NPS Form 10-900
(Expires 5/31/2012)
Wisconsin Word Processing Format (Approved 1/92)

OMB No. 10024-0018

United States Department of Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900A). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name **Madison Brass Works**
other names/site number **AHI #115419**

2. Location

street & number	206-214 Waubesa Street						N/A	**not for publication**	
city or town	Madison						N/A	**vicinity**	
state	Wisconsin	**code**	WI	**county**	Dane	**code**	025	**zip code**	53704

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this X nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property X meets _ does not meet the National Register criteria. I recommend that this property be considered significant _ nationally _ statewide _ locally. (X See continuation sheet for additional comments.)

Signature of certifying official/Title Date

State or Federal agency and bureau

In my opinion, the property _ meets _ does not meet the National Register criteria.
(_ See continuation sheet for additional comments.)

Signature of commenting official/Title Date

State or Federal agency and bureau

Madison Brass Works	Dane	Wisconsin
Name of Property	County and State	

4. National Park Service Certification

I hereby certify that the property is:

__ entered in the National Register.
___ See continuation sheet.
__ determined eligible for the National Register.
___ See continuation sheet.
__ determined not eligible for the National Register.
___ See continuation sheet.
__ removed from the National Register.
__ other, (explain:)

Signature of the Keeper	Date of Action

5. Classification

Ownership of Property
(check as many boxes as as apply)

- x private
- public-local
- public-State
- public-Federal

Category of Property
(Check only one box)

- x building(s)
- district
- structure
- site
- object

Number of Resources within Property
(Do not include previously listed resources in the count)

contributing	noncontributing
1	buildings
	sites
	structures
	objects
1	total

Name of related multiple property listing:
(Enter "N/A" if property not part of a multiple property listing.
N/A

Number of contributing resources is previously listed in the National Register
0

6. Function or Use

Historic Functions
(Enter categories from instructions)
INDUSTRY/Manufacturing facility

Current Functions
(Enter categories from instructions)
VACANT

7. Description

Architectural Classification
(Enter categories from instructions)
Other: Astylistic utilitarian

Materials
(Enter categories from instructions)
Foundation CONCRETE
walls BRICK
CONCRETE
roof ASPHALT
other

Narrative Description

(Describe the historic and current condition of the property on one or more continuation sheets.)

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for the National Register listing.)

x A Property is associated with events that have made a significant contribution to the broad patterns of our history.

_ B Property is associated with the lives of persons significant in our past.

_ C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

_ D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark "x" in all the boxes that apply.)

Property is:

_ A owned by a religious institution or used for religious purposes.

_ B removed from its original location.

_ C a birthplace or grave.

_ D a cemetery.

_ E a reconstructed building, object, or structure.

_ F a commemorative property.

_ G less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance
(Enter categories from instructions)

INDUSTRY

Period of Significance

1918 – 1941

Significant Dates

1918; 1936; 1938; 1941; 1952; 1959

Significant Person
(Complete if Criterion B is marked)

N/A

Cultural Affiliation

N/A

Architect/Builder

Unknown

Narrative Statement of Significance
(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographic References

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous Documentation on File (National Park Service):
- preliminary determination of individual listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic landmark
- recorded by Historic American Buildings Survey #
- recorded by Historic American Engineering Record #

Primary location of additional data:
- X State Historic Preservation Office
- Other State Agency
- Federal Agency
- Local government
- University
- X Other

Name of repository: Goodman Community Center

10. Geographical Data

Acreage of Property less than one

UTM References (Place additional UTM references on a continuation sheet.)

	Zone	Easting	Northing
1	16	309250	4773910
2			
3			
4			

☐ See Continuation Sheet

Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet)

Boundary Justification (Explain why the boundaries were selected on a continuation sheet)

11. Form Prepared By

name/title	Elizabeth L. Miller				
organization				**date**	May 1, 2016
street & number	4033 Tokay Blvd			**telephone**	608-233-5942
city or town	Madison	**state**	WI	**zip code**	53711

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps A USGS map (7.5 or 15 minute series) indicating the property's location.
A sketch map for historic districts and properties having large acreage or numerous resources.

Photographs Representative black and white photographs of the property.

Additional Items (Check with the SHPO or FPO for any additional items)

Property Owner

Complete this item at the request of SHPO or FPO.)

name/title	Becky Steinhoff, Executive Director				
organization	Goodman Community Center			**date**	
street & number	149 Waubesa Street			**telephone**	608-41-1574
city or town	Madison	**state**	WI	**zip code**	53704

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Projects, (1024-0018), Washington, DC 20503.

Start description on line below

INTRODUCTION

The Madison Brass Works is an irregularly-shaped, astylistic utilitarian building (photo 1). It is composed of three sections: foundry, office, and storage (figure 3). The foundry was erected in four phases (figure 4). The original part of the foundry (south) dates to 1918.[1] In 1929, the original part was expanded to the west to accommodate new furnaces.[2] In 1936, a one-story, brick-veneered addition was attached to the north of the original foundry (photo 1, right). The two-story, triangular addition is finished with brick and was constructed in 1938 (photo 1, far right, and photo 2, left).[3] The 1936 and 1938 additions overlook Waubesa Street. The office is a small, one-story section east of the foundry, facing Waubesa Street, and veneered with lannon stone in random ashlar (photo 1). It dates to 1941,[4] and replaced the original front façade. The concrete block storage section wraps around the south and west sides of the foundry (photos 3 and 4). Part of the storage section may date to ca. 1942, but was altered or replaced when the southwest end was built in 1952 (photo 4, one-story sections).[5] The southeast end of the storage section was constructed in 1959 (photo 3, right).[6] All of the Brass Works sections are of masonry construction with timber framing. The Brass Works has a concrete slab foundation, except that there is a basement under the 1936 and 1938 additions to the foundry. The 1918 and 1936 portions of the foundry have segmental-arched roofs with steel-framed metal monitors, while the remaining sections possess flat roofs. The monitor roofs are capped with standing seam metal; the other roofs are covered with deteriorating bituminous roofing.

DESCRIPTION

The Madison Brass Works is located at 206-214 Waubesa Street, just southeast of the former Chicago, Milwaukee and St. Paul Railroad (the Milwaukee Road). The tracks have been removed, and the railroad bed converted into a bicycle trail. Early twentieth century industrial complexes appear along the rail corridor north and east of the Brass Works. Small, single-family residences dating to the early twentieth century surround the industrial buildings. A narrow sidewalk separates the Brass Works from Waubesa Street.

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[1] "Starts New Building," *The Capital Times*, 22 May 1918, 9.
[2] "Output of Local Brass Works Up," *The Capital Times*, 31 December 1929, 1.
[3] "Floor Plan, 1938 Addition, Madison Brass Works, Waubesa Street," undated, Goodman Community Center, Madison, Wisconsin; "Building Permits," *Wisconsin State Journal*, 18 February 1938, 2:1; and "Madison Brass Works Holds Open House," *East Side News*, 1936.
[4] "Building Permits," *Capital Times*, 14 January 1941, 18; and *Map of Madison, Wisconsin*, (Pelham, New York: Sanborn Publishing Company, 1942).
[5] J. Young, "Madison Brass Works Appraisal" 30 October 1986, Goodman Community Center, Madison, Wisconsin; and Dan Park, "Store Room Addition to Madison Brass Works," 1959, Goodman Community Center, Madison, Wisconsin.
[6] Park; and Building Permit, 16 October 1959, City of Madison Department of Planning and Development, Madison, Wisconsin.

The plan of the Brass Works is irregular, conforming to the bend in Waubesa Street and the diagonal line of the former railroad corridor (photo 1 and figure 4). The overall footprint of the building measures about 103 feet along Waubesa Street (north and east), and 136 feet along the former rail corridor (north and west). The building is approximately 170 feet wide (east to west). The Brass Works displays a mix of metal industrial sash windows with wire glass, and glass block. Two-over-two wooden sash windows with rock-faced stone sills appear in the office section.

The main entrance opens into the lannon stone-veneered office and is centered on the east-facing (front) façade, overlooking Waubesa Street (photo 5). It is composed of a wood-and-glass door set in a deeply-recessed rectangular portal. A stone panel above the portal reads: MADISON BRASS WORKS. Two pairs of 2/2 windows flank the entrance. At either end of the façade, a small, abstract stone ornament sits on top of the parapet. The lannon stone veneer wraps around to the northeast and south facades. Set back from the street and south of the office is the 1959 concrete block storage section (photo 6, left). The east-facing façade displays a garage door.

The northeast-facing façade follows the angle northwest along Waubesa Street. At the east end, the lannon stone veneer marks the 1941 office addition, with a single, 2/2 windows (photo 5, right). The remainder of the façade displays brick veneer (photo 7). The one-story section, adjacent to the office, dates to 1936, while the two-story section was added in 1938. Both the 1936 and 1938 additions display brick parapets, and windows with smooth-faced stone sills and brick rowlock lintels. When the existing office was built in 1941, it extended into the 1936 addition. At that time, two 2/2 windows were installed in the eastern end of the 1936 addition. Regularly-spaced, industrial sash windows can be seen on the rest of the façade, although two of the first floor openings have been partially filled with brick.

The northeast-facing façade faces the bed of the former Milwaukee Road (photo 8). The two-story brick section at the east end is the 1938 portion of the foundry, the one-story brick section in the center is a ca. 1942 addition to the furnace room in the foundry, and the one-story concrete block section at the west end is storage (photo 8, right). A sheet metal dust collector separates the foundry and storage section. Industrial sash windows are irregularly-placed in the foundry sections, while glass block fills the openings in the storage section. A metal door (not original), a wooden-and-glass garage door, and a large opening with glass block (not original) appear in the foundry section. A pair of metal doors accesses the furnace room. The foundry is accented with a painted wall sign advertising Madison Brass Works.

Only the 1952 storage section can be seen on the west-facing façade (photo 4, right, beyond fence). Three, small, evenly-spaced windows (currently boarded) are found on this façade.

The south-facing façade is composed of the office (east, photo 6, right), foundry (center), and storage section (photo 6, left). The office displays lannon stone veneer, and one 2/2 window. The south-facing façade of the foundry dates to 1918 and possesses eight window openings. Those at the east end were enlarged when the office was added in 1941. The other six retain original industrial sash, in segmental-arched openings with brick lintels and sills. On the south façade of the storage section (photo 3), the east end displays six, regularly-distributed industrial sash, and no openings appear in the west end.

The interior of the foundry and storage sections generally consist of a series of unfinished open spaces (photo 9), with segmental-arched timber trusses (photo 10), exposed walls, trusses and ceilings, and concrete floors. Some interior doors are clad with metal, while others are paneled wooden doors. Along the northwest wall of the foundry section, a straight metal staircase rises to the second floor (figure 7 and photo 11, far left). Beneath it, a second straight metal staircase descends to the basement. The second floor consists of a single, open room, with narrow board flooring, exposed brick, and drywall finishes (photo 12). The basement is mostly unfinished, with exposed concrete finishes. A locker room with toilet stalls, urinals, and a round, concrete wash station is found in the northeast corner of the basement.

The layout of the office consists of a central waiting area (figure 7 and photo 13), with a medium-sized office (south, photo 14), and a tiny restroom and small office (north). The walls are finished with knotty pine wainscot and drywall, composition tiles in a checkerboard pattern cover the floors, and the ceiling displays acoustical tile inset with fluorescent lighting.

ALTERATIONS
On the exterior, alterations to the Madison Brass Works that took place after the 1918-1941 period of significance are mostly confined to the storage room addition, erected in two sections, in 1952 and 1959. The 1952 addition replaced or substantially altered a 1942 storage room addition. The 1959 addition covers part of the south wall of the 1918 section of the foundry. The placement of the storage room on secondary/rear facades reducing its impact. Further, the storage room is proposed for removal. Because it is an auxiliary use, the removal of the storage room would have a minimal affect on the historic character of the Brass Works. Other exterior alterations are limited to the reduction of two windows on the northeast façade of the foundry, and glass block filling openings on the northwest façade of the storage room. There is a large opening holding glass block on the northwest façade of the foundry, but this lights the interior staircases, and could be original. The interior of the Brass Works appears unaltered. The Brass Works retains a high degree of integrity, and clearly conveys its historic association with small-scale industrial production.

Insert Statement of Significance

SUMMARY

The Madison Brass Works is locally significant under *Criterion A*, in industry, representing the era in which railroad freight rates influenced the development of industry in Madison, effectively limiting manufacturing to small-scale production, and restraining the growth of the city's industrial sector. Discriminatory freight rates impacted industrial development in Madison from the arrival of the first railroad in 1856 until World War II, when the federal War Production Board directed industrial growth. Combined with competition from trucking in the 1930s, which caused rail freight traffic to plummet, this ended the influence of the railroad on manufacturing in Madison. The period of significance for the Madison Brass Works extends from 1918, the date of construction of the oldest part of the building, through 1941. The Brass Works retains very good integrity.

HISTORICAL CONTEXT

Brief History of the City of Madison

The original plat of Madison was surveyed for James Duane Doty in 1836. Doty, a real estate speculator, hoped to have Madison made the capital of newly-organized Wisconsin Territory, even though no Euro-Americans had yet settled in the area. Doty named his paper city in honor of the fourth president of the United States. Madison grew slowly during its first decade. It was incorporated as a village in 1846 with a population of 626. In 1848, Wisconsin became the thirtieth state and Madison was named the capital. The same year, the University of Wisconsin was founded. Tremendous growth followed. When Madison was chartered as a city in 1856, its population was 6,864. By that time, the city's character as a center for government and as a college town was well established. Growth stalled during the Civil War, but boomed during the 1870s as the presence of six railroad lines helped transform the city into a regional commercial center.[7]

In the 1880s, Madison added another dimension, becoming a manufacturing center. The addition of three new rail lines boosted industry, while discriminatory rail freight rates shaped the nature of manufacturing in Madison (as will be explained in the significance statement, below). Agricultural implements production was the leading industrial enterprise of the period, with such companies as the Mendota Manufacturing Company, and the (M.E.) Fuller and (John A.) Johnson Manufacturing Company. Another important industry was the fabrication of machine tools, beginning with the Gisholt Machine Tool Company in 1889. Buoyed by an expanding industrial sector, Madison's population

[7] David V. Mollenhoff, *Madison: A History of the Formative Years*, 2nd ed. (Madison, Wisconsin: The University of Wisconsin Press 2003), 22-27, 43-60, 69, 101-104,116-122; and Robert C. Nesbit, *Wisconsin: A History*, (Madison: University of Wisconsin Press, 1973), 549.

nearly doubled between 1880 and 1900, rising to 19,164.[8]

Madison's industrial sector diversified in the early twentieth century, with the addition of firms such as the French Battery Company (later known as Ray-o-Vac); the meat-processing plant, Oscar Mayer and Company; the Mason Kipp Company (later the Madison Kipp Corporation), manufacturers of machine lubricators; and the Scanlan-Morris Company, makers of hospital equipment. There were many other smaller concerns, including the Madison Brass Works, makers of brass fittings and bronze and aluminum castings. The development of a vigorous manufacturing sector and the quadrupling of the student body at the University of Wisconsin between 1900 and 1925 were major factors spurring Madison's growth from the seventh largest city in the state in 1910, to the third largest by 1930. Prosperous commercial and manufacturing establishments and the continued growth of the university propelled Madison's expansion, especially following World War II, to the second largest city in the state by 1950.[9] Presently, Madison retains that ranking, despite a contraction in manufacturing. In 2010, the U.S. Census enumerated 233,209 persons in Madison.

SIGNIFICANCE: INDUSTRY

The Madison Brass Works is eligible for the National Register under *Criterion A*, industry, representing the era in which railroad freight rates influenced the development of industry in Madison, effectively limiting manufacturing to small-scale plants with local or regional markets, and restraining the growth of Madison's industrial sector, particularly in comparison with that of Milwaukee. Discriminatory freight rates impacted industrial development in Madison from the arrival of the first railroad in 1856 until World War II.

Industrialization and Monopolies in the U.S.
Following the Civil War, technological innovation, the availability of abundant natural resources providing raw materials, and a growing labor pool drawn from the continual flow of immigrants, allowed industrialization to expand rapidly in the United States. The lack of business regulations in the U.S. model of *laissez faire* capitalism made it possible for a handful of men to create monopolies in key industries, and accumulate immense wealth and political influence. It would take decades of legislation to break up monopolies and regulate the labor practices and rates these industries charged for their services and products. Standard Oil, U.S. Steel, and American Telephone & Telegraph are examples of single companies that held monopolies in their respective industries. Although ownership of the railroads was not as quite as heavily concentrated as it was in those industries, regional

[8] Mollenhoff, 172-180; and Nesbit, 549.
[9] Mollenhoff, 250-61; and Nesbit, 549.

monopolies allowed railroads to carry out discriminatory practices, as Wisconsin's experience illustrates.[10]

Railroads Monopolies and Industry in Wisconsin

The first railroad to lay a track in Wisconsin was the Milwaukee and Mississippi Rail Road Company, which began operation between Milwaukee and Waukesha in 1851. Byron Kilbourn, one of the major land speculators and boosters of Milwaukee, promoted and managed the Milwaukee and Mississippi. The line slowly expanded westward, reaching Prairie du Chien in 1857. Historian Robert Nesbit estimates the cost to build a railroad in Wisconsin in the 1850s at $20,000 to $25,000 per mile, an outrageous sum that was the largely the result of incompetence, mismanagement, and fraud perpetrated by railroad promoters, especially Kilbourn. The state of Wisconsin refused to budget state revenues or bond itself for railroad construction. Few out-of-state investors showed any interest in funding Wisconsin railroads, and there were no federal land grants before 1856. Determined to secure railroads, Wisconsin citizens voted to bond their town, their city, and their county to fund over 100 railroad charters, convinced that the investment was sure to bring rail service and earn them a profit. The failure of all of Wisconsin's chartered railroads in the financial panic of 1857 was financially devastating to communities throughout the southern half of the state. Kilbourn conceived what was perhaps the most egregious fund-raising scheme. He convinced some 6,000 farmers to mortgage their farms in exchange for railroad stock, and then sold the mortgages to eastern investors. The financial panic rendered the railroad stock worthless, and many farms were foreclosed upon.[11]

Kilbourn was also involved in the only other railroad constructed across Wisconsin before the Civil War: the La Crosse and Milwaukee Railroad, which followed a slightly more northerly route and was completed in 1858. Wisconsin had received two federal land grants to pay for railroad construction in 1856. Several companies competed for these grants, including representatives of Chicago investors. Kilbourn and his associate, Moses Strong, won the grants for the La Crosse and Milwaukee Railroad by distributing $900,000 in railroad securities to 59 assemblymen, 13 senators, the governor, and a supreme court justice. Kilbourn, when called to testify before a state committee investigating allegations of bribery, was unapologetic, asserting that Wisconsinites would have been disappointed had the Milwaukee promoters allowed Chicago interests to win the grants with their bribes.[12]

In the wake of the financial panic of 1857, Alexander Mitchell stepped in. Mitchell was a Milwaukee banker who began his association with railroads in 1858 as a financial advisor and director to both the

[10] Ross Rosenfeld, "Interstate Commerce Act of 1887," Major Acts of Congress, 2004, *Encyclopedia.com*, http://www.encyclopedia.com/doc/1G2-3407400171.html, (retrieved 7 February 2016).
[11] Nesbit, *Wisconsin, A History*, 204-206.
[12] Barbara L. Wyatt, ed., *Cultural Resource Management in Wisconsin*, (Madison, Wisconsin: State Historical Society of Wisconsin, 1986), III: 5-1; and Nesbit, 204-206.

Milwaukee and Mississippi, and the La Crosse and Milwaukee Railroad. Through prudential financial management, and the gradual consolidation of existing lines, Mitchell built the Milwaukee and St. Paul Railroad (later, the Chicago, Milwaukee and St. Paul, or the Milwaukee Road). Formally organized in 1863, the Milwaukee Road placed Milwaukee at the center of its rail network. Mitchell would extend the Milwaukee Road westward into Minnesota, the Dakotas, Nebraska, and Missouri, successfully capturing a large share of grain shipments from the northern plains, and making Milwaukee a major center of grain trade. Mitchell served as president of the Milwaukee Road until his death in 1887.[13]

By 1870, two companies controlled most of the state's rail routes. Although other railroads would be built in Wisconsin, most would operate in conjunction with these two carriers.[14] One was the Milwaukee Road. The other was the Chicago & North Western Railway (C&NW). The C&NW had originated in 1848 as the Galena & Chicago Union, and was based in Chicago. It primarily provided service to northern Wisconsin and the upper peninsula of Michigan, shipping lumber (and later, pulp and paper) and iron ore. In 1870, Alexander Mitchell was president of both railroads, effectively controlling all but 86 of the 2,300 miles of track in the state. Public cries of monopoly induced Mitchell to step down from the presidency of the C&NW, but the companies continued to cooperate, finding it, as Nesbit notes, "more profitable to exploit shippers in areas where they were not in competition and divide the traffic and revenues where they were."[15]

Railroad transportation was key to the growth and economic prosperity of Euro-American settlements in Wisconsin, as it was throughout much of the U.S., from the 1850s into the 1920s. First, as the railroad network grew, its arrival sparked economic development and population growth in every community through which it passed. In contrast, settlements that the railroad bypassed languished, and some were abandoned.[16] Second, the rates rail carriers charged for freight influenced the nature of industrial manufacturing in the communities along its routes. Alexander Mitchell, directing the Milwaukee Road and cooperating with the C&NW, manipulated both these factors to support Milwaukee's development as the manufacturing center of the state. In 1866, Alexander Mitchell and others established the Milwaukee Iron Company, to produce iron rails for the Milwaukee Road. The plant went into large-scale production in 1870. Markets for machinery expanded with the railroad, and the Milwaukee Road's route through the northern grain belt provided unlimited opportunity for agricultural machines, such as threshers (J.I. Case of Racine), milling equipment, tools and engines (Allis-Chalmers Co. of Milwaukee), and windmills and engines (Fairbanks, Morse of Beloit), among other goods. As the technology of agricultural machinery advanced, agricultural implements

[13] Nesbit, 316-318.
[14] Wyatt, III: 5-1; and Nesbit, 315.
[15] Nesbit, 318.
[16] Wyatt, III: 5-1; Nesbit, 190-191, 197, and 315.

manufacturing concentrated in fewer, larger plants, those which had the capital or expertise to purchase or fabricate sophisticated new equipment with complex metal parts at a price farmers could afford. Smaller concerns that served a local market survived, but they could not expand, and many folded, because they could not afford the shipping rates. Milwaukee's location on Lake Michigan gave it an additional advantage, as newcomers looking for a business opportunity often came to Milwaukee first. Excluding the lumber and wood products industry, which concentrated near the source of its raw materials, half the value of manufacturing in the state from 1870 to 1900 was fabricated in Milwaukee's factories. The monopolistic practices of the railroad carriers were paramount in Milwaukee's primacy in manufacturing in the state.[17]

Railroad Regulation in the U.S.

Nationwide, rail service was provided by a small number of carriers, controlled by a handful of rich, politically-connected men. The carriers engaged in various monopolistic practices, especially in freight service. Railroads formed "pools," unwritten agreements to fix shipping rates above a certain price. Carriers set their own shipping rates, and kept them secret, such that two shippers, sending the same amount and type of freight to the same destination, might be charged different rates. Typically, farmers and small businesses on branch lines and in smaller markets such as Madison were charged higher rates than businesses shipping on main lines. Further, large companies with national markets often received "rebates" (kickbacks) to encourage them to continue doing business with the railroad.[18]

In the late nineteenth century, a growing backlash against monopolistic practices resulted in a series of laws intended to ensure fair freight rates. At first, states adopted laws to regulate railroads. However, the U.S. Supreme Court invalidated this approach in 1886, in the case of *Wabash, St. Louis, and Pacific Railway v. Illinois*, finding that only the U.S. Congress could regulate interstate commerce. In 1887, the U.S. Congress enacted the Interstate Commerce Act (ICA), which prohibited rebates and discrimination against small markets, mandated that railroad companies publish their rates, and created the Interstate Commerce Commission (ICC), a federal body charged with enforcing the regulations and establishing a "reasonable and just" pricing structure. However, the ICC did not have any real power to carry out its charge, and a pair of decisions by the U.S. Supreme Court in 1897 further undermined its authority, rendering the ICC, in the words of historian Ross Rosenfeld, "little more than a public support group."[19] The election of Theodore Roosevelt, a Progressive Republican, in 1900 ushered in an era of governmental regulation, including federal legislation strengthening the ICA and expanding the role of the ICC, beginning with the Elkins Act (1903) and ending with the

[17] Nesbit, 325-328, 331, and 334-35.
[18] Rosenfeld.
[19] Rosenfeld.

Transportation Act (1920). This legislation had mixed success, and effective railroad regulation would not take hold until the 1930s.[20]

During the late 1920s and the 1930s, trucking began to compete with the railroads, even as federal regulation of railroads increased. Trucking was unregulated until the federal Motor Carrier Act of 1935 placed interstate truck and bus companies under the authority of the ICC, which could set the rates the companies charged. Competition from an unregulated trucking industry and the financial impact of the Depression decimated the railroad industry. Between 1928 and 1933, railroad revenues plummeted by 50 percent. By the beginning of World War II, most railroads were in financial straits, a situation that was temporarily relieved by increased traffic during the war. After World War II, the construction of the national highway system bolstered truck transport. Rail freight transport, which was slower, more strictly regulated, and had much less flexible routing, fell precipitously. Railroads abandoned services (especially passenger transport) and lines, deferred maintenance, and filed bankruptcies through the 1970s. In the 1970s, federal efforts turned to reducing railroad regulation. The Railroad Passenger Service Act of 1970 established Amtrak, which took over passenger service. The Staggers Rail Act followed in 1980. This act allows railroads much greater freedom to establish freight rates (as monitored by the federal Surface Transportation Board), and dispose of rail lines. It remains in effect today.[21]

Railroad Regulation in Wisconsin

In Wisconsin, the earliest legislation enacted that attempted to regulate the railroad industry was the Potter Law of 1874, which created a three-member railroad commission charged with reducing freight rates. The Potter Law also set a ceiling for freight rates, and mandated that railroad carriers submit detailed financial reports. It is interesting to note that John A. Johnson, later president of the Fuller and Johnson Manufacturing Company, had been elected to the state senate in 1872, and had immediately introduced a bill that would have created a three-man railroad commission with the power to investigate and regulate railroad rates. Johnson's bill failed not only in 1872, but also in 1874, when the less restrictive Potter Law was adopted. However, Johnson's bill did become the model for the Illinois Railroad Law of 1873, as well as the Wisconsin Railroad Law that would be enacted in 1905. The state's two major railroads notified Governor William R. Taylor that they would not comply with the Potter Law. The Wisconsin attorney general sought an injunction, and the state's right to regulate the railroad was upheld by the state supreme court, and eventually, by a federal court. Meanwhile, Alexander Mitchell successfully led a coalition of Milwaukee businessmen and industrialists in electing Harrison Ludington as governor in 1876. The Potter Law was immediately repealed, and the

[20] Rosenfeld.
[21] Association of American Railroads, "A Short History of U.S. Freight Railroads," May 2015; Rosenfeld; and Wyatt, III: 6-2.

railroad commission replaced with a single commissioner. There would be no more legislation regulating the railroads in Wisconsin until the Progressive era.[22]

Regulating and taxing the railroad industry was one of the two major issues of Robert M. La Follette's gubernatorial campaign in 1900 (the other was the direct primary). Following his election, he proposed creating a three-man railroad commission with regulatory powers (much as John Johnson had recommended thirty years before), and instituting an ad valorem tax on the railroad carriers. Albert B. Hall had influenced La Follette's zeal for railroad reform. Hall was a member of the Wisconsin assembly who had previously served many years in the Minnesota assembly. From his first year in the Wisconsin legislature in 1891, Hall pushed for legislation that would rein in railroad influence, beginning with ending a political tradition: that of railroads giving free passes to political officials, legislators, judges, and governors. Year after year, Hall tried and failed, in the interim gaining considerable insight into railroad rate structures and taxation in the state. Hall compared, and highlighted the differences between, the reports the railroad carriers made to their stockholders with the reports they made to the state. Despite public outcry against these clear ethical violations, railroad lobbyists defeated La Follette's proposal in both his first and second gubernatorial terms.[23]

In April 1903, La Follette presented the results of intensive investigations into railroad freight rates for various commodities shipped from Wisconsin communities to Milwaukee on the Milwaukee Road compared with rates on other railroad carriers in Iowa and Illinois, showing rates in Wisconsin (outside of Milwaukee) to be anywhere from 6 percent to 60 percent higher than rates over comparable distances in Iowa and Illinois.[24] Emanuel L. Philipp, a conservative Republican politician and opponent of La Follette, who would be elected governor in 1914, disputed La Follette's findings in *The Truth About Wisconsin Freight Rates: Views of Shippers and the Press*, showing the Milwaukee Road charging completely different rates. These rates, Philipp claimed, proved that shippers in Wisconsin paid less for freight than did shippers in either Iowa or Illinois. Further, Philipp included a letter asserting that regulating railroad freight rates would be bad for business, signed by the presidents of a number of prominent industrial concerns. Representatives of only two Madison firms signed the letter: the Gisholt Machine Tool Company and its parent enterprise, the Fuller and Johnson Manufacturing Company. These two firms were the largest employers in Madison, with 600 workers between them, an international market, and annual sales well in excess of $1 million. At the time, these companies were the only manufacturing concerns in Madison with a market that extended beyond the region, and its size gave it economies of scale, so perhaps it was no longer hurt by

[22] Nesbit, 385-86; and Mollenhoff, 178.
[23] Nesbit, 406-412.
[24] George E. Bryant, *Lower Freight Rates Demanded for Wisconsin: The Railroad Red Book Exposed*, (Blooming Grove, Wisconsin: George E. Bryant, 1904).

discriminatory freight rates. Less likely, but still possible, is that following John Johnson's death in 1901, his successors may not have been above accepting rebates.[25]

It was not until La Follette had consolidated political power in the 1904 election that any of his signature legislation was enacted, including the re-organization of the state railroad commission as a three-member body in 1905. However, the Wisconsin Railroad Law of 1905, as passed, was much weaker than what La Follette had envisioned, and less restrictive than that of many other states. The Wisconsin Railroad Commission did not have the authority to establish freight rates, but rather only to investigate complaints, and review rates, and even these powers were subject to court stays and injunctions. The railroads excelled at securing stays and injunctions, and retained power and political influence in Wisconsin through the 1920s, as they continued to carry 75 percent of the nation's freight.[26]

In Wisconsin as across the U.S., trucking began to compete with the railroads in the late 1920s, and remained unregulated until the federal Motor Carrier Act of 1935, while railroads experienced increasing regulation. The Milwaukee Road was in such dire financial straits that it filed for bankruptcy in 1935, and was operated by a trusteeship through 1945. The Milwaukee Road prospered after the war until the late 1950s, as the national highway system reached Wisconsin and continued westward. During the 1960s, the ICC denied petitions to merge the Milwaukee Road with the C&NW. The Milwaukee Road abandoned passenger service in 1971, and filed for bankruptcy again in 1977. The SOO Line Railroad acquired a smaller, restructured Milwaukee Road in 1986. The C&NW fared better than the Milwaukee Road for a time, growing through mergers in the 1950s and 1960s. In 1972, the C&NW was sold to its employees. The company abandoned services and lines through the 1980s, and was acquired by the Union Pacific Railroad in 1995.[27]

Industry in Madison Shaped By Railroads Until World War II

Prior to the Civil War, industry in Madison served the local market. In 1850, breweries and flour mills generated the greatest revenue among industries in Madison, closely followed by sawmills and printers. Flour mills led in value of production in 1860, followed by printers, and clothing manufacturers. Although breweries led the value of production reported in 1870, the largest industrial employer in Madison at the time was E.W. Skinner's Mendota Manufacturing Company, with 50 employees, more than three times the number of the next largest factory. The Mendota Manufacturing

[25] E.L. Philipp, compiler, *The Truth About Wisconsin Freight Rates: Views of Shippers and the Press*, (Milwaukee: Evening Wisconsin Co., 1904).
[26] Nesbit, 412-416; and Association of American Railroads, 3.
[27] Association of American Railroads, 3; Todd Jones, *Milwaukee Road in the 70's: What Really Happened*, 2000, http://www.trainweb.org/milwaukee/article.html, (retrieved 21 February 2016); and Joe Piersen, *Chicago & North Western – A Capsule History*, http://www.cnwhs.org/ch_cnw.htm, (retrieved 21 February 2016).

Company began as the Mendota Agricultural Works in 1860, producing sorghum mills through the mid-1860s. Wisconsin's growing season proved too short for sorghum, so Skinner began fabricating mowers and reapers. There was one other agricultural implements manufacturer at the time, Firmin & Billings, whose ten employees produced 1,000 plows in 1870. Madison Mayor David Atwood and a handful of other civic leaders, hoping to make Madison an implements manufacturing center of regional importance, tried to attract other similar enterprises to the city, and succeeded in bringing the Garnhart Reaper Works to the city. It was hoped that the company would employ 50 workers and produce 400 reapers a year. However, Garnhart failed in the 1873 economic recession, and the other implements factories barely survived. This was due not only to the recession, but also to limited enthusiasm on the part of civic and business leaders for factory smokestacks and, as historian David Mollenhoff elegantly phrases it, "grimy workers." However, the most influential factor in the failure of the city to develop as a regional center of implements manufacturing was the high cost of freight rates for raw materials and coal, which had to be transported to Madison over relatively long distances.[28]

Shipping rates for Madison were higher than those the rail carriers charged for Chicago (base of the C&NW) or Milwaukee (home of the Milwaukee Road) from the moment the railroads arrived, placing Madison industries at a disadvantage and effectively limiting manufacturing to small-scale plants with a local or regional market. Agricultural implements production led industry in Madison in the late nineteenth century, as prairie lands to the west opened for farming, and Madison should have been able to capitalize on its location, access to rail service, and enterprising businessmen to develop a robust industrial sector centered on agricultural implements manufacturing. However, there was only one agricultural implements producer in Madison that was able to build a national market: the Fuller and Johnson Manufacturing Company. The company originated in 1880, when M.E. Fuller and John A. Johnson purchased the Madison Plow Company (formerly Firmin & Billings) and its small plant, initially retaining the company name. The partners quickly expanded the business, acquiring a vacant factory on East Washington Avenue and fabricating plows and cultivators. The firm was re-organized in 1882 as the Fuller and Johnson Manufacturing Company, with Johnson as president, a post he would retain until his death. Fuller and Johnson produced sod breakers, corn planters, harrows, hay rakes, mowers, and transplanters, in addition to plows and cultivators, and shipped nationwide. Fuller and Johnson was successful despite discriminatory freight rates because Johnson was exceptional.[29]

Johnson (1832-1901) had worked for the Madison-based Fuller and Williams implement distributorship as a traveling salesman beginning in 1869, traversing the Midwest and northern plains and gaining a deep understanding of farming and agricultural implements, and earning the respect and trust of farmers. Johnson was such a stellar salesman that he was made a partner in the distributorship

[28] Katherine H. Rankin and Timothy Heggland, "Madison Intensive Survey: Historic Themes," Report Prepared for the City of Madison and State Historical Society of Wisconsin, 1994, no page numbers; and Mollenhoff, 126-128.
[29] Mollenhoff, 172.

in 1873. Johnson, a Norwegian immigrant, was also civic minded, and particularly concerned about the Norwegian immigrant community. During the early 1870s, Johnson co-founded the Hekla Fire Insurance Company to serve Norwegian-Americans, and became a part owner of *Americka* (later, *Skandinaven*), the largest Norwegian language newspaper in the United States. He held public office, including as Wisconsin assemblyman (1857), Dane County Clerk (1860-1868), and state senator (1872-1874). The goodwill that Johnson had built in the Norwegian community and his political savvy enhanced the potential for success for the Fuller and Johnson Manufacturing Company. Johnson also knew what farmers needed and possessed a shrewd sense of marketing. Fuller and Johnson opened sales and distribution stores in Minnesota, Iowa, Illinois, the Dakotas, and then expanded into the western states. Johnson also displayed a talent for merchandising, advertising in newspapers, magazines, and trade journals with persuasive testimonials and attractive graphics. He was also an excellent designer, securing 32 patents for Fuller and Johnson products. By 1900, Fuller and Johnson employed more than 400 workers, shipped internationally, and its annual sales exceeded $1 million.[30]

The Fuller and Johnson Manufacturing Company was successful despite the obstacles to industry in Madison: the lack of skilled labor; the limited interest of civic leaders; and discriminatory freight rates. Johnson compensated for the lack of skilled labor by creating an in-house apprentice program, and advertising for trained machinists in Norwegian and German newspapers. Until the turn of the century, Madison's civic leaders would include a sizeable number who preferred that the city be a beautiful and cultured center of education and government, unsullied by factories. For example, in 1889, Johnson appealed to the Madison Businessmen's Association, composed of the city's wealthiest men, for small grants to support his new enterprise, the Gisholt Machine Tool Company. Johnson asked for $5,000 toward startup, and another $5,000 for each $25,000 of new business generated by the venture. The Madison Businessmen's Association did not even respond. Johnson launched the Gisholt Machine Tool Company with his own money, leading Madison's expansion into a new type of manufacturing: the production of machine tools for making parts for other machines. His new enterprise produced turret lathes, vertical boring mills, and tool grinders. By 1900, Gisholt had more than 200 employees and an international market for its award-winning machine tools.[31]

As for the effect of freight rates, in 1890 Johnson stated

> [Freight rates have] crippled all our inland manufacturers. They cannot compete with lake cities like Chicago and Milwaukee. In the great item of freight, there is a discrimination that works immensely to the disadvantage of cities like Madison. Then there are the items of coal and lumber. Milwaukee gets all her coal by way of the lakes, also her lumber. Our lumber reached Milwaukee by water, then we have to pay high railroad freight rates to this point. The same is

[30] Mollenhoff, 174-180.
[31] Mollenhoff, 179-181.

> true with our iron and coal. We are almost swamped by these freight rates.[32]

An anonymous source at Fuller and Johnson reported that freight rates added the equivalent of a 3 percent tax to its products, which no manufacturer based in Milwaukee (or Chicago) was charged, either for delivery of raw materials, or shipment of finished goods.[33]

Madison's industrial sector diversified in the early twentieth century, as manufacturing gained a cachet across the United States, arising from the enigmatic process of transforming raw materials into finished goods, and as Madison's civic and business leaders began to see manufacturing as desirable and necessary for the city's growth. Of course, the movers and shakers would only encourage those factories that hired highly skilled and well paid employees to locate in Madison. The desirability of industry for its potential to increase Madison's population was reinforced when the state legislature enacted the first state income tax in the nation in 1912. Most of the proceeds were returned to local government, which could spend the funds on improvements such as paved streets, water and sewer systems, street lighting, and parks. Yet, without a John Johnson at the helm to overcome the disadvantages caused by discriminatory freight rates, few companies were able to extend beyond a regional market. A handful of industrial enterprises in the early twentieth century reached a national market: the French Battery Company (later known as Ray-o-Vac); the meat-processing plant, Oscar Mayer and Company (which relocated from Chicago); the Mason Kipp Company (later the Madison Kipp Corporation), manufacturers of machine lubricators; and the Scanlan-Morris Company, makers of hospital equipment. There were many smaller concerns, with local and regional markets, such as the Madison Brass Works.[34] Attempts to regulate freight rates were initiated nationally as early as 1887, with the passage of the Interstate Commerce Act (ICA), and began to have some effect after 1903, during the Progressive era, but discriminatory freight rates would continue restrict the development of industry in Madison.

In 1924, the Madison Traffic Bureau (MTB) was established, an affiliate of the business booster club, the Madison Association of Commerce. Under its chairman, Leo T. Crowley, and its director, S.L. Foote, the MTB worked throughout the decade to reduce freight rates in and out of Madison, filing complaints with the ICC. In December 1929, Foote wrote

> Unreasonable, prejudicial, and discriminatory freight rates have cost Madison manufacturers, jobbers, and consumers millions of dollars. Had Madison secured the same relative rate

[32] *Madison Democrat*, 12 August 1890, cited in Mollenhoff, 181.
[33] Mollenhoff, 181.
[34] Mollenhoff, 250-261; and "Theodore Kupfer, Sr.," *The Capital Times*, 14 May 1940, 1.

> readjustment that Rockford and other Illinois cities secured 25 years ago…we might have numbered 100,000 population by this time.[35]

Reporting in 1930, Crowley noted that the MTB's complaints to the ICC had secured reductions in rates for freight traffic south, southeast, and southwest in 1929. The railroads succeeded in having the effective date for these reductions rolled back to November 1, 1929, then to February 1, 1930, and finally to April 1, 1930. Crowley stated that cases then pending before the ICC should bring reductions in freight rates to the east, as well as raising freight rates for Chicago and Milwaukee. He also reported that the MTB was working to support the development of the trucking industry, to provide an alternative to railroad transport.[36] Crowley was a prominent banker and businessman who later served as the director of the Federal Deposit Insurance Corporation, and in Franklin Delano Roosevelt's cabinet. In what seems an ironic twist, Crowley was chairman of the Milwaukee Road from 1945 into the 1960s.[37]

A sample list of some of Madison's manufacturers in December 1930 provides an idea of the range of goods the city's industrial workers made that year. The following companies shipped nationally: the Burgess Battery Company (largest in number of employees), makers of dry batteries, flashlights, automobile mufflers, and automobile air compressors; the French Battery Company (later Ray-o-Vac), radios, flashlights, and telephone batteries; Fuller and Johnson Manufacturing Company, gasoline engines; Gisholt Machine Tool Company; Madison Kipp Corporation, machine lubricators, grinders, and die-casting machines; Oscar Mayer Company, meat products; and the Scanlan-Morris Company, hospital furniture, sterilizing apparatus, and sutures. Firms with a local or regional market included: American Ice Cream Company; Ben H. Anderson Manufacturing Company, milking machines and electric pumps; Barrel Mixer Company, vending machines; Capital City Culvert Company, galvanized culverts; Capital City Pattern Works, wood and metal patterns; Capital Wire Company, seed corn dryers, baskets, and shipping crates; Casey Manufacturing Company, portable electric wood-working tools; Celon Company, cellulose bottle caps; Comet Engine Corporation, aircraft motors; Dexter Curtis Company, saddler accessories; Fauerbach Brewing Company, soda beverages and ginger ale; Feldman Paper Box Company, folding paper boxes; John Gallagher Company, awnings, sails, and tents; General Laboratories, disinfectants and livestock medicine; Hankscraft Company, electrical appliances; Kennedy Dairy Company, ice cream and dairy products; Kupfer Iron Works, steel for bridges and buildings; Madison Brass Works, brass, bronze, and aluminum castings; Madison Coca Cola Bottling Company; Madison Dairy Produce Company, butter; Madison Silo Company, concrete

[35] "Unjust Freight Rates Retard City's Growth," *The Capital Times*, 31 December 1929, 1.
[36] "Madison Traffic Bureau," *The Capital Times*, 3 April 1930, 8; and "Shippers Here Save $250,000: New Rates Effective on April 1," *The Capital Times*, 31 December 1930, 1.
[37] Caryn Hannan, *Wisconsin Biographical Dictionary: 2008-2009 Edition*, (Hamburg, Michigan: State History Publications, 2008), 84-85.

silos; Madison Concrete Products Company, concrete blocks; Marshall Dairy Laboratory, rennet extract and cheese color; Mautz Paint and Glass Company, paint and varnish; National Concrete Machinery Company, concrete post machinery; Pet Milk Company, evaporated milk and powder; John Peterson Manufacturing Company, water softeners and tanks; Schoelkopf Manufacturing Company, automatic door operators; Steinle Turret Machine Company, machine tools; Teckmeyer Candy Company; and Trachte Brothers Company, prefabricated steel buildings.[38]

During World War II, many of Madison's industrial plants were involved in making products for the war, guided by the federal War Production Board (WPB), which directed production of materiel and the allocation of fuel and raw materials from 1942 through the end of the war. For example, the Madison Kipp Corporation made component parts for artillery and trench mortars, as well as 15-ton die-casting machines to make artillery shells and mortar rounds. At the direction of the WPB, a rail spur and a massive traveling crane were installed to lift the machines and ship them by rail to firms producing ordnance all over the U.S.[39] Kupfer Iron Works also installed a monumental gantry and rail spur to carry the bases for submarine diesel engines the company was casting, and ship them to Fairbanks, Morse in Beloit.[40] The Scanlan-Morris Company, making operating tables and steam sterilizers for hundreds of naval vessels, expanded its power plant to meet demand at the direction of the WPB.[41] The entire output of batteries produced by the Ray-o-Vac Company in round-the-clock shifts went to the armed forces.[42] The Gisholt Machine Tool Company's products were used in making all the airplane motors, naval ship turbines, and submarine engines (as well as doughnut-making machines, for morale) in the U.S. during the war.[43] The Brass Works cast components for torpedoes. Although the WPB ordered the Brass Works to expand its plant, the firm was unable to comply, due to a shortage of building materials.[44] More than half of the meat processed by the Oscar Mayer Company went to the armed forces and allies.[45] Even the Ben H. Anderson Manufacturing Company, which made milking machines, converted three-fourths of its production capacity to making parts for artillery, as well as ammunition and equipment for field kitchens during the war. The firm even re-designed its milking machines with wooden parts replacing metal vital to the war effort.[46]

Discriminatory freight rates impacted industrial development in Madison from the arrival of the first railroad in 1856 until World War II, when the federal WPB channeled industrial growth. This

[38] "94 City Plants Employ 6,348," *The Capital Times*, 31 December 1930, Business Section, 1.
[39] "Madison Kipp Corp. is Arsenal within the Arsenal of Democracy," *Wisconsin State Journal*, 28 March 1943, 1-2.
[40] " 'Subs Sail' from Doors of Kupfer Co.," *Wisconsin State Journal*, 3 June 1943, 1.
[41] "Madison Helps Save Lives Through Scanlan-Morris Co.," *Wisconsin State Journal*, 21 March 1943, 1-2.
[42] "Eyes, Ears, Voice of Army Produced in City Plant," *Wisconsin State Journal*, 14 March 1943, 1 and 3.
[43] " 'Gisholt Tools – Vital to Victory' – Firm Earns Right to Slogan," *Wisconsin State Journal*, 4 April 1943, 1 and 8.
[44] "Common Council Proceedings, May 22, 1942," *Wisconsin State Journal*, 19 June 1942, 8.
[45] "Our Job is Meat – Fightin' Food, Oscar Mayer Employees Say," *Wisconsin State Journal*, 25 April 1943, 1 and 8.
[46] "Milking Machines, Munitions Built for War Plant Here," *Wisconsin State Journal*, 18 April 1943, 1 and 9.

combined with competition from trucking in the 1930s, which caused rail freight traffic to plummet, ending the era of railroad influence on industrial development.[47] The Madison Brass Works represents the period of railroad freight rate influence on the development of industry in the community, as one of a number of small-scale manufacturers with a regional market established in Madison prior to 1942. Many plants from this era have been demolished or much altered. One that retains good integrity is the Steinle Turret Machine Company/Kupfer Iron Works (NRHP, figure 5) across the street at 149 Waubesa Street. In comparison, the Madison Brass Works retain better integrity to its period of significance, 1918-1941, than the Steinle Turret Machine Company/Kupfer Iron Works did at the time it was listed on the National Register in 2007. At that time, the building was clad with pebble-dash, and many windows had been replaced or covered. Now serving as the Goodman Community Center, the Steinle Turret Machine Company/Kupfer Iron Works has been restored to a historic appearance. The Goodman Community Center will also return the Brass Works to a historic appearance.

History of Madison Brass Works

In May 1907, Henry Vogts and Edward Schwenn established Madison Brass Works, purchasing the existing site for $400 from the East Side Land Company, on an installment plan of $10 down and $10 a month.[48] The East Side Land Company, established in 1901, developed the 45-acre Fair Oaks plat (which includes the Brass Works site). The first lots went on sale in December 1901. The East Side Land Company actively recruited manufacturers to Fair Oaks, so that there would be job opportunities in the development, which would in turn attract home-buyers to the predominantly residential enclave. In 1903, the East Side Land Company induced the Mason Kipp Company, which was considering moving to LaCrosse or Milwaukee, to relocate to Fair Oaks by providing a bonus and a free site.[49] The newly-named Madison Kipp Company erected its factory across the street from the Brass Works site, where its headquarters remains today. Madison Kipp manufactured oil injectors for tractors, eventually expanding to become the largest producer of machine lubricators in the world. The East Side Land Company's strategy was so successful that Fair Oaks was able to incorporate as a village in 1906. By 1910, Fair Oaks would have a population of about 1,000 and four notable industrial enterprises: the Madison Plow Company (a spin-off of Fuller and Johnson); Madison Kipp; the Steinle Turret Machine Company (producing turret lathes, and located across Waubesa Street from the Brass Works and next door to Madison Kipp); and the U.S. Sugar Company (processing beets into sugar). The village of Fair Oaks would be annexed by the city of Madison in May 1913.[50]

Henry Vogts and Edward Schwenn built the first Madison Brass Works in 1907. It was a one-story

[47] "Shippers Here Save $250,000: New Rates Effective on April 1"; and Association of American Railroads.
[48] "Madison Brass Works Founded On East Side Twenty Years Ago," *East Side News*, 28 April 1927, 1; and "Henry Vogts," *Wisconsin State Journal*, 2 February 1958.
[49] Mollenhoff, 261.
[50] Mollenhoff, 342.

frame building, measuring about 18 feet (along Waubesa Street) by 24 feet, with a frame sand storage shed, 10 feet (parallel to Waubesa Street) by 18 feet, appended to the rear.[51] The plant was equipped with three, coke-burning furnaces. The partners used a sand-casting process to make brass components and fittings for other manufacturers, and bronze objects, such as plaques. When the frame foundry was destroyed by fire in the winter of 1912, Vogts and Schwenn erected a slightly larger building of brick construction. By 1917, the business had outgrown the 1912 building, and construction on a new foundry had begun. Completed in 1918, the brick building measured 30 feet (along Waubesa Street) by 90 feet, and featured electrically-driven machinery.[52] This is the original section of the existing Brass Works building (figure 6). The front façade exhibited five openings, consisting of two, wooden-and-glass doors, each surmounted by a two-pane transom and flanked by double-hung sash windows with stone sills (figure 6). The south door opened into the office, and the north door gave direct access to the foundry. Above, a stone panel centered beneath a stepped parapet read: MADISON BRASS WORKS.[53]

Henry W. Vogts (1878-1968) was born in Germany and immigrated to the U.S. in 1893. He worked on the farm of his uncle, William Vogts, before moving into Madison in 1895. There he met Edward Schwenn (1882-1918), who had been born in Wisconsin to a German immigrant family. In 1897, the two relocated to Beloit, working in an iron foundry, and then to Milwaukee, where they were both employed in a brass foundry. Schwenn returned to Madison in 1900, then moved to Birmingham, Alabama, returning to Madison in 1906. Between 1902 and 1906, Vogts traveled extensively in the western U.S., working briefly in foundries in several cities. April 1906 found him in San Francisco, and following the earthquake that leveled the city, Vogts returned to Madison. After a brief stint at the Northern Electric Company, Vogts founded Madison Brass Works in partnership with Schwenn in May 1907.[54] In November 1918, Edward Schwenn passed away in the influenza pandemic.[55] Vogts continued the business without his partner, and would remain sole proprietor for many years.

In 1929, Vogts expanded the building about 20 feet to the west to house three new furnaces, which he had designed himself. By that time, Madison Brass Works employed eight men and had developed a regional market, smelting and molding brass castings for 90 percent of the firms in Madison that utilized castings, including Gisholt Machine Tool Company, as well as 90 percent of those using brass castings in Milwaukee, Racine, and Chicago.[56] A 1934 appraisal of the property indicated that the

[51] *Map of Madison, Wisconsin*, (Pelham, New York: Sanborn Publishing Company, 1908), 71.
[52] "Starts New Building"; and "Floor Plan, 1938 Addition, Madison Brass Works, Waubesa Street."
[53] "Madison Brass Works Founded On East Side Twenty Years Ago."
[54] "Madison Brass Works Founded On East Side Twenty Years Ago"; and "The Founder of a Foundry," *Wisconsin State Journal*, 31 October 1965, 4:5.
[55] "7 Deaths in Today's List," *The Capital Times*, 4 November 1918, 1.
[56] "Output of Local Brass Works Up"; "Madison Brass Works Founded on East Side Twenty Years Ago"; and "Gisholt Still Makes Fine Tools," *Wisconsin State Journal*, 13 September 1941, 14.

foundry had an earthen floor, was unheated except for a stove in the office, and possessed a single toilet. A one-story, gabled, frame storage shed (not extant) with an earthen floor stood adjacent to the foundry.[57]

Vogts reorganized Madison Brass Works as a partnership with his son, Harry F. Vogts, in 1936. The partners embarked on a series of additions to the plant, expanding the foundry in 1936 and in 1938, extending and remodeling the office in 1941, and enlarging the furnace room during the same period. The 1936 addition was erected in response to a growing demand for aluminum castings, a relatively new product for the Brass Works.[58] An inspection conducted in April 1941 recorded eight, oil-fired furnaces in the furnace room, and four grinders and a sand blast cabinet in the foundry proper. Harry Vogts was the foreman, supervising 30 employees: 15 moulders; four grinder operators; one sandblast operator; two furnace tenders; four core-makers; and 4 laborers. In addition, the company was leasing part of a building on Atwood Avenue, where eight employees inspected and packed products.[59] Between 1929 and 1941, the Brass Works workforce had grown from eight to 40.

In 1942, the Brass Works secured contracts with the federal government to fabricate castings for torpedo components. The WPB ordered the company to expand the foundry, but the wartime shortage of building materials limited the Brass Works to leasing additional space off-site.[60] In June 1942, the company incorporated with $100,000 of capital stock, and a board of directors with four members: Henry W. Vogts; Barbara K. Vogts (Mrs. Henry Vogts); Harry F. Vogts; and Racheletta E. Vogts (Mrs. Harry Vogts).[61] Harry Vogts was named general manager, although he appears to have shared those duties with his cousin, Elmer Schwenn (1908-1980).[62] Madison Brass Works operated at a busy pace fulfilling military contracts through at least 1944.[63]

Harry F. Vogts (1909-1994) graduated from the University of Wisconsin with a major in metallurgy. Harry Vogts' business interests extended beyond metal casting. After World War II, he established Ace Builders in partnership with Malcolm Anderson, its office in the Brass Works. By August of 1950,

[57] Dane County Property Appraisal Cards, 1934, Dane Series 48, Wisconsin Historical Society, Madison, Wisconsin.
[58] "Madison Brass Works Holds Open House"; "Floor Plan, 1938 Addition, Madison Brass Works, Waubesa Street"; "Building Permits," *Wisconsin State Journal*; "Building Permits," *The Capital Times*; and *Map of Madison, Wisconsin,* (1942).
[59] Building Plans Correspondence of the Wisconsin Industrial Commission/Department of Labor and Human Resources, (E-File) #24872, Wisconsin Historical Society, Madison, Wisconsin.
[60] "Common Council Proceedings, May 22, 1942."
[61] "Vogts Organize Brass Works, Inc.," *East Side News*, 6 June 1942.
[62] Elmer Schwenn was the son of Henry Vogts' sister, Emma Vogts, and Edwin Schwenn's brother, Frank Schwenn, so was a double cousin of Harry F. Vogts. "After 58 Years, German Woman Visits Brother and Sister Here," *Wisconsin State Journal*, 27 June 1952.
[63] "Vogts May Retire From Commission," *Wisconsin State Journal*, 17 September 1944, 1.

the company had completed 30 houses, had 20 under construction, and planned to erect another 60 to 70 homes. The first homes were built in the Sunset Village subdivision on the west side of Madison, and combined traditional construction with prefabricated elements. Prefabrication especially intrigued Vogts, and the company devised a prefabricated, five-room, 720 square foot, "budget" home that would be built in the Acewood development on Madison's east side, and in the neighboring village of Monona off Nichols Road. Some of the residences Ace Builders erected were prefabricated by Page and Hill Homes of Shakopee, Minnesota.[64] Harry Vogts was also a talented musician, and a champion hydroplane boat racer, retiring from racing in 1956. By February 1958, his interest in outboard motor boats had inspired him to establish SURF, Inc., manufacturing motorboat steering wheel assemblies. The 1959 storage room section was built for storing the assemblies and other marine hardware that SURF, Inc., sold.[65]

Henry Vogts was still working at the foundry at late as 1965, and serving as president of the Brass Works at the time of his death in 1968.[66] One of the castings he was most proud of was the bronze plaque mounted on Bascom Hall on the University of Wisconsin campus, which proclaims that

> …the great state University of Wisconsin should ever encourage that continual and fearless sifting and winnowing by which alone the Truth can be found.[67]

Harry Vogts succeeded his father as president of the Brass Works. Elmer Schwenn continued as plant superintendent until his death in June 1980. Madison Brass Works operated until shortly before Harry Vogts death in 1994.[68] The Thomas F. Pankratz Company leased the property in 1994, and purchased the property in August 1995 at a cost of $50,000.[69] The Celestial Stone Foundry & Forge, a subsidiary company that Thomas Pankratz operated, produced custom metal castings of brass, bronze, and aluminum, as well as iron forging on site. The business moved out in 2014-15, and continues at another location out of state.[70]

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[64] "Firm Plans 60 More Houses Including 'Budget' Show Home," *Wisconsin State Journal*, 20 August 1950, 4:3.
[65] "Know Your Madisonian: Henry W. Vogts," *Wisconsin State Journal*, 9 February 1958; and "The Founder of a Foundry."
[66] "Henry W. Vogts, 89, Founder of Madison Brass Works, Dies," *Wisconsin State Journal*, 2 February 1968, 10.
[67] "The Founder of a Foundry."
[68] *Madison City Directory, 1995*, (Detroit: R.L. Polk & Son, 1994); and *Madison City Directory, 1996*, (Detroit: R.L. Polk & Son, 1995).
[69] Linda Grubb, Building Inspector, to Sheri Milleville, Zoning Technician, City of Madison Department of Planning and Development, 14 July 1994; and Warranty Deed, August 1995, City of Madison Assessor, http://www.cityofmadison.com/assessor/property/additionalpropertydata.cfm, (retrieved 7 February 2016).
[70] Thomas Pankratz, personal communication, 25 February 2016.

In December 2015, the Goodman Community Center purchased the property.[71] Fund-raising is underway to rehabilitate the building to house additional programming for the community center. The community center will preserve the historic appearance of the Brass Works, as the organization has done with its headquarters, the Steinle/Kupfer Ironworks building (NRHP 2007).

End of Statement of Significance

[71] Warranty Deed, December 2015, City of Madison Assessor, http://www.cityofmadison.com/assessor/property/additionalpropertydata.cfm, (retrieved 7 February 2016).

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End of References

___Insert Boundary Descriptions

VERBAL BOUNDARY DESCRIPTION

The Madison Brass Works is located in the city of Madison, Dane County, Wisconsin on a parcel more particularly described as: Parts of lots 1 and 33 and all of lot 34, block 22, East Side Land Co Addition to Fair Oaks beginning on west right-of-way line of Waubesa Street 9 feet E of the SE corner of Lot 33, then W in a straight line 148 feet, then N at a right angle 34.4 feet to the SE right-of-way of the former Milwaukee Road railroad corridor, then NEly 132.07 feet along said right-of-way to the west right-of-way of Waubsa Street, then SEly 73.08 feet along the said right-of-way, then S 55.33 feet along said right-of-way to point of beginning. The boundary encloses a polygonal parcel of less than one acre.

BOUNDARY JUSTIFICATION

The boundary of the Madison Brass Works encloses all those resources historically associated with the property. The historic boundary coincides with the legal boundary of the parcel on which the Madison Brass Works sits.

___End of Boundary Descriptions

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Insert Photo Descriptions

Name of Property:	Madison Brass Works
City:	Madison
County:	Dane County
State:	Wisconsin
Name of Photographer:	Elizabeth L. Miller
Date of Photos:	February 2016
Location of Original Data Files:	Wisconsin Historical Society

WI_DaneCounty_MadisonBrassWorks_0001
East (front) and northeast façades, camera facing west

WI_DaneCounty_MadisonBrassWorks_0002
Northeast and northwest facades, camera facing south

WI_DaneCounty_MadisonBrassWorks_0003
South facade, camera facing northwest

WI_DaneCounty_MadisonBrassWorks_0004
Northwest and west facades, camera facing east

WI_DaneCounty_MadisonBrassWorks_0005
East (front) and northeast facades, camera facing southwest

WI_DaneCounty_MadisonBrassWorks_0006
South and east facades, camera facing north-northwest

WI_DaneCounty_MadisonBrassWorks_0007
Northeast facade, camera facing southwest

WI_DaneCounty_MadisonBrassWorks_0008
Northwest facade, camera facing southeast

WI_DaneCounty_MadisonBrassWorks_0009
Foundry interior, camera facing northwest

WI_DaneCounty_MadisonBrassWorks_0010
Timber trusses and monitor roof, camera facing north

WI_DaneCounty_MadisonBrassWorks_0011
Foundry interior, camera facing northeast

WI_DaneCounty_MadisonBrassWorks_0012
Foundry interior, second floor, camera facing east

WI_DaneCounty_MadisonBrassWorks_0013
Office waiting room, camera facing south

WI_DaneCounty_MadisonBrassWorks_0014
South office, camera facing southwest

End of Photo Descriptions

___Insert Figures

Figure 1. Madison Brass Works, Madison, Wisconsin, USGS Map with UTM Reference

Figure 2. Madison Brass Works, Site Plan with Legal Description and Photo Key

Figure 3. Madison Brass Works, Plan with Photo Key

Figure 4. Madison Brass Works, Plan with Construction Dates

Figure 5. Steinle Turret Machine Company (NRHP), 149 Waubesa Street, Madison, Wisconsin

Figure 6. Madison Brass Works, 1927, Showing Original Front Facade

Figure 7. Madison Brass Works, Floor Plan

___End Figures