

Synthetic Tumbleweeds in the North American Food Desert
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The following are accompanying notes to a powerpoint presentation concerning research conducted Spring 2011 in Paterson, NJ. See outerspacecities.com/paterson.html for more info.

(slide: cover)

This project was conducted as part of a final paper during my master's degree in urban planning at Rutgers. I will be discussing ways in which trash can be used as methodology to help deepen our understanding of issues of interest to geographers and then displaying a specific instance of employing this methodology. The ideas of an activist methodology relating to solid waste collection are in their infancy and I welcome questions and comments as I hope to develop this further at the PhD level.

(slide: food desert?)

Food deserts are generally considered to be geographic areas that have economic or spatial barriers to accessing healthy food, resulting in inequitable health outcomes (Wrigley 2002, Zenk et al 2005, Cummins 2007). Research on this phenomenon has existed for decades and intensified over the past decade yet there is no consensus on an exact metric to determine a food desert's existence and as such, no agreed upon definition of a food desert. The most common methods used to identify food deserts are basket of good studies and geographic studies, often used in conjunction with each other (Beulac et al 2009).

Basket of good studies aim to determine if a fixed group of items is more expensive or of lesser quality between neighborhoods with certain socioeconomic characteristics. There is a significant amount of variability in this approach as the baskets chosen differ and the selection of stores, neighborhoods and goods can be deterministic (ibid). Basket of goods studies produced mixed results; some established the existence of higher prices in low-income areas (Green 1991), others that African-American neighborhoods suffer from higher prices (Hall 1983). Conversely, several have shown no difference in price between various neighborhood characteristics (Crocket et al 1992, Hayes 2000), and still others concluded that price differential exists when comparing quality (Captain 1969, Jetter 2006).

The geographic approach is more concerned with the existence of or ease of access to food retailers and less with the price and type of food contained within. The definition used for access and what constitutes a food retailer varies and can be very place specific. The distance assumed to be acceptable to access groceries differs between studies and largely depends upon local spatial patterns and densities. Unlike basket of goods studies, the geographic approach overwhelmingly shows disparities in the distance to grocery stores based on both race and income characteristics of neighborhoods (Smoyer-Tomic et al 2006, Morland et al 2002, Helling and Sawicki 2003, White et al 2003, Moore and Diez Roux 2006).

A shortfall of both approaches, however, is that they focus almost entirely on the location of and prices within grocery stores (however defined) while ignoring the prevalence, and in some cases, abundance of other less healthy food sources. They only explore two

structural limitations while not addressing choice and consumer behavior. Instead, they adhere to an assumption that consumers will choose the healthiest option if the price and distance allowed them to. Consumer behavior regarding food consumption is much more complex than simple price and transportation obstacles and involves a tangle of factors that rarely make it into the food desert literature (Bell et al 1998). Therefore, are consumer decisions about what to eat dictated by structural obstacles, individual choice, or a combination of both?

Paterson, NJ provides an interesting insight into this question. A study by the Food Trust identified Paterson as a food desert, citing the low supermarket sale volume and the low-income level, as well as a low income and high instances of diet related death correlation as proof of this (The Food Trust 2009). On paper, this may be the case, but a walk around Paterson would prove otherwise.

(slide: google earth)

This map displays the relatively easy access to grocery stores in Paterson. The city is only about 8.5 square miles and there are 7 grocery stores and 1 farmers' market. It is important to note that this farmers' market is permanent, large, and open 365 days a year.

(slide: trash data?)

(slide: trash quote)

Archeologists have long studied trash as one method to explore the behavior of a society. The pioneers of this approach, William Rathje and Cullen Murphy argue that "what people have owned – and thrown away can speak more eloquently, informatively, and truthfully about the lives they lead than they themselves ever may" (Rathje and Murphy 2001). Therefore, studying trash can elucidate certain aspects of society that may otherwise not reveal themselves in conventional methods within the social sciences. Specific to this case, analyzing the trash within the empty Raceway system helps to better identify whether Paterson's food desert symptoms are structural or self-inflicted.

(slide: study area + maps)

Our study area within Paterson, NJ is a now abandoned canal system known as the Raceway. Originally designed by the esteemed Pierre Charles L'Enfant (city planner for Washington D.C.), the Raceway pulls water from the passing Passaic river, just before the hitting the Great Falls, and channels it through a well-planned route, about 15 feet wide on average, flowing past and in turn providing power for a number of then busy mills on its way. The canal runs about 1 mile in total before flowing back into the Passaic. Before the 20th century, it helped fuel and lead Paterson through the industrial revolution as a leading producer of textiles, firearms (where Samuel Colt began production), railroad manufacturing, and what eventually became its most prosperous industry, silk.

And as industry has left Paterson, and factories have in turn shut down, so too has the intended use of the Raceway. Many of the old factories still stand, but they operate in different roles: a residential housing complex, a non-profit organization and light manufacturing center, all pulling power not from the waters but a standard electrical grid. The flood gates at the top of the Raceway now stand shut minus once or twice a year, when they are opened as part of various city-wide celebrations.

(slide: photos)

Thus the current state of the canal is an empty, and often muddy, sunken path inhabited by little except a few animals like geese and frogs, leaves and small vegetation growth, and the category of interest here, trash. The raceway is below ground level and contains several sewer outflows that make it a catchment basin for much of the trash within the neighborhood. It stands to reason that the litter collected within the raceway could be a decent representative sample of the neighborhood's food consumption patterns as gravity, runoff and wind carry trash into the channel.

(slide: methodology + photos)

In May 2011, a 2-part expedition was led through the Raceway, both the upper and lower sections, to survey all items of litter inhabiting the canals (items from the upper section were physically collected and subsequently disposed of). A running tally of all litter items was recorded, noting one main trait in particular; brand of the litter. The data was split into the following categories: Soft Drinks, Non-Carbonated Drinks, Beer, Liquor, Fastfood, Sodium Snacks, Sugar Snacks, and Vices (of the non food and drink variety).

(slide: total results)

At the end of the two days of surveying, a total of 1,813 pieces were tallied. Amongst the eight aforementioned categories, Soft Drinks and Non-Carbonated drinks lead the way (343 artifacts of each were counted, or 18.9 % of the total), trailed closely by Beer (18.2%), Sodium Snacks (13.9%), Fast Food (9.8%), Sugar Snacks (7.8%), and Liquor (5.4%). The category of Vices (7%), was not entirely relevant in our aims of measuring dietary habits, and as such will not be discussed further in our results. Going through each of the seven food and beverage categories we see a few interesting trends worth noting:

(slides: category results)

- The top four brands in the soft-drinks category (or 'carbonated drinks non alcoholic drinks') were C&C Cola, Pepsi, Red Bull, and Coke, respectively. Here we have the expected top two soda brands (Pepsi and Coke) battling with brands very different in price; C&C on the very inexpensive end and RedBull on the more expensive side of the cost spectrum.
- The non-carbonated drinks category was dominated by bottled water (accounting for nearly half of field). Yet, because the vast majority of these plastic bottles were void of an identifiable brand label, we have to say that Arizona was the most common brand.
- The beer category was dominated by large and cheap canned options as evidenced by the top five most common brands: Milwaukee's Best, Coors, Budweiser, Natural Ice, Keystone Ice.
- Liquor was similar to the non-carbonated drinks category in that Miscellaneous, that is containers that were unidentifiable by brand, were most common. The known brands were scattered across cheap brandy and rum varieties.
- As for fast food, both Dunkin Donuts and Burger King led the way, which may be expected as both have locations very near to the study area.
- Sodium snacks had the largest margin of occurrence recorded, thanks to the potato chip and various snack-making company Wise. In all 33 brands were counted, 66% of

which was Wise, a product that is often cheap and widely distributed amongst corner-delis and bodegas.

- Sugar snacks was interesting for the diversity of brands counted. In all 46 different types of candy bars, cookies, and other fructose based treats were discovered.

(slide: conclusions + photos)

The conclusions drawn from this data are quite clear. Nearly all the items collected were diet related, and almost entirely of poor nutritional quality. Further research would establish the specific dietary contents of the trash collected, but based nominally on the brands collected, there is a near universal preference for unhealthy food that is rich in sodium or sugar and calories. The limitations of this approach aside, the data reveals the complexity of consumer behavior within an urban food system. There are two grocery stores within a mile of the raceway, but there are also scores of other food sources. The vast diversity of the brands within those other options exist scores of more options. This saturation of sources of food perhaps reconfigures residents' conceptions of distance. Six tenths of a mile can seem a long way when there are a dozen other food sources along that route. Therefore, a food desert is reduced to the individual scale. One's definition of access may stretch only as far as the nearest Burger King or bodega.

This can partially influence the results of the Food Trust's research that showed the low volume of sales within Paterson grocery stores. People may not be shopping at the grocery stores because they are inundated with choice, spreading their purchases around to the numerous sources of food rather than exclusively at supermarkets as suggested by geographic and basket of goods approaches. It may not so much be the prevalence or lack of grocery retailers but the abundance of other food sources that lead to the poor health outcomes in low-income urban neighborhoods. This is by no means a new concept within the food literature, but until this point has perhaps been somewhat hard to measure as the methodologies discussed above prove. Their focus on cost and availability of goods precludes necessary attention to the other choices available to consumers.

As such, they result in policy recommendations that call for increase in supply of healthy foods by way of more grocery stores or urban farming, evidenced by the title of the Food Trust publication "The Need for More Grocery Stores in New Jersey" (The Food Trust 2009). However, the trash approach to analyzing urban food systems would suggest that limiting the sources of unhealthy food is also an important component to reducing the poor health outcomes of food insecure areas. This comes with its own set of challenges, particularly that this would mean reduction of business in an already economically distressed area. In Baltimore, interventions that increased the supply of healthy foods within existing corner stores proved to be successful in increasing the sales of healthy foods (Song et al 2009). Based on the trash collection and geographic approaches presented here, this, along with expanded dietary education, seem to be attractive policy options, as consumers in the Great Falls District are making unhealthy choices simply because those choices exist and are in immediate proximity.

The above discussion is clearly speculative but it is hard to dismiss how unhealthy the entire composition of the trash within the raceway is. The lack of methodological rigor does not allow for much confidence in the analysis but does raise important questions about and insights into the complexity of urban food systems. As stated earlier, the purpose of this section is to introduce a new methodology that in concert with

geographic and basket of goods approaches could provide a more comprehensive understanding of the food options and choices made by consumers within a geographic area.

(slide: battle of brands)

In addition to research concerning the Raceway as a research site into local diets, we also wanted to make note of and confront the companies who's used products we were finding. In short we sought to determine which brands are most prominent amongst the litter (who are the Raceway winners?), and suggest to these companies the following: a sponsorship plan for sections of the Raceway to help keep it free of litter; a modest but much needed contribution to the city of Paterson; and the opportunity to generate some positive PR/advertising in the process. In view of the authors, the 'winning' companies are profiting the most from the Raceway through their occupation of and unpaid for advertising amongst a historic site (via logos on discarded packaging). As such they should be held just as responsible for litter as the careless consumer leaving it behind.

(slide: winners)

(slide: letter)

Below is a template for sending to the winning companies - informing them of their Battle of the Brands victory, and urging them to consider sponsorship of the raceway in return. It can be used for all winning brands with some substitutions of brand names.

Dunkin Donuts,

In May 2011, a survey of litter was conducted within the city of Paterson, NJ. The site of focus was a now empty canal system, that previously flowed with water and powered Paterson's many mills and factories through the industrial revolution. The canal system, known as the Raceway, now lies empty - except for some small vegetation and exceptional amounts of littered trash. Data was kept on how frequently different food and beverage brands appeared amongst the litter, and then divided into seven appropriate categories (Soft Drinks, Non-Carbonated Drinks, Beer, Liquor, Fast food, Sodium Snacks, and Sugar Snacks). Putting similar, and already competing, brands against one another, we used the survey of trash to create a Battle of the Brands.

Today we write to you, Dunkin Donuts, to inform and congratulate you on your victory in the 2011 Paterson Raceway Battle of the Brands (fast-food category). With a total of 69 Dunkin Donuts products counted, you successfully defeated a number of rival fast-food companies that had less litter in the Raceway, including Burger King (58), McDonalds (26), White Castle (6), Starbucks (4), Taco Bell (4), and Subway (1). (Across all categories a total of 1,850 items of litter were counted. For a complete list of data from the project, as well as Battle of the Brands winners in other categories please see the attached spreadsheet.)

We congratulate you on your victory but also feel you may owe the city of Paterson as well. After all, all that litter is occupying a historic and once vital site, and it is acting as free, unpaid for advertising for your firm. Pedestrians walking by will see more Dunkin Donuts logos, than Starbucks, Wawa, or other competing chains. Companies that profited from the Raceway in the past, the great mills powered by its flowing waters, helped Paterson grow and drove its economy. Perhaps your situation is also an opportunity to give back. Here is a simple suggestion to do just that and benefit both Dunkin Donuts and Paterson in the process:

Dunkin Donuts sponsor a section of the Raceway. Similar to highway sponsorships, the company (Dunkin Donuts) will make a reasonable donation to the city of Paterson, maintain the designated section of the Raceway through monthly cleanups (possibly employing local work force for such), and provide easy to access garbage and recycling units (there is a number of plastic, glass, and aluminum containers present), as well as some proper signage stating that this area is sponsored by Dunkin Donuts. Payback on the investment for Dunkin Donuts comes in the form of positive PR and a more effective form of advertising than the littered styrofoam cups and to-go bags you would be helping to rid the Raceway of. Of course, this is only one suggestion and we welcome any ideas you may have of your own.

Again, we would like to thank you for your unparalleled performance in the 2011 Battle of the Brands, and consideration of the above proposal to give back to this great historical site that was ever so gracious in their role as host to the contest. We look forward to your response.

Sincerely,
Will Elkins & Devin Reitsma
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(slide: the end)

This concludes our presentation, please visit outerspacecities.com/paterson.html for more information.

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