2300 even   2.645833333     Wallbrook 2300 even   1.625     Wallbrook 2300 even   2.645833333     Wallbrook 2300 odd   1.729166667     Wallbrook 2300 odd   1.729166667     Wallbrook 2400 odd   1.95833333     Wallbrook 2500 even   1.520833333     Wallbrook 2500 even   1.520833333     Wallbrook 2500 odd   1.5     Wheeler 1900 odd   1.354166667     Windsor 2300 odd   1.854166667     Windsor 2300 odd   1.729166667     Windsor 2300 odd   1.729166667     Windsor 2300 odd   1.5625     N Smallwood 2100 even   2.5     N Smallwood 2100 even   2.104166667     Clifton 2100 even   2.125     N Pulaski 2000 even   3.9375     Ridgehill 2000 even   2.52083333     N Pulaski 2000 even   2.52083333     N Payson 1900 even   2.52083333     N Payson 1900 odd   1.708333333     N Payson 1900 odd   1.666666667     Wallbrook 1800 even   2.1266666667     Wallbrook 1800 even   2.125     Monroe 2300 odd   2.08333333     Monlore 2400 odd   2.08333333     Monroe 2400 odd   2.02833333     Monroe 2400 odd   2.02833333	Block	Block Averages
N Payson 1900 even       2.125         N Payson 1900 odd       2.229166667         Wallbrook 2000 even       2.666666667         Wallbrook 2000 odd       2.208333333         Wallbrook 2100 even       1.625         Wallbrook 2200 even       1.875         Wallbrook 2200 odd       1.166666667         Wallbrook 2300 even       2.645833333         Wallbrook 2300 odd       1.729166667         Wallbrook 2400 even       1.645833333         Wallbrook 2400 even       1.558333333         Wallbrook 2500 even       1.520833333         Wallbrook 2500 odd       1.5         Wheeler 1900 odd       1.554166667         Windsor 2300 odd       1.854166667         Windsor 2300 odd       1.729166667         Windsor 2300 odd       2.0625         N Smallwood 2100 even       2.5         N Smallwood 2100 even       2.104166667         Cliffon 2100 even       2.104166667         Cliffon 2100 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       3.9375         Ridgehill 2000 even       2.6875         N Payson 1900 even       2.166666667         Wallbrook 1800 even       2.166666667	Herbert 1900 even	2.291666667
N Payson 1900 odd       2.229166667         Wallbrook 2000 even       2.666666667         Wallbrook 2000 odd       2.208333333         Wallbrook 2100 even       1.625         Wallbrook 2100 odd       1.791666667         Wallbrook 2200 even       1.875         Wallbrook 2200 odd       1.166666667         Wallbrook 2300 odd       1.729166667         Wallbrook 2300 odd       1.729166667         Wallbrook 2400 even       1.645833333         Wallbrook 2400 odd       1.958333333         Wallbrook 2500 odd       1.5         Wheeler 1900 odd       1.35416667         Wheeler 1900 odd       2.22916667         Windsor 2300 odd       1.854166667         Windsor 2300 odd       1.729166667         Windsor 2300 odd       2.0625         N Smallwood 2100 even       2.5         N Smallwood 2100 odd       1.5625         Cliffon 2100 even       2.104166667         Cliffon 2100 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       3.9375         Ridgehill 2000 even       2.520833333         N Payson 1900 odd       1.708333333         Wallbrook 1800 even       2.166666667 <tr< td=""><td>Herbet 1900 odd</td><td>1.75</td></tr<>	Herbet 1900 odd	1.75
Wallbrook 2000 even         2.666666667           Wallbrook 2000 odd         2.208333333           Wallbrook 2100 even         1.625           Wallbrook 2100 odd         1.791666667           Wallbrook 2200 even         1.875           Wallbrook 2200 odd         1.166666667           Wallbrook 2300 even         2.645833333           Wallbrook 2300 odd         1.729166667           Wallbrook 2400 even         1.645833333           Wallbrook 2400 even         1.6458333333           Wallbrook 2500 even         1.520833333           Wallbrook 2500 odd         1.5           Wheeler 1900 odd         1.354166667           Windsor 2300 odd         2.229166667           Windsor 2300 odd         1.854166667           Windsor 2300 odd         1.854166667           Windsor 2300 odd         2.0625           N Smallwood 2100 even         2.5           N Smallwood 2100 even         2.5           N Smallwood 2100 odd         1.5625           Clifton 2100 even         2.104166667           Clifton 2100 even         2.125           N Pulaski 2000 even         3.9375           Ridgehill 2000 even         2.520833333           N Payson 1900 even         2.520833333     <	N Payson 1900 even	2.125
Wallbrook 2000 odd         2.208333333           Wallbrook 2100 even         1.625           Wallbrook 2100 odd         1.791666667           Wallbrook 2200 even         1.875           Wallbrook 2300 even         2.645833333           Wallbrook 2300 odd         1.729166667           Wallbrook 2400 even         1.645833333           Wallbrook 2400 even         1.645833333           Wallbrook 2500 even         1.520833333           Wallbrook 2500 odd         1.5           Wheeler 1900 odd         1.354166667           Wheeler 2000 odd         2.229166667           Windsor 2300 odd         1.729166667           Windsor 2300 odd         1.729166667           Windsor 200 odd         2.0625           N Smallwood 2100 even         2.5           N Smallwood 2100 odd         1.5625           Clifton 2100 even         2.104166667           Clifton 2100 even         2.125           N Pulaski 2000 even         3.9375           Ridgehill 2000 odd         2.6875           N Payson 1900 even         2.520833333           N Payson 1900 odd         1.708333333           Wallbrook 1800 even         2.126666667           Wallbrook 1800 odd         1.666666667	N Payson 1900 odd	2.229166667
Wallbrook 2100 even       1.625         Wallbrook 2100 odd       1.791666667         Wallbrook 2200 even       1.875         Wallbrook 2200 odd       1.166666667         Wallbrook 2300 even       2.645833333         Wallbrook 2400 even       1.645833333         Wallbrook 2400 odd       1.958333333         Wallbrook 2500 even       1.520833333         Wallbrook 2500 odd       1.5         Wheeler 1900 odd       1.354166667         Wheeler 2000 odd       2.229166667         Windsor 2300 odd       1.854166667         Windsor 2300 odd       1.729166667         Windsor 2200 odd       2.0625         N Smallwood 2100 even       2.5         N Smallwood 2100 odd       1.5625         Clifton 2100 even       2.104166667         Clifton 2100 odd       2.02833333         N Pulaski 2000 even       3.9375         Ridgehill 2000 odd       1.541666667         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.708333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.083333333	Wallbrook 2000 even	2.66666667
Wallbrook 2100 odd       1.791666667         Wallbrook 2200 even       1.875         Wallbrook 2200 odd       1.166666667         Wallbrook 2300 even       2.645833333         Wallbrook 2300 odd       1.729166667         Wallbrook 2400 even       1.6458333333         Wallbrook 2400 odd       1.958333333         Wallbrook 2500 even       1.5208333333         Wallbrook 2500 odd       1.5         Wheeler 1900 odd       1.354166667         Wheeler 2000 odd       2.229166667         Windsor 2300 odd       1.854166667         Windsor 2300 odd       1.729166667         Windsor 2200 odd       2.0625         N Smallwood 2100 even       2.5         N Smallwood 2100 even       2.5         Clifton 2100 even       2.104166667         Clifton 2100 odd       2.020833333         N Pulaski 2000 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       2.520833333         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.708333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125	Wallbrook 2000 odd	2.208333333
Wallbrook 2200 even         1.875           Wallbrook 2200 odd         1.166666667           Wallbrook 2300 even         2.645833333           Wallbrook 2300 odd         1.729166667           Wallbrook 2400 even         1.645833333           Wallbrook 2400 odd         1.958333333           Wallbrook 2500 even         1.5208333333           Wallbrook 2500 odd         1.5           Wheeler 1900 odd         1.354166667           Wheeler 2000 odd         2.229166667           Windsor 2300 odd         1.729166667           Windsor 2300 odd         2.0625           N Smallwood 2100 even         2.5           N Smallwood 2100 odd         1.5625           Clifton 2100 even         2.104166667           Clifton 2100 odd         2.020833333           N Pulaski 2000 even         2.125           N Pulaski 2000 even         3.9375           Ridgehill 2000 even         2.520833333           N Payson 1900 even         2.520833333           N Payson 1900 odd         1.708333333           Wallbrook 1800 even         2.166666667           Wallbrook 2300 odd         1.666666667           Wallbrook 2300 odd         2.083333333	Wallbrook 2100 even	1.625
Wallbrook 2200 odd       1.166666667         Wallbrook 2300 even       2.645833333         Wallbrook 2300 odd       1.729166667         Wallbrook 2400 even       1.645833333         Wallbrook 2500 odd       1.958333333         Wallbrook 2500 odd       1.5         Wheeler 1900 odd       1.354166667         Wheeler 2000 odd       2.229166667         Windsor 2300 odd       1.854166667         Windsor 2300 odd       2.0625         N Smallwood 2100 even       2.5         N Smallwood 2100 even       2.104166667         Clifton 2100 even       2.104166667         Clifton 2100 odd       2.020833333         N Pulaski 2000 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       3.9375         Ridgehill 2000 odd       2.6875         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.708333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 odd       2.083333333	Wallbrook 2100 odd	1.791666667
Wallbrook 2300 even       2.645833333         Wallbrook 2300 odd       1.729166667         Wallbrook 2400 even       1.645833333         Wallbrook 2400 odd       1.958333333         Wallbrook 2500 even       1.520833333         Wallbrook 2500 odd       1.5         Wheeler 1900 odd       1.354166667         Wheeler 2000 odd       2.229166667         Windsor 2300 odd       1.729166667         Windsor 2300 odd       2.0625         N Smallwood 2100 even       2.5         N Smallwood 2100 odd       1.5625         Clifton 2100 even       2.104166667         Clifton 2100 odd       2.020833333         N Pulaski 2000 even       2.125         N Pulaski 2000 even       3.9375         Ridgehill 2000 even       3.9375         Ridgehill 2000 odd       2.6875         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.708333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.083333333	Wallbrook 2200 even	1.875
Wallbrook 2300 odd       1.729166667         Wallbrook 2400 even       1.645833333         Wallbrook 2500 even       1.5208333333         Wallbrook 2500 odd       1.5         Wheeler 1900 odd       1.354166667         Wheeler 2000 odd       2.229166667         Windsor 2300 odd       1.854166667         Windsor 2300 odd       1.729166667         Windsor 2200 odd       2.0625         N Smallwood 2100 even       2.5         N Smallwood 2100 even       2.104166667         Clifton 2100 even       2.104166667         Clifton 2100 odd       2.020833333         N Pulaski 2000 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 odd       2.6875         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.708333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 odd       2.083333333	Wallbrook 2200 odd	1.166666667
Wallbrook 2400 even       1.645833333         Wallbrook 2500 even       1.5208333333         Wallbrook 2500 odd       1.5         Wheeler 1900 odd       1.354166667         Wheeler 2000 odd       2.229166667         Windsor 2300 odd       1.854166667         Windsor 2300 odd       1.729166667         Windsor 2200 odd       2.0625         N Smallwood 2100 even       2.5         N Smallwood 2100 odd       1.5625         Clifton 2100 even       2.104166667         Clifton 2100 odd       2.020833333         N Pulaski 2000 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       3.9375         Ridgehill 2000 even       2.520833333         N Payson 1900 odd       1.708333333         N Payson 1900 odd       1.708333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.083333333	Wallbrook 2300 even	2.645833333
Wallbrook 2400 odd       1.958333333         Wallbrook 2500 even       1.5208333333         Wallbrook 2500 odd       1.5         Wheeler 1900 odd       1.354166667         Wheeler 2000 odd       2.229166667         Windsor 2300 odd       1.854166667         Windsor 2300 odd       2.0625         N Smallwood 2100 even       2.5         N Smallwood 2100 odd       1.5625         Clifton 2100 even       2.104166667         Clifton 2100 odd       2.020833333         N Pulaski 2000 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       3.9375         Ridgehill 2000 odd       2.6875         N Payson 1900 odd       1.708333333         N Payson 1900 odd       1.7083333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.083333333	Wallbrook 2300 odd	1.729166667
Wallbrook 2500 even       1.520833333         Wallbrook 2500 odd       1.5         Wheeler 1900 odd       1.354166667         Wheeler 2000 odd       2.229166667         Windsor 2300 odd       1.854166667         Windsor 2300 odd       2.0625         N Smallwood 2100 even       2.5         N Smallwood 2100 odd       1.5625         Clifton 2100 even       2.104166667         Clifton 2100 odd       2.020833333         N Pulaski 2000 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       3.9375         Ridgehill 2000 odd       2.6875         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.7083333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.0833333333	Wallbrook 2400 even	1.645833333
Wallbrook 2500 odd       1.5         Wheeler 1900 odd       1.354166667         Wheeler 2000 odd       2.229166667         Windsor 2300 odd       1.854166667         Windsor 2300 odd       2.0625         N Smallwood 2100 even       2.5         N Smallwood 2100 odd       1.5625         Clifton 2100 even       2.104166667         Clifton 2100 even       2.125         N Pulaski 2000 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       3.9375         Ridgehill 2000 odd       2.6875         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.7083333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.0833333333	Wallbrook 2400 odd	1.958333333
Wheeler 1900 odd       1.354166667         Wheeler 2000 odd       2.229166667         Windsor 2300 odd       1.854166667         Windsor 2300 odd       1.729166667         Windsor 2200 odd       2.0625         N Smallwood 2100 even       2.5         N Smallwood 2100 odd       1.5625         Clifton 2100 even       2.104166667         Clifton 2100 odd       2.020833333         N Pulaski 2000 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       3.9375         Ridgehill 2000 odd       2.6875         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.7083333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.0833333333	Wallbrook 2500 even	1.520833333
Wheeler 2000 odd       2.229166667         Windsor 2300 odd       1.854166667         Windsor 2300 odd       1.729166667         Windsor 2200 odd       2.0625         N Smallwood 2100 even       2.5         N Smallwood 2100 odd       1.5625         Clifton 2100 even       2.104166667         Clifton 2100 odd       2.020833333         N Pulaski 2000 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       3.9375         Ridgehill 2000 odd       2.6875         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.7083333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.0833333333	Wallbrook 2500 odd	1.5
Windsor 2300 odd       1.854166667         Windsor 2300 odd       2.0625         Windsor 2200 odd       2.0625         N Smallwood 2100 even       2.5         N Smallwood 2100 odd       1.5625         Clifton 2100 even       2.104166667         Clifton 2100 odd       2.020833333         N Pulaski 2000 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       3.9375         Ridgehill 2000 odd       2.6875         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.7083333333         Wallbrook 1800 even       2.1666666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.0833333333	Wheeler 1900 odd	1.354166667
Windsor 2300 odd       1.729166667         Windsor 2200 odd       2.0625         N Smallwood 2100 even       2.5         N Smallwood 2100 odd       1.5625         Clifton 2100 even       2.104166667         Clifton 2100 odd       2.020833333         N Pulaski 2000 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       3.9375         Ridgehill 2000 odd       2.6875         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.7083333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.0833333333	Wheeler 2000 odd	2.229166667
Windsor 2200 odd       2.0625         N Smallwood 2100 even       2.5         N Smallwood 2100 odd       1.5625         Clifton 2100 even       2.104166667         Clifton 2100 odd       2.020833333         N Pulaski 2000 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       3.9375         Ridgehill 2000 odd       2.6875         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.7083333333         Wallbrook 1800 even       2.1666666667         Wallbrook 1800 odd       1.6666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.0833333333	Windsor 2300 odd	1.854166667
N Smallwood 2100 even       2.5         N Smallwood 2100 odd       1.5625         Clifton 2100 even       2.104166667         Clifton 2100 odd       2.020833333         N Pulaski 2000 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       3.9375         Ridgehill 2000 odd       2.6875         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.708333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.083333333	Windsor 2300 odd	1.729166667
N Smallwood 2100 odd       1.5625         Clifton 2100 even       2.104166667         Clifton 2100 odd       2.020833333         N Pulaski 2000 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       3.9375         Ridgehill 2000 odd       2.6875         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.7083333333         Wallbrook 1800 even       2.1666666667         Wallbrook 1800 odd       1.6666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.0833333333	Windsor 2200 odd	2.0625
Clifton 2100 even       2.104166667         Clifton 2100 odd       2.020833333         N Pulaski 2000 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       3.9375         Ridgehill 2000 odd       2.6875         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.7083333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.083333333	N Smallwood 2100 even	2.5
Clifton 2100 odd       2.020833333         N Pulaski 2000 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       3.9375         Ridgehill 2000 odd       2.6875         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.7083333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.083333333	N Smallwood 2100 odd	1.5625
N Pulaski 2000 even       2.125         N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       3.9375         Ridgehill 2000 odd       2.6875         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.7083333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.083333333	Clifton 2100 even	2.104166667
N Pulaski 2000 odd       1.541666667         Ridgehill 2000 even       3.9375         Ridgehill 2000 odd       2.6875         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.7083333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.083333333	Clifton 2100 odd	2.020833333
Ridgehill 2000 even       3.9375         Ridgehill 2000 odd       2.6875         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.7083333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.083333333	N Pulaski 2000 even	2.125
Ridgehill 2000 odd       2.6875         N Payson 1900 even       2.520833333         N Payson 1900 odd       1.7083333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.083333333	N Pulaski 2000 odd	1.541666667
N Payson 1900 even       2.520833333         N Payson 1900 odd       1.708333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.083333333	Ridgehill 2000 even	3.9375
N Payson 1900 odd       1.708333333         Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.083333333	Ridgehill 2000 odd	2.6875
Wallbrook 1800 even       2.166666667         Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.083333333	N Payson 1900 even	2.520833333
Wallbrook 1800 odd       1.666666667         Monroe 2300 even       2.125         Monroe 2300 odd       2.083333333	N Payson 1900 odd	1.708333333
Monroe 2300 even       2.125         Monroe 2300 odd       2.083333333	Wallbrook 1800 even	2.166666667
Monroe 2300 odd 2.083333333	Wallbrook 1800 odd	1.66666667
	Monroe 2300 even	2.125
Monroe 2400 odd 2.020833333	Monroe 2300 odd	2.083333333
	Monroe 2400 odd	2.020833333

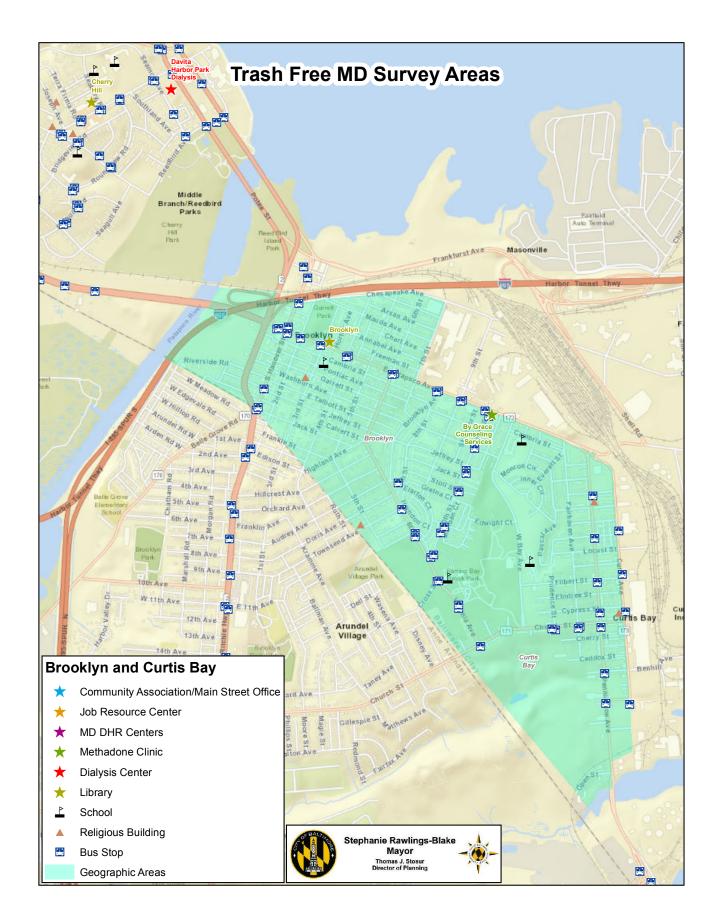
Whittier 2000 even	2.125
Bryant 2000 odd	1.958333333
Bryant 2000 even	2.25
N Pulaski 2400 odd	1.864583333
N Pulaski 2300 odd	1.9375
Elgin Ave 2000 odd	1.916666667
Elgin Ave 1900 odd	1.4375

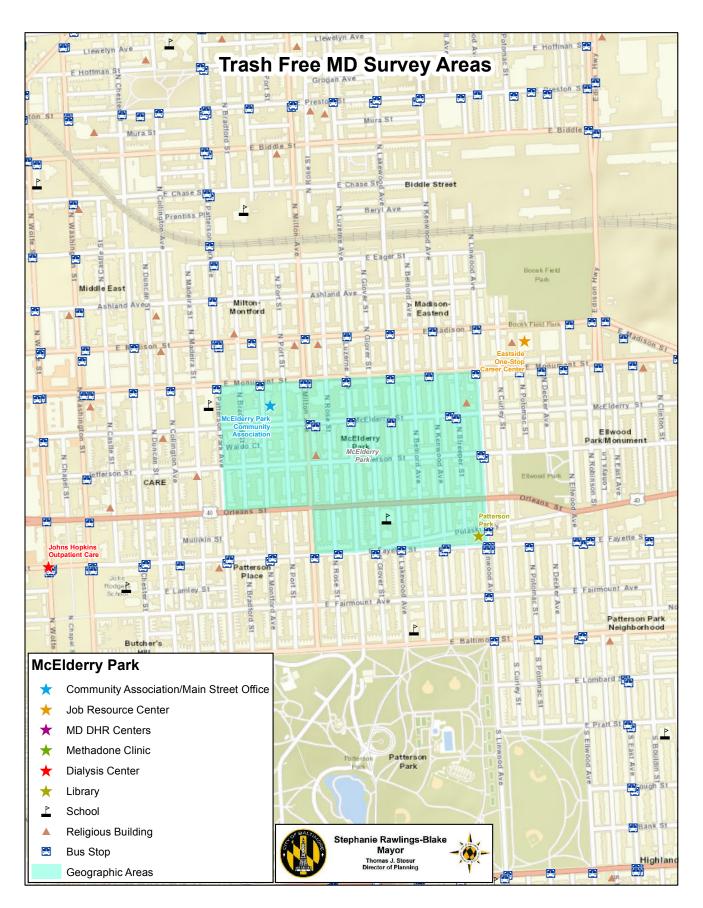
### Waverly

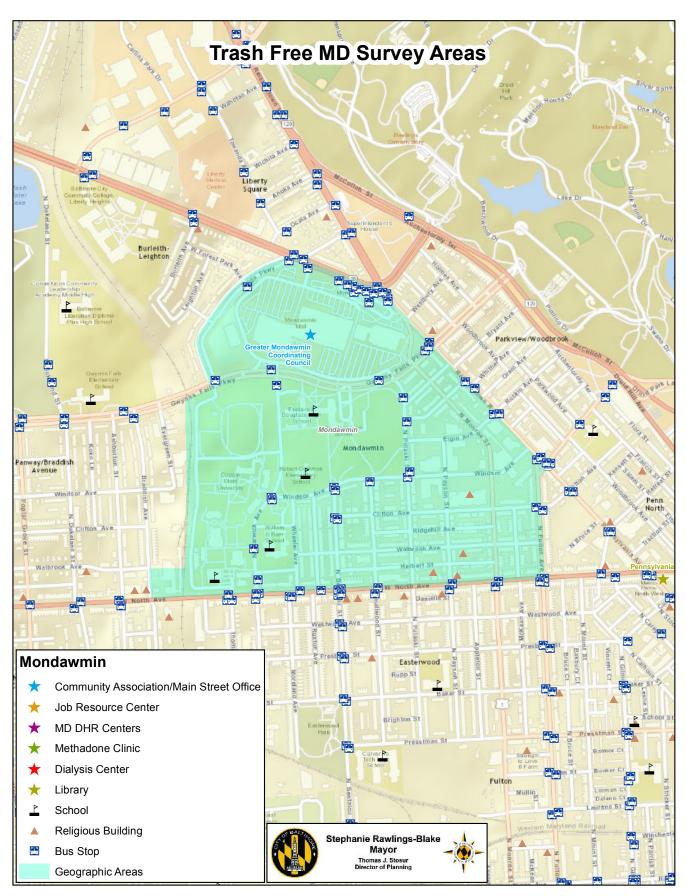
Block	Block Average
600 Venable Ave. (even)	1.269230769
600 34th St. (even)	1.384615385
600 34th St. (odd)	1.153846154
600 35th St. (even)	1.653846154
600 35th St. (odd)	1.423076923
600 Melville Ave. (even)	1.923076923
600 Melville Ave. (odd)	1.826923077
700 Melville Ave. (even)	1.538461538
700 Melville Ave. (odd)	1.461538462
600 36th St. (even)	2.365384615
600 36th St. (odd)	2.115384615
700 36th St. (even)	1.903846154
700 36th St. (odd)	1.711538462
600 McKewin Ave. (even)	1.692307692
600 McKewin Ave. (odd)	1.576923077
700 McKewin Ave. (even)	2.192307692
700 McKewin Ave. (odd)	1.865384615
600 37th St. (even)	1.480769231
600 37th St. (odd)	1.230769231
700 37th St. (even)	1.211538462
700 37th St. (odd)	1.096153846
600 Chestnut Hill Ave. (even)	1.083333333
700 Chestnut Hill Ave. (even)	1.208333333
700 Chestnut Hill Ave. (odd)	1.104166667
600 Parkwryth Ave. (even)	1.346153846
600 Parkwryth Ave (odd)	1.384615385
500 38th St. (even)	1.5
500 38th St. (odd)	1.423076923
600 38th St. (even)	1.634615385
600 38th St. (odd)	1.596153846
3400 Old York Rd. (even)	1.538461538
3500 Old York Rd. (odd)	1.692307692
3600 Old York Rd. (odd)	1.134615385

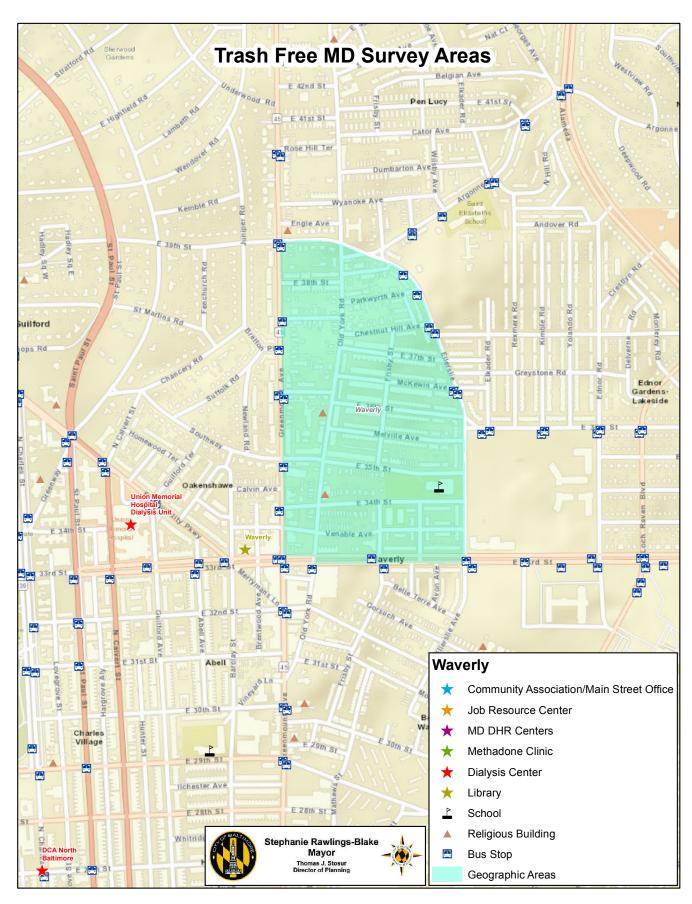
Appendix C. Office of Planning Neighborhood Maps









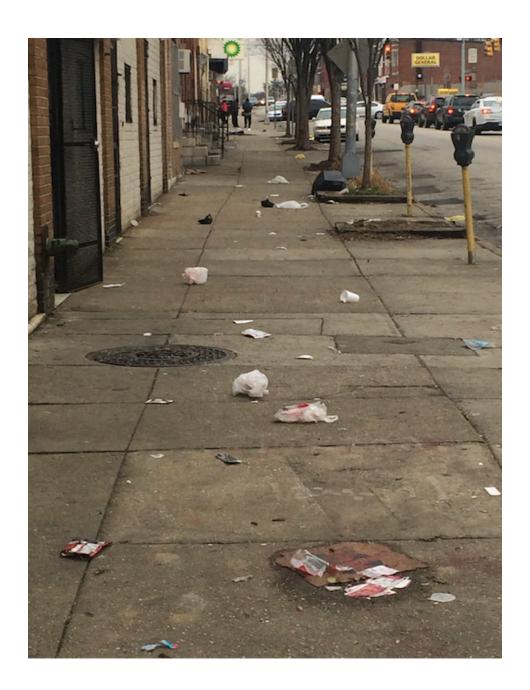


## Appendix D. Visual Scoring Standards















Trash Free Maryland 3002 Laurel Avenue Cheverly, MD 20785