

**United States Department of the Interior  
National Park Service**

**National Register of Historic Places  
Inventory—Nomination Form**

For NPS use only  
received **DEC - 9 1983**  
date entered

See instructions in *How to Complete National Register Forms*  
Type all entries—complete applicable sections

**1. Name**

historic Fort Collins Municipal Railway Birney Safety Streetcar #21

and/or common Fort Collins Municipal Railway Birney Safety Streetcar #21

**2. Location**

street & number 1801 West Mountain Avenue n/a not for publication

city, town Fort Collins n/a vicinity of

state Colorado code 08 county Larimer code 069

**3. Classification**

<b>Category</b>	<b>Ownership</b>	<b>Status</b>	<b>Present Use</b>
<input type="checkbox"/> district	<input checked="" type="checkbox"/> public	<input type="checkbox"/> occupied	<input type="checkbox"/> agriculture
<input type="checkbox"/> building(s)	<input type="checkbox"/> private	<input type="checkbox"/> unoccupied	<input type="checkbox"/> commercial
<input type="checkbox"/> structure	<input type="checkbox"/> both	<input checked="" type="checkbox"/> work in progress	<input type="checkbox"/> educational
<input type="checkbox"/> site	<b>Public Acquisition</b>	<b>Accessible</b>	<input type="checkbox"/> entertainment
<input checked="" type="checkbox"/> object	<u>n/a</u> in process	<input checked="" type="checkbox"/> yes: restricted	<input type="checkbox"/> government
	<u>n/a</u> being considered	<input type="checkbox"/> yes: unrestricted	<input type="checkbox"/> industrial
		<input type="checkbox"/> no	<input checked="" type="checkbox"/> transportation
			<input type="checkbox"/> other:

**4. Owner of Property**

name City of Fort Collins

street & number 300 La Porte Avenue

city, town Fort Collins n/a vicinity of state Colorado 80521

**5. Location of Legal Description**

courthouse, registry of deeds, etc. Larimer County Courthouse

street & number 200 East West Oak Street

city, town Fort Collins state Colorado 80521

**6. Representation in Existing Surveys**

title Colorado Inventory of Historic Sites has this property been determined eligible?  yes  no

date Ongoing  federal  state  county  local

depository for survey records Colorado Office of Archaeology & Historic Preservation, 1300 Broadway

city, town Denver state Colorado 80203

## 7. Description

<b>Condition</b>		<b>Check one</b>	<b>Check one</b>
<input checked="" type="checkbox"/> excellent	<input type="checkbox"/> deteriorated	<input type="checkbox"/> unaltered	<input checked="" type="checkbox"/> n/a original site
<input type="checkbox"/> good	<input type="checkbox"/> ruins	<input checked="" type="checkbox"/> altered	<input type="checkbox"/> moved
<input type="checkbox"/> fair	<input type="checkbox"/> unexposed		date _____

### **Describe the present and original (if known) physical appearance**

The Fort Collins Municipal Railway Birney Safety Car #21 is a single truck trolley (both front and rear wheels supported by a single frame), with a type F body. The length of the body is 27' 9½"; the overall width is 8'; and the height to roofline is 9' 9 5/8". The trolley is double end (giving it the capacity to go forward at either end) with duplicate sets of controls at each end. There are two sets of two leaf folding doors, one to the right of each operator's station. Eight windows are located on each side of the car. (see dimensions given in the attachment.) The trolley was originally powered by Westinghouse motors, probably twin Westinghouse 505 motors, each generating 25 horsepower at 600 volts.

The trolley was built in 1919 by the American Car Company in St. Louis, Missouri, and originally designed by Charles O. Birney for the Stone and Webster Engineering Company. It operated for approximately 32 years -- from 1919 to 1951. At the end of operation, #21 was in poor condition and covered with layers of silver, green and red paint. After two years storage in the old trolley barn, it was towed to Library Park to become an outside static display. For 24 additional years, the trolley deteriorated further due to vandalism and exposure to the elements.

A restoration effort was initiated in the 1970s, with the decision made to restore the trolley to operating condition--to take the date of restoration, including paint color and design patterns on the exterior, to the original appearance, as it came from the factory. The first color scheme was taken from a 1930s post card (See Photo #1). Green and cream were the Aggie School (now Colorado State University) colors, with a bow-tie design on the car ends. No plans were available from trolley museums throughout the country or from Stone and Webster. However, electric railway journals from the early 1900s were located in the local library at Colorado State University. Plans for the various trolley systems were described, serving as a guide for the restoration.

### THE RESTORATION AND PRESENT APPEARANCE

#### Structural

The car body is a metal framework with two-leaf folding wooden doors, as well as wooden windows, roof and floor. It has a single truck undercarriage which supports 28 passengers and weighs approximately 13,000 pounds. Wherever wood was exposed to weather it was deteriorated and dry rotted; therefore much of the wood had to be replaced. The structural end framework was oak; windows, doors and trim were cherry; the floor was southern yellow pine with a maple stringer down the center in the wear area. The restoration has involved using the original type wood except for the flooring which is now all maple (see Photo #6). By 1951, the entire interior had been painted red, including brass buzzers, light fixtures, and cherry window frames. The brass was stripped and wood returned to the cherry wherever it was originally used.

The end windows, which originally slid down into the wall for ventilation, have been carefully replicated and again perform their proper function.

The roof (see Photo #7) was a wooden cross-rib frame covered by 2" X 3/8" tongue and grooved boards with double curvature on the car ends. New boards are identical in appearance except lap joined, with the end cap boards bent using the original steam bending method of the factory.

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An original headlamp was acquired from a Dallas trolley museum, two original bells from Australia, and some other parts from a Boston streetcar company. All painting will be original colors as determined from stripping down through the layers.

Operational Parts

Two Westinghouse motors which generated 25 horsepower at 600 volts were rebuilt, varnished, given new connections and bearings. Journal and motor housing brasses (to take the wear on the axle) were re-cast and turned to size. The worn axle ends were built up with welding and turned down to shape on a large metal lathe. The car was electrically operated, but air pressure ran the brakes, door opening and closings and a track sanding system. The original air pressure tanks, rusted through where straps held them under the car, were remade out of stainless steel cylinders. The complete air pressure piping lines -  $\frac{1}{2}$ ",  $\frac{3}{8}$ ", and  $\frac{1}{4}$ " - were replaced under the floor (see Photo #5 ). All electrical wiring in the car is being replaced and the resistors repaired. Copper fingers that make the electrical contact within the controllers are being built back up.

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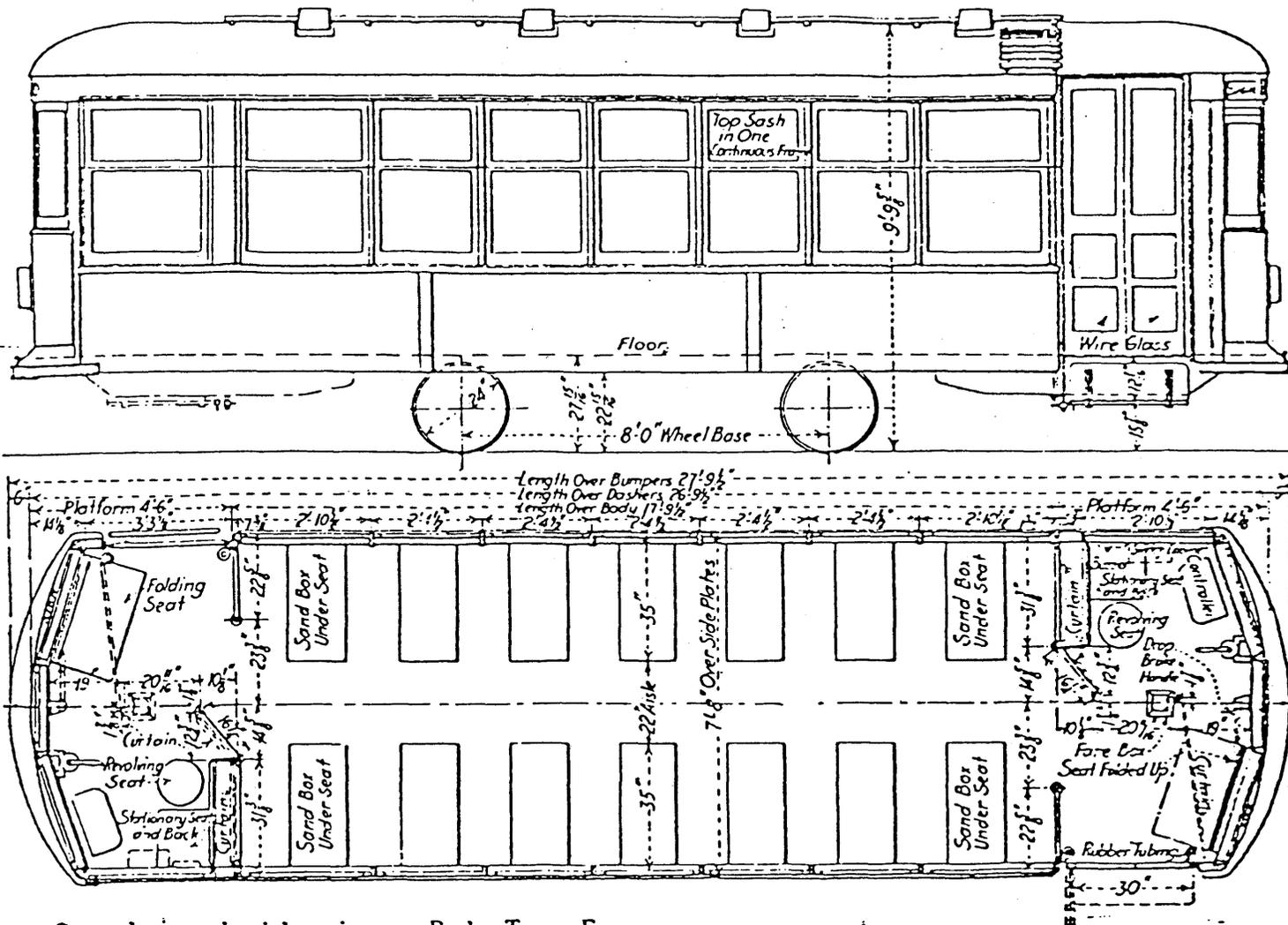
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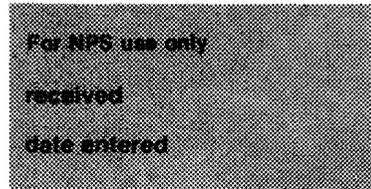
ATTACHMENT A



Car plan and side view - Body Type F.

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ATTACHMENT B

MAKE: Birney Standard Safety Car, Type F body.

BUILDER: American Car Company, St. Louis, Missouri

CAPACITY: 28 passengers

POWER: Westinghouse motors, twin Westinghouse motors each generating 25 horsepower at 600 volts.

TRUCK: Single truck manufactured by J.G. Brill and Company. Type 78M1 sith friction bearings.

OPERATION: Double end. Either end of trolley can go forward, duplicate set of controls at each end.

LENGTH: Over dash-26' 9½"  
Over bumpers-27' 9½"

WIDTH: Overs side sheets-7' 8"

HEIGHT: With 26 in. wheels  
Rail over roof-9' 9 5/8"  
Track to step-15 7/8"  
Step to floor-12 1/16"

SIDE WINDOWS: (no. and width, on one side) \*\*  
5-28 1/2"  
2-34 1/8"  
1-34 1/8" (to left of operator's seat)

DOORS: Single front type consisting of two leaf folding doors. Two sets on car, one to right of each operators station. Width of opening: 30"

WEIGHT: Approximately 13,000 lbs.

\*\* Width of windows measured to center to window posts. This figure is also the measurements for seat spacing.

## 8. Significance

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400–1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science
<input type="checkbox"/> 1500–1599	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input type="checkbox"/> 1600–1699	<input type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/ humanitarian
<input type="checkbox"/> 1700–1799	<input type="checkbox"/> art	<input type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> theater
<input type="checkbox"/> 1800–1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input checked="" type="checkbox"/> transportation
<input checked="" type="checkbox"/> 1900–	<input type="checkbox"/> communications	<input type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input type="checkbox"/> other (specify)
		<input type="checkbox"/> invention		

**Specific dates** 1919 **Builder/Architect** Designer: Charles O. Birney  
Builder: American Car Company

### Statement of Significance (in one paragraph)

The Birney Safety Car #21, operated by the Fort Collins Municipal Railway from 1919 to 1951 and the only trolley car remaining in the city from the original system, served a significant role in the development of a municipally-owned public transportation system in Fort Collins following World War I before the popularity of the automobile brought an end to similar trolley systems across the country. It could also be said to illustrate the methods used by small communities nationwide to provide a reliable and efficient system of transportation during much of the first half of the 20th century.

Streetcars first came to Fort Collins in 1907 in the form of the Denver Inter-Urban Railway owned by the Colorado & Southern Railroad. This system ran until 1918 when the D&I went bankrupt and Fort Collins decided to buy the system and rename it the Fort Collins Municipal Railway. The city scrapped the large cars which were expensive to operate and brought in smaller lightweight Birney Safety Cars, first designed in 1916 by Charles O. Birney, engineer for Stone & Webster Engineering Company. Birney #21 was built by the American Car Company in St. Louis, Missouri. It operated in Fort Collins for approximately 32 years--17 hours a day, 365 days a year. The factory closed down long before the car wore out; therefore the city bought streetcars from other cities to cannibalize for parts. Originally, six cars composed the Fort Collins trolley. Birney Car #21 is the only trolley of the six remaining in Fort Collins.<sup>1</sup>

The design of the Birney car, a single truck trolley (both front and rear wheels supported by a single frame), answered a need for lighter and more efficient trolley cars, particularly in small towns and in areas of marginal profitability. The Birney car weighed approximately 13,000 pounds, consumed about 40% less electricity than the standard trolleys of the day, and provided single operator capability to systems which normally used two motormen per car. The \$6,000 price of a new Birney car was also substantially less than the older, heavier trolleys. All these advantages were important when the city of Fort Collins assumed ownership of the defunct Denver and Inter-Urban Railway system in January, 1919. At that time, a majority of the citizens voted to finance a publicly-owned transportation system in the city.

Car #21 began its operation on May 30, 1919, one of four cars ordered by the city of Fort Collins from the American Car Company to serve as public transportation. The trolley

(see continuation sheet)

<sup>1</sup>Five trolleys were saved of the six in 1951 at the end of operation of the system. However, Birney Car #21 is the only trolley remaining in Fort Collins and the only being restored to operating condition.

# 9. Major Bibliographical References

(see continuation sheet)

# 10. Geographical Data

Acreeage of nominated property less than one acre

Quadrangle name Fort Collins

Quadrangle scale 1:24000

### UTM References

A 

1	3	4	9	0	7	8	0	4	4	9	2	6	8	0
Zone			Easting				Northing							

B 

Zone			Easting				Northing							

C 

Zone			Easting				Northing							

D 

Zone			Easting				Northing							

E 

Zone			Easting				Northing							

F 

Zone			Easting				Northing							

G 

Zone			Easting				Northing							

H 

Zone			Easting				Northing							

### Verbal boundary description and justification

The trolley car only is being nominated. It is presently located in the streetcar barn at 1801 West Mountain Avenue in Fort Collins, which is its planned permanent housing.

### List all states and counties for properties overlapping state or county boundaries

state	n/a	code	county	code
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state	code	county	code
-------	------	--------	------

# 11. Form Prepared By

name/title Carol Tunner, Director and Larry Baume, Graduate Student, CSU ED:GM

organization Fort Collins Municipal Railway Society date

street & number P.O. Box 635 telephone (303) 484-3957

city or town Fort Collins state Colorado 80522

# 12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

national  state  local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

State Historic Preservation Officer signature Barbara Sudler

title State Historic Preservation Officer date 12/7/83

### For NPS use only

I hereby certify that this property is included in the National Register

for Allous Byers  
Keeper of the National Register

Entered in the National Register date 1/5/84

Attest: \_\_\_\_\_ date

Chief of Registration

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cars arrived on May 24, by rail, and were assigned numbers 20 to 23. Car #21 was used to determine the newly developed route schedule. As a result of this test run, 15-minute intervals were deemed to be infeasible, and a 20-minute schedule was adopted for regular service.

Both Car #21 and the Fort Collins Municipal Railway provided a distinctive service to Fort Collins. The town was known nationally as the smallest community to operate an electric trolley system and also as the trolley system with the lowest fares in the country. Fares were never increased from 1919 and remained at 5¢ per ride, or \$1.25 for 25 rides, until the system was disbanded in 1951. Children could ride 25 times for only 65¢, and the streetcar system was known as the town's best babysitter for many years. The motormen were known for their friendly courteous service and frequently would provide additional stops for elderly patrons along the route.

Popular support for the Fort Collins trolley system remained high throughout its operation. As the automobile became more popular in the 1930s, and older trolley systems nationwide began to disappear, the citizens of Fort Collins voted on four separate occasions to save the local trolley system. These referendums in 1932, 1934, 1938, and 1950, passed with the majority of the citizens voting to keep the trolley system operating in Fort Collins. Even with these voting records, the Fort Collins City Council was faced with sharply rising maintenance costs and increasing subsidies for the trolley system. In 1951, the Council voted to abandon the trolley line in favor of bus transportation, and on June 30, 1951, the last run was made on the city tracks. At that time, the trolley system was abandoned in Fort Collins.

Car #21 of the Fort Collins Municipal Railway is one of the only cars of its type extant. Fort Collins was the last Colorado city to have a street railway line, and, as such, its streetcars were the last to operate commercially in the state of Colorado. The era of the electric trolley was short-lived in the United States, about 50 years, but it was widely known for its efficient and colorful operation. Birney Car #21 displays an important and significant part in early 20th century transportation history. The Fort Collins trolley was the last Birney car operation in North America and, as such, deserves a distinguished place in the history of transportation in the United States.

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