NPS Form 10-900
(Rev. 8-86)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

National Historic Landmark Nomination

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property

historic name: Wright Cycle Company and Wright and Wright Printing
other names/site number: Wright Cycle Shop

2. Location

street & number: 22 South Williams Street ☐ not for publication
city, town: Dayton ☐ vicinity
state: Ohio code: OH county: Montgomery code: 113 zip code: 45407

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
		Contributing	Noncontributing
☒ private	☒ building(s)	1	____ buildings
☐ public-local	☐ district	____	____ sites
☐ public-State	☐ site	____	____ structures
☐ public-Federal	☐ structure	____	____ objects
	☐ object	1	0 Total

Name of related multiple property listing: Wright Brothers-Associated Properties in the Dayton, Ohio, Area

Number of contributing resources previously listed in the National Register: 1

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this ☐ 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 ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of certifying official — Date

State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of commenting or other official — Date

State or Federal agency and bureau

5. National Park Service Certification

I, hereby, certify that this 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.
☐ removed from the National Register.
☐ other, (explain:) _____

Signature of the Keeper — Date of Action

6. Function or Use

Historic Functions (enter categories from instructions)

COMMERCE/TRADE: Specialty store
INDUSTRY: communications facility

Current Functions (enter categories from instructions)

RECREATION AND CULTURE: museum

7. Description

Architectural Classification (enter categories from instructions)

Late Victorian

Materials (enter categories from instructions)

foundation limestone
walls brick
wood siding on addition
roof wood shingle
other limestone columns

Describe present and historic physical appearance.

The Wright Cycle Company building is a two-story detached rectangular commercial brick structure with a full basement and a single-story frame addition on the rear. The building is three bays wide and six bays deep. The hipped wood-shingled roof of the main section features a projecting gable on the north side and a diagonally projecting gable on the northwest. The addition has a gabled roof which, like the main roof, was covered with wood shingles.

The first floor main facade, which fronts on Williams Street, featured storefront display windows capped with a limestone lintel supported by four one-piece limestone columns with stylized capitols.[1] Comprising eight lights each, the display windows flanked the central double door entryway. There was another double door entryway with a transom window on the north side of the building; this door probably served as a freight entrance. A third main floor entryway, a single door, provided access to the rear addition. Situated directly over the double door entry on the ground floor was another double door which opened onto a small metal balcony; it was probably used to move equipment in and out of the second floor by means of a hoist with pulleys located in the gable end above the door. With the exception of the storefront described above, the building's windows were 2/2 double-hung sash windows with dark painted wood shutters. All of the window and door openings had limestone lintels and sills.

The first floor interior of the main section of the building was one large room used as a showroom and workspace. The room had light colored plaster walls with dark wood baseboards. Interior ornamentation was restricted to tapering the sides of the door and window lintels to suggest a pediment. The rear addition was divided into two rooms and probably served as office space. A stairway in the southeast corner of the building provided access to the unfinished basement below and up to the second floor. The upper floor was divided into five rooms of various sizes. The

[1]Similar columns also made of local limestone appear on several neighborhood commercial buildings of the same vintage.

[X] See continuation sheet

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties:
☐ nationally ☐ statewide ☐ locally

Applicable National Register Criteria ☐A ☐B ☐C ☐D

National Historic Landmark Criteria 1, 2

Criteria Considerations (Exceptions) ☐A ☐B ☐C ☐D ☐E ☐F ☐G

Areas of Significance (enter categories from instructions)	Period of Significance	Significant Dates
Invention	1895-1897	1896
Transportation		
Engineering		
Commerce		
Communications		

Cultural Affiliation: n/a

Significant Person: Wright, Wilbur and Orville

Architect/Builder: Nicholas, Abraham and Joseph, builder

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

The Wright Cycle Company building is of significant because of its association with and role in the careers of Wilbur and Orville Wright as printers and bicycle manufacturers, and in their invention of the airplane. The bicycle shop at 22 South Williams Street, which operated between 1895 and 1897, is where the brothers began to manufacture their own brand of bicycles which gave the brothers the mechanical experience and financial resources necessary to begin their experiments on an airplane. Working with sprockets, spokes, chain drives, tires, metals, lathes, drills and engines assisted the Wrights in designing and building their first gliders and flying machines.[1] Further, it was while the Wrights occupied the building at 22 South Williams Street that they became seriously and actively interested in solving the problems of heavier-than-air powered flight. Also operating out of the Williams Street building was Wright and Wright Printing which was located on the second floor of the building; the printing business required access to national news wires, which carried word of Otto Lilienthal's death to the shop in 1896. This event catalyzed the brothers' interest in developing a safe and practical flying machine.

History

Prior to the opening of the first Wright cycle shop in 1892, the Wright brothers had been involved solely with their printing business located in the Hoover Block at 1060 West Third Street (adjacent to the 22 South Williams Street property). However, since the demise of their daily newspaper, the Evening Item, in 1890, the brothers had been looking for another business to complement their ongoing job printing trade. In 1892, the brothers

[1]Fred C. Fisk, "The Wright Brothers' Bicycles," Wheelmen, November 1980, p. 3.

☒ See continuation sheet

9. Major Bibliographical References

☒ See continuation sheet

Previous documentation on file (NPS):
- ☐ 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:
- ☐ State historic preservation office
- ☐ Other State agency
- ☐ Federal agency
- ☐ Local government
- ☐ University
- ☒ Other

Specify repository:

Aviation Trail, Inc.
Dayton, Ohio

10. Geographical Data

Acreage of property: less than one acre

UTM References

	Zone	Easting	Northing
A	16	713,818,20	4404,4120
B			
C			
D			

☐ See continuation sheet

Verbal Boundary Description

Lot 7794, City of Dayton, Ohio, with the exception of 25 feet taken by parallel lines off the south side thereof, as described in Warranty Deed 12235, recorded July 27, 1983.

☐ See continuation sheet

Boundary Justification

The boundary includes the city lot historically associated with the property, and is the legal boundary of the property owned by Aviation Trail, Inc.

☐ See continuation sheet

11. Form Prepared By

name/title: ~~Jill York O'Bright, Historian; David G. Richardson, Historian; and William S. Harlow, Historical Architect~~
organization: ~~National Park Service, Midwest Region~~ date: January 18, 1990
street & number: ~~1709 Jackson Street~~ telephone: 402-221-3426
city or town: ~~Omaha~~ state: NE zip code: ~~681~~02

walls were of light colored plaster with a decorative pattern frieze.

The building was altered considerably sometime between 1897 and 1911 as the commercial building was transformed into a two-family residence. The original storefront was removed and a recessed exterior wall of novelty wood siding erected. The display windows were eliminated and bay windows installed in their stead. The front columns from the original west facade remained, forming a porch. A new stairway provided access to the second floor from this porch. A bay window replaced the freight door. All shutters were removed, and the exterior of the structure was painted white. Exterior access to the basement on the north side of the building was provided via an external stairway and door. The first floor interior was divided into five rooms.

The Wright Cycle Company building was recently restored to its historic turn-of-the-century appearance. Aviation Trail, Inc., the current owners, oversaw the restoration project which was based on construction documents prepared by Gaede, Serne, & Zofcin Architects, Inc. The restoration work included replacement of the roof; chemical removal of paint from the brick walls; removal of the bay windows, basement exit, and two first floor windows dating after 1897; elimination of nonhistoric interior partitions; reestablishment of historic doorways; application of new siding to the rear addition; and replication and installation of shutters based on an original shutter found in the tight space between the Cycle Shop and the adjacent residence. The resulting restoration closely resembles a photograph taken by Orville Wright in 1896 or 1897. Modest concessions to public usage include a concrete ramp to the side porch which provides access for handicapped visitors, and improvements required to meet current fire and safety codes.

Aviation Trail, Inc. opened the Wright Cycle Company building as a museum on June 28, 1988. The structure also includes office space for the organization's staff.

skill in the repair of bicycles provided the supplementary business enterprise the Wrights were seeking.

By the time Wilbur and Orville Wright opened their first bicycle shop to repair and sell bicycles at 1005 West Third Street in Dayton, the nation was already in the midst of a cycle craze. In fact, so great was the appeal for the newly developed safety bicycle, that it was extolled as the "greatest invention of the nineteenth century," and the decade of the 1890s was celebrated as the golden age of the bicycle.[2]

The bicycle enterprise, founded in 1892, provided a brisk business for Wilbur and Orville, and necessitated the relocation of their cycle shop to more commodious quarters. In early 1895, the Wrights once again had made the decision to move their bicycle business to larger facilities; however, this time they chose to combine their bicycle and printing interests under one roof.

The location chosen for their new shop was the two-story building at 22 South Williams Street erected by Abraham and Joseph Nicholas behind the Hoover Block. Built in 1886, the structure served as a grocery store, feed store, saloon, and boarding house before the Wrights rented it and refitted it to suit their needs.[3] The newly located Wright Cycle Company and Wright and Wright Printing opened in the spring of 1895. In general, however, since the Wrights first opened a bicycle shop in 1892, the printing business diminished in importance. Although the job printing business was still turning a profit for the brothers and would continue to do so until it was sold in 1899, the Wrights realized that the cycle industry provided more earning potential and offered more of a challenge to them. Hence, their printing interests became subordinate to their cycling interests and were developed into a very successful promotional aid for the Wright Cycle Company. Snap-Shots, the weekly westside newspaper started in 1894 at the

---

[2]Tom D. Crouch, "The Wright Cycle Company," pamphlet (Dayton, Ohio: Aviation Trail, Inc., n.d.)

[3]Margaret (Lanny) Weaver, "The Wright Brothers at 22 South Williams Street 1895 to 1897," mimeographed (Dayton, Ohio: Aviation Trail, Inc., 1983), p. 6-7.

Hoover Block, was continued at 22 South Williams Street as a means to enhance and publicize the Wright Cycle Company:

> SNAP-SHOTS will be devoted to the interests of its publishers and of the business men of our city in general. It will inform its readers why and where to buy bicycles and other articles, and will also keep them posted concerning the latest happenings in the cycling world both as regards improvements in manufacture and the doings of racing men.[4]

Late in 1895, the Wrights were again thinking of expanding their cycle business; however, this time they sought not only to enlarge their sales and repair operations, but also to manufacture their own brands of bikes. In a pamphlet printed early in 1896, the Wrights announced:

> With the new year we begin our fourth season in the bicycle business, and we take this occasion to thank the public for its increasing favor. Each year we have more than doubled the business of the preceding one. For this reason we feel that we are justified in making special preparation for the accommodation of our customers in the coming year. Our salesroom at 22 South Williams Street is being nicely refitted, and a visit from you will be much appreciated. We are adding new machinery to our shop, and before the riding season opens we hope to have on the market a bicycle of our own make, which in commemoration of Dayton's Centennial Year and in honor of our own ancestor, we have decided to call it the "Van Cleve." . . .We shall also put out a cheaper bicycle which will be known as the "Wright Special."[5]

In preparation to produce their own line of bicycles, the Wrights transformed the property into a well equipped machine shop. Within no time, the backroom and upstairs of the bicycle shop were

---

[4] Dayton Snap-Shots, 29 February 1896.

[5] "The Wright Cycle Co. Van Cleve Pamphlet," cited in Fred C. Fisk, "How the Wheelmen Helped Save a Wright Brothers Bicycle Shop," Wheelmen, November 1986, p. 15.

outfitted with a turret lathe, drill press, brazer, tube cutting equipment, and an overhead line shaft.[6] Likewise, the Wrights made many other tools such as files and wrenches which would be necessary to manufacture bicycles.[7] However, most important among the Wrights' engineerings for the bicycle shop was an experimental gas engine. The one-cylinder internal combustion engine was designed by Wilbur and Orville to power the bicycle machinery and was the first engine they ever built.[8]

In the April 17, 1896, edition of Snap-Shots, which was the final issue of the publication, the Wrights again announced their forthcoming line of bicycles:

> For a number of months, Wright Cycle Co. have been making preparations to manufacture bicycles. After more delay than we expected, we are at last ready to announce that we will have several samples out in a week or ten days and will be ready to fill orders before the middle of next month.[9]

The first bicycle produced, as announced, was the Van Cleve. Named for pioneer ancestors of the Wrights, it was always the top of the line of Wright bicycles and sold for sixty-five dollars.[10] The St. Clair, a lower priced model marketed towards school children, was also introduced in 1896.

The year 1896 at the bicycle shop was significant for other reasons as well. In August, after the line of Wright bicycles had been successfully introduced to the Dayton community, Orville contracted

---

[6]Tom D. Crouch, The Bishop's Boys: A Life of Wilbur and Orville Wright (New York: W. W. Norton, 1989), p. 112.

[7]Fisk, "Wright Brothers' Bicycles," p. 6.

[8]Crouch, Bishop's Boys, p. 112.

[9]Dayton Snap-Shots, 17 April 1896.

[10]Crouch, "Wright Cycle Company," pamphlet.

typhoid fever from a tainted well at the rear of the bicycle shop.[11] While Orville remained bedridden until early October, Wilbur occupied his time contemplating the aeronautical problems of human flight. Around the time Orville became ill with the fever, Wilbur learned of another tragedy that would be the impetus in the brothers' quest to conquer the air. On August 10, Otto Lilienthal, the German engineer and aeronautical pioneer who was the first man in the world to launch himself into the air and fly, died from injuries received in a glider accident.[12] Lilienthal's death, which Wilbur learned of through a news service the brothers subscribed to for their printing firm, provoked the brothers' inquiry into the problems of human flight. As Wilbur remembered:

> My own active interest in aeronautical problems dates back to the death of Lilienthal in 1896. The brief notice of his death which appeared in the telegraphic news at that time aroused a passive interest which had existed from my childhood . . . and as my brother soon became equally interested with myself, we soon passed from the reading to the thinking, and finally to the working stage.[13]

From 1896 and on, the Wrights harbored a growing belief that man could fly, and they began to focus their attention on the problems of mechanical and human flight.

In 1897, because of the overwhelming success of their line of bicycles, the Wrights once again saw the need to move their bicycle and printing operations to larger facilities. The period 1896-

---

[11]Crouch, Bishop's Boys, p. 157.

[12]Arthur G. Renstrom, Wilbur and Orville Wright: a Chronology Commemorating the Hundredth Anniversary of the Birth of Orville Wright August 19, 1871 (Washington, D.C.: Library of Congress, 1975), p. 6.

[13]Wilbur Wright to the Western Society of Engineers, 18 September 1901, in The Papers of Wilbur and Orville Wright: Including the Chanute-Wright Letters and Other Papers of Octave Chanute, 2 vols., ed. Marvin W. McFarland (New York: McGraw-Hill, 1953) 1:103.

1897 represented the peak years of the Wright Cycle Company. In the fall of 1897, after the bicycle season had ended, the Wrights shifted their operations to 1127 West Third Street, the final location of their bicycle enterprise. It was in this building that the brothers built the world's first airplane, constructed their experimental gliders and later machines, and conducted much of their aeronautical research. Today, this structure is enshrined at Henry Ford's Greenfield Village in Dearborn, Michigan, thus lacking a quality of integrity in location, setting, and feeling.

In comparison, however, the 22 South Williams Street bicycle shop retains its integrity in all aspects. Not only has the bicycle shop been restored to its appearance when the Wrights occupied the building, but it also maintains the historical feeling of time and place associated with the westside neighborhood in which it is located and where the Wrights lived and worked most of their lives. In fact, this is the only property intact today associated with the Wright brothers' bicycle business and one of only two structures remaining related to their careers as printers.

The years in the bicycle business were instrumental to the invention of the airplane. Through their experiences of manufacturing, selling, and repairing bicycles and in designing the bicycle shop machinery, the Wrights sharpened their mechanical skills and ascertained knowledge that would prove invaluable to the invention of the airplane. The gas engine the Wrights first assembled in the bicycle shop would later aid them in their design of a suitable engine for a flying machine, and their experience with chain drives on bicycles assisted them in developing a workable transmission for the airplane.[14] Indeed, many of the parts of the early airplanes were mere adaptations of bicycle parts and were made by the same equipment and tools that were used to build bicycles.

Many aeronautical principles were also derived from the bicycle business. One day while toying with an empty inner tube box, Wilbur discovered the necessary mechanical corollary to the

---

[14]Mary Ann Johnson, A Field Guide to Flight: On the Aviation Trail in Dayton, Ohio (Dayton, Ohio: Landfall Press, 1986), p. 36.

aeronautical theory of wing-warping and lateral control.[15] Air pressure and wind tunnel tests were also conducted from devices fabricated at the bike shop and were frequently made out of bicycle parts.

The bicycle shops also had two other advantageous aspects which fostered the Wrights brothers' aviation interests--it provided the funds for the Wrights' work in aviation and afforded them sufficient time to pursue their interests in flying. The bicycle business was extremely seasonal in nature with the Wrights working twelve to fourteen hours daily in the spring, but considerably less in the summer and almost not at all in the fall and winter.[16] Those free months provided ample time for Wilbur and Orville to conduct their aeronautical experiments.

Likewise, the bicycle business was quite profitable. Although their income from the bicycle shops never exceeded more than three thousand dollars a year, it was sufficient for the Wrights to finance all their early aeronautical experiments in both Dayton and Kitty Hawk. In fact, the success of their bicycle shop paid for the construction of all of their early gliders, airplanes, engines, and experimental apparatuses. A story recounted by Dayton wheelman Fred Fisk concerning the Wright brothers' wind tunnel illustrates the point:

> The wind tunnel, with the fan sending a current of air through the large tube, was running one day when a customer came in the shop. He asked what that thing had to do with making Van Cleve bicycles. Orville smiled and said, **"It has nothing to do with the Van Cleve, except that the Van Cleve paid for it."**[17]

---

[15]Fred C. Kelly, The Wright Brothers: A Biography Authorized by Orville Wright (New York: Harcourt, Brace, 1943, reprint ed., New York: Farrar, Straus and Young, 1950), p. 49.

[16]Wilbur Wright to Octave Chanute, 17 May 1901, in Papers of Wright, ed. McFarland, 1:55.

[17]Fisk, "Wright Brothers' Bicycles," p. 8.

Major Bibliographical References

Crouch, Tom D. The Bishop's Boys: A Life of Wilbur and Orville Wright. New York: W. W. Norton, 1989.

_____. "The Wright Cycle Company." Pamphlet. Dayton, Ohio: Aviation Trail, Inc., n.d.

Dayton Snap-Shots, 29 February 1896; and 17 April 1896.

Fisk, Fred C. "How the Wheelmen Helped Save a Wright Brothers Bicycle Shop." Wheelmen, November 1986.

_____. "The Wright Brothers' Bicycles." Wheelmen November 1980.

Johnson, Mary Ann. A Field Guide to Flight: On the Aviation Trail in Dayton, Ohio. Dayton, Ohio: Landfall Press, 1986.

Kelly, Fred C., ed. Miracle at Kitty Hawk: The Letters of Wilbur and Orville Wright. New York: Farrar, Straus and Young, 1951.

_____. The Wright Brothers: A Biography Authorized by Orville Wright. New York: Harcourt, Brace, 1943; reprint ed., New York: Farrar, Straus and Young, 1950.

McFarland, Marvin W., ed. The Papers of Wilbur and Orville Wright: Including the Chanute-Wright Letters and Other Papers of Octave Chanute. 2 vols. New York: McGraw-Hill, 1953.

Renstrom, Arthur G. Wilbur and Orville Wright: A Chronology Commemorating the Hundredth Anniversary of the Birth of Orville Wright, August 19, 1871. Washington D.C.: Library of Congress, 1975.

Weaver, Margaret (Lanny). "The Wright Brothers at 22 South Williams Street 1895 to 1897." Mimeograph. Dayton, Ohio: Aviation Trail, Inc., 1983.

Major Bibliographical References

Crouch, Tom D. The Bishop's Boys: A Life of Wilbur and Orville Wright. New York: W. W. Norton, 1989.

_____. "The Wright Cycle Company." Pamphlet. Dayton, Ohio: Aviation Trail, Inc., n.d.

Dayton Snap-Shots, 29 February 1896; and 17 April 1896.

Fisk, Fred C. "How the Wheelmen Helped Save a Wright Brothers Bicycle Shop." Wheelmen, November 1986.

_____. "The Wright Brothers' Bicycles." Wheelmen November 1980.

Johnson, Mary Ann. A Field Guide to Flight: On the Aviation Trail in Dayton, Ohio. Dayton, Ohio: Landfall Press, 1986.

Kelly, Fred C., ed. Miracle at Kitty Hawk: The Letters of Wilbur and Orville Wright. New York: Farrar, Straus and Young, 1951.

_____. The Wright Brothers: A Biography Authorized by Orville Wright. New York: Harcourt, Brace, 1943; reprint ed., New York: Farrar, Straus and Young, 1950.

McFarland, Marvin W., ed. The Papers of Wilbur and Orville Wright: Including the Chanute-Wright Letters and Other Papers of Octave Chanute. 2 vols. New York: McGraw-Hill, 1953.

Renstrom, Arthur G. Wilbur and Orville Wright: A Chronology Commemorating the Hundredth Anniversary of the Birth of Orville Wright, August 19, 1871. Washington D.C.: Library of Congress, 1975.

Weaver, Margaret (Lanny). "The Wright Brothers at 22 South Williams Street 1895 to 1897." Mimeograph. Dayton, Ohio: Aviation Trail, Inc., 1983.