Black Public Works: The Political Economy of Race and New Deal Infrastructure

by

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Abstract

This thesis examines how New Deal public works intersected with race during a critical juncture in American political development and spatial rationalization. The narrative of the New Deal has often underestimated the infrastructure building that became the nucleus of the Roosevelt Administration's relief and reform policies as well as the ways in which race and racism structured all levels of New Deal operations. This research highlights the promises and limitations of the "public works revolution" that the New Deal set in motion by exploring the extent to which New Deal infrastructure programs were redistributive along racial lines. Using archival records and agency reports, I offer programmatic histories of seven major public works programs and highlight the types of projects that were built in Black communities. I show how New Deal infrastructure building was layered with contradictions and punctuated with moments of progress as well as lost opportunities for redress. I then analyze public works spending in counties that had sizeable African American populations in the 1930s, including the Black Belt, Gulf Coast, and the metro areas of New York City, Chicago, and Philadelphia to show how state and local politics and the urban-rural line shaped infrastructure outcomes. Lastly, I apply mapping and spatial statistics to identify geographic patterns of public works expenditures across the country, which reveal that low per capita spending tended to cluster in regions with significant Black populations.

By focusing on the racialized dimensions of New Deal infrastructure building, this research challenges the logics that have been offered to explain public works in the fields of American political development, economic history, and fiscal federalism. This thesis also problematizes the redistributive impact of infrastructure on material and fiscal grounds by emphasizing how the policymaking and institutional legacies of New Deal public works are as consequential as their physical achievements. As the U.S. pursues ambitious infrastructure buildout in response to overlapping and unprecedented crises, new approaches to infrastructure policy are needed to fully realize their potential.

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Table of Contents

List of Abbreviations

ACA: Advisory Committee on Allotments

BPR: Bureau of Public Roads

CCC: Civilian Conservation Corps

CWA: Civil Works Administration

ERA: Emergency Relief Appropriation

FDR: Franklin D. Roosevelt

FERA: Federal Emergency Relief Administration

NIRA: National Industrial Recovery Act

PBA: Public Buildings Administration

PRA: Public Roads Administration

PWA: Public Works Administration

REA: Rural Electrification Administration

TVA: Tennessee Valley Authority

WPA: Works Progress Administration

Chapter 1. Introduction: Crisis & The Infrastructure Moment

The physical, institutional, and political legacy of the New Deal continues to animate policymakers, historians, and social scientists as the United States enters the third decade of the 21st century with a number of overlapping and unprecedented crises. COVID-19's uneven toll has revealed the structural deficits in the body politic and the profound economic and racial inequality that has become the hallmark of American society. The economy is in a tenuous position; the country is reckoning with anti-Black racial violence and ideological extremism; and the steady uptick in atmospheric carbon suggests the next global crisis may be just around the corner. Many have drawn parallels between our moment of crisis and the monumental challenges that President Franklin D. Roosevelt faced when he assumed office in 1933. It is fitting that President Joseph Biden reportedly studied FDR's presidential transition and that he elected to put up a portrait of FDR in the Oval Office.[1] There are now growing calls from advocates, academics, and even some politicians that bold government action – akin to the New Deal in breadth and ambition – is needed to protect communities, salvage the economy, and build a more secure and equitable society. Though much can be learned from the transformative impact of the New Deal, as emphasized by the Roosevelt Institute's recent call for a True New Deal, [2] we must be careful to heed all of its lessons.

Perhaps the most visible and often underestimated lesson of the New Deal is the massive public works and infrastructure building that transformed both the American landscape and government policymaking, what historian Jason Scott Smith referred to as the "public works revolution."[3] Public works loomed large in many of the New Deal programs, from the Rural Electrification Administration that brought electricity to rural regions across the country to the Public Roads Administration and the lasting legacies of the Army Corps of Engineers. The Public Works Administration (PWA) deployed funds to 3,068 of the nation's 3,071 counties and

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[1] Steve Inkseep, "Biden Studies FDR's Presidential Transition For Guidance," *Morning Edition* (National Public Radio, December 2020), https://www.npr.org/2020/12/15/946617259/biden-studies-fdrs-presidential-transition-for-guidance; Ankita Rao, "Inside Biden's Oval Office: Andrew Jackson out, César Chávez and Rosa Parks In," *The Guardian*, January 21, 2021, sec. US news, http://www.theguardian.com/us-news/2021/jan/20/oval-office-joe-biden-busts-paintings-mlk-fdr-franklin.

[2] Andrea Flynn et al., "A True New Deal" (The Roosevelt Institute, August 2020), https://rooseveltinstitute.org/wp-content/uploads/2020/08/RI-TrueNewDealReport_202008.pdf.

[3] Jason Scott Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956* (Cambridge University Press, 2006).

was responsible for major projects such as the Hoover Dam, Lincoln Tunnel, and Grand Coulee Dam. The PWA authorized over 34,508 projects between 1933 and 1939, including 70 percent of all educational facilities, 65 percent of public buildings, and 35 percent of all healthcare facilities that were built during the period.[4] The Works Progress Administration (WPA), which commenced in 1935, built over 67,000 miles of city streets, 500 water treatment plants, 19,700 miles of water mains, 3,300 stadiums, and 151 libraries throughout the country.[5] The New Deal also supported thousands of artists that created murals and public art in schools, post offices, hospitals, and government buildings. It is difficult to overstate the physical transformation of the country as a result of New Deal public works, which had both immediate and long-term implications. A recent review of academic studies on the effects of New Deal public works and relief found that they helped to reduce crime, raised incomes, and even ameliorated negative health outcomes from the Dust Bowl.[6] The built accomplishments of the New Deal provided the foundation of American health, recreation, commerce, and public affairs for nearly a century and crafted the policy backbone that lives on today. They offer crucial and timely lessons for a country seeking to a build back better.

For all its success, the New Deal also operated under a racialized caste system that stratified social policy. Historians and political scientists have written extensively on the ways in which New Deal programs ignored African American interests outright or exacerbated racial inequality through distinct policy decisions and administration. Yet, as public works became the center of New Deal relief policies, their physical achievements transformed Black communities during a time of profound demographic, economic, and social change. The FDR era marked an important moment in Black political alignment and many New Deal programs became the loci of civil rights efforts and community building. Moreover, the New Deal's public works-based relief policy would help set the foundation of the American welfare state and provides insights on the redistributive potential of public infrastructure spending.

This thesis attempts to bridge these two narratives to clarify and expand our understanding of how New Deal public works intersected with race. A new generation of scholars

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[4] Public Works Administration, *America Builds: The Record of PWA* (Washington D.C.: U.S. Government Printing Office, 1939), https://archive.org/details/americabuilds00unitrich/page/n285/mode/2up.
[5] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006.
[6] Price V. Fishback, "How Successful Was the New Deal? The Microeconomic Impact of New Deal Spending and Lending Policies in the 1930s" (National Bureau of Economic Research, December 2017), https://doi.org/10.3386/w21925.

has re-interpreted New Deal infrastructure building not as temporary efforts to address the Great Depression, but long-term investments that legitimized and forged the Keynesian role of the state.[7] Yet, Black Americans are often decentered or footnoted in the broad conversation around the infrastructure building of the New Deal. And scholarship that focuses on Black communities often takes aggregate or program-specific assessments of outcomes or emphasize other policies such as the Social Security Act and Agricultural Adjustment Administration. Some researchers have taken a more systematic look at the effects of New Deal policies but do not consider major programs like the WPA and the Rural Electrification Administration as public works, treating them instead as work relief. In line with scholars like Smith, this research takes an expanded view of public works by recognizing that these policies and programs led to significant infrastructure building, many of which continue to exist in American neighborhoods today. By attending to race, this research challenges the logics that have been offered to explain American public works in the fields of fiscal federalism, economic history, and American political development.

This decade could very well herald the country's next infrastructural moment. The release of the Biden Administration's ambitious infrastructure plan in March 2021 has sparked a national conversation on the need to upgrade the structures, facilities, and networks that profoundly shape our lives. This thesis is an attempt to recover lessons learned from a defining historical parallel.

The outline of the thesis is as follows: Chapter 2 synthesizes the relevant discourse to understanding New Deal public works and race along four dimensions: (1) public works in American political development and economic history (2) the emerging scholarship that specifically considers the political economy of New Deal public works (3) a review of the social, economic, and political forces that shaped African American life in the 1920s and 1930s and finally the (4) racial basis of American capitalism and the welfare state. Chapter 3 provides programmatic histories of the major New Deal public works programs, charting their policy objectives and administrative evolution using archival materials and official agency reports. The chapter also focuses on how Black Americans fared in the implementation of these programs and the types of infrastructure that materialized in Black communities across the country. Chapter 4 brings in county-level spending data and evaluates the regional and programmatic spending

[7] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006; Robert D. Leighninger, *Long-Range Public Investment: The Forgotten Legacy of the New Deal* (Univ of South Carolina Press, 2007).

outcomes in communities with sizeable Black populations. Chapter 5 analyzes cumulative New Deal infrastructure spending across the country and applies spatial statistical techniques to identify geographic patterns of surplus and deficit. Chapter 6 concludes by connecting the research to contemporary debates on federal infrastructure spending and racial and environmental justice.

Chapter 2. Literature Review & Research Question

2.1 Public Works in American Political Development

The provision of infrastructure and government spending on public works during the New Deal can be understood within the broader patterns of American political development, particularly the role and decentralized nature of patronage politics in social policy; state-led economic development in response to increasing industrialization and urbanization; and greater national administrative power and fiscal responsibility. The historical institutionalist literature has emphasized the 'American exception' in state formation and structure, government capacity, and policymaking coherence, and offers a useful starting point for situating public works in the larger trajectory of American social policy.[8] Weir, Orloff, and Skocpol, for instance, note that American public administrative arrangements were defined by patronage of political party networks well into the early twentieth century because early mass electoral democratization – of white men – preceded state bureaucratization and professionalization, a stark divergence from the experience of European states.[9] Similarly, Stephen Skowronek in *Building a New American State* coined the phrase "state of courts and parties" to describe the early American polity that relied on regional and local judicial power to defend property rights and political parties to mobilize the white male electorate.[10] America's patronage democracy operated through pork-barrel politics and appointments, and under the primacy of state and local control. The devolution of state power, or the absence of a muscular national government, structured social provision well into the early 1900s. Before the Great Depression, American "social policy" was limited to state and local support for mass public education and generous federal benefits for Civil War veterans.[11] Poor relief administration, which coalesced at the state level in the second half of the 1800s, was

[8] David Brian Robertson, "The Return to History and the New Institutionalism in American Political Science," *Social Science History* 17, no. 1 (1993): 1–36.
[9] Margaret Weir, Ann Shola Orloff, and Theda Skocpol, "Introduction: Understanding American Social Politics," in *The Politics of Social Policy in the United States*, ed. Margaret Weir, Ann Shola Orloff, and Theda Skocpol, vol. 2 (Princeton University Press, 1988), 3–28, https://doi.org/10.2307/j.ctv173f08f.5.
[10] Stephen Skowronek, *Building a New American State: The Expansion of National Administrative Capacities, 1877-1920* (Cambridge University Press, 1982).
[11] Weir, Orloff, and Skocpol, "Introduction."

meager and allowed local politicians to exercise partisan preferences in awarding building contracts for poorhouses, asylums, and other welfare institutions.[12]

Public works, or 'internal improvements', similarly was mostly the purview of state and local governments, punctuated in certain cases by federal involvement and with close ties to private industry.[13] For example, the Erie Canal broke ground under New York governor DeWitt Clinton in the early 1800s, after he was inspired by essays calling for improved waterways by merchant Jesse Hawley. States provided early charters for railways to remain competitive with their neighbors, while municipal governments pioneered the provision of water and sanitation services. Public spending for infrastructure was for the most part a local affair. As noted by scholars John J. Wallis and Wallace Oates, local governments accounted for over 58 percent of total public expenditure in 1902, while states were responsible for just over 8.2 percent.[14] The New Deal experience in massive public works is demonstrative of the expanded federal role in just about every social provision, but these efforts operated within an institutional arrangement in which state and local governments occupied a defining role in public services, including infrastructure. And despite Progressive efforts to eliminate corruption, patronage politics, particularly at the local and regional level, factored into New Deal operations and spending decisions. For example, New Deal appointments were made with political considerations such as congressional representation in mind and Democrats steered relief funds towards states that were leaning against them in upcoming elections in the early New Deal.[15] Scholars have also written extensively on the power of Southern Democrats to effectively veto New Deal policies that did not serve the interests of Southern economic and political elites.[16] The federal government gave wide latitude to state and local administrators to carry out many New Deal policies and programs, including major elements of New Deal public works.

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[12] Ann Shola Orloff, "The Political Origins of America's Belated Welfare State," in *The Politics of Social Policy in the United States*, ed. Ann Shola Orloff, Margaret Weir, and Theda Skocpol, vol. 2 (Princeton University Press, 1988), 37–80, https://doi.org/10.2307/j.ctv173f08f.7.

[13] The National Road system, built between 1811 and 1837, is an example of federal infrastructure development.

[14] John Joseph Wallis and Wallace Oates, "The Impact of the New Deal on American Federalism," in *The Defining Moment: The Great Depression and the American Economy in the Twentieth Century* (University of Chicago Press, 1998), 155–80, https://www.nber.org/chapters/c6892.pdf.

[15] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006.

[16] Ira Katznelson, Kim Geiger, and Daniel Kryder, "Limiting Liberalism: The Southern Veto in Congress, 1933-1950," *Political Science Quarterly* 108, no. 2 (1993): 283–306, https://doi.org/10.2307/2152013; Sean Farhang and Ira Katznelson, "The Southern Imposition: Congress and Labor in the New Deal and Fair Deal," *Studies in American Political Development* 19, no. 1 (April 2005): 1–30, https://doi.org/10.1017/S0898588X05000015.

Public works must also be situated in the economic and social transformation of late nineteenth century industrialization. American expansion and infrastructure needs arising from rapid and uneven industrialization prompted federal action when local and state efforts were insufficient. An early example of this occurred in the 1850s, when the first major federal land acts gave state governments public lands to be sold or leased for railroad construction. Political scientist Zachary Callen in *Railroads and American Political Development* points out that federal aid to railroads gave the federal government "for the first time a substantial degree of control over the national infrastructure system and a subsequent new power over national spatial rationalization."[17] The shift in railway policy from the states to the federal government emanated from states, many in the West, seeking federal aid and a coordinating national role. America's rail experience demonstrates the pressures for a centralized, national administrative apparatus arising from the social and economic transformation of an industrializing and urbanizing society – the Durkheimian argument that increasing social complexity requires an increasingly complex state.[18] In the nineteenth century, all Western nations were coming under pressure from industrialization, urbanization, and the need to compete economically, all of which produced new demands for infrastructure development and reforms for centralized administration. Urban infrastructure such as water lines, street railways, and gas distribution networks in particular became associated with industrial expansion as they provided the central production and distribution of services that made possible the agglomeration of people, factories, and commercial establishments.[19] But these processes were notably uneven: industrial expansion occurred mostly in the Northeast and Midwest, while the South and West remained primarily agricultural economies.[20] Distinct regional political economies defined the concomitant infrastructural demands as well as the political logics by which they were financed, administered, and built.

The progress of industrialization in the nineteenth century also brought what has been called the "discovery of unemployment", and public officials began to realize that the idleness in industrial society arose from the cyclical fluctuations of business activity.[21] The idea of public

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[17] Zachary Callen, *Railroads and American Political Development* (University Press of Kansas, 2016).
[18] Skowronek, *Building a New American State*.
[19] Richard Franklin Bensel, *The Political Economy of American Industrialization, 1877–1900*, 1st ed. (Cambridge University Press, 2000), https://doi.org/10.1017/CBO9780511665004.
[20] Bensel.
[21] Udo Sautter, "Government and Unemployment: The Use of Public Works before the New Deal," *The Journal of American History* 73, no. 1 (1986): 59–86, https://doi.org/10.2307/1903606.

works as a tool to combat unemployment began to percolate as early as the mid-1800s. In 1855, for example, New York immigration officials put the unemployed to work on the Erie Canal. The Panic of 1893 encouraged cities and towns to employ the jobless in their public works programs, but these efforts were both scattered and small-scale.[22] In the two decades before the New Deal, reformers and public officials began to seriously consider public works policy as a means to combat unemployment, shaping fundamental debates on federal government intervention in the years leading up to the Great Depression. And as noted by Udo Sautter, "the American public had to first learn that workers could lose their jobs in an industrial society through no fault of their own and that it was the public's task to look after them. Meeting that obligation necessarily involved an expansion of governmental power, both administrative and financial."[23] In the decade preceding the 1929 stock market crash, a generation of politicians, commercial and industrial leaders, and civic boosters came to associate public works spending with economic growth and stabilization, and there were organized efforts for nationally planned public works.[24] These efforts provided a nascent backbone for the federally administered public works revolution that would define the New Deal.

Finally, New Deal public works must be understood in the context of the evolving federalist structure shepherded by the Roosevelt administration, resulting in a fundamental transformation of federal-state-local relations, particularly as it relates to state finances and spending. The Depression, which revealed the deepening interrelations of the industrial economy, warranted higher levels of state intervention. New Deal advocates in Washington D.C. saw in the states limited capacity to overcome parochial interests and the significant presence of well-organized and entrenched private groups.[25] Fiscal federalism, which is concerned with the division of state functions and financial relations between levels of government, reached a significant inflection point during the New Deal. And the New Deal meant much more than greater centralization of the public sector or simply the expansion of the federal government.[26] The very character of American federalism shifted towards a cooperative arrangement in which

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[22] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006; Ellis L. Armstrong, ed., *History of Public Works in the United States, 1776-1976* ({American Public Works Association}, 1976).
[23] Sautter, "Government and Unemployment."
[24] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006.
[25] Cass Sunstein, "Constitutionalism after the New Deal," *Harvard Law Review* 101 (1987), https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=12236&context=journal_articles.
[26] Wallis and Oates, "The Impact of the New Deal on American Federalism."

fiscal functions were shared between levels of government. The deployment of major grant programs was central to this evolution. Grants to state and local governments became a key mechanism through which the federal government funded a range of programs, including infrastructure development, and would become an essential feature of infrastructure spending from the New Deal onwards. Intergovernmental grants solidified a joint responsibility of the New Deal's "fiscal centralization and administrative decentralization",[27] the nature of which varied across public works programs. The Public Works Administration, for example, involved heavy federal involvement and was for the most part national in character, while the Works Progress Administration required state and local sponsorship for project development. The explosive growth in the construction of roads, waterworks, power lines, social infrastructure, and other public works materialized from the shared efforts between all levels of government, spearheaded by a larger central administration.

Classical theories of fiscal federalism explain the optimal provision of public goods and services and two in particular are relevant in thinking through fiscal responsibility for public works. The first comes from the work of Charles Tiebout, who recognized that certain public goods and services were better delegated to local governments, which offer a heterogenous mix of taxation-public expenditures.[28] The Tiebout Model characterizes a competitive constellation of independent local governments that compete to offer the optimal level of public goods and services to mobile individuals and households. Sorting according to differentiated demand for public service is argued to yield efficient outcomes on economic grounds. Public activities should be decentralized, except when there are significant economies of scale or economic spillovers between jurisdictions that warrant a central government response.[29] Thus, certain goods ("local public goods") are better provided, and financed, by lower governments with defined jurisdictional boundaries. The second is Oates' Decentralization Theorem, which claims that absent any cost-savings from the centralized provision of a local public good and interjurisdictional externalities, the level of welfare will always be as high, and typically higher, if policy is decentralized.[30] Taken together, the Tiebout Model and Decentralization Theorem

[27] Wallis and Oates.
[28] Charles M. Tiebout, "A Pure Theory of Local Expenditures," *Journal of Political Economy* 64, no. 5 (1956): 416–24.
[29] Robert P. Inman and Daniel L. Rubinfield, "Economics of Federalism," in *The Oxford Handbook of Law and Economics*, vol. 3, 2017, https://doi.org/10.1093/oxfordhb/9780199684250.013.013.
[30] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006.

suggest a tradeoff in which decentralized public goods provision would meet place-specific preferences and cost conditions while centralization would internalize inter-jurisdictional spillovers. New Deal public works offer a lens through which the tradeoff in de/centralization can be evaluated.

So far, three considerations have been identified to situate New Deal public works:

(1) the decentralized and patronage nature of American social policy
(2) the emergence of public works as a government tool for economic development and management in the context of American industrialization
(3) the evolving fiscal relationship between the federal, state, and local levels

All three provide useful frames to make sense of how New Deal public works policy was designed, financed, and administered to nearly all communities in the United States. State and local governments were directly involved in the allocation of relief, the selection and administration of projects, and in certain cases were required to provide matching funds to access federal resources. The Democratic Party machine, at all levels, seized on relief to bolster political interests. The use of public works to respond to the Depression benefitted construction and heavy industry, which were concentrated in states like California, Pennsylvania, New York, and Ohio. And the greater deployment of fiscal instruments such as intergovernmental grants ushered the era of "cooperative federalism" and a fundamental reorientation of how government delivered infrastructure.

2.2 The Political Economy of New Deal Public Works

The turbulence and enormity of the Great Depression warranted ambitious government action and led to a critical juncture in American statecraft, economic management, and sociopolitical life. Public works was the primary programmatic and policy mechanism through which relief and social policy was implemented by the Roosevelt Administration. The period saw the creation of a long list of new agencies that oversaw the physical transformation of the country and public works became the nucleus of state and party building. Each program had a specific mandate in the country's recovery and operated under particular administrative rules and institutional structures. The PWA alone authorized 11,428 road projects, 4,287 public buildings, 2,582 water systems, 1,850 sewage systems, 32 railroads, 822 hospitals, and 470 flood control

structures by 1939.[31] The WPA, which was established during the 'second' New Deal, built over 480 airports, 78,000 bridges, and an impressive 40,000 public buildings. The historiography of New Deal public works usually tells their stories in the context of economic relief to the unemployed, yet their physical legacy and impact on the built environment have drawn less attention. Taken together, New Deal public works remain the most consequential infrastructure building that the United States has ever pursued.

Recent scholarship has attempted to fill this gap in New Deal literature by focusing squarely on New Deal public works and reinterpreting the political economy of infrastructure building during this remarkable turning point in American public policy. Jason Scott Smith in *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956* argues that public works laid the institutional groundwork for state-sponsored economic development and legitimized, "intellectually and physically", the Keynesian management of the economy that would carry the country through the Second World War.[32] Taking the state-centered approach, Scott focuses his study on the activities of the federal government and its agencies. In an early footnote in the book, Scott rightly points out that much of the work done by economic historians draw a distinction between spending on "public works" by the PWA and "work relief" performed by the WPA despite the fact that both produced substantial infrastructure throughout the country.[33] Similarly, sociologist Robert D. Leighninger Jr. in *Long-Range Public Investment: The Forgotten Legacy of the New Deal* focuses on the enduring achievements of New Deal public investments and offers a programmatic survey of the Public Works Administration, Civil Works Administration, Works Progress Administration, Tennessee Valley Authority, and others. Leighninger places New Deal public works in the broader American experience in state-sponsored infrastructure development and argues for a renewed and robust public debate to re-invest in our public assets.[34] Leighninger's call is timely. Beyond Smith and Leighninger, there is scant academic research that offers a comprehensive evaluation of or focus on New Deal public works, a surprising conclusion given the common rhetorical evocation of the New Deal in contemporary policy debates in the energy transition and climate change; COVID-19 recovery;

[31] Public Works Administration, *America Builds: The Record of PWA*.
[32] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006, 3.
[33] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006.
[34] Leighninger, *Long-Range Public Investment*.

and federal infrastructure policy.[35] As Smith notes, both liberal and New Left historians have often neglected the fact that public works programs were the New Deal's central enterprise.[36]

2.3 African Americans in the Roosevelt Era

The story of New Deal public works in Black communities must be historically situated in the powerful social forces that shaped Black life prior to the New Deal era. The Great Migration, which began in earnest after World War I, ushered the mass movement of African Americans from the rural South to urban centers in the Northeast, Midwest, and Pacific coast, transforming the political, cultural, and social trajectories of cities like New York, Chicago, Philadelphia, and Oakland well into the mid-20th century.[37] Harlem became a cultural and artistic mecca for a generation of poets, musicians, writers, dancers, and activists. Major civil rights organizations like the National Association for the Advancement of Colored People (NAACP) and National Association of Colored Women's Clubs continued to advocate for African American rights, led by luminaries such as James Wheldon Johnson and Mary McLeod Bethune. Though African Americans remained largely aligned with the Grand Old Party, many grew increasingly alienated from the Republican Party's refusal to take a meaningful stand on key civil rights issues such as desegregating the civil service and supporting anti-lynching legislation. The 1920s marked the last act before the crucial realignment of African American voters to the Democratic Party in the following decade.

Despite progress and steady participation in American civic life, a great majority of America's Black citizens remained in precarious economic conditions. Employment opportunities available to African Americans were scarce and many toiled in low-wage industries with weak labor protections. In the South, agriculture remained the dominant economic sector and many were sharecroppers and tenant farmers, cultivating crops on land mostly owned by white

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[35] Matt Blitz, "When America's Infrastructure Saved Democracy," *Popular Mechanics*, 2017, https://www.popularmechanics.com/technology/infrastructure/a24692/fdr-new-deal-wpa-infrastructure/; Howard Markel, "Infrastructure," *The Milbank Quarterly* 95, no. 1 (March 2017): 5–10, https://doi.org/10.1111/1468-0009.12237; Kian Goh, "Planning the Green New Deal: Climate Justice and the Politics of Sites and Scales," *Journal of the American Planning Association* 86, no. 2 (April 2, 2020): 188–95, https://doi.org/10.1080/01944363.2019.1688671.

[36] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006, 15.

[37] Isabel Wilkerson, *The Warmth of Other Suns: The Epic Story of America's Great Migration* (Knopf Doubleday Publishing Group, 2010); Stewart E. Tolnay, "The African American 'Great Migration' and Beyond," *Annual Review of Sociology* 29, no. 1 (2003): 209–32, https://doi.org/10.1146/annurev.soc.29.010202.100009.

Americans. Economic insecurity and poverty were exacerbated by the racial violence and exploitation of Jim Crow, which was particularly salient in the Democratic South but very much took place everywhere above the Mason-Dixon Line.[38] Segregation in housing, employment, education, and recreation was the law of the land, promulgated by all levels and levers of government. The Great Depression affected Americans of all walks of life, but its devastation was therefore particularly acute in Black communities. T. Arnold Hill of the Urban League concluded, "At no time in the history of the Negro since slavery has his economic and social outlook seemed so discouraging."[39]

There is broad consensus among historians and writers on the ambivalent racial legacy of the New Deal.[40] The 1933 Agricultural Adjustment Act, for example, was disastrous for Black tenants and sharecroppers in the South and created an "American enclosure movement" that displaced African Americans by privileging landowners.[41] The 1935 Social Security Act excluded agricultural and domestic workers, thus disproportionately impacting African Americans.[42] Richard Rothstein's *The Color of Law* deftly explores how FDR's federal housing policies and programs excluded Black communities and were instrumental in consolidating racial segregation.[43] African Americans on average benefitted less from New Deal programs than white Americans and local control of major pieces of New Deal relief allowed for discrimination. And the South's grip on the Democratic Party all but assured a veto constituency. Yet, the racial record of New Deal public works is more complex. Black Americans benefitted from programs such as the Civilian Conservation Corps (CCC), which employed hundreds of thousands of Black youth to work on public lands and parks throughout the country, even though the program would eventually be segregated.[44] In WPA programs, Black participation was 50 percent greater

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[38] Harvard Sitkoff, *A New Deal for Blacks: The Emergence of Civil Rights as a National Issue* (New York: Oxford University Press, 1978), 3–33.
[39] Sitkoff, 35.
[40] Paul K. Conkin, *The New Deal* (Wiley, 1992); Paul Moreno, "An Ambivalent Legacy: Black Americans and the Political Economy of the New Deal," *The Independent Review* 6, no. 4 (2002): 513–39; Farhang and Katznelson, "The Southern Imposition."
[41] Moreno, "An Ambivalent Legacy."
[42] Larry DeWitt, "The Decision to Exclude Agricultural and Domestic Workers from the 1935 Social Security Act," Social Security Administration Research, Statistics, and Policy Analysis, November 2010, https://www.ssa.gov/policy/docs/ssb/v70n4/v70n4p49.html.
[43] Richard Rothstein, *The Color of Law: A Forgotten History of How Our Government Segregated America* (Liveright Publishing, 2017).
[44] Olen Cole, *The African-American Experience in the Civilian Conservation Corps* (Gainesville: University Press of Florida, 1999).

than the African American share of the total U.S. population.[45] And certainly the thousands of schools, hospitals, power infrastructure, and civic buildings; the thousands of miles of road, water, and sewer lines; and support for the arts and public health in African American communities under the New Deal had an indelible impact on Black life. Relief and public works policy became a locus of civil rights efforts. Mary McLeod Bethune and Robert C. Weaver, members of FDR's informal Black Cabinet, became important figures in advocating for Black inclusion in major New Deal programs.[46] Bethune would eventually receive a director position in the WPA's National Youth Administration, which employed young men and women in smaller-scale construction and repair jobs. Historian Lauren Sklaroff, in *Black Culture and the New Deal: The Quest for Civil Rights in the Roosevelt Era*, notes that WPA programs served as important locations for Black cultural advancement that would influence future iterations of political mobilization against social and economic injustice.[47] If the New Deal era marked a turning point in Black political and economic life, how do we make sense of the role and impact of the public works programs that transformed Black communities; employed men, women, and youth; improved standards of living; yet in many cases continued to operate in a stratified and racialized system?

2.4 The Racial Basis of Capitalism and the Welfare State

The fourth domain of literature that this research builds on is the racial basis of capitalism and the American welfare state. Race must be historically situated in economic and political institutions that give meaning to social relations, and states, in distributing goods and services, work to enforce and organize racial identities.[48] Much has been written about the racialized dimensions of American social policy, particularly during the Roosevelt Era, including the historical development of the U.S. polity; institutional structure and decentralized administration; and policy design and outcome.[49] But if Scott's argument that public works constituted "an

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[45] Adolph Reed Jr, "The New Deal Wasn't Intrinsically Racist," *The New Republic*, November 26, 2019, https://newrepublic.com/article/155704/new-deal-wasnt-intrinsically-racist.
[46] Jill Watts, *The Black Cabinet: The Untold Story of African Americans and Politics During the Age of Roosevelt* (Atlantic Monthly Press, 2020).
[47] Lauren Rebecca Sklaroff, *Black Culture and the New Deal: The Quest for Civil Rights in the Roosevelt Era* (Univ of North Carolina Press, 2009).
[48] Michael Omi and Howard Winant, *Racial Formation in the United States* (Routledge, 2014).
[49] Robert C. Lieberman, "Race, Institutions, and the Administration of Social Policy," *Social Science History* 19, no. 4 (1995): 511–42, https://doi.org/10.2307/1171478; Theda Skocpol, "African Americans in U.S. Social Policy," in *Classifying by Race*, ed. Paul E. Peterson (Princeton University Press, 1995), 129–55,

extraordinarily successful method of state-sponsored economic development" during a key turning point of the modern welfare state is true, then the racialized operations of infrastructure building warrant specific attention. As Steve Valocchi concluded, New Deal perspectives "need to be built on a greater appreciation of how race, racism, and the changing nature of racial subjugation affected the organizations and interests of classes, parties, and state structures."[50] This thesis also heeds the recent call from sociologists Daniel Hirschman and Laura Garbes to apply insights from the sociology of race to clarify the relationships between the state, markets, and social institutions.[51]

This research considers race as an often overlooked but fundamental dimension of New Deal infrastructure building. I argue that focusing on the racialized dimensions of New Deal public works expands on and clarifies the previously mentioned 'logics' of public works in the literature of American social policy, economic history, and fiscal federalism. For example, the South's leverage in New Deal policymaking alongside its maintenance of Jim Crow helps specify the decentralized, patronage politics that influenced the administration of major public works programs. The extent to which Black Americans were employed in public works or benefitted from its built structures reveals the promises and limitations of state-led economic development that arose from the New Deal's "public works revolution." And the shared responsibility whereby the federal government financed and subnational jurisdictions administered public works underscores the potentially antagonistic relationship between racial justice and fiscal federalism, which is typically justified on grounds of efficiency but has little to say about its role in perpetuating inequality.[52]

The racial legacies of New Deal public works remain contested. The diversity of public works programs, each with its own administrative objectives, leadership, and outcomes, offers a rich canvas to evaluate how American infrastructure building intersected with race during a period of economic crisis and political transformation. A more systematic and granular

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http://www.jstor.org/stable/j.ctt7zvw6v.11; Gareth Davies and Martha Derthick, "Race and Social Welfare Policy: The Social Security Act of 1935," *Political Science Quarterly* 112, no. 2 (1997): 217–35, https://doi.org/10.2307/2657939.

[50] Steve Valocchi, "The Racial Basis of Capitalism and the State, and the Impact of the New Deal on African Americans," *Social Problems* 41, no. 3 (1994): 347–62, https://doi.org/10.2307/3096967.

[51] Daniel Hirschman and Laura Garbes, "Toward an Economic Sociology of Race," *Socio-Economic Review*, no. mwz054 (December 19, 2019), https://doi.org/10.1093/ser/mwz054.

[52] Michael Brown, "Ghettos, Fiscal Federalism, and Welfare Reform," in *Race and the Politics of Welfare Reform* (University of Michigan Press, 2003).

evaluation is needed to account for the diverse regional, political, and socioeconomic conditions that factored into public works spending in Black communities. For example, African Americans in rural Alabama interacted with New Deal public works in a very different manner when compared to Black communities in industrial states or urban centers like New York City and Chicago. Wealthier African American counties or those in valuable swing districts likely benefitted from public works programs in specific ways. Programs like the PWA and Tennessee Valley Authority focused on large infrastructure projects, while the WPA built social infrastructure like schools and hospitals. To evaluate New Deal public works from the perspective of race requires attention to these nuances.

2.5 Research Question

This thesis asks, *Were New Deal public works programs redistributive along racial lines?* The question is broken down further:

(1) What types of infrastructures were built in Black communities?
(2) Which public works programs spent more, in aggregate and per capita terms, in jurisdictions with significant African American populations?
(3) What were the geographic patterns of New Deal infrastructure spending?

Chapter 3. The Public Works Core of the New Deal: Programmatic Histories

Each of the New Deal public works programs assumed specific responsibilities in the broader effort to revive the American economy and yielded a unique and impressive array of infrastructure throughout the country, what sociologist Robert Leighninger Jr. has called long-range public investment. While their principal purpose was economic recovery and relief, New Deal public works also underpinned the evolution of an administrative state that redefined its approach to infrastructure delivery and, more broadly, state-sponsored economic development and government investment. The physical legacy of New Deal public works remains visible, but its political and administrative remnants have been equally consequential. This chapter provides a closer examination of the various public works programs, with particular attention to the Public Works Administration and the Works Progress Administration, the largest and arguably the most impactful of the New Deal era. Each section evaluates how financial resources were distributed to states, counties, and municipalities; the types of projects that were selected and implemented; major administrative rules and criteria that shaped spending decisions; and their evolution over the course of the 1930s and 1940s. Drawing on archival records, official agency reports, and prior scholarship, the chapter also considers how race intersected with each of the public works programs and the extent to which they affected Black communities across the country.

Public works occupied a core element of the New Deal. Between 1933 and 1939, over two-thirds of federal emergency expenditures were dedicated to funding public works.[53] During this period, just two programs – the WPA and PWA – represented over half of total non-payable grants from the federal government.[54] Grants and loans were the primary instruments through which public works were supported: The Rural Electrification Administration, for example, operated entirely through federal loans to support electricity expansion, while the PWA provided both loans and grants to states and local governments. Support and coordination also came from the vast administrative operations that accompanied many of the New Deal programs, from the

[53] Jason Scott Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956* (Cambridge University Press, 2006), 1.
[54] Price V. Fishback, Shawn Kantor, and John Joseph Wallis, "Can the New Deal's Three R's Be Rehabilitated? A Program-by-Program, County-by-County Analysis" (National Bureau of Economic Research, April 18, 2002), https://doi.org/10.3386/w8903.

system of engineer-inspectors that maintained national technical standards and enforced rules, to state and regional boards that liaised with Washington D.C., to public outreach campaigns that sought to engage and educate communities. Public works also became a focal point in the fervent debates among policymakers and political leaders on essential questions regarding American social policy, particularly in the context of the Depression: To what extent should programs be decentralized? Is the focus alleviating employment or building infrastructure? How should spending be allocated effectively and fairly to meet the needs of widely different jurisdictions? And lastly, public works provided an arena through which New Deal politics, across all levels, unfolded. They provided patronage appointments and opportunities for the Democratic Party to consolidate its constituency; they made stars out of local politicians and legends out of national administrators; and they energized an opposition that culminated in, among other consequences, the Hatch Act, the federal law that prohibits federal civil servants from engaging in political activities. Crucially, public works contributed to the mass mobilization effort as the U.S. entered World War II. Simply put, the story of the New Deal cannot be told without public works.

A programmatic survey offers a useful analytical starting point for exploring whether or not New Deal infrastructure building was redistributive along racial lines. As this chapter reveals, the racial legacy and political economy of New Deal infrastructure building is layered with contradictions and punctuated with moments of progress as well as lost opportunities for redress. It is without question that New Deal policies operated within a racialized system that undervalued Black lives. Local administration, the powerful Southern Congressional bloc, and the social and institutional norms of Jim Crow all played a hand in excluding and subordinating African Americans. Yet during an era of incredible demographic and political flux and a time of economic uncertainty, public works programs were, for many African Americans, the first line of meaningful relief policy from the Roosevelt administration. The early New Deal programs for industry and agriculture had largely ignored the interests of African Americans. With social progressives like Harry Hopkins and Harold Ickes at the helm of major programs and continued efforts from Black leaders and civil rights organizations, the incorporation of African American interests in New Deal public works evolved over the Roosevelt era.

By profiling the major public works programs and spotlighting specific projects, this chapter delves into the nuanced ways in which New Deal infrastructure touched the lives of Black communities. Each of the programs had enormous potential to redistribute resources as the

nation pursued massive construction of every conceivable type of infrastructure. But as this chapter will show, administrative and political limitations often prevented public works from fully realizing this potential, a cost that was often carried by African Americans. Moreover, destructive policymaking legacies in housing and transportation were rooted in New Deal programs and shaped the trajectory of American communities well into the present day.

3.1 Civil Works Administration

The social upheaval of the Depression forced the Roosevelt administration to first and foremost deal with the vast number of unemployed Americans. Secretary of Commerce Harry Hopkins, a champion of work-based relief, was charged with leading the Civil Works Administration (CWA) in November 1933 with $400 million diverted from the PWA budget. The CWA was designed to be a temporary relief program focused on light, short-term construction and rehabilitation. As noted by New Deal historian Bonnie Fox Schwartz, the CWA was an uneasy hybrid of social work compassion and engineering know-how, conceived by welfare reformers and designed as a public jobs program.[55] In this way, the CWA represented an important federal experiment in employment-based social policy. Despite its short life, the CWA was responsible for laying over 12 million feet of sewer pipes, repairing 200,000 miles of roads, and constructing or rehabbing 4,000 schools, 2,000 playgrounds, and 1,000 airports.[56] Perhaps more impressive, the CWA managed to create over four million jobs in just three months of operating, a fact that continues to astound policy historians.[57] For comparison, President Barack Obama in 2009 pledged that his recovery plan would create or save three to four million jobs over the course of two years.[58] The CWA became the organizational backbone of the much larger Works Progress Administration and solidified the place of public works in the emerging New Deal state.

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[55] Bonnie Schwartz, *The Civil Works Administration, 1933-1934: The Business of Emergency Employment in the New Deal* (Princeton University Press, 1984), 38, https://www-jstor-org.libproxy.mit.edu/stable/j.ctt7zvrv7.
[56] Leighninger, *Long-Range Public Investment*, 51.
[57] Steven Attewell, *People Must Live by Work: Direct Job Creation in America, from FDR to Reagan* (University of Pennsylvania Press, 2018).
[58] Jeff Zeleny and David M. Herszenhorn, "Obama Again Raises Estimate of Jobs His Stimulus Plan Will Create or Save," *The New York Times*, January 10, 2009, sec. U.S., https://www.nytimes.com/2009/01/11/us/politics/11radio.html.

By the fall of 1933, the slow rollout of the Public Works Administration and the continued economic contraction created a political timebomb for the Roosevelt administration. Harry Hopkins, the head of the Federal Emergency Relief Administration (FERA) with a background in social work, pitched a model of unemployment relief based on useful work to the President in October. It was greenlighted within a week, setting in motion the official establishments of the Civil Works Administration.[59] Hopkins had four million jobs to fill, half of which would come from ongoing FERA work projects and the other half would be recruited from the newly created United States Employment Service. On November 10, telegrams were sent to all state, city, and county relief administrators, announcing their roles as CWA officials.[60] States received a quota of jobs based on a combination of its population and relief load and the Veterans Administration, which had check-writing machinery across the country, was charged with processing payments. The federal government would assume 90 percent of the cost and the states 10 percent.[61] The program was strongly decentralized in an effort to move quickly and projects originated from local government units. The pace with which CWA positions were filled illustrated the desperation of the times. In Chicago, 70,000 were in line at recruitment centers before dawn; in rural Idaho, the state's quota was met in just two weeks.[62] Nine million Americans applied for the approximately two million CWA positions available.[63] The difficult road to recovery had just begun.

So many elements of the CWA's rise and fall have taken almost mythical status in the New Deal narrative. For example, as noted by Leighninger's profile of the CWA, the logistical challenges of getting millions of Americans to work under a completely new relief framework were enormous. Factories were called to jump-start mass production of hand tools and wheelbarrows, various government agencies across all levels needed to be coordinated, projects across the country needed to be vetted and implemented. The early days of the CWA were indeed "a logistical triumph…the peacetime equivalent of the evacuation of Dunkirk."[64] For the

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[59] Sheila Collins and Gertrude Goldberg, *When Government Helped: Learning from the Successes and Failures of the New Deal* (New York: Oxford University Press, 2014), 150.
[60] James N. J. Henwood, "Experiment in Relief: The Civil Works Administration in Pennsylvania, 1933-1934," *Pennsylvania History: A Journal of Mid-Atlantic Studies*, 1972, 50–71.
[61] Roger Biles, "Relief and Employment," in *The South and the New Deal* (University Press of Kentucky, 1994), 66, http://www.jstor.org/stable/j.ctt130j2h9.8.
[62] Leighninger, *Long-Range Public Investment*, 47.
[63] Collins and Goldberg, *When Government Helped*, 153.
[64] Leighninger, *Long-Range Public Investment*, 47.

first time in work relief, workers were paid in cash instead of vouchers, home visits by relief administrators were eliminated, and compensation from work-related injury was included. Many who had not seen income in months were beginning to get back on their feet. Draftsmen, engineers, surveyors, stone masons, mechanics, carpenters, and machine operators worked eight hours a day in record freezing temperatures – many were happy for the opportunity.[65] However, the CWA's speedy rollout also provided for ample opportunities for graft, kickbacks, and price gouging of the millions of relief funds that poured from the federal government, giving conversative critics the ammunition they needed.[66] Private employers also charged that the CWA pay scales increased the cost of labor, particularly in rural areas. The program was also much more expensive than other relief programs like FERA. Roosevelt himself was not yet ready to commit to the federal government in operating a vast public employment program. After just four and a half months, the CWA was suspended.

The CWA's record on race is mixed to negative. Although discrimination on the basis of race was prohibited in the program's eligibility application, local administration and hiring made enforcement of these rules difficult. Scholars have noted that segregated work assignments and even segregated projects were undertaken under the CWA, and it was commonplace for skilled Black workers to be misclassified as unskilled.[67] Stricter eligibility rules were applied to African American households and while some jurisdictions allotted a certain percentage of relief jobs to non-white workers, the bases of these carveouts were often arbitrary and had little connection to the actual need of communities of color.[68] On the other hand, CWA wages were equalized between workers of the same skill set, giving an income bump to many Black workers who managed to secure positions. CWA work was a literal lifeline for many: in Abbeville, Georgia, a laid-off Black worker named Willie Brown wrote directly to Hopkins, pleading for a position in order to provide for his family: "I need work and I need aid. Please your honor some kind of aid a job any where any kind of work [sic]."[69] However, these benefits were not without costs.

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[65] Bonnie Schwartz, "The Four Million: From Relief Clients to Work Force," in *The Civil Works Administration, 1933-1934*, The Business of Emergency Employment in the New Deal (Princeton University Press, 1984), 181, https://www.jstor.org/stable/j.ctt7zvrv7.12.
[66] Leighninger, *Long-Range Public Investment*, 49; Collins and Goldberg, *When Government Helped*, 157.
[67] Collins and Goldberg, *When Government Helped*, 153.
[68] John Charnow, "Work Relief Experience in the United States" (Washington D.C.: Committee on Social Security, Social Science Research Council, 1943), 40.
[69] Bonnie Fox Schwarts, "Demobilization," in *The Civil Works Administration, 1933-1934*, The Business of Emergency Employment in the New Deal (Princeton University Press, 1984), 233–34, https://www.jstor.org/stable/j.ctt7zvrv7.13.

Historian Bonnie Schwartz noted that CWA wages heightened racial animosity against Black workers in certain rural communities, particularly in the South, as landlords suddenly had to compete with higher wages.[70] During demobilization, Hopkins' staff weighed the potential for aggrieved Southern white workers to riot against Black CWA jobholders as they contemplated a strategy for closing out the CWA.[71] Hopkins eventually capitulated to the prejudices of Southern critics, including modifying the wage scale to subsistence levels. The CWA foreshadowed the regional wage differentials that would eventually feature in upcoming public works programs (with the South receiving the lowest wages) as well as Southern agricultural opposition to work relief.

The CWA prioritized labor-intensive works that required little machinery and low material costs. As such, road projects were the largest CWA project category: workers across the country improved farm-to-market roads in rural areas and repaired major routes and streets in cities.[72] In addition to the 200,000 miles of roads that were repaired, 44,000 miles of new roads were constructed by the CWA. Public buildings were another major category, and the CWA repaired or constructed 60,000 buildings, two-thirds of which were educational facilities.[73] Schwartz notes that CWA workers helped to maintain educational facilities for rural Black youth in the South at a rate equaled only by the Rosenwald Fund, a philanthropic organization that invested in Black schools. In sanitation infrastructure, 1,000 miles of new water mains, 150,000 privies, and 400 pumping stations were built or repaired, and the CWA also employed thousands on swamp-drainage projects to combat malaria.[74] In its short life, the CWA undertook a range of projects, many of which have become largely forgotten. For example, thousands of CWA workers installed drainage systems in over 1,000 airports across the country; 10,000 more were hired for the aerial mapping of hundreds of cities.[75] Unlike the public works programs that would succeed the CWA, records of its accomplishments were not synthesized into a national record. Nor were CWA projects large-scale infrastructure; they undertook the forgotten but important task of repairing and maintaining already existing infrastructure and in doing so provided a crucial service to cash-strapped localities.

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[70] Schwarts, 217.
[71] Schwarts, 229.
[72] Collins and Goldberg, *When Government Helped*, 156.
[73] Collins and Goldberg, 156.
[74] Leighninger, *Long-Range Public Investment*, 51; Collins and Goldberg, *When Government Helped*, 156.
[75] Schwartz, "The Four Million," 183.

Figure 3.1 Black workers hired for road construction and repairs, the largest CWA project category. Source: Smithsonian Institution Archives (1933).

3.2 Public Works Administration

The Public Works Administration was born during Roosevelt's first one hundred days, the lionized period during which the new administration swiftly rolled out fifteen signature New Deal legislation targeted at specific components of the economy, including the Emergency Banking Relief Act, Agricultural Adjustment Act, Federal Emergency Relief Act, and Tennessee Valley Authority Act. The National Industrial Recovery Act (NIRA) was the centerpiece of this legislative blitz and allowed for the development of industrial codes for fair competition, established the rights to organize and bargain collectively, and created the Federal Emergency Agency for Public Works, soon to be called the Public Works Administration. NIRA's public works title was supported by a range of interest groups, including prominent labor unions, the construction and building industries, and progressive organizations such as the National Unemployment League and Conference of Catholic Charities, all of whom believed that public

works would help alleviate unemployment.[76] The initial appropriation for public works under Title II of NIRA was $3.3 billion, or almost six percent of the GDP in 1933, an unprecedented figure at the time. Consider this: in 2017, the combined federal, state, and local spending on infrastructure was just 2.3 percent of GDP.[77] The story behind the $3.3 billion figure is remarkable on its own right and, as noted by Jason Scott Smith, underscored the pressures of the moment: Senator Robert Wagner of New York, in reviewing the final draft of the bill in his crowded office, asked his aide Simon Rifkind, "Does the three billion for public works include the 300 million for New York?" Rifkind confirmed that he put it in, but Wagner only heard "Put it in" and so crossed the $3.0 billion from the text for $3.3 billion.[78] Over the course of a decade, the PWA built large infrastructure projects such as the Grand Coulee Dam in Washington state, the Triborough Bridge in New York City, and the National Airport in D.C., but its reaches spanned almost every type of infrastructure and nearly all communities.

A special board composed of the Secretaries of Agriculture, Commerce, Labor, War, and the Interior; the Attorney General; and the Bureau of the Budget Director was immediately tasked with setting the policies and administrative rules of the PWA, including how money should be spent. The Special Board faced important questions regarding how much should be dedicated to federal projects, which could be quickly channeled through existing federal departments, versus state and municipal projects. Labor secretary Frances Perkins, for example, argued that investments should be spread out to improve the quality of life in the communities where workers lived, instead of spending resources on select army bases where most people are unlikely to benefit from.[79] Non-federal projects were eligible for a 30 percent grant to cover labor and materials and could apply for a loan with "reasonable security" to cover the rest, though concerns for repayment were deprioritized as the country was on the brink of collapse. The share of PWA grants would increase to 45 percent of total project cost in 1935. Ultimately, the Special Board settled on five factors to evaluate PWA proposals: (1) engineering and structural soundness (2) legal authority of the project owner (3) financial ability to undertake the project (4) social

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[76] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006, 30.
[77] "Strong Infrastructure and a Healthy Economy Require Federal Investment," House Budget Committee Democrats, October 22, 2019, https://budget.house.gov/publications/report/strong-infrastructure-and-healthy-economy-require-federal-investment.
[78] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006, 31.
[79] Harold L. Ickes, *Back to Work; the Story of P.W.A.* (New York, 1935), 27–30, http://hdl.handle.net/2027/uc1.b3115969.

desirability and (5) economic impact in terms of employment and industry.[80] The PWA operated through seven regional offices and each state had a PWA advisory committee of three, appointed by Roosevelt. A typical proposal would need separate approvals from the PWA's Engineering, Finance, and Legal divisions, followed by the PWA Administrator, then the Special Board, and finally, the President himself.

Secretary of Interior Harold Ickes, who Roosevelt appointed as PWA Administrator, pursued a policy of fairness and openness, recognizing how public works had long been tied to graft and corruption, particularly in large cities. Ickes, also known as "Honest Harold" from his days as a Chicago reformer, understood that the PWA needed to maintain a positive public image to justify its mammoth operations. Despite his efforts to maintain tight control over PWA's image and project a clean operation, politics entered into the program's administration from the beginning. State advisory boards were filled with positions with close ties to governors and senators, and the Democratic Party used PWA's bureaucracy and projects to solidify its ranks at the federal, state, and local levels. Emil Hurja, one of Ickes' special assistants, was charged with patronage appointments in the early stages of the PWA and offered jobs based on, among factors, the loyalty of the applicant's congressman to Roosevelt and their district's past election records.[81] Scholars, however, have noted that the PWA was much better at keeping local politics out of its operations, particularly when compared to its rival, the WPA.[82] Critics of Ickes believed his thoroughness slowed the PWA review process, but other factors likely contributed to its glacial start, including assembling the necessary legal and engineering capacity to manage the flood of applications that arrived in Washington.

The challenges that accompanied the early stages of the PWA were many. Ickes and the Special Board worked with organized labor to set regional minimum hourly wage scales for skilled and unskilled laborers in three zones: $1.00 for skilled and $0.40 for unskilled labor in the South; $1.10 for skilled and $0.45 unskilled labor in the Central region; and $1.20 for skilled and $0.50 for unskilled in the North (in 1935 the policy would allow for hourly wages to be set to local prevailing rates).[83] A dedicated and non-partisan bureaucracy needed to be assembled, trained, and deployed across the country with speed and rigor. State public works departments at

[80] Public Works Administration, *America Builds: The Record of PWA*, 36.
[81] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006, 75.
[82] Leighninger, *Long-Range Public Investment*, 82.
[83] Public Works Administration, *America Builds: The Record of PWA*, 85.

the time had little experience making grants and loans to local jurisdictions, so direct federal-local connections were needed to get projects off the ground more swiftly.[84] Indeed, a new era of federal-local relations was forged in large part due to the enormous opportunity of public works not just to combat unemployment, but to dramatically invest in and scale municipal infrastructure. In September 1933, Ickes addressed a congregation of mayors in Chicago, declaring,

> "[the PWA] offers the greatest opportunity for municipal improvements in the history of any country. Here is an opportunity to build necessary and desirable public works on more favorable terms than you have ever had before or than you may ever have again. Do you need new water works, or an extension of your present plant? Do you want a new or improved sewage system? Do you require bridges or viaducts or public buildings or roads or new schools? These things and others you may have on unbelievably generous terms."[85]

The PWA was granted additional money through three rounds of appropriations: $300 million in 1936, $59 million in 1937, and $965 million in 1938.[86] It also received income from the PWA loans that were eventually paid back with interest. Despite its slow start and from the perspective of infrastructure building, the PWA was an unqualified success. By 1939, the PWA boasted an impressive list of accomplishments. As of March of that year, over 34,400 projects were completed in all but three of America's 3,071 counties, with a price tag of over $6.0 billion (Figure 3.2). The PWA sponsored 17,780 federal projects across 70 federal agencies and 16,677 non-federal projects. Streets and highways accounted for over 33 percent of all sponsored projects and 15 percent of total PWA spending. Educational facilities were the second largest PWA category in terms of number of projects, representing almost 22 percent of sponsored projects and 19 percent of expenditures. The PWA also invested heavily in water and sewage infrastructure: in 1936, the program was responsible for 81 percent of all new sewer systems and

[84] Leighninger, *Long-Range Public Investment*, 36–37.
[85] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006, 78.
[86] Leighninger, *Long-Range Public Investment*, 81.

77 percent of all waterworks projects in the United States.[87] More than two million Americans enjoyed the benefits of public water for the first time because of the PWA.[88]

PWA Projects as of March 1, 1939				
	Number of projects	Share of PWA projects (%)	Total cost ($ million)	Share of PWA funds (%)
Educational buildings	7,488	21.7	$ 1,182	19.4
Hospitals and institutions for medical treatment	822	2.4	$ 337	5.5
Public buildings	4,287	12.4	$ 559	9.2
Sewer systems	1,850	5.4	$ 494	8.1
Water systems	2,582	7.5	$ 315	5.2
Electric power, excluding water power	375	1.1	$ 112	1.8
Streets and highways	11,428	33.1	$ 921	15.1
Engineering structures, bridges, subway tunnels	654	1.9	$ 486	8.0
Flood control, water power, and reclamation	470	1.4	$ 457	7.5
Limited dividend housing	7	0.0	$ 12	0.2
Federal low-cost housing	51	0.1	$ 137	2.3
Railroads	32	0.1	$ 201	3.3
Vessels	259	0.8	$ 271	4.5
All others	4,203	12.2	$ 603	9.9
Total	34,508		$ 6,087	

Figure 3.2 Combined non-federal and federal PWA projects, all programs (1939).
Source: Public Works Administration, *America Builds: Record of PWA*, 291, Table 21, (1939).

Social infrastructure such as schools, recreational facilities, and universities was a particular focus of the PWA, especially in the second half of the New Deal. The PWA funded more than 70 percent of all school construction between 1933 and 1939, adding enough classrooms for two and half million pupils.[89] In total, 7,488 educational buildings were sponsored by the PWA and many were focused on African American communities in Alabama, Georgia, Florida, Missouri, and Tennessee.[90] In 1938, Robert C. Weaver, future Secretary of Housing and

[87] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006, 94.
[88] Public Works Administration, *America Builds: The Record of PWA*, 178.
[89] Public Works Administration, 128.
[90] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006, 89.

Urban Development and a distinguished member of the Black Cabinet, evaluated PWA educational projects in Black communities and found that states varied widely in their distribution of PWA funds for Black educational institutions. West Virginia and Missouri, for example, spent at least a proportional share of PWA educational funds on Black schools as their state's share of the Black population by the end of 1936 (Figure 3.3). Other states were not as generous: Arkansas, where the Black population accounted for over a quarter, only dedicated 1.9 percent of PWA educational funding to Black projects; similarly, in Mississippi, a state that was half Black in 1930, a paltry 4.4 percent of PWA school funding was dedicated to Black facilities and structures. As of year-end 1936, Louisiana, which was almost 37 percent Black, built exactly zero educational facilities for African Americans. Weaver found that non-federal PWA educational funds for Black communities were spent on elementary schools (43 percent), secondary schools (34 percent), and colleges and universities (23 percent), although some states spent significantly more on colleges than on primary and secondary schools.[91] Among the historically Black colleges supported by the PWA are Morgan State University, Howard University, and Florida A&M University.

Racial Distribution of Non-Federal PWA School Projects in 17 Southern States

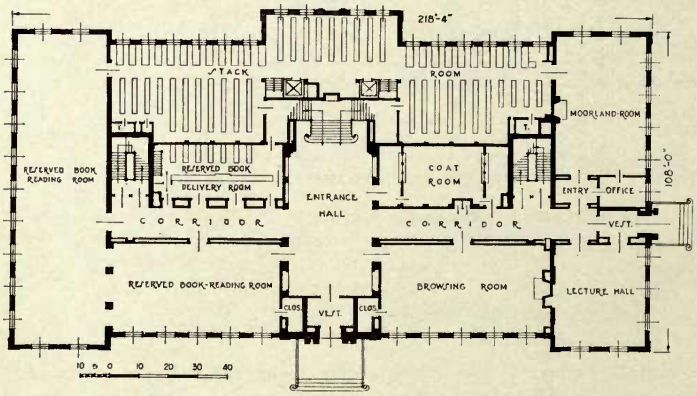
	Estimated Coat of Non-Federal PWA Projects					
	Total projects		Projects for African Americans		Share of PWA projects for African Americans (%)	African American share in population	Share of PWA projects for African Americans as of 12/1/1936 (%)
West Virginia	$	3,501,219	$	489,308	14.0	6.6	22.2
Missouri	$	15,613,911	$	1,536,584	8.9	6.2	11.7
Oklahoma	$	12,392,256	$	721,549	5.8	7.2	7.0
Tennessee	$	11,837,448	$	1,514,274	12.8	18.3	7.9
Maryland	$	8,428,831	$	974,390	11.6	16.9	5.3
North Carolina	$	11,885,874	$	2,067,713	17.4	29.0	10.3
Virginia	$	14,875,559	$	2,081,732	14.0	26.8	10.8

[91] Robert C. Weaver, "The Public Works Administration School Building-Aid Program and Separate Negro Schools," *The Journal of Negro Education* 7, no. 3 (1938): 366–74, https://doi.org/10.2307/2291894.

Florida	$	4,904,422	$	747,431	15.2	29.4	5.9
Alabama	$	7,906,731	$	866,495	11.0	35.7	11.5
Kentucky	$	11,090,974	$	291,270	2.6	8.6	2.8
Delaware	$	3,213,965	$	113,373	3.5	13.7	3.5
Georgia	$	8,740,967	$	749,457	8.6	36.8	11.7
Texas	$	34,680,113	$	1,084,591	3.1	14.7	3.0
Louisiana	$	3,957,628	$	216,998	5.5	36.9	0.0
South Carolina	$	7,709,814	$	373,019	4.8	45.6	4.8
Mississippi	$	7,228,060	$	317,461	4.4	50.2	5.8
Arkansas	$	5,625,244	$	105,971	1.9	25.9	1.5
Total	$	173,593,016	$	14,251,616	8.2	20.9	7.4

Figure 3.3 Racial distribution of PWA educational projects in the South (1936).
Source: Adapted from Weaver, "The Public Works Administration School Building-Aid Program and Separate Negro Schools", Table 4, (1938).

Howard University, *Washington, D. C.*



Howard University is an institution in Washington for 2,000 Negro students. This building is on the University quadrangle and is one of a number of buildings on the campus constructed by the Department of the Interior. It contains much additional space for future bookstacks. It is fitted for broadcasting chapel exercises over the campus. The building is air-conditioned.

It is of fireproof construction. The roof is covered with slate and the trim on the brick walls is limestone. The clock tower is 167 feet in height.

The building contains approximately 1,668,400 cubic feet. It was finished in November 1938 at a construction cost of $1,045,195 and a project cost of $1,090,566.

116

Figure 3.4 Howard University in Washington, D.C.
Source: Short and Stanley-Brown, *Public Buildings: A Survey of Architecture of Project Constructed by Federal and Other Governmental Bodies Between the Years 1933 and 1939*, 116, (1940).

Harold Ickes had established himself as an ally of the African American community, having served as president of the Chicago chapter of the NAACP. As Interior Secretary, he ended the department's segregation of cafeterias and restrooms, was advised directly by Weaver on issues related to race, and refused positions to subordinates who would not work with African Americans.[92] One of his most consequential decisions as PWA administrator was to establish a quota system in which all PWA contracts hired skilled and unskilled Black workers proportionate to the local African American share of the 1930 occupational census. Negotiations with unions to enforce the policy often became contentious – building trade unions historically discriminated against Black workers – and the PWA threatened to withdraw its contracts from jurisdictions unless they agreed to hire Black workers.[93] Surprisingly, Southern contractors met their requirements more frequently than northerners, which scholars have noted was likely due to the legacy of hiring skilled Black construction craftsmen in the South, a tradition that did not exist in the union-dominated North.[94] The PWA's quota system mostly benefitted skilled Black workers, but it nevertheless allowed for unprecedented wages for many and the entrance of Black workers into predominantly white construction trade unions in the South.[95] In fact, in 1936 African Americans made up about 31 percent of total wages paid by the PWA and cities like Philadelphia, Detroit, and Cincinnati paid Black workers the same rates as white laborers on PWA projects.[96]

A regional analysis of PWA spending offers another view for how PWA public works materialized in Black communities. According to the 1930 Census, just six states in the South – Alabama, Georgia, Mississippi, North Carolina, South Carolina, and Virginia – were home to almost half of all African Americans. All six of these states were under Region 3 of the Public Works Administration, along with Florida, Kentucky, and Tennessee. Together, PWA Region 3 was home to 55.6 percent of the African American population in 1930. PWA records show that by 1939, 2,832 non-federal projects costing nearly $311 million were approved in Region 3. A per capita analysis, however, reveals that some states in the South received among the lowest PWA spending in the country. Per capita PWA expenditure in Alabama, Kentucky, and North

[92] Sitkoff, *A New Deal for Blacks: The Emergence of Civil Rights as a National Issue*, 68.
[93] Marc W. Kruman, "Quotas for Blacks: The Public Works Administration and the Black Construction Worker," *Labor History*, July 3, 2008, https://doi.org/10.1080/00236567508584321.
[94] Kruman.
[95] Sitkoff, *A New Deal for Blacks: The Emergence of Civil Rights as a National Issue*, 67.
[96] Sitkoff, 68.

Carolina was $18, $18, and $20, respectively. Georgia, the state with the highest share of African Americans in 1930, registered the lowest per capita PWA expenditures *in the country* at $15. For comparison, the average New Yorker received $36 and the average Californian received $35 from the PWA. Curiously, some states in Region 3 had relatively high PWA spending: Virginia and South Carolina both registered $48 per capita from the PWA.

Figure 3.5 The French Market in New Orleans, Louisiana.
Source: Library of Congress Prints and Photographs Collection (1939).

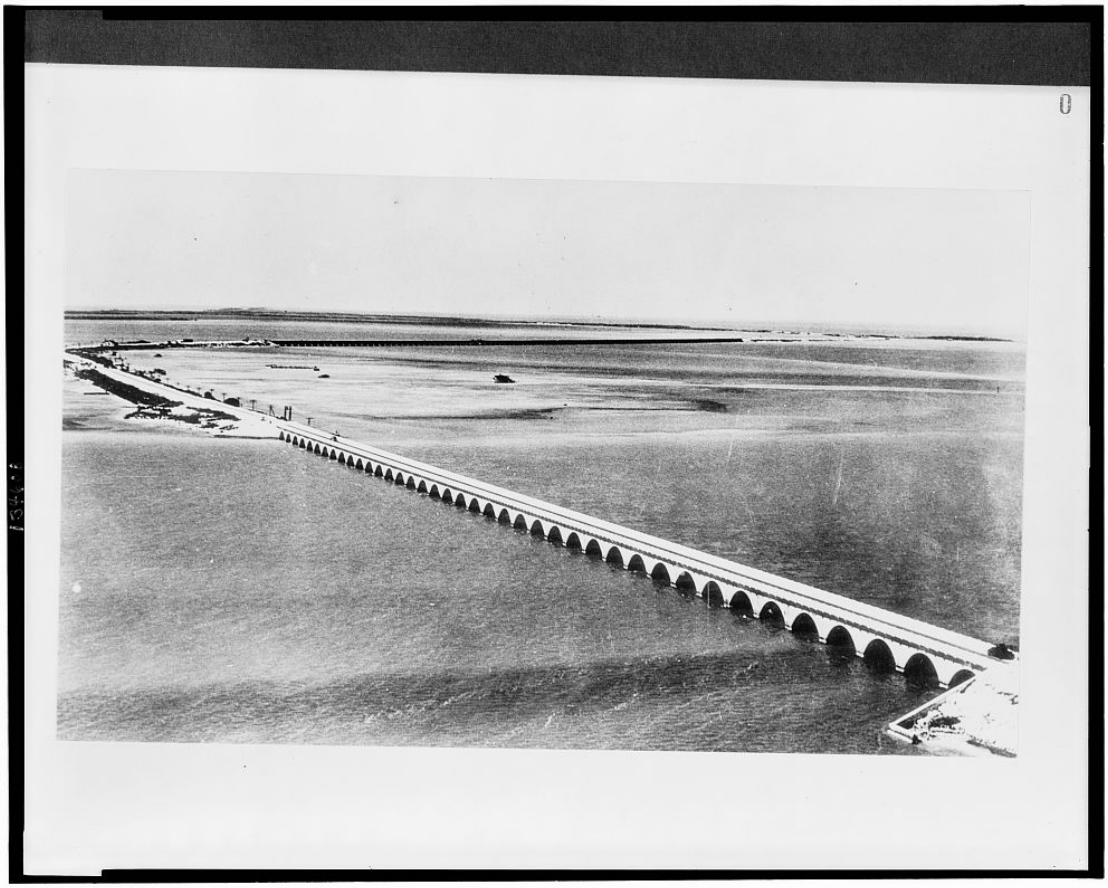


Figure 3.6 Overseas Highway, Miami to Key West, Florida.
Source: Library of Congress Prints and Photographs Collection (1939).

Figure 3.7 Santee-Cooper Project in South Carolina. *Top*: Displaced family from the Santee-Cooper Basin that relocated to a farm near Bonneau, S.C. *Left*: Postcard of Santee Dams. *Right*: Resettled homes of Black families near Moncks Corner, S.C.
Source: Library of Congress Prints and Photographs Collection (1939).

Across communities in the South, the PWA constructed a diverse range of infrastructure projects. In New Orleans, PWA funds helped to pay for the 20-story art deco building of the Charity Hospital, one of the oldest public hospitals in the United States before its closing after Hurricane Katrina, and the overhaul of the famed French Market. In Virginia, the PWA

constructed the Blue Ridge, Colonial, and Skyline parkways. In Memphis, an electric distribution system was built to compete with the local private utility and a grain elevator was added to its large inland port. South Carolina's largest New Deal project was the Santee-Cooper hydropower project, which displaced 901 families – 800 of which were African American – in order to construct storage reservoirs in the low country (Figure 3.7).[97] Ickes had planned on dedicating a portion of PWA projects in the South to African Americans, including half of all housing projects. In total, the PWA spent nearly $45 million and lent local governments an additional $20 million to help build over 225 school; 64 gyms, auditoriums, and dormitories; and hospitals and health clinics in African American neighborhoods.[98] Some of these projects had immediate payoffs: schools that were on the brink of collapse were remodeled and received new facilities. Other PWA infrastructure had both immediate and long-term consequences: investments in water and sanitation, for example, contributed to long-term health improvements and lower infant mortality for African Americans, and in some cases these benefits were larger than in white households.[99] For all their benefits, however, dedicated spending on Black PWA projects represented a meager fraction, less than two percent of the PWA's original allocation.

PWA housing projects accounted for a miniscule portion of its public works portfolio: limited-dividend federal housing and federal low-cost housing together accounted for just 0.17 percent of all PWA projects and 2.4 percent of all PWA funds. Nevertheless, public housing projects for poor and middle-class African Americans became a core focus of PWA involvement in Black communities: at least a third of all housing units built by the PWA were occupied by Black families.[100] The PWA also funded the first public housing projects that were built in southern cities. Many of the PWA housing projects were segregated, although records show that some were integrated as well. Smithfield Court in Birmingham, Alabama was a low-cost housing development built specifically for African Americans with PWA funds. Built on 22 acres of land where previously dilapidated housing sat, Smithfield Court consisted of one and two-story row houses and a community building. 540 units were made available in February 1939, with an

[97] T. Robert Hart, "The Lowcountry Landscape: Politics, Preservation, and the Santee-Cooper Project," *Environmental History* 18, no. 1 (2013): 127–56.
[98] Sitkoff, *A New Deal for Blacks: The Emergence of Civil Rights as a National Issue*, 68.
[99] Price V. Fishback, Michael R. Haines, and Shawn Kantor, "The Impact of the New Deal on Black and White Infant Mortality in the South," *Explorations in Economic History* 38, no. 1 (January 1, 2001): 93–122, https://doi.org/10.1006/exeh.2000.0759; Gavin Wright, "The New Deal and the Modernization of the South," *Federal History*, 2010, 27.
[100] Sitkoff, *A New Deal for Blacks: The Emergence of Civil Rights as a National Issue*, 67.

average rent of $4.36 per room.[101] Smithfield Courts continues to operate today under the Birmingham Housing Authority. In December 2020, the City of Birmingham announced it would apply for a $34 million grant from the U.S. Department of Housing and Urban Development's HOPE VI program to improve Smithfield Court's street paving, lighting, and green space.[102] Another housing development that the PWA funded specifically for low-income African Americans was Liberty Square, built on a 63-acre plot of vacant land in Miami, Florida. Fully financed with PWA funds ($908,500), Liberty Square provided 243 units ranging from double rooms to five-room row houses.[103] Liberty Square occupies a significant place in the history of American public housing policy because it was among the first housing projects built for African Americans in the South.

Although PWA housing projects raised the standard of living for many Black families, the program also played an instrumental role in advancing segregated residential neighborhoods through site selection across the country. In St. Louis, for example, formerly integrated neighborhoods were bulldozed to build segregated housing projects with funds from the PWA.[104] In Atlanta, the PWA supported its first and second "slum clearance" project through the construction of Techwood Homes, which would serve white residents, and University Homes for African Americans (Figure 3.8). Spearheaded by local real estate developer Charles Palmer and the former president of Morehouse College John Hope, Techwood Homes demolished an all-Black neighborhood and "became the prime example of public housing that served Jim Crow."[105] Poorer Black residents of the former neighborhood were displaced in favor of middle-income residents, the preferred class of citizens that PWA projects embodied. Indeed, the PWA, as the first New Deal agency to construct public housing, laid the seeds for a segregated public housing policy and slum clearing approach that would define federal housing strategy by the mid-century.

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[101] Public Works Administration, *Public Buildings: Architecture Under the Public Works Administration 1933 to 1939* (Washington D.C.: Government Printing Office, 1939), 664.
[102] Sam Prickett, "Birmingham Will Apply For Grant To Revitalize Smithfield Court," *WBHM 90.3*, December 15, 2020, https://wbhm.org/2020/birmingham-will-apply-for-grant-to-revitalize-smithfield-court/.
[103] Public Works Administration, *Public Buildings: Architecture Under the Public Works Administration 1933 to 1939*, 665.
[104] Rothstein, *The Color of Law*.
[105] Frank Ruechel, "New Deal Public Housing, Urban Poverty, and Jim Crow: Techwood and University Homes in Atlanta," *The Georgia Historical Quarterly* 81, no. 4 (1997): 915–37.

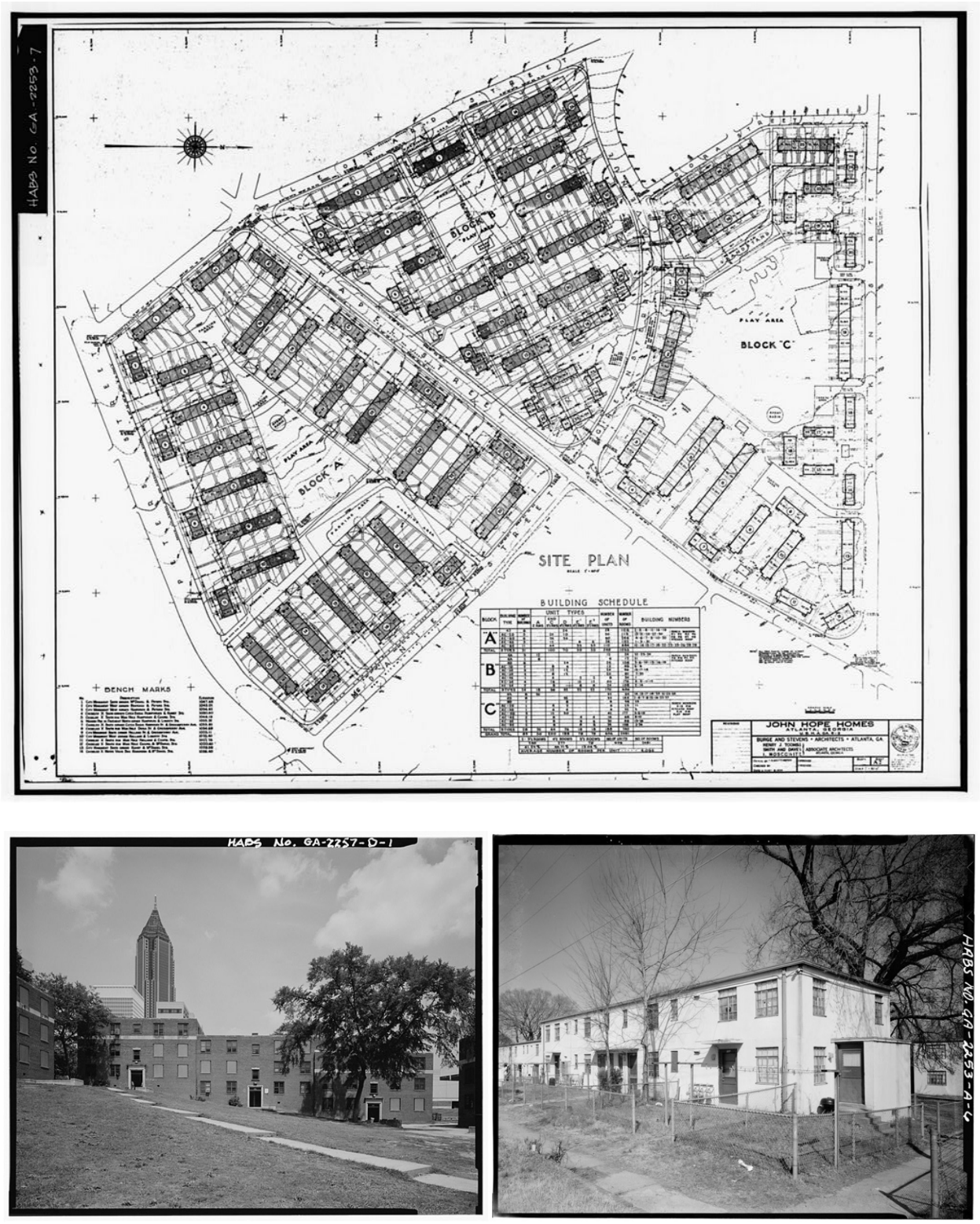

Figure 3.8 The PWA's first housing project in Atlanta razed a Black neighborhood to build companion, segregated developments. *Top*: Site plan for John Hope Homes, an extension of University Homes. *Left*: Techwood Homes for white families. *Right*: John Hope Homes for African American families.
Source: Library of Congress Prints and Photographs Collection (1939).

3.3 Works Progress Administration

The largest and perhaps the most well-known New Deal program, the Works Progress Administration was the iconic public works effort that was implemented in the latter half of the New Deal era. It was the rival of the similarly named PWA and even at the time public officials and everyday Americans confused the activities of the two organizations.[106] The WPA undertook projects with breathtaking diversity and scale, and may very well have surpassed the PWA in reaching every American community during its lifetime. It operated the National Youth Administration, which focused on employment for Americans between the ages of 16 and 25, included a works program specifically for women, and managed Federal Project Number One, which supported tens of thousands of artists, muralists, writers, and actors. After its establishment in 1935, the WPA became the marrow of the New Deal welfare state as well as the target of critics who charged the program of government waste – boondoggling – and political corruption. It was deeply enmeshed in local politics and cities, towns, and counties took the lead in proposing, planning, and co-funding the bulk of projects supported by the WPA.[107] Between 1935 and 1943, the WPA put more than eight million people back to work, with a total cost of nearly $11 billion. Focusing on lighter construction that employed people directly, the WPA's physical accomplishments spanned a range of infrastructure, from metropolitan sidewalks, streetlighting, and tunnels to parks, schools, stadiums, libraries, and water mains. The WPA managed to survive political attacks from all sides, overcame legal and statutory hurdles, and in doing so transformed the built environment across the United States. As declared by Leighninger, "its legacy stands solidly and quietly all around us."[108]

The Democratic victory in 1934 solidified the political calculus for New Dealers and strengthened their focus on work relief as a strategy for economic recovery. In the aftermath of the election, Hopkins energized his staff during an afternoon drive in Washington: "Boys – this is our hour. We've got everything we want – a works program, social security, wages and hours, everything – now or never. Get your minds to work on developing a complete ticket to provide

[106] Leighninger, *Long-Range Public Investment*, 55.
[107] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006, 136.
[108] Leighninger, *Long-Range Public Investment*, 77.

security for all the folks of this country up and down and across the board."[109] In January 1935, Congress passed the Emergency Relief Appropriation (ERA) Act, a $4.88 billion package mostly dedicated to financing work relief, with the remainder used to close out the Federal Emergency Relief Administration. The WPA was officially born, built on the organization and administrative staff of the FERA and the CWA. The program was organized and administered by region and state, with a separate organization dedicated to New York City.[110]

The Division of Applications and Information of the National Emergency Council was formed and given the responsibility for the preliminary screening of project proposals. Unless the project was initiated by the WPA itself, the WPA would determine if there were sufficient workers on relief in the area of the proposed project before handing the proposal off to the Bureau of the Budget.[111] Employing labor on relief rolls was the organizational mission of the WPA, and it was mandated that at least 90 percent of all persons working on any WPA project was taken from public relief rolls. The proposal would then reach the Advisory Committee on Allotments (ACA) and Roosevelt's desk for final approval before the resources were released from the Treasury Department. The bureaucratic slog of the WPA became evident almost immediately and grew worse over time as more applications poured in; project applications averaged 163 a day during its early operations and grew to 1,067 per day in a matter of months.[112] Scholars of the WPA have also noted the institutional and policymaking tensions that defined all New Deal public works program, but particularly the WPA. For example, Smith finds in the meeting minutes of the ACA heated and frequent debates on "make work" projects versus infrastructure, private contracting versus direct government construction, and economic recovery versus economic development.[113] The WPA, in its mandate as a work relief program, focused on sponsoring labor-intensive projects with low material costs and often turned away proposals with significant machinery and material requirements.[114]

Although it was established as a federal program to maintain stronger central control over its operations, the WPA also pursued a cooperative strategy that involved strong local

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[109] Robert E. Sherwood, *Roosevelt and Hopkins: An Intimate History*, *Fulcrum.Org* (New York: Harper, 1950), 65, https://hdl.handle.net/2027/heb.00749.
[110] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006, 102.
[111] Federal Work Agency, "Final Report on the WPA Program 1935-1943" (Washington DC, 1947), 7, http://lcweb2.loc.gov/service/gdc/scd0001/2008/20080212001fi/20080212001fi.pdf.
[112] Leighninger, *Long-Range Public Investment*, 61.
[113] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006, 103.
[114] Leighninger, *Long-Range Public Investment*, 61.

jurisdictional involvement. Local governments held a crucial position in the WPA's operations, and the majority of projects were initiated by counties, cities, townships, and villages. Only a small portion of completed WPA projects were sponsored by state and federal agencies, including innovative initiatives like the Federal Art Project and Federal Writer's Project.[115] Local sponsors were required to provide engineering plans and specifications, paid an average of 20 percent of total project costs, and agreed to maintain and operate the asset at their own expense.[116] State and local welfare agencies were tasked with determining the employment eligibility of WPA projects. The WPA, however, retained full control of hiring and supervising the program workforce. Its vast operations and institutional knowledge also provided for the cross-country dissemination of best practices and technical guidance to maintain national performance and engineering standards.

Eligible WPA employees filled positions based on experience under specific job classifications and were considered federal employees who received monthly paychecks. Workers were encouraged to learn new skills during their assignment and had the opportunity to be reclassified into a higher tranche of skills and pay.[117] Monthly wages were grouped by four classes (unskilled, intermediate, skilled, and professional technical), four geographic regions, and five degrees of urbanization.[118] For example, a skilled WPA worker in urban Alabama (a county with a city of 100,000 people or more) was paid $68, while the same laborer in New York City was paid $85. Region IV, which included Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, and Tennessee registered the lowest monthly earnings, particularly for unskilled workers. This initial wage schedule disadvantaged unskilled Black workers in the South but may have benefitted skilled Black workers that were migrating to the industrial cities of the North and West. Scholars contend that the program provided an economic floor that boosted the average wages for African Americans when compared to labor opportunities in the private sector.[119] Nevertheless, local administration of employment eligibility typically resulted in the

[115] Federal Work Agency, "Final Report on the WPA Program 1935-1943," 9.
[116] Collins and Goldberg, *When Government Helped*, 160; Federal Work Agency, "Final Report on the WPA Program 1935-1943," 9.
[117] Federal Work Agency, "Final Report on the WPA Program 1935-1943," 22.
[118] Public Works Administration, *America Builds: The Record of PWA*, 23.
[119] Sitkoff, *A New Deal for Blacks: The Emergence of Civil Rights as a National Issue*, 71.

misclassification of African American workers as unskilled due to widespread discrimination as well as a lack of Black supervisory roles.[120]

Despite structural limitations, the WPA brought immediate material benefits to African American communities and the program received praise from Black leaders and organizations. Robert Weaver concluded that the WPA was a "godsend" for African Americans and Black journals, which actively commented on relief programs between 1933 and 1936, did not produce a single anti-WPA article during the second New Deal.[121] The proportion of Black WPA workers ranged from 14 to 20 percent in the late 1930s and early 1940s,[122] higher than the Black share of the total population. The Black share in certain cities was even higher; in Cleveland, Ohio, for example, African Americans received four times their proportional share of work relief and public works became the single largest employer of the city's Black workforce.[123] By 1939, the WPA had provided earnings to over one million Black families.[124] WPA wages provided predictable income to communities reeling from the devastation of the Depression, so clearly articulated by St. Clair Drake and Horace Cayton Jr.'s *Black Metropolis*, a sociological study of African American life in Chicago: "Though the first few years of the Depression resulted in much actual suffering in Bonneville, the WPA eventually provided a bedrock of subsistence which guaranteed food and clothing."[125] As WPA wages in the South converged with the national average by the end of the 1930s, their significance for Black Southerners became more apparent and contributed to their political shift to the Democratic Party.[126]

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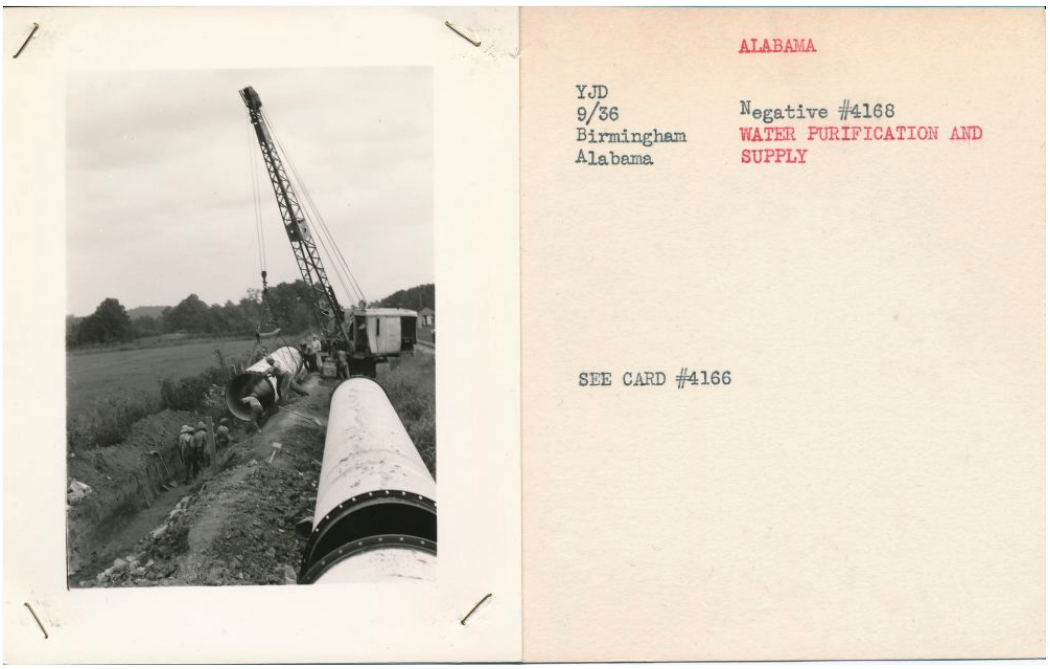
[120] Christopher G. Wye, "The New Deal and the Negro Community: Toward a Broader Conceptualization," *The Journal of American History* 59, no. 3 (1972): 621–39, https://doi.org/10.2307/1900661.
[121] Sitkoff, *A New Deal for Blacks: The Emergence of Civil Rights as a National Issue*, 70.
[122] Federal Work Agency, "Final Report on the WPA Program 1935-1943," 45.
[123] Wye, "The New Deal and the Negro Community."
[124] Sitkoff, *A New Deal for Blacks: The Emergence of Civil Rights as a National Issue*, 70.
[125] St. Clair Drake and Horace Cayton Jr., *Black Metropolis: A Study of Negro Life in a Northern City*, vol. II (New York: Harper & Row Publishers, 1945), 386.
[126] Wright, "The New Deal and the Modernization of the South."



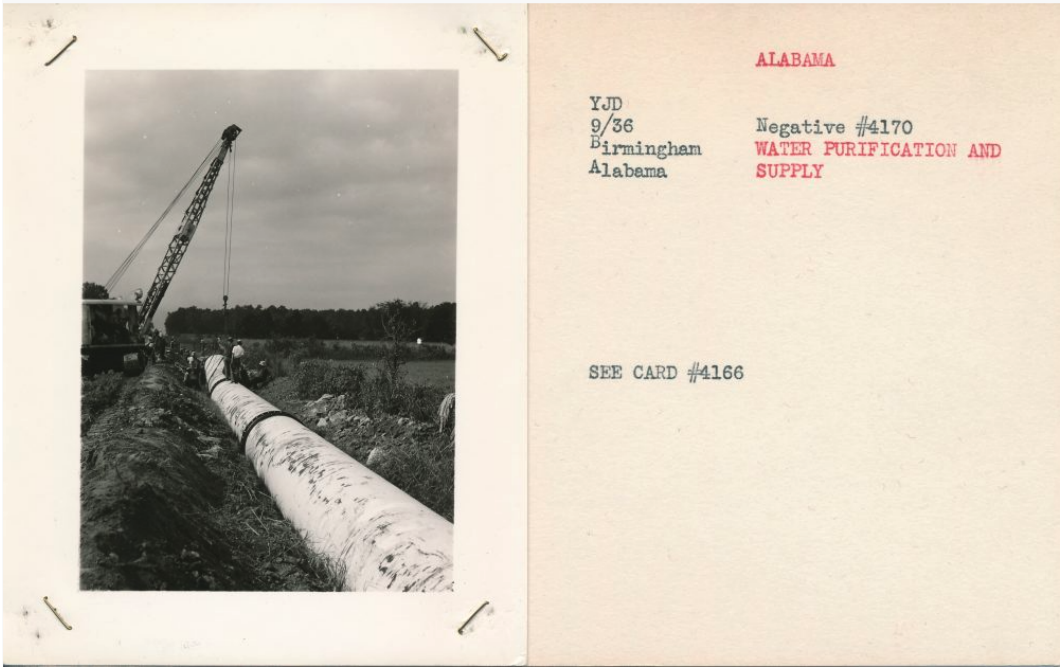


Figure 3.9 The WPA built a 60" pipe for a water purification and supply system in Birmingham, Alabama. Source: National Archives (1936) and the Living New Deal project.

Transportation-related public works was the project category that received the largest WPA funding – 37.9 percent of total WPA expenditures – a proportion even greater than the equivalent of the PWA (see Figure 3.10). In total, the WPA spent an eye-opening $4.9 billion on

highways, roads, and street projects. Southern states in particular became the target of federal investment in roadway infrastructure. According to the WPA's final report, highway, street, and road projects accounted for 50 percent or more of all WPA spending in Alabama, Arkansas, Kentucky, Tennessee, and West Virginia.[127] Economic historian Gavin Wright pointed out that total southern highway mileage more than doubled during a depressed decade and suggests the heavy focus on transportation at the time is evidence of increasing federal interest in southern regional development.[128] Sanitation, water, sewage, and other utilities accounted for 11.9 percent of all WPA expenditures and buildings represented the third largest category, at 10.1 percent. Southern cities benefitted immensely from WPA spending in water and sanitation infrastructure. The Atlanta sewer system, for example, was the largest WPA project in the entire South.[129] Mississippi spent over eight percent of its WPA funds on sanitation projects, the largest proportion of any state. WPA funds for basic infrastructure were particularly important in southern communities, as state politicians in the region often resisted cooperation with federal authorities. The impact of WPA investments in public health was significant. In Georgia, according to one study, WPA projects led to 9.1 fewer deaths per 100,000 or about 44 percent of the observed decline in affected counties.[130] Analysis of the WPA's final report in 1943 reveals that North Carolina and Virginia registered among the lowest per capita WPA spending in the country, at $55 and $44 respectively. Other southern states fared better: $74 for Alabama, $84 for Louisiana, and $78 for Mississippi, though these estimates are far below states like New York ($151), California ($114), and Illinois ($127).

WPA Project Expenditure by Type as of March 31, 1943

	Total Funds ($ million)	Share of WPA Funds (%)
Airports and airways	405	3.1
Buildings	1,367	10.6
Conservation	455	3.5
Engineering surveys	54	0.4

[127] Federal Work Agency, "Final Report on the WPA Program 1935-1943," 127.
[128] Wright, "The New Deal and the Modernization of the South."
[129] Wright.
[130] Carl Kitchens, "The Effects of the Works Progress Administration's Anti-Malaria Programs in Georgia 1932–1947," *Explorations in Economic History*, New Views of Roosevelt's New Deal, 50, no. 4 (October 1, 2013): 567–81, https://doi.org/10.1016/j.eeh.2013.08.003.

Highways, roads, and streets	4,904	37.9
Recreational facilities	988	7.6
Sanitation	236	1.8
Water and sewer systems and other utilities	1,303	10.1
Other engineering and construction	248	1.9
Art and Museum	79	0.6
Education	260	2.0
Library	135	1.0
Music	83	0.6
Recreation	260	2.0
Workers' service	2	0.02
Writing	27	0.2
Other public activities	67	0.5
Other WPA	2,081	16.1
Total	12,954	100.0

Figure 3.10 Distribution of WPA funding by type of project, cumulative (1943).
Source: Works Progress Administration, *Final Report of the WPA Program, 1933-1943*, Table 10.

New York City operated as a separate WPA unit, the result of Mayor La Guardia's efforts in convincing Harry Hopkins that the city's size made it a special case. In Harlem, which in 1930 was the single largest African American community in the United States,[131] the WPA's Federal Art Project commissioned the murals of Harlem Hospital, an important Black medical institution on the east side of Lenox Avenue between 136th and 137th Streets. The murals, perhaps the first U.S. government commission awarded to African American artists, feature Black physicians, mothers and children of Harlem, and members of the Black diaspora. Vertis Hayes' "Pursuit of Happiness" is an eight-panel piece that traces the arc of African American history over the course of three centuries. Georgette Seabrooke's "Recreation in Harlem" memorializes quotidian Harlem life, depicting a couple dancing, neighbors chatting, and children playing. The sketches that the seven artists submitted to the WPA were initially rejected by the hospital administrators for focusing too much on "Negro subject matter."[132] Supporters from the Harlem Artists Guild and the Artists Union, with the help of Louis T. Wright, the hospital's first Black physician, organized and petitioned as high as Roosevelt himself to see the project through. The Harlem

[131] Gerald Meyer, "Black Harlem in the Great Depression: A Review Essay," ed. Cheryl Lynn Greenberg, *New York History* 74, no. 1 (1993): 97–104.
[132] Robin Pogrebin, "At Harlem Hospital, Murals Get a New Life," *The New York Times*, September 16, 2012, sec. Arts, https://www.nytimes.com/2012/09/17/arts/design/murals-at-harlem-hospital-get-a-new-life.html.

Artist Guild paved the way for Black artists such as Jacob Lawrence, Charles Alston, and Elba Lightfoot to participate in the WPA's Federal Project Number One.

Figure 3.11 The murals of Harlem Hospital. *Top*: "Recreation in Harlem" by Georgette Seabrooke (1937). *Left*: "Mother Goose Fairy Tales" by Selma Day in children's medical ward (1938). *Right*: "Pursuit of Happiness" by Vertis Hayes, corridor of the nurses' home (1937).
Source: Images provided by EverGreene Architectural Arts and NYC Public Design Commission.

Other WPA projects in Harlem include a large sewer project in 125th Street, the Fred Samuel Playground, and the Harlem Community Art Center. Across New York City, recreational facilities such as the Thomas Jefferson Park and Outdoor Swimming Pool in East Harlem and the Betsy Head Park in Brooklyn provided social infrastructure in Black neighborhoods. WPA New York also constructed eleven massive public pools, which all opened within weeks of each other in the hot summer of 1936 to thousands of New Yorkers (Figure 3.12). The engineering and design specifications were state-of-the-art, complete with enormous

filtration systems, heating units, and underground lighting.[133] Architecture historian Marta Gutman has written about how WPA pools became sites of social interaction across race, gender, and class lines, defying the prevailing social attitudes of the New Deal era.[134]

Figure 3.12 Thomas Jefferson Pool in East Harlem, opening day June 27, 1936.
Source: From Balloon and Jackson, *Robert Moses and the Modern City: The Transformation of New York* (2008).

Southern Democrats would eventually turn against the WPA and other New Deal initiatives as the New Deal coalition began to gravitate around Black voters (as well as urban-industrial constituents and labor unions), particularly after 1936. In 1937, not a single congressional leader from the South endorsed the President's request for funds to continue the WPA.[135] In fact, House and Senate members from Virginia, Tennessee, Arkansas, Mississippi, and South Carolina, including early advocates of New Deal public works, led efforts to curtail WPA appropriation. In explaining their break with Roosevelt, Southern Democrats usually spoke of the need to maintain white supremacy.[136]

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[133] New York City Parks Department, "History of Parks' Swimming Pools: NYC Parks," n.d., https://www.nycgovparks.org/about/history/pools.
[134] Marta Gutman, "Race, Place, and Play: Robert Moses and the WPA Swimming Pools in New York City," *Journal of the Society of Architectural Historians* 67, no. 4 (2008): 532–61, https://doi.org/10.1525/jsah.2008.67.4.532.
[135] Sitkoff, *A New Deal for Blacks: The Emergence of Civil Rights as a National Issue*, 110.
[136] Sitkoff, 113–14.

3.4 Rural Electrification Administration

Created under the Emergency Relief Appropriate Act of 1935, the Rural Electrification Administration was intended to deliver electricity to America's farmlands and sparsely populated regions. While other industrialized countries had largely succeeded in powering a significant share of their farms by the 1930s, only about ten percent of farm households in the United States were receiving central station electrical services in 1935.[137] By contrast, almost every American town and city had been electrified by 1930. Power companies at the time could not justify the investment costs of laying long electric lines across vast distances with few households to serve. The REA was instrumental in driving down the cost of building rural lines and expanding electricity services to America's nonurbanized regions in a relatively short amount of time. By 1940, 250,000 miles of power lines were built with federal funds from the REA, connecting nearly 100,000 farms.[138] Rural electrification in the 1930s is instructive of how government intervention was essential to expanding an infrastructural service that the private market was unable to deliver on its own.

On May 11, 1935, Roosevelt signed Executive Order No. 7037, a humble two-page document that granted the REA Administrator, then Morris Cooke, the powers to "initiate, formulate, administer, and supervise a program of approved projects with respect to the generation, transmission, and distribution of electric energy in rural areas."[139] $100 million was made available for the REA under emergency relief and, like other public works programs, it was initially conceived to stimulate employment through the construction of electric power infrastructure. Cooke and the REA staff faced the unique challenges of rural electrification almost immediately: they could not design a grant scheme based on electrification projects and the skilled labor required to build power lines were usually lacking in those areas that needed power the most. In August 1935, the REA was reorganized as a lending agency, transforming a

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[137] Robert Beall, "Rural Electrification," in *Yearbook of Agriculture, 1940: Farmers in a Changing World* (Government Printing Office, 1940), 790.
[138] Carl Kitchens and Price Fishback, "Flip the Switch: The Spatial Impact of the Rural Electrification Administration 1935-1940" (Cambridge, MA: National Bureau of Economic Research, December 2013), https://doi.org/10.3386/w19743.
[139] Rural Electrification Administration, *Rural Lines, USA: The Story of the Rural Electrification Administration's First Twenty-Five Years, 1935-1960* (Washington, D.C. : U.S. Government Printing Office, 1960), 7, http://hdl.handle.net/2027/uva.x030450896.

former relief program into a financial organization; rural electrification became a national business venture.[140] A *New York Times* article in November 1935 announced that some of the first REA loans were given to Boone County, Indiana; Rhea County, Tennessee; Bell County, Texas; Dallas County, Iowa; and Bluff County, Nebraska, where over four thousand farms would receive electricity for the first time.[141] The REA was re-established once again under the Rural Electrification Act of 1936, which authorized the distribution of $40 million to be apportioned to states, allowed loans to extend over twenty-five years, established interest rates that were pegged to long-term government securities, and permitted loans to pay for electric wiring for homes and electric appliances. Loans were targeted at newly formed non-profit cooperatives, local enterprises managed and co-owned by members. The typical loan process involved a project proposal with engineering drawings and secured rights of way, formal cooperative organization under state law, and initiated negotiations to secure a wholesale power source.[142]

The REA stands out among the New Deal programs for the public outreach strategy deployed to organize farmers into forming cooperatives and for general community education on the ways in which electricity would transform their lives. John Carmody, who succeeded Cooke as REA Administrator in 1937, encouraged farmers to take initiative by incorporating under their state's laws and to identify viable projects that REA loans could support. In a radio address, Carmody summarized the need for self-organizing: "One doesn't go into a retail store and buy a package of electricity over the counter."[143]Advertisements in county newspapers were used to spread word on rural electrification and school auditoriums and other community facilities held public meetings where residents could engage directly with REA representatives. The REA also extended loans to provide training to managers of newly formed cooperatives so that they were adequately prepared to service repayments.[144] Billboards on county roads announced REA activity in the area and marketed the arrival of electric power. Graphic designer Lester Beall was commissioned to create a series of promotional posters for the REA, often depicting everyday activities enhanced by electric technology (Figure 3.13). Beall's posters also strike a patriotic

[140] Rural Electrification Administration, 8.
[141] "4,247 More Farms To Get Electricity: Rea Approves Loans Totaling $1,274,084 For Building 1,125 Miles Of Lines. Six Public Entities Aided Areas To Be Served Are Indiana, Tennessee, Ohio, Texas, Iowa And Nebraska," *New York Times*, November 1935, https://timesmachine.nytimes.com/timesmachine/1935/11/05/88616649.pdf?pdf_redirect=true&ip=0.
[142] Kitchens and Fishback, "Flip the Switch."
[143] Rural Electrification Administration, *Rural Lines, USA*, 10.
[144] Kitchens and Fishback, "Flip the Switch."

message and a particular nod to youth in promoting rural electrification. Powering America's farmlands and rural communities became a civic matter and REA loans were depicted as important investments in the community's future.

Figure 3.13 Commissioned REA posters by graphic designer Lester Beall.
Source: Library of Congress Prints and Photographs Collection (193-).

Almost every aspect of rural life was transformed by electrification. By 1938, the REA was promoting over 200 uses for electricity on farms, from irrigation and lighting for crops to storing agricultural products and managing the living environment of farm animals. The REA also brought down the cost of household appliances by buying items in bulk and passing the savings directly to households. REA home economists were deployed specifically to show women the variety of appliances that were now available to them and agricultural engineers trained farmers on how power could enhance their yields.[145] Electric irons, radios, washing machines, vacuum cleaners, and refrigerators suddenly became household items. Infrastructurally, the REA made important design innovations and coordinated assembly to lower the cost of distribution lines from $2,000 per mile to $850 per mile.[146] Recent empirical research suggests that REA

[145] Rural Electrification Administration, *Rural Lines, USA*.
[146] Kitchens and Fishback, "Flip the Switch."

loans contributed significantly to crop output and productivity; helped mitigate declines in overall farm output and land values; and costed the average taxpayer relatively little.[147] Scholars have also found that rural areas that gained early access to electricity benefited from local economic growth decades after the county was fully electrified and that rural electrification may have contributed to suburban development.[148]

Despite the REA boldly declaring that rural electrification led some in the South to "[waive] the segregation of races" in its 1937 annual report, many African American farmers were excluded from cooperative boards.[149] Rural electrification, particularly in the South, must be viewed within the social and political context that defined infrastructural provision. Geographer Conor Harrison highlighted the uneven development of networked infrastructure such as electricity and water along racial and class lines as the South developed from a primarily agricultural region to a system of small and mid-sized towns.[150] In North Carolina, Harrison found that the state's rural electrification survey used to estimate the market potential of electricity relied on a household "correction factor" that was differentiated by race. Race directly affected projections of electricity use not only at the household level, but also in determining areas within a jurisdiction that would be electrified and those that would not.[151] Harrison's study demonstrates the ways in which energy systems become embedded in uneven and racialized social systems that reinforce structural marginalization.

REA Allotments, Number of Borrowers, and Percentage of Electrified Farms by State

	REA Allotments ($)	Number of Borrowers	Share of farms electrified, June 1939 (%)
Alabama	$ 5,466,550	15	10
Arizona	$ 703,000	3	46
Arkansas	$ 5,608,500	14	3

147 Kitchens and Fishback.
148 Joshua Lewis and Edson Severnini, "Short- and Long-Run Impacts of Rural Electrification: Evidence from the Historical Rollout of the U.S. Power Grid," *Journal of Development Economics* 143 (March 2020): 102412, https://doi.org/10.1016/j.jdeveco.2019.102412.
149 Rural Electrification Administration, "Report of Rural Electrification Administration" (Washington D.C., 1937), https://catalog.hathitrust.org/Record/003925987.
150 Conor Harrison, "Power for All? Electricity and Uneven Development in North Carolina" (Chapel Hill, University of North Carolina at Chapel Hill, 2014), https://core.ac.uk/download/pdf/210601937.pdf.
151 Conor Harrison, "Race, Space, and Electric Power: Jim Crow and the 1934 North Carolina Rural Electrification Survey," *Annals of the American Association of Geographers* 106, no. 4 (July 3, 2016): 909–31, https://doi.org/10.1080/24694452.2016.1151335.

California	$	1,748,500	4	75
Colorado	$	3,402,500	11	17
Connecticut	$	-	0	45
Delaware	$	878,000	1	31
Florida	$	1,763,000	8	10
Georgia	$	13,864,615	36	14
Idaho	$	2,545,740	7	54
Illinois	$	14,952,130	27	26
Indiana	$	17,120,195	43	37
Iowa	$	17,800,628	50	23
Kansas	$	5,761,151	20	11
Kentucky	$	8,658,720	24	8
Louisiana	$	3,064,600	12	7
Maine	$	223,000	2	44
Maryland	$	748,000	2	33
Massachusetts	$	-	0	48
Michigan	$	11,252,500	14	62
Minnesota	$	18,127,236	39	17
Mississippi	$	7,911,200	23	4
Missouri	$	11,568,700	30	8
Montana	$	2,393,100	11	15
Nebraska	$	10,670,700	28	13
Nevada	$	227,000	1	35
New Hampshire	$	392,000	1	52
New Jersey	$	420,300	2	78
New Mexico	$	710,000	3	7
New York	$	1,375,000	1	45
North Carolina	$	6,219,350	22	19
North Dakota	$	1,988,972	7	2
Ohio	$	14,344,025	26	42
Oklahoma	$	6,529,000	18	5
Oregon	$	1,002,500	6	50
Pennsylvania	$	7,222,200	13	52
Rhode Island	$	-	0	84
South Carolina	$	4,073,328	12	14
South Dakota	$	1,738,500	5	4
Tennessee	$	8,695,058	17	10
Texas	$	20,306,685	59	9
Utah	$	579,000	3	54

Vermont	$	280,500	2	34
Virginia	$	6,356,800	15	21
Washington	$	3,644,200	13	57
West Virginia	$	582,000	2	15
Wisconsin	$	13,398,800	28	36
Wyoming	$	1,719,800	10	14
Total	$	268,037,283	690	22

Figure 3.14 REA loans, projects, and percentage of electrified farms by state (1939).
Source: Beall, "Rural Electrification" in *Yearbook of Agriculture, 1940: Farmers in a Changing World* (1940).

The 1936 Act stipulated that 50 percent of the agency's fund would be apportioned based on the state's share of farms not receiving central-station electricity services and the remaining half would be distributed according to the Administrator's discretion.[152] By December 1939, over $268 million of REA loans were distributed across the country, supporting 690 borrowers (Figure 3.14). Texas received the largest sum ($20 million) to support 59 electrification projects, followed by Minnesota ($18 million) and Iowa ($17.8 million). Many of the southern states ranked in the middle of total REA allotments, yet by 1939 many continued to lag behind in the proportion of farms that were electrified. In Mississippi, Louisiana, Kentucky, Alabama, Oklahoma, and Florida, just ten percent or less of farms were electrified by the end of the 1930s.

[152] Beall, "Rural Electrification," 802–3.

Figure 3.15 Tenant farmer's home in Georgia with REA electric meter installed. Source: Library of Congress Prints and Photographs Collection (1941).

Poorer Black households in rural areas likely did not benefit much from the early activities of the REA, which required the formation of cooperatives with customers that had the means to pay for electricity. And the discriminatory nature of cooperative boards betrays the democratic structure of these organizations, a persistent issue in rural power cooperatives even today.[153] Yet Black farmers and community leaders persisted in bringing light to their households. In Iredell County, North Carolina, Alvin Morrison recalls being one of only two black farmers working to organize the Crescent Electric Cooperative in 1939: "We were interested in it, and we stuck with it until we got electricity."[154] Morrison remembers how he and his wife began to purchase household appliances starting with a radio and how electricity had doubled his poultry yield. When the interviewer asked how electricity changed his life, Morrison

[153] The Rural Power Project, "The Crisis in Rural Electric Cooperatives in The South" (Labor Neighbor Research & Training Center, May 2016), https://ruralpowerproject.org/wp-content/uploads/2016/02/Rural-Power___Final.pdf.
[154] Alvin Morrison, *Interview with Alvin Morrison*, Southern Oral History Program Collection (Chapel Hill, N.C., 1984), https://dc.lib.unc.edu/cdm/search/collection/sohp/searchterm/D.%20Rural%20Electrification/field/projec/mode/exact/conn/and/order/title.

replied, "Well, it changed a great deal. It enabled you to appreciate people coming into your home; you could turn on a light and they would come in and sit down and you could talk without being in the dark." In Valley View, Texas, a local educator gathered enough households to get an eight-mile electric line to the Valley View School, which primarily served African Americans. With new electrical equipment, the school became the locus of community life, where lighted rooms hosted parent-teacher association meetings, farm machinery from the countryside were brought in for repairs, and hot meals were prepared for students and neighbors.[155]

3.5 Public Roads Administration & Public Buildings Administration

The Public Roads Administration (PRA) and Public Buildings Administration (PBA) are distinct among the New Deal public works programs for being extensions of established federal agencies that assumed responsibility for the country's roadway infrastructure and national buildings. Both the PRA and the PBA were reorganized under Roosevelt and, like the Rural Electrification Administration, contributed to the national public works effort through a specific infrastructure category. The PRA, under the Department of Agriculture, built thousands of miles of roads through public lands and national forests; repaired highways and interstates; produced transportation studies, surveys, and plans; and coordinated directly with states and localities. The PBA designed, constructed, and operated non-military federal buildings in Washington D.C. and throughout the country, and was responsible for major government structures such as the Harry S. Truman Building – the headquarters of the Department of State – and the Social Security Building. In 1939, the Reorganization Act placed the PRA and PBA under the new Federal Works Agency, along with the Works Progress Administration, U.S. Housing Authority, and the Public Works Administration. Both the PRA and the PBA would eventually be absorbed into their present-day equivalents, the Federal Highway Administration and the General Services Administration's Public Buildings Service.

Meaningful federal involvement in the nation's road network dates back to the Federal Road Act of 1916, which established the first federal program to fund road construction, apportioning money to states based on three, equally weighted factors: (1) land area as a share of

[155] Rural Electrification Administration, "Light Over Texas: A Texas Negro Community Shows What Cooperation Can Achieve," *Rural Electrification News* 8, no. 1 (1942), https://hdl.handle.net/2027/nnc1.cu03467716.

the country's total (2) population share of the country's total and (3) postal road mileage; the federal government provided up to 50 percent of any highway project's total costs.[156] The 1916 legislation was pivotal in the development of the country's road system and also represented a major policy breakthrough in the way the federal government allocated infrastructure spending; to this day, highway grants reflect a formula-driven program first established in 1916.[157] The Bureau of Public Roads (BPR), the predecessor of the PRA, was tasked with administering federal aid to states and working directly with state transportation departments. Road construction expanded dramatically under both the Hoover and Roosevelt administrations, and public works related to the construction and repair of highway and streets became an early focus of work relief. The 1933 National Industrial Recovery Act provided $400 million in direct grants to states without a matching requirement and, for the first time, allowed funds to be used on urban extensions of the federal-aid highways. On August 5, 1933, the first highway project under the program broke ground in Utah. Subsequent legislation in 1934 would inject millions more in federal grants through much of the 1930s and nearly 56,000 miles of new roads were constructed by the Bureau of Public Roads just between 1933 and 1936.[158] The distribution of roadway funding to states continued to be based on population, land size, and post-road mileage throughout the Roosevelt period.

The Public Buildings Administration was created under the 1939 Reorganization Act, but its origin goes as far back as the late 1700s, when the fledging American state tasked the Treasury Department with the construction of government buildings to house administrative departments and agencies. Treasury would maintain control of federal building construction, though maintenance would eventually be delegated to the Department of Interior after its creation in 1849. The 1930s witnessed an explosion in the construction of government buildings and the promotion of a new architectural style that melded neoclassical and Art Deco forms.[159] In 1931, for example, architect Cass Gilbert was commissioned to design the U.S. Courthouse in lower

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[156] Kirk, Robert. "The Highway Funding Formula: History and Current Status." Congressional Research Service, May 2019. https://fas.org/sgp/crs/misc/R45727.pdf.
[157] John Joseph Wallis and Barry Weingast, "Equilibrium Impotence: Why the States and Not the American National Government Financed Economic Development in the Antebellum Era" (Cambridge, MA: National Bureau of Economic Research, June 2005), https://doi.org/10.3386/w11397.
[158] "Report to the Chief of the Bureau of Public Roads" (Washington D.C.: Department of Agriculture, 1937), https://hdl.handle.net/2027/ien.35556031350804.
[159] U.S. General Services Adminstration, "A Timeline of Architecture and Government," accessed April 22, 2021, https://www.gsa.gov/real-estate/historic-preservation/historic-building-stewardship/architecture-and-government/a-timeline-of-architecture-and-government.

Manhattan's Foley Square, among the first federal skyscrapers constructed in the country. In 1933, Roosevelt created the Procurement Division within the U.S. Treasury, leading to the Public Buildings Branch which, for the first time, consolidated the responsibility of new construction and maintenance of federal buildings.

In the heyday of the New Deal, the Public Buildings Branch was funded mostly by transfers from the Public Works Administration and emergency relief appropriations from FERA. By fiscal year 1939, $75 million of PWA funds were used to complete 439 projects and another $161 million were spent from congressional appropriations on 1,129 projects, the latter of which were selected by the Treasury Secretary and the Postmaster General.[160] Over 800 more were in preliminary stages, going for bid, or under contract. In addition to building construction, the Public Buildings Branch designed over 600 small-scale landscape works, launched architectural design competitions for post offices and courthouses, and repaired over 3,000 buildings in 1939. Notable works that year include the Alcatraz Federal Penitentiary, a high-tension electric lab for the National Bureau of Standards, maritime training facilities in New York City, and the National Cancer Institute in Bethesda. Before the formation of the PBA, the Public Buildings Branch was managing 2,782 post office buildings, 152 marine hospitals and quarantine stations, 43 Coast Guard stations, and hundreds of other administrative structures, courthouses, mint buildings, and veterans' hospitals.[161]

The records and official reports of the PRA and PBA do not distinguish projects that hired African Americans or were built specifically in Black communities. In their econometric analysis, Fishback, Kantor, and Wallis found that the PRA and PBA tended to favor economically well-off counties and may have even magnified cross-county economic differences.[162] In other words, the PRA and PBA did not do much to promote recovery and relief. The authors did find a small positive association with PRA spending and the percent African American variable, and a small negative relationship between PBA spending and the Black population variable (both statistically significant), suggesting the PRA was more redistributive along racial lines. For Black Americans that had the means, the mobility afforded

[160] U.S. Treasury Department, "Annual Report of the Secretary of the Treasury on the State of the Finances for Fiscal Year Ended June 30, 1939" (Washington D.C.: U.S. Government Printing Office, 1939), 186, https://hdl.handle.net/2027/osu.32435063601744.
[161] "Report to the Chief of the Bureau of Public Roads," 188.
[162] Fishback, Kantor, and Wallis, "Can the New Deal's Three R's Be Rehabilitated?"

by an automobile provided a new sense of freedom from the harassment and indignity of anti-Black racism, particularly in the South.[163] Still, the specter of white supremacist violence was always present and resources such as the *Negro Motorist Green Book* circulated among travelers in order to navigate hostile spaces.

The growth of vehicular infrastructure, including its rapid expansion in the South, came with a steep cost for Black communities in the long-term. In recent years, scholars have brought attention to the destructive impacts of expanding the country's highway system, a feature of American transportation planning that shaped metropolitan development for much of the 20th century. Interstate highways decimated vibrant, and at times integrated, Black neighborhoods in Detroit, Baltimore, Oakland, St. Paul, and hundreds more, as transportation engineers and policymakers pursued the twin policies of so-called 'slum redevelopment' and suburban expansion.[164] These massive infrastructure isolated communities of color and contributed to the hollowing out of central cities, thereby entrenching economic underinvestment, poverty, and neighborhood segregation.[165] The policy logic that underpinned this infrastructure gained ground in the 1930s. Federal highway policy traces its roots to the 1939 Bureau of Public Roads report called *Toll Roads and Free Roads*, among the first policy documents that advocated for a national highway system. BPR commissioner Thomas MacDonald campaigned alongside Robert Moses to promote urban freeway expansion across the country, claiming "the whole interior of the city is ripe for…major change."[166] Highway boosters tied transportation infrastructure to slum-clearing and the redevelopment of inner cores, leaving once-thriving Black communities in ruin.

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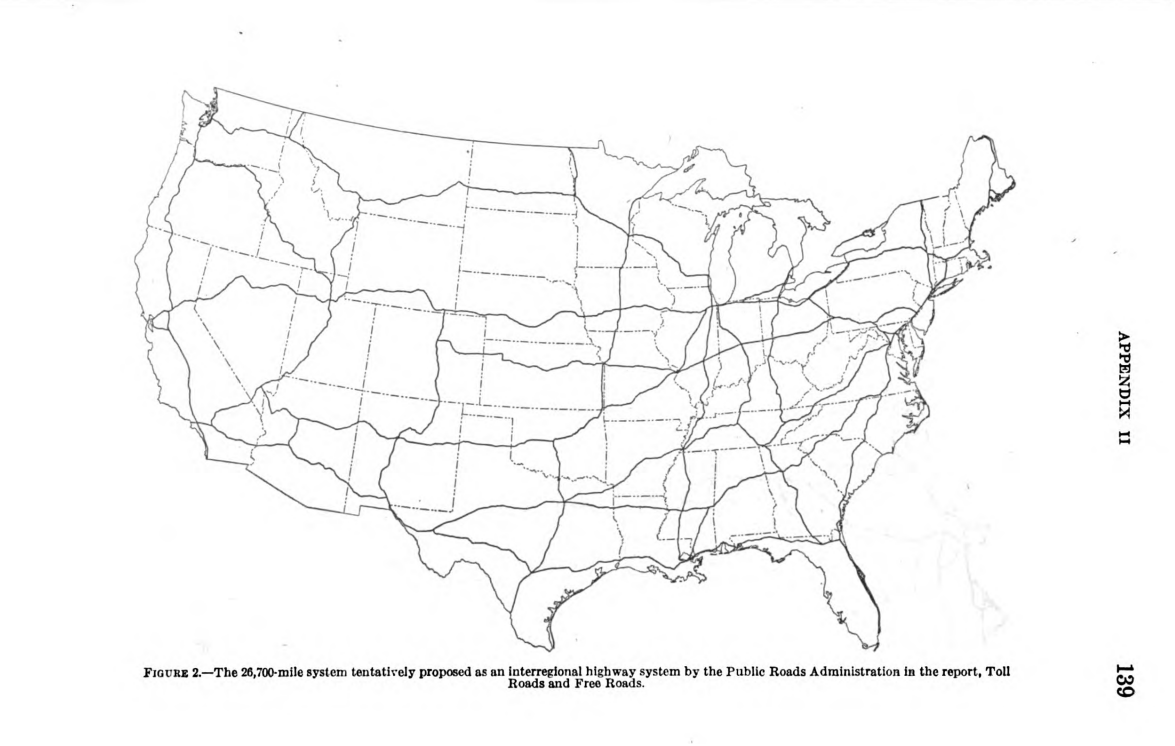
[163] Deborah N Archer, "'White Men's Roads Through Black Men's Homes': Advancing Racial Equity Through Highway Reconstruction," *Vanderbilt Law Review* 73, no. 5 (October 2020), https://cdn.vanderbilt.edu/vu-wp0/wp-content/uploads/sites/278/2020/10/19130728/White-Mens-Roads-Through-Black-Mens-Homes-Advancing-Racial-Equity-Through-Highway-Reconstruction.pdf.
[164] Johnny Miller, "Roads to Nowhere: How Infrastructure Built on American Inequality," the Guardian, February 21, 2018, http://www.theguardian.com/cities/2018/feb/21/roads-nowhere-infrastructure-american-inequality.
[165] Raymond A. Mohl, "Stop the Road: Freeway Revolts in American Cities," *Journal of Urban History* 30, no. 5 (July 1, 2004): 674–706, https://doi.org/10.1177/0096144204265180; Nathaniel Baum-Snow, "Did Highways Cause Suburbanization?*," *The Quarterly Journal of Economics* 122, no. 2 (May 1, 2007): 775–805, https://doi.org/10.1162/qjec.122.2.775; Robert Doyle Bullard, Glenn Steve Johnson, and Angel O. Torres, *Highway Robbery: Transportation Racism & New Routes to Equity* (South End Press, 2004).
[166] Mohl, "Stop the Road."



APPENDIX II

FIGURE 2.—The 26,700-mile system tentatively proposed as an interregional highway system by the Public Roads Administration in the report, Toll Roads and Free Roads.

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Figure 3.16 26,700-mile highway system first proposed in the 1939 *Toll Roads and Free Roads* report. Source: National Interregional Highway Committee (1944).

3.6 Civilian Conservation Corps

The Civilian Conservation Corps was in fact the first New Deal building program and a personal project of Roosevelt, who had a record of supporting conservation efforts as state senator and governor of New York. In March 1933, the cabinet Secretaries of War, Interior, Agriculture, and Labor were asked to draft a bill that would employ thousands of men on conservation projects in forestry, erosion, flood control, and park services; the Emergency Conservation Work Act passed and was signed into law in just ten days.[167] The CCC was intended to address the twin challenges of mass unemployment among young men, many of whom had become uprooted from the Depression, and the severe degradation of the country's landscapes and natural resources. By the 1930s, dust desserts were replacing grasslands in the Great Plains, timber forests were in shocking decline, and millions of acres of tillable soil were

[167] John A. Salmond, *The Civilian Conservation Corps, 1933-1942: A New Deal Case Study* (Durham, N.C., 1967), 12–35, http://hdl.handle.net/2027/mdp.39015004044478; Leighninger, *Long-Range Public Investment*, 12.

depleted; in 1934, dust storms tinted the snow brown in Vermont.[168] More than three million young men worked for the CCC between 1933 and 1942, in what was one of the largest peacetime mobilization efforts in American history. CCC members built, restored, and maintained the landscapes and structures that are now usually taken for granted: 1,477 cabins, 3,980 historic structures, 46,854 bridges, 204 lodges and museums, 1,865 water fountains, 2,500 miles of forest roads, 165 bathhouses, 4,622 fishponds, 3,462 beaches, and 3 billion planted trees are just some of its accomplishments.[169] Other CCC projects did not leave physical imprints but were nonetheless valuable: firefighting and fire prevention, erosion control, pest management, irrigation and drainage, and wildlife care throughout America's public lands, national and state parks, and forests. The CCC became one of the most popular New Deal initiatives and developed a strong organizational culture that inspired loyalty, brotherhood, and even an alumni association.

Over 5,000 CCC camps were set up throughout the country, built and managed by the U.S. Army. In the CCC's unusual organizational structure, the War Department was tasked with feeding, housing, and transporting corps members, the Labor Department was charged with hiring, and the bureaus of the Agriculture and Interior Departments, notably the Forest Service and National Park Service, took the lead in selecting projects and supervising the work.[170] When compared to other New Deal public works programs, the CCC was therefore much more a federal initiative. Representatives from each of the four cabinet departments formed an advisory committee to Robert Fechner, the first CCC Director and vice president of the American Federation of Labor. CCC members received full room and board and were paid $30 monthly, $22 to $25 of which would be sent to family dependents. Eventually, an education program of evening classes and vocational training became part of the CCC experience. Recruits, or 'juniors', applied for six-month posts that could be renewed for a total of two years.

The treatment and experience of Black CCC members – as many as 200,000 – exemplify the equivocal legacy of a public works program that, at least on paper, prohibited discrimination based on race. Initially, Black enrollees were sent to CCC camps without regard to race and integrated camps were seen by the army, which itself was segregated, as the most efficient way to

[168] Leighninger, *Long-Range Public Investment*, 11.
[169] Leighninger, 27.
[170] Salmond, *The Civilian Conservation Corps, 1933-1942: A New Deal Case Study*, 30.

run the program.[171] Frank Persons, who was charged with CCC enrollment in the U.S. Employment Service, threatened several states where Black enrollment was lagging. Edgar Brown, who was appointed to report on Black participation in the CCC, advocated for expanded roles of African American enrollees and channeled complaints from major civil rights groups and Black leaders. Fechner, however, worked to limit African American involvement, refused supervisory positions to Black corps members and, in the fall of 1934, ordered all CCC camps to be segregated under the pretense of preventing racial violence. The policy decision was to appease Southern Democratic politicians and their constituents and led to the creation of all-Black CCC camps. White communities throughout the country refused to host Black CCC camps, leading at times to their placement in more remote areas.

Black CCC camps contributed immensely to projects throughout the country. The Chesapeake and Ohio Canal, today a National Historical Park, was restored by two Black CCC camps based in Maryland. In California, Black CCC camps included Camp San Pablo Dam, which worked on long-range watershed protection and park beautification in Richmond, and Camp Castaic, which constructed and maintained campgrounds in the Angeles National Forest.[172] Black CCC camps in the South helped to construct the Blue Ridge Parkway, the country's longest linear park, and maintained the Great Smoky Mountains National Park. In interviews with Black corpsman in California, Olen Cole Jr. finds that members reflected strongly on the lasting personal benefits of the CCC, which alumni attributed to the character development of living and working alongside one another.[173] The skills developed during their time at the CCC often failed to transfer to the industrial jobs that awaited them once they returned home. Yet, testimonials indicate that many Black alumni in California carried positive memories of their CCC service; as one mess sergeant recalled, "the CCC was a good place to be."[174]

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[171] Leighninger, *Long-Range Public Investment*, 16.
[172] Olen Cole, "African-American Youth in the Program of the Civilian Conservation Corps in California, 1933-42: An Ambivalent Legacy," *Forest & Conservation History* 35, no. 3 (1991): 121–27, https://doi.org/10.2307/3983642.
[173] Cole.
[174] Cole.

Figure 3.17 CCC Adviser Edgar Brown visits Camp NP-2 in Gettysburg National Park, PA. Source: National Archives (1937).

Chapter 4. County-Level Analysis of New Deal Public Works Spending

4.1 New Deal Spending: Recovery, Relief, or Reform?

Scholars of the New Deal have studied the uneven patterns of relief spending since at least the early 1970s, when Leonard Arrington found that western states received more than others.[175] Don Reading, writing for the *Journal of Economic History* in 1973, took an econometric approach and found that New Deal spending patterns were deployed to enhance recovery and relief, but not necessarily reform (the three New Deal objectives that Roosevelt publicly announced during a fireside chat in 1933).[176] In Reading's model, reform was operationalized with three state variables: per capita personal income, percent tenant farmers, and percent African American.[177] As noted by Fishback's recent review, forty years of scholarship suggest that New Deal funds were distributed in response to a complex mix of factors and there is more evidence that New Deal spending promoted recovery and relief rather than reform.[178] Regions with more federally-owned land and Democratic swing districts were also likely to receive higher per capita spending from New Deal programs.[179] As Chapter 3 shows, the difficulty in evaluating distinct patterns in public works spending is due in part to the fact that each program was designed to address specific policy challenges and operated under particular administrative rules that often evolved over time. Moreover, scholars have noted that some state politicians viewed the New Deal very differently from the federal government, which likely influenced the local administration of these programs.[180]

Fishback, Kantor, and Wallis provided the first county-level and program-based assessment of New Deal spending, offering a much more precise evaluation than previous scholarship. Their econometric study finds that the relief programs (WPA, CWA, FERA, and public assistance under the Social Security Act) were positively associated with county unemployment rates in 1930, suggesting strong recovery and relief motives. Federal PWA

[175] Leonard J. Arrington, "Western Agriculture and the New Deal," *Agricultural History* 44, no. 4 (1970): 337–53.
[176] Don C. Reading, "New Deal Activity and the States, 1933 to 1939," *The Journal of Economic History* 33, no. 4 (1973): 792–810.
[177] Reading.
[178] Fishback, "How Successful Was the New Deal?"
[179] Fishback.
[180] Fishback, Kantor, and Wallis, "Can the New Deal's Three R's Be Rehabilitated?"

spending similarly seemed to have been responsive to unemployment, while the PRB and PRA invested more in high income counties. With regards to redistribution, the results suggest that federal PWA and CWA spending attempted to aid counties with larger Black populations, while spending from the WPA and non-federal PWA were negatively related to the Black population variable, though this relationship was fairly small.[181]

The conclusion from Fishback et al.'s analysis is that even among public works programs, the extent to which the New Deal promoted recovery, relief, and redistribution varied widely. Before proceeding to the county-level analysis, it is worth evaluating the programmatic distribution of total New Deal public works spending across states from 1933 to 1939 as a starting point (see Figure 4.7 at the end of this chapter). This research extends the definition of New Deal public works used by Fishback et al. and others by counting the Works Progress Administration, Civil Works Administration, and Rural Electrification Administration under the umbrella of New Deal public works. Although the WPA and the CWA were conceived as relief programs and the REA was a loan-making agency, they nevertheless contributed immensely to the nation-wide infrastructure building of the New Deal.

Even at the state level, there are clear regional discrepancies in total public works spending. New York, Pennsylvania, Ohio, and Illinois received the largest sums in public works expenditures during the period, demonstrating how public works favored construction-heavy economies. On a per capita basis, however, the benefits shift to sparsely populated western states of Nevada, Arizona, and Wyoming. The large public works spending, particularly from the PWA, in this region was likely rooted in politics: Nevada Senator Key Pittman was president pro tempore of the Senate and many of the western states were coveted swing states.[182] The data also reveals the broad consensus in the literature, and confirms the findings in the previous chapter, that southern states received relatively less in New Deal funds, despite having among the lowest per capita incomes in the country at the time.[183] Georgia, Alabama, Mississippi, Tennessee, and North Carolina registered the lowest in total per capita public works spending. By program, the WPA accounted for 53 percent of all public works expenditures between 1933 and 1939,

[181] Fishback, Kantor, and Wallis.
[182] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006, 115.
[183] Fishback, "How Successful Was the New Deal?"; Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006, 115–18; Biles, "Relief and Employment."

followed by the PWA (24 percent), PRA (13 percent), CWA (6 percent), PBA (2 percent), and REA (2 percent) (Figure 4.8).

A county-level analysis is useful in the study of New Deal public works and race for several reasons. First, it allows for a richer evaluation of public works spending by focusing on the local level, where significant decisions on infrastructure are made and better captures the localized nature of infrastructure benefits. Although New Deal programs were layered with administration across all levels of government, communities ultimately experienced their effects locally. Second, it allows for a targeted analysis of jurisdictions in which African Americans accounted for a significant share of the total population in order to identify patterns of spending *within* and *across* states; a county-level approach thus is able to account for state-level factors that denominated all counties within each state. Third, a county-based approach provides a cumulative assessment of public works spending and allows for comparison between programs. Whereas the previous chapter evaluated the programs individually, this chapter is intended to offer a holistic picture of New Deal public works.

4.2 County-Level Database

The county-level analysis relies on data compiled by Price Fishback and Shawn Kantor of the University of Arizona. The data set contains New Deal spending information for 3,068 counties and county/city combination from March 1933 to June 1939 and was assembled from information contained in the 1940 U.S. Office of Government Reports Statistical Section.[184] Demographic data were included in the data set and were compiled from the 1930 files in ICPSR tape 0003. In certain cases, New Deal spending was reported for a combination of jurisdictions: the five counties of New York City were combined into a single record, as were St. Louis City and St. Louis County in Missouri. In Virginia, a number of districts that were reported separately were combined.[185] The county-level dataset contains spending information for the following New Deal public works programs: The Rural Electrification Administration, Public Buildings Administration, Civil Works Administration, Public Roads Administration, Public Works Administration (divided into federal and non-federal components), and the Works

[184] Price Fishback and Shawn Kantor, "Data Set for Geographic Distribution of New Deal Spending by Counties," 2003, http://www.u.arizona.edu/~fishback/Published_Research_Datasets.html.
[185] Fishback and Kantor.

Progress Administration. The REA funds were entirely loans; the nonfederal component of the PWA was composed of grants and loans; and the remainder were all grants.

Two caveats are worth mentioning. First, some of the New Deal public works programs extended beyond 1939 so this dataset only provides a partial temporal snapshot of overall spending. Second, the database does not include spending from the CCC and Tennessee Valley Authority, which invested in hydroelectric and other infrastructure in the mountainous regions of Tennessee and neighboring counties. Despite the economic benefits that the TVA brought, many scholars have pointed out how Jim Crow administration defined the TVA by subordinating Black workers, disproportionately displacing Black families, and adopting the racist attitudes of the rural Southeast.[186] The database nevertheless provides the most comprehensive and granular picture of New Deal infrastructure spending to date.

4.3 Black Counties: The Black Belt & Gulf Coast

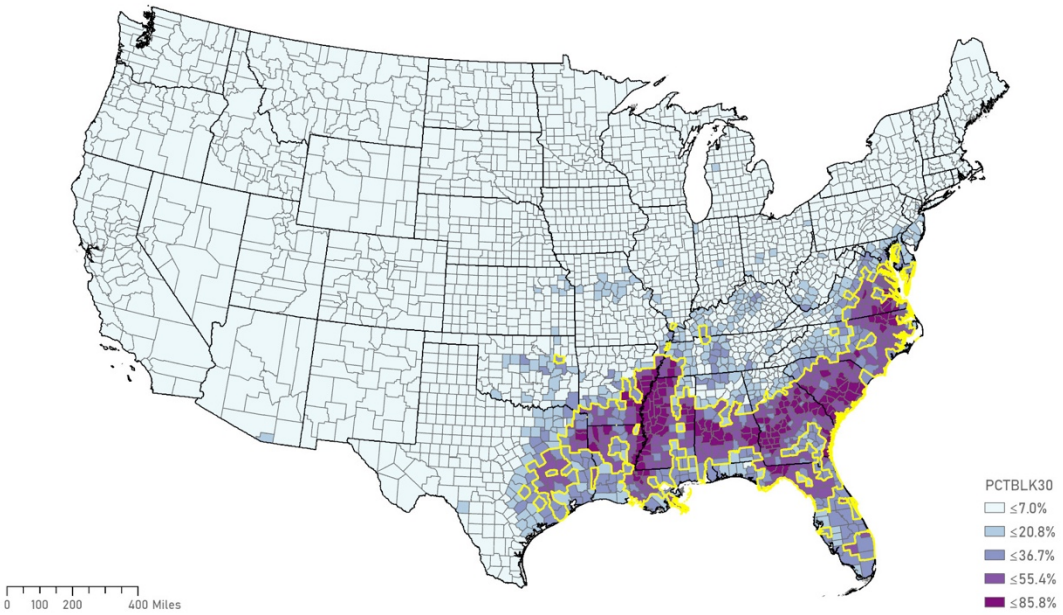


Figure 4.1 African American Share of County Population (1930).
Counties outlined in which African Americans constituted at least 30 percent of the population.
Source: Author's analysis using database compiled by Fishback, Kantor, and Wallis (2003).

[186] Melissa Walker, "African Americans and TVA Reservoir Property Removal: Race in a New Deal Program," *Agricultural History* 72, no. 2 (1998): 417–28; Nancy Grant, *TVA and Black Americans: Planning for the Status Quo* (Temple University Press, 1990); Leighninger, *Long-Range Public Investment*, 114–15.

The initial analysis involved identifying the counties which were at least 30 percent African American in the 1930 Census (designated as Black counties throughout this chapter). About 490 counties across fifteen states met the criteria and were home to more than six million African Americans, or about 52 percent of the country's total Black population in 1930. These counties encompass the Black Belt, the region of the South doubly named for its rich black soil and the geographic center of African American social history, and the Gulf Coast states of Texas, Louisiana, and Florida. Georgia was home to the largest number of Black counties (106), followed by Mississippi (60) and North Carolina (51). Illinois, Kentucky, and Oklahoma were home to just one county each where the Black population accounted for 30 percent of the total: Pulaski County, Christian County, and Wagoner County, respectively. The most populous jurisdictions include the metropolitan regions of Birmingham, Atlanta, and Memphis, and the least populated locality is Flagler County in Florida (population 2,466). A majority of jurisdictions were rural counties and only 37 were considered majority urban, where at least half of the county population lived in cities with over 2,500 people. At least 186 counties were 51 percent or more African American in 1930.

Black Counties' Share of State Public Works Spending in 15 States, 1933-1939

	Total state population (1930)	Total state public works spending	Number of Black counties	Total population of Black counties (1930)	Black counties' share of state population (%)	Black counties' share of state public works spending (%)
Alabama	2,646,248	$ 158,754,011	35	1,577,391	59.6	66.0
Arkansas	1,854,482	$ 125,996,060	26	755,694	40.7	27.9
Florida	1,468,211	$ 135,869,756	33	636,784	43.4	38.9
Georgia	2,908,506	$ 162,513,783	106	2,069,879	71.2	75.7
Illinois	7,630,654	$ 824,949,597	1	14,834	0.2	0.2
Kentucky	2,614,589	$ 170,513,887	1	34,283	1.3	1.0
Louisiana	2,101,593	$ 137,846,783	42	1,176,091	56.0	41.1
Maryland	1,631,526	$ 118,999,345	8	133,285	8.2	4.3
Mississippi	2,009,821	$ 106,948,151	60	1,598,489	79.5	76.0
North Carolina	3,170,276	$ 154,318,975	51	1,561,789	49.3	47.2
Oklahoma	2,396,040	$ 210,747,614	1	22,428	0.9	0.7
South Carolina	1,738,765	$ 159,435,661	39	1,285,830	74.0	83.6

Tennessee	2,616,556	$	150,200,331	9	526,960	20.1	20.6
Texas	5,824,715	$	431,549,514	31	747,323	12.8	10.6
Virginia	2,421,851	$	196,151,474	47	992,089	41.0	52.9

Figure 4.2 Black Counties' Share of State Population and Public Works Spending.

Aggregating total public works spending within states reveals that most distributed funds roughly proportional the selected counties' share of the state population and some received higher spending than their proportional share (see Figure 4.2). For example, Alabama's 35 Black counties represented 59.6 percent of the total population but accounted for almost two-thirds of the state's public works spending. The Black counties in Arkansas, Louisiana, and Maryland, however, received notably less than their proportional share of public works spending. A closer evaluation reveals per capita public works spending varied considerably by county. For example, St. James, Louisiana, a parish of 15,338 that was 50 percent Black, received just $12.60 per person in public works spending, mostly from the WPA; by contrast Chattahoochee, Georgia totaled over $870 per capita, mainly from the relatively large sum of federal PWA grants. There are also notable jurisdictional discrepancies *within* states: the eight Black counties in Maryland averaged just $38.68 in per capita public works spending, notably lower than the equivalent in other states and significantly below the U.S. average of $95.42; for comparison, per capita public works spending for the entire state of Maryland was $72.90. By contrast, the 47 counties of Virginia with sizeable African American populations averaged nearly $105 in per capita public works spending, higher than the overall state ($81) and national per capita figures.

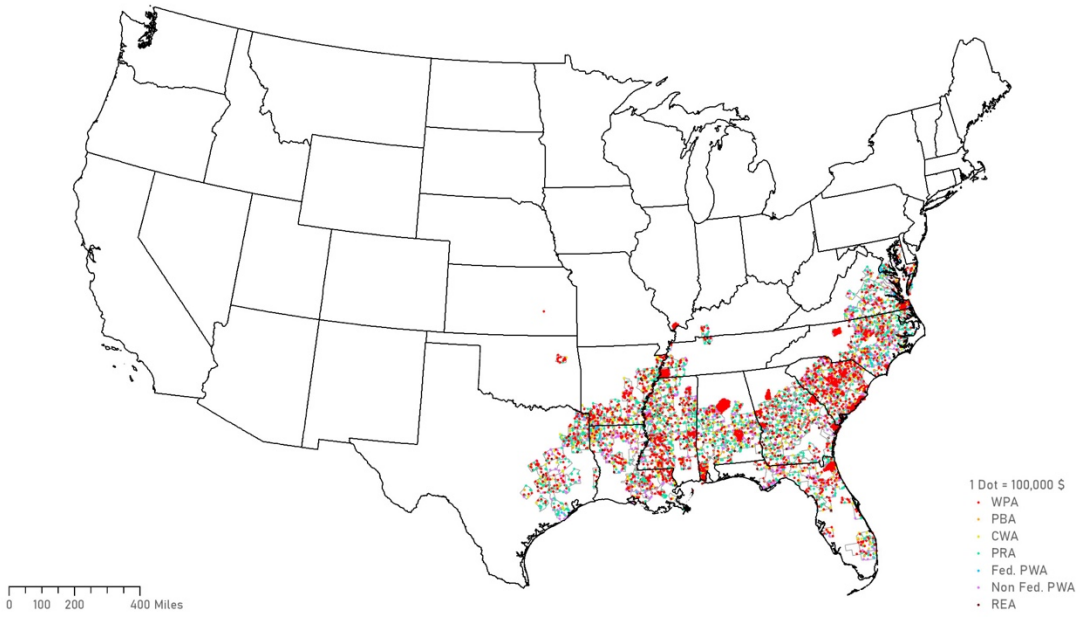


Figure 4.3 Dot Density Map of Public Works Spending by Program in Black Counties (1933 – 1939). Each dot is color-coded by program and represents $100,000 in public works spending in a county. Source: Author's analysis using database compiled by Fishback, Kantor, and Wallis (2003).

The Works Progress Administration spent the most of all public works programs and accounted for over a third of New Deal infrastructure spending across the 490 counties. The Public Roads Administration also spent heavily in these communities and made up over a fifth of all public works spending. This is in line with the findings in the previous chapter that explained growing federal involvement in southern regional development during the 1930s, which materialized in the rapid expansion of the region's transportation infrastructure. States, however, varied in their distribution of New Deal expenditures, as illustrated by the dot density map in Figure 4.3. Each point is color-coded to a public works program and represents $100,000 in grants or loans that a county received. The distribution of WPA funds is particularly striking: in Alabama and Georgia, WPA spending seems to have been more concentrated in populous urban counties like Jefferson County, AL (home to Birmingham); Mobile County, AL; Fulton County, GA (metro Atlanta); and Chatham County, GA (metro Savannah). By contrast, WPA funds in South Carolina were distributed much more evenly across its 39 Black counties. These discrepancies may be partially explained by different attitudes that Southern state leadership held towards New Deal relief. In Georgia, for example, Governor Eugene Talmadge was notorious

for his opposition to New Deal relief and once declared that the appropriate response to relief applicants was to "line them up against a wall and give them a dose of castor oil."[187] Talmadge was not alone. Even after Hopkins purged the Georgia Relief Commission of Talmadge loyalists and hired Gay Shepperson as the state's new relief administrator, opposition to the WPA mounted from the state legislature, other state agencies, and even newspapers that supported the governor.[188] By contrast, in South Carolina, the New Deal found supporters in U.S. Senator James Byrnes (initially, at least), Charleston Mayor Burnet Maybank, and state representative Richard Lane, all of whom advocated for infrastructure projects for rural development. The dot density map also shows that the PRA grants were distributed to almost every county in the study area (all but six), while only a minority received funds from the Public Buildings Administration and the Federal PWA.

Per Capita Public Works Spending in Black Counties in 15 States by Program, 1933-1939 ($)

	REA	PBA	PRA	CWA	Federal PWA	Nonfederal PWA	WPA	*Total Public Works*
Alabama	1.83	0.52	14.69	6.51	2.04	14.14	26.66	*66.38*
Arkansas	1.70	0.49	12.51	6.33	0.31	5.10	20.08	*46.50*
Florida	1.34	1.74	15.54	9.61	2.04	19.27	33.48	*83.03*
Georgia	3.35	0.60	10.98	5.60	5.00	6.52	27.36	*59.41*
Illinois	4.45	-	12.13	6.21	-	-	102.23	*125.03*
Kentucky	2.30	-	18.05	2.89	0.62	9.30	15.58	*48.75*
Louisiana	1.73	0.49	12.44	4.87	2.54	9.98	16.18	*48.23*
Maryland	2.43	0.48	8.07	3.15	11.18	4.00	9.37	*38.68*
Mississippi	3.12	0.93	14.31	3.85	1.47	8.13	19.01	*50.83*
North Carolina	1.29	1.45	12.19	3.67	3.73	10.53	13.72	*46.60*
Oklahoma	-	-	11.77	3.74	-	0.97	46.29	*62.77*
South Carolina	2.09	0.83	12.74	5.34	8.59	42.28	31.82	*103.69*
Tennessee	1.36	1.65	11.86	4.66	1.45	16.84	20.86	*58.66*
Texas	3.21	0.90	22.52	5.19	1.98	11.45	16.17	*61.43*
Virginia	2.96	0.86	12.25	4.85	54.37	7.83	21.58	*104.69*
U.S.	1.85	1.42	12.73	6.19	6.53	15.82	50.88	*95.42*

Figure 4.4 Per Capita Public Works Spending in Black Counties by State by Program.

[187] Biles, "Relief and Employment," 64.
[188] Biles, 65; Michael S. Holmes, *The New Deal in Georgia: An Administrative History* (Westport, CT: Greenwood Press, 1975), 104, http://hdl.handle.net/2027/mdp.39015008029897.

Per capita expenditures by program also reveal notable discrepancies (Figure 4.4). In Louisiana, for example, per capita spending from federal projects of the PWA was just $2.54 across 42 counties with a sizeable Black population. In fact, only eleven of these counties received any federal PWA funds at all between 1933 and 1939 and just one, Bossier Parish, accounted for over 62 percent of federal PWA spending for all of Louisiana. Senator and former governor Huey Long had a contentious relationship with Ickes and was a vocal critic of the New Deal. The PWA appeared to have played a role in the political back and forth and Ickes threatened to withdraw the state's PWA projects several times in response to Long. Virginia and South Carolina counties seemed to have been the beneficiaries of Ickes' PWA program over Hopkins' WPA, while the opposite was true for jurisdictions in Mississippi. The 31 Texan counties appeared to have received higher per capita expenditures from the REA and the PRA when compared to other southern states, but lower PWA spending.

Per Capita Public Works Spending in Majority Black Counties in 11 States by Program, 1933-1939 ($)

	Number of Counties	REA	PBA	PRA	CWA	Federal PWA	Nonfederal PWA	WPA	Total Public Works
Alabama	18	2.66	0.60	14.73	6.51	3.21	6.85	14.97	*49.53*
Arkansas	9	1.48	0.18	12.28	6.24	0.50	2.80	17.85	*41.33*
Florida	4	0.20	4.46	4.37	6.81	3.10	31.60	20.47	*71.02*
Georgia	46	4.39	0.61	14.95	3.90	0.46	3.44	9.67	*37.43*
Louisiana	15	2.02	0.67	18.99	3.25	8.91	11.45	12.91	*58.20*
Mississippi	34	3.02	0.99	14.11	3.60	1.72	9.44	14.86	*47.75*
North Carolina	9	1.26	1.00	14.68	2.82	-	5.57	9.18	*34.52*
South Carolina	25	1.99	0.59	13.41	6.48	14.66	8.55	36.01	*81.69*
Tennessee	2	2.62	0.98	15.99	2.07	-	4.36	4.57	*30.59*
Texas	4	3.32	1.16	37.58	7.93	-	30.13	18.20	*98.30*
Virginia	20	4.28	1.02	14.44	4.19	2.01	4.60	10.84	*41.39*

Figure 4.5 Per Capita Public Works Spending in Majority Black Counties by State by Program.

Spending in the majority Black counties – where African Americans constituted 51 percent or more of the population – are provided in Figure 4.5. In nine out of the eleven states that had majority Black counties, total per capita public works spending was lower when compared to the state aggregates in Figure 4.4, suggesting counties with even higher proportions

of African Americans received less. Certain states registered steep declines: in Georgia, per capita spending in its 46 majority Black counties was nearly 37 percent lower than the estimate for counties that were 30 percent or more African American; in Virginia, the decline was 60 percent. Curiously, in Louisiana and Texas, per capita spending in majority Black counties was actually higher than the estimates in Figure 4.4. Note the significantly higher per capita expenditures from the PRA and nonfederal PWA in Texas' four majority Black counties.

4.4 Black Metros: New York City, Chicago, and Philadelphia

Although the South remained the center of gravity for African Americans during the 1930s, the ongoing Great Migration brought millions to the industrial and commercial cores of the Midwest and Northeast. In 1930, three metro area jurisdictions were home to the largest African American population: New York City; Cook County, IL (Greater Chicago); and Philadelphia. Together, these counties were home to nearly 800,000 African Americans before Roosevelt took office. It is worth examining spending outcomes in these jurisdictions specifically.

Per Capita Public Works Spending in New York City, Chicago, and Philadelphia by Program 1933-1939 ($)

County	Total Population (1930)	Black Population (1930)	PBA	PRA	CWA	Federal PWA	Nonfederal PWA	WPA	*Total Public Works*
New York (5-County)	6,930,446	327,706	4.14	1.64	6.42	6.68	130.53	110.88	*260.29*
Cook (Chicago)	3,982,123	246,992	1.60	3.85	8.35	1.45	82.13	68.90	*166.25*
Philadelphia	1,950,961	219,599	1.20	2.15	1.52	21.09	47.81	45.93	*119.70*

Figure 4.6 Per Capita Public Works Spending in New York City, Chicago, and Philadelphia by Program.

All three urban counties registered higher total per capita spending than their respective state averages, evidence of how industrialized metropolitan economies were prioritized in New Deal public works policies. New Yorkers on average received $260 from public works between 1933 and 1939, double the New York state figure; Greater Chicagoans totaled $166 compared to Illinois' $108; and Philadelphians received nearly $120 compared to $99 for all of Pennsylvania. New York City's separate WPA unit seemed to have led to its high WPA spending. In fact, New

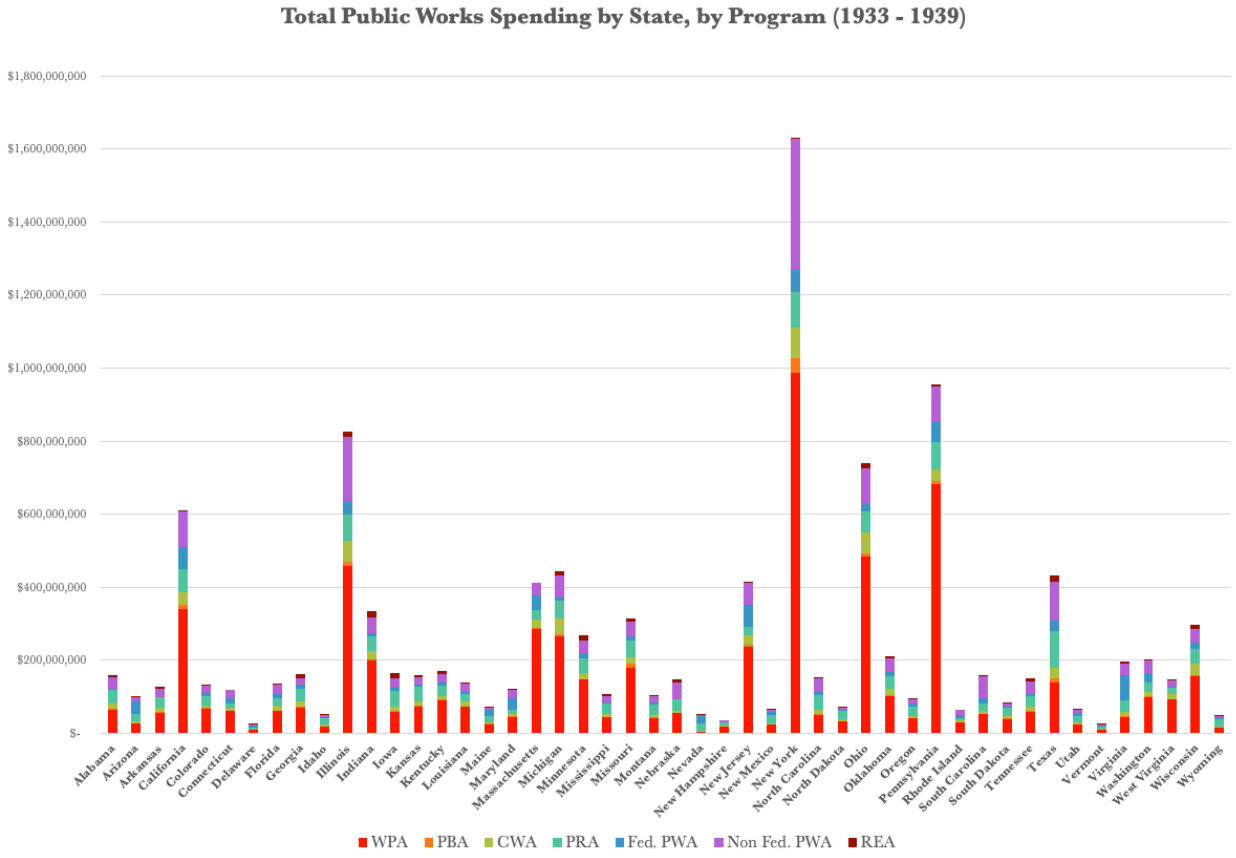
York City's per capita WPA expenditure was higher than all 48 states. The storied Robert Moses used his power as Park Commissioner and head of various authorities – including the Port Authority and Triborough Bridge Authority – to channel WPA resources into the thousands of projects that he directed across New York City. Mayor Fiorello La Guardia, meanwhile, championed the WPA to earmark funds for each city across the nation and represented the U.S Conference of Mayors in the WPA's Advisory Committee on Allotments.[189] Cook County appeared to have benefited more from CWA and PRA spending than New York and Philadelphia, but received far less from federal PWA grants, with a per capita estimate that was just a third of the state equivalent for Illinois ($4.40). Philadelphia seemed to have been the top beneficiary of PWA federal grants of the three, with per capita spending that was much higher than New York City and metro Chicago. This is surprising, given that J. Hampton Moore, the Republican mayor of Philadelphia between 1932 and 1936, was adamantly opposed to government assistance and even tried to block the Carl Mackley Houses, one of the PWA's first public housing projects in the country.

This analysis shows how New Deal public works spending was refracted through heterogenous state, county, and local administration, a lasting feature of U.S. infrastructure policy. Comparing the total per capita spending in New York, Chicago, and Philadelphia to the Black counties in the Black Belt and the Gulf Coast illustrates the wide regional discrepancies in New Deal public works investment, particularly from the larger programs. These differences were certainly driven by distinct infrastructure needs, diverse policy priorities, and state politics between the South on the one hand and the Midwest and Northeast on the other. Margaret Weir has pointed out that the national narrative of the New Deal has often ignored the critical dimensions of state-level politics and policy, where relief and reform efforts unfolded in uneven and at times divergent ways from the federal level.[190] Moreover the fact that states held power over the key domains of land use and local government status means that they too played a hand in the spatial rationalization of infrastructure development and the metropolitan geography that often adhered to the color line. This chapter also highlights the distinct rural-urban divide that featured into New Deal policy and spending, the effects of which led to very different outcomes for Black Americans. Michael Brown, for example, found that the work relief rates for non-white

[189] Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956*, 2006, 104–5.
[190] Margaret Weir, "States, Race, and the Decline of New Deal Liberalism," *Studies in American Political Development* 19, no. 2 (October 2005): 157–72, https://doi.org/10.1017/S0898588X05000106.

families were higher than white families in cities of the North, North Central, and even the South, but the opposite was the case for rural communities in the South.[191] The proportion of African Americans on relief rolls in fact exceeded the Black share of the population in cities that were becoming home to many of the Great Migration, from New York, Chicago, and Philadelphia, to Detroit, Baltimore, and Newark.[192] Geography mattered enormously in the unfolding of the New Deal public works revolution, a subject that is explored more fully in the next chapter.

[191] Michael E. Brown, *Race, Money, and the American Welfare State* (Cornell University Press, 2018), 78.
[192] Brown, 78–79.


Total Public Works Spending by State, by Program (1933 - 1939)
$1,800,000,000
$1,600,000,000
$1,400,000,000
$1,200,000,000
$1,000,000,000
$800,000,000
$600,000,000
$400,000,000
$200,000,000
$-
Alabama Arizona Arkansas California Colorado Connecticut Delaware Florida Georgia Idaho Illinois Indiana Iowa Kansas Kentucky Louisiana Maine Maryland Massachusetts Michigan Minnesota Mississippi Missouri Montana Nebraska Nevada New Hampshire New Jersey New Mexico New York North Carolina North Dakota Ohio Oklahoma Oregon Pennsylvania Rhode Island South Carolina South Dakota Tennessee Texas Utah Vermont Virginia Washington West Virginia Wisconsin Wyoming
WPA PBA CWA PRA Fed. PWA Non Fed. PWA REA

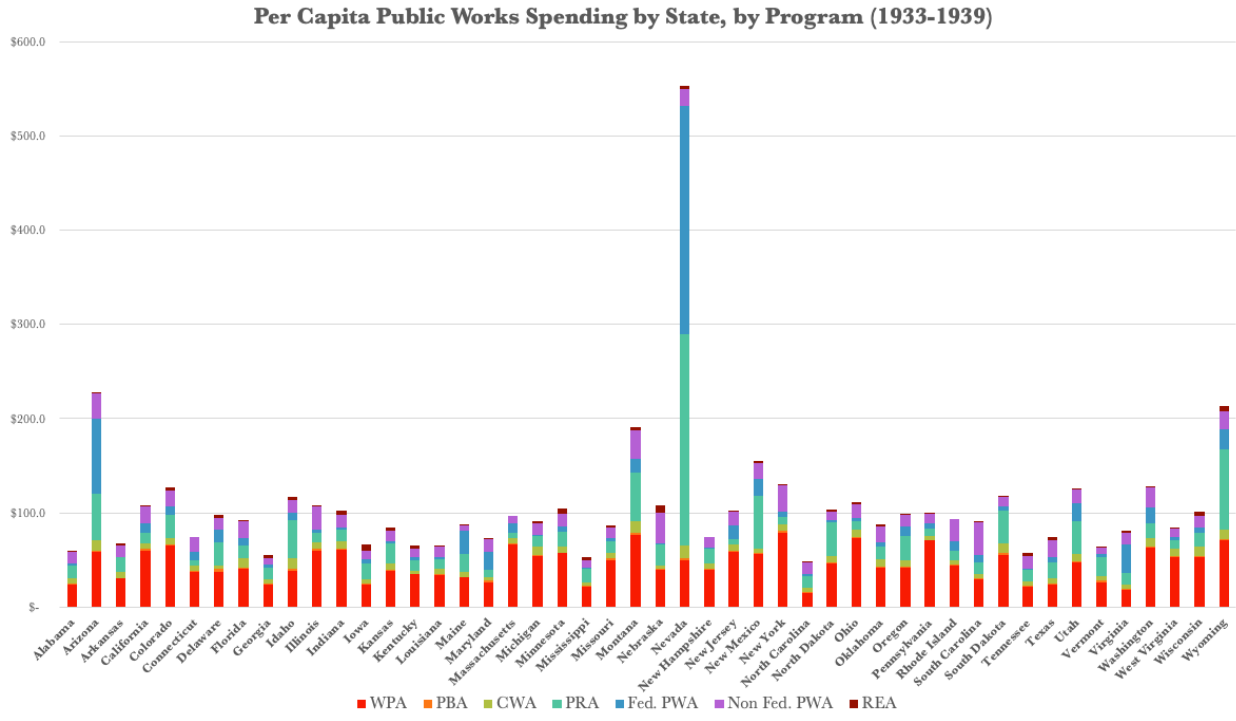

Per Capita Public Works Spending by State, by Program (1933-1939)
$600.0
$500.0
$400.0
$300.0
$200.0
$100.0
$-
Alabama Arizona Arkansas California Colorado Connecticut Delaware Florida Georgia Idaho Illinois Indiana Iowa Kansas Kentucky Louisiana Maine Maryland Massachusetts Michigan Minnesota Mississippi Missouri Montana Nebraska Nevada New Hampshire New Jersey New Mexico New York North Carolina North Dakota Ohio Oklahoma Oregon Pennsylvania Rhode Island South Carolina South Dakota Tennessee Texas Utah Vermont Virginia Washington West Virginia Wisconsin Wyoming
WPA PBA CWA PRA Fed. PWA Non Fed. PWA REA

Figure 4.7 (*Top*) Total and (*Bottom*) Per Capita Public Works Spending by State, by Program (1933 – 1939).
Source: Calculated using database compiled by Fishback, Kantor, and Wallis (2003).

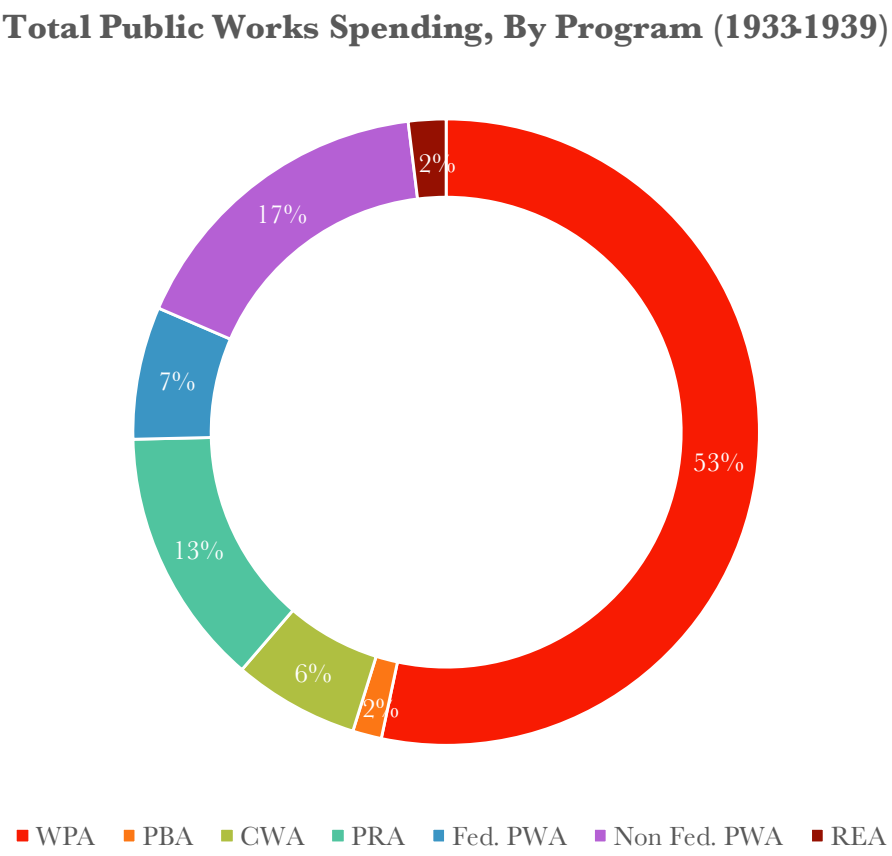


Figure 4.8 Total Public Works Spending by Program (1933-1939).
Source: Calculated using database compiled by Fishback, Kantor, and Wallis (2003).

Chapter 5. Spatializing New Deal Public Works Spending

This section spatializes New Deal public works spending and proceeds in two parts. First, per capita expenditures from each of the major public works programs are mapped individually and aggregated to illustrate the geography of New Deal infrastructure investments. Second, spatial statistical tools are applied to identify meaningful spatial clusters and outliers. Previous chapters have established that (1) New Deal spending across the country varied significantly by program, but the South, where the majority of African Americans remained during the Roosevelt period, generally received less in public works expenditures and (2) State and local administration and politics influenced spending decisions, leading to widely different local outcomes even within the same state. Spatial analysis of county-level data provides a finer assessment of the geographic variation in public works spending to help determine if they were indeed redistributive along racial lines.

Local-level phenomena that display geographic variation, such as infrastructure spending, are prime topics for spatial analytical methods. Yet spatial methods remain largely underutilized in the New Deal scholarship.[193] This chapter seeks to fill this gap by spatializing county-level spending and in doing so offers a new perspective on New Deal infrastructure building.

5.1 Mapping New Deal Public Works Spending

The series of maps in Figures 5.1A-H visualize per capita spending from each of the major public works programs and shows how diverse policy objectives and local implementation influenced the geographic patterns of infrastructure investments during the 1930s. The Civil Works Administration (B), for example, spent much more on a per capita basis in Nevada, Idaho, most of Wyoming and South Dakota, Florida, and the Upper Peninsula region of Michigan. Comparatively low pockets of per capita CWA spending are observed in the South, including northern Mississippi and Kentucky, but also in Nebraska and the northern half of Missouri. Grants from the Public Roads Administration (C) were spread more evenly across the country, but high spending in many western communities is also evident. PBA spending (D) heavily

[193] David Darmofal, "The Political Geography of the New Deal Realignment," *American Politics Research* 36, no. 6 (November 1, 2008): 934–61, https://doi.org/10.1177/1532673X08316591.

favored the Washington D.C. metropolitan area, as well as southeastern New York, New Jersey, and Connecticut. In other regions, the PBA seemed to have spent more in urban jurisdictions (California's Bay Area for example).

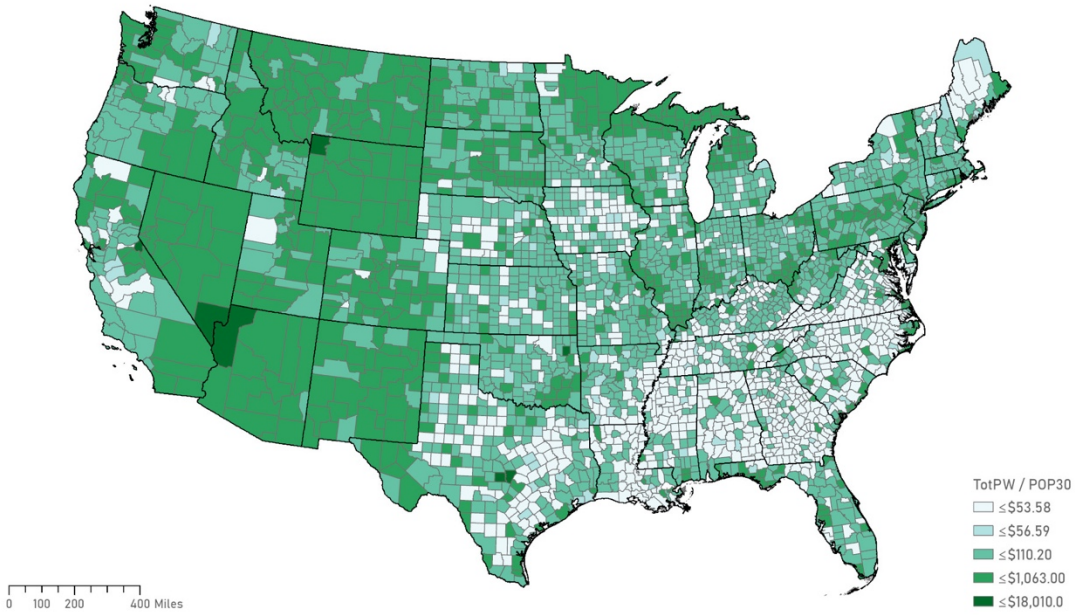
Loans from the Rural Electrification Administration (H) were distributed more evenly in some states over others. In West Virginia, a state that in 1939 only had 15 percent of farms electrified, only two counties received REA loans between 1933 and 1939. Higher per capita REA spending is found in eastern Nebraska, northern Iowa, parts of Texas, and the three counties of northeastern California. As explained in Chapter 3, by 1939 states were allotted half of all REA funds based on the proportion of their non-electrified farms to the U.S. total and the remaining REA funds were distributed at the discretion of the administrator. Some states appeared to have been more successful in organizing the formation of electric cooperatives than others. For example, the wider distribution of REA loans in Georgie suggests the program's success in the Peach State, despite the anti-Roosevelt stance of state leaders. In 1937, Roosevelt visited Barnesville, GA to officiate the Lamar Electric Membership Corporation and in 1940, the Georgia Electric Membership Corporation was formed to advocate for the state's electric coops. REA loans were also spread more broadly across counties in Mississippi, Indiana, and Illinois.

Spending from the large programs, the WPA and PWA, illustrates clear geographic preferences. The WPA (E) invested heavily across Pennsylvania, Ohio, New Jersey, Massachusetts, and southern California, and its spending in New York skewed towards New York City and the eastern half of the state. The South, apart from Florida, was the clear loser from the WPA. Meanwhile, the federal component of the PWA (F) focused on western and mountain states. Relatively high PWA spending is observed in the counties that touch the Mississippi River in the Midwest. These federal projects included dredging, channel rectification, sewerage infrastructure, and the extensive network of dams and locks that characterize the Upper Mississippi River region.

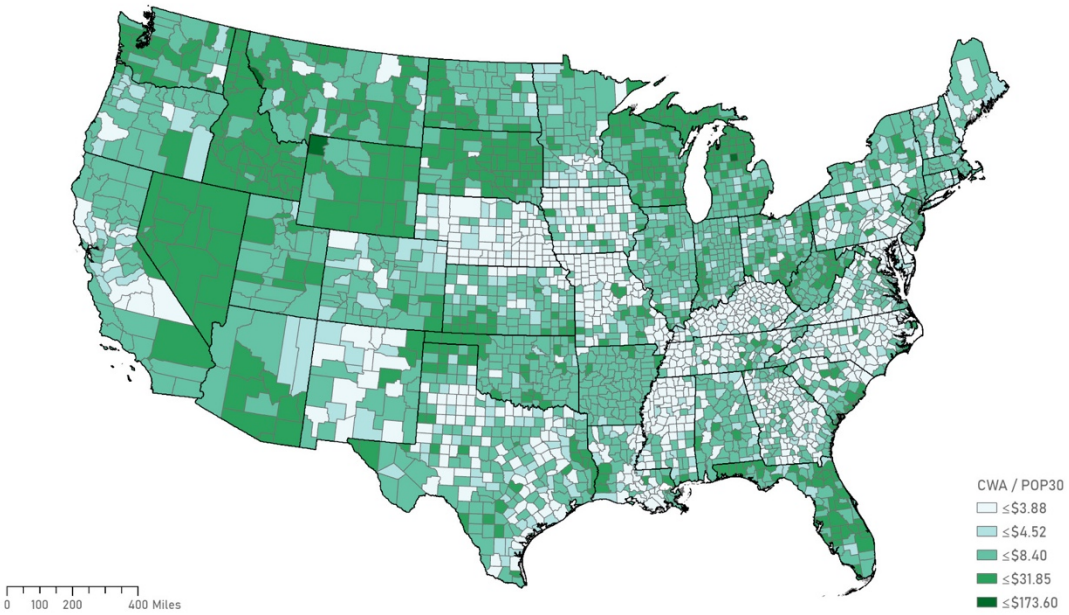
The cumulative, per capita spending provided in map (A) shows the uneven geography of New Deal public works expenditures when the programs are summed together. Confirming the findings of economic historians and other New Deal analysts, the West was the primary benefactor of New Deal public works. But the visualization offers a more granular perspective to show how specific counties received significant resources: for example, Clark County, Nevada and Mohave County, Arizona registered among the highest in per capita expenditures, mostly

from large PWA grants that built infrastructure such as the Hoover Dam. Large sections of the Midwest and Mid-Atlantic states like New York and Pennsylvania also received high per capita spending, driven more by the WPA. Finally, the public works deficit is clearest in the South, where lower per capita spending is observed in parts of eastern Texas and large sections of Alabama, Georgia, and North Carolina. This suggests that Black communities in these counties were at a disadvantage in public works spending. But even in the South, public works spending was uneven; capital regions and coastal communities along the Atlantic and the Gulf Coast seem to have received relatively more than inland and rural areas.

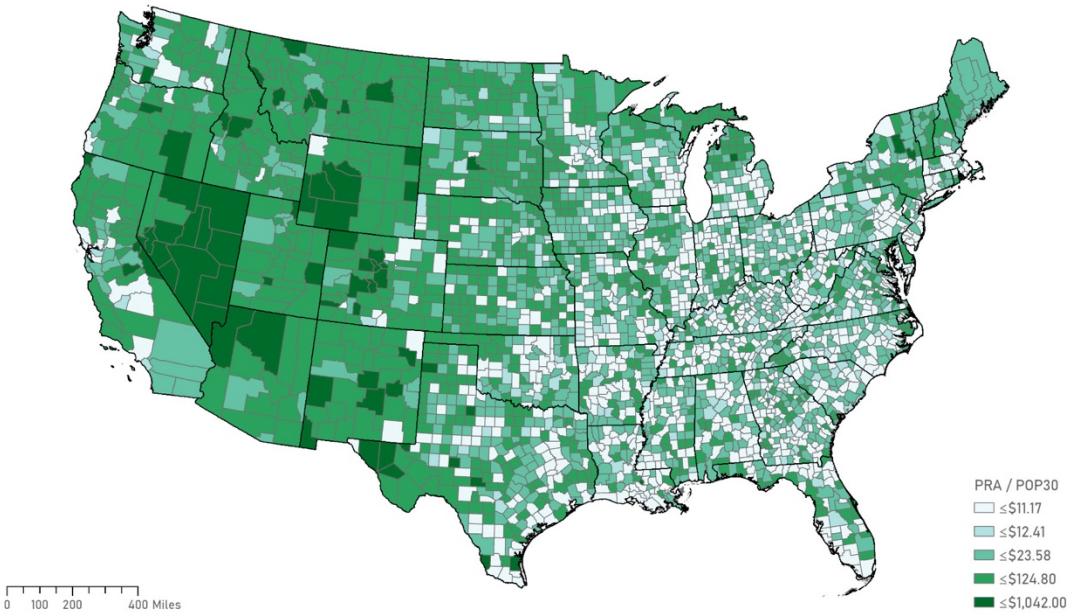
A. Total Public Works Spending Per Capita by County, 1933-1939



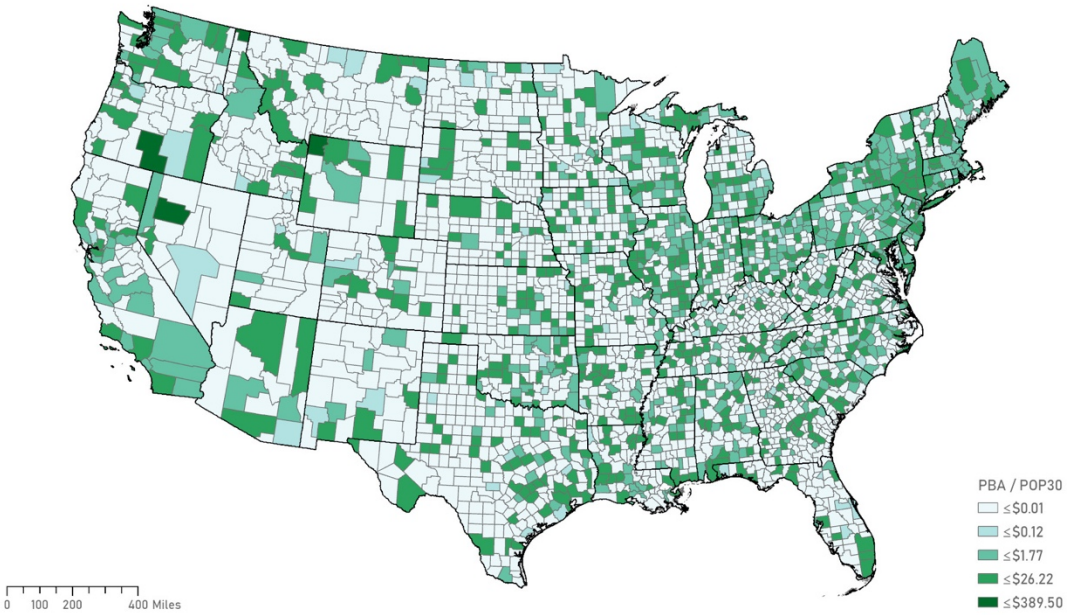
B. Civil Works Administration Spending Per Capita by County, 1933-1939



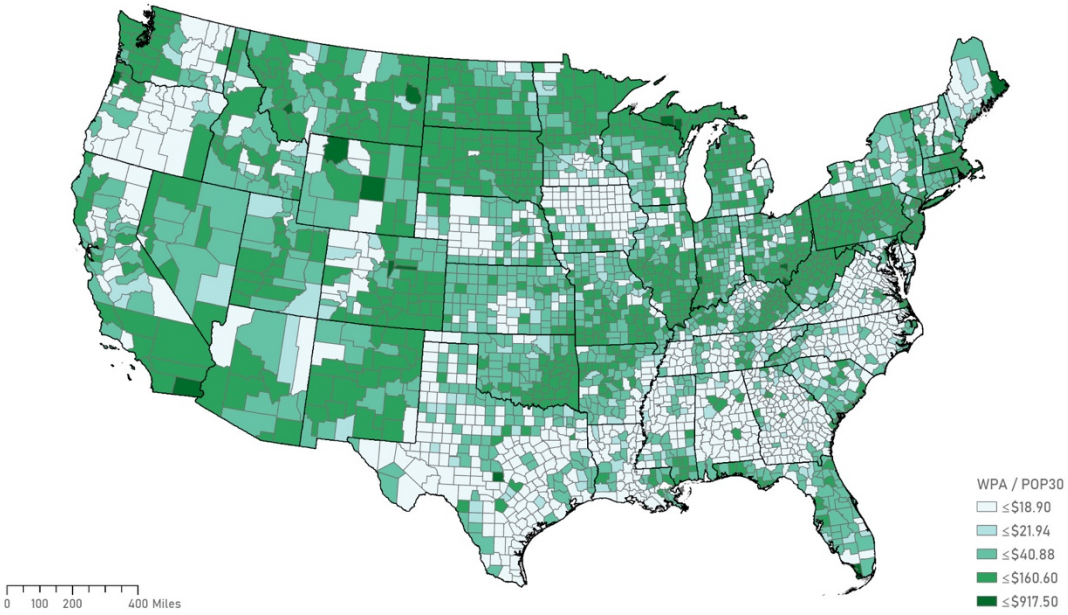
C. Public Roads Administration Spending Per Capita by County, 1933-1939



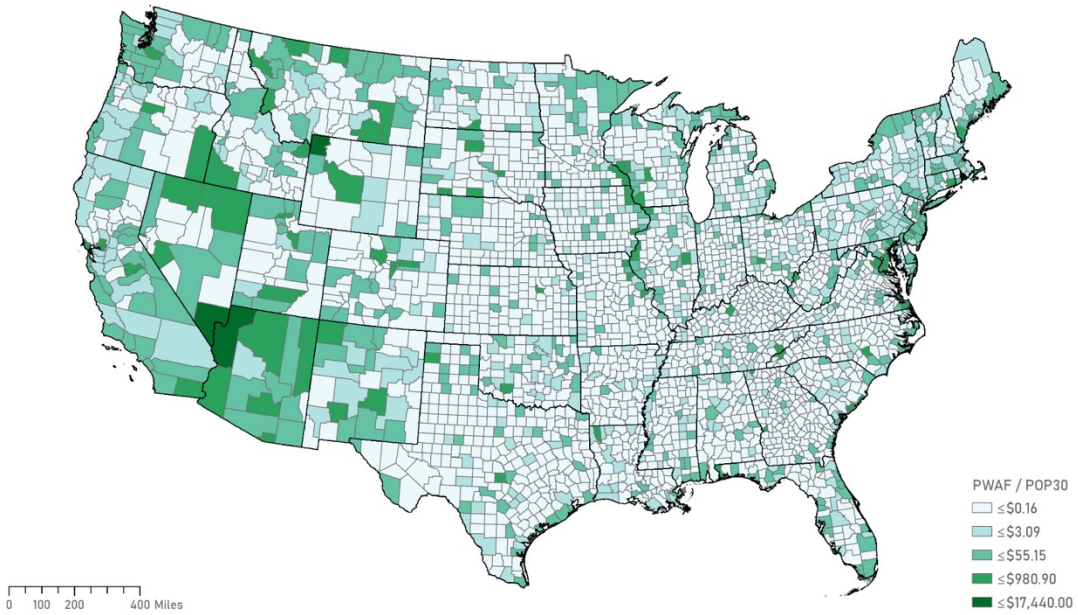
D. Public Buildings Administration Spending Per Capita by County, 1933-1939



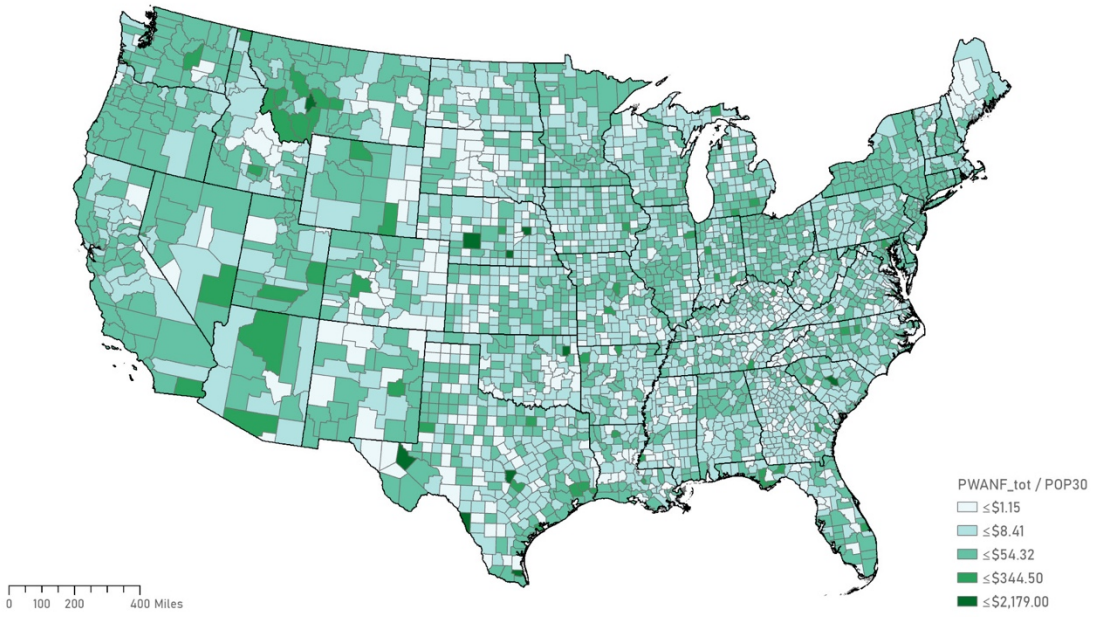
E. Works Progress Administration Spending Per Capita by County, 1933-1939



F. Federal Public Works Administration Spending Per Capita by County, 1933-1939



G. Non-Federal Public Works Administration Spending Per Capita by County, 1933-1939



H. Rural Electrification Administration Spending Per Capita by County, 1933-1939

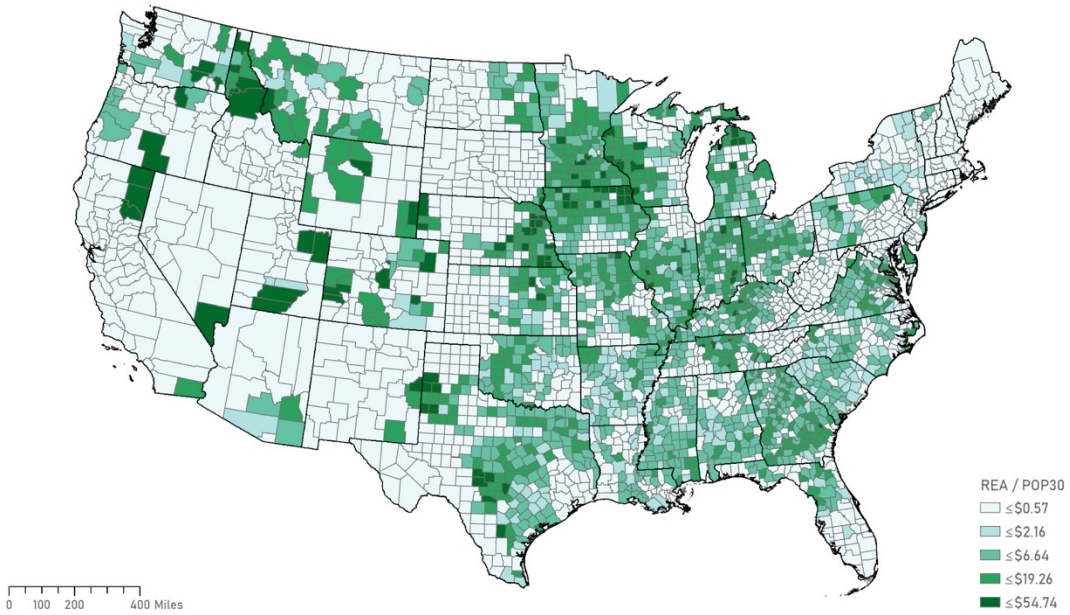


Figure 5.1A-H Mapping Per Capita Spending by New Deal Public Works Programs.
Source: Author's analysis using database compiled by Fishback, Kantor, and Wallis (2003).

5.2 Global Moran's I: Measuring Spatial Autocorrelation

Several spatial statistical tools were used to further evaluate the geographic distribution of public works spending. The first investigates whether or not spatial dependence existed at all in cumulative per capita public works spending discussed above. In spatial modeling and quantitative geography, spatial autocorrelation, defined as the tendency of spatial data that are nearer together to exhibit similarities than data that are farther apart, is of central importance.[194] The implication of spatial autocorrelation in conventional statistics is that the presence of spatial dependence violates the assumptions that samples are distributed randomly and therefore questions the validity of typical hypothesis testing. Moran's I is a widely used inferential statistic to measure spatial autocorrelation.[195] Global Moran's I ('global' statistics in that it evaluates overall patterns of the entire data set) produces an index value between -1.0 and 1.0 to indicate

[194] David O'Sullivan and David Unwin, *Geographic Information Analysis*, Second (Hoboken, NJ: Wiley, 2010), 34.
[195] O'Sullivan and Unwin, 205.

positive autocorrelation or clustering (>0), negative autocorrelation (<0), and no autocorrelation (=0). The formula for the Moran's I statistic is the following:[196]

$$I = \frac{n}{S_0} \frac{\sum_{i=1}^{n} \sum_{j=1}^{n} w_{i,j} z_i z_j}{\sum_{i=1}^{n} z_i^2}$$

where n is the total number of features; z_i is the deviation of a given attribute for feature i from its mean; $w_{i,j}$ is the spatial weights, which captures the spatial relationship, between feature i and j; and S_0 is the total spatial weights in the map:

$$S_0 = \sum_{i=1}^{n} \sum_{j=1}^{n} w_{i,j}$$

The z_I score for the statistics is given as:

$$z_I = \frac{I - E[I]}{\sqrt{V[I]}}$$

If the data under analysis tend to cluster spatially (low per capita spending counties are nearer to other low per capita spending counties, etc.), the Moran's I will be positive, whereas if higher values are closer to lower values (dispersion), the Moran's I will be negative. As an inferential statistic, the Moran's I cannot be interpreted on its own but rather must be evaluated under statistical significance.

The spatial relationship used to determine the spatial weights is the queen's case (or contiguity edges corners method), in which feature polygons that share a border are counted as a 'neighborhood' and included in each other's computation. The computed Global Moran's I and corresponding *z*-score suggest that there was significant spatial autocorrelation in per capita New Deal public works expenditures among counties (Figure 5.2). The respective *p*-value indicates there was a less than one percent likelihood that the clustering was due to random chance. In

[196] Esri, "How Spatial Autocorrelation (Global Moran's I) Works," accessed April 21, 2021, https://pro.arcgis.com/en/pro-app/latest/tool-reference/spatial-statistics/h-how-spatial-autocorrelation-moran-s-i-spatial-st.htm; O'Sullivan and Unwin, *Geographic Information Analysis*, 205.

other words, across the United States, counties with similar per capita public works expenditures tended to be closer together than we would expect from random chance.

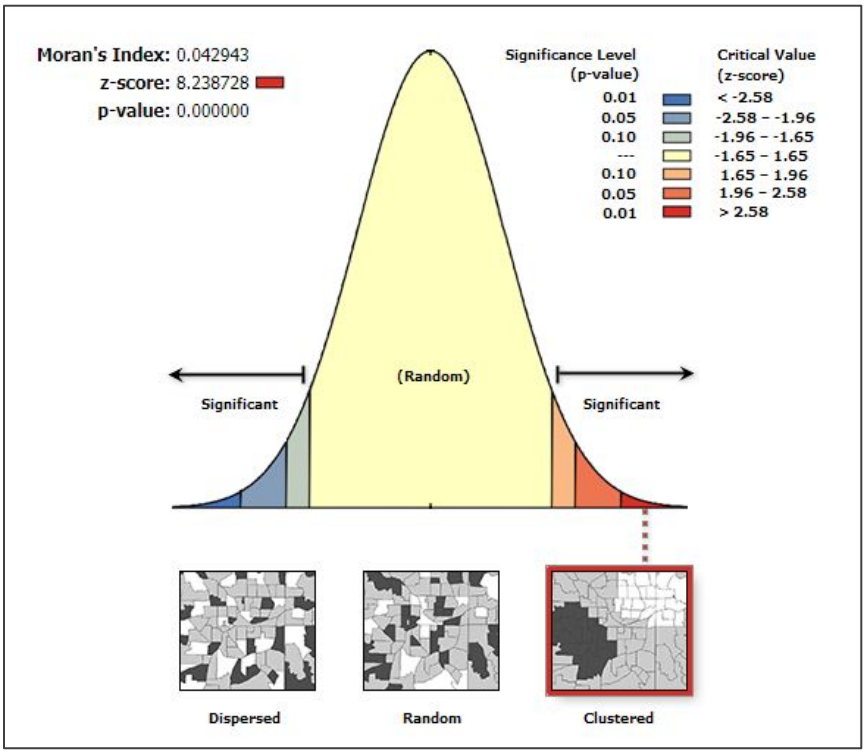


Figure 5.2 Spatial Autocorrelation of Cumulative Per Capita Public Works Spending.
Given the z-score of 8.238728, there is a less than 1% likelihood that this clustered pattern could be the result of random chance.

5.3 Getis-Ord Gi*: Hot-Cold Spot Analysis

Whereas global statistics such as Moran' I are useful in determining spatial dependence, local indicators of spatial autocorrelation (LISA) are necessary for identifying significant local clustering and outliers. Luc Anselin developed the general concept of the LISA statistic, which allow for the decomposition of global indicators into the contribution of individual observations.[197] The Getis-Ord Gi* statistic, the first of two LISAs used in this analysis, enables the detection of local concentrations of high or low values.[198] Gi* is calculated by comparing the local sum of the feature value under analysis and those of its neighbors to the sum of all feature

[197] Luc Anselin, "Local Indicators of Spatial Association—LISA," *Geographical Analysis* 27, no. 2 (1995): 93–115, https://doi.org/10.1111/j.1538-4632.1995.tb00338.x.
[198] O'Sullivan and Unwin, *Geographic Information Analysis*, 219.

values. Z-scores and p-values are computed for each county to determine hot spots (positive z-scores), cold spots (negative z-score), and their statistical significance. For event i over all n events; spatial weights $w_{i,j}$; and x_j as the magnitude of variable X at location j over all n, a simplified formula for Gi* is given by:[199]

$$G_i^* = \frac{\sum_{j=1}^{n} w_{i,j}\, x_j}{\sum_{j=1}^{n} x_j}$$

The result from the Gi* hot spot analysis of cumulative per capita public works spending is provided in Figure 5.3. Statistically significant hot spots – counties with high per capita spending surrounded by other jurisdictions with high spending – are marked according to statistical significance. No statistically significant cold spots were detected. Not surprisingly, the 38 counties identified as hot spots include large portions of Nevada and Arizona and eastern California and northwest Wyoming with a confidence level of 99 percent. Another notable outcome from the Gi* analysis is the hot spot cluster in middle Texas, including four counties (Burnet, San Sabo, Llano, and Blanco) with a confidence level of 99 percent.

[199] Praprut Songchitruksa and Xiaosi Zeng, "Getis–Ord Spatial Statistics to Identify Hot Spots by Using Incident Management Data," *Transportation Research Record* 2165, no. 1 (January 1, 2010): 42–51, https://doi.org/10.3141/2165-05.

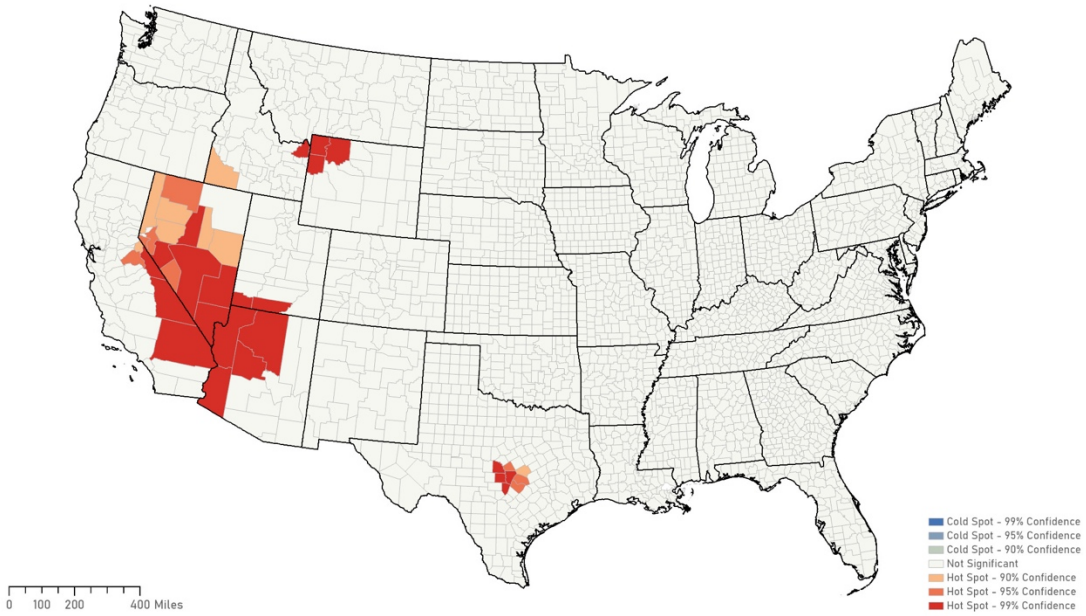


Figure 5.3 Hot Spot Analysis of Cumulative Per Capita Public Works Spending.

5.4 Anselin Local Moran's I: Clustering and Outlier Analysis

Anselin Local Moran's I is the second LISA used to examine clusters of high and low per capita spending, as well as outliers. The statistic is derived from the global Moran's I, but instead of summarizing over the whole data set, the local version summarizes over only the data in the locality of each point.[200] In other words, the local Moran's I computes *I* values, variances, and *z*-scores for each feature location *i*:

$$I_i = z_i \sum_j w_{i,j} z_i$$

where *z* scores are computed from the values of the attribute of interest for the whole data set. In addition to providing statistically significant high and low clusters, Anselin Local Moran's I identifies outlier patterns that the Getis-Ord Gi* statistic does not. Counties fall into one of five classifications:

[200] O'Sullivan and Unwin, *Geographic Information Analysis*, 222.

- *Not significant*: Statistically insignificant
- *High-High*: High per capita public works spending surrounding by a cluster of high per capita spending
- *Low-Low*: Low per capita public works spending surrounding by a cluster of low per capita spending
- *High-Low*: Outlier high per capita spending surrounded by low per capita spending
- *Low-High*: Outlier low per capita spending surrounded by high per capita spending

The results for the Anselin Local Moran's I analysis are shown in Figure 5.4. They largely confirm the hot spots that were identified in the Getis-Ord Gi* method, but with an expanded geography of statistically significant high per capita spending clusters. This includes counties in New Mexico, Idaho, Washington, Oregon, and Montana. High clusters are also found in the Upper Peninsula of Michigan and small pockets of Ohio, Indiana, Illinois, Wisconsin, and Texas. In total 182 counties are identified to be in significant high-high clusters. Statistically significant low-low clusters are found in much of the South, including large swathes of Mississippi, Alabama, Georgia, North Carolina, Virginia, and Louisiana, but small pockets are also observed in western Maine, Iowa, Nebraska, and Maryland. In total, the analysis found 617 counties in the low-low category. 33 counties are counted as high-low outliers, where total per capita spending was high, but the county was surrounded by relatively low per capita spending. Interestingly, in the South, a number of high-low outliers are found, including Jefferson County, AL; St. Charles Parish, LA; Baldwin County, GA; and Leon County, FL. Another notable finding is the number of low-high outliers that appeared in many states in the West, including eastern California, Colorado, Utah, Montana, and Idaho. In central Texas, some of the hot spot counties in the Gi* analysis switch to low-high outliers based on the Anselin Local Moran's I. In total 65 counties were found to be low-high outliers.

The Anselin Local Moran's I analysis suggests that New Deal public works were not redistributive along racial lines. Of the 617 counties that were low-low clusters, nearly half (293) were counties in which African Americans were at least 30 percent of the population. This includes highly urbanized jurisdictions and rural areas; high and low-income counties; jurisdictions with high and low human capital (as measured by literacy rates); and relatively high

and low voter turnout. There are certainly high-spending outliers: 13 are jurisdictions that are at least 30 percent African American. However, the majority of counties that were 30 percent Black or more appeared to be in a low-low cluster of per capita public works spending. Tellingly, close to 70 percent of majority Black counties fell in the low-low spending cluster.

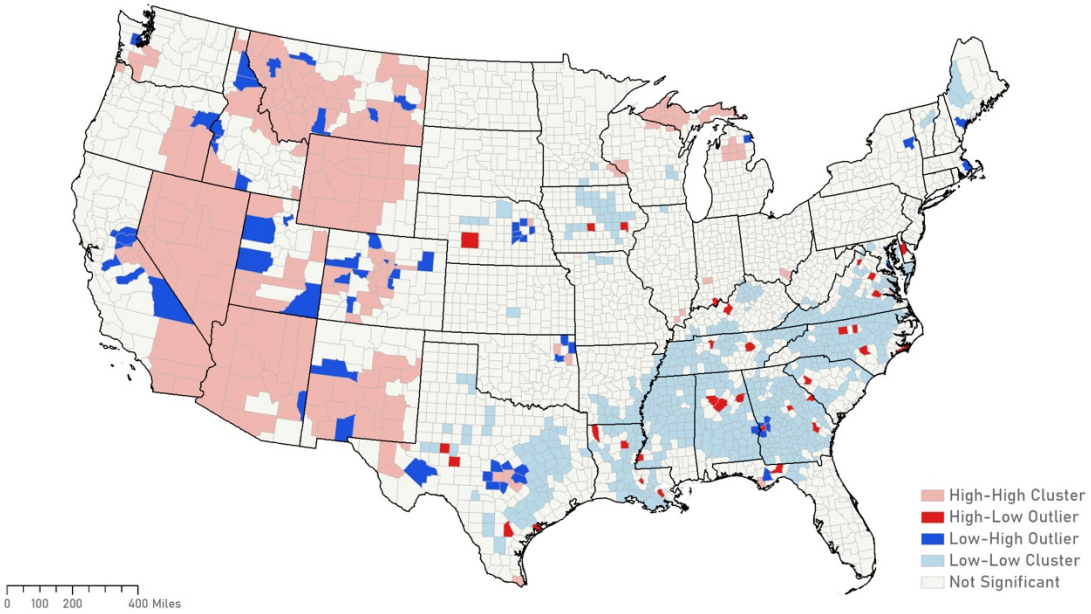


Figure 5.4 Cluster and Outlier Analysis of Cumulative Per Capita Public Works Spending.

Chapter 6. Conclusion: The Many Lives of Infrastructure

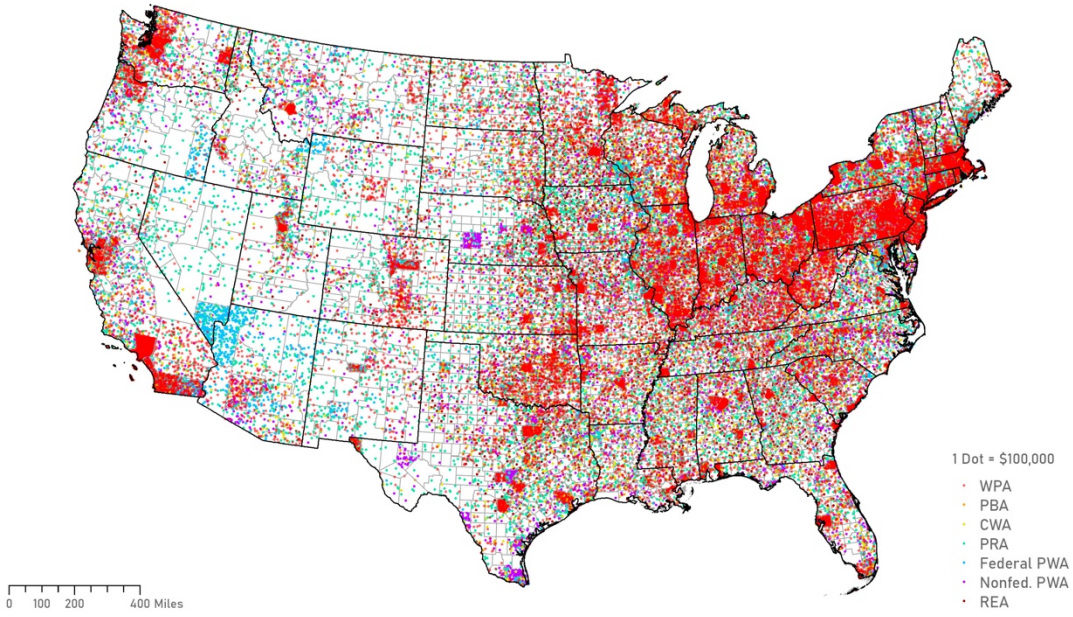


Figure 6.1 Dot Density Map of New Deal Public Works Spending by Program by County (1933 – 1939).

Were New Deal public works redistributive along racial lines? The spatial statistical analysis in Chapter 5 suggests cumulative infrastructure spending in the 1930s certainly followed geographic patterns that disfavored Black counties. Chapter 3's programmatic histories provide ample evidence of how the administrative and policy design of major programs, from regional wage differentials to reliance on local implementation, hampered their potential to do more for Black Americans. There were success stories: public health structures, water and sanitation infrastructure, and educational facilities funded by the PWA and WPA dramatically improved the lives of African Americans and represented among the most significant federal resources dedicated to improving Black life at the time. And Chapter 4's county-level analysis shows that states, counties, and cities took advantage of New Deal programs in widely different ways,

dictated by local political dynamics and priorities. Nevertheless, despite persistent and unprecedented efforts by progressive administrators and civil rights leaders, public works by and large respected and reinforced the color line. In the South, the deployment of hydroelectric, road, and rural electric infrastructure for economic modernization typically left out African Americans or worse, displaced communities. Across the country, Black workers were employed on projects so long as they did not threaten the status quo. And majority Black counties in most states received comparatively less in per capita expenditures.

This thesis problematizes the redistributive impact of infrastructure on strictly material and fiscal grounds. A road, a power line, a school once financed and built affects communities through multiple vectors across its lifetime, what might be called the many lives of infrastructure. This is most evident in the New Deal experience in housing and transportation. The PWA's segregated housing projects and slum-clearing and the PRA and WPA's massive road building defined infrastructural policy logics with far-reaching – and often violent – spatial and temporal implications for Black lives and communities. Anthropologists and scholars of critical infrastructure studies have recently emphasized the multivalence of infrastructure: "As opposed to the 'finished' product of a planner's map, if we think of infrastructures as unfolding over many different moments with uneven temporalities, we get a picture in which the social and political are as important as the technical and logistical."[201] The physical accomplishments of New Deal public works provide only a partial view; the policymaking and institutional norms that they engendered are of equal consequence.

As the United States contemplates the next build out of our infrastructure, planners and policymakers would do well to recognize these complexities. Infrastructure has taken center stage

[201] Nikhil Anand, Akhil Gupta, and Appel Hannah, *The Promise of Infrastructure* (Durham: Duke University Press, 2018), 17.

in important debates in environmental justice, economic policy, and climate planning and strategy. There is a reason why the Biden infrastructure plan is named the American Jobs Plan and is being promoted as crucial investments in domestic competitiveness and the American workforce. Developers and architects are advocating for a post-COVID redesign of cities that prioritizes multipurpose neighborhoods, garden streets, and cycle superhighways.[202] Advocate Catherine Coleman Flowers has brought attention to the infrastructural disparities in water and sanitation in rural communities like Lowndes County, Alabama. The Roosevelt Project, a joint MIT-Harvard initiative that is charting pathways for the energy transition and a source of motivation for this thesis, has found that significant infrastructure spending, when combined with redistributive policies such as workforce retraining and a progressive carbon dividend, could generate as much as 1.6 million new jobs *and* meet net zero carbon goals by 2050. Our infrastructure moment is here.

To realize the potential of infrastructure will require rethinking traditional approaches to public investment and infrastructure delivery. For example, federal funding could support a national strategy to deal with the nation's failing legacy assets and prioritize communities that have disproportionately shouldered environmental harms. States and local governments, working in close coordination with communities, could develop adaptive reuse and repurpose plans for different infrastructure typologies, from fossil fuel plants to railway tracks, in preparation for climate impacts and decarbonization. Infrastructure planning and management, across all levels, should incorporate principles of environmental justice and racial equity. Traditional tools to assess project viability, such as cost-benefit analyses and economic impact assessments, should be

[202] Chris Michael et al., "From Garden Streets to Bike Highways: Four Ideas for Post-Covid Cities – Visualised," *The Guardian*, September 2020, https://www.theguardian.com/cities/ng-interactive/2020/sep/25/garden-streets-bike-superhighways-cities-future-coronavirus.

critically redesigned to account for social equity. Lastly, dedicated resources should be invested in empowering and ensuring meaningful community participation and oversight across all stages of infrastructure development, from planning and design to procurement to long-term operations.

There is much to be done as we build towards a more prosperous, resilient, and egalitarian future. We must begin with what is owed.

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