

INFRASTRUCTURE, SEPARATION, AND INEQUALITY: THE STREETS OF
INDIANAPOLIS BETWEEN 1890 AND 1930

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Dedication

To Jean and Julia, with my deepest thanks for their understanding, support, patience, good cheer, and tolerance. To all of the teachers and mentors who have inspired me and encouraged me, and to three dear souls in particular: to Jack Foster and H. Norman Taylor, who taught me how to think and read critically; and to C. Warren Vander Hill, whose honor, decency, and intellect continue to brilliantly illuminate my life.

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Introduction



P303_BOX96_FOLDER15_UNNUMBERED_002

Figure 1. “National Association for the Advancement of Colored People Freedom Rally in Indianapolis,” 1963-08-10, *Indianapolis Recorder*, Indiana Historical Society, P303_Box 96_Folder 15_Unnumbered 002.

This photograph of a 1963 NAACP rally in Indianapolis, Indiana, vividly demonstrates the importance of not only the First Amendment, but also of infrastructure. Look closely. The four spectators at the bottom of this picture are using curbs in a way that municipal sanitation engineers of the 1890s probably never envisioned: as a means of organizing urban space to make themselves feel safe and protected—not just from the street and its hazards, but from their fellow human beings. Why did these men feel so uncomfortable that they put a whole street between themselves and the demonstrators? What is the street doing here? Originally designed

to separate humans from nature and unhealthy natural processes (such as effluents, rotting garbage, and mud), curbs are capable of quickly morphing into agents of separation between humans themselves.

Like sewerage and paved streets, curbs are an aspect of the ordinary, built environment that everyone takes for granted. Historians have traced the development of urban and suburban infrastructure in terms of both technological innovations and the various meanings of those improvements.¹ Other writers have emphasized how the design and regulation of the built environment affects human interaction in, and use of, public spaces.² Yet, no one has specifically examined the infrastructure in the

¹ See, for example, David J. Bodenhamer and Robert Barrows, eds., *The Encyclopedia of Indianapolis* (Bloomington: Indiana University Press, 1994); Dolores Hayden, *Building Suburbia: Green Fields and Urban Growth, 1820-2000*, Vintage Books ed. (New York: Random House, 2004); I.B. Holley, Jr., "Blacktop: How Asphalt Paving Came to the Urban United States," *Technology and Culture* 44, no. 4 (2003): 703-733; Reprint ed., (Lanham, MD: National Asphalt Pavement Association, January, 2005); Suellen Hoy, *Chasing Dirt: The American Pursuit of Cleanliness* (New York: Oxford University Press, 1995; Oxford paperback ed., 1996); Kenneth T. Jackson, *Crabgrass Frontier: The Suburbanization of the United States* (New York: Oxford University Press, 1985); Lawrence H. Larsen, "Nineteenth-Century Street Sanitation: A Study of Filth and Frustration," *Wisconsin Magazine of History* 52, no. 3 (Spring 1969): 239-247; Blake McKelvey, *The Urbanization of America, 1860-1915* (New Brunswick, NJ: Rutgers University Press, 1963); Clay McShane, "Transforming the Use of Urban Space: A Look at the Revolution in Street Pavements, 1880-1924," *Journal of Urban History* 5, no. 3 (May 1979): 279-307; and all of Martin V. Melosi's work, including: Martin V. Melosi, "Battling Pollution in the Progressive Era," *Landscape* 26, no. 3 (1982): 35-41; Melosi, *Effluent America: Cities, Industry, Energy, and the Environment* (Pittsburgh: University of Pittsburgh Press, 2001); Melosi, *Garbage in the Cities: Refuse, Reform, and the Environment*, rev. ed. (Pittsburgh: University of Pittsburgh Press, 2005); and, Melosi, *The Sanitary City: Urban Infrastructure in America from Colonial Times to the Present* (Baltimore: Johns Hopkins University Press, 2000). Also see the writings by the prolific Joel A. Tarr, including: Joel A. Tarr et al., "The Development and Impact of Urban Wastewater Technology: Changing Concepts of Water Quality," in *Pollution and Reform in American Cities* (Austin: University of Texas Press, 1980): 59-82; Tarr, "The Metabolism of the Industrial City: The Case of Pittsburgh," *Journal of Urban History* 28, no. 5 (July 2002): 511-545; Tarr, "The Separate vs. Combined Sewer Problem: A Case Study in Urban Technology Design Choice," *Journal of Urban History* 5, no. 3 (May 1979): 308-339; and Tarr et al., "Water and Wastes: A Retrospective Assessment of Wastewater Technology in the United States, 1800-1932," *Technology and Culture* 25, no. 2 (April 1984): 226-263.

² These authors include: Christopher Alexander et al., *A Pattern Language: Towns, Buildings, Construction* (New York: Oxford University Press, 1977); Mona Domosh and Joni Seager, "On the Move," in *Putting Women in Place: Feminist Geographers Make Sense of the World* (New York: Guilford Press, 2001): 110-139; James S. Duncan and Nancy G. Duncan, *Landscapes of Privilege: The Politics of the Aesthetic in an American Suburb* (New York: Routledge, 2004); Margaret E. Farrar, "Health and Beauty in the Body Politic: Subjectivity and Urban Space," *Polity* 33, no. 1 (Autumn 2000): 1-23; Kevin Fitzpatrick and Mark La Gory, *Unhealthy Places: The Ecology of Risk in the*

city of Indianapolis in a way that synthesizes these elements and provides a historical context for the inequalities existing in contemporary times. It is not possible to comb through archives, read reports and minutes, or scan old maps and pinpoint a specific meeting during which an engineer or planner made the key decision that cemented a division between healthy and unhealthy neighborhoods, or to identify one single ordinance that shifted the power in the street from people to cars. Nevertheless, between 1890 and 1930 people in charge made certain decisions in Indianapolis regarding infrastructure—the character and condition of streets and sidewalks, the provision of sewer services and garbage collection, the location of the city’s dump (now a landfill), and the placement of the city’s sewage treatment plant—that resulted in long-term health and safety consequences. In Indianapolis, as in most modern American cities, some neighborhoods are less healthy for their inhabitants than others. The least healthy neighborhoods—those with the highest rates of cancer, for example—are situated on the city’s southwest side. The southwest side of Indianapolis is also the location of the landfill, the sewage treatment plant, and much heavy industry. The entire city is at the mercy of an ill-designed sewer system, a system that taxpayers are spending millions annually to repair. The years from 1890 to 1930 saw the genesis of this state of affairs.

This historical period was a tipping point for many American cities vis-à-vis infrastructure. But it is too simplistic to apply generalizations of mere periodicity to the mosaic of processes, people, factors, and decisions that characterize Progressive Era urban growth. Rather, historians must treat each city individually:

Urban Landscape (New York: Routledge, 2000); and Margaret Kohn, *Brave New Neighborhoods: The Privatization of Public Space* (New York: Routledge, 2004).

a rigid technological determinism distorts the pattern of the evolution of the urban infrastructure. Although economic forces were obviously of great importance, the preferences and perceptions of different actors such as business leaders, politicians, and engineering professionals in a particular city at a particular time may be more important in the city building process than a generalized set of forces that relates to all cities.³

In Indianapolis, both geography and powerful professional stakeholders contributed to the decision-making process: city planners, landscape architects, influential business owners, mayors, state legislators, city councilors, drivers of automobiles, and civil engineers. Many other stakeholders' voices were silent or discounted, however, including those of pedestrians, working class laborers, and individual homeowners.

Tracing the history of the street in Indianapolis between 1890 and 1930 reveals that, regardless of whether one considers what happened above the street or below it, issues of both power and identity are manifest in any discussion of the city's built environment.⁴ Power enters into the picture in two ways: first, people in positions of power made decisions regarding the street that would affect the entire population of Indianapolis for over a century; additionally, the non-elite public attributed new significance, meaning, and power to the street. This notion that a built environment can reflect the balance of power within a city gained legitimacy among scholars in the late twentieth century.⁵ Issues of identity present themselves when one

³ Joel A. Tarr, "Building the Urban Infrastructure in the Nineteenth Century: An Introduction," in *Infrastructure and Urban Growth in the Nineteenth Century*, No. 14 in the Essays in Public Works History Series, ed. by Howard Rosen. Chicago: Public Works Historical Society (Dec. 1985), 61-62.

⁴ For purposes of this paper, "the street" includes the sidewalk, the curb, and the physical street, as well as articles people put in or near the street such as garbage, and what is under the street, especially the sewers.

⁵ See, for example, Michel Foucault, *Discipline & Punish: The Birth of the Prison*, trans. Alan Sheridan (New York: Vintage Books, 1995) and Mike Davis, *City of Quartz: Excavating the Future in Los Angeles* (London: Verso, 2006).

considers the street as a borderland, a place where a “seething exchange” occurs among and between individuals using the same space.⁶

The poet and writer Gloria Anzaldúa first articulated the concept of borderlands in her work *Borderlands/La Frontera: The New Mestiza* in 1987. Anzaldúa characterized the borderlands as being “physically present whenever two or more cultures edge each other, where people of different races occupy the same territory, where under, lower, middle and upper classes touch, where the space between two individuals shrinks with intimacy.”⁷ While historians like Thomas Sizgorich and Jeffrey Jerome Cohen have used the construct of borderlands in discussions of cultural identity and cultural hybridity, one can rightly apply the concept of borderlands to discussions of the *spatial* hybridity that occurs in zones like sidewalks and streets where people from all constituencies interact.⁸ In these places within a city, people are largely anonymous; they can take on any identity they wish to assume. We do not know most of the people we encounter on the street, and they do not know us. Yet we all work from the same narrative of power and order—we know that we must adhere to the rules and stay out of the street for our own safety because pedestrians are powerless, defenseless, in the street. Even on the sidewalk, those who are able-bodied enjoy more access and mobility than those who are hampered in some way. The borderlands are uncomfortable because they can be

⁶ Thomas Sizgorich, “Narrative and Community in Islamic Late Antiquity,” *Past & Present* 185 (Nov. 2004): 9-42, at 16.

⁷ Gloria Anzaldúa, *Borderlands/La Frontera: The New Mestiza*, 3rd ed. (San Francisco: Aunt Lute Books, 2007), 19.

⁸ Cohen writes: “The endlessly conjunctive work of monstrous hybridity produces an unbounded middle space, as unstable corporally as it is geographically and temporally. This middle, this bridge conjoining differences, is the borderlands.” Jeffrey Jerome Cohen, “Hybrids, Monsters, Borderlands: The Bodies of Gerald of Wales,” in *The Postcolonial Middle Ages*, ed. Jeffrey Jerome Cohen, The New Middle Ages Series, Bonnie Wheeler, Series ed. (New York: St. Martin’s Press, 2000), 96.

unpredictable places, venues where cultures clash and sexes mix, just as streets can become disorderly when tacit rules give way to mob rule. When boundaries shift, when people are no longer sure what is public and what is private, or what is healthy and what is unhealthy, change occurs. The years between 1890 and 1930 saw a seismic shifting of these categories with respect to the street, and recent history has proved that the convulsions are not ending.

Since the nineteenth century, curbs and paved streets have signified control on at least two levels. They separate people from nature in the interest of public health, and they divide people symbolically and physically by delineating different categories of access. First, curbs help humans control their physical environment. Curbs separate and channel that which is unhealthy and associated with the street (wastewater, garbage, fast-moving traffic) from sidewalks and other spaces where people live and work. So, curbs (along with street gutters, sewers, and pavement) regulate humans' interaction with the natural world.

Second, curbs function as both intentional and unintentional controllers of access. They regulate humans' interaction with the built environment by determining accessibility. Anyone who has ever faced a curb while navigating something with wheels knows how effectively curbs regulate access. In urban environments, curbs are physical barriers to access in a very real way for people with disabilities, for people whose work requires them to manipulate carts, and for people who are caregivers of children and the disabled. In some suburbs, such as those designed for families with children, the shape and grade of curbs can facilitate access and recreation, thus encouraging free travel across property boundaries. Since humans

decide on the placement and design of curbs, the granite or concrete mini-walls also represent humans' interactions with each other—the power to control access itself. In this respect, curbs often delineate the boundaries between public space and private space. Curbs are also markers of legitimate space (something whose definition changes depending on the circumstances)—especially in the context of crowd control and law enforcement. In this context as well, curbs define humans' interactions with each other. People use a curb as a line of demarcation, as the men in Figure 1 are doing. In what is unquestionably public space, curbs become agents of public safety when they facilitate crowd control.

Before the widespread paving of American streets, curbs simply functioned to separate the sidewalk (if one existed) from the street. Although the street was dirty, it was also a social gathering spot for many, especially in urban areas. Children played in the streets in the decades before the Progressive Era's playground movement, and people of all ages visited with each other and transacted business during street fairs. Sidewalks, curbs, and streets were all patently public spaces. However, once paved streets began to enable high volumes and swift movement of motorized traffic, the street lost its character as a locus of socialization. The urgencies of commerce relegated humans into the pedestrian realm, out of the street. The meaning of "public space" began to change, and the amount of space allocated to the public shrank. The past 120 years since the paving revolution have witnessed an evolution of "quasi-public space"—places that are no longer clearly public—and the establishment of private or restricted space in what had heretofore been solidly public areas. During this time, curbs, pavement, sewerage, and sidewalks served as more than just essential

components of infrastructure. They defined and shaped the changing spaces around the street, and in the process they defined and shaped humans' interactions with the natural world and with each other. Streets evolved from shared spaces to areas reserved for transportation that allowed the presence of pedestrians only on an intermittent, predictable basis. Sidewalks transitioned from venues that were open to everyone to places with restrictions on appearance and behavior. The street and its appurtenances are a functional, quotidian part of the human environment, but history demonstrates that their meanings and influence are at once logical and unpredictable, perverse and profound.

Part One: On the Street

During the years between 1890 and 1930, the culture of the street changed—people on foot lost space, and the culture of the car became dominant. Historians have observed that this shift in power went hand in hand with the rise of professional city planning.⁹ The city of Indianapolis followed these national trends. Specifically, city officials paved streets to facilitate commerce. They enacted ordinances regulating behavior on the sidewalks and on the street. They formalized systems for collecting garbage, and they addressed other public health issues. And, through the use of zoning, city officials tried to designate special uses for certain areas of the city. These developments would play a critical role in the establishment of a new order on the street, a regime that prioritized traffic over social contact and elevated conformity over individual expression.

⁹ Peter C. Baldwin, *Domesticating the Street: The Reform of Public Space in Hartford, 1850-1930* (Columbus: Ohio State University Press, 1999), especially Chapter 8, 201-229. See also John D. Fairfield, “The Scientific Management of Urban Space: Professional City Planning and the Legacy of Progressive Reform,” *Journal of Urban History* 20, no. 2 (Feb. 1994): 179-204, and Clay McShane, “Transforming the Use of Urban Space: A Look at the Revolution in Street Pavements, 1880-1924,” *Journal of Urban History* 5, no. 3 (May 1979): 279-307.

Chapter One: Pavement, Curbs, and Sidewalks

The steady urbanization occurring in U.S. cities during the nineteenth century meant the demise of the “walking city,” one “compact enough that an individual could easily walk from one end to the other.”¹⁰ As cities increased in scale and industrialization, so did their populations and modes of transportation—and so did the problem of dirty, unhealthy streets. In many cities, pedestrians contended with unpaved streets that grew extremely muddy when it rained, as well as streets that teemed with everyday hazards like household garbage, waste from chamber pots, and the byproducts of horses used for transportation.¹¹ So even after the Civil War, as public health advocates gained prominence, denizens of cities still had to contend with mostly dirty, unpaved streets that resisted attempts to clean them.¹² Indianapolis was comparable to other cities with respect to the condition of its streets. Writing in 1910, historian Jacob Piatt Dunn observed that it was “difficult even for those who lived here at the time to realize now the wretched condition of the streets up to 1891. As a general rule the business streets were paved with ‘boulders’ or cobble-stones, presenting an uneven surface over which vehicles rattled and jolted, with interstices in which rain and sprinkling water stood until splashed out by wheels. The only improvement of other streets was grading and graveling. In wet weather they were

¹⁰ Zane L. Miller, *The Urbanization of Modern America: A Brief History* (New York: Harcourt Brace Jovanovich, 1973), 3.

¹¹ Lawrence H. Larsen, “Nineteenth-Century Street Sanitation: A Study of Filth and Frustration,” *Wisconsin Magazine of History* 52, no. 3 (Spring 1969): 240-241. According to Larsen, “. . . horse manure and urine created an almost unsolvable situation.” Ibid., 239. “A single horse discharged gallons of urine and nearly twenty pounds of fecal matter into the streets daily, which not only posed a health hazard but also degraded streetcar rails . . . The environmental problems posed by horsecars were considerable and widespread, since more than 100,000 horses and mules were pulling 18,000 horsecars on 3,500 miles of track throughout the nation by the mid-1880s.” Martin V. Melosi, *Effluent America: Cities, Industry, Energy, and the Environment* (Pittsburgh: University of Pittsburgh Press, 2001), 35.

¹² Larsen, 245. According to Larsen, the usual methods of cleaning dirt roads included sprinkling them with water in an effort to reduce dust and spreading gravel on them.

muddy . . . ”¹³ In 1892, Mayor Thomas L. Sullivan observed that “[t]o keep the streets of Indianapolis clean is a Herculean task.”¹⁴ In 1899, Adolph Schmuck, a staff member for the *Indianapolis News*, visited Paris and wrote home to a friend comparing the two cities’ thoroughfares:

I don’t know how it is in the rest of Europe, but as for Paris, I find, after riding about on a bicycle, that the streets are little better, if any, than those of Indianapolis . . . They have many of the same troubles here that we have with our streets at home. Most of the last month has been without rain, and a fine and very annoying dust was blown in clouds on every windy day. Where the streets are sprinkled they were, as at home, made sloppy and treacherous for either bicycle tires or horses’ hoofs. It is, in fact, a regular thing for horses to slip on pavements here.¹⁵

A paved street was, in theory, easier to keep clean; yet as of 1880, less than half of the nation’s city streets were paved.¹⁶ In 1890, Indianapolis had a total of 400 miles of streets and alleys; 234 miles, or 58.5 percent of the surfaces, were paved.¹⁷ When cities paved their more heavily used streets, they frequently used cobblestones (see Figure 2, below, for a contemporary example of a street with a cobblestone pavement).

¹³ Jacob Piatt Dunn, *Greater Indianapolis: The History, the Industries, the Institutions, and the People of a City of Homes*, Vol. I (Chicago: The Lewis Publishing Company, 1910; reprint ed. Evansville, IN: Unigraphic, Inc., 1977), 309.

¹⁴ *Journals of the Common Council, Board of Aldermen, and Joint Conventions of Said Bodies For the Years 1892 and 1893* (Indianapolis: Sentinel Printing Co., 1895), 15.

¹⁵ “The Pavements in Paris,” *Indianapolis News*, 11 July 1899, p. 7, c. 5.

¹⁶ McShane, 279.

¹⁷ Martin V. Melosi, *Garbage in the Cities: Refuse, Reform, and the Environment*, rev. ed. (Pittsburgh: University of Pittsburgh Press, 2005), 36.



Figure 2. Cobblestone surface in the 500 block of Lockerbie Street, Indianapolis, Indiana, February, 2006. Photograph by author.

Recognizing the commercial, practical, and sanitary need for a comprehensive plan for paving the city's streets, the Commercial Club of Indianapolis (the forerunner of the Chamber of Commerce) sponsored a street paving exposition in Indianapolis in 1890. Representatives from paving companies and businesses associated with street paving came from all over the country to the event. A visitor to the exhibits would have encountered samples of every paving medium and ancillary material available in that day.¹⁸ The Commercial Club issued an extremely comprehensive report detailing the mechanical specifications of each paving material

¹⁸ The paving media and ancillary materials included: granite; bituminous rock (sandstone coated with a film of natural bitumen); fire clay from Brazil, Indiana; fire bricks; oolite stone from the Romona quarries some forty-eight miles from Indianapolis; Jasperite; asphalts from the island of Trinidad, which had an asphalt lake; vulcanite; Medina Stone; red cedar blocks; and various other kinds of bricks, macadam, cement, and even sand for mortar.

in every exhibit, each material's manufacturing process, and the provenance of each paving medium. The publication compared the costs of stone, asphalt, brick, and wood surfaces (to other selected cities) and contained the text of reports issued by delegations from other cities. The city's business leaders concluded that asphalt and brick were the most attractive options for paving the majority of Indianapolis, but that stone was the best option for heavy-traffic areas.¹⁹ Finally, the business leaders offered some prescient and thoughtful "Suggestions":

[w]e believe that a uniform system should be adopted for the improvement of the streets of Indianapolis. In carrying out such a system, we believe that an effort should be made to have sewer, gas and water pipes laid, and necessary connections made to the curb line, before concrete foundations are put down on the streets. We believe that a uniform style and quality of curbing should be used, and that there should be a uniform method of setting and trimming shade trees along the streets.²⁰

As sensible as these suggestions seem, paving urban streets would prove to be controversial. Within just four years, Indianapolis's Common Council was regularly considering ordinances concerning street improvements, including paving streets. A citizens' group appeared at the council meeting on Monday evening, 7 May 1894, to protest an ordinance that would have paved New Jersey Street with asphalt—an improvement its neighbor one block to the west, Alabama Street, had recently

¹⁹ "... We believe that the various methods of paving—stone, asphalt, brick, wood and macadam—have special merits for particular streets on which the traffic is suited to their uses, but that on the leading business and residence streets the pavements that will probably be found the most satisfactory, in view of experience in other cities, are asphalt and brick of the most durable qualities, and that where put down, a guarantee for not less than ten years should be required. For heavy traffic stone is unquestionably superior to all other kinds of material." The Commercial Club, Charles E. Kregelo, Chairman, Street Paving Exposition, et al., *Report of the Street Paving Exposition* (Indianapolis: The Commercial Club of Indianapolis, 1890), 22.

²⁰ Ibid.

undergone.²¹ The group's circular expressed their vehement opposition to the "asphalt ordinance" because "asphalt is a foreign commodity; [it] is controlled by a monopoly . . . is not honestly and properly put down . . . is dusty . . . hot . . . does not wear well . . . does not admit of free competition among contractors . . . is expensive to put down . . . to keep clean . . . to repair . . . is a failure."²² The anti-asphalt lobbyists also argued that they had already paid for two sewers in the past year, and anticipated having to help pay for others. They noted that their street was not in bad shape to begin with; in fact, it was in "fair condition, and all it needs is cleaning."²³ The protesters believed the improved street would be too wide and that the entire project was superfluous and too expensive. They had recently paid for a "new stone curb and bowldered gutter, nine feet wide on each side" that "are in good and sound condition and will last for many years. It is extravagant waste to destroy these and make us pay for new material for the same purpose."²⁴ A spokesman for the aggrieved citizens responded to a question from one of the councilmen about what type of improvement, if any, he *would* favor by voicing a preference for no improvement at all, and then suggesting cedar blocks or brick as a fall-back position. After some discussion, the council approved the ordinance to pave with asphalt by a 15-5 vote.

While this episode may seem to merely highlight the eccentric prejudices of a few taxpayers who felt put-upon during the depression that began in 1893, the event illustrates a national trend. From approximately 1890 to 1900, bicyclists, public

²¹ The group against the improvement distributed a circular to each councilman signed, "Committee New Jersey-Street Resident Property-Owners." "Sustained by the Council," *Indianapolis News*, 8 May 1894.

²² *Ibid.*

²³ *Ibid.*

²⁴ *Ibid.* A "boulder" or "bowlder" is "[a]ny detached and rounded or worn mass of rock, larger than a cobblestone." *Webster's New Collegiate Dictionary* (Springfield, MA: G. & C. Merriam Co., 1953), 99.

health advocates, teamsters, and civil engineers led a sizeable campaign to pave America's city streets in asphalt.²⁵ Among these pro-asphalt groups, the bicyclists' position was probably the most predictable, since their sport required a smooth surface for its execution. The public health advocates' support of asphalt was attributable to the fact that it was easy to clean, and the omnipresence of horse manure made such a quality essential in any widely used paving medium. The teamsters' argument was commercial: as "increased trade led urban traffic to grow three to six times more rapidly than burgeoning populations . . . trucking interests thus became much more potent lobbying groups."²⁶ Additionally, engineers had convinced the teamsters (who affirmed their support) that smooth pavements would not cause their horses to slip and fall any more often than granite blocks (granite had been asphalt's chief rival for heavy-duty paving jobs). Engineers were also able to successfully convince municipal authorities that "well-paved streets would reduce the cost of freight haulage to the point that asphalt-using cities would attract new businesses, thereby increasing the tax base."²⁷ Among all the different pro-asphalt constituencies, the engineers were the most influential. The engineers' success in the asphalt pavement campaign epitomizes the Progressive Era's growing reliance on experts to solve public problems.

Whatever one thinks of the quality of their arguments against the "asphalt ordinance," the New Jersey Street protesters were correct in at least two respects

²⁵ McShane, 291.

²⁶ *Ibid.*, 295.

²⁷ *Ibid.*, 294-295.

about the asphalt industry in the mid-1890s: it was a foreign commodity, and it was controlled by a monopoly.²⁸

One corporation, the Barber Asphalt Company, held a monopoly on the excellent natural deposits in Trinidad. The municipal engineers . . . launched an attack on this ‘asphalt trust,’ which was one of the targets of muckraking journalists. Through a variety of scientific tests, these engineers demonstrated that artificial asphalt made from oil from California’s newly discovered fields was equal or superior to the ‘trust’s’ product. Thus, their scientific research not only led to the ultimate domination of asphalt as a pavement surface, but also provided important political propaganda in support of engineering autonomy.²⁹

The engineers were on their way to becoming technocrats. They proved themselves to be both successful lobbyists and savvy scientists with a shrewd sense of politesse.

Their opinions would come to dominate the fields of urban and suburban street design, and their decisions would dictate which streets were accessible to whom.

The New Jersey Street protesters were also right about the increasing expense of street improvements. A typical street in the 1890s included a base or foundational layer, then the paving surface, as well as granite curbs and brick sidewalks, with water, gas, sewer, electric, and telephone lines running underneath the street surface.³⁰ As expensive as the improvements were, in many cases they served to

²⁸ When Columbus landed at what is now called Trinidad, he found Trinidad Lake, a huge natural deposit of asphalt, and used it to caulk his ships after their Atlantic crossing. Asphalt’s first use on U.S. roads was not until 1856, when workers paved Pennsylvania Avenue in Washington, D.C. with asphalt from Trinidad Lake mixed with aggregate. *Paving the Way: Images from the History of Hot Mix Asphalt* (National Asphalt Pavement Association, 2000), videocassette. Another huge deposit of natural asphalt is in Bermudez field, in Venezuela. “This deposit covered a thousand acres, but to a depth of only eight to ten feet. Venezuela lay only a hundred miles beyond Trinidad, and transportation costs to the United States were not significantly greater. By 1900 these two sources were supplying much of the asphalt used in the United States.” I.B. Holley, Jr., “Blacktop: How Asphalt Paving Came to the Urban United States,” *Technology and Culture* 44, no.4 (2003): 703-733; reprint ed. January 2005, by the National Asphalt Pavement Association, Lanham, MD.

²⁹ McShane, 295.

³⁰ Sam Bass Warner, Jr., *Streetcar Suburbs: The Process of Growth in Boston, 1870-1900*, 2nd ed. (Cambridge: Harvard University Press, 1978), 138.

increase property values, especially when the improvements included a widening of the street, which reduced the amount of saleable land in play between the streets and made it more valuable.³¹

Despite the protests of property owners like the New Jersey Street citizens, the city of Indianapolis would follow the national trend in improving as many streets as fiscally possible. Jacob Piatt Dunn reported that in early 1891, the city's legal boundaries encompassed 7.927 acres, or 12.39 square miles. Under an ordinance passed on 18 April 1891, the area grew to 9.6 acres, or 15.03 square miles.³² "At the beginning of 1891, the city had 1.632 miles of asphalt streets, 1.69 of vulcanite, 1.90 of cedar block, [and] 2.22 of macadam. In 1891 [the city] constructed 4.118 [miles] of asphalt and 1.90 of brick; and in 1892 [it paved] 2.96 [more] miles of asphalt and 3.94 miles of brick[,] . . . [plus] .99 mile of brick alleys. There were a little over 10 miles of graveled and bowldered streets completed in the two years, and 15 miles of brick and cement sidewalks."³³ During the tenure of Mayor Thomas L. Sullivan, according to Dunn, the city began taking responsibility for sweeping the paved streets. Property owners paid for a system of street sprinkling, "street name signs were put up, [and] the streets renumbered . . ." ³⁴ The development of the streets continued, as the city government directed more resources to their improvement. In 1894, the city laid 3.99 miles of asphalt streets, 4 miles of brick streets, 1.07 miles of wooden block streets, and 9.65 miles of cement sidewalks, while in 1895 the city

³¹ See, e.g., Jason Gilliland's case study of three streets in Montreal from 1862 to 1900. Jason Gilliland, "The Creative Destruction of Montreal: Street Widening and Urban (Re)Development in the Nineteenth Century," *Urban History Review* 31, no. 1 (Fall 2002): 37-51.

³² Dunn, 416.

³³ Ibid.

³⁴ Ibid., 419.

constructed 8.36 miles of asphalt streets, 1.77 miles of brick streets, 1.60 miles of wooden block streets, and 11.77 miles of sidewalks.³⁵

Under the administration of Mayor Thomas Taggart from 1896 to 1901, the city's asphalt streets increased from 26.88 to 43.09 miles; brick streets grew from 15.76 to 25.75 miles; wooden block streets also grew from 1.60 to 15.77 miles' worth; and, cement walks grew from 34.91 miles to 154.99 miles.³⁶ Dunn noted an innovation with respect to the wooden block streets that may have accounted for the dramatic increase in their use in such a short time, describing those blocks as having been "creosoted," or "treated with oil of coal tar before laying, to prevent decay. This was a new process, introduced at this time."³⁷ In fact, Indianapolis was the first city to make use of creosoted wood blocks for street paving in the late 1890s. As of 1911, that paving method was second in popularity in American cities only to asphalt. One expert, George W. Tillson, a Consulting Engineer to the Borough of Brooklyn, New York City, explained that its popularity was mostly due to the fact that a "wood pavement is as nearly noiseless as it is probably possible to make any pavement. Its principal and almost its only objection is its slipperiness, and that occurs only when the pavement is wet or frosty."³⁸ He further remarked that the "durability of creosoted yellow pine blocks has surprised municipal engineers, and these blocks have now been accepted as a durable paving material."³⁹

³⁵ Ibid., 421.

³⁶ Ibid., 422.

³⁷ Ibid.

³⁸ George W. Tillson, "The Street Surface," *Proceedings of the Third National Conference on City Planning, Philadelphia, Pennsylvania, May 15-17, 1911* (Cambridge: University Press, 1911), 212.

³⁹ Ibid., 213.

From 1906 through 1917, the city added an average of nineteen miles of improved streets per year. In 1906, the city cleaned 111.81 miles of improved streets at a cost of \$734.99 per mile; in 1910, it cleaned 180.59 miles at \$599.95 per mile; in 1915, 274.83 miles at \$552.90 per mile, and in 1917, it cleaned 322.03 miles at \$464.36 per mile. From 1914 through 1917, the city added 54.94 miles of asphalt roadway at a cost of \$1,974,067.64. It added 11.05 miles of bituminous concrete roadway at a cost of \$388,382.47, and 12.74 miles of brick roadway at a cost of \$306,527.37. The city also added 0.25 mile of creosoted block roadway for \$17,497.35, and 1.53 miles of reinforced concrete roadway for \$33,403.88. During that same period, the city constructed 73.99 miles of sidewalks at a cost of \$378,412.72, and 58.08 miles of gravel roadway for \$403,667.63—all in just four years.⁴⁰ These numbers demonstrate that, in the early years of the twentieth century, the mayors and other city leaders wanted this kind of rapid, expensive development very badly. Those in power had to find a way to pay for both the construction and the maintenance of the new streets.

By and large, property owners financed these improvements at a rate determined by a growing bureaucracy. As early as 1912, the City of Indianapolis had so many regulations concerning the legal process of making these improvements that its Board of Public Works published a single-spaced, twenty-seven-page booklet covering condemnation, assessment, payment of damages, and remonstrance/appeal procedures. The Board of Public Works gave affected landowners notice and an opportunity to be heard and a right of remonstrance for objecting to improvements,

⁴⁰ Joseph E. Bell, *Message of Honorable Joseph E. Bell, Mayor, to the Common Council Reviewing Work Accomplished During His Administration January, 1914 to January, 1918*, Submitted to the Common Council of the City of Indianapolis, January 2, 1918 (23 pp.), 9-10.

and used a competitive bidding procedure.⁴¹ City officials and engineers knew they literally could not afford to discount the views of property owners such as the New Jersey Street protesters. Like their counterparts in the executive branch, members of the city's Common Council also proved to be somewhat responsive at times to the wishes of the voters who were property owners. For example, in the late Summer and Fall of 1919, although the administration of Mayor Charles W. Jewett repeatedly recommended street improvements, the council's Committee on City's Welfare refused to pass ordinances authorizing funding and work for the upgrades. Some of the streets for which the committee did not pass improvements contained pavements that had been in use for over twenty years.⁴²

F.S. Besson, an expert with the Army Corps of Engineers, wrote in 1923 that the "problem of the Engineer of Highways in deciding when a street should be paved is made easier if the paving assessments on abutting property are on a proper basis. If assessments are too heavy, residents instead of desiring pavements clamor for an extravagant expenditure of non-assessable maintenance funds."⁴³ Besson further observed that if "the interest of the general public is large, for instance, a Traffic Highway which has a wide roadway in order to accommodate large volumes of traffic, and for which a high-priced pavement is necessary, about two-thirds of the cost should be paid from general taxes and one-third be charged against the abutting property." "On the other hand," he argued, "on a residential Local Street where the

⁴¹ Christian A. Schrader, Charles L. Hutchinson, Edward J. O'Reilly, Board of Public Works, *Laws and Ordinances of the City of Indianapolis Relating to Street Openings and Vacations, Street Improvements and Sewers, 1912.*

⁴² Committee on City's Welfare Report, 20 October 1919, *Journal of the Common Council of the City of Indianapolis, Indiana, From January 1, 1919 to December 31, 1919* (Indianapolis: Castor Bros., Printers, n.d.), 535-536, 570-572, 608-613, 628-632.

⁴³ F.S. Besson, *City Pavements* (New York: McGraw-Hill Book Co., 1923), 61.

pavement is largely for the benefit of those living along the street these proportions should be reversed with probably two-thirds of the cost charged against the property.”⁴⁴ Besson believed that most residents living near the street wanted two features from their pavements and curbs: appearance and comfort.⁴⁵ The residents of New Jersey Street in 1894 obviously already believed that their brick street possessed those two features.

The anti-asphalt contrarians also seemed to be complaining about their general loss of control over decisions which affected them directly, and in this respect they were not alone. As urban historian Clay McShane demonstrates in his seminal piece on street pavements, the wide acceptance and use of asphalt in the 1890s represented not only the genesis of a new attitude in American cities, but also a quantum leap in people’s relationships with the built environment. Now it became important to separate oneself from the street not only because it was dirty, but also (thanks to the paving revolution) because the street was now associated with transportation, not socializing. The street was no longer a relatively safe place to play or to visit with one’s neighbors. Thus, curbs began to separate people from each other. As McShane put it, “[f]ast-moving vehicles made streets, the only open spaces in most older neighborhoods, too dangerous for social gatherings or children’s games.”⁴⁶ Like their counterparts in Indianapolis, a group of citizens in Brooklyn protested asphalt paving for their street. In their 1896 petition, the New York residents “complained that

⁴⁴ Ibid.

⁴⁵ Ibid.

⁴⁶ McShane, 299.

. . . the resulting traffic would lead to noise (from pounding horseshoes) . . . [and] extra traffic [that would endanger their children].”⁴⁷ McShane also notes that the Brooklyn residents never addressed the issue of cleanliness. It is possible, he reasons, that they understood that attracting more traffic would serve to increase pollution.

McShane is not the only observer who perceived the encroachment of traffic into what had previously been shared territory on the street. City planning scholars have also remarked on the power shift. When officials designed streets, commercial interests (such as transportation) took precedence over residential concerns. As engineers concentrated on vehicular movement, speed, and efficiency, the streets became less accessible to the public. Vehicles grew dominant, and pedestrians grew powerless.

[P]edestrians . . . have been significantly removed from streets and, thereby, from public space. In practice, this has meant that the power over street space has shifted from the people who live around a given street to the people who drive through it. The use value of the street for local people has been usurped for the use of outsiders who are just passing through.⁴⁸

Kenneth T. Jackson similarly identifies a definite shift in users’ beliefs about the purpose of streets between the mid-nineteenth century and 1920: “when row houses predominated, the street was the primary open space, and it performed an important recreational function. By 1920, however, most urban residents and virtually all highway engineers saw streets primarily as arteries for motor vehicles.”⁴⁹ Likewise, Martin V. Melosi’s chapter on street cleaning in his *Garbage in the Cities* explores

⁴⁷ Ibid.

⁴⁸ Allan B. Jacobs, Elizabeth MacDonald, and Yodan Rofé, *The Boulevard Book: History, Evolution, Design of Multiway Boulevards* (Cambridge: MIT Press, 2002), 92.

⁴⁹ Kenneth T. Jackson, *Crabgrass Frontier: The Suburbanization of the United States* (New York: Oxford University Press, 1985), 164.

similar themes, and Melosi points out that “[t]hese changes predated the widespread use of the automobile.” When Ford’s first Model T appeared in 1909, almost one-third of U.S. city streets were clad in asphalt (the medium that Melosi states is most commonly associated with the rise of private motorized transportation). “The impact of the automobile on urban street construction and transportation patterns,” he argues, “was not significant until about 1914.”⁵⁰ In other words, it was commerce that drove the paving revolution, not the internal combustion engine.

The advent of street paving transformed curbs from mere boundary markers to tangible social barriers. As early as the end of the nineteenth century in some cities, curbs not only separated people from traffic but also from each other. This segregation was no doubt an unforeseen consequence of a seemingly benign improvement to urban infrastructure. Historian Stanley K. Schultz described the way streets functioned before paving in his book, *Constructing Urban Culture: American Cities and City Planning, 1800-1920*, and the difference between how people used streets before and after the 1890s is stark.

For much of the nineteenth century, urban Americans, like their counterparts in England and France, considered streets an extension of their own property . . . streets met social needs. They were gathering places for a variety of activities: shopping in open-air markets or at peddlers’ carts; promenading on a Sunday afternoon; dancing on festive occasions; drinking and playing cards with friends and neighbors; overseeing the games of children frolicking in the street as playground. Until about mid-century, most private homes directly fronted streets, which introduced fresh air and light into the interior of houses; and

⁵⁰ Melosi, *Garbage in the Cities*, 114. See pages 113 and 114 for an insightful discussion of this shift in values.

since few houses had entry halls, people leaving their homes stepped directly into the streets. Americans treated streets as if they were front yards, and most municipalities, which legally could have acted otherwise, acquiesced in this practice.⁵¹

It is thus no wonder that widespread street paving served to divide people from each other. As the street evolved from a place for socialization to one for transportation, neighbors lost a gathering place. Once a street was improved, a visit with a friend across the street required a trip to the end of the block for the crosswalk instead of a casual, spontaneous meeting somewhere in the middle. In this way, the street began to organize people according to their roles: if a person was on horseback or in an automobile and needed to move quickly, an improved street served him very well. If, however, a person was on foot, she was assigned a limited amount of space on the edge. Infrastructure thus separated, and arguably gave priority to, people engaged in commerce from those engaged in other pursuits. Finally, technological advances divided city leaders and engineers from the public whenever conflicts arose about the decision to improve a street. In Indianapolis, it was not until 1919 that public pressure against these types of expenditures actually materialized in regular defeats for proposals to improve streets. Put another way, for almost the first thirty years of the paving revolution in Indianapolis, the interests of those who needed the street to make money outweighed the concerns of those who paid for the improvements.

This tension between the public's desires for modernity and the consequences of the fulfillment of that vision would manifest itself in the form of traffic problems,

⁵¹ Stanley K. Schultz, *Constructing Urban Culture: American Cities and City Planning, 1800-1920*. Technology and Urban Growth Series, ed. by Blaine A. Brownell, Donald T. Critchlow, Mark S. Foster, Mark H. Rose, and Joel A. Tarr. (Philadelphia: Temple University Press, 1989), 176-177.

including loss of life, as we shall see in the next chapter. City residents did truly want cleaner, smoother streets, and it may have been difficult to predict both the isolation and the danger that would follow. A system of paved streets, curbs, and sidewalks resulted in a new environment on the street, one that required regulation. Just as municipal civil engineers built this infrastructure to improve the public sphere, traffic engineers also limited people's access to both the sidewalk and the street in the interests of health and safety—but again, at a cost.

Chapter Two: Traffic

As historians like Clay McShane have observed, one of the surest ways to destroy a sense of community is to introduce high volumes of traffic, so that the street loses its character as a hub of socialization. The street becomes a literal no-man's-land, and the curb a boundary between that which is safe and that which is unsafe.

[T]he heavier the traffic in an area, the less people think of it as home territory. Not only do residents view the streets with heavy traffic as less personal, but they feel the same about the houses along the street.⁵²

The social cost of cars includes isolation: cars separate driver from pedestrian and neighbor from neighbor.⁵³ This problem affects both suburban and urban areas, but in different ways. According to Donald Appleyard, middle-class people view the street as a sanctuary, while working-class urban dwellers view the street as a social center.⁵⁴ Appleyard writes about how a neighborhood's street layout could discourage traffic and provide shared space between pedestrians and cars by eliminating curbs that distinguish sidewalks from streets and thus "convey . . . the impression that the whole street is usable by pedestrians."⁵⁵ Of course, the safety and "livability" that

⁵² Donald Appleyard and Mark Lintell, *Environmental Quality of City Streets* (Berkeley: Center for Planning and Development Research, 1971), cited in Christopher Alexander et al., *A Pattern Language: Towns, Buildings, Construction* (New York: Oxford University Press, 1977), 82-83.

⁵³ Ibid., 65. According to Alexander et al., "A man occupies about 5 square feet of space when he is standing still, and perhaps 10 square feet when he is walking. A car occupies about 350 square feet when it is standing still (if we include access), and at 30 miles an hour, when cars are 3 lengths apart, it occupies about 1,000 square feet. As we know, most of the time cars have a single occupant. This means that when people use cars, each person occupies almost 100 times as much space as he does when he is a pedestrian. If each person driving occupies an area 100 times as large as he does when he is on his feet, this means that people are 10 times as far apart." Ibid.

⁵⁴ Donald Appleyard, "Livable Streets: Protected Neighborhoods?" *Annals of the American Academy of Political and Social Science* 451 (September 1980), 109.

⁵⁵ Ibid., 113. Appleyard points to a study of 9,000 residential streets in suburbs that concluded "culs-de-sac were the only design feature of streets that correlated substantially with reduced accidents." Ibid., 114.

pedestrians desire often conflict with drivers' values of mobility and speed.⁵⁶ Even healthy, swift adults have sometimes experienced the feeling of being prey as they cross a street crowded with cars and trucks piloted by impatient drivers. This tension between a poorly designed curb, sidewalk, and street affects no one more than a person with impaired mobility.

Mona Domosh and Joni Seager have written that people's ability to move, or to "overcome the 'friction of distance'" is obviously dependent on their physical condition, but, perhaps less obviously, is also a function of social status. They have noted that the "design of public spaces, facilities, and transportation clearly favors the most physically fit, nonchildbearing, nonchild-caretaking segment of the population."

⁵⁷ Vernacular architecture, including a curb, sends a message from its designer that can either read, "Welcome," or "You shouldn't be here."

Along the lines of Domosh and Seager's "friction of distance," Fitzpatrick and La Gory write of a theory called "environmental press," which explains how barriers in the environment affect a person's health. According to this theory, "person-environment relations are a function of the environment's capacity to challenge the individual (its 'press' level), as well as the individual's ability to deal with those

⁵⁶ Eric Dumbaugh, "Safe Streets, Livable Streets," *Journal of the American Planning Association* 71, no. 3 (Summer 2005), 295. Dumbaugh defines a "livable street" as one that, "at a minimum, seek[s] to enhance the pedestrian character of the street by providing a continuous sidewalk network and incorporating design features that minimize the negative impact of motor vehicle use on pedestrians. Of particular importance is the role played by roadside features such as street trees and on-street parking, which serve to buffer the pedestrian realm from potentially hazardous oncoming traffic, and to provide spatial definition to the public right-of-way. Indeed, many livability advocates assert that trees, as much as any other single feature, can play a central role in enhancing a roadway's livability." *Ibid.*, 283, citing A. Duany et al., *Suburban nation: The rise of sprawl and the decline of the American dream* (New York: North Point Press, 2000) and A.B. Jacobs, *Great streets* (Cambridge, MA: MIT Press, 1993).

⁵⁷ Mona Domosh and Joni Seager, "On the Move," in *Putting Women in Place: Feminist Geographers Make Sense of the World* (New York: Guilford Press, 2001), 110-111.

challenges (‘competence’).”⁵⁸ The more environmental press one experiences, the less healthy that person’s daily life. The built environment constantly challenges disabled people and others with mobility impairments.⁵⁹ As for the elderly and disabled populations, since they cannot meet those challenges as well as the able-bodied, obstacles like curbs effectively reduce their health even more.⁶⁰

Accessibility has been on the federal government’s radar screen since the mid-1960s. In September of 1965 Congress created the National Commission on Architectural Barriers to Rehabilitation of the Handicapped, which issued recommendations in a report that would presage future legislation.⁶¹ Congress enacted the Architectural Barriers Act in 1968, requiring federal facilities to be fully accessible to people with disabilities. The Rehabilitation Act of 1973 created the Access Board (originally named the “Architectural and Transportation Barriers Compliance Board”), which is the federal agency responsible for monitoring compliance with federal laws mandating accessibility in public accommodations.⁶² Congress passed the Americans with Disabilities Act (ADA) in 1990, and charged the Access Board with developing the accessibility guidelines and standards necessary for the execution of this ground-breaking civil rights legislation.

The Access Board has published a design guide for planners that outlines the safety problems inherent in the sidewalk-curb-street transition a pedestrian must make

⁵⁸ Kevin Fitzpatrick and Mark La Gory, *Unhealthy Places: The Ecology of Risk in the Urban Landscape* (New York: Routledge, 2000), 185, citing M. Powell Lawton and Lucille Nahemow, “Ecology and the Aging Process,” in *The Psychology of Adult Development and Aging*, Carl Eisdorfer and M. Powell Lawton, eds. (Washington, DC: American Psychological Association, 1973), 619-674.

⁵⁹ Consider, for example, someone pushing a stroller, or a service-sector employee pushing a hand truck.

⁶⁰ Fitzpatrick and La Gory, 619-674.

⁶¹ United States Access Board, “History of the Access Board,” United States Access Board, <http://www.access-board.gov/about/history.htm> (accessed 1 March 2006).

⁶² *Ibid.*

to cross the street in high-traffic areas. Even though traffic engineers and urban planners know more now than they ever have about methods of designing streets so that pedestrian and automobile can peacefully coexist, able-bodied and disabled pedestrians alike still find themselves at war with vehicles when it comes to crossing the street. According to the Access Board, the radii of curbs have steadily grown in order to accommodate trucks' and buses' longer wheelbases. The "curb radius" is an engineering term that describes how sharp a turn a driver must make at the corner of an intersection.⁶³ A large curb radius enables vehicles to go around corners more quickly, while a small curb radius slows down vehicles that are turning the corner.⁶⁴ A bigger curb radius means there is less space on the sidewalk for signs, signal standards, and other necessary hardware, and thus decreases the "pedestrian platooning space" at the corners. In other words, pedestrians are waiting to cross the street in an area that lies outside a driver's field of vision. The larger the curb radius, the more risky the intersection is for pedestrians, because it increases the distance a pedestrian must walk to get across the street. Drivers can turn the corners at these intersections at higher speeds, have advantages of time and momentum over pedestrians, and often fail to yield to them.

Street crossings are longer where radii are large, and pedestrians who do not start at the beginning of a WALK cycle may not be able to complete a crossing in the allotted time. Those who travel more slowly or must wait to start until they can confirm the start of the

⁶³ City of Santa Cruz, California, "Mission Pedestrian," City of Santa Cruz, California, <http://www.missionped.org/archive/curbrad.html> (accessed 13 April 2008).

⁶⁴ Ibid. See also United States Department of Transportation, Federal Highway Administration, "A Walkable Community," Publication No. FHWA-SA-00-010.

pedestrian interval may be discouraged from attempting to cross at such intersections.⁶⁵

Just as planners and traffic engineers fail to account for people who are disabled—or merely slow or cautious—when they design curbs, they also overlook this constituency when they factor crossing time into the length of a red (or green) light. According to the Access Board, the average walking speed of able-bodied adults is four feet per second; this is not sufficient for pedestrians who pause before crossing the street, “or whose walking speed is affected by a mobility impairment, stamina, or age. Pedestrians who are blind or have low vision, those who have cognitive disabilities, and elderly pedestrians typically delay leaving the curb until they can satisfy themselves that vehicles have stopped.”⁶⁶

In contrast to the four-feet-per-second walking speed of an able-bodied adult, a person who is impaired in gait or stamina will usually walk at a rate of only 1.5 feet per second, yet transportation industry researchers recommend that signals be timed for a speed of approximately 3.1 feet per second.⁶⁷ In the case of sidewalks and streets, the built environment itself inhibits the free movement of people in public spaces. Some planners recognize this fact: “[t]he pedestrian realm is therefore an emergent product of physical design, the regulation of movement behavior by traffic lights and signs, and the patterns of use established by the behavior of pedestrians and drivers.”⁶⁸ Poor intersection design, ineffective traffic regulation, and insensitive engineers have all contributed to the disappearance of the pedestrian realm. The

⁶⁵ United States Architectural and Transportation Barriers Compliance Board, *Accessible Rights-of-Way: A Design Guide* (Washington, DC: November 1999), 55-56.

⁶⁶ *Ibid.*, 93.

⁶⁷ *Ibid.*, 93-94. A person in a wheelchair usually travels faster than four feet per second.

⁶⁸ Jacobs et al., 109.

genesis of this loss occurred in the 1890s with the paving revolution and has continued unabated. And, while the street is a dangerous place for pedestrians in the twenty-first century, it was even more so in the early decades of the twentieth century. Simply crossing the street entailed great risk.

Newly arrived immigrants, children, and others who were not familiar with the speed and lethality of automobiles were at the highest risk of injury or death from the motor vehicles using the new commercial arteries.⁶⁹ Typical of the times was an article appearing in the *Indianapolis News* in 1923 that mentioned two girls, ages seven and nine, who were hospitalized after being struck by speeding motorists on New York Street. This incident resulted in a temporary crackdown on speeders by police, who arrested eight motorists for speeding the night of the accident.⁷⁰ In the state of Connecticut for the years 1924 and 1925, the number-one cause of motor vehicle accidents was “recklessness of motorists,” while “carelessness of adult pedestrian” ranked as the third most prevalent cause, and “carelessness of child pedestrian” ranked fifth (out of seven possible causes of accidents).⁷¹ For both classes of pedestrians, simply crossing the street ranked as by far the most dangerous activity.⁷² Likewise, statistics from the state of New York demonstrate that the most frequent type of motor vehicle accident in early 1925 involved a collision with a pedestrian. Most pedestrians were walking, running, or playing in the street when they were hit; this behavior was more than two times more frequent than the next

⁶⁹ Baldwin, 219-220.

⁷⁰ “Campaign on Speeders is Renewed by Police,” *Indianapolis News*, 27 October 1923, p. 1, c. 7.

⁷¹ Lew R. Palmer, “Graphical Records of Traffic Accidents,” *The American City Magazine* XXXV, No. 1 (July 1926): 84.

⁷² *Ibid.*

biggest cause of collisions, which was crossing at an intersection with no signal.⁷³

Along with the pedestrians' ignorance, of course, the sheer volume of motor vehicles was an important contributing factor to the problem of safety.

In 1914, only 1.7 million automobiles were registered in the United States.⁷⁴ By 1920, over 8.9 million autos were registered, and in 1922, the figure jumped to over 12.3 million.⁷⁵ In Indianapolis, the population in 1923 was 340,882, and the total estimated number of motor vehicles in the city was 34,088. Engineers estimated that the total number of all types of vehicles entering the city's central business district each day was 8,522; automobiles comprised roughly half of that total, or 4,771.⁷⁶ Clearly, the numbers of autos on the city's streets were skyrocketing in the early twentieth century. The typical traffic engineer's answer to this problem was to widen the existing streets, and then to plan future street widths accordingly to avoid congestion. In 1917, one engineer even advocated "widening the roadway by appropriating practically all of the sidewalk space and . . . placing the sidewalks in arcades back of the building line" in extreme cases.⁷⁷ No mention was made of the fact that such an architectural rearrangement might inconvenience pedestrians. Having already lost the street, urban dwellers were threatened with losing the

⁷³ State of New York Bureau of Motor Vehicles, "Report of Automobile Accidents in New York State During the Month of January-February 1925," *The American City Magazine* XXXV, No. 1 (July 1926): 85.

⁷⁴ Ernest P. Goodrich, "The Urban Auto Problem," *Proceedings of the Twelfth National Conference on City Planning, Cincinnati, Ohio, April 19-22, 1920* (n.p., n.d.), 76. Goodrich was a consulting engineer in New York City.

⁷⁵ Hugh E. Young, "Day and Night Storage and Parking of Motor Vehicles," *Proceedings of the Fifteenth National Conference on City Planning, Baltimore, Maryland, April 30, May 1-2, 1923* (n.p., n.d.), 176. Young was an engineer with the Chicago Plan Commission.

⁷⁶ *Ibid.*, 211. Those autos carried an estimated 9,542 passengers. Young estimated that in Indianapolis on any given workday, people needed storage space for some 2,130 vehicles.

⁷⁷ Nelson P. Lewis, "Street Widening to Meet Traffic Demands," *Proceedings of the Ninth Annual Conference on City Planning, Kansas City, May 7-9, 1917* (New York: Douglas C. McMurtrie, 1917), 43-45. Lewis was chief engineer of the Board of Estimate and Apportionment in New York City.

sidewalks. Thankfully, most cities opted to keep their sidewalks along the fronts of buildings.

Aside from widening the streets, city leaders had other options available to them: they could station police officers at busy intersections during rush hours to control the flow of pedestrians and to ensure vehicular traffic stopped; and, they could enact regulations and ordinances. The members of Indianapolis' city government were enthusiastic regulators in the 1910s. In his annual speech of 1916 to the Indianapolis Common Council, Mayor Joseph E. Bell championed his administration's efforts to solve traffic safety problems by regulating the behavior of pedestrians.⁷⁸ First, the city created safety zones so that people could wait for streetcars without the fear of being hit by oncoming traffic. These safety zones were located in the middle of the street, near the streetcar tracks, and were designated waiting areas "marked by standards connected with chains."⁷⁹ According to Mayor Bell in a 1918 speech to the Common Council, "this method of handling traffic has been shown to be so practical that the system established in this city has been adopted by many other cities of the country."⁸⁰ These "islands of safety" were also useful for pedestrians not waiting for streetcars as places where they could stop and safely rest if they needed to. It was necessary for a thoroughfare to be wide enough to accommodate a safety island.⁸¹ If a street did not meet minimum width requirements (or did not have a streetcar line running through it), the city could not install an

⁷⁸ Joseph E. Bell, "Annual Speech to the Common Council of the City of Indianapolis for the Year Ending December 31, 1915," *Journal of the Common Council of the City of Indianapolis, 1916* (Centennial Press: n.d.), 5 June 1916 meeting, 176-177.

⁷⁹ Bell, 1918 speech, 8.

⁸⁰ *Ibid.*

⁸¹ Besson, 97.

island. Instead, city leaders used other means, namely regulating pedestrian behavior, to address the dangerous situation posed by fast-moving traffic and unwary walkers.

The Common Council of Indianapolis had previously enacted traffic ordinances regulating drivers' behavior on the streets, but in 1915 the council passed General Ordinance 25,1915, regulating pedestrians' behavior. The ordinance specified where and when pedestrians could cross the street, and also how they could cross it (not diagonally). The ordinance also established safety zones on the street for pedestrians, from which vehicular traffic was excluded between 6:00 A.M. and 7:00 P.M.⁸² As with the safety zones, the regulation of pedestrian behavior attracted national attention and national emulation. In his 1916 address to the council, Mayor Bell proudly noted that the June, 1916 issue of *The American Magazine* contained an article by Frederick Upham Adams "commending the Indianapolis method for handling traffic. Concerning the Indianapolis method of handling traffic he says: 'What Shall Be Done With Pedestrians?' '[I]t is not so easy to suggest a remedy for the intrusion of the foot passenger on street spaces which should be reserved exclusively for vehicular traffic'"⁸³ Mayor Bell then quoted at some length Adams' laudatory comments:

As near as I can ascertain, Indianapolis has the credit for taking the initial steps in the United States in this direction. In all the congested districts of that city the pedestrian is forced by municipal regulations to cooperate with the drivers of vehicles and with the police in expediting the movement of this traffic and preventing injury to life and limb. The pedestrian is privileged to cross these streets at the legally designated places only, and these places are marked and properly guarded. If he crosses at any other place he

⁸² *Journal of the Common Council of the City of Indianapolis, Indiana From January 1, 1915, to December 31, 1915* (n.p., n.d.), 17 May 1915, pp. 203-204, 7 June 1915, p. 241.

⁸³ Bell, 1916 speech.

is arrested. Detroit and Cleveland are moving in the same directions. It is reasonable to expect that other cities will follow this initiative. There should be immediate and widespread imitation of the example set by Indianapolis.⁸⁴

Adams' bias against pedestrians is quite evident in the excerpt Mayor Bell quoted in his speech. Adams seems to have felt that streets were for vehicular traffic, and that "foot passengers" who needed to cross those streets were intruders, by nature uncooperative sorts who did not fully appreciate what a privilege it was to be allowed to cross the street.

The Common Council kept refining its traffic ordinances with respect to both vehicles and pedestrians. Typical language is found in General Ordinance 37,1919, which contained section 14 concerning pedestrians: "All pedestrians crossing streets at street intersections in the Congested District shall cross at right angles and shall not cross diagonally at such intersections. Such pedestrians shall cross only on the signal of the traffic officers, if one is stationed at such crossing, and shall move only in the same direction as the traffic."⁸⁵ The pedestrians seemed to have had no one lobbying for them—they were a constituency without a voice. Not so with motorists, who had the local version of the American Automobile Association, the Hoosier Motor Club. According to Warren F. Curry, writing in the club's publication of the *Official Indianapolis Traffic Code: 1936*, the club began its existence in Indianapolis in 1902, when "the horse and buggy enthusiasts made life miserable for the chugging motorist and his poorly constructed tires. Motorists had to organize for sympathy and

⁸⁴ Ibid.

⁸⁵ *Journal of the Common Council of the City of Indianapolis, Indiana From January 1, 1919, to December 31, 1919* (Indianapolis: Castor Bros., Printers: n.d.), 218. The Congested District consisted of New York Street on the north, Capitol Avenue on the west, Georgia and Maryland streets on the south, and Delaware and Alabama streets on the east. Ibid., 211.

protection.”⁸⁶ Curry wrote that as the “automobile industry grew, the need for motor clubs grew. There were roads to be paved and made safer, and driving rules must be made and observed for safety on the highways.” Curry believed the Hoosier Motor Club deserved credit for making the streets safer for pedestrians; he stated that the club “sponsored all safety measures for making the streets safer for pedestrians,” although he did not specify those measures. He was able to list several safety advances for motorists for which the club claimed responsibility, including safety glass, rearview mirrors, windshield wipers, a standard signaling system, the elimination of “glaring” headlights, and the provision of stop lights.⁸⁷ Finally, Curry cited the club’s work to protect children in and near school zones as proof that the association of motorists was a force for positive social change.

In the early twentieth century, before motor vehicles totally took over the streets in Indianapolis, the city provided “comfort stations”—public restrooms—on those streets. Figure 3 depicts a men’s public comfort station, apparently right in the middle of Washington Street, in 1911. The women’s room is depicted in Figure 4—it is not obvious whether that facility was also located in the middle of the street. These public comfort stations stood as a testament to the fact that the city’s streets were originally designed to at least be shared by pedestrians and drivers. The street was originally meant to be accessible to people, and gradually evolved into having as its primary purpose the circulation of motorized traffic. The public space in the street evolved from welcoming and accommodating people to accommodating commerce.

⁸⁶ Warren F. Curry, “Hoosier Motor Club Pioneer in Safety Work,” *Official Indianapolis Traffic Code: 1936* (Hoosier Motor Club: n.d.), 59.

⁸⁷ *Ibid.*



Figure 3. “Public Comfort Station for Men, Washington Street, 1911” (Bass #24723), The W.H. Bass Photo Company, Indiana Historical Society, folder 405_doc33.jpg, Box 60, Folder 3.



P0130_P_BOX60_FOLDER3_24702

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Figure 4. “Public Comfort Station for Women, Washington Street, 1911” (Bass #24702), The W.H. Bass Photo Company, Indiana Historical Society, folder 405_doc.32.jpg, Box 60, Folder 3.

There were certainly class issues dividing pedestrians and motorists. Until Henry Ford mass-produced his cars and offered them at a price the masses could afford, only people with a certain income level could drive. According to historian Peter Baldwin, “by the 1910s, the advocates of traffic flow tended to be those who could afford automobiles.”⁸⁸ The rich and elite were the motorists, while the poor, the young, and the immigrants were those who were most likely to be injured by the motorists. By and large, the motorists also had the government on their side. Most of the efforts of the legislative branch in Indianapolis centered on supporting the easy movement of traffic, unimpeded by pedestrians except at predictable intervals.

The rich and elite classes doubtless possessed a certain degree of power, but so did the mainstays of the Progressive Era reforms and innovations: the experts. Experts dominated the decisions of local government just as surely as political parties, machines, and bosses did during this time. Like mayors and council members, experts such as sanitation engineers, traffic engineers, architects, public health authorities, and landscape architects were asserting control over the design, use, and placement of streets and other elements of infrastructure between 1890 and 1930. Relying on technology and education and removed from the vagaries of electoral politics by virtue of civil service positions, Progressive Era experts made decisions that would affect residents of cities into the next century. Experts were pragmatic men concerned with the future of the cities they advised, and the wave of the future in the early 1910s was city planning and zoning.

⁸⁸ Baldwin, 219.

Chapter Three: Zoning and Planning

On the evening of 12 July 1893, historian Frederick Jackson Turner read his famous essay entitled “The Significance of the Frontier in American History” at the World’s Columbian Exposition in Chicago.⁸⁹ In that classic piece, Turner described the unique American character, tracked the nation’s expansion and development along the western frontier, and marked the closing of that frontier. True, settlers had reached the Pacific Ocean, but what Turner did not express was that a new frontier awaited those who were willing to try to conquer it—the rough, anarchic, filthy, disorganized American city. There was a group of American experts who were eager to tackle that frontier, however. Progressive Era reformers sought to manage, organize, and “settle” the city literally according to plan, through the instruments of city planning and zoning. A variety of western pioneers had tamed the great wilderness. A variety of urban experts wished to domesticate the city, just as they wished to Americanize the great concentrations of southern and eastern European immigrants dwelling in those cities.

Many U.S. cities in the early twentieth century shared a similar set of problems: substandard housing conditions, inadequate or nonexistent greenspaces, rapid—and unregulated—industrial growth, uneven provision of utilities, and questionable sanitation practices. Architects, landscape architects, civil engineers, planners, and politicians looked to Europe for solutions to these problems, specifically Germany and Great Britain.⁹⁰ Rather than allowing industrial, residential,

⁸⁹ Ray Allen Billington, *Frederick Jackson Turner: Historian, Scholar, Teacher* (New York: Oxford University Press, 1973), 124-131.

⁹⁰ Michael Southworth and Eran Ben-Joseph, *Streets and the Shaping of Towns and Cities* (New York: Mc-Graw Hill, 1997), 59.

commercial, and agricultural concerns to locate side-by-side in an impromptu manner, the Germans had imposed zoning and transportation systems on their cities. The English used a comprehensive plan. The basic ideas of both approaches were the same:

[encourage] private enterprise to build at the edge of cities to relieve congestion. By redistributing the middle class to the outlying urban areas it was believed that pressures for housing would be relieved and lower-income people could obtain better housing. Theoretically, older housing was to serve as a ground for upward social mobility, while home ownership in new areas would establish social and economic stability. By advocating redistribution of the population into outlying areas, providing fast and low-cost transportation, and enticing industry to locate at the fringe, it was thought that city density would decrease.⁹¹

The vehicle for introducing these concepts of “scientific city planning” into the political discourse and the public sector was the City Planning Conference. The first such conference was held in Washington, DC, in 1909, and was convened by the New York Committee on Congestion of Population.⁹² Members of several organizations came together in Washington to discuss the difficult problems presented by growing cities: the Committee on Congestion of Population in New York; the American Institute of Architects; the American Society of Landscape Architects; the League of American Municipalities; the American Civic Association; and the National Conference of Charities and Correction.⁹³ These groups formed the nucleus of the conferences year after year, and the records of their conclaves prove that the American ideal of a classless society was a fiction. When it came to the problem of

⁹¹ Ibid.

⁹² “The History and Organization of the City Planning Conference in the United States,” *Proceedings of the Third National Conference on City Planning, Philadelphia, Pennsylvania, May 15-17, 1911* (Cambridge: The University Press, 1911), 261.

⁹³ Ibid.

housing the masses of people who inhabited U.S. cities, one's socioeconomic status dictated the quality of one's residence.

At the 1911 conference held in Philadelphia, Lawrence Veiller, the secretary and director of the National Housing Association in New York City, presented a paper entitled, "Buildings in Relation to Street and Site."⁹⁴ Veiller discussed the problem with existing city designs and cited Indianapolis as emblematic:

"Indianapolis, with a similar radial system, finds that it has to reckon with a serious slum problem; and so one might go through the roster of cities which have developed intelligent city plans and point out similar conditions."⁹⁵ Veiller stressed the importance of lot size, and noted that lots in major U.S. cities varied in depth from fifty to two hundred feet, with most being simply too deep.⁹⁶ This condition was symptomatic of city planners' desires to pave and maintain as few streets as possible, thus laying out large blocks. He believed that such a situation was desirable for "the better class of residences" but intolerable once those residences were divided up by landlords and used first as boardinghouses, then as tenements. Once people crowded into the tenements, conditions became unsanitary and deplorable.

Veiller's solution was to adopt the German system of zoning, which would divide a city along rigid lines, meaning that the residential area would never mingle with the industrial area. In other words, industry would be told where it could build, so as not to intrude on residential areas with noise and odors. Likewise, people

⁹⁴ Lawrence Veiller, "Buildings in Relation to Street and Site," *Proceedings of the Third National Conference on City Planning*, 80-96.

⁹⁵ *Ibid.*, 81-82.

⁹⁶ *Ibid.*, 83-84.

would be told where to live, they would obediently (and cleanly) live there, and that would be that. A person's income and social standing would dictate lot sizes.

We could then proceed to lay out our cities with one depth of lot for our high-class residence districts, giving to the men who could pay for it as much land as they could afford to keep idle, and laying out the districts in which the poor live on a different basis with shallow lots, giving to them the amount of land for which they could afford to pay without carrying upon their shoulders any undue burden of rent, nor without forcing the community to bear undue burdens through congestion of population with all that that implies.⁹⁷

Veiller was certain he knew what was best for the “ordinary laborer” in terms of housing, lot size, and paying for the same. “Higher-paid mechanics” could pay twenty-five dollars a month rent and were thus entitled to housing similar to that experienced by those who lived in the “fashionable part of town.” “But for the ordinary laborer, especially the large foreign population which is coming to predominate in our American cities, the detached house is not desirable,” he maintained.⁹⁸

Why not? First, there was the matter of simple economics: the “common unskilled laborer of the type just described” could not afford all of that land. According to Veiller, it was nothing less than “Utopian” to assert that such a person (a member of “this class of population”) was entitled to a “beautiful flower garden.” Even a vegetable garden where the family could grow fresh produce for their own meals was too far-fetched, Vieller opined, because when the father worked a ten-hour day and the mother properly attended to her children, there was no free time for tending a garden. Empty, unused land would thus become nothing more than an

⁹⁷ Ibid., 86.

⁹⁸ Ibid., 87.

unsightly, bare patch of grass and ultimately (in the backyard) a garbage dump. In short order, the housing would become an eyesore. “It would be far better in most cities if the houses were built solidly against each other.”⁹⁹ Veiller’s system allotted a lot depth of one hundred twenty-five feet for “high-class residence purposes,” a depth of fifty feet for “the better paid artisans and mechanics,” and “for the homes of the unskilled laborer and what we call ‘the poor’ the lots should be twenty-five feet in depth.” City blocks would be radically different under Veiller’s plan. As for alleys, they were both a blessing and a curse. Veiller offered a pungent description of the condition of contemporary urban alleys in 1911, with no indoor toilets, no storm sewers, no regular municipal garbage collection, and no pavement.¹⁰⁰ Veiller believed some citizens were different from others. Those who were foreign-born, poor, and who worked at low-paying jobs required a different type of housing than their more prosperous neighbors. Veiller was a classic Progressive Era reformer; he sincerely desired to rectify the appalling housing conditions that were prevalent in large U.S. cities during this period. But his ideas were not the only possible solution to the problem.

In the discussion that followed the presentation of Veiller’s paper, there was a dissenting voice: Irving K. Pond was from Chicago, and he was the president of the American Institute of Architects. He placed responsibility for ugly slums on the architects who designed them and blame for the polluted alleys on the cities that did

⁹⁹ Ibid., 88.

¹⁰⁰ Ibid., 89.

not adequately police them. Pond advocated for larger blocks in order to provide urban dwellers with greenspaces and breathing room:¹⁰¹

[w]e are not so concerned with the owners of the fine houses and large grounds,--they can well be relied upon to protect themselves,--but we are concerned that the mothers of the tenements may have their burdens lightened, and the children of the tenements may have sunlight and air and grass and flowers and the convenient and easily accessible public playground. So every factory district—every tenement district—should be provided with open spaces in liberal proportion to the population.

The very people at the heart of this spirited but polite debate—the workers and families themselves—were not present at the conference. The assembled experts labored to find solutions to the problems of urban life separately from the people they endeavored to help.

The *Proceedings* listed the vital statistics for all major cities (including Indianapolis) after Veiller's remarks. As of May, 1911, the Hoosier capital's population was 255,340. Its average street width was fifty to sixty feet, and the average lot depth was a generous 150 feet. The average block depth was a relatively spacious 365 feet, and the width of the alleys was twelve to fifteen feet. The average heights, in stories, of its buildings were one and a half to three stories.¹⁰² Judging from these statistics, the city of Indianapolis appeared to be more liberal in its allotment of living space to families than the expert city planners would have recommended. While it is possible that Indianapolis was a more egalitarian city than the planners' ideal metropolis, it may have been just as likely that the leaders of the city simply had no plan at all for its growth.

¹⁰¹ Ibid., 109.

¹⁰² Ibid., 117.

In 1912, the members of the Fourth National Conference on City Planning spent much time discussing issues of financing for cities. Later, B. Antrim Haldeman, assistant engineer at the Bureau of Surveys in Philadelphia, presented a paper entitled, “The Control of Municipal Development by the ‘Zone System’ and Its Application in the U.S.”¹⁰³ Haldeman described the zoning system in Europe, especially in Germany. According to Haldeman, the general theory behind the concept of zoning was that the buildings “should be lower and farther apart the greater their distance . . . from the center of the city[.] [T]he arrangement is not one of concentric girdles . . . but a division into districts, irregular as to area and boundary and regulated in accordance with some local characteristic or special adaptability for certain classes of buildings.”¹⁰⁴ He cautioned that the Germans exercised both “keen judgment and great care” in determining boundaries and imposing regulations, and that German officials still faced much opposition in some cases. Haldeman described the salutary results the Germans had obtained: “the industrial classes of Germany have been translated from hovels and dens reeking with disease, degeneracy, and vice, to pleasant homes, surrounded with all the comforts, conveniences, and privileges that make for health, happiness, and good citizenship”¹⁰⁵ Haldeman then specified *how* the Germans reached this state of affairs: “this has been accomplished mainly by breaching the one-time sacred wall of vested rights and establishing the principle that

¹⁰³ B. Antrim Haldeman, “The Control of Municipal Development by the ‘Zone System’ and Its Application in the U.S.,” *Proceedings of the Fourth National Conference on City Planning, Boston, Massachusetts, May 27-29, 1912* (Boston: n.p., 1912), 174-188.

¹⁰⁴ *Ibid.*, 176-177.

¹⁰⁵ *Ibid.*

the economic progress of the nation and the integrity of its social fabric transcend the fabric of the individual.”¹⁰⁶

Haldeman mused whether such a scheme would work in the United States. He was convinced that American cities could benefit from zoning laws, but identified barriers to their adoption, including the view that zoning would be “regarded as an unwarranted invasion of vested property rights incompatible with the American ideas of freedom[.]”¹⁰⁷ He named potential opponents, including land owners, real estate concerns, the construction and building firms, and “large interests not directly concerned in the development of land,” as well as incompetent (and insufficiently bureaucratic) municipal governments and existing laws.¹⁰⁸ Haldeman’s ideas were seconded by conferees from Philadelphia and Newark.¹⁰⁹

The city of Indianapolis—indeed, the entire state of Indiana—was a late arrival to these zoning and planning discussions. In 1917, Albert H. Schaaf of Fort Wayne spoke at the Ninth National Conference on City Planning in Kansas City, Missouri, about “A State Campaign for City Planning.”¹¹⁰ Schaaf reported that city officials and real estate professionals from throughout the state, anxious to catch up with the rest of the country and begin applying principles of scientific city planning and zoning, were seeking enabling legislation from the Indiana General Assembly. The then-president of the Indiana State Association of Real Estate Men, Lee J. Ninde, toured the entire state in his automobile (something that would capture the

¹⁰⁶ Ibid.

¹⁰⁷ Ibid., 185.

¹⁰⁸ Ibid., 185-188.

¹⁰⁹ Ibid., 188-191.

¹¹⁰ Albert H. Schaaf, “A State Campaign for City Planning,” *Proceedings of the Ninth National Conference on City Planning*, 133-138.

imagination of many Hoosiers in the 1910s). Ninde brought with him experts on city planning and zoning, and they met with city officials and interest groups (real estate, housing, civic associations, Chambers of Commerce, etc.) in sixteen cities, including Fort Wayne, Elkhart, South Bend, Michigan City, Gary, Hammond, Kokomo, Lafayette, Terre Haute, and Evansville. The tour received generous media coverage in newspapers and magazines. The organizers also put together an exhibition from the City Planning Bureau that they displayed in Evansville, Indianapolis, South Bend, and other cities. After all of that effort, the bill did not pass. Schaaf attributed its failure to the legislature's attention to other pressing issues, namely passing a "prohibition law, the women's suffrage law, and the constitutional amendment bill."¹¹¹ He believed the General Assembly simply ran out of time to consider the city planning and zoning measure after it dealt with all of those other matters. It would take a few more years before the state passed legislation enabling the creation of city planning commissions with zoning authority—Indianapolis established its City Plan Commission in 1921.

At the Tenth National Conference on City Planning, held in 1918 in St. Louis, conferees continued to debate whose needs to put first when devising a city plan or zoning system: those of its residents, or those of its industries and trades. They also discussed where apartments should be allowed (acceptable in the central business district, not so in the suburbs), and tackled the question of whether a family required a minimum land area.¹¹² They then engaged in an animated discussion involving

¹¹¹ Ibid., 134-138.

¹¹² Robert H. Whitten, "The Zoning of Residence Sections," *Proceedings of the Tenth National Conference on City Planning, St. Louis, Mo., May 27-29, 1918* (Boston: The Taylor Press, 1918), 34-39. Whitten was the Special City Planning Adviser to the City Plan Commission of Cleveland, Ohio.

industrial zoning. Herbert S. Swan, the executive secretary of the Zoning Committee of New York City, presented a paper entitled, “Industrial Zoning in Practice.”¹¹³ He advocated excluding residences from heavy manufacturing districts for public health reasons, and also because such a practice would promote the efficient use of space allocated for manufacturing. Swan argued for a balance between residential populations and industrial development. A discussion ensued about whether planners could actually compel people to live a certain distance from their workplaces, especially when different members of the same family worked at different locations, and when people changed jobs frequently.¹¹⁴

Despite their concerns with public health and keeping residential districts segregated from industrial zones, the conferees had to face facts: most workers preferred to live close by their workplaces, preferably within walking distance. E.P. Goodrich, consulting engineer in New York City, related an instructive anecdote about a manufacturer who was considering relocating his plant:

It was in Brooklyn. He was making especially high-grade stuff of some kind, ladies’ waists or millinery. He had been employing a certain class of German girls. They had been pushed out by the Jewish invasion and this German colony had re-established itself in another part of Brooklyn. He absolutely had to go to his working people. He wanted to put his factory there where those people could come to him, and they wanted to come to him, but wouldn’t come to him where he was located.¹¹⁵

Goodrich further observed that in Detroit, some workers at the Ford facilities traveled “three hours a day back and forth,” and noted that it is “much easier to provide houses adjacent to a large plant, in which case they would actually be used” He said

¹¹³ Herbert S. Swan, “Industrial Zoning in Practice,” *Proceedings of the Tenth National Conference on City Planning*, 47-55.

¹¹⁴ *Ibid.*, 50-51, 63-67.

¹¹⁵ *Ibid.*, 63-64.

that “[p]eople usually do stay within bounds. They may like to move about within a district, but they will not go outside the 5-cent zone if they can help it, and will not go outside of walking distance if they can help that.”¹¹⁶ Goodrich was correct—workers, being human, possessed free will, and chose to live where they would. Meanwhile, in the city of Indianapolis, while the General Assembly debated the issue of zoning laws, residential areas were intermingling with industrial plants as the city inexorably grew. The legislature’s delay would result in long-term health consequences for the residents of those neighborhoods.

Finally, at the Thirteenth National Conference on City Planning in Pittsburgh in 1921, representatives from Indiana could claim success. Alexander W. McKeand gave the following report:

Indiana is very new in city planning since our law which covers both city planning and zoning will not be effective until early in June of this year. However several cities in the state have done much preliminary work and in my own city of Terre Haute we are completing our surveys for a park and boulevard system.¹¹⁷

The delay in passing the legislation would directly and adversely affect the situation in Indianapolis, as existing residential enclaves and industrial and manufacturing concerns would have to be “grandfathered in” to any zoning scheme.

In 1923, at the Fifteenth National Conference on City Planning, one focus was on regional planning. In relation to that issue, George B. Ford of New York presented his paper entitled, “Regional and Metropolitan Planning Principles, Methods, Co-

¹¹⁶ Ibid. Goodrich was probably referring to the expense of public transportation when he used the term “the 5-cent zone” in these remarks, since public transit generally gets more expensive the further one travels.

¹¹⁷ *Proceedings of the Thirteenth National Conference on City Planning, Pittsburgh, Pennsylvania, May 9-11, 1921* (n.p., n.d.), 107.

operation.”¹¹⁸ Ford and his fellow conferees were still trying to deal with the intractable problem of workers’ insistence on living close to their urban workplaces, which went against the fundamental principles of the German zoning system. “As long as the great majority of the inhabitants of a metropolitan area continue to earn their livelihood in the central city, decentralization will be difficult, if not impossible . . . This means that industry and wholesale business must be legislated or pushed or encouraged to move out into the suburbs.”¹¹⁹ Ford noted that while governments might be willing to help planners out by requiring industries to move to designated areas, planners were still left with the problem of what to do with the workers.

Investigation would seem to show that some of the chief reasons why the workers will not move out to the neighborhood of the outlying industrial plants is because it is difficult to find desirable, cheap housing in the vicinity. Then, too, school facilities are apt to be poor, churches and sect groups, theatres, billiard parlors and other leisure time employments are lacking or inadequate; it is difficult for their friends or compatriots to get in and out to see them and if the worker loses his job he has to pull up stakes and move to some other part of the metropolitan area where he can get work.¹²⁰

Ford seemed to understand that job insecurity and substandard wages contributed to this problem, but neither he nor his fellow discussants mentioned solutions entailing changes of behavior on the part of the employers such as paying a living wage or building mass transit systems with cheap fares.

Veiller’s 1911 themes of population density, how much space a person required, and whether that requirement varied by social standing, ran throughout

¹¹⁸ George B. Ford, “Regional and Metropolitan Planning Principles, Methods, Co-operation,” *Proceedings of the Fifteenth National Conference on City Planning*, 1-32.

¹¹⁹ *Ibid.*, 13.

¹²⁰ *Ibid.*

Ford's presentation. Ford continually made reference to the concept of "load on the land," a notion developed by Harland Bartholomew that purported to "arrive at desirable standards of population distribution." Ford argued that one could use Bartholomew's theory to determine standards for optimum placement of regional industrial areas as well as certain dwellings, namely tenements. Ford stated that "there is little economic or social reason why more than 12 per cent. of the population of any district should live in houses containing more than two families . . . Realizing that the majority of tenement dwellers work in industrial plants, these facts indicate approximately the amount of tenement area which regional zoning should provide about suburban industrial plants."¹²¹ Ford returned to the refrain sung by the city planners since 1911: the amount of space a person needed—and the density the land could tolerate and support—seemed to be related to individual socioeconomic status. The voices of Indianapolis planners were mostly absent from these conferences, probably because the city was not engaged in any kind of official planning process. City leaders had attempted to plan certain parts of the city over the years, despite the absence of any legal sanction. Part of this piecemeal approach included hiring the famed landscape architect (and participant in at least one of the National Conferences on City Planning), George E. Kessler.

In 1909, the Indianapolis Board of Park Commissioners issued its fifteenth annual report. The commissioners had paid Kessler \$3,600 in salary and \$300.16 for expenses that year.¹²² Kessler's contribution to the report ("Report of Landscape

¹²¹ Ibid., 15-16.

¹²² Board of Park Commissioners, *Fifteenth Annual Report of the Board of Park Commissioners For Year 1909* (Indianapolis: n.p., 1909), 34.

Architect”) totaled five pages and included a direct criticism of his clients’ efforts to date:

In your fundamental planning, the central business district was built upon broad lines, with wide streets and ample proportions and with splendid diagonal thoroughfares reaching out in the different directions from the business center. In your later period of development an evidently penurious and entirely mistaken system of street planning was permitted to creep in, resulting in a lack of wide streets and in failure even properly to continue those which had begun when your citizens had a better conception of your future than those of the immediate past seem to have had. The work, therefore, devolving upon your Board in re-establishing these lines of communication will necessarily involve considerably greater effort and cost.¹²³

Kessler’s analysis was perceptive. He described the mile square which formed the city’s center, and was absolutely correct in observing that the layout of the city just seemed to stop beyond those elegant “diagonal thoroughfares.” Once the city expanded outside of those borders, there had been little attempt to control its growth or deliberately design the placement of streets and other spaces on the grid. He was also correct in realizing that the taxpayers would pay a higher price for any attempt to make up for lost time. He noted that other cities of comparable size had found it worthwhile to deliberately plan a park system and parkways, though. In his report, he highlighted the importance and value of the city’s waterways: the “salient and most important portion of the present movement in the re-creation of a beautiful Indianapolis is based upon the existence of the streams flowing through the city.”¹²⁴ He believed that all of the waterways (and their adjacent parks) should be connected

¹²³ George E. Kessler, “Report of Landscape Architect,” *Fifteenth Annual Report of the Board of Park Commissioners For Year 1909*, 16.

¹²⁴ *Ibid.*, 17.

with each other, and that such an arrangement would help tie the city together visually. He envisioned residents driving on big boulevards along developed and beautified stream banks, people enjoying scenic parkways, and the entire system culminating in a park stretching from the Capitol building westward to White River.¹²⁵

Kessler felt it was most imperative that the city's leaders work to unify and tie together the "different and widely separated districts of the city" that had resulted from the failure to deliberately plan its growth.¹²⁶ He believed a systematic arrangement of parks along the city's rivers and streams would accomplish this urgent mission. Other than the Board of Park Commissioners going to the Common Council of the city in order to obtain the funding and labor, there was no other way to follow through on Kessler's recommendations. The council, in turn, was operating without a mandate from the state regarding city planning and zoning regulations. In other words, the city in 1909 lacked a "planning czar" who could ensure the fulfillment of Kessler's plans. The city would not receive the legal authority for planning and zoning from the state until a statewide law was approved on 10 March 1921. It is difficult to ascertain the reasons for the delay in Indiana's adoption of a statewide law. Were there partisan rivalries that held the measure hostage? Were the state's lawmakers loath to take a chance on an idea (zoning) imported from Europe? Did they feel it was unnecessary? Were they being overly cautious? Were the mostly rural legislators indifferent to the concerns of the state's few large cities? While the reasons for the delay are unknown, the costs of the state's aversion to zoning and planning

¹²⁵ Ibid., 17-19.

¹²⁶ Ibid., 16.

authority quickly became apparent once Indianapolis's city leaders began to try to implement the law and exercise that authority.

At a meeting on 4 April 1921, the Common Council of Indianapolis passed General Ordinance 25 by a unanimous vote. That measure created a City Plan Commission consisting of nine members. The mayor signed the ordinance on 15 April of that year.¹²⁷ The members of the City Plan Commission set about the task of compiling a report on the city's layout complete with recommendations. They hired Robert H. Whitten of Cleveland, Ohio, as a consultant.¹²⁸ Whitten had presented a paper at the Tenth National Conference on City Planning in St. Louis in 1918 discussing residential zoning and whether families required minimum land areas (see footnote 112, above). He had also worked for New York City and Atlanta. The commission submitted its final report with recommendations to the Common Council on 16 October 1922. The members of the commission notified the Council that they would be submitting a formal draft of an ordinance soon.

On 6 November 1922, Councilman King introduced General Ordinance 114, 1922.¹²⁹ This zoning ordinance was the fruit of the City Plan Commission's labor; it was read and referred to the Committee on Law and the Judiciary. After three amendments, the ordinance passed unanimously on 20 November 1922, and the mayor signed it on 27 November 1922.¹³⁰ With the benefit of hindsight, it is easy to

¹²⁷ *Journal of the Common Council of the City of Indianapolis, Indiana From January 1, 1921, to December 31, 1921* (n.p., n.d.), 187-188; 264-265; 273-274; 276.

¹²⁸ *Journal of the Common Council of the City of Indianapolis, Indiana From January 1, 1922 to December 31, 1922* (n.p., n.d.), 607-608.

¹²⁹ *Ibid.*, 655-669. Earlier in 1922, Councilman Claycombe had introduced G.O. 111, 1922, which divided the city into zones for planning purposes. It failed to pass. *Ibid.*, 619, 642-643. Likewise, in August of that year, Councilman Buchanan had introduced G.O. 89, 1922, concerning the location of factories. It was tabled on 16 October. *Ibid.*, 486-487, 639.

¹³⁰ *Ibid.*, 708, 712-713.

see that the city's officials were walking a fine line with this ordinance. By late 1922, much of the infrastructure of the city was already in place: streets, utilities, sewerage, neighborhoods, schools, parks, industry, and manufacturing. So, the council members could write a law that planned the city they would *like* to see in the future, but they could not erase what had already been written in terms of where people lived, worked, recreated, and took their garbage. City planners could not simply go into these areas and eject residents or businesses on the basis of their locations. G.O. 114, 1922 established seven classes of structures ranging from U1 (dwellings, schools, etc.) to U2 (apartments and hotels) to U3 (banks, restaurants, etc.) to U4 (cold storage facilities, scrap iron, etc.) to U5 (coke ovens, soap manufacturing, etc.) to U6 (acid manufacturing, stockyards, etc.) and ending with U7 (amusement parks, penal institutions, etc., including sewage disposal or treatment plants, refuse dumps, and garbage disposal plants)—and had to grandfather in existing class U7s, the least desirable and/or most noxious concerns.¹³¹ Why? Because by 1922, the southwest side of the city had already been well-established as not only a residential and industrial area, but also as the city's garbage can. The city's dump (then referred to as Sellers Farm) and sewage treatment plant (finally under construction in the early 1920s) were both on Harding Street in the block between Raymond and Troy, in the area depicted in Appendix 2.

The ordinance also gave authority to the Board of Zoning Appeals (after notice to the public and a hearing) to deviate from the above regulations. According to Section 23(5), the Board of Zoning Appeals could

¹³¹ Ibid., 709-17, 660. The grandfather language stated that existing class U7 structures “shall be deemed an authorized use upon the plot devoted to such use at the time of the passage of this ordinance.” Ibid. at 660.

[p]ermit the location of a telephone exchange, electric substation or similar public utility, or of a class U7 use in any use district, provided such use in such location will in the judgment of the board of zoning appeals substantially serve the public convenience and welfare and will not substantially and permanently injure the appropriate use of the neighboring property.¹³²

Although the new law gave the Board of Zoning Appeals much power, the city's leaders recognized the harsh reality of the situation: as powerful as they were to chart the course of the city's development from 1922 onward, they would all have to live with the status quo. This situation condemned residents of some neighborhoods to living in less healthful environments, in close proximity to established industries and waste processing facilities. Unfortunately, city leaders did not enact measures that could have ameliorated the long-term consequences of this situation, such as the establishment of a low-cost public transit system that could enable workers to live some distance from their workplaces.

The efforts of city planners and other urban officials epitomized power wielded by a new kind of insiders—during the Progressive Era, wealth and riches were not necessary entrées to power so much as credentials and expertise. With respect to matters of infrastructure, it was the technocrats who comprised the ranks of the elite, not members of a political machine. By 1924, the planners were even seriously discussing the merits of a *national* plan.¹³³ A national plan would only serve to increase the experts' prestige.

The officials of the city of Indianapolis were probably more modest in their aspirations—the delays effected by the state legislature all but guaranteed their efforts

¹³² Ibid., 666.

¹³³ *Proceedings of the Sixteenth National Conference on City Planning, Los Angeles, California, April 7-10, 1924* (Baltimore: The Norman, Remington Co., 1924).

would be too little, too late. Whether the delays were due to political antipathy at the state level or a stunning failure of leadership from the city of Indianapolis, the fact remains that the people whose lives were directly affected by the measures under consideration did not receive a proactive zoning scheme, only a reactive one. Thanks to this legacy, the residents of the southwest side of the city especially have regularly contended with neighbors like heavy industries and waste processing facilities since 1921. The delay in passing a zoning law was one of the historical forces that began to cement the status of some Indianapolis neighborhoods as less healthy than others. In turn, this condition made them less desirable places to live, and their inhabitants less politically and economically powerful than those of other (more purely residential) parts of the city. In this way, political decisions about the location of infrastructure, improvements, and development have separated people from each other at not only the street level, but also the neighborhood level. Entire communities in Indianapolis were condemned to an unhealthy, low-status existence in part because of a flawed deliberative process.

Although the delay in the passage of a zoning ordinance limited the city leaders' power to control certain aspects of the city's development, city officials retained ultimate control over other aspects of infrastructure. Like the city planners at their annual meetings, the members of the Indianapolis Common Council were not immune to a mentality of absolute power—during the 1910s and 1920s, they enacted ordinances in attempt to control not only the behavior of people on the street, but also who was allowed in public places.

Chapter Four: Regulation of Behavior

Street infrastructure helps the police to engage in human traffic control. For example, in a demonstration, marchers are not allowed to leave the street or walk on the sidewalks so as to maintain order. Conversely, crowds watching parades, marches, demonstrations, rallies, or even presidential motorcades are limited to the sidewalk area; when they cross the curb into the street, people immediately get attention from law enforcement, because they are crossing a kind of boundary. One of the unwritten rules in our culture requires that spectators keep a certain amount of personal space between themselves and a procession.

Curbs also enable the police to spot criminals. One of the most reliable visual indicators of lawlessness is a lack of respect for the boundary that a curb represents. Open-air retail drug markets, for example, are characterized by “runners” who move freely back and forth between the sidewalk and the street.¹³⁴ Runners are the individuals who transport the drugs from the building where the dealer is located to the car where the customer is located. The boundary of the curb—the separation between traffic and the street and the pedestrian realm of the sidewalk—loses its meaning, because the runners cross it so frequently. When the police see someone making repeated trips to the street, to different cars, over the course of a few hours, they assume illegal activity is occurring. According to Grady Clay, “[t]he SCENE is composed of fleeting encounters, moving targets, hit-and-run sellers cruising—afoot, in cars, or on bikes.”¹³⁵ This fluidity of movement across boundaries like curbs as a

¹³⁴ An open-air retail drug market is a place where people buy and sell illegal drugs out in the open, day and night.

¹³⁵ Grady Clay, *Real Places: An Unconventional Guide to America's Generic Landscape* (Chicago: The University of Chicago Press, 1994), 49. Fitzpatrick and La Gory discuss the physical

characteristic of criminal activity is not a recent phenomenon. Observe the contrast between the people depicted in Figures 5 and 6. Figure 5 is a photograph of a parade on Meridian Street in Indianapolis, celebrating the opening of a bus terminal in 1925. The onlookers are neatly lined up along the edge of the curb. Even in the area of the adjacent street, in the complete absence of a curb, they instinctively continue the straight line in an orderly fashion.



P0130_P_BOX44_FOLDER5_92013-F

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Figure 5. “Bus Terminal Opening Parade,” 1925, The W. H. Bass Photo Company, Indiana Historical Society, P0130_P_Box 44_Folder 5_92013-F.

characteristics of neighborhoods that are “key markers for hazardous, high-risk environments . . . [including] public spaces near apartments or other multifamily dwellings, vacant lots and buildings, areas with high rates of geographic mobility and family instability, and street designs that allow for ‘open-air’ drug markets to develop. These markets have the physical characteristics of narrow one-way streets with physical cover, easy and multiple escape routes, vacant buildings and lots, and landscape shapes that enable smooth-flowing drug traffic as well as a careful surveillance of police activity.” Fitzpatrick and La Gory, 114 (citations omitted).

In contrast to the orderly arrangement of souls in Figure 5, Figure 6 depicts a riot. It is a photograph of a streetcar riot on Pennsylvania Street in Indianapolis in 1892. Note the complete disregard of the curb's traditional separation of pedestrians from the traffic area.



Figure 6. "Pennsylvania Street, streetcar riot, 1892," The W. H. Bass Photo Company, Indiana Historical Society, folder 404_doc 13.jpg.

Who are the lawbreakers in Figure 6? The answer is easy: the people in the street. But what about the people in the street in Figure 5, those who are blocking the intersection of the cross street, but still nicely arrayed in a straight line parallel to Meridian Street? Technically, they are also breaking the law, but law enforcement officers (assuming there were some assigned to the parade that day) exercised their discretion and allowed them to stand there.

In the years between 1890 and 1930, the men of the Indianapolis Common Council endeavored to regulate the behavior of people using the streets and even the sidewalks. In late 1915, the Common Council passed, and the mayor signed, General Ordinance 58,1915, a sweeping anti-loitering ordinance.¹³⁶ Section 1 of the law stated that

any vagrant, mendicant, beggar, prostitute, criminal, or person known or reputed to be such, who shall be found in or upon any street, alley, highway, park, or *other public place*, shed, car, car shop, out house, railroad depot or switch house, or place where intoxicating liquors are sold, or in any place of business, or in any business block or in the entrance or stairway leading thereto in the city of Indianapolis, shall, upon conviction, be fined not less than five dollars nor more than fifty dollars.¹³⁷

Actually, to call Section 1 of G.O. 58,1915 an “anti-loitering” ordinance is a misnomer. It is apparent that the first section of the law allowed the police to arrest anyone whom they deemed to be of ill repute for simply being out in public. Section 2 did address loitering, and applied to *any* person, regardless of that person’s reputation or background:

[a]ny person in or upon any street, alley, highway, park, or other public place, shed, car, car shop, out house, railroad depot or switch house, or place where intoxicating liquors are sold, or in any place of business, or in any business block or in the entrance or stairway leading thereto in the city of Indianapolis, who when requested to do so by any peace or police officer fails

¹³⁶ *Journal of the Common Council of the City of Indianapolis, Indiana From January 1, 1915, to December 31, 1915*, 425-426, 463, 465. The council’s vote was six to three in favor of the ordinance.

¹³⁷ *Ibid.*, 425. Emphasis added. Almost a century later, the city of Indianapolis is still struggling with attempts to regulate behavior on public sidewalks. See Brendan O’Shaughnessy, “Mayor Seeks to Rid Streets of Panhandlers,” *Indianapolis Star*, 31 March 2008, <http://www.indystar.com/apps/pbcs.kll/article?AID=/20080331/LOCAL18/803310316&template=printart> (accessed 31 March 2008).

or refuses to give account of himself, shall, upon conviction, be fined not less than five dollars not more than fifty dollars.¹³⁸

Section 3 prohibited “[a]ny person [from] unnecessarily associating with any vagrant, mendicant, beggar, criminal, or any person known or reputed to be such” in the same locations described in Sections 1 and 2. Finally, Section 4 targeted “[a]ny person unnecessarily associating in or upon” the same locations described in first two sections.¹³⁹ This law gave the police unfettered discretion to decide who would be allowed to use the sidewalks, alleys, streets, and parks. People who did not obey a command to “move along” could be arrested and fined. These conditions are a far cry from Schultz’s description of nineteenth-century streets in America as extensions of people’s front yards. The ordinance is evidence of how the freedom of behavior that existed before the paving revolution disappeared concurrently with the access to the street the public enjoyed.

The next year, 1916, brought another measure from the Council aimed at curtailing individual freedoms in public spaces. General Ordinance 24,1916 prohibited “the carrying of banners, placards, advertisements (for the purpose of displaying the same) and handbills in or upon the streets, sidewalks, alleys or other public places in the City of Indianapolis.”¹⁴⁰ This ordinance passed the council on 5 June 1916 by a vote of 7-2.¹⁴¹ Its only exceptions involved “processions of menageries, circuses, minstrel-shows, public processions, and the like exhibitions.”¹⁴²

¹³⁸ Ibid., 426.

¹³⁹ Ibid.

¹⁴⁰ *Journal of the Common Council of the City of Indianapolis, Indiana From January 1, 1916, to December 31, 1916*, 170.

¹⁴¹ Ibid., 200-201.

¹⁴² Ibid., 170.

This ordinance illustrates that the citizens' representatives on the Common Council felt empowered to dictate to their constituents what type of public expressions were in their best interest. The street was not completely sanitized yet, however—in 1919, the council passed an anti-picketing ordinance that further circumscribed public behavior, and in 1925 the council unanimously passed General Ordinance 40,1925, outlawing street peddlers both on the street *and* on the sidewalks.¹⁴³ The 1919 anti-picketing ordinance, which targeted strikes and their accompanying picket lines, engendered a public debate about free speech. The Indianapolis Branch of the National Metal Trades Association published a pamphlet in favor of the ordinance that included an excerpt from an undated editorial in the *Indianapolis News* on the subject of the ordinance:

[t]here is a question involved (in strike picketing) that is not often discussed, and that is as to the proper use of the streets and sidewalks. This question assumes considerable importance when the picketing is put in force in downtown streets. It undoubtedly interferes with the legitimate use of the sidewalks, which are meant for the people to use in going from one place to another. Men moving back and forth over a narrow front all day do as a matter of course obstruct traffic. This of course is still more true when they interfere, even by spoken word, with those seeking to enter the picketed premises. The thing is clearly a nuisance.¹⁴⁴

The editors of the *Indianapolis News* viewed sidewalks as conduits—structures meant to help people go from one place to another. The sidewalk was no longer a purely public venue. One's behavior on the sidewalk was now subject to legal oversight. This oversight, established by the ordinances and executed by police officers with

¹⁴³ *The Anti-Picketing Ordinance*, (Indianapolis: National Metal Trades Association, 1919); *Journal of the Common Council of the City of Indianapolis, Indiana From January 1, 1925, to December 31, 1925* (n.p., n.d.), 237, 259, 261.

¹⁴⁴ *The Anti-Picketing Ordinance*, 16.

broad discretion, tended to protect activities that were not threatening to the status quo at the expense of workers. Stopping on the sidewalk to window-shop might be allowable, but stopping on the sidewalk to hand someone a leaflet, or wearing a sign with a message of protest, was not.

Laws like those four ordinances, passed during the period from 1890 to 1930, helped facilitate the evolution of urban infrastructure from facilities that enabled movement between places, socializing, commerce, and public health to a built environment that separated people. Just as the city planners sought to separate people by class in terms of where they lived and worked, and the traffic engineers aimed to separate people by mobility (motorized vehicles vs. pedestrians), the members of city government attempted to separate people by status (whether they were officially beggars, drunkards, picketers, or other undesirable types), location, behavior, and trade. These four laws serve as emblems of social control, and from an historical perspective, it is no coincidence that the members of the Indianapolis Common Council enacted these ordinances around the same time they considered zoning and planning measures. City leaders, having built the infrastructure, began to try to control how the public used it. The infrastructure was subject to the vagaries of politics while it was planned and built. These four ordinances show that those in power sought to politicize infrastructure after its construction, as well, to dictate permissible uses for that ostensibly public property.

Scholars have credibly linked issues of space, modernity, power, and the urban discourse.¹⁴⁵ According to Katharine Kia Tehranian, “[z]oning laws, urban parks, city boulevards, urban transportation systems, and the telecommunication networks came into being not only to ease the functioning of modern cities but also to facilitate social control.”¹⁴⁶ Whenever people struggle over the permissible uses of space—especially public space—power and politics come into play.

Why is it important to discuss the meaning of space? Political scientist Margaret E. Farrar argues that “looking at the built environment allows us to be more specific about the ways in which discursive spaces and built spaces shape and mold specific subjectivities. Identities (both individual and group identities) are forged . . . within specific spatial arrangements.”¹⁴⁷ In other words, sometimes a curb, a street, or a sidewalk represent boundaries that help define a person’s identity. Urban space is full of boundaries defining people’s identities. While suburban space arguably defines its inhabitants’ identities by a *lack* of infrastructure working as boundaries, suburbia is, in itself, an identity as well as a discursive space. The very word “suburban” can connote images of children riding bicycles and tricycles on neat sidewalks while their parents wash their cars in the driveways, trade recipes, and tend their gardens. Most of the action in a television show like “Leave It To Beaver” could not have occurred in downtown Cleveland. Urban boundaries, such as streets and sidewalks, can define power relationships. People order, politicize, and dispute urban spaces. Whether it is a

¹⁴⁵ Katharine Kia Tehranian, *Modernity, Space, and Power: The American City in Discourse and Practice*, The Hampton Press Communications Series, Communication and Public Space, ed. Gary Gumpert (Cresskill, NJ: Hampton Press, Inc., 1995), 3.

¹⁴⁶ *Ibid.*, 3-4.

¹⁴⁷ Margaret E. Farrar, “Health and Beauty in the Body Politic: Subjectivity and Urban Space,” *Polity* 33, no. 1 (Autumn 2000): 4-5.

debate about paving a street, fixing a sewer system, or what to do with homeless people and panhandlers, the arguments about the built environment invariably represent a struggle about power. This is true whether one considers the downtown of a large city, or the main street of a suburban town.

Fitzpatrick and La Gory describe humans as spatial, territorial animals, and demonstrate how an urban environment's physical features can reduce the cohesion necessary to a feeling that one inhabits a secure territory. Certain features in the built environment actually make it less secure for inner city residents. Elements like high vacancy rates in "high-rise, anonymous" apartment buildings and empty spaces that no one monitors translate into a disconnected feeling for people who must live in those places. Other alienating characteristics include an "absence of manageable territories promoting territorial identity (such as front or back yards, gardens, or courtyards); proximity to dangerous sites; high vehicular traffic; and unattractive architecture that symbolically stigmatizes residents."¹⁴⁸ This type of environment unfortunately exists in many modern American cities. It discourages territorial functioning among the people who live in it, meaning for example that the residents are less likely to defend their surroundings from the incursions of criminals or even to pick up litter. There is no cohesive community to defend; the built environment practically ensures it. The residents of such areas are also less likely to enjoy good physical and mental health. Locations like this discourage healthy social environments.¹⁴⁹

¹⁴⁸ Fitzpatrick and La Gory, 45.

¹⁴⁹ Ibid.

Fitzpatrick and La Gory further show that the segregation of urban space (“retail restructuring”) adversely affects human behavior and contributes to the disruption of a city’s diversity, vital subcultures, and sense of community identity.¹⁵⁰ Urban planners and city boosters engage in a type of social segregation when they introduce malls, sports venues, and entertainment hubs into the center of a city. Seeking to attract people with disposable incomes who will spend time and money downtown even when they are not at work, city officials must sanitize the urban environment and rid it of unhealthy, undesirable people. In other words, they must regulate behavior. Homelessness is not compatible with the retail aesthetic. So even though city streets already contain built-in spatial barriers such as walls of buildings and curbs, city administrators sometimes find it necessary to erect legal and cultural barriers to define an ideal community identity. City councils and executives enact laws that redefine and restrict public space, and infrastructure once again becomes an agent of social control. Ordinances such as those passed by the Indianapolis Common Council in 1915, 1916, 1919, and 1925 demonstrate that city leaders sought to cleanse the urban streets and control how people used the urban environment well before the days of downtown malls, convention centers, and large sports venues.

What is public space, and what is private space? Is the sidewalk public? The street? The answers are not as obvious as they seem. Mona Domosh, a geographer, posits that public space, and transgressions thereof, are very context-dependent, and

¹⁵⁰ Ibid., 58-61. “Retail restructuring” refers to modern initiatives to “revitalize” targeted sections of cities with the introduction of malls, entertainment and sports complexes, and other venues that are attractive to people seeking novel ways to spend their leisure time.

can be quite subtle.¹⁵¹ In *Brave New Neighborhoods: The Privatization of Public Space*, Margaret Kohn proposes a definition of public space that incorporates three facets: ownership, accessibility, and intersubjectivity.¹⁵² “In everyday speech a public space usually refers to a place that is owned by the government, accessible to everyone without restriction, and/or fosters communication and interaction. This definition,” she argues, “reflects the widely shared intuition that public spaces are the places that facilitate unplanned contacts between people. These unplanned contacts include interactions between strangers as well as chance meetings between friends and acquaintances.”¹⁵³ In other words, these unplanned, chance encounters are part of the “seething exchange” that helps make the street a borderland. Kohn examines the practices of the city governments of New York and Los Angeles vis-à-vis the homeless population to conclude that some sidewalks are more public than others. This conclusion would come as no surprise to Domosh, who examines the social codes and mores of New York in the nineteenth century—except that the codes of twentieth-century Gotham are explicit, legal, and written. Domosh writes of the unwritten rules governing the sidewalks of fin de siècle New York: “it is difficult to suggest that these spaces contributed to a completely democratic public sphere, where people were free to express themselves.”¹⁵⁴ Put another way, the sidewalks of New York never were public in the way that Kohn defines the term. The sidewalks were

¹⁵¹ Mona Domosh, “Those ‘Gorgeous Incongruities’: Polite Politics and Public Space on the Streets of Nineteenth-Century New York City,” *Annals of the Association of American Geographers* 88, no. 2 (June 1998): 209-226.

¹⁵² Margaret Kohn, *Brave New Neighborhoods: The Privatization of Public Space* (New York: Routledge, 2004), 11.

¹⁵³ Ibid.

¹⁵⁴ Domosh, 210.

not accessible to everyone all of the time, and private interests controlled behavior there—they were not conducive to spontaneity.¹⁵⁵

Imbalances in the allowable use of American public space date back at least one hundred years. People have been seeking to regulate other people's access to and activity in certain areas for generations, and the homeless population is particularly vulnerable to regulation. As proof of New York's attempts to segregate the homeless, Kohn cites the evolution of Times Square from red-light district to a family-friendly tourist area, the closing of the city's public toilets, and the city's aggressive campaign to prohibit panhandling as proof of the blurring of the boundaries between public and private.¹⁵⁶ As for Los Angeles, Kohn recounts Mike Davis's work in *City of Quartz*, where he details that city's practice of isolating the homeless and other "street people" in a Skid Row.¹⁵⁷ These examples illustrate that retail restructuring and social sanitation render some sidewalks, curbs, and streets more public than others.

The members of the Indianapolis Common Council in the years from 1890 to 1930, and their counterparts in more recent times and in other cities, have tried to virtually sanitize the street by removing problematic people, behaviors, and messages. The members of the Common Council and the mayor also tried to literally sanitize the streets of Indianapolis—a more benign occupation in terms of individual rights and freedoms—by acting to organize the collection and disposal of garbage.

¹⁵⁵ Domosh refers to the sidewalks as places where "highly scripted rituals" occurred. *Ibid.* at 209-210.

¹⁵⁶ Kohn, 169, 186.

¹⁵⁷ *Ibid.*, 169.

Chapter Five: Garbage and Health

During the late nineteenth century, only a few municipalities offered their residents any type of garbage collection and disposal services, even though the American Medical Association's Committee on Public Hygiene issued a report recommending daily street cleanings as early as 1849.¹⁵⁸ Until about 1860, most U. S. cities employed human scavenger teams and pigs to provide garbage collection services.¹⁵⁹ Although municipalities phased out the use of swine around the time of the Civil War, "[m]ost cities still continued in 1890 to rely on licensed scavengers or a single contractor" for street cleaning and garbage removal.¹⁶⁰ The scavengers' tenure would prove to be short-lived due to the pavement revolution in the coming decades.¹⁶¹

It would not be until the turn of the twentieth century that cities, pressured by the (mostly female) "municipal housekeepers" of the Progressive Era, began to accept full responsibility for comprehensive waste management.¹⁶² Today, the word "garbage" is a generic term for all kinds of waste. But in the 1890s and into the early

¹⁵⁸ Duncan R. Jamieson, "Cities and the AMA: The American Medical Association's First Report on Public Hygiene," *The Maryland Historian* 8, no. 1 (1977): 27.

¹⁵⁹ Larsen, 243-244. "The hogs, protected by local ordinances but of questionable ownership, prowled streets at will, developing over several generations a proprietary interest; holding their snouts high as they foraged along, pushing citizens off the sidewalks. In Cincinnati when the herds increased too fast, or when they aroused public indignation by attacking little children, the town council sold large numbers of pigs to the local packing plants, taking pains to make sure that enough hogs always remained to collect the garbage." *Ibid.*, 243. Larsen also notes that, in addition to swine, cities tried employing such animals as turkey buzzards, cows, geese, goats, dogs, and cats.

¹⁶⁰ Blake McKelvey, *The Urbanization of America, 1860-1915* (New Brunswick, New Jersey: Rutgers University Press, 1963), 106.

¹⁶¹ "The large outlays for street sprinkling during the eighties were curtailed somewhat as the wider use of asphalt diminished the extent of macadam surface; during the nineties numerous places followed San Francisco in oiling dusty streets . . . The resultant disappearance of scavengers [from this occupation] threw their less lucrative services, the collection of garbage and refuse, upon the municipal officials." *Ibid.* Indianapolis still budgeted money for street sprinkling as late as 1919. In that year, the Common Council appropriated \$14,530 for that purpose. *Journal of the Common Council of the City of Indianapolis, Indiana From January 1, 1919 to December 31, 1919*, xxiv.

¹⁶² For a good discussion of this evolution in Chicago, see Eileen Maura McGurty, "Trashy Women: Gender and the Politics of Garbage in Chicago, 1890-1917," *Historical Geography* 26 (1998): 27-43.

twentieth century, the words “garbage,” “ashes,” “rubbish,” and “refuse” had very specific meanings in the sanitation business. “Refuse” was a collective noun that included all of the other sub-types of waste listed above. “Garbage” was defined as “the animal and vegetable waste matter originating in houses, kitchens, restaurants, and hotels, and include[d] the natural content of moisture and generally, also, the tin cans in which the portions of the food were originally supplied. It [wa]s chiefly food waste, and consist[ed] almost entirely of organic matter and water.”¹⁶³ Significantly for many cities, garbage had a commercial value because it contained animal and plant foods and grease. “House ashes” were defined as “the residue from coal and wood fires in dwelling houses, schools, churches, stores, and small business establishments, but may [have] also include[d] small quantities of other inorganic materials, such as glass, crockery, metallic substances, bricks, earth, and dust.”¹⁶⁴ “Steam ashes” came from fires under large boilers and were usually commercial in origin.¹⁶⁵ Finally, “rubbish” consisted of “miscellaneous materials from houses and stores . . . wood, paper, rags, bedding, excelsior, straw, leather, rubber, old furniture, stoneware, glass, boxes, barrels, etc., and sweepings from buildings.”¹⁶⁶ It is important to keep this nomenclature in mind when reading contemporary discussions of what to do with “garbage,” because generally city officials were referring to something very specific when they used that term.

In the 1890s, the city of Indianapolis took a number of different approaches to the issue of sanitation, none of them comprehensive or very sophisticated. In 1891,

¹⁶³ Rudolph Hering and Samuel A. Greeley, *Collection and Disposal of Municipal Waste* (New York: McGraw-Hill, 1929), 7-8.

¹⁶⁴ *Ibid.*, 8-9.

¹⁶⁵ *Ibid.*, 9.

¹⁶⁶ *Ibid.*

the Common Council's Committee on Public Health considered a petition to establish a dumping ground for "ashes, street scrapings, and other dirt, not including garbage" north of Fall Creek between Meridian and Illinois streets.¹⁶⁷ On 1 February 1892, Mayor Thomas L. Sullivan addressed the gentlemen of the Common Council about the state of the city. He called the question of what to do with the city's garbage "a perplexing subject for consideration. The present method of burying it in trenches and covering it with earth is unsatisfactory, and in time may be injurious to public health."¹⁶⁸ The members of the council acted only when enough of them agreed first that there was a problem, and second that an ordinance was the best method of fixing that problem. Instead of passing an omnibus ordinance dealing with garbage, the men on the council merely passed a law prohibiting the "throwing of trash upon freezing ice-ponds in the City of Indianapolis" in December of 1892.¹⁶⁹

The next year, in March of 1893, the council enacted a law prohibiting the "placing, depositing, or accumulation of manure within 20 feet from a dwelling, unless it occurred within the walls of a stable."¹⁷⁰ In February of that year, the Board of Public Works had introduced General Ordinance 5, 1893, that was a very comprehensive piece of legislation regulating the disposal all manners of refuse—kitchen garbage, night soil, ashes, dead animals, and offal—but the matter was referred to the Committee on Public Health and never mentioned again in the journal of the council's proceedings for that year.¹⁷¹

¹⁶⁷ *Journals of the Common Council, Board of Aldermen, and Joint Conventions of Said Bodies For the Year 1891 (Parts I and II)* (Indianapolis: Sentinel Printing Co., 1893), 158.

¹⁶⁸ *Journals of the Common Council, Board of Aldermen, and Joint Conventions of Said Bodies For the Years 1892 and 1893*, 16.

¹⁶⁹ *Ibid.*, G.O. 49, 1892, pp. 225, 240-241.

¹⁷⁰ *Ibid.*, G.O. 12, 1893, p. 295.

¹⁷¹ *Ibid.*, 270-271.

Unlike Indianapolis, some cities did engage in comprehensive waste management practices during this period. The most evolved practices could be found in New York City, where Colonel George E. Waring, Jr., had encountered so much success that he published a book on the subject in 1897: *Street-Cleaning and the Disposal of a City's Wastes: Methods and Results and the Effect Upon Public Health, Public Morals, and Municipal Prosperity*.¹⁷² As his title indicates, for Waring there was a direct link between the state of a city's waste management practices and its fiscal strength, along with the health and morality of its citizenry. As street-cleaning commissioner, Waring dramatically transformed New York City's urban environment from one of filth to one of cleanliness during his three-year term in the mid-1890s.¹⁷³ Waring began his book by describing the messy conditions of New York streets and of New York politics in 1893, prior to his term. He blamed politics for the state of the streets, because it was impossible for the street commissioner to hire and fire the necessary personnel, since the political machine gave those jobs as "rewards" and the commissioner could not fire unproductive workers.¹⁷⁴ Once the new mayor appointed Waring in 1894, he quickly addressed issues of employee discipline and labor relations. He set up a system for arbitration of disputes and even included sample memoranda in his book so that other cities' commissioners could duplicate his personnel system.

¹⁷² George E. Waring, Jr., *Street-Cleaning and the Disposal of a City's Wastes: Methods and Results and the Effect Upon Public Health, Public Morals, and Municipal Prosperity* (New York: Doubleday & McClure Co., 1897).

¹⁷³ Suellen Hoy, *Chasing Dirt: The American Pursuit of Cleanliness* (New York: Oxford University Press, 1995; Oxford paperback ed., 1996), 79.

¹⁷⁴ Waring, Chapters I-III generally.

Waring included some fascinating statistics in his book: during his tenure, the city had “four hundred and thirty-three miles of paved streets (which alone receive our attention); and we have actually at work at this writing, about fourteen hundred and fifty sweepers—broom men, this gives a little less than one third of a mile, on an average, to each sweeper.”¹⁷⁵ Each sweeper wore a uniform and had his own cart equipped with necessary supplies. Waring stated that

ordinary streets are swept twice a day, and others from three to five times, according to the exigencies of the case. At present the work is divided about as follows: 68 ½ miles are swept once a day; 283 ½ . . . twice a day; 50 ½ . . . three times a day; 35 ½ . . . four or more times a day. This makes a total average sweeping of 924. This is not perfunctory work. The streets are really clean, and except for the littering, which the police have not yet succeeded in preventing, they always look clean. Mud is unknown, and dust is vastly diminished, in comparison with former conditions.¹⁷⁶

He pointed out that 32 percent of his budget went toward carting away “all domestic and some trade wastes, such as ashes, garbage, paper, and rubbish.”¹⁷⁷ One-fourth of his labor force worked in this area, including some 600 drivers with horses and carts. Waring’s incredibly detailed book even described the collection schedules for the different zones of the city and the means of collection of each type of garbage. As for the disposition of the garbage once Waring’s men collected it, his department cooked and sold the grease it collected—apparently, this was a common practice in most cities in the mid-1890s.¹⁷⁸ The ashes and street-sweepings were either used as landfill or dumped at sea as of 1897, but Waring foresaw a time when things were “soon to be

¹⁷⁵ Ibid., 38.

¹⁷⁶ Ibid., 42.

¹⁷⁷ Ibid., 63.

¹⁷⁸ Ibid., Chapter VII.

radically changed.”¹⁷⁹ The ashes and street-sweepings were to be taken to Riker’s Island and used to construct a kind of seawall. The members of Waring’s crew sorted the paper and rags they collected, and then sold them. The average sales per week during a two-month period “were as follows: paper, \$128.40; rags, \$89.37; other materials, \$43.47; Total, \$261.24. This is for the collection of ten carts of the one hundred and fifty in use. It is only a general indication. The outlook is that the returns will increase.”¹⁸⁰ As for other types of garbage, Waring’s men burned it and used the steam. For snow removal, the city hired contractors who collected the snow and then dumped it into a river.¹⁸¹ They also tried using snow-melting machines.¹⁸²

Waring even enlisted the youth of New York City in his mission. He formed children’s leagues, and wrote of how such leagues would instill civic pride in his young charges. His department gave the children small cards to carry identifying them as volunteers with the street department, and Waring’s workers taught the children songs such as “And We Will Keep Right On” and “Neighbor Mine,” along with a “civic pledge” not to litter. Each child who belonged to a league—and each member of Waring’s department—learned and repeated the pledge:

We who are soon to be citizens of New York, the largest city on the American continent, desire to have her possess a name which is above all reproach. And we therefore agree to keep from littering her streets and as far as possible to prevent others from doing the same, in order that our city may be as clean as she is great and as pure as she is free.¹⁸³

¹⁷⁹ Ibid., 69.

¹⁸⁰ Ibid., 79.

¹⁸¹ Ibid., 105.

¹⁸² Ibid., 109.

¹⁸³ Ibid., 180-183.

Waring was able to inspire his workers, and even some of the youth of his city, to work very hard to sanitize their environment. Indianapolis did not have such a vital, charismatic, determined figure at the helm of its garbage collection and street cleaning efforts.

Nevertheless, the city did pick up garbage. In 1913, the city's population was 233,650. The city reported in that year to the Civil Service Commission of Chicago that its refuse collectors did not wear uniforms and did not separate refuse. Further, rubbish and ashes were collected by contract and hauled with wagons; a contractor collected the garbage, hauled it with wagons (wood tank style with a wooden cover), and fed the garbage to hogs.¹⁸⁴ The city of Indianapolis had been contracting out garbage collection services since at least 1911.¹⁸⁵ In 1916 the population of Indianapolis was 271,758, and the city collected 23,267 tons of garbage that year, or 171 pounds per capita.¹⁸⁶ In 1917, the city collected 19,929 tons, or about 147 pounds per capita.¹⁸⁷ The reason for the decrease of 14.4 percent was World War I—people were conserving more. For a time, instead of following New York's example and having municipal employees do the work, the city contracted with a private business for the removal and hauling away of garbage, slops, and waste matter. In fact, in 1918 the Common Council passed an ordinance making it a crime punishable by up to thirty days in jail and a one hundred dollar per day fine for any *other* person to

¹⁸⁴ Hering and Greeley, 106.

¹⁸⁵ "Shank Back With Anti-Smoke Data," *Indianapolis Star*, 26 June 1911, p. 1, c.7.

¹⁸⁶ Martin V. Melosi, "Refuse Pollution and Municipal Reform: The Waste Problem in America, 1880-1917," in *Pollution and Reform in American Cities, 1870-1930*, ed. Martin V. Melosi (Austin: University of Texas Press, 1980), 106, citing Hering and Greeley, 40.

¹⁸⁷ Hering and Greeley, 40.

“engage in or conduct such business.”¹⁸⁸ From 26 May 1918 to 31 December 1918, the city reduced 12,187 tons of garbage at a total cost per ton of \$3.548; its revenue was \$7.174 per ton, and its net profit was \$3.626 per ton.¹⁸⁹ In the late twentieth century, the practice of contracting out garbage removal and collection would be known as privatization and considered innovative. In 1918 in Indianapolis, it was short-lived. Soon, the city would assume responsibility for not only the reduction of the garbage, but also its removal and collection.

The very next year, General Ordinance 8,1919 gave responsibility for the collection and removal of garbage to the Board of Public Works, which was mandated to dispose of the same at the “Reduction Plant, situate[d] on what is known as Sellers Farm, Marion County, Indiana.”¹⁹⁰ Sellers Farm was located on the southwest side of the city just inside the city limits, along with the city dog pound and next to the site of the forthcoming sanitation (sewage treatment) plant, on the west side of Harding Street between Raymond Street to the north and Troy Avenue to the south. Appendix 2 shows the location of Sellers Farm in 1929. Today, the sewage treatment plant and other Department of Public Works facilities take up the entire area depicted in Appendix 2 between Harding Street on the east, Eagle Creek on the west, and White River to the south and east.¹⁹¹ There was a residential area directly to

¹⁸⁸ G.O. 21,1918, *Journal of the Common Council of the City of Indianapolis, Indiana From January 7, 1918, to December 31, 1918* (Indianapolis: Castor Bros., Printers, n.d.), 105, 150, 163.

¹⁸⁹ Hering and Greeley, 536. “Reducing” garbage refers to a special method of disposal called the reduction process, common in many large U.S. cities during this period. The reduction process separated the garbage into four parts and salvaged two of those components for sale as grease and as “tankage” (“a dry material, which is somewhat stable, mostly fibrous, and of vegetable and animal origin . . . used as a filler or base for certain fertilizers”). *Ibid.*, 444.

¹⁹⁰ G.O. 8,1919, *Journal of the Common Council of the City of Indianapolis, Indiana From January 1, 1919, to December 31, 1919*, 75.

¹⁹¹ Section 22, Sellers Farm, *Baists Property Atlas of the City of Indianapolis, Indiana, and Suburbs* (Philadelphia: W.E. & H.V. Baist, Surveyors, 1929).

the north of the area, just on the other side of Raymond Street near the intersections of Raymond Street, Belmont Street, and Kentucky Avenue. This proximity of homes to waste collection and disposal facilities was a prime reason why, in 1921, the Common Council would have to write the grandfather clause into its zoning ordinance. The city's garbage plant was very busy indeed by the time the government enacted the zoning laws. The city transported 16,587 tons of garbage by railroad to the reduction plant in 1919 alone, at a cost of 0.26 per ton.¹⁹²

The city of Indianapolis used the Chamberlain process for reducing its garbage. It was a "liquid separating process," invented by Mr. M.H. Chamberlain and first used in Detroit in 1898.¹⁹³ The marketable byproducts of the reduction process were grease and fertilizer. The Chamberlain process used a

special digester, the bottom of which [wa]s provided with three concentric circular cylinders having double walls, which [we]re closed at the top and open at the bottom. The sides of the cylinders [we]re perforated. After the cooking period, steam at high pressure enter[ed] the digester so as to force the cylinders up and drive out the liquids carrying the grease. The water and grease which ha[d] been processed out [we]re separated by gravity, and the solid matter [wa]s dried and otherwise prepared for market.¹⁹⁴

Cincinnati and Washington also used the Chamberlain method.

A centralized authority for garbage collection and disposal did not completely solve the city's sanitation problems, however; Indianapolis also had a litter problem. The city lacked uniformed crews with carts like those of Colonel Waring's in New York. So, in 1924, the Common Council passed ordinances placing at least 300

¹⁹² Hering and Greeley, 180.

¹⁹³ Ibid., 450-451.

¹⁹⁴ Ibid.

“waste-paper boxes” and fifty “sanitary litter cans” in the area bounded by 16th Street on the north, McCarty Street on the south, White River on the west, and State Street on the east.¹⁹⁵ Although a private contractor handled the sanitary litter cans and the proceeds went to Riley Hospital, the city was still chiefly responsible for garbage collection and disposal. Some thirty years after Waring took over in New York City, the officials in Indianapolis were starting to emulate some of his practices, especially with respect to efficiency. An article appearing in the August, 1926 edition of *The American City Magazine* provides a snapshot of the garbage collection situation in Indianapolis:

Russell T. MacFall, Vice-President, Board of Sanitary Commissioners, Sanitary District of Indianapolis, states that collection of garbage, ashes and rubbish is made by the Board of Sanitary Commissioners and not by private collectors. The city owns a fleet of reversible side-dumping trailers, hauling 4 tons of garbage each. These are loaded in the streets and alleys, are horse-drawn, and attended by one man, usually the owner of the team. When loaded, the trailers are assembled at a common rendezvous, made up into trains of four and hauled by tractor-truck to the reduction plant, an average haul of five miles. Ashes are collected in the same way, except that the driver and helper load the trailers, which are assembled and made up into trains and hauled to the dumps, with an average haul of about two miles. The average cost of collecting and hauling garbage for 1925 was \$3.015 a ton. The cost of collecting ashes for 1925 was \$0.665 per yard, and of collecting market-house refuse \$0.442 per yard. Last year a little over 25,000 tons of garbage was collected and disposed of, with a net profit of \$21,000 to the reduction plant.¹⁹⁶

¹⁹⁵ G.O. 86,1924 and G.O. 87,1924, *Journal of the Common Council of the City of Indianapolis, Indiana From January 1, 1924, to December 31, 1924* (n.p., n.d.), 381, 384-385, 428-429, 539-540, 548.

¹⁹⁶ “Cost of Garbage, Ash, & Refuse Collection,” *The American City Magazine* XXXV, No. 2 (August 1926): 192-193.

During the period from 1890 to 1930, then, it is possible to see a distinct evolution in the attitude of city officials toward the issue of garbage. The businesslike tone of the detailed data that Mr. MacFall provided to the researchers at *The American City Magazine* in 1926 was a far cry from Mayor Sullivan's hand-wringing before the Common Council about the "perplexing" problem of garbage in 1892. Perhaps the city leaders were mindful of a connection between public health and sanitation.

The city of Indianapolis had its share of public health problems between 1890 and 1930. During Mayor Thomas L. Sullivan's February, 1892 speech to the Common Council, he reported the following statistics from the Commissioners of Public Health and Charities: in 1891, they had issued orders condemning "1,681 privy vaults; 43 wells; [and] 3,370 sewer connections."¹⁹⁷ The commissioners (or their staff members) had also placed 2,127 contagious disease placards in 1891. As of February 1892, they had disinfected 287 dwelling since 1 November 1891. Finally, the mayor reported that the Public Health Commissioners had reported 2,244 cases of contagious diseases to the Superintendent of Public Schools (the public health officials made daily reports to the schools concerning disease), "giving name and residence of all persons having contagious disease, so that children from infected houses could be kept from school."¹⁹⁸ In addition to closing unsanitary privy vaults and unauthorized sewers in order to try to prevent disease, city officials also had to deal with containing disease once it occurred, hence the disinfection of houses and the reports to the school system.

¹⁹⁷ *Journals of the Common Council, Board of Aldermen, and Joint Conventions of Said Bodies For the Years 1892 and 1893*, 18.

¹⁹⁸ *Ibid.*

In fact, in the 1890s when Mayor Sullivan was speaking, many cities had to regularly deal with and manage communicable diseases that are now fortunately rare in the United States. One such disease was typhoid fever, which was a waterborne illness caused by the bacterium *Salmonella Typhi*.¹⁹⁹ Pavement, curbs, zoning regulations, even sewers—infrastructure alone could not stop the spread of this germ. In the early twentieth century, a former resident of Indianapolis working for the U.S. Department of Agriculture discovered a way of killing the typhoid bacterium by purifying water:

In a bulletin issued this week by the Department of Agriculture, formally announcing the discovery of a solution of copper sulphate which will remove from large reservoirs and bodies of water all impurities, including the typhoid germ, Dr. George T. Moore, formerly of Indianapolis, has been brought into public as well as scientific prominence as the discoverer of this remarkable process.²⁰⁰

An article in the *Indianapolis Journal* dated 11 May 1904 proudly noted Dr. Moore's Hoosier provenance (he was a graduate of Shortridge High School and Wabash College, and his mother still lived in the 1000 block of Capitol Avenue). Dr. Moore's method of purifying the water was a forerunner of the current method municipalities use to treat drinking water, which is chlorination. The fact that this article about Dr. Moore's achievement was a front-page, above-the-fold story in 1904 might be attributed partly to his status as a native son, and partly to the fact that water was still not potable in 1904. Typhoid fever was a legitimate threat to public health—it was

¹⁹⁹ United States Department of Health and Human Services, Centers for Disease Control and Prevention, Division of Bacterial and Mycotic Diseases, "Typhoid Fever," United States Department of Health and Human Services, http://www.cdc.gov/ncidod/dbmd/diseaseinfo/typhoidfever_g.htm (accessed 23 January 2008).

²⁰⁰ "Former Indianapolis Man Discovers Method to Kill Typhoid Germ," *Indianapolis Journal*, 11 May 1904, p. 1, c.5.

transmitted not only from interpersonal contact, but also through water contaminated with sewage. At this time, the sewers of Indianapolis led to the rivers—the same rivers from which the city drew its water supply. The city was in dire need of a sewage treatment plant, a fact recognized for decades by city leaders. It would be some twenty years before a wastewater disposal plant opened, however.

In addition to communicable diseases, Indianapolis had other health problems that were related to sanitation during the years 1890 to 1930. In December of 1920, the Common Council unanimously approved Appropriations Ordinance 21,1920 authorizing a bounty on rats of five cents each.²⁰¹ The total amount allocated was \$1,000.00.²⁰² The fact that the council passed this ordinance signaled that government efforts alone were not succeeding in controlling the city's vermin problem.

While it is true that some of the public health and sanitation issues affected everyone who lived or worked within the city's limits, the fact was that wealthier people could afford to live some distances from where they worked. In contrast, poor and working-class laborers needed to live within walking distances of their workplaces. In this way, the city's health and sanitation woes had a disproportionately adverse impact on the poor. The city's sanitary infrastructure separated people according to the health of their neighborhoods.

Merely living during these years was an assault on a person's immune system and also on the environment. Although the residents of Indianapolis weathered impure water, rat infestations, and the influenza epidemic of 1918, it would be the failure on the part of city officials to design and build adequate infrastructure for

²⁰¹ *Journal of the Proceedings of the Common Council of the City of Indianapolis in Marion County, In the State of Indiana From January 1, 1920, to December 31, 1920* (n.p., n.d.), 638-639.

²⁰² *Ibid.*

sewerage and sewage treatment that would have the most long-term consequences.

The decisions that the city leaders made between 1890 and 1930 vis-à-vis these facilities, combined with the late arrival of zoning, have had a lasting impact on local residents, separating the city into healthy and unhealthy areas and livable and unlivable spaces.

Part Two: Under the Street and In the Air

City planners and engineers faced congestion problems both on the street and under the street in the midst of the paving and infrastructure revolutions. A typical improved street in the center city of any large U.S. city in the 1910s had to accommodate the following underneath it: sewers, water pipes, gas pipes, “telegraph and telephone conduits, pneumatic tubes, pipes for the conveyance of steam, hot water or refrigerating compounds, [and] vaults and tunnels . . .”²⁰³ If the city had elevated railroads, the street also needed room underneath it for foundations, and if the city had a subway, even more width was needed down below.

The decisions that the leaders of Indianapolis made with respect to the subterranean infrastructure of sewerage and sewage treatment still resonate in the early twenty-first century. These crucial choices, made in the context of a very late arrival to zoning, city planning, and wastewater treatment, helped cement the southwest side’s status as both the city’s garbage can and its bathroom. The choices that city leaders made between 1890 and 1930 have had long-term health implications. Certain places in Indianapolis are tolerable for working in, but not for living in. Yet, thanks to the factors discussed herein—politics, geography, a belated arrival to zoning and planning—people continue to live in those spaces.

Traveling northbound today on Harding Street from Interstate 465 to where it dead-ends at Oliver very close to the city center, one first notices the huge smokestacks belonging to the Indianapolis Power and Light (IPL) Harding Street Plant belching large quantities of thick white smoke into the air. The houses across

²⁰³ George S. Webster, “Subsurface Structures,” *Proceedings of the Third National Conference on City Planning*, 216. Webster was the chief engineer in Philadelphia.

the street from the IPL plant are clean and modest, with an occasional Confederate “stars and bars” flag in the front window instead of drapes. Next comes Troy Avenue; just across Troy is the city’s animal shelter, and then after the pound is the Belmont Street Advanced Wastewater Treatment Plant. The current sewage treatment facility is in its original location, on the property once known as Sellers Farm. It is impossible to drive very far onto the campus of the treatment plant; in order to secure the facility, a massive, guarded gate blocks the entrance. Also on the old Sellers Farm property is Covanta Energy, with its own busy smokestack, the byproduct of the incineration of the city’s garbage.

Raymond Street greets the traveler next, and the hulking Lilly Tech Center, which stretches all the way to Kentucky Avenue and Morris Street on the east side of Harding. In 1921, the Tech Center’s campus was occupied by stockyards. On the west side of Harding, one sees assorted manufacturing, industrial, and commercial concerns—a truck equipment supplier, stacks of concrete pipes, a package liquor store. And houses, schools, at least one church—all to the west, and visible from the street, proving that people choose to live where they will, not because a city planner recommended it. Those buildings represent a dense community that was there well before the zoning regulations and the opening of the sewage treatment plant, and which sits just about a mile north of the incinerator and wastewater treatment facility. After Kentucky Avenue and Morris Street, one has a brief chance to hop onto Interstate 70 before Harding dead-ends at Oliver, in what is now a Mexican neighborhood with a busy *carnicería* that sits across from a massive GM plant.

Why did the city officials decide to locate the wastewater treatment plant where they did? What was it about the southwest side of the city that made it such a likely candidate for the dumping of garbage, stray animals, and sewage since at least the 1910s? The answers point to a number of factors—part geography, part human nature, part politics. The history of Indianapolis’s infrastructure *under* the street is just as multi-faceted as that which occurred *on* the street.

Chapter Six: Sewerage

According to its design, a curb stops undesirable materials from mingling with that which is worthy of protection. A curb is a physical barrier, and its existence implies a need for separation. In most cases, curbs are located along streets, and they separate the street from an elevated walkway. In 1890, the need to separate oneself from the streets of nineteenth-century cities was very real. The dangers inherent in the streets of that century reflected the varying sophistication of peoples' understanding of disease and transportation, and ranged from miasmas to microbes, from horses to automobiles. In this sense, infrastructure protected people from nature and danger, but that benign vocation functioned, ultimately, to separate people from each other. We have seen how paved streets can perform a sanitary function, but also work to inhibit community strength and identity. Streets are part of a necessary infrastructure relating not only to commerce and transportation (occurring on their surface), but also to what is underneath them: utilities and sewerage. Streets can signify deep divisions between healthy and unhealthy areas of cities, just as they function to keep that which is unhealthy (effluents) divided and underground. In the late nineteenth century, influential city dwellers demanded that their streets be clean—preferably paved—and free of effluents, or sewage. In this respect, streets, curbs, and sidewalks were essential agents of public health, since they were often the only barrier between the spaces where people lived and worked and the spaces where they emptied their chamber pots.

For most of the nineteenth century, Americans did not use sewers to handle human waste; instead, they used sewers to drain the streets and remove storm or

surface water.²⁰⁴ This was the state of affairs in the United States during the “presewer period,” which lasted from 1800 to 1880.²⁰⁵ Instead of using sewers, people stored human waste in privy vaults and cesspools, which public- or private-sector scavengers then occasionally cleaned.²⁰⁶ Citizens’ demands for adequate sewerage systems grew with the industrialization of their cities.²⁰⁷ By the last two decades of the nineteenth century, newer homes in the cities began to feature bathrooms, and older homes were retrofitted with running water. Cities began to wage “vigorous campaigns” against backyard privies.²⁰⁸ It is worth noting that the Common Council of Indianapolis did not outlaw privy vaults in the city until 1921. The language of General Ordinance 64,1921 outlawed privy vaults when “a connection with a public sewer is or becomes accessible,” and defined “accessible” as a sewer within 100 feet of the outside line of the lot. The ordinance also outlawed water closets unless they were of a certain type, or they were operated as septic

²⁰⁴ Melosi, *Effluent America*, 35.

²⁰⁵ Ibid.

²⁰⁶ Ibid. “The privy vault and cesspool were essentially holes in the ground, often lined with stone, located close by residences or even in cellars. Although a good part of the contents of a well-constructed cesspool or privy was often absorbed by surrounding soil, the receptacles still needed periodic emptying . . . In many locales . . . householders merely covered the full vaults with dirt and dug new receptacles . . . As cities developed and grew in the nineteenth century, a combination of demographic and technological factors caused the privy vault-cesspool system to become increasingly inadequate to deal with waste disposal problems.” Joel A. Tarr, “The Separate vs. Combined Sewer Problem: A Case Study in Urban Technology Design Choice,” *Journal of Urban History* 5, no. 3 (May 1979): 309.

²⁰⁷ Melosi, *Effluent America*, 223.

²⁰⁸ McKelvey, 91.

tanks.²⁰⁹ Relative to its peers, the city of Indianapolis ran very late in regulating its residents' household sanitation practices.²¹⁰

During the nineteenth century, epidemics of cholera, typhoid, and yellow fever occurred regularly. The U.S. endured cholera epidemics in 1832, 1849, and 1866; outbreaks of yellow fever in southern states, where the mosquitoes carrying the disease were more abundant, appeared almost annually.²¹¹ After the Civil War, Americans began to understand that they could reduce outbreaks of disease by increasing their municipal sanitation practices. Fear of disease was responsible for the popularity of the late nineteenth century's public health movement, "while the concurrent benefits of water for industrial use and fire protection assisted reformers in arguments with cost-conscious taxpayers."²¹²

As for the etiology of these diseases, the physicians of the nineteenth century fell into three basic camps: miasmists (also known as "anti-contagionists"), contagionists, and limited contagionists.²¹³ In the pre-Pasteurian era, bacteria were not thought to be the cause of disease. Instead, the miasmists believed in what was then known as the "filth theory" of disease causation first put forth by an English physician, Thomas Sydenham.

To miasmists the problem of etiology was multifaceted:
garbage and offal amassed in the streets . . . courts trapped
foul air; faulty sewers and inadequate drainage systems

²⁰⁹ *Journal of the Common Council of the City of Indianapolis, Indiana From January 1, 1921, to December 31, 1921.* See G.O. 64,1921, introduced by Mr. Pettijohn 22 August 1921, pp. 453-454; passed by a vote of 9-0 on 3 October 1921, p. 573; signed by Mayor Charles W. Jewett on 6 October 1921, p. 575.

²¹⁰ Hoy, 222. She cites Neil M. Cowan and Ruth Schwartz Cowan, *Our Parents' Lives: The Americanization of Eastern European Jews* (New York: Basic Books, 1989), 68, stating that almost every American city had banned outdoor privies by 1905.

²¹¹ Hoy, 62-63. Other common killers of the day were typhus, scarlet fever, and diphtheria. *Ibid.* at 61.

²¹² Warner, 30.

²¹³ Jamieson, 24.

added to the filth . . . These environmental factors, when combined with the right atmospheric conditions, supposedly caused most epidemic diseases, including cholera, typhus, typhoid, and smallpox as well as a host of endemic afflictions, the most deadly of which was consumption.²¹⁴

In other words, adherents to the miasma theory of causation believed that the foul odors themselves (which could be the putrefaction emitting from broken sewers or dirty streets) caused disease, not microbes. Contagionists, who would ultimately be proven correct by Pasteur, Lister, and others in the latter part of the century, believed that microbes or similar organisms caused disease. These physicians believed in the practice of quarantining sick individuals. Finally, the limited contagionists believed in *both* the miasma theory of causation and the microbial etiology.²¹⁵ The miasmists constituted the majority of public health reformers prior to the Pasteurian revolution, and their theory of disease dominated the public discourse until the 1880s and 1890s. According to the miasmists, “[t]he proper response to disease . . . was environmental sanitation—civic cleanliness, proper drainage and sewerage, adequate ventilation of buildings and removal of refuse. Because these practices often provided relief from disease, they were accepted virtually without question.”²¹⁶ Since the miasmists believed that filth was a major cause of disease, many cities embarked on huge sanitation campaigns during epidemics. Sanitation—washing—required water that was itself free from disease, and sanitarians believed that if the water was odorless and colorless, it was safe: thus the demand for reliable municipal water supplies. The construction of waterworks went hand-in-hand with cities’ investment in sewerage systems.

²¹⁴ Ibid.

²¹⁵ Ibid., 24-25.

²¹⁶ Martin V. Melosi, “Battling Pollution in the Progressive Era,” *Landscape* 26, no. 3 (1982): 40.

Once a city decided to build a system of sewers, there were other important decisions to make regarding its design, especially whether it would use “combined” or “separate” technology. At that time, one of the nation’s leading experts on sanitation and sewerage was George E. Waring, Jr., of street-cleaning and waste management fame. Waring was a miasmist who believed that sewer gas was responsible for many major illnesses, yet ironically he acted as a consultant for several U.S. cities in the construction of their municipal sewerage systems. He touted skilled plumbers as a neighborhood’s best defense against noxious sewer gas that might escape from faulty lines.²¹⁷ Waring advocated that cities build “separate” sewer systems, as opposed to “combined” designs. According to Joel Tarr, this was a “critical design decision” for cities.²¹⁸ The combined system carried both household wastes and storm water in one large pipe, while the separate system technology provided two sets of pipes. The smaller of the two sets of pipes in the separate system (called a sanitary sewer) carried household wastes; the larger pipe carried storm water from streets, roofs, and yards. Tarr writes that in many cities, though, having a separate system merely meant that the city built a sanitary sewer (for household wastes) and “made no provision for underground removal of storm water.”²¹⁹

The separate system was attractive to Waring because he believed that the separate sewers “provided for swifter removal of wastes from the household and the city. [Waring] argued that unless human feces were transported out of the household

²¹⁷ Hoy, 71. Her discussion of Waring’s life work, from his early days in New York in the 1850s to his untimely death in 1898, is at 66-80. Hoy believes that, had Waring lived to see the day when the contagion theory of disease transmission was widely accepted, he, too, would have become a contagionist. *Ibid.*, 80.

²¹⁸ Tarr, 308.

²¹⁹ *Ibid.* 308-309.

in a ‘fresh condition,’ they would ‘undergo putrefaction and give off objectionable gases.’”²²⁰ Waring believed that those sewer gases were lethal, because they contained decomposing feces. Although Waring was off the mark medically and scientifically, there was in fact a big problem with the combined sewer system technology: overflow. Since rainfall amounts vary, it was too expensive for cities to build combined sewers large enough to handle the maximum possible volume of storm runoff.²²¹ So, engineers built overflows for the combined system’s pipes, which automatically removed sewage from the pipes when it reached a predetermined volume and sent it into nearby waterways.

Since this overflow consisted of storm water mixed with household sewage, it created both water pollution and nuisances in parts of rivers that were normally free of a high content of wastes. Since overflow drains were often close to water intake areas or heavily populated areas, a serious hazard could be created.²²²

The city fathers in Indianapolis opted for a combined system that hooked up sanitary sewer lines to existing storm sewers, and the city has experienced severe overflow problems ever since. The yellow dots in Figure 7 represent the points at which the sewers of Indianapolis presently overflow into local waterways.

The genesis of this ongoing problem is located in decisions the city leaders made in the 1890s. Some of the fault rests with elected officials who tried to accomplish the job as cheaply as possible, and therefore decided on both a combined

²²⁰ Ibid., 316, citing Waring, “The Sewering and Draining of Cities,” *Papers and Reports of the American Public Health Association (APHA)* 6 (1879): 34-40.

²²¹ Ibid., 327-328.

²²² Ibid. Even the separate system technology can still pollute waterways, since stormwater runoff is normally untreated in a separate system. “[F]or some parameters, such as suspended solids and heavy metals, urban storm runoff is more polluted than sanitary sewage.” Anne Whiston Spirn, “The Role of Natural Processes in the Design of Cities,” *Annals of the American Academy of Political and Social Science* 451 (September 1980): 103.

system and a piecemeal method of installation (as opposed to a comprehensive plan). Another reason for the problem is traceable to the zeitgeist of the late nineteenth and early twentieth centuries, when hiring experts and placing complete trust in them was the standard modus operandi for municipalities seeking solutions to massive problems. Indianapolis, like most large cities, had a big wastewater management problem in the late nineteenth century. So, the leaders of the city turned to experts for help.

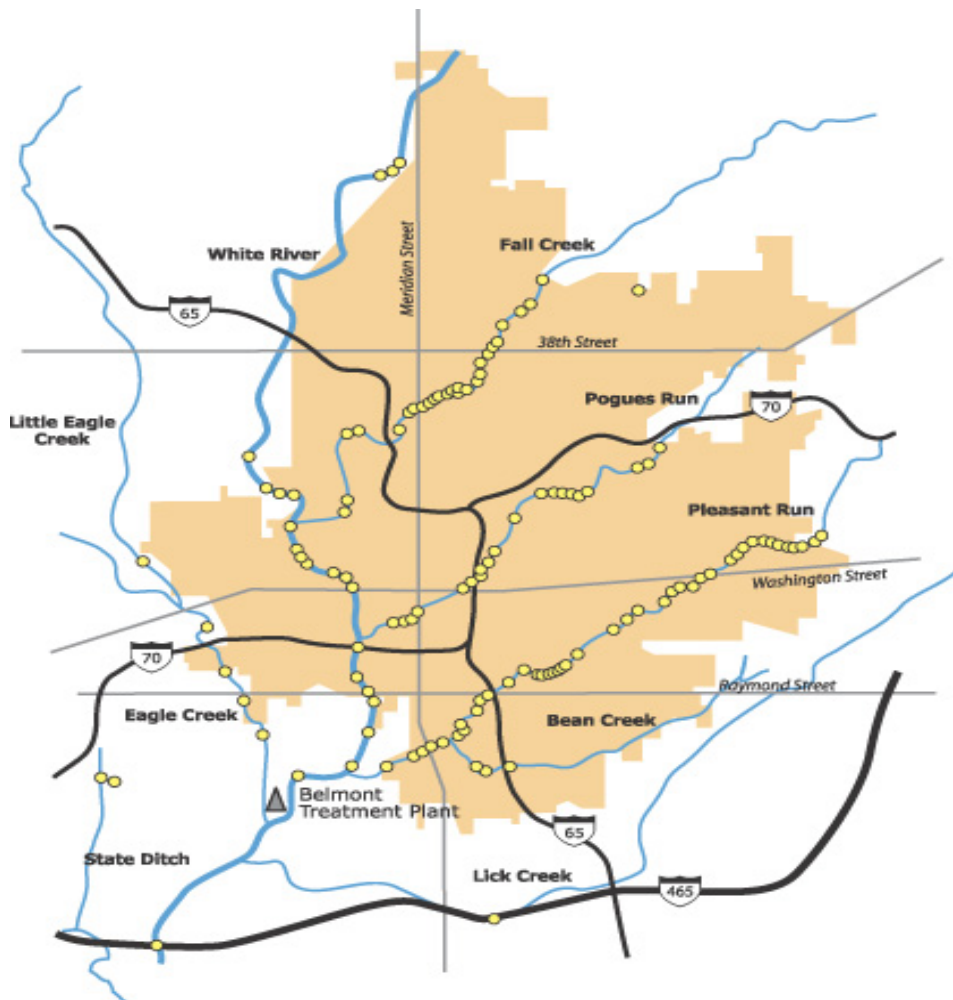


Figure 7. Department of Public Works, City of Indianapolis, “Where Sewers Overflow,” Department of Public Works, <http://www.indygov.org/eGov/City/DPW/Environment/CleanStream/Problems/Sewage/where.htm> (accessed 27 January 2008).

Presewer Indianapolis used a system of culverts and above-ground wooden gutters to drain effluents to the White River. The city built an incomplete sewer system in 1870, and did not operate a sewage disposal plant until 1925, when the Belmont Street facility opened on the southwest side.²²³ In 1891, the Commercial Club of Indianapolis adopted a resolution appointing a “Sewerage Committee” to survey the city’s present system, to investigate options for the development of that system, and to scout for a talented engineer who could advise the city in this area.²²⁴ According to the published report of the committee, as of 1891 the city had seventy sewers carrying both sewage and surface drainage directly to White River, Pleasant Run, Pogue’s Run, Fall Creek, and what is today the Indianapolis Water Company Canal. The committee found that “[m]any of the sewers are in a very bad condition. Several of them should be removed or new sewers take their places at once.”²²⁵ Further, the committee discovered that “[t]here is not a stream or open water-course, including the canal, within the city limits, into which sewage, filth and cesspools are not drained. Drains that were designed for surface drainage only have had connections made to them by private property-holders and are now used as common sewers.”²²⁶ The committee’s report detailed the fact that every single (legitimate) sewer they studied was in “bad condition,” and prone to leakage.

After discussing the failings of the present system, which included an overflow problem, the committee members made eight recommendations concerning

²²³ Celeste Jaffe, “Infrastructure,” in David J. Bodenhamer and Robert G. Barrows, eds., *The Encyclopedia of Indianapolis* (Bloomington: Indiana University Press, 1994), 820. The plant is accessible from Harding Street; the campus is so large that the official address of the buildings themselves falls one block west of Harding, on Belmont.

²²⁴ Charles B. Fletcher, Chairman, and George W. Bender, *Report of the Sewerage of Indianapolis by a Special Committee of the Commercial Club, 1891* (Indianapolis: Carlon & Hollenbeck, 1891), 3.

²²⁵ *Ibid.*, 5.

²²⁶ *Ibid.*

the city's sewerage system (including filtration), and even recommended hiring a municipal sanitation engineer to act as a consultant. The committee also provided two options for executing the necessary improvements: a public option, whereby the improvements would be made under the aegis of the city's Board of Public Works, and a private option, whereby the Commercial Club would solicit subscriptions from property holders and other interested parties and contract the work out itself.²²⁷ City administrators opted for a piecemeal approach to Indianapolis's sanitary problems, though, and more than one hundred years later the city still has an overflow problem.

In his 1892 speech to the Common Council, Mayor Sullivan seconded the findings of the Commercial Club.

No improvement is more needed in Indianapolis than an adequate system of sewerage. Up to this time we have had no system of sewerage at all, properly speaking. The Board of Public Works has, however, caused a topographical map of the city to be prepared, showing its elevation and drainage areas, and a large amount of work will be done in building sewers that will be adequate, both for to-day and also for the Indianapolis of the future.²²⁸

Historian Jacob Piatt Dunn, writing about 1910, looked back on the previous century's efforts and noted that the city first seriously dealt with the issue of underground sewers in 1869. Two nationally prominent experts, Moses Lane and Ellis S. (E.S.) Chesbrough, approved the 1870s design of the Indianapolis sewerage system.²²⁹ Lane and Chesbrough were both extremely powerful men—Chesbrough had persuaded the city of Chicago to spend more than \$10 million on its sewerage

²²⁷ *Ibid.*, 11.

²²⁸ *Journals of the Common Council, Board of Aldermen, and Joint Conventions of Said Bodies For the Years 1892 and 1893*, 15.

²²⁹ Dunn, 416-417.

program, and Lane worked as a consultant in several cities around the country.²³⁰

According to historians Schultz and McShane, the “consultant role was a measure of engineers’ status and of their aloofness from the pendulum swings of partisan politics. Despite keen competition among urban centers, city engineers were so important as in-house experts that local politicians could not deny them the opportunity of advising hated rivals in other cities.”²³¹

Dunn’s assessment of the state of affairs in 1891 was that most of the existing sewerage was “serviceable but it was overtaxed, partly on account of extensions and partly on account of improvements . . . ” In 1891, the city had 26.66 miles of sewerage (21.3 miles of brick, and 5.34 miles of pipe), varying from one to eight feet in interior diameter.²³² Dunn related that after the Commercial Club published its recommendations, the Indianapolis Board of Public Works hired a consultant, the noted sanitation expert Rudolph Hering, in 1892. Hering had previously worked with the cities of New York, Chicago, Philadelphia, and Washington, DC.²³³ Most municipal engineers and politicians agreed that hiring experts was advisable—Lane and Chesbrough were influential men in their time (the 1850s through 1870s) because of their specialized knowledge in the field of sanitation. Albert F. Noyes, a municipal engineer writing in 1894, was

pleased to see that other municipal engineers have been quick to perceive the advantage derived by retaining the services of a consulting engineer, thereby obtaining more perfect results for the

²³⁰ Stanley K. Schultz and Clay McShane, “Pollution and Political Reform in Urban America: The Role of Municipal Engineers, 1840-1920,” in *Pollution and Reform in American Cities, 1870-1930*, ed. Martin V. Melosi (Austin: University of Texas Press, 1980), 161, 164-165.

²³¹ *Ibid.*, 165.

²³² Dunn, 417-418.

²³³ *Ibid.*, 418.

municipality and increasing the confidence of the community in their good judgment. The confidence of the public in the engineer has increased, until to-day but few works of importance are inaugurated without first calling upon his services.²³⁴

In the 1890s, the two most noteworthy American sanitation experts were George Waring and Rudolph Hering. Waring, as already discussed, was a strong advocate of separate sewer systems for stormwater and household wastes, albeit for scientifically unsound reasons. Had the Indianapolis Board of Public Works hired Waring after the Commercial Club issued its report, he undoubtedly would have recommended a separate system. But the Board hired Hering instead, and like most large U.S. cities, ended up with a combined system with a serious overflow problem, for Hering was an advocate of combined systems. Two experts, two strong opinions: this raging dispute affected many cities' decisions. Hering's approach was less expensive, and most municipalities—and their engineers—were convinced that his method was the best.²³⁵ Unlike Waring, Hering was a trained engineer; he was able to persuade the majority of municipal decision-makers that the combined system was just as sanitary as the separate system (if properly built), as well as more economical for large cities.²³⁶ He was very successful in his campaign. According to the U.S. Environmental Protection Agency, there are 772 communities in the United States

²³⁴ Albert F. Noyes, "Organization and Management of a City Engineer's Office," *Journal of the Association of Engineering Societies* XIII, no. 10 (October 1894): 547.

²³⁵ Eugene P. Moehring, "Public Works and Urban History: Recent Trends and New Directions," No. 13 in the *Essays in Public Works History* series (Chicago: Public Works Historical Society, 1982), 4-5.

²³⁶ Tarr, "Separate vs. Combined," 318-319, 322.

with combined sewerage systems.²³⁷ Figure 8 illustrates the distribution of those systems throughout the United States.

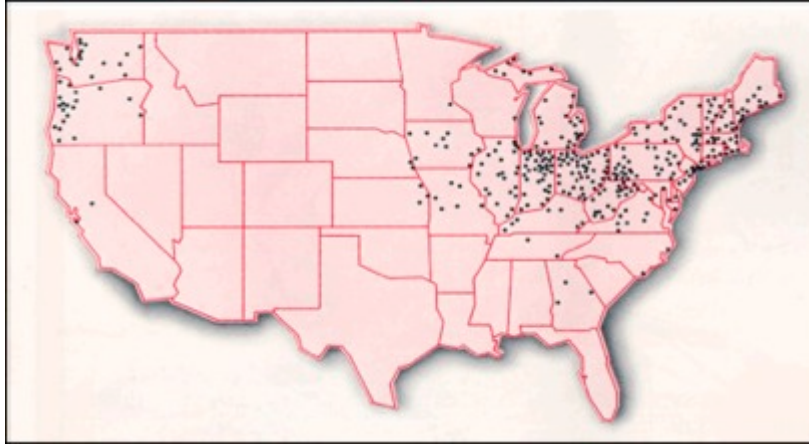


Figure 8. United States Environmental Protection Agency, “CSO Demographics,” United States Environmental Protection Agency, http://cfpub.epa.gov/npdes/cso/demo.cfm?program_id=5 (accessed 27 January 2008).

Hering issued his report to the Board of Public Works on 14 June 1892.²³⁸ He divided the city into five drainage districts that used Fall Creek, Pogue’s Run, the canal, and Pleasant Run as their boundaries. Moses Lane’s plan of the 1870s had only used Pogue’s Run and the canal. According to Dunn, the “sewer work” from the date of Hering’s report to 1 January 1909 followed the lines Hering dictated, and resulted in the completion of 224.25 miles. Dunn reported that the first 26.66 miles (which had been constructed before 1891) had cost \$726,157.73 to construct, but the total cost of sewers up to 1909 was just over \$3 million.²³⁹

The above demonstrates that just as the urban landscape *above* the street is subject to political discourse, so is the landscape below the street. What happened under the street in terms of a sewer system was just as vulnerable to the moods of

²³⁷ United States Environmental Protection Agency, “EPA Combined Sewer Overflows-Office of Wastewater Management,” United States Environmental Protection Agency, http://cfpub.epa.gov/npdes/home.cfm?program_id=5 (accessed 27 January 2008).

²³⁸ Dunn, 418.

²³⁹ *Ibid.*

those in power as what happened on the street. Those without a political voice would become the clear losers in this venture. In those first years in the development of a system of sewerage, the city leaders of Indianapolis seem to have been chiefly motivated by thrift and expertise. In a sense, they found an expert who told them what they wanted to hear. There is no evidence that Hering or the city's decision-makers consulted the people who lived in the neighborhoods that might be affected by Hering's proposed system. The seeds of community separation were sown in this early period, because depending on a neighborhood's location with respect to the geography of the city, some places would become healthier than others. If a person lived by White River, for example, he essentially lived by an open sewer. While there is scant evidence of political gamesmanship with respect to the decision to construct a combined sewer system, such evidence abounds when one considers the history surrounding the city's approach toward wastewater. For although Hering's claim about economy had proven to be legitimate—at least in the short run—there was a nagging problem: the city lacked a sewage treatment plant. All of those new sewers built in the 1890s and 1910s ultimately led to the same place—the White River. For all the advancements a sanitary sewer would bring in terms of public health, the system of sewerage was incomplete without a method of dealing with the wastewater.

Chapter Seven: The Sewage Treatment Plant

The city kept building its sewers, and they kept discharging into the major waterways of Indianapolis—chiefly White River, Fall Creek, Pogue’s Run, and Pleasant Run. Because of both the location of White River in relation to the waterways and the fact that the city’s terrain sloped to the southwest, the final destination for all of the sewers’ contents was White River. In other words, even sewage dumped into Pogue’s Run, Pleasant Run, or Fall Creek would flow into White River eventually. The main sewers designed by Moses Lane as part of the 1870s system and approved by Chesbrough flowed southwest to the Kentucky Avenue area and discharged directly into White River. The public could not realize the full health benefit of the sewerage system as long as the city’s rivers and streams were themselves open sewers. If a family had enough money, they could live far away from the noxious waterways and afford the costs of commuting to work, shopping, and school. For those whose economic conditions forced them to live close to where they worked, however, there was less choice in the matter. So the decisions made by the city leaders about the location and development of infrastructure worked to separate people into certain and distinct neighborhoods according to their socioeconomic status and financial resources. Those who had less money were stuck living closer to the polluted rivers and streams.

And residents swam in the water from those rivers and streams—a 1910 article from the *Indianapolis Star* recounted the action at a Common Council meeting the night before concerning municipal bathhouses. The members of the council had passed an appropriations ordinance that allocated \$300 for the maintenance of a

municipal bathhouse on Fall Creek near Capitol Avenue.²⁴⁰ There was some debate about whether children should be allowed to use the facility free of charge. A councilman from the south side, Mr. Troy, objected to the location of the site on the north side and insisted that there were several places on the south side of the city where water from Pleasant Run could be used to supply a bathhouse.²⁴¹

Even though the city had a utility (the Indianapolis Water Company, chartered in 1881) that supplied its residents with filtered water from Fall Creek, the company could only do so much to cleanse the water when sewage was flowing into that stream on a constant basis.²⁴² Additionally, the water company was not responsible at all for filtering water in the other waterways, like Pleasant Run, where people were bathing, swimming, and fishing. Nevertheless, the company's filtration plant was a model of progress for other cities in the state of Indiana. At a conference in 1908 on the topic of pure water, attendees included a tour of the filtration plant in their agenda.²⁴³

Dunn noted that as early as 1859, the *Locomotive* (a local newspaper) was the first to come forth with a suggestion for an underground sewerage system for the city. The staff of the paper floated two alternatives—one emptying into Pogue's Run, and one into White River. The piece in the *Locomotive* declared that whichever method was cheaper was the best one for the city. Dunn cautioned his contemporary readers in 1910 to avoid feeling too superior to their shortsighted 1859 ancestors; after all, did not the city currently have a problem on its hands regarding the disposal of

²⁴⁰ "Grant Bathhouse Fund," *Indianapolis Star*, 12 July 1910, p. 1, c. 4.

²⁴¹ *Ibid.*

²⁴² Dunn, 334-335.

²⁴³ "Fight for Pure Water," *Indianapolis Star*, 8 July 1908, p. 16, c. 3.

wastewater? Dunn admonished his readers to “pause and reflect if our present sewer system is not one that will have to be abandoned, or so modified as to prevent the flow of sewage into White River. Is it not manifest that it can be but a short time until this making sewers of running streams must be wholly discontinued?”²⁴⁴

The State Board of Health had taken note of the situation in Indianapolis with respect to sanitation earlier than Dunn. In 1898, Dr. J.N. Hurty, the secretary of the Indiana State Board of Health, observed that “[i]t is actually criminal for Indianapolis to pour each day into White River [thousands of pounds] of pollution, which, if used on a farm would bring a good return.”²⁴⁵ The city kept discharging its sewage into the waterways, however, right on into the twentieth century, through at least the 1910s.

White River and Fall Creek were not the only streams suffering this indignity. Pogue’s Run, which came from the northeast and flowed through downtown Indianapolis before it joined White River, was so filthy and smelly that the city enclosed the downtown portion within a tunnel after the great flood of 1913. It took four years, from 1914 through 1918, for the city to build the tunnel, including connecting the combined sewer overflow valves to it. The tunnel still exists; it starts just northeast of where New York Street crosses under Interstate 65 east of College Avenue; at that location, Pogue’s Run submerges and becomes an underground creek. It emerges from its tunnel near Kentucky Avenue and McCarty Street. Today, the tunnel has two channels, is sixteen feet wide, and eighteen feet tall. Department of Public Works personnel walk its length four times every year to inspect it.²⁴⁶

²⁴⁴ Dunn, 417.

²⁴⁵ “Strawboard Waste Plan,” *Indianapolis News*, 21 September 1898.

²⁴⁶ Tom White, Project Manager for the Department of Public Works Office of Environmental Services, interview by author, Indianapolis, IN, 19 September 2007.

In 1915, the city underwent a federal inspection of its sanitation efforts.²⁴⁷ Dr. H.F. Smith from the U.S. Public Health Service and J.A. Craven from the Federal Public Health Department audited the city's water supply, sewage disposal, milk supply, garbage disposal, and any other practices which might affect the public health. They were also interested in the extent to which the waterways were polluted. They visited all cities in the state with a population of 10,000 or more.²⁴⁸ At this time, however, Indianapolis's sewage disposal "system" consisted of dumping the waste material directly into its waterways, despite the repeated efforts of city officials to obtain authorization from the state government to change the situation.

In his 1916 speech to the Indianapolis Common Council, Mayor Joseph E. Bell lamented the state of affairs with respect to sanitation:

[t]he need of a sewage disposal plant is recognized by every citizen who has given thought to the subject. There is no reason why the city should continue to dump its filthy sewage into White River when there are now well-recognized methods of disposing of the sewage whereby the unsanitary condition produced from the casting of filthy sewage into the river can be entirely eliminated, and what is now a waste can be turned into a profitable industry in the manufacture of fertilizer.²⁴⁹

Mayor Bell was echoing the observation of the State Board of Health's Dr. Hurty some eighteen years earlier concerning the pollution of the river. If everyone knew there was a problem, why hadn't the city's leaders corrected it? How was it that

²⁴⁷ "Federal Inspectors Study City's Sanitary Conditions," *Indianapolis Star*, 13 August 1915, p. 16, c. 3.

²⁴⁸ *Ibid.*

²⁴⁹ *Journal of the Common Council of the City of Indianapolis, Indiana From January 1, 1916, to December 31, 1916*, 182.

almost two decades had passed with no progress? Mayor Bell, a Democrat, had an answer in the next part of his speech to the council.

Prior to the meeting of the last General Assembly City Engineer Jeup prepared a plan for sewage disposal, and a bill for the construction of a sewage disposal plant in the City of Indianapolis was presented to the General Assembly; but a narrow-minded Republican delegation of Representatives from Marion County thought it more important to play cheap politics by opposing and defeating this measure than they did to serve the people by favoring the passage thereof. If the Marion County Delegation in the last House of Representatives had supported this measure, Indianapolis would to-day have practically completed a modern sewage disposal plant, and the unsightly and unsanitary [sic] dumping of sewage into White River would be practically at an end. As the result of the opposition of the Marion County members of the House of Representatives the waters of White River are still polluted with the sewage of the City.²⁵⁰

Mayor Bell would only have one more year to work to correct this problem. In early 1918, a new mayor took over, Republican Charles W. Jewett.²⁵¹ But before Mayor Bell left office, he issued a twenty-two page parting shot in the form of his *Message of Honorable Joseph E. Bell, Mayor, to the Common Council Reviewing Work Accomplished During His Administration January, 1914 to January, 1918 Submitted to the Common Council of the City of Indianapolis, January 2, 1918*. He was proud of his administration's accomplishments with respect to infrastructure: "more streets have been improved, more sidewalks have been built and more sewers constructed under the four years of this administration than under any two previous administrations. Streets, sidewalks, and sewers built under this administration if laid out on one continuous line would extend a distance of 281 miles, more than the entire

²⁵⁰ Ibid.

²⁵¹ "Hoosier Republicans Win," *New York Times*, 7 November 1917.

length of the State of Indiana.”²⁵² He ended his message with many recommendations for the future and included some observations about the sewage disposal plant:

[i]t is to be regretted that the Legislature of 1915 did not pass the bill that was recommended by City Engineer Jeup for the establishment of a City Sewage Disposal Plant. If it had been done this plant would now be completed and Fall Creek and White River would be relieved from the vile sewage which is cast into them by the city sewers. At that time the plant could have been built for one-half what it will cost today. This bill in the Legislature was defeated because of the bitter opposition of a powerful influence in this city which sought in every way to interfere with and prevent any new improvement undertaken in my administration. But the people generally are the sufferers from this selfish opposition and the people in the end will be compelled to pay the added cost. Its selfish influence has cost the people of this city untold sums of money. The last General Assembly did enact a law recommended by the City Engineer providing for the building of a sewage disposal plant, but the financial conditions which now prevail make the matter of time when this great needed work can be done a very doubtful matter.²⁵³

The bitter, almost wounded tone of Mayor Bell’s final speech is understandable when one considers its context. To be sure, he had every right to be frustrated with the fact that the legislature’s delay would result in a more expensive undertaking overall for the taxpayers. Mayor Bell’s observation that “the people” would suffer for the delay in addressing the environmental issues posed by the lack of a wastewater treatment facility was correct—and not just in a fiscal sense. The members of the Common Council of the 1890s could be faulted for their utter failure to plan for a sewage treatment plant at the same time they were committing to a massive and ongoing sewerage construction project. The city leaders during the early years of the twentieth century were blameworthy for not aggressively pushing the issue. But all that time, the residents of the city who happened to live by its major waterways paid the price

²⁵² Bell, 1918 speech, 10.

²⁵³ *Ibid.*, 22.

with their health. They were victimized by a system of experts, power brokers, and politicians that meshed politics with public health. Mayor Bell was also prescient about the extended timeline—the sewage treatment plant would not begin operation until the mid-1920s. Finally, it was legitimate to interpret the General Assembly’s timing in passing the bill during Bell’s last year in office (1917) as a personal swipe at the mayor. But why was there such a personal animus between this Democratic city mayor and the Republican county officials?

One answer, no doubt, is that Mayor Bell’s election in 1914 was marred by a scandal of frightening proportions. In 1915, a Marion County grand jury indicted him first on 22 June for conspiracy to commit felonies, bribery, and blackmail and again on 3 July for ““seeking by violence and threats of criminal prosecution to influence a voter.””²⁵⁴ The original set of indictments in June accused 128 defendants and totaled forty-eight counts. Included among them were former (Democratic) Mayor Thomas Taggart, who was in 1915 the Democratic National Committeeman for Indiana; Chief of Police Samuel Perrott; Robert W. Metzger, a Republican member of the Board of Public Safety; Don M. Roberts, a former mayor of Terre Haute who was currently in the Federal Penitentiary for his role in a local election fraud case; and even members of the Progressive Party. Bell’s lone co-defendant in the July indictment was the chief of police. The indictments alleged that the conspiracy began with the May, 1914 primary and ran through the November election of that year. The charges included “illegal voting, intimidation, false registration, padding the talley sheets, stuffing the

²⁵⁴ The information about the original indictments is located in *Information Annual 1915, A Continuous Cyclopedia and Digest of Current Events*, Vol. 1 (New York: R.R. Bowker Company, 1916), 327. The 3 July indictments are described in “Indict Mayor Bell Again,” *New York Times*, 4 July 1915.

ballot boxes, illegal manipulation of voting machines, blackmailing of saloonkeepers and resort owners, bribes and vote-buying.” Seven of the defendants pled guilty at their arraignment in July of 1915; the vast majority of the other defendants, over 100 of them, wanted trials.²⁵⁵

The mayor’s trial, which began in mid-September, was sensational. The prosecutor’s opening statement lasted eleven hours.²⁵⁶ In his opening statement, M.A. Ryan, Mayor Bell’s defense attorney, accused the state’s witnesses of perjury, and he accused the prosecutor’s agent of employing a “crook” to coach those witnesses up in Chicago and then secreting the witnesses at a camp in Ohio until it was time for them to testify. Mayor Bell was acquitted of the conspiracy charges on 13 October—the jury of six Republicans, three Democrats, a Socialist, a Progressive, and a Prohibitionist took less than two hours to deliberate and reach a verdict.²⁵⁷ The prosecutor, A.J. Rucker, ended up dismissing charges against 105 of the remaining 118 defendants on 11 December of 1915, because “in view of the showing made in the trial of Mayor Joseph E. Bell on the conspiracy charges he did not believe the state had sufficient evidence to warrant going to trial with the 105 cases.”²⁵⁸ Obviously, Mayor Bell’s jury had seriously questioned the credibility of the witnesses for the prosecution. So, when Bell referred in his 1918 speech to “a powerful influence in this city” that sought to undermine his efforts to modernize the city, he was not being unduly partisan or a sore loser. Unfortunately, an issue of public health had become a political football to be tossed around by partisan rivals.

²⁵⁵ Ibid.

²⁵⁶ “Hints at Perjury School,” *New York Times*, 14 September 1915.

²⁵⁷ *Information Annual 1915*.

²⁵⁸ Ibid.

The Speaker of the House of Representatives of the Indiana General Assembly signed and ordered House Bill 312 enrolled on 5 March 1917.²⁵⁹ That important piece of legislation created for Indianapolis a Department of Public Sanitation under the control of a three-member Board of Sanitary Commissioners.²⁶⁰ The law empowered the board to hire a consulting engineer to design a sewage disposal plant or plants and issue a report.²⁶¹ The law also gave the board a process by which they could determine that a river or stream was being polluted by sewage, and the power to officially declare that the city needed a sewage disposal plant to maintain public health and welfare.²⁶² This process included the right of remonstrance to people affected by the board's decisions, as well as a right of appeal. As far as the location of the plant, the law allowed the board "[t]o condemn, appropriate, lease, rent, purchase and hold any real estate, rights of way, materials, or personal property within such city . . . or within five miles of the corporate limits thereof in any direction needed for a sewage disposal plant or plants and for intercepting or connecting sewers"²⁶³ The law did not mandate a specific location for the plant, and it even allowed for more than one facility. This was important, because although the city had been using the Sellers Farm location as its all-purpose dumping ground, the wording of the law actually empowered the board to explore possible sites for a treatment plant that were as much as five miles outside the city limits. Presumably,

²⁵⁹ *Journal of the House of Representatives of the State of Indiana During the Seventieth Session of the General Assembly Commencing Thursday, January 4, 1917, Regular Session* (Fort Wayne Printing Company, 1917), 756, 766.

²⁶⁰ *Laws of Indiana (1917)*, 573.

²⁶¹ *Ibid.*, 576.

²⁶² *Ibid.*, 582.

²⁶³ *Ibid.*, 577.

those areas were less densely populated and it would have been relatively easy for the board to condemn or appropriate the land under its eminent domain authority.

In terms of paying for the plant, the enabling legislation authorized the Board of Sanitary Commissioners to get loans from the City Controller until the board could issue bonds and collect taxes. The law authorized a special tax for a sanitary district, and empowered the newly created Sanitary District to finance both the construction of the plant and the purchase of its property by issuing bonds until taxes could be collected.²⁶⁴ In authorizing the creation of the special sanitary district, the Indiana General Assembly was following a practice first popularized in the 1880s and 1890s.²⁶⁵ Once again, as with zoning laws, the state of Indiana was a late adopter of innovation. Tarr observes that the

special district government was another institutional development of this period with strong implications for the provision of infrastructure. These were state creations that had fiscal and administrative independence for special functions. Early special districts were primarily in the areas of water and sewerage . . . The motivation for their formation included the need for a functional structure independent of political boundaries, a desire to escape the existing municipal tax and debt limits, and a wish to be free of political control.²⁶⁶

As Tarr mentions, the concept of districts managing certain functions was born out of a desire to keep important services affecting public health apart from the machinations of politicians. Unfortunately for the people and environment of

²⁶⁴ Ibid., 581, 586, 593.

²⁶⁵ Stanley K. Schultz and Clay McShane, "To Engineer the Metropolis: Sewers, Sanitation, and City Planning in Late Nineteenth-Century America," *Journal of American History* 65, no. 2 (Sep. 1978): 398-399.

²⁶⁶ Tarr, "Building the Urban Infrastructure: An Introduction," 75.

Indianapolis, that very factor—the machinations of politicians—prevented the creation of a sanitary district for years.

The legislature's choice of a district funding model was also important from a planning standpoint. Speaking at the Fifteenth National Conference on City Planning in Baltimore in 1923, George Ford stressed the importance of regional planning within the specific context of sanitation. "The more communities are grouped the more difficult it is for each separate municipality to provide its own water supply and sewerage and refuse disposal. Stream pollution becomes more and more of a menace. The only alternative is a co-operative development of common facilities . . ." ²⁶⁷ Ford also addressed the question of where to locate the facilities by stating that the "choice of areas to be used for water supply, or sewerage or refuse disposal, obviously must be made regardless of the limits of the individual towns, if the problem is going to be solved in the interests of the whole area. Therefore, again regional planning and State or County control is necessary." ²⁶⁸ Ford emphasized that a government should locate crucial infrastructure in the optimal place, irrespective of the corporate limits of cities and towns. Indeed, the legislature gave the Indianapolis Board of Sanitary Commissioners five miles' leeway in any direction for the plant's location, and even used the word "plants" in the plural sense in case the board decided the city needed more than one facility. Given all this flexibility, why did the Board of Sanitary Commissioners settle on the Sellers Farm site?

Appendices 1 and 2 provide one answer that has nothing to do with egos, corruption, or politics: geography. Sellers Farm happened to be situated right where

²⁶⁷ Ford, 9.

²⁶⁸ Ibid.

White River met Big Eagle Creek. In fact, Appendix 1 illustrates that *all* of the city's four major waterways flow downstream toward that point: White River, Fall Creek, Pogue's Run, and Pleasant Run Creek. The city's topography slopes to the southwest, which explains why the waterways flow toward this point.²⁶⁹ Appendix 2 is a map of the area dated 1929 and indicates that the wastewater treatment plant was originally named the Eagle Woods Sanitation Plant. The garbage reduction plant was already located on the Sellers Farm site, White River converged with Big Eagle Creek at that point, and it was already within the city's limits—those three factors could have been the most determinative in the board's choice for the location of the sanitation plant. It is also possible that the city's leaders took the easiest and cheapest route in the process of site selection. Perhaps they were suffering from inertia, having put so much energy into the passage of enabling legislation. Another factor may have been that the southwest side of the city was less densely populated than the southeast side at that time. Appendices 3 and 4 show the southwest and southeast sides of the city respectively in 1921. The thick, dark gray line represents the city limits. A visual comparison of the two halves of the map reveals the differing settlement patterns.

Although the enabling legislation for the sanitation plant had passed in 1917, for some reason the fledgling Department of Sanitation was still borrowing money from the city two years later instead of issuing bonds to finance the project. On 19 September 1919, the Common Council unanimously passed General Ordinance 90,1919, which allowed the City Controller to make a temporary loan of \$200,000 to the department “in anticipation of a sale of bonds by said department.” Little was offered as explanation about the reason for the delay in securing financing for this

²⁶⁹ White, interview.

important construction project. The council's minutes do state that on 7 July 1919, the State Board of Tax Commissioners had considered the Sanitary District's petition to issue bonds "or other indebtedness in the sum of four hundred thousand dollars, for the purpose of raising money to pay for the partial construction of a sewage disposal plant for said Sanitary District as authorized by law . . ." ²⁷⁰ The State Board of Tax Commissioners apparently was still considering the petition some two months later. Was it possible that politics had entered the picture yet again, despite the creation of a supposedly apolitical district for this infrastructure?

Apparently so, for the next year the council was still considering requests for loans. General Ordinance 7,1920 authorized the City Controller to make another temporary loan to the Department of Public Sanitation, this time in the amount of \$375,000, "in anticipation of a sale of bonds by said department and payable out of the proceeds of same, and fixing a time when the same shall take effect." ²⁷¹ In 1919, the council had authorized the city to loan the Sanitation Department money which would be due in February, 1920. The department was without the cash to pay back those loans, so it needed another loan to maintain solvency. The council observed that "it was still impractical to issue bonds of said Sanitary District," that the department had to pay off loans totaling \$150,000, and that it needed \$225,000 more "to carry on the work of construction of the Sewage Disposal Plant, to August 15, 1920." General

²⁷⁰ *Journal of the Common Council of the City of Indianapolis, Indiana From January 1, 1919, to December 31, 1919*, 558.

²⁷¹ *Journal of the Proceedings of the Common Council of the City of Indianapolis in Marion County, In the State of Indiana From January 1, 1920, To December 31, 1920*, 39.

Ordinance 7,1919 passed unanimously on 2 February 1920, and Mayor Charles W. Jewett signed it on 6 February 1920.²⁷²

Just three months later, the council found itself again in a position to consider another loan to the Sanitation Department. On 17 May 1920, General Ordinance 50,1920 was introduced and read for the first time. It authorized the City Controller to make yet another temporary loan to the Department of Sanitation, this time for \$500,000, again “in anticipation of a sale of bonds . . .” This request accounted for \$150,000 to pay a loan due 14 August 1920; \$100,000 to “carry on the work of construction now underway;” and, “a further sum of two hundred fifty thousand dollars will be required from August 15, 1920, to the end of the year to carry on construction.” Again, the only justification given for the record was that it was “still impracticable to issue bonds of said Sanitary District.”²⁷³ The council unanimously passed the ordinance on 14 June 1920, and Mayor Jewett signed it on 15 June.²⁷⁴ Still, the district was not issuing bonds.

Someone in either the Department of Sanitation, or on the Common Council, or at the City Controller’s office had been too optimistic about the budget, because only three months later, the Board of Sanitation Commissioners was again before the council asking for a loan. On 7 August 1920, the council considered General Ordinance 72,1920, which authorized the City Controller to make one or more temporary loans in anticipation of revenues to be derived from the sale of Sanitary District bonds.²⁷⁵ Over a year had passed since the Sanitary Commissioners had

²⁷² Ibid., 116-117, 121.

²⁷³ Ibid., 265-266.

²⁷⁴ Ibid., 306-307, 311.

²⁷⁵ Ibid., 367.

petitioned the State Board of Tax Commissioners for permission to issue bonds. The District was still not issuing bonds. According to the record of that meeting on 7 August, the General Assembly had declared an emergency and passed a law allowing more loans totaling \$200,000. The council suspended the rules, read the ordinance three times, voted and passed it unanimously on the same day it was introduced, and the mayor signed it—all on the same date.²⁷⁶ The minutes of the Common Council never mention the word “crisis” to describe this repeated need for funding, but the pattern raises questions. Perhaps the sewage treatment plant was just not a high priority for officials working at the state level. First the delay in passing enabling legislation, and then the delay in funding the plant’s construction: these circumstances suggest that the state, county, and city were not working together in a harmonious fashion. The funding problem may also be evidence of a lack of advocacy for the city on the part of its leaders.

In 1921, the Common Council did act to clean up the city’s waterways by unanimously passing General Ordinance 61,1921, which prohibited “any waste or refuse matter whatsoever to be deposited in or to enter, directly or indirectly, into any stream or water course within the City of Indianapolis.”²⁷⁷ The ordinance also dictated that “no person, firm or corporation shall cause or permit the contents of any privy-vault, cesspool, septic tank or other device for the reception of [fecal] or other refuse matter to enter directly or indirectly into any stream or water course within the limits of the City of Indianapolis.”²⁷⁸ The law exempted substances that first passed

²⁷⁶ Ibid., 368.

²⁷⁷ *Journal of the Common Council of the City of Indianapolis, Indiana From January 1, 1921, to December 31, 1921*, 434.

²⁷⁸ Ibid.

through a public sewer, presumably because of the combined system's overflow problem under rainy conditions. The law also allowed a grace period of six months to let people and businesses reconfigure their plumbing in order to become compliant, and further outlawed the dumping or depositing of any "waste or refuse matter" within 500 feet of any "stream, water course, public parkway or park boulevard" without a permit. The only exception to the dumping law related to the "dumping or depositing of waste or refuse matter upon the property of the City of Indianapolis, commonly known and described as Sellers Farm."²⁷⁹

After all of the delays and setbacks, the city finally opened the sewage disposal plant in 1925.²⁸⁰ The once-beautiful pump house with its tan brick and dark green tiled roof, shown in Figure 9, is no longer operational, but its design reflects the pride people took in their public utilities during that era. Figure 10 depicts the pump house's entrance, with its ornamental doorway and a bas-relief decoration above the door.

²⁷⁹ Ibid., 435.

²⁸⁰ This according to Jaffe in Bodenhamer and Barrows, eds., *Encyclopedia of Indianapolis*. Tom White of the Department of Public Works believes the plant opened in 1926. The DPW's web site puts the date at 1924. Department of Public Works, City of Indianapolis, "Wastewater Management," Department of Public Works, <http://www.indygov.org/eGov/City/DPW/Environment/Wastewater/home.htm> (accessed 10 October 2007).



Figure 9. Pump House exterior, Belmont Advanced Wastewater Treatment Plant, 19 September 2007. Photograph by author.



Figure 10. Pump House front view, Belmont Advanced Wastewater Treatment Plant, 19 September 2007. Photograph by author.

The plant's original Administration Building, depicted in Figure 11, is also still standing. It is now attached to a newer building, and the staff uses it for meetings and training sessions.



Figure 11. Administration Building, Belmont Advanced Wastewater Treatment Plant, 19 September 2007. Photograph by author.

These structures, and the others that made up the sewage treatment plant that are no longer standing, represented a significant step forward for the city of Indianapolis in terms of the health of both its environment and of its residents. However, the plant could do nothing to address the overflow problem that was an inherent part of the combined system's design. So, the city's sewerage system was mixed news for its inhabitants—if a person lived far enough away from Fall Creek, Pleasant Run, Pogue's Run, or White River, he might never notice the overflow. However, if a person lived near one of those waterways, she would be acutely aware of the design flaw every time it rained. And, if a person lived near the sewage

treatment plant, he might validly question why such a facility was built so close to populated areas, especially since there were zoning laws. In this way, the infrastructure of the sewerage system separated people within the city and marked their neighborhoods as either desirable or undesirable places to live.

This result—mixed news and separation—occurs time and again in the city’s history with respect to the infrastructure put into place from 1890 to 1930. The battles surrounding the construction and location of a sewerage system and a wastewater treatment plant proved that even the most basic public health measures were subject to the moods of those in power and were the objects of contests. All of the rationality, health, and optimism inherent in the promise of a zoning and planning system never even came close to fruition where the sewerage, wastewater, and garbage disposal systems of Indianapolis were concerned. Instead, the city leaders ensured that the neighborhood around Sellers Farm would be a less healthy, less desirable place to live than anywhere else in Indianapolis. The heavy industrial development on the southwest side did not abate, but only grew. The adjacent homes remained, however, and the community still exists in the shadows of smokestacks.

Chapter Eight: Health and Pollution

The city's combined sewer system can experience an overflow with as little as a quarter of an inch of rain. An *Indianapolis Star* article from 2003 described the situation this way: "after a rain, Ermal Vinnegar sometimes takes a whiff and thinks that all of it [raw sewage]—every last toilet flush—has been dumped in her front yard. 'We just can't stand it,' said Vinnegar, who lives on Fall Creek and, because of that, has to keep the windows shut most of the summer. 'It's almost embarrassing to have company over when it smells like that.'"²⁸¹ As of 2003, overflows occurred approximately sixty times a year and accounted for seven billion gallons of untreated waste.²⁸² In 2005 the Indianapolis City-County Council approved a \$435 million plan to overhaul the city's sewerage system.²⁸³ Indianapolis has had two sewage treatment plants since the 1960s; the Southport Advanced Wastewater Treatment Plant opened on the south side in 1966 and was updated in the 1970s and 1990s. Currently, the Belmont Plant handles an average flow capacity of 120 million gallons a day, with peak flows of up to 300 million gallons a day. The Southport Plant handles an average daily flow of 125 million gallons, with a peak daily flow of 180 million gallons. The two plants together treat over 70 billion gallons of wastewater annually.²⁸⁴ As part of the work to fix the sewer system, the city is building a six and a half-mile long, twelve-foot diameter underground sewer connecting the two plants

²⁸¹ John Fritze, "Storm deluge sends raw sewage gushing: 350 million gallons of waste pour into water from aging system," *Indianapolis Star*, 7 September 2003, p. A1.

²⁸² *Ibid.*

²⁸³ Brendan O'Shaughnessy, "City gives go-ahead to sewer overhaul: Bills will nearly double in plan to ease flooding, keep sewage from waterways," *Indianapolis Star*, 1 November 2005, p. A1.

²⁸⁴ Department of Public Works, City of Indianapolis, "Wastewater Management," Department of Public Works, <http://www.indygov.org/eGov/City/DPW/Environment/Wastewater/home.htm> (accessed 24 August 2007).

called the “Belmont-Southport Interplant Connect.”²⁸⁵ Since the Belmont Plant currently handles two-thirds of the overall flow, connecting the two plants will allow the Southport Plant to receive a higher volume, especially when it rains. The city also plans to complete a deep tunnel between Fall Creek and White River by the year 2025; that deep tunnel will deliver a volume of up to 150 million gallons a day to the Southport Plant via the Interplant Connect.²⁸⁶

Part of the overhaul to Indianapolis’s system includes collecting the overflow and storing it until the city’s plants have the capacity available to treat it. This method will be highly compatible with an approach to urban design and planning that takes into account the natural processes of the environment surrounding cities.²⁸⁷ As laudable as that development is, the unhealthy aspects of the street—in this case, sewage—still disproportionately affect the poor who live inside the city limits. That was the situation in the nineteenth century, it was true for the entire span of the twentieth century, and it is still the case in the nascent years of the twenty-first century.²⁸⁸ There is a relationship between income and health: “[o]ne of the best

²⁸⁵ City of Indianapolis Clean Stream Program Fact Sheet, Belmont-Southport Interplant Connect, News Release 2/8/2007, CS-38-002.

²⁸⁶ Department of Public Works, City of Indianapolis, “Clean Stream Team Frequently Asked Questions,” Department of Public Works, <http://www.indy.gov/eGov/City/DPW/Environment/CleanStream/Projects/Frequently+Asked+Questions> (accessed 24 August 2007).

²⁸⁷ Spirn, 99, 102-103.

²⁸⁸ In the nineteenth century, for example, “[m]any workers had little choice but to live in the least desirable sections of the city, usually close to the factories where they worked or near marshy bogs and stagnant pools.” Melosi, *Effluent America*, 56. Matthew Klinge discusses urban growth, policy decisions, and the unequal impact on the poor and minorities in Seattle in Matthew Klinge, “Changing Spaces: Nature, Property, and Power in Seattle, 1880-1945,” *Journal of Urban History* 32, no. 2 (January 2006): 197-230. According to Andrew Hurley in his history of Gary, Indiana, city administrators were more likely to take action that benefited the wealthy and poor equally *only* when corporate interests were not involved, and/or would not conflict with health policy. “[T]he only acceptable environmental reform measures were those that imposed no burden on private enterprise.” Andrew Hurley, *Environmental Inequalities: Class, Race, and Industrial Pollution in Gary, Indiana, 1945-1980* (Chapel Hill: The University of North Carolina Press, 1995), 41.

predictors of the location of toxic waste dumps in the United States is the geographical concentration of people of low income and color.”²⁸⁹ According to sociologists Kevin Fitzpatrick and Mark La Gory, “socioeconomic conditions and race appear to be the major factors in determining exposure to multiple environmental hazards.”²⁹⁰

This rings true for Indianapolis. A recent publication by the U.S. Environmental Protection Agency’s National Air Toxics Assessment states that the people who are at the greatest risk of developing cancer in Indiana live in the low-income, heavily industrialized areas in Marion County (Indianapolis) and Lake County (Gary).²⁹¹ In fact, “[a]n Indianapolis census tract southwest of downtown that lies between White River and Belmont Avenue had a risk of 274 in a million”²⁹² Although the sewage treatment plant cannot be solely responsible for this increased risk of illness, that facility has company on the southwest side: a power plant, a landfill, the city’s garbage incinerator, and heavy industry. It is fair to state that there may be a relationship between the homes’ proximity to these types of industrial neighbors and the reduced health of their residents. By comparison, a neighborhood on the east side of the city, between Morris and Raymond streets and just west of Emerson Avenue, had a cancer risk of 195 in a million.²⁹³

In a manner reminiscent of the miasmists, residents of the area near the sewage treatment plant pointed to its odor as the problem. One southwest side

²⁸⁹ Fitzpatrick and La Gory, 68.

²⁹⁰ *Ibid.*, 109-110.

²⁹¹ Tammy Webber and Mark Nichols, “Higher cancer risk: It’s in our air,” *Indianapolis Star*, 23 February 2006, <http://infoweb.newsbank.com.proxy.ulib.iupui.edu/iw-search/we/InfoWeb> (accessed 13 April 2008).

²⁹² *Ibid.*

²⁹³ *Ibid.*

resident remarked to journalists: “[W]e’ve always had a problem with the sewage smell; it smells like something dead, don’t it?”²⁹⁴ Another person, who owned rental property in the same area, “blamed the smell on the city’s sewage treatment plant, which burns sludge, and Covanta Energy, the incinerator where most of Marion County’s trash is burned. ‘When they start cooking, as I call it, at the sanitation plant, you better hold your breath,’ [he said].”²⁹⁵ Appendix 5 is a contemporary aerial photograph of the neighborhoods to the north and west of the Belmont Plant (the plant’s location is marked by the label “IWDP”). This picture dramatically illustrates just how many people live near the plant and its industrial neighbors. An improvement to the urban infrastructure originally designed to separate humans from disease, Indianapolis’s sewerage system now separates humans from each other because what happens with infrastructure can distinguish people by health and disease. The healthier the neighborhood, the more affluent it is, and the farther away it is from toxic spaces, whether they are above ground or below.

Historically, the city of Indianapolis has been no stranger to toxic environmental conditions. Writing in 1870, W.H. Churchman of Indianapolis declared that “[p]urity in the air we breathe is one of the prime necessities of life, and, therefore, an essential condition of physical and mental health.”²⁹⁶ While Churchman was primarily concerned with indoor air quality, his essay is noteworthy because its contents demonstrate that certain substances were known to be toxic and lethal if

²⁹⁴ Ibid.

²⁹⁵ Ibid.

²⁹⁶ W.H. Churchman, “The Air We Breathe. Being An Essay Upon the Sources, Prevalence, Nature and Morbific [sic] Influence of Atmospheric Impurities, As Well As the Principles of Ventilation, and the Most Approved Appliances for Warming Buildings” (paper presented at the Western Social Science Association Annual Meeting, Chicago, IL, 7-8 June 1870), 9.

airborne. For example, Churchman listed pollutants such as lead, copper, arsenic, and sulfur, as well as carbonic acid (now known as carbon dioxide), carbonic oxide (the archaic term for carbon monoxide), and carburetted hydrogen (the old term for methane).²⁹⁷ So, although people knew that certain substances did not belong in healthy air as early as 1870, the skies of Indianapolis in the years from 1890 to 1930 were not at all clean. Figure 12, below, shows a smoky Indianapolis skyline circa 1905.



Figure 12. “Smoke at Grand Hotel, circa 1905” (Bass #4709), folder492_doc12.jpg, Box 75, Folder 1. Bass Photo Co. Collection, Indiana Historical Society.

The unhealthy quality of this air seems self-evident today. It is hard to imagine living and breathing healthfully in the environment pictured above, yet

²⁹⁷ Ibid., 23, 25-26. Churchman also quotes Waring’s work in his essay, especially with respect to the transmission of communicable diseases such as cholera.

whether smoke was actually a problem was a matter of debate. In 1906, the *Indianapolis News* ran an article on page one with the headline, “Smoky City Means Health and Wealth.”²⁹⁸ The city was trying to enforce its anti-smoke ordinance, which raised the ire of local coal producers and sellers to the point that they met with Mayor Bookwalter. At that meeting, they argued that the anti-smoke crusade was bad for business; it was “driving Indianapolis consumers to the use of West Virginia coal, was keeping new manufactories [sic] from coming into Indiana, and diverting money from Indiana markets and the union labor of Indiana mines to outside markets and the ‘scab’ labor of West Virginia.”²⁹⁹ Further, they pointed out to the mayor that a smoky city was a prosperous city (thus the headline), using the example of Terre Haute, which was then called the “Pittsburgh of the West.” That city’s population had increased an estimated 70 percent in the preceding five years.³⁰⁰ There was a dissenting viewpoint about the blessings of smoke, however; W.F.M. Goss of Purdue University spoke to an audience in Indianapolis in 1906 and outlined the costs of air pollution, which he called the “annual smoke bill of [the city].”

This arises not from the loss of fuel or heat in the form of smoke, for that is so small as to be almost negligible, but in the damage which is wrought by its presence, upon the architectural embellishment of the city, upon the fixtures and furnishings of its homes, and upon the apparel of its citizens. Loss also occurs through the extensive use of artificial light which the presence of smoke enforces and because of its effect on the welfare of those from whom it shuts out the sunlight and takes away the purity of the atmosphere.³⁰¹

²⁹⁸ “Smoky City Means Health and Wealth,” *Indianapolis News*, 8 September 1906, p. 1, c. 7.

²⁹⁹ *Ibid.*

³⁰⁰ *Ibid.*

³⁰¹ “Plan Suggested to Make City Smokeless,” *Indianapolis News*, 1 December 1906, p. 19, c. 4.

Despite the lobbying of the coal interests, Indianapolis officials strove to enforce the city's air quality laws. The name of Jacob P. Brown, the city's smoke inspector, appeared frequently in the headlines between the years 1909 and 1911. After five months on the job, Brown was able to convince at least twenty-two offending businesses to take remedial measures, and had only resorted to arresting three individuals for noncompliance.³⁰² Like other areas of health and safety, such as traffic and sewerage, the issue of air pollution became a political hot potato. In 1911, the new mayor, Samuel Lewis Shank, appointed a new nonpartisan Commission and Board of Safety and planned to establish a new "smoke department"—which would not automatically include Jacob Brown, the current inspector. Brown would have to pass a civil service test in order to stay on, possibly as assistant smoke inspector.³⁰³ During the new administration, members of the city council debated whether a new ordinance was necessary, Brown kept his job (for the time being), and smoke kept pouring out of the city's stacks.

In 1912, most of the airborne coal soot within the Mile Square landed on the south side, due primarily to the location of Union Station, which was in the southwest quadrant of the central city.³⁰⁴ Though city officials knew air pollution in the form of smoke and soot was a problem, they did little to address that problem. An editorial in the *Indianapolis News* dated 8 January 1915 criticized the city's inaction on the issue of smoke abatement and accused the smoke inspector of being more concerned with politics than with doing his job.³⁰⁵ The editorial writer even proposed that the city do

³⁰² "Believes the Smoke Evil Can Be Overcome," *Indianapolis News*, 20 November 1909, p. 28, c. 2.

³⁰³ "Starts Fight on Smoke; Three Men Appointed," *Indianapolis News*, 20 July 1911, p. 1, c. 3.

³⁰⁴ "Distribution of Coal Soot Shown by Chart," *Indianapolis News*, 26 March 1912, p. 22, c. 4.

³⁰⁵ "Smoke Abatement," *Indianapolis News*, 8 January 1915, p. 6, c. 3.

away with the smoke inspector's position altogether in order to save his salary—instead, the writer suggested that the members of the Chamber of Commerce agree “among themselves to abate the smoke nuisance to the best of their ability” and predicted that the results would be “immediately manifest.”³⁰⁶ The city's leaders did not follow that suggestion. Instead, they chose to adhere to their usual pattern of passing ordinances aimed at solving problems. The council passed another revised, supposedly toughest-yet smoke ordinance in October of 1923 after nearly a year of debate.³⁰⁷ There was little to distinguish this ordinance from its predecessors—it called for the employment of an inspector with regulatory powers, and it applied to almost every producer of smoke in the city except for gas cooking stoves and appliances for residential heating and cooking. The mayor (Lewis Shank, back for another term) promised strict enforcement of this ordinance, as had all previous mayors for all previous ordinances. Mayor Shank pledged that the city would not have a recurrence of the previous winter's conditions, when “clouds of smoke hung over the city each day.”³⁰⁸ Despite these guarantees, the smoke abatement ordinance of 1923 was apparently just as ineffective as its forerunners.

In 1926, a study ranked Indianapolis as the sixth smokiest city in the country behind St. Louis, Cincinnati, Pittsburgh, Detroit, and Chicago.³⁰⁹ The study measured “smokiness” according to the amount of dust particles in a cubic foot of air. H.C. Murphy, the inventor of the measuring instrument, told a meeting of Indiana scientists that the inhabitants of the six smokiest U.S. cities who frequented their cities'

³⁰⁶ Ibid.

³⁰⁷ “City Council Passes Smoke Ordinance,” *Indianapolis Star*, 16 October 1923, p. 1.

³⁰⁸ “Smoke Ordinance is Signed by the Mayor,” *Indianapolis News*, 27 October 1923, p. 1, c. 7.

³⁰⁹ “Indianapolis Sixth Smokiest City by Device Test,” *Indianapolis Star*, 11 January 1926, p. 3, c. 6.

downtowns “inhale[d] more than a teaspoonful of soot and dust a day.”³¹⁰ The exact figure for 1926 was 14,300 particles of soot and dust per cubic foot.³¹¹ By 1930, the city had succeeded in reducing that figure all the way down to 6,170 particles on a recent “smokeless” day, earning the ranking of second-cleanest nationally behind Boston.³¹² Roy Johnson, the secretary and manager of the Indianapolis Smoke Abatement League, credited his organization’s campaign of education and cooperation for the dramatic reduction. The newspaper article touting the good news contained no mention of city ordinances or smoke inspectors. Instead, the article implied that the cultural attitudes of the business owners and coal producers had evolved. Johnson noted that “[t]he smoking chimney is no longer a badge of honor but is the mark of inefficiency, waste and civic indifference.”³¹³

Even though the city greeted 1930 with some positive news on the air quality front, its air was still hardly clean. The view of downtown Indianapolis from White River depicted in Figure 13 is certainly very dirty, and shows what the skies actually looked like in 1930. The smudges of dirty sky near the smokestacks contradict the hopeful picture painted by Roy Johnson of the city’s Smoke Abatement League. In fact, some of the most prominent citizens of Indianapolis banded together that same year to form a special committee of the Smoke Abatement League aimed at raising money to fund an intensive study of the city’s smoke problems. The civic scions who lent their names to this cause included the governor, Harry G. Leslie; the mayor,

³¹⁰ Ibid.

³¹¹ “Indianapolis Second Only to City in East as Smoke-Free,” *Indianapolis News*, 27 February 1930, p. 15, c. 2.

³¹² Ibid.

³¹³ Ibid.

Reginald H. Sullivan; U.S. Senator Arthur R. Robinson, and U.S. Representative Louis Ludlow.³¹⁴



P0130_P_BOX15_FOLDER4_217965-F

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Figure 13. “White River Looking East Toward Downtown Indianapolis, 1930,” PO130_P_Box15_Folder4_217965-F. Bass Photo. Co. Collection, Indiana Historical Society.

The people who worked on the fundraising project may have felt optimistic about the future of the city’s air quality, but in fact nothing would change. In December of 1937, the Smoke Abatement League would find itself at odds with the members of the council over the terms of the latest smoke ordinance while a thick blanket of fog (during the daytime) and smog (during the evening) covered the city,

³¹⁴ “Danner is Named Chairman of \$80,000 Smoke Campaign,” *Indianapolis Star*, 16 May 1930, p. 2, c. 2.

endangering traffic and causing flight cancellations.³¹⁵ In January of 1938 alone, nearly 1,100 tons of soot fell on the city.³¹⁶

Of course, air pollution does not stay neatly confined to discrete neighborhoods—zoning ordinances and planning codes cannot bind the wind. But by tracing the history of Indianapolis’s battle for decent air quality, it is possible to see nearly the same pattern that emerged from the city’s evolution with respect to sewerage, garbage collection and disposal, traffic management, and wastewater disposal. That pattern includes the following themes: the city’s commercial leaders identify a problem, hold a conference or commission a study, and then issue recommendations. The city’s political powerbrokers then engage in partisan disputes and delay taking action while the populace suffers the consequences of the delay. The city’s council passes ordinances, aiming bureaucratic weapons at the problem, while not fully empowering the bureaucracy to make effective and meaningful change. In some cases, such as air pollution or traffic, the adverse health consequences of this approach have not been limited to one particular area of the city. In most other cases, the southwest side of Indianapolis has repeatedly been the one location that has borne the brunt of the missteps.

In 1954, residents who lived and worked in the neighborhoods near the sewage treatment plant reported the appearance of black or muddy brown stains on the exteriors of their homes, as well as a “nauseating” odor that they blamed on the sanitation plant.³¹⁷ Workers at the sewage processing plant acknowledged that they

³¹⁵ “Smoke Ordinance Change Faces Ax,” *Indianapolis Star*, 17 December 1937, p. 1, c. 6.

³¹⁶ “Soap Decisions ‘King Soot’ Twice, But 1,098-Ton Blanket Sets Record,” *Indianapolis Star*, 12 February 1938, p. 1, c. 3.

³¹⁷ “Home Owners Keep Objecting To Gas Stains,” *Indianapolis Times*, 28 September 1954, p. 3, c. 1.

might be the source of the problem, as the plant was undergoing major renovations. In fact, they had completely shut down the plant for several days in mid-September to connect new equipment, and diverted the flow of approximately 500 million gallons of raw sewage into White River.³¹⁸ The sewage then remained in the river as if parked, due to lower than normal water levels and a lack of heavy rain. The problem of the stains and odor persisted for a period of a few weeks that year, raising health concerns among the residents of the southwest side. Officials from the State Board of Health and the city's Air Pollution Control Bureau explained that the hydrogen sulfide emitted by the raw sewage attached itself to the lead in the paint of the neighbors' homes. That chemical reaction—hastened by very humid weather—caused the discoloration of even freshly painted homes, turning the paint yellow, brown, black, and purple. At least one worker at the nearby Bridgeport Brass Company reported that the fumes also turned the copper there blue. The health officials assured the public that the fumes themselves, while disagreeable, were not harmful.³¹⁹

The president of the Board of Sanitary Commissioners, Clarence T. Drayer, refused to accept responsibility for the problem. Instead, he blamed the chemical emissions from neighboring industries and noted that the city of Speedway regularly dumped its raw sewage into Eagle Creek, which flowed into White River near the wastewater plant (see Appendix 1).³²⁰ Regardless of the etiology of those odors and gases, the residents of the southwest side still had to cope with the noxious

³¹⁸ Ibid.

³¹⁹ "Sewer Gas Not Harmful To Health, Doctor Says As Fumes Ruin Paint," *Indianapolis Star*, 2 October 1954, p. 1, c. 1.

³²⁰ Ibid.

conditions. Thanks in large part to the lack of leadership from government officials with respect to zoning and planning, the southwest quadrant of the city today hosts a sewage treatment plant, the South Side Sanitary Landfill, and the city's garbage incinerator, as well as several heavy industrial plants, including the Indianapolis Power and Light Harding Street station, the Lilly Industrial Center, Olin Brass, Reilly Industries, and Rolls-Royce/Allison—along with parks, schools, and many homes.

The ZIP Code for part of that area (the blocks between 400 South and 2700 South Belmont Avenue) is 46221. The sewage treatment plant is at 2700 South Belmont. The South Side Sanitary Landfill, also within that ZIP Code, covers over 200 acres from its address at 2651 Kentucky Avenue. The landfill is an EPA Superfund site.³²¹ The city's incinerator, operated by Covanta Energy, is at 2320 South Harding Street, again within the 46221 ZIP Code. Most importantly, that is also the ZIP Code for some neighborhoods just to the north and west of the sewage treatment plant and the incinerator on the city's southwest side. According to the United States Environmental Protection Agency's "Envirofacts" information for that ZIP Code in January of 2008, no fewer than fourteen facilities within that area produced and released air pollutants.³²² Twelve facilities reported toxic releases, and fifty-eight reported hazardous waste activities.³²³ The 46260 ZIP Code, in contrast, includes the wealthy far north side of the city of Indianapolis. The EPA's Envirofacts

³²¹ United States Environmental Protection Agency, "Region 5 Superfund," United States Environmental Protection Agency, <http://www.epa.gov/R5Super/npl/Indiana/IND980607360.htm> (accessed 16 April 2008).

³²² United States Environmental Protection Agency, "EPA-Envirofacts Warehouse-Quick Start," United States Environmental Protection Agency, http://oaspub.epa.gov/enviro/ef_home3.html?p_zipcode=46221&p_type=zip&x=12&y=6 (accessed 27 January 2008). The Envirofacts ZIP Code data offer a snapshot of current environmental conditions and the EPA staff regularly update the data.

³²³ Ibid.

data for that area for the same time frame noted that just one facility produced and released air pollutants; no facilities reported toxic releases; and sixteen reported hazardous waste activities.³²⁴ Despite the intentions of the zoning and city planning experts, then, people have persisted in living near their workplaces, and it may have been hurting their health.

The increased prevalence of cancer and toxic materials on the southwest side of Indianapolis, as compared with the rest of the city, may be a legacy of the decision-making process and policies of the men who led the city from 1890 to 1930. A piecemeal approach to sewerage that valued low cost above all other factors resulted in the overflow problem. That problem has primarily affected those who live downstream, especially to the southwest of the city center. The political gamesmanship that characterized the process of obtaining and financing a wastewater treatment plant caused years of unnecessary delay, environmental damage, and potential adverse health consequences to the same population because of the city's topography. And the delay in passing a zoning and planning law, coupled with poor leadership at the local level, resulted in a "plan-less" southwest side, where schools and parks abut heavy industry.

Since the days of ancient Rome, streets, curbs, and gutters have helped humans survive by keeping unhealthy and undesirable things at a distance; but since at least the 1890s, that survival has come with a cost. In the 1890s, progress cost urban residents the street; they lost a place to meet their neighbors, a means of

³²⁴ United States Environmental Protection Agency, "EPA-Environfacts Warehouse-Quick Start," United States Environmental Protection Agency, http://oaspub.epa.gov/enviro/ef_home3.html?p_zipcode=46260&p_type=zip&x=8&y=6 (accessed 27 January 2008).

cohesion, a community. Since the late nineteenth century, poorly designed and inadequate sewerage systems have cost low-income urban residents their health. Over the span of one hundred years, streets became agents of social sanitation, keeping not just dangerous microbes and traffic at a distance, but unhealthy and undesirable people—poor people—as well. While municipal sanitary engineers may not have consciously set out to restrict access to safe and healthy places to people with sufficient incomes, that has arguably been the result of their labors.

Conclusion

The infrastructure of the street in Indianapolis—what was above it and below it—operated as nothing less than a center for discourses of power. It separated people along the lines of class, mobility, and health. The paving revolution was a boon to the interests of engineering, transportation, and commerce, but a bane to pedestrians' safety and to residents accustomed to using the street as their "front yards." The improvement of the streets shifted power from the people who were on foot to the people who were in motor vehicles as those in power drew new boundaries that kept people out of the streets. The city leaders enthusiastically regulated not only drivers' behavior, but also that of pedestrians. That same set of improvements caused the area of the sidewalk and curb to be more susceptible to regulation: as paving the streets shrank the amount of available safe public gathering space, government officials limited the acceptable use of that space by enacting tight controls on people's actions. They drew new social and legal boundaries, placing limits on who could do what on the sidewalks. When city officials decided to sanction dumping on Sellers Farm, they identified that neighborhood as not being beautiful, important, or powerful enough to be worth living in. While simple geography (rather than negligence) may have steered the city's leaders in the direction of Sellers Farm, their actions condemned the neighbors of Sellers Farm to a legacy of lower property values, the possibility of shorter life spans, and increased toxicity. The residents of the southwest side are contending every day with the lived reality of those decisions.

City officials tried to employ zoning and organized city planning in an attempt to separate heavy industry from residential areas, but could do nothing to move

people who insisted on living close to where they worked. Ironically, just as the residents of Indianapolis most needed clear legal boundaries to protect them from heavy industries and toxic discharges, their leaders proved to be ineffective at solving the problems a late entry into zoning had engendered. Empty land was becoming scarce within the city, and planners tried to dictate to residents exactly how much space they were entitled to depending on their socioeconomic status. And when the city needed a sewerage system, city leaders built the least expensive, most polluting configuration possible. Aware for years of a serious environmental and sanitary problem with respect to raw sewage flowing into waterways, the city's leaders nevertheless could not solve the problem of wastewater in a timely or efficient fashion. When they finally did obtain the necessary enabling legislation from the state, city officials ignored its generous provisions on both the number and placement of treatment plants. Instead, they located the plant in the same neighborhood as the garbage reduction facility and the dump.

Whatever the leaders' intentions, all of these actions effectively drew boundaries around the southwest side. These boundaries are not marked by street signs or other obvious identifiers, but they surely exist. They exist in the residents' higher mortality rates from diseases like cancer. They exist in the discoloration of their homes and in the odor of their neighborhoods. The development of infrastructure occurring between 1890 and 1930—especially that related to sanitation and sewerage—worked to ensure that some parts of the city would actually be healthier than others for decades to come.

In the city of Indianapolis since 1890, infrastructure has separated people from nature and from each other on two levels: its operational level, wherein it was an objective entity that performed according to its design, and its subjective level, where it operated as a social and hygienic barrier. Streets, curbs, sewers, and sidewalks are useful and necessary elements of public health and safety. We both want and need these elements to ensure our separation from things that are dangerous, such as speeding cars and contaminated water. When government officials exercise power to declare what parts of the city street are accessible to whom, or which neighborhoods will have a wastewater treatment plant, a landfill, or heavy industry nearby, infrastructure can work to separate people.

In all these ways, those with the most power in Indianapolis politicized infrastructure—they manipulated it to serve their interests, usually at the expense of the poorest, least popular, and most powerless citizens. Drawing the boundaries of legality, social discourse, and health was a political act in each case, because it involved the exercise of power. Humans have infused the street and its related infrastructure with meaning since at least the 1890s. Streets, sidewalks, and curbs mark appropriate space for people—that which is healthy, safe, public, or “legal.” When infrastructure separates people in political ways, when it facilitates unequal conditions, the streets become barriers. It is the historian’s responsibility to ask about those barriers: Who put them there, and why?

Afterword

When a community desires to be inclusive, its built environment can reflect that intention. When a community desires to exclude, its built environment can reflect that attitude, as well—witness the growth of “gated communities.” But what if the built environment is becoming ambiguous? People infuse streets, sidewalks, and curbs with meaning: curbs are reliable markers of territory, and even of what is legal and what is illegal. Crossing a curb could sometimes mean an arrest for trespassing. Physical features of the environment like curbs are no longer accurate indicators of legitimacy. In some cases, the boundaries between public and private property are now invisible. What does it mean if a curb no longer marks a traditional boundary? It means that a person is not safe from arrest or assault even if he respects the curb’s time-honored meaning. It means that there is less public space available for people to express themselves. It means that sidewalks as safe public spaces are disappearing as authorities arbitrarily redraw the lines of acceptable public behavior. This is important because as Farrar suggests, both discursive spaces and built spaces help us to orient and to claim identities for ourselves. One could further argue that sometimes, as in the case of Indianapolis and other cities with respect to infrastructure, built spaces *are* discursive spaces. When people experience a dissonance between their individual understandings of the boundaries and margins of urban spaces and the authorities’ interpretation of those spaces, they will be less likely to try to negotiate those spaces. They will become alienated and isolated, feeling unsure and unwelcome in their own city centers.

A recent case illustrates just how hotly contested and politicized the territory surrounding the street has become. Far from being public space, it has morphed into a kind of quasi-public space. In other words, infrastructure has become totally dependent on the context for its character as a boundary. On 13 May 2003, President George W. Bush visited Indianapolis. Protesters lined the streets along his motorcade route, holding up signs as the procession passed. One activist, Carl Rising-Moore, “jogged alongside the street, waving ... [a United Nations flag] from side to side.”³²⁵ An Indianapolis Police Department officer yelled at Rising-Moore to back away from the motorcade, and when he continued to wave the flag, the officer chased him and, depending on the witness, either grabbed Rising-Moore or tackled him. Rising-Moore was trained in nonviolent protest tactics. Nevertheless, the officer accused Rising-Moore of punching him during the confrontation. The Marion County Prosecutor charged Rising-Moore (who denied all of the allegations) with “battery with injury” and resisting law enforcement; a jury acquitted him of both charges after deliberating for about forty minutes.³²⁶ Apparently, Rising-Moore attracted the attention of law enforcement because he waved a flag too close to the street. He was in a public space, exercising his First Amendment rights in a peaceful fashion. His offense—what made the authorities notice him—was that he *waved a flag*. Regardless of his intentions, his act was interpreted as subversive. He was unaware that the curb was not the boundary line between acceptable and illegal public space. He did not know that the real boundary line was invisible and arbitrary, because the real boundary line was

³²⁵ Kevin O’Neal and Abbie VanSickle, “Protester acquitted of hitting officer,” *Indianapolis Star*, 9 July 2003, p. B5.

³²⁶ *Ibid.*, B1.

subjective—it was the officer’s comfort level. It was as if the curb eroded; its function as a separator disappeared.

In Rising-Moore’s case, the authorities dictated what behavior was permissible on public property. His is not the only such instance. According to Margaret Kohn, it is now commonplace for cities (and universities) to regulate protests. In the wake of the World Trade Organization(WTO) protests in Seattle in 1999, Quebec City built a fence to keep protesters away from its downtown when it hosted the Summit of the Americas in 2001.³²⁷ While “[t]he constitutionality of security perimeters remains unresolved,” restrictions in other open spaces are commonplace.³²⁸ For example, universities now employ “free speech zones.” Buffer zones that exclude protesters around medical facilities where abortions are performed are routine, necessary, and legal.³²⁹ The rules governing the acceptable use of “public” spaces change when authorities perceive a need for greater social control. Members of the public are subject to control in new places as those in power re-draw the boundary lines between space that is public and space that is off-limits, according to the exigencies of each unique situation. The meaning of infrastructure as a boundary marker is no longer clear. A sidewalk may not be public space any more. So, rather than describing legal characteristics of space, the very labels “public” and “private” can actually connote power relationships in space.³³⁰

³²⁷ Kohn, 38. The Seattle WTO protests devolved into violence and mayhem.

³²⁸ *Ibid.*, 39.

³²⁹ Kohn, 38-44. The “free-speech zone” at Indiana University-Purdue University Indianapolis (IUPUI) is called, without a trace of irony, “Democracy Plaza.” In 1994, Congress enacted the Freedom of Access to Clinic Entrances (FACE) Act, 18 U.S. Code Sec. 248(a)(3), which was designed to deter harassment in those venues.

³³⁰ Ted Kilian, “Public and Private, Power and Space,” in *The Production of Public Space*, Andrew Light and Jonathan M. Smith, eds., Vol. II of *Philosophy and Geography*, a Peer Reviewed Annual of

A curb is no longer a reliable boundary marker. When people like rioters or drug runners routinely cross the line separating the sidewalk from the street, the authorities can label them as criminals. But the authorities themselves have begun to use technology to cross those same traditional legal and social boundaries. Consider “sonic lasers” as evidence of the seismic shift that traditional boundary lines of infrastructure, like the street and the sidewalk, have undergone in the present century. These devices are currently used by the United States and Israeli military forces, but they also have domestic law enforcement applications for crowd control.³³¹ The two primary U.S. manufacturers of these non-lethal sonic weapons are based in California: HPV Technologies LLC in Costa Mesa, and American Technology Corporation (ATC) in San Diego. HPV Technologies’ property is called “MAD,” for Magnetic Audio Developments. According to their news release of 1 September 2005, on that date:

HPV successfully projected audible sound over one mile. During a presentation requested by the L.A. Sheriff’s Department, a crowd . . . witnessed what we believe is the loudest, longest distance that audible, high fidelity sound has ever projected in the history of sound. The demonstration was conducted beside a desert runway at Edwards Air Force Base, California where MAD (Magnetic Audio Devices) equipment could be heard projecting clear, audible sounds of Frank Sinatra singing . . . and Muhammad Ali reading poetry at a distance of more than 5,280 feet . . . ‘You don’t realize how powerful this stuff is until you stand a mile away, can’t see the transmitter, but can hear every word in a Queen song!’

the Society for Philosophy and Geography (Lanham, MD: Rowman & Littlefield Publishers, Inc., 1998): 115-116.

³³¹ Xenia Jardin, “Focused Sound ‘Laser’ for Crowd Control,” National Public Radio, <http://www.npr.org/templates/story/story.php?storyId=4857417> (accessed 1 February 2006).

remarked Cmdr. Sid Heal, Los Angeles County Sheriff's Department.³³²

ATC markets the LRAD (Long Range Acoustical Device), the MRAD (Medium Range Acoustical Device), and the martially named SoundSaber. The LRAD offers authorities “long-range notification and warning . . . designed to hail, notify and warn with superior intelligibility in excess of 500 yards.”³³³ The MRAD is designed to provide “support [for] public service organizations (police, fire, etc.) for communication needs at shorter ranges to ensure safe and effective crowd control, building communication and special operation challenges.”³³⁴ For example, authorities could use the MRAD in a building to notify occupants of a tornado warning or fire alarm and to clearly deliver evacuation instructions. Finally, the SoundSaber offers “sound for outdoor applications, emergency and mass notification at long ranges, and difficult indoor spaces.”³³⁵

The ATC euphemistically markets its sonic devices as “unique Directional Acoustic communication solutions” for the following government and force protection system applications: “combating the war on terrorism; enforcing perimeter and exclusion areas; determining intent; enhancing [a] non-lethal weapons suite; supporting military operations other than war; controlling crowds and maintaining compliance; disaster control; mass notification; emergency evacuation; [and], critical

³³² HPV Technologies, “HPV Technologies Enters the Non Lethal Weaponry, Public Address, and First Alert Markets,” News Release, HPV Technologies, http://www.getmad.com/pr_090105.html (accessed 9 March 2006).

³³³ American Technology Corporation, “Government Solutions: Products,” American Technology Corporation, http://www.atcsd.com/gov_products.html (accessed 18 February 2006).

³³⁴ Ibid.

³³⁵ Ibid.

infrastructure protection.”³³⁶ Several of those listed applications clearly involve social control. In fact, ATC supplied military police forces with the LRAD 500 sonic device for crowd control purposes in New Orleans in the aftermath of Hurricane Katrina.³³⁷ The New York Police Department uses the LRAD, and brought one out during protests at the 2004 Republican National Convention.³³⁸ The Boston Police Department also purchased the device from ATC, “citing its safety advantage over conventional crowd-control agents . . .”³³⁹ Even though HPV and ATC emphasize the communications applications of their products, at least one government has used the devices “as a less pleasant way to disperse crowds . . . Products from both companies could be used, at high volume, to harm subjects who do not comply with commands.”³⁴⁰

In effect, thanks to these devices, a person could be protesting within her constitutional rights at a distance of *one mile* from a designated perimeter, and yet still be subject to this sort of “compliance maintenance” technology. This means that the street/curb/sidewalk is no longer patently public. Instead, this new technology creates a new type of space—not totally public, but not completely private, either.

³³⁶ American Technology Corporation, “Government Solutions,” American Technology Corporation, http://www.atcsd.com/gov_sol.html (accessed 1 February 2006).

³³⁷ Xeni Jardin, “Xeni on NPR, CNN: Sonic Weapons in Iraq—and now, US cities,” http://www.boingboing.net/2005/09/21/xeni_on_npr_cnn_soni.html (accessed 9 March 2006).

³³⁸ Xeni Jardin, “Sonic ‘Lasers’ Head to Flood Zone,” *Wired News*, <http://www.wired.com/news/technology/1,68732-0.html> (accessed 9 March 2006).

³³⁹ *Ibid.*

³⁴⁰ *Ibid.* According to Jardin, “[v]ehicle-mounted devices were used by Israeli authorities to scatter groups . . . when Palestinians and Jewish supporters gathered to protest Israel’s West Bank separation barrier. Dubbed ‘The Scream’ by the Israeli Army, the device sends out streams of noise in intervals of about 10 seconds. The specific sonic frequencies chosen affect the inner ear, creating dizziness and nausea in human targets. An Associated Press photographer present during the attack said that even after he covered his ears, he continued to hear sound ringing inside his head. In a report, AP quoted an unnamed Israeli military official as saying the device emits a frequency that targets the inner ear, can cause damage with exposure for several minutes at close range, and compels humans nearby to leave the area. Exposure for minutes at close range could cause hearing damage. Information about longer-term exposure effects at long distances has not been publicly disclosed.” *Ibid.*

This new “quasi-public” area is space that is in play, contested, and subject to the wishes and needs of the authorities. Further, this hybrid space is now capable of extending a mile. Sonic devices can cross a mile’s worth of physical boundaries to enforce other boundaries—abstract boundaries of privilege, power, access, safety, and protection. Authorities can repel anyone who is non-compliant—and of course it is the authorities who will define noncompliance.

Sonic devices are not just for crises, though—they can also serve as a kind of invisible fence. For the past few years, businesses from malls to convenience stores in the United Kingdom have been using an instrument called the “Mosquito” to repel unwanted youths from hanging out at their establishments. Compound Security Systems, the owner of the device, calls the Mosquito an “ultrasonic teenage deterrent” in its marketing literature. The Mosquito emits an irritating tone at an ultrasonic frequency that is audible only to teenagers; it is usually effective at clearing an area of teens within eight to ten minutes.³⁴¹ This item would not exist unless it had a market ready to purchase it. That market consists of business owners who have deemed teens so threatening—and law enforcement so useless—that they have resorted to employing sonic devices to establish control over their retail spaces. This enables them to, in effect, select their customers according to age.

The Mosquito is now available in the United States and Canada, and is marketed by a company called “Kids Be Gone.”³⁴² Technology like the Mosquito proves that one no longer needs to be affiliated with the government to exert power over space; now, all that is necessary for “sanitizing” one’s perimeter by removing

³⁴¹ Compound Security Systems, “Our Products,” “Mosquito,” Compound Security Systems, http://www.compoundsecurity.co.uk/teenage_control_products.html (accessed 6 April 2008).

³⁴² Kids Be Gone, “Mosquito,” Kids Be Gone, <http://www.kidsbegone.com> (accessed 6 April 2008).

undesirable youths is enough money to buy the right technology. And one no longer needs to be panhandling, poor, or protesting to be subject to regulation in public spaces; now, a person can be repelled by sonic means based on the mere fact of his age.

Devices like the Mosquito and its military cousins (the MAD, LRAD, MRAD, and SoundSaber) help to both establish and maintain the hybrid, quasi-public space in this brave new world. In a sense, this technology enables those with enough power—whether they are politically powerful or economically powerful—to transcend the barriers and boundaries that infrastructure has traditionally represented. The ability to transcend infrastructure, which is the stuff that forms the very skeletons of cities, may be the ultimate benchmark of true power in this new century. One could argue that these transgressions are the logical and predictable—if extreme—outgrowths of the arrogance of the early engineers and planners. Their sense of entitlement and their exclusion of the people whose lives were affected by their decisions may have been harbingers of the current state of affairs, wherein those with enough power can obliterate traditional legal, social, and spatial boundaries.

When members of the Indianapolis Common Council decided what behavior was appropriate on the streets and sidewalks of Indianapolis in the 1910s and 1920s, they exercised their authority to regulate public space. They empowered police to determine who was allowed in these areas and for what purposes. However much they were at odds with the First Amendment, the four ordinances described in Chapter Four at least required face-to-face interaction between the police and the suspect for their enforcement. In contemporary times, the boundaries that sidewalks,

streets, and curbs represent have become increasingly arbitrary and abstract. This subjectivity of interpretation tends to benefit those who are able-bodied, mobile, who live in desirable sections of cities and suburbs, and who do not question authority.

How we consciously or unconsciously interpret our environment, including infrastructure, is important. Fitzpatrick and La Gory have written that “it is the meanings we attribute to the situation that affect our responses to it, rather than the objective circumstances of the situation itself.”³⁴³ Our culture is a socially learned system of symbols and their meanings, and it dictates our behavior in public and private spaces.³⁴⁴ Culture determines the value we assign social spaces like sidewalks, curbs, and streets. Curbs are just six inches of granite or concrete until humans animate them with our subjective interpretations, and put them to work as agents of control—or subversion. Then, curbs are both beneficial and divisive at the same time.

Streets and their related infrastructure separate in the interest of health and safety, but never everyone’s health and safety. They have functioned historically to benefit the people with the most power. In the 1890s, engineers were able to manipulate different interest groups to obtain the one surface for streets that was cheap enough and smooth enough to facilitate high volumes of traffic: asphalt pavement. They built the streets and the curbs, and in the process separated inner city residents from each other. Sewers, as extensions of the street, have always benefited people who live in more expensive neighborhoods, “upstream.” The more affluent the area, the healthier its residents. The more healthy a person, the less likely she is to view a curb as a barrier to access. In fact, access to all areas of a city increases as a

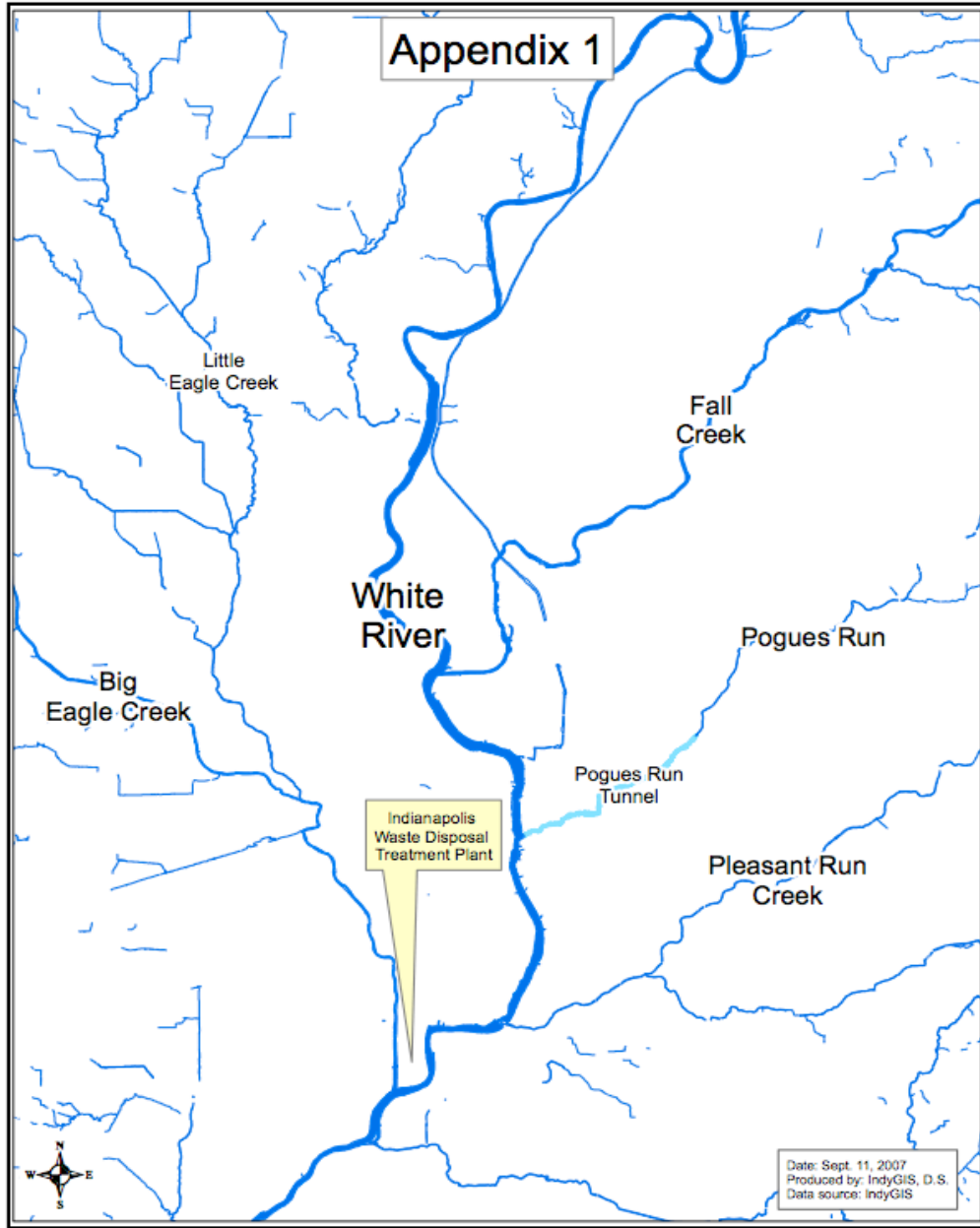
³⁴³ Fitzpatrick and La Gory, 30.

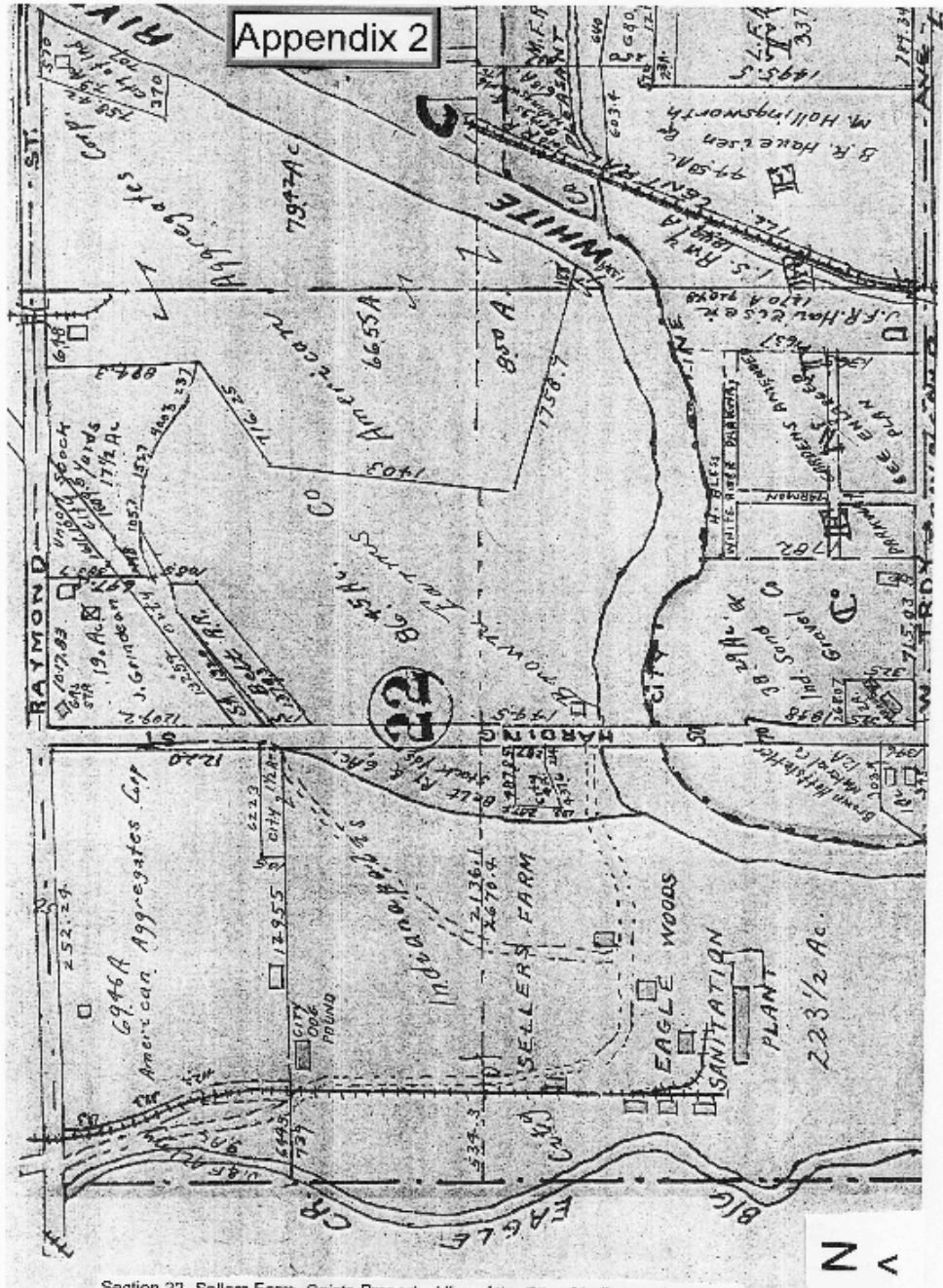
³⁴⁴ Ibid.

person becomes more “desirable” in the eyes of the culture—one who has a home, is mobile, and has discretionary income. In the context of zoning, although the planners of the 1910s clearly saw themselves as working in the interests of urban residents, their sense of entitlement, their sense that they knew best, was obvious. They sought security, efficiency, and order.³⁴⁵ Finally, infrastructure benefits the law enforcement agencies, militaries, and businesses that have the best technology. That technology enables officials to stretch the boundaries of the street for up to a mile in the interest of public safety, a secure homeland, or profit.

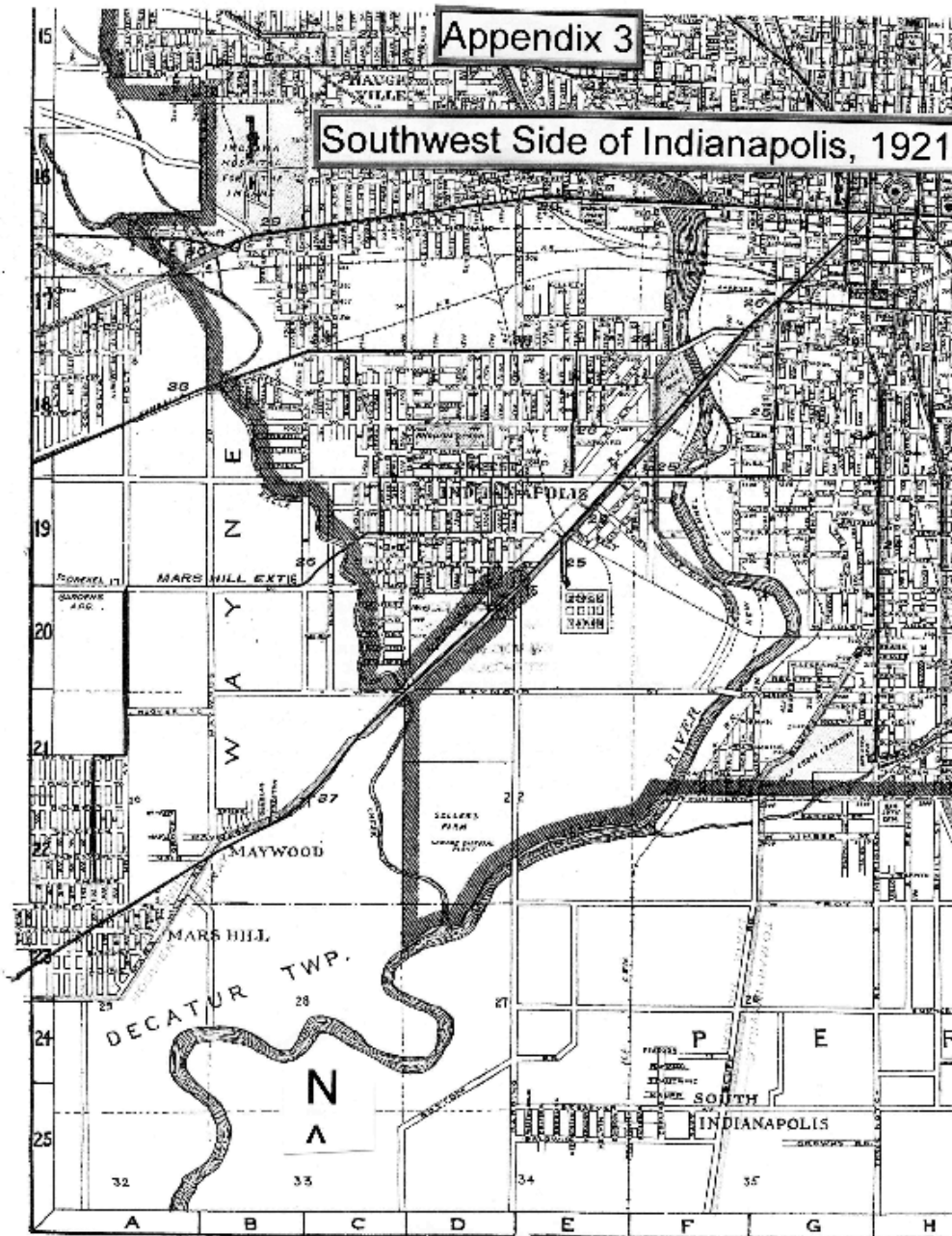
When people seek power, mobility, a political voice, a place to shop, or a place to spend the night in ways that violate unwritten rules and written laws, they are attempting to cross boundaries, or even barriers—physical, visible, tangible barriers that separate people and erode communities. Infrastructure then becomes an agent of social sanitation. Streets no longer signify identity, control, or even separation: they signify power.

³⁴⁵ Tehranian, 10.

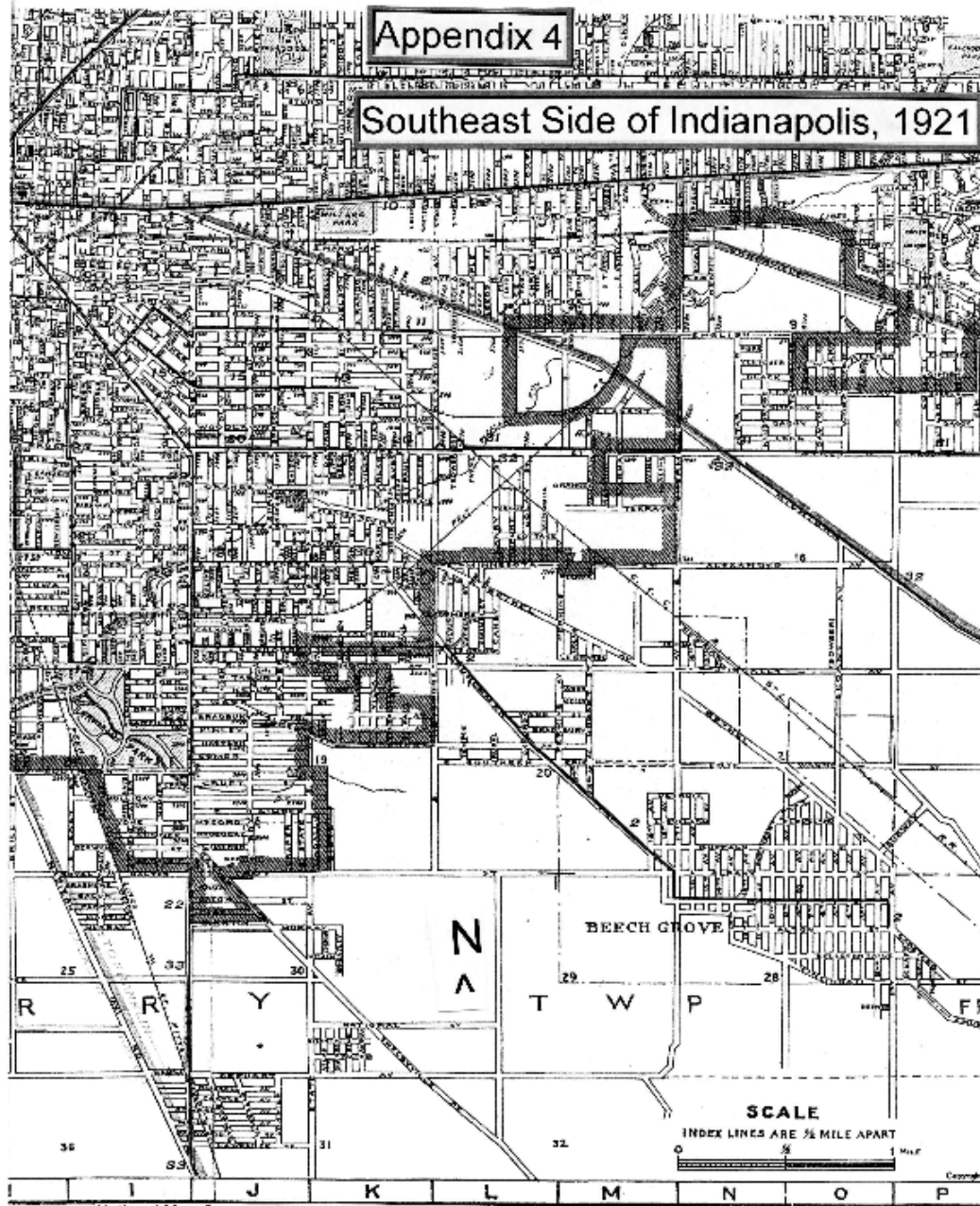




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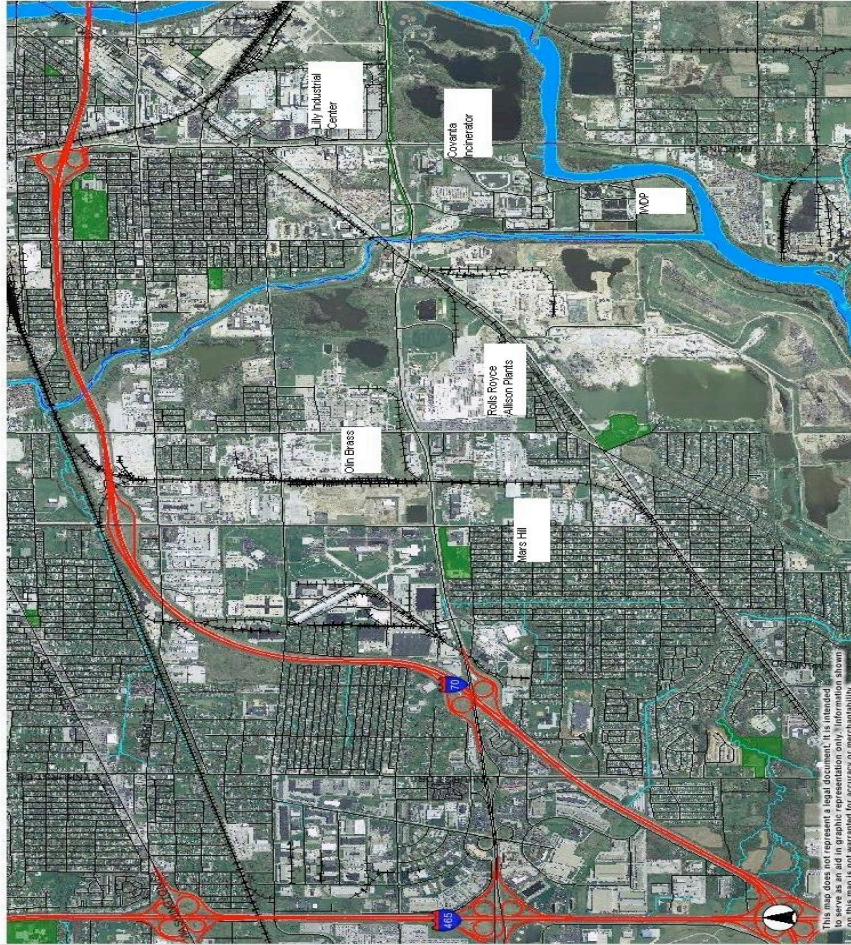


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Appendix 5 Aerial view of neighborhoods



- Legend**
- Street Centerlines
 - Interstate
 - Other
 - Railroads
 - Streams
 - Rivers
 - Parks
 - 2007 Aerial Photography
 - Municipalities
 - Wastewater
 - Disposal Plant



Application Source: <http://image.indy.gov/arcgwis/arcgis/Viewer/>
This map does not represent a legal document. It is intended to serve as an aid in graphic

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