THE GREEN BOOKS AND THE GEOGRAPHY OF SEGREGATION IN PUBLIC ACCOMMODATIONS

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Abstract

Jim Crow segregated African Americans and whites by law and practice. The causes and implications of the associated de jure and de facto residential segregation have received substantial attention from scholars, but there has been little empirical research on racial discrimination within public accommodations during this time period. We digitize an important historical publication, the Negro Motorist Green Books, to generate a novel dataset that contains precise geocoded locations of over 4,000 unique businesses that provided non-discriminatory service to African American patrons between 1938 and 1964. These were travel guides aimed at helping African Americans navigate segregation in the pre-Civil Rights Act U.S. Our analysis reveals several new facts about discrimination in public accommodations that contribute to the broader literature on racial segregation. First, the largest number of Green Book establishments were found in the Northeast, while the lowest were found in the West. The Midwest had the highest number of Green Book establishments per black resident and the South had the lowest. Second, we combine our Green Book estimates with newly digitized county-level estimates of accommodations to generate the share of non-discriminatory accommodations. Again, the Northeast had the highest share of non-discriminatory accommodations, with the South lagging closely behind. Third, out of the Green Book establishments located in cities for which the Home Owner’s Loan Corporation (HOLC) drew residential security maps, the vast majority (over 60%) are located in the lowest-grade, redlined neighborhoods. Finally, Green Book presence tends to correlate positively with measures of material well-being and economic activity; however, this is driven by the fact that areas with more Green Book establishments tend to have more establishments in general.

Keywords: Green Books, public accommodations, segregation, consumer discrimination, Jim Crow laws

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“Do you remember any good stopping places
in Arizona or western Texas?
Anything in Phoenix or El Paso?
And what is the best route from here to the coast?
I have never driven it, you know.”
— Arna Bontemps, quoted by Wilkerson (2010)

Jim Crow segregated African Americans and whites by law and practice. The causes and implications of the associated de jure and de facto residential segregation has received substantial attention from scholars. Consensus is that residential segregation has caused or exacerbated racial disparities in income, employment, education, political influence, and homeownership (Cutler and Glaeser 1997; Card and Rothstein 2007; Ananat and Washington 2009; Ananat 2011; Aaronson, Hartley, and Mazumder 2018). Relatively less attention has been paid to understanding segregation’s role in access to public accommodations and business ownership. This is not due to a lack of interest or importance—after all, the entire Jim Crow era is characterized by the denial of services to African American consumers—rather, the absence of reliable data on the location and quantity of non-discriminatory businesses has limited the capacity to conduct research on this topic.

This paper makes use of an important historical tool created to assist African Americans in navigating segregation. From 1936 to 1964, Harlem postal worker Victor Green published travel guides for African American motorists. Colloquially known as the Green Books, these directories listed hotels, businesses, restaurants, and other services that were friendly towards African American clientele during a time when travel could be uncomfortable, at best, and dangerous, at worst. We use the Green Books to uncover regional, county, and city-level patterns of discrimination in access to public accommodations. By digitizing and geocoding the exact location of all establishments listed in the Green Books between 1938 and 1964, we provide a unique lens into the geography of racial discrimination in public accommodations during the last years of legal Jim Crow in the United States.

Our analysis reveals several new facts related to the history of accessibility of public

1 An important exception is Gil and Marion (2019) who exploit a ban against segregation in Washington, D.C. in 1953 to test whether segregation in cinemas was due to taste-based discrimination among firms (cinema owners) or consumers, or both parties. Whereas, they focus on a narrow industry (cinemas located in 26 cities), we present evidence on the geographic and temporal extent of access to public accommodations across industries for counties throughout the continental United States. Another exception is Roback (1986)’s study of segregated streetcars. Roback’s central thesis differs from our paper, as she questions whether the development of the Jim Crow system was motivated by political factors or changed attitudes towards blacks. In contrast to studying how segregation affected the demand for services among African Americans, Cook (2012) examines the strategies black inventors developed to cope with consumer-side discrimination, with a particular emphasis on the strategies implemented by Garret A. Morgan, inventor of both the gas mask and traffic light.
accommodations to African Americans. First, access to non-discriminatory establishments was not uniform across the United States. The largest number of Green Book establishments were found in the Northeast, while the West had the fewest number of Green Book establishments. The Midwest had the largest number of establishments per black resident, while the South had the least.

Second, since areas with a large number of Green Book establishments may be areas that have more establishments in general, we also digitize the retail section of the 1935 and 1948 Census of Business to obtain county-level values of the total number of hotels and motels. Combining formal accommodation counts from the Green Books with the Census of Business counts allows us to compute the share of non-discriminatory hotels and motels by county. Using this estimate, we find again, that the Northeast had the highest share of non-discriminatory accommodations, with the South lagging slightly behind. The finding that the South was relatively close to the Northeast in terms of the share of non-discriminatory accommodations is not dissimilar from patterns of residential segregation found during the early twentieth century in national measures of segregation (Logan and Parman 2017).

Next, we investigate how the location of Green Book establishments within cities relates to the practice of redlining, wherein the Home Owner’s Loan Corporation (HOLC) drew residential security maps of 239 American cities in the 1930s to caution lenders against lending to patrons in high-risk neighborhoods (Aaronson et al. 2018). Nearly 50% of the Green Book establishments are located in cities for which digitized HOLC security maps are available, the vast majority of which (66%) were located in the lowest-grade, redlined neighborhoods. The next largest group of Green Book establishments were located in no-grade (likely business district) areas. While we hesitate to draw strong conclusions about establishments in D-grade versus no-grade neighborhoods, we suggest that this may reflect racial differences in business ownership.

Finally, we estimate a series of elasticities of the number of Green Book establishments with respect to a set of covariates to understand how Green Book presence relates to economic activity, material well-being, and existing measures of segregation and discrimination. We find that the presence of Green Book establishments correlates positively with the prevalence of electricity, radios, refrigerators, manufacturing activity, and war contracts; however, conditioning on the counts from the Census of Business reveals that these elasticities are primarily driven by the fact that places with more economic activity also have more of all accommodations.

We also find that Green Book prevalence is positively correlated with the number of Confederate symbols in a county, which would suggest that more Green Book establishments may proxy for racial animus; however, they are not associated with another measure of racial
animosity–black lynchings–once we account for the prevalence of all accommodations from the Census of Business. This result is at odds with the existing literature that has found areas with more historical lynchings to have more Confederate streets (Williams 2019).

The remainder of the paper is outlined as follows. Section 2 provides a background of the Green Books and describes our digitization process, including a discussion of the process by which we generated a panel of establishments over time, as well as the method we used to geocode establishment locations. Section 3 presents our findings on regional and city trends. We discuss selection into the Green Books in Section 4 and the correlates of Green Book establishments in Section 5. Section 6 provides a brief summary of our findings and the direction for the remainder of our project.

2 Assembling the Green Book Data

2.1 A Brief History of the Green Books

The Negro Motorist Green Books (henceforth, Green Books) were a series of travel guides published during the Jim Crow era, that were created by Victor Hugo Green, an African American postal employee from Harlem, New York City. Green’s objective was to provide information on businesses that African American motorists could frequent without jeopardizing their safety. Although the Jim Crow laws that segregated the Southern US did not extend to the North and West, many communities in these areas practiced segregation de facto. The Green Books provided a directory of safe places that African American tourists could rely upon while traveling.

The first Green Book was published in 1936 as a ten-page pamphlet containing New York City establishments that served African Americans. The idea behind the Green Books was borne from Green’s own experience with racial discrimination while traveling with his wife, Alma, in 1936 (Brown 2017). During this time period, African American motorists were often advised to drive below the speed limit and even under the cover of night to avoid confrontations with police (Sugrue 2010). At a time when lynchings were still occurring in the southern US and sundown towns barred African Americans from entering after dark, the threat of racial discrimination on the road was not only uncomfortable for African American travelers, but could also result in potentially life-threatening encounters.

Green’s original publication listing non-discriminatory establishments in New York City in 1936 was so successful that coverage was expanded across the country in the following

\[^2\]By 1960, over 10,000 cities across the North, Midwest, and West had become established “sundown towns” - localities where African Americans were threatened with violence after nightfall (Loewen 2009).

\[^3\]To our knowledge there are no known copy of this original Green Book.
year. While the original intention of the Green Book was to help African American motorists undertake their journeys safely, by providing listings of gas stations, hotels, motels, and tourist homes, Green also recognized the importance of the Green Books for African Americans seeking other types of services within cities, including restaurants, bars, barber shops and beauty parlors, pharmacies, and more.

The idea of “The Green Book” is to give the Motorist and tourist a Guide not only of the Hotels and Tourist Homes in all of the large cities, but other classifications that will be found useful wherever he may be. –1947 Edition of the Green Book, pg. 1.

Figure 1 provides an example of the entries in the 1956 Green Book. Establishments were organized by cities within states and, in almost all instances, included exact street addresses. Information on businesses that were friendly towards African Americans spread largely through word-of-mouth; however, businesses could also pay to have an advertisement included in the books. Figure 1(c) includes an example of the types of advertisements that appeared in the publications.

Although many shops and services were included in the Green Books, we document that the vast majority were those providing accommodation, as well as food and beverage establishments (see Figure 2). Publication of the Green Books halted from 1942-1946, when virtually all domestic resources were diverted to sponsoring America’s engagement in World War II [Landry 1988]. The books continued to be published until 1964, when the Civil Rights Act outlawed racial segregation that had once necessitated the Green Books [McGee 2010].

2.2 Digitization and Cleaning

This paper introduces a county level panel dataset on the number of establishments that were friendly towards African Americans–those listed in the Green Books–broken down by type of business. Using a combination of hand collection and probabilistic matching techniques we digitize all the entries, including advertisements, in the 21 Green Books that are published in the New York Public Library’s (NYPL) Digital Collections.\(^4\) In particular, we hand-recorded all names, descriptions, and locations, including exact street addresses in most cases, in each edition of the Green Books. These entries were subsequently checked and audited for accuracy. The inconsistent formatting of entries across and within Green Books, largely due to the irregular size and placement of advertisements, and variation in image quality proved to be ill suited for OCR.

\(^4\) The complete collection can be found here: https://digitalcollections.nypl.org/collections/the-green-book
After collecting and vetting the data, a combination of probabilistic matching and human verification was used to clean the dataset, which involved matching establishments across years. Idiosyncrasies of the published volumes make it challenging to rely solely on machine learning or probabilistic matching techniques (e.g. Levenshtein or Jaro-Winkler distance) to match observations over time. Table 1 highlights two examples where human judgment is useful.

Example 1 is straightforward: the entry for Fresno Motel had the same name and address between 1957 and 1962, but in the following year its name was slightly different, and the address became more detailed (an intersection instead of simply a street name). For the purposes of geocoding businesses and quantifying openings and closures, identifying these as a match and using the most accurate address are critical, we find that human processing of the data is well poised to exploit contextual information and make this determination.

Example 2 make the challenges of processing the Green Books data even more apparent. From 1947-52 two related business; “Jim Summers” (a restaurant) and “Summers” (a liquor store) are listed at addresses on Main Street. In 1953, these two businesses disappear, and a similarly named establishment, “Summer’s Hotel & Court” is listed with the address 721 Adams Street. The following year, “Summer Hotel,” which has a slightly different street number takes its place. In 1955 the street number changes once again. And over the following two years, either the name or the street address changes. The most likely explanation for this pattern is that the proprietor of “Jim Summers” and “Summers” closed these businesses in 1952 and the following year a hotel opened on Adams Street; however, additional contextual information from city directories would be useful for determining if this hotel was owned by the same proprietor as the aforementioned restaurant and liquor store. These types of instances are difficult to match with machine learning or probabilistic matching techniques owing to the changes in addresses and establishment names over the different editions of Green Books.

Another issue that arises is print error. There are instances in which an establishment is listed more than once; sometimes under a “hotels” sub-heading as well as a “general” businesses sub-heading—but the names are ever so slightly different. For example, in the 1955 edition, in Montgomery Alabama “Hotel Ben Moore” with address “Cor. Hight & Jackson Sts.” appears in bold under the hotels sub-heading. Meanwhile, “Ben Moore, Cor. High & Jackson” also appears under the non-hotel heading. Having a person double check the data that was entered is an effective way of filtering out these types of double entries.
2.3 Geocoding Addresses

In addition to collecting the list of establishments in each city, we also geocoded their locations for each year. Here we outline the procedure used to geocode each of the Green Book establishment addresses. An initial pass was implemented by running all addresses through the U.S. Census Geocoder. This produced either an exact match, a non-exact match, a tie, or no match. Exact matches occur when one unique address is found that matches the input address. About 50% of the addresses returned an exact match. Non-exact matches occur if the geocoder was able to locate a similar, but not exact match to the input address. Ties occur when there are more than one addresses that match the input address. In some cases, the geocoder is not able to locate the input address. In the case of a tie or “no match”, the input addresses were searched by hand.

A second pass was implemented by hand checking each address in the Green Books in Google Maps. Exact matches that returned latitude and longitude coordinates that were different from the Google Maps coordinates were assumed to be correct if there was less than a one mile difference between the two sets of points (the address from the Geocoder and Google Maps). Addresses that were above this threshold were rechecked for typos and historical context. This included addresses that did not return an initial exact match, which were then matched by hand through Google Maps. The remaining missing addresses were imputed using a majority rule. For example, if there was no number associated with a given address, yet the city in which the establishment was located had several establishments on the same street, then the unnumbered address was geocoded in close proximity to the other addresses on that street.

A final high-level error-check was completed by running the coordinates through a feature manipulation engine to verify that they lay within the state boundaries of the state corresponding to the coordinates’ entry in the Green Books. About 11% of addresses were not able to matched at all, in which case the centroid of the city was assigned as the geocoded location of the establishment.

Overall, our procedure has distinct advantages over automated approaches. First, as we mention in the previous section, there are idiosyncratic errors in the Green Books that miscode names and locations of businesses in one year. We are able to detect each of these errors and correct the corresponding data to ensure that existing and new firms are appropriately recorded. Second, since our procedure involved checks of addresses against two sources for geocoding, we have a substantially higher match rate than studies such as Akbar et al. (2019), who link addresses over subsequent census enumerations. Third, our

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5The geocoder can be found here: [https://www.census.gov/geo/maps-data/data/geocoder.html](https://www.census.gov/geo/maps-data/data/geocoder.html)
method works to ensure that the overall match rate is not driven by urban locations alone, as a failure to accurately account for rural establishments could result in biases inference from the data. A number of Green Book locations are in rural areas, and accurately geocoding them is important to identify the range of coverage available in the Green Books.

Figure 3 plots the total number of Green Book establishments listed in each year. One striking feature is the sharp drop in the number of Green Book establishments after 1955. This decline was not caused by a reduction in the geographic coverage of the Green Books or an indiscriminate decrease in listings. Figure 4 displays the number of establishments by type: service stations, beauty and barber shops, eating and dining places, formal accommodations, informal accommodations, and other establishments. With the exception of accommodations, all the categories experienced steep declines in the number of listings after 1955. Meanwhile, formal accommodations actually increased throughout the period of publication and informal accommodations declined fairly gradually throughout the post-war period. One explanation for this is that the publishers of the Green Books simply sought to narrow the focus of the guides towards formal lodging. An alternative explanation is that the Civil Rights movement could have challenged the encouragement of African Americans to patronize specific locales. This issue merits further investigation. But in the absence of a convincing explanation for the drop, we restrict our attention to the pre-1955 period in the analysis that follows.

Throughout the remainder of the paper we employ a number of additional data sources which are discussed as they occur in the paper.

3 The Expansion of Green Book Establishments Across Regions, Counties, and Cities

Initially, the Green Book establishments were located in the Southern and Northeastern US, with a small number of businesses open to serving African Americans in the easternmost regions of the Midwest. Figure 5(a) shows the location of all Green Book establishments in 1938, while Figure 5(b) provides a detailed look at establishments in Georgia. By 1955, Green Book establishments were present in every state in the continental US, aside from Montana and North Dakota. The following subsections investigate the evolution of the number of Green Book establishments in more detail, including regional patterns in Green Book expansion and their relationship to residential housing patterns.

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6We exclude 1937 because it only contained advertisements. In subsequent years, businesses were listed separately based on whether or not they paid for advertisements.

7These states do show up in later editions of the Green Book.
3.1 The Northeast had the most establishments, while the Midwest had the most establishments per capita

Figure 6(a) displays the evolution of the number of Green Book establishments in the United States listed in each year between 1939 and 1955. We start our analysis in 1939 because this is the first year with nationwide coverage of the Green Books and we end it in 1955 due to the aforementioned drop in listings, which is not yet well understood. In almost every year, there were over twice as many Green Book establishments in the Northeast compared to the next highest region. This difference is driven by the large quantity of listings in New York City and Newark, where the Green Books originated. Figure 8 displays the geographic dispersion of Green Book establishments per 1000 black residents in 1950. While the Northeast and Midwest certainly appear to have a greater density of Green Book establishments in relation to the African American population, there are a substantial number of counties across the entire US that do not have any Green Book establishments.

Given that the Green Books are establishments, it is important to consider how they relate to measures of density. Additionally, the absence of Green Book establishments likely reveals important information about the geography of discrimination. To describe these two together, we create a measure for the existence of a Green Book. If a county does not appear in the Green Books, we infer a count of 0 establishments for that county-year. Next, we construct a balanced-panel of counties for the duration of the Green Book publications. To compute the number of Green Book establishments per capita, we divide the number of establishments by the black population (in 1000s), as measured by the county population estimates for census years in the ICSPR Historical, Demographic, Economic, and Social Data [Haines and Inter-university Consortium for Political and Social Research, 2010]. From 1938-1941 we use population in 1940 and from 1947-1955 we use population in 1950.\footnote{Recall that publication of the Green Books halted during WWII.} Figure 6(b) indicates that, despite the large difference in the number of Green Book establishments between the North and the rest of the country, on a (black) per capita basis; the Midwest and, to a lesser extent, the West, had much higher rates of Green Books penetration.

Apart from the South, which had a similar level of Green Book establishments to the Midwest during this period, all regions experienced an increase in establishments per capita. This is consistent with an interpretation that firms were reluctant to either serve black customers or, at the very least, advertise themselves as welcoming black customers in areas that had high levels of racial animus. However, one may also take this as a signal that there is a high degree of discrimination that necessitates listing safe establishments in the Green
3.2 Expansion of formal accommodations largely mirror expansion of total accommodations across regions

As noted earlier, Figure 4 raises a concern that the process by which firms were being listed in the Green Books may have changed over time. Indeed, the steep drop in listings in 1955 across multiple establishment types indicates that this was the case towards the later part of the sample, but it could be a concern earlier in the sample as well. For this reason, we also consider formal accommodations—hotels and motels—separately. These types of businesses did not experience the steep decline in 1955 and were essentially the raison d’être of the Green Books since the time of their inception. Figure 7 displays the number of formal accommodations across the US Northeast, West, Midwest, and South. While the ranking of regions mirrors that of total establishments, the gap between the Midwest and the rest of the country is significantly smaller. Meanwhile, in contrast to the total establishment count, the number of formal accommodation listings has an upward trend across all four regions.

If we consider the number of establishments per 1,000 black residents to be a measure of access to public accommodations, we can learn about the relative access across US regions. Figure 7(b) plots the number of formal accommodations per 1,000 black residents by US region. The main finding is that hotels and motels are more equally distributed (in per capita terms) across the US than the total number of listings (see Figure ). For the most part, the ranking across regions is similar, with the exception of the West and Midwest which switched places, and are (1) and (2), respectively.

3.3 Trends in establishment counts are related to changes in the total number of establishments

Since areas with a large number of Green Book listings may also be areas with a large number of establishments overall (listed and unlisted), we are also interested in understanding what share of establishments are non-discriminatory. An additional advantage of focusing on formal accommodations is that we can obtain an estimate of this value by digitizing the county-level counts of hotels and motels from the retail section of the 1935 and 1948 Census of Business. These counts are available for counties that meet certain population thresholds. We match our counts of formal accommodations in the Green Books with the counts of all accommodations from the Census of Business to construct the share of non-discriminatory accommodations by county. We use the 1935 Census of Business counts for pre-1941 Green Book years and the 1948 Census of Business counts for post-1947 Green Book years.

Figure 7(c) displays the regional trends in the share of non-discriminatory accommo-
dations. Here we can see that the Northeast has the largest share of non-discriminatory accommodations, while the West had the lowest. Out of all years and regions, the share of non-discriminatory accommodations did not exceed 3 percent.

3.4 Redlining: Green Book business expansion was overwhelmingly restricted to redlined neighborhoods

Our final objective is to consider how the location and expansion of Green Book establishments is related to characteristics within cities. In the 1930s, the Home Owners Loan Corporation (HOLC) produced city maps that classified the relative riskiness of lending across neighborhoods. Maps were drawn for over 200 cities, dividing neighborhoods into ratings of A (least risky) to D (riskiest). These maps were used to inform mortgage lenders about the risk-profile of different neighborhoods. As a result, subsequent access to credit was affected by neighborhood classification. We overlay HOLC maps with the exact location of Green Book establishments to determine the grade of the neighborhood in which each establishment is located. Fifty percent of Green Book establishments are found in cities for which redlining maps are available.

Figure 9 displays the location of Green Book establishments in 1956 with the HOLC map for Newark and the New York City Burroughs. Visually, it appears that the majority of Green Book establishments are located in redlined neighborhoods. Indeed, out of the establishments that appear in cities for which the georeferenced HOLC security maps are available, an overwhelming majority of them (66%) appear in “D-grade” neighborhoods. Approximately 24% occur in neighborhoods that did not receive a rating from the HOLC, likely business districts, and only 0.2% are located in “A-grade” neighborhoods.

We examine trends in the number of Green Book establishments by HOLC grade in Figure 10, where it is clear that Green Book establishments expanded most quickly in “D-grade” neighborhoods. Neighborhoods that did not receive a grade, but were located within cities for which we have HOLC security maps also experienced a reasonably large increase in the number of establishments, though by 1955 there were still half as many establishments in “No-grade” neighborhoods in comparison to “D-grade” neighborhoods. “A-grade” neighborhoods experienced almost no growth in Green Book establishments. In fact, in 1955–the

\[9\] Some neighborhoods were not given any rating. These were predominantly business districts.

\[10\] Aaronson et al. (2018) provide a thorough discussion of the historical debate surrounding the exact use of HOLC maps by lenders. They find evidence that HOLC classification had causal impacts on homeownership rates, house values, and rents that continue to persist.

\[11\] The HOLC maps that we use come from the Digital Scholarship Lab at the University of Richmond which digitized and georeferenced HOLC maps for dozens of cities. These are available here: [https://dsl.richmond.edu/panorama/redlining/](https://dsl.richmond.edu/panorama/redlining/)
year with the highest number of Green Book establishments in “A-grade” neighborhoods—there were only 7 Green Book establishments in these highest rated neighborhoods out of all cities in the U.S. for which the HOLC security maps are available.

Figure 11 shows how the number of Green Book establishments in each HOLC-grade neighborhood evolved across industry-type. For each industry, the majority of establishments are found in redlined neighborhoods. That being said, the number of Green Book establishments grew in nearly all HOLC-grade neighborhoods and across all industries. Two notable exceptions, include barber shops and gasoline stations, which did not appear in A-grade neighborhoods at any point between 1938 and 1955.

We also present these trends across regions within the US in Figure 12. These results largely mirror those in the country-wide plot in Figure 10, with the exception of the US South, which did not have any Green Book establishments in “A-grade” neighborhoods. Another regularity unique to the South is that the number of establishments in “D-grade” and “No-grade” neighborhoods were roughly the same over the entire time period. This result contrasts the other regions where the growth in Green Book establishments in “D-grade” neighborhoods exceeded that in all other zones.

Identifying the location of Green Book establishments within cities likely has important implications for understanding the degree to which variation in Green Book establishments reflects differences in black business ownership or differences in discriminatory practices on the part of white owners. Given that the racial composition of a neighborhood was an explicit determinant of the HOLC grade assigned to a neighborhood (Aaronson et al., 2018), Green Book establishments in “D-grade” neighborhoods were more likely to be black-owned compared to those in “No-Grade” (business) districts. Although scholars have discussed the propensity of some white businesses to locate in predominantly black neighborhoods in order to subvert the zoning laws that prevented them from operating in white neighborhoods, these businesses were often in industries that produced negative externalities, like noise, pollution, or unsightliness (Rothstein, 2017). It would have been more unusual to find white-owned formal accommodations in predominantly black neighborhoods.

In the next section, we combine aspects of the previous subsections to understand the selection of businesses into the Green Books.

4 Selection into the Green Books

One factor that is crucial to understanding the overall spread in Green Book establishments is to understand the process by which establishments entered into the Green Books listings.

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12 We are currently investigating this distinction by comparing the Green Book establishments to the Negro Business Directory of the State of Wisconsin (1950-1951).
At the heart of this goal lie two related questions. First, we are interested in understanding whether we can interpret an increase in Green Book listings as an increase in access to public accommodations for black customers, or alternatively whether an increase in listings represents an increase in the propensity to list, perhaps due to an information diffusion process wherein non-discriminatory business owners were increasingly likely to learn about the Green Books over time. Second, we want to know whether the rise in Green Book establishments represent a conscious decision to not to discriminate on the part of white business owners or an increase in black-business ownership.

We begin by focusing on the information diffusion process across counties. We then discuss some of the preliminary work we have done to combine the HOLC grades with newly collected information on whether or not establishments that appear as new listings in the Green Books actually existed in previous years’ phone books. We expect the latter exercise to inform us on the propensity for black-owned and white-owned businesses to appear in the Green Books over time.

4.1 Establishment growth driven by counties with existing Green Book establishments

A key detail of the Green Book listing process is that listings were crowd-sourced and free for firms. While firms could pay for an additional advertisement, they did not have to pay for inclusion in the Green Books. Victor Green leveraged his employment in the U.S. Postal Service to get recommendations from letter carriers with routes all across the U.S. (Khan, 2015). In addition, the general public, as well as firms, could provide recommendations directly. These features give us some confidence that once there was awareness about the Green Books in a particular county, increases in listings do indeed measure actual increases in access to public accommodations.

An additional consideration is about the interpretation of aggregate trends: is the increase in Green Book listings due to expanded geographic coverage or an actual increase in non-segregated firms in local markets? The first exercise we use to address this issue is to plot the trend in the share of counties with at least one Green Book establishment in Figure [13]. In general the trend is not consistent with a model of social learning, which typically follows an S-shaped pattern. It could still be the case that the 1940-1955 time period was one of gradual diffusion and even in the absence of the Civil Rights Act, a more rapid expansion of non-discriminatory establishments would have followed; however, this is not something we are able to empirically evaluate.

Next, we decompose the establishment count into the number of establishments that appear in counties that already had at least one Green Book listing in the previous year.
and the number that appear in new counties. Figure 14(a) displays this decomposition over time. The figure suggests that the majority of growth in Green Book establishments appeared in counties that already had at least one listing. Thus, if social learning explains some of the rise in Green Book listings, it is likely among businesses that are located within the same counties as existing businesses, and not due to a diffusion process across counties more broadly.

One potential issue with the exercise in Figure 14(a) is that the outcome may be mechanical. As the number of counties with listings increases, we would expect an ever increasing number of new listings to appear in the growing pool of covered counties. To circumvent this issue, we conduct a similar decomposition, this time separating counties into two bins: those that were included in the Green Books in 1939, and those that were not. The results are shown in Figure 14(b). We find that the majority of the increase in Green Book listings occurred in counties that were already listed by 1939—which suggests that the increase in aggregate Green Book listings is driven by an actual expansion in access to public accommodations and not simply an expansion of the geographic coverage of the Green Books.

4.2 Do Green Books listings represent new entry, switching, or increased awareness?

A fundamental question is how to interpret the growth of business listings in the Green Books. Does this increase represent a rise in black-friendly business (new entry), and if so, is this driven solely by black-owned businesses; a conscious decision not to discriminate on the part of white businesses owners (switching); or simply firms that were not discriminating becoming aware of the Green Books and getting listed (awareness)? Essentially, we want to understand at a more granular level whether local businesses are learning about the Green Books or if they are indeed becoming non-discriminatory. For instance, a firm in one period may be non-discriminatory but is not aware that the Green Books exist as a mechanism for advertising their business and it decides to advertise once aware. To partially mitigate this concern, we can restrict our analysis to firms that do not advertise (since the Green Books included regular listings and paid advertisements, we use only firms listed in the directory which was not a function of advertising). However, this does not rule out the possibility that the Green Book editors are also learning about which firms are non-discriminatory. An innovation we propose to deal with this question is to hire researchers to look up businesses in historical phone books located at the Library of Congress. These phone books are not available online and the majority are available on microfilm, only. This process will allow us to determine whether a business that is new to the Green Books in one year existed in the previous year, and since we have the geocoded address of each Green Book establishments we
can examine whether this occurs disproportionately in neighborhoods rated higher or lower in the HOLC maps, which we consider to have informational content about the ownership of the business as red-lined areas were predominantly served by black businesses. By comparing the tenure of firms in the Green Books by year and HOLC grade, we expect to say something about the change in propensity of non-discriminatory establishments to be listed in the Green Books over time compared to the change in the propensity of black businesses to develop over time.

As a preliminary check, we have completed this procedure for a small sample of cities and years using two researchers with experience working with the Library of Congress phone book collections. Our researchers examined 191 Green Book entries from Atlanta, Los Angeles, New York City and St. Louis in 1941 and 1940; and 407 Green Book entries from Atlanta and New York City in 1948 and 1947. In the 1941 sample, 85 establishments (44%) were new to this edition of the Green Book but were not new businesses (i.e., they appeared in the 1940 phone books). In our 1948 sample, 147 establishments (36%) were new Green Book listings but were located in the 1948 and 1947 phone books. This is consistent with no measurable change, or even a slight decrease, in the likelihood that an existing firm would become listed in the Green Books over time. We also find that by red-lined location, new Green Book establishments were increasingly likely to be located outside of redlined, “hazardous” neighborhoods (HOLC grade of D). In 1941, 14% of the new establishments listed in the Green Books were in non-hazardous neighborhoods, in 1948, 21% of the new Green Book establishments were located in non-hazardous neighborhoods, suggesting that new locations were less likely to be located in predominantly black neighborhoods over time.

Going forward, we will examine the demographics of these neighborhoods in more detail using information from the 1940 and 1950 Censuses of Population regarding the racial composition. We believe our preliminary analysis using redlining maps highlights the potential usefulness of this methodology for disentangling the growth in new listings due to changes in discriminatory attitudes and geographic expansion of accommodations versus the growth in new listings due to businesses learning about the value of listing in the Green Books.

5 Correlation with other measures of discrimination and segregation

As a final objective of this paper, we seek to understand the correlates of Green Book presence. We consider measures of economic development, such as education, involvement in manufacturing, and WWII military contracting; as well as other measures of segregation and discrimination that have traditionally been used in the literature, like residential segregation,
lynching, and Confederate symbols.

Figures 15 to 19 present elasticities of the number of Green Book establishments and the set of aforementioned factors. All regression specifications are estimated at the county level—e.g., number of Green Books listings by county—and both the dependent and independent variables have been transformed using the inverse hyperbolic sine function. Many of the factors we examine may also be correlated with city size, economic activity, and consequently the number of establishments in a given county more generally, these unobservables may have the potential to bias our coefficient estimates. Fortunately, by focusing on the set of formal accommodations listed in the Green Books, we can check whether conditioning on the total number of accommodations affects these correlations. In all figures, elasticities using all Green Book establishments are represented by squares; estimates restricted to using formal accommodations are represented by circles; estimates restricted to using formal accommodations and restricting to the sample of counties for which we also have Census of Business estimates are represented by triangles; and estimates restricted to using formal accommodations and conditioning on Census of Business estimates are represented by diamonds. Ultimately, we are interested in understanding whether conditioning on the total number of accommodations from the Census of Business affects our results; however, we impose each of our restrictions and specification changes in sequence so that we are able to assess which of the three additional specifications are driving the changes in coefficient estimates.

We begin with Figure 15 by showing these elasticities for a set of characteristics that we take from the 1940 complete count census (Ruggles et al., 2019). Unconditionally, a one percent increase in the black population is associated with a precise 0.7 percent increase in the number of Green Book establishments. This coefficient estimate is halved once we restrict to formal accommodations, and then remains stable using the sample for which we have Census of Business estimates, as well as conditioning on the number of Census of Business accommodations. The remainder of the elasticities are estimated conditional on the black population.

Given that the Green Book listings were sourced through a network of postal workers, we may expect places with a higher number of black postal workers to also have more Green Book establishments. Indeed, we find that, conditional on the black population, a one-percent increase in the number of black postal workers is associated with a nearly 50% increase in the number of Green Book establishments. This finding suggests that any analyses that use the Green Books should be mindful of this correlation and account for

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13 We compute the number of black postal workers by summing over the number of black mail carriers, post masters, and express messengers and railway mail clerks.
Elasticities with respect to educational attainment suggest that Green Book presence is negatively correlated with the share of the population that has more than a high school degree. Restricting to formal accommodations reduces the magnitude of this estimate slightly; however, further restricting the sample to counties with Census of Business estimates reverses the correlation. Inclusion in the Census of Business is typically restricted based on population size. As a result, the sign flip in this coefficient estimate suggests that the negative correlation between high school attainment and the presence of Green Book establishments is driven by smaller counties. When we examine the correlation between Green Book presence and the share of the population with more than a high school degree we observe a robust positive relationship, regardless of the specification and sample restrictions.

In the next figure, we examine the correlation between county-level household characteristics and the presence of Green Book establishments. We use household characteristics to proxy for wealth or well-being. Figure 16 shows that Green Book presence is negatively correlated with the percent of blacks who own their own dwelling, which may not be surprising if the presence of Green Book establishments is also correlated with other segregation or discrimination laws that prevented African Americans from participating in lending markets, for instance. That being said, this correlation is not statistically different from zero and changes very little once we impose our sample restrictions and condition on the Census of Business estimates.

Other measures of material well-being, such as the percent of all households who have an electric light, radio, or fridge in their dwelling are all positively correlated with the presence of Green Book establishments, but are substantially reduced in magnitude and statistically insignificant once we condition on the number of accommodations from the Census of Business. It is important to note here that this is entirely driven by conditioning on the Census of Business estimates and not due to the other sample restrictions or focus on formal accommodations.

Turning to other proxies of economic activity in Figure 17 tell a similar narrative. Green Book establishments appear more prominently in areas with more involvement in manufacturing, as measured by total manufacturing wages, establishments, wage earners, output, and value added; however this result is also eliminated once we condition on the total number of accommodations from the Census of Business. US federal government World War II contracts also tend to be associated with more Green Book establishments. In Figure 18 we show the elasticities of Green Book establishments with respect to war contracts for the supply of combat equipment, other types of supplies, industrial facilities contracts, and military
facilities contracts. In each instance a one-percent increase in the number of contracts is associated with a 0.4-0.5 percent increase in the number of Green Book establishments. Again, these elasticities are reduced in magnitude to below 0.1 percent and are, at times, marginally statistically significant after conditioning on the total number of accommodations.

Overall, the elasticities of the number of Green Book establishments with respect to various measures of economic activity are positive until we condition on the total number of accommodations. Although this change is partially driven by the sample restrictions we have to impose in order to estimate the conditional elasticities, the majority of the reduction can be attributed to the inclusion of the total number of accommodations. This result suggests that places that have higher levels of economic activity are not necessarily more or less discriminatory, they just have more businesses to begin with.

In Figure 19, we examine the relationship between the presence of Green Book establishments and a darker part of American history. Here, we display the elasticities for a number of other measures of segregation and discrimination. Several aspects of this analysis stand out. First, counties with more Green Book establishments also have more Confederate symbols—statues, plaques, and roads or public building named in honour of Confederate soldiers and politicians. Although there is a gain in precision when formal accommodations are considered separately, the correlation with Confederate symbols is largely unchanged across specifications.

Second, while we find that areas with a higher Green Book presence tend to be areas that are also more segregated residually (captured by the dissimilarity index—a value closer to one indicates higher segregation), this result is substantially reduced in magnitude when we restrict to formal accommodations. Perhaps more importantly, when we condition on the total size of the hotel and motel industry, the correlation becomes negative and remains statistically different from zero. Thus, once we take into account the fact that areas with more Green Book accommodations tend to occur in areas with more hotels and motels, we find that areas with a greater degree of residential segregation have fewer Green Book establishments.

Next, historical violence against blacks, captured by the cumulative number of black lynchings in a county, up to 1936, is negatively correlated with both the total establishment count, as well as formal accommodations. The point estimate for black lynchings is negative across all four specifications. That said, the elasticity between formal Green Book accommodations and historical lynchings of blacks is smaller in magnitude than the elasticity between all Green Book establishments and historical lynchings of blacks. This estimate changes little when we restrict to counties that also have Census of Business estimates, but we cannot reject that the correlation is zero at the 10 percent significance level when we
condition on the total number of formal accommodations.

Finally, we find a small positive elasticity of Green Book establishments with respect to White Lynchings; however, this estimate is no longer statistically different from zero when we impose any of our sample restrictions.

In light of the impact that conditioning on the total number of firms has on the estimated elasticities, we conclude that the local level of market competition played an important role in the provision of public accommodations to African American customers during this period, and should be taken into account in any empirical analysis using the Green Books data.

6 Conclusion

The Green Books present an unprecedented historical account of segregation in public accommodations during Jim Crow. By digitizing and geocoding the location of all establishments listed in the publications, we are able to provide new insights into the geography and correlates of this type of discrimination. While the number of non-discriminatory public accommodations increased nationwide between 1939 and 1955, this growth was largest in the Northeast. On a per-capita basis (based on the number of African American residents), the midwest vastly exceeded the rest of the country over this same time period in terms of access to non-discriminatory public accommodations. Combining our counts of Green Book formal accommodations with newly digitized values of the number of accommodations by county across the United States reveals that the Northeast also had the largest share of non-discriminatory public-accommodations.

Within cities, Green Book establishments were disproportionately located in areas that were traditionally excluded from lending markets due to the practice of redlining, wherein the Home Owner’s Loan Corporation drew residential security maps which cautioned lenders from providing loans in certain neighborhoods. Interestingly, the South had relatively equal representation of Green Book establishments across both redlined neighborhoods and business districts.

In general, the presence of Green Book establishments is positively correlated with a wide range of factors that proxy for economic activity: the percent of the population with more than a high school degree, household characteristics like having an electric light, radio, or fridge, involvement in manufacturing, and the number of WWII contracts. That being said, a similar analysis using formal Green Book accommodations and conditioning on the total number of accommodations nearly eliminates all of these correlations. Thus, the presence Green Book establishments appears to be positively correlated with economic activity insofar as economic activity generates businesses more broadly, and not due to a fundamental difference in the propensity to discriminate in these areas.
Overall, our analysis presents several new facts related to access to non-discriminatory public accommodations during the pre-Civil Rights Act era, which had previously been undocumented. We also provide a series of recommendations for researchers wishing to use the Green Book data moving forward.

References


### Table 1: Idiosyncratic Greenbook Entries

<table>
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<tr>
<th>Example</th>
<th>Year</th>
<th>Establishment</th>
<th>Address</th>
<th>City</th>
<th>Type</th>
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<td>Fresno Motel</td>
<td>1957-62</td>
<td>Fresno Motel</td>
<td>Hwy. 99</td>
<td>Fresno, CA</td>
<td>Lodging</td>
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<td>1963</td>
<td>Fresno Motel</td>
<td>Hwy. 99 and Clinton</td>
<td>Fresno, CA</td>
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<td>Jim Summers</td>
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<td>Camden, AR</td>
<td>Restaurant</td>
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<td>715 1/2 S. Main St.</td>
<td>Camden, AR</td>
<td>Liquor store</td>
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<td>Camden, AR</td>
<td>Lodging</td>
</tr>
</tbody>
</table>
B Figures

(a) Front page

(b) Example from Georgia

(c) Example of an advertisement

Figure 1: Sample of the Green Book publications from the year 1956 and the state of Georgia. Reproduced from the New York Public Library Digital Collections.
Figure 2: Frequency of establishments in all years listed by type of establishment.
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Figure 19: Coefficient estimates and 90% confidence intervals from separate \( \sinh - \sinh \) regressions of the number of GB listings on measures of segregation or discrimination in 1940. Regressions are estimated at the county level and estimates are conditional on the log of the black population. Coefficient estimates marked “All Establishments” regress the total number of Green Book establishments on each measure of discrimination/segregation. “Formal Accommodations” restrict the analysis to formal lodging. “Formal + In COB” restricts the analysis to formal lodging and only includes counties for which we also have data from the 1935 Census of Business (some were omitted due to disclosure rules). “Formal + Cond. on COB” restricts the analysis to formal accommodations in counties for which we have Census of Business data and conditions on the total number of hotels in these counties.