

NEW HAVEN RAIL YARD, FREIGHT CAR SHOP  
(Automotive Shop)  
Vicinity of Union Avenue  
New Haven  
New Haven County  
Connecticut

HAER CT-160-D  
*CT-160-D*

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD  
PHILADELPHIA SUPPORT OFFICE  
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# HISTORIC AMERICAN ENGINEERING RECORD

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**Location:** Vicinity of Union Avenue  
New Haven  
New Haven County, Connecticut

USGS New Haven Quadrangle, UTM Coordinates:  
18.673490.4573240

**Date of Construction:** ca. 1888

**Present Owner:** Connecticut Department of Transportation  
2800 Berlin Turnpike  
Newington, Connecticut 06131

**Present Use:** Vacant; formerly construction and repair of freight cars

**Significance:** The Freight Car Shop recalls the importance of the New Haven Rail Yard in the late nineteenth century, when it was the principal shop facility for the New York, New Haven, and Hartford Railroad. Like other large railroads in the period, the New Haven built much of its rolling stock (other than passenger cars) in its own shops. The building's function is reflected in its form, in which large openings in the ends accommodated four parallel tracks. Originally, connecting tracks and a transfer table integrated the Freight Car Shop with the machine shop located just to the north and the paint shop to the west. From a building technology viewpoint, the pinned roof trusses are of interest as an archaic form that was quickly superceded by riveted trusses.

**Project Information:** The rail yard is being reconfigured to provide for improved operation of commuter and Amtrak Northeast Corridor trains and to provide a storage yard for commuter equipment. The project requires removal of the building. This documentation was undertaken pursuant to a Memorandum of Agreement among the Federal Transit Administration, the Federal Railroad Administration, the National Railroad Passenger Corporation, the Connecticut Department of Transportation, the Connecticut State Historic Preservation Office, and the Advisory Council on Historic Preservation.

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## **Description**

The Freight Car Shop is a one-story gable-roofed brick building measuring 84' x 182' in plan; it is oriented with its long axis approximately in a north-south direction. The brickwork pattern is common bond with Flemish variation. The building's brick cornice includes a sawtooth course; the cornice forms a partial return at the gable ends. The walls rest on a granite foundation of rubble construction with cut capstones; the foundation in turn is supported on timber-pile footings driven into the fill. The shop's side walls are 18' in height and are divided into eighteen bays. Windows have cast-iron sills, brick segmental-arched heads, and eight-over-eight double-hung wood sash. On the interior, the brick walls form pilasters demarcating the 10' bays.

The end elevations rise to a height of 42' at the peak. The north end elevation has four tall arched openings formerly fitted with double doors; each doorway has six granite blocks into which iron pintles have been set. The doorways measure 11' wide by 12' high at the springing point of the arch. Three doorways are now boarded up and fitted with windows, with the fourth (the second from the left) having a modern roll-up door. There is a small circular window in the gable. The south end elevation also has four large doorways, but the original arched heads have been enlarged with timber lintels to make a rectangular openings. Two are boarded up, one is covered by a small shed-roofed frame addition, and one has a roll-up door.

Rolled asphalt roofing covers a wood deck, which in turn is supported on wood purlins and iron trusses. Formerly each slope of the roof had seventeen small rectangular skylights, but these have been removed. The roofing material shown in a 1955 photograph of the building<sup>1</sup> appears to be sheet metal.

The interior is completely open. Only one track, corresponding to the opening with the roll-up door, remains in the poured-concrete floor, which may originally have been packed earth. The roof is supported on a series of wrought-iron Fink trusses consisting of paired angles, eye bars, and tie-rods joined with pinned connections; the trusses are spaced 10' on center. The trusses are stabilized longitudinally by timber cross-bracing with vertical tension rods.

## **Historical Background**

The Freight Car Shop was an early expansion of the New York, New Haven, and Hartford Railroad's shop facility, which had been built in 1870. It can be dated ca.1888 because it appears on the Hopkins map of New Haven published that year, but not on the 1886 Sanborn

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<sup>1</sup>David R. Sweetland and Stephen Horseley, *NH Color Guide to Freight and Passenger Equipment* (Edison, NJ: Morning Sun Books, Inc., 1995), 36.

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insurance map. It was integrated into the existing shop complex by means of a transfer table that ran in the space between the Freight Car Shop and the machine shop to the north; the transfer table gave access to the shop's four run-through tracks. To the west was the paint shop, which also had run-through tracks accessible from the transfer table. The building was built specifically for the construction and repair of freight cars. In that period, freight cars--boxcars, gondolas, flatcars, and hoppers--were primarily of wood construction, reinforced by iron corners braces and diagonal angles. During its use for car building, the shop had platforms on both sides of each track for scaffolding. Car building was a carpentry trade, using saws, planers, and molding machinery (car siding typically used tongue-and-groove joints). While it made sense to have these activities together in a separate car shop, it also was important to be close to metalworking facilities; the iron braces, for example, had to be drilled or punched for large bolts that secured them to the wood components.

This building remained in use for freight car construction until the 1930s, when it was assigned to the Maintenance of Way (MOW) department for repairing work equipment. In 1946, a new Work Equipment Shop was built, and this building for a short time was used in conjunction with the diesel shop that stood to the west. In the 1950s, it returned to MOW use. It was last known as the Automotive Shop, reflecting the railroad's increased use of motor vehicles in the postwar period.

### **Significance**

Like most large railroads in the late nineteenth century, the New Haven relied on its own resources to provide the freight cars needed to service its customers. Car-building companies in that period were almost entirely focused on building passenger cars, leaving the much less complex boxcars, flatcars, gondolas, and hoppers to the railroads' own facilities. The New Haven Railroad served southern New England, one of the country's most densely industrialized

areas, and so was in need of rolling stock to ship out textiles, brass, machine-shop products, clocks, and other manufactured goods. Although not known for its natural resources, southern New England also had a number of extractive enterprises, such as trap-rock quarries, lime kilns, and specialized mineral producers, that required rail transportation. It is not surprising, then, that the first major addition to the railroad's 1870 shop complex was this large building specifically devoted to the construction of freight cars.

Even in the early twentieth century, the railroad's New Haven shops remained important in providing adequate rolling stock. In this period, other railroads were becoming reluctant to accept the New Haven's aged freight cars in interchange service, so, short of cash, the railroad had to rely on its own shops to modernize its rolling stock. Some 12,000 wood boxcars were rebuilt with steel underframes after World War I, and 1,150 steel gondolas were produced in

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the years 1929-1930. Some of this work occurred in the north Lamberton Street roundhouse, but presumably other parts of the complex played some role.

In form, the building can be viewed as simply shelter for the four run-through tracks on which freight cars could be positioned while being constructed or repaired. The generalized, open space created by the brick walls and roof trusses meant that the building could be converted to other railroad uses by simply bringing in the particular machinery needed for the new purpose; the through-tracks could accommodate diesel servicing or MOW equipment repair as easily as freight car construction. It is a defining characteristic of historic railroad facilities in general, and certainly of those in the New Haven Rail Yard, that structures built for one purpose were re-used for other functions as circumstances changed.

The four-track width of the building required substantial roof trusses to create the necessary open floor space. Developments in roof-truss technology paralleled those in bridge-building, and in fact many suppliers of roof trusses also produced truss bridges. Pin-connected roof trusses may be less common today than pin-connected bridges, perhaps because roof trusses were generally small enough to be completed in the shop rather than shipped in several sections and assembled on-site. Presumably, the Freight Car Shop's 80' trusses were assembled in place on temporary supports, like a bridge, as it would have been difficult to transport or lift such trusses whole in 1888.

## **Bibliography**

Hopkins, G. M. *Atlas of the City of New Haven*. Philadelphia, 1888.

New York, New Haven and Hartford Railroad Company. Office of General Mechanical Superintendent. "Passenger Car Yard and Lamberton St. Engine Facilities, New Haven, Conn." Map No. MDF-N4, November 27, 1939. Reprinted in *New Haven Railroad - Mechanical Department Facilities Maps*. New Haven: New Haven Railroad Historical and Technical Association, 1989.

Sanborn Map and Publishing Company. Insurance maps of New Haven, 1901-1972.

Sweetland, David R. and Stephen Horseley. *NH Color Guide to Freight and Passenger Equipment*. Edison, NJ: Morning Sun Books, Inc., 1995.

U.S. Interstate Commerce Commission. Bureau of Valuation Records, 1918, Record Group 134, National Archives.

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Roof trusses as recorded by the Interstate Commerce Commission valuation, 1918.

