

United States Department of the Interior
National Park Service
National Register of Historic Places
Registration Form

This form is for use in nominating or requesting determination for individual properties and districts. See instruction 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 Fort Collins Municipal Railway No. 22

other names/site number Colorado Springs & Interurban Railway No. 135, 5EP.6891

2. Location

street & number 2333 Steel Drive [N/A] not for publication

city or town Colorado Springs [N/A] vicinity

state Colorado code CO county El Paso code 041 zip code 80907

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 [x] locally. ([] See continuation sheet for additional comments.)

Signature of certifying official/Title State Historic Preservation Officer Date

Office of Archaeology and Historic Preservation, History Colorado
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 certifying official/Title Date

State or Federal agency and bureau

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.
[] removed from the National Register
[] See continuation sheet.
[] other, explain
[] See continuation sheet.

Signature of the Keeper

Date of Action

Four horizontal lines for signature and date input.

Fort Collins Municipal Railway No. 22
Name of Property

El Paso County, Colorado
County/State

5. Classification

Ownership of Property
(Check as many boxes as apply)

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

Category of Property
(Check only one box)

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

Number of Resources within Property
(Do not count previously listed resources.)

Contributing	Noncontributing	
0	0	buildings
0	0	sites
1	0	structures
0	0	objects
1	0	Total

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

N/A

Number of contributing resources previously listed in the National Register.

0

6. Function or Use

Historic Function

(Enter categories from instructions)

TRANSPORTATION/Rail-related

Current Functions

(Enter categories from instructions)

TRANSPORTATION/Rail-related

7. Description

Architectural Classification

(Enter categories from instructions)

OTHER/streetcar

Materials

(Enter categories from instructions)

foundation _____

walls METAL/steel

roof WOOD, CLOTH/CANVAS

other _____

Narrative Description

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

Fort Collins Municipal Railway No. 22
Name of Property

El Paso County, Colorado
County/State

8. Statement of Significance

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

- 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.

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

9. Major Bibliographical References

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

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

Areas of Significance
(Enter categories from instructions)

ENGINEERING

Periods of Significance

1919

Significant Dates

N/A

Significant Person(s)

(Complete if Criterion B is marked above.)

N/A

Cultural Affiliation

N/A

Architect/Builder

Birney, Charles O. (Design)

American Car Company (Builder)

Primary location of additional data:

- State Historic Preservation Office
- Other State Agency
- Federal Agency
- Local Government
- University
- Other

Name of repository:
History Colorado

Fort Collins Municipal Railway No. 22
Name of Property

El Paso County, Colorado
County/State

10. Geographical Data

Acreage of Property Less than one

UTM References

(Place additional UTM references on a continuation sheet.)

1. 13 514635 4301803 (NAD27)

Zone Easting Northing

2. Zone Easting Northing

3. Zone Easting Northing

4. Zone Easting Northing

[] See continuation sheet

The UTM reference point was derived from heads up digitization on Digital Raster Graphic (DRG) maps provided to OAHP by the U.S. Bureau of Land Management.

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 Gregory C. Roberts, Secretary to the Board

organization Pikes Peak Historical Street Railway Foundation date 16 February 2011

street & number 2333 Steel Drive telephone 719-475-9508

city or town Colorado Springs state CO zip code 80907

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 Pikes Peak Historical Street Railway Foundation

street & number 2333 Steel Drive telephone 719-475-9508

city or town Colorado Spring state CO zip code 80907

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 range from approximately 18 hours to 36 hours depending on several factors including, but not limited to, how much documentation may already exist on the type of property being nominated and whether the property is being nominated as part of a Multiple Property Documentation Form. In most cases, it is estimated to average 36 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form to meet minimum National Register documentation requirements. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, 1849 C St., NW, Washington, DC 20240.

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Fort Collins Municipal Railway No. 22
El Paso County, Colorado

Section number 7 Page 1

DESCRIPTION

Fort Collins Municipal Railway No. 22 (FCMR No. 22) is a dual-ended Birney type street car, often referred to as a "Birney Safety Car." American Car Company completed the car in May 1919 as part of order number 1184 for FCMR cars 20-23.¹ The car has a Birney Type F body with steel lower frame and sides and a canvas covered wood roof. A single Brill 78M1F truck equipped with two axels with 24" flanged wheels supports the car body on the track.² The truck is standard gauge of 4'- 8-1/2". Power comes from a copper figure-eight overhead trolley wire carrying 600 volts direct current (VDC). A single trolley pole with a bronze wheel runs along the bottom side of the trolley wire at a pressure of approximately 28 lbs to maintain contact. The pole transmits the power down to the car. The track rails provide the ground return for the electrical current.

Two 25 hp Westinghouse traction motors, one on each axel, propel the car. A Westinghouse series-shunt controller in each end of the car uses a drum type switch to select cast iron resistor grids under the car to vary the power to the traction motors regulating the speed. Straight air brakes powered by a Westinghouse DH16 10 hp air compressor operating at 600 VDC provide air pressure.

The car is a double-ended type, meaning each end of the car includes traction motor controls and brake controls. This enables the car to operate in either direction. Setting a switch selects the controller to be used. The operator can use the rope on the end of the trolley pole to set the pole under the wire for the correct direction of operation.

The interior contains six fold-over rattan-covered passenger seats on each side of the center isle seating a total of twenty-four passengers. Each end of the car is equipped with a bi-fold, pneumatically operated passenger door.

The car body physical specifications are:

Birney Body Type	F
Length over body	17'-9-1/2"
Length over bumpers	27'-9-1/2"
Width over side sheets	7'-8"
Height rail over roof	9'-9-5/8"
Car weight	15,400 lbs

The car is equipped with the standard "Safety Car" air brake system employed by Charles O. Birney. If the operator fails to maintain pressure on a foot pedal or the air brake handle, the main power circuit breaker opens shutting down the traction motors, the air brakes apply, and the passenger doors open.

Alterations to the car include adoption of the Colorado Springs & Interurban Railway (CS&IR) paint scheme and number 135. The Pikes Peak Historical Street Railway Foundation legally does business

¹ p. 5 Railway Car Builders of the United States & Canada, Interurbans Special 24 by E. Harper Charlton, 1957; p. 28 *The Birney Car* by Harold E. Cox, editor.

² Although most Birney cars were equipped for double ended operation, single ended versions did exist.

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Fort Collins Municipal Railway No. 22
El Paso County, Colorado

Section number 7 Page 2

as the Colorado Springs & Interurban Railway. This car was repainted and renumbered to reflect its operational nature in the current Colorado Springs & Interurban Railway fleet, as managed by the Pikes Peak Historical Street Railway Foundation.

Other minor alterations have been made in compliance with modern safety and regulatory requirements. These are in accordance with the APTA *Standard for Vintage/Heritage Trolley Vehicle Equipment*.³ These changes include tempered window glass, low air pressure visual and audible alarms, upgraded wiring, and a 110 volt lighting system as opposed to the original configuration using six light bulbs in a series. This later change occurred because the bulbs designed for street car service in this configuration are no longer manufactured. Using currently available light bulbs in series can result in a bulb exploding scattering glass over the passengers.

³ American Passenger Transportation Association, *Standard for Vintage/Heritage Trolley Vehicle Equipment* (APTA SS-HT-001-05), 30 June 2005.

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number 8 Page 3

Fort Collins Municipal Railway No. 22
El Paso County, Colorado

SIGNIFICANCE

The Fort Collins Municipal Railway No. 22 streetcar is eligible to the National Register under Criterion C in the area of Engineering at the local level of significance from the year 1919. The streetcar is an excellent example of the engineering advances of the Birney-model streetcars as utilized in Colorado.

Engineering of a Birney Car

The engineering and significance of FCMR No. 22 derives from it being a major advance in streetcar design in the early twentieth century. It reduced both procurement and operating costs compared to previous designs. It was the first wide use of steel frame and body construction rather than wood in streetcars. It was the first major application of what commonly became known as “deadman’s controls” in a streetcar. Although these features apply to any of the over 6,000 Birney cars produced by multiple companies, this car was the last Birney car to operate in North America. It was also the last streetcar to operate in revenue service in Colorado.

Prior to the Civil War streetcars in the U.S. were typically one truck horse drawn units. One person managed the horse and took the passenger fares. In 1889, Frank Julian Sprague installed what is credited to be the first successful electrified streetcar system in Richmond, Virginia. As traction motors increased in power, car sizes grew to two truck units capable of handling forty or more seated passengers. These cars employed two operators, a motorman operating the controls and a conductor handling the fares.

In 1915, Webster Stone Engineering operated a number of streetcar lines. As costs were rising, their management wanted a lower cost car both to purchase and operate. They gave the task for developing such a car to their Chief Engineer, Charles O. Birney.

From their inception in the early 1800s railroad cars and streetcars were constructed primarily of wood. By 1900, street car weight often equaled or even exceeded 1,000 lbs per passenger. After the turn of the century the costs of timbers of white oak or hard pine, the preferred species for car sills, was increasing steadily. Railway car builders were beginning to run into the same problem sailing ships had encountered in getting mast timbers which caused them to change to steel.

To lower weight and reduce cost Charles Birney employed a steel frame and sides. The typical Birney car weighed half as much as the wood bodied cars they replaced.⁴ The car accommodated twenty-four passengers where many previous cars had climbed to almost fifty-passenger configurations. Its lighter weight enabled using just two 25 hp traction motors rather than four 40 or 50 hp motors as found in larger cars. This further reduced weight, capital investment cost, operating power consumption, and maintenance costs.

To reduce operating labor costs Birney introduced a then radical concept of going back to a single operator like those early horse drawn cars. A one man crew cut labor costs in half. An argument against one man operation was safety if something happened to the motorman. J.M. Bosenbury, the Superintendent of Motive Power for the Illinois Traction System working with Westinghouse Air Brake Co. had already

⁴ p. 123 *The Time of the Trolley* by William D. Middleton. Kalmbach, Milwaukee, WI, 1967

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Fort Collins Municipal Railway No. 22
El Paso County, Colorado

Section number 8 Page 4

resolved this safety issue in 1913, with their own one man cars.⁵ Bosenbury and Westinghouse created the first of what are now called “deadman’s controls” for a streetcar. The operator has to either press a button on the floor or hold a lever down. Release both and the traction motors shut down, the brakes apply, and the car doors automatically open.

While nobody else adopted this concept, Birney had the foresight to apply it to his design. His design initially called “Safety Cars” eventually became associated with the designer and thereby commonly referred to as “Birney Cars.” Numerous manufacturers built Birneys in a number of variations, including two-truck versions. Ultimately over 6,000 were built with the last production in 1930. The first examples in 1915 cost \$3,500, and by 1919, the cost reached \$6,000.

Prior to this style of car, passengers typically boarded cars from rear entrances by the conductor. With the Birney car, passengers boarded the car at the front platform and paid the motorman.⁶ It became known as the prepayment concept and became the norm for all streetcars. The Birney car’s lower capital and operating costs enabled many streetcar companies to continue operating on less traveled lines thus continuing to provide public transportation to people who otherwise would have lost it even sooner.

The three most significant streetcar designs in the first half of the twentieth century were the Birney, the Peter Witt, and the PCC (Presidential Conference Committee). The number of Birneys and PCCs both reached the 6,000 area. FCMR No. 22 was the last of its kind to operate in regular passenger service in North America. “On June 30, 1951, Car No. 22 clattered through the streets of Fort Collins for the last time, closing the curtain on a colorful past performance. This was to be the last scheduled Birney car operation on the North American Continent, and the last streetcar to operate commercially in the state of Colorado.”⁷ The Colorado Railroad Museum collection includes a final picture of Motorman Charles O’Laughlin posing at 10:45 p.m. standing in the open car door “before stepping into retirement.”⁸

FCMR No. 22

Fort Collins Municipal Railways purchased No. 22 in 1919 for about \$6,500 from American Car Company (order No. 1184).⁹ “About the 24th of May, 1919, four Birney Standard Safety Cars were unloaded and put into service.”¹⁰ This car remained in service for the next thirty-one years.

On June 30, 1951, Car No. 22 clattered through the streets of Fort Collins for the last time, closing the curtain on a colorful past performance. This was to be the last scheduled Birney car operation on the North American continent, and the last streetcar to operate commercially in the

⁵ p. 9 Ibid

⁶ See p. 4,7 *The Birney Car* by Harold E. Cox, editor

⁷ p. 266 *Colorado Rail Annual No. 17* by Charles Albi and William C. Jones, eds. Colorado Rail Museum, Golden, CO, 1987

⁸ p. 266 photo caption, Ibid

⁹ p. 164 *Journeys to Yesteryear, A Chronological History of the Rocky Mountain Railroad Club & Rocky Mountain Railroad Historical Foundation, Denver, Colorado 1938-2003* by David G. Goss

¹⁰ p. 252 *Colorado Rail Annual No. 17* by Charles Albi and William C. Jones, eds. Colorado Rail Museum, Golden, CO, 1987

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Fort Collins Municipal Railway No. 22
El Paso County, Colorado

Section number 8 Page 5

state of Colorado. It was a black day for the citizens of Fort Collins and for electric railway enthusiasts.¹¹

On the night of June 30, 1951 the last revenue passenger dropped her nickel in the farebox, and at 10:45 PM No. 22 clattered through the deserted intersection for the last time and disappeared down Mountain Avenue. Upon returning to the carbarn on Howes Street, Charlie O'Laughlin paused for a final picture before stepping into retirement.¹²

The next owner of the car was in California, but the car remained in Colorado during that time. After Ft. Collins ceased operation:

The Southern California division of the Electric Railroader's Association (SCERA) in Los Angeles purchased four of the Birneys in a move to preserve them and sell them for some profit. One of the Birneys was sold to the Stizel family in Denver (car 26) and one to Harold Warp's Pioneer Village in Minden, NE. After completing their brokerage of the Birneys, the SCERA netted only \$80 total profit on the sale of the four cars.

The Club purchased car 22 from the SCERA in 1953 for \$115, which was paid in three installments. The car was moved from Ft. Collins to Denver at a cost of \$133.90 and stored at Golden Waterworks west of town until it was moved to the Colorado Railroad Museum in 1958.¹³

The Pikes Peak Historical Street Railway Foundation (PPHSRF) leased the car from the Rocky Mountain Railroad Club starting in 1994. The organization relocated the car to Colorado Springs in 1995, included it in the annual Parade of Lights in November with the car still on the trailer from the move. Serious maintenance work commenced that same year, entirely funded by donations. A substantial amount came from the International Brotherhood of Electrical Workers (IBEW) Local No. 113 and the National Electrical Contractor's Association.

In 2003, as the ten year lease neared its end, the two organizations began negotiations to extend the lease.¹⁴ During those negotiations, three donors purchased the car for the Foundation in Colorado Springs. The organization received permission from the Myron Stratton Home to use the Colorado Springs & Interurban Railway (CS&IR) name, intending its eventual use back on the street of Colorado Springs. The car is now in excellent condition and officially a part of the Colorado Springs & Interurban Railway fleet, in service as number 135. The car received its new paint job and lettering in 2007. November that year, the car again participated in the Colorado Springs Parade of Lights, resplendent in new paint and varnish.

Initially the car will be able to operate on the museum grounds on track no. 1 under our existing 600 volt overhead wire. The organization's ultimate intention is operation on the streets of Colorado Springs

¹¹ p. 266 *ibid*

¹² p. 266 illustration caption, *ibid*

¹³ p. 165 *ibid*

¹⁴ p. 165 *Journeys to Yesteryear* states the lease was for 15 years when it was actually ten (10).

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Fort Collins Municipal Railway No. 22
El Paso County, Colorado

Section number 8 Page 6

on a 2 mile streetcar line in downtown Colorado Springs eventually extending to a length of 7 miles, reaching the University of Colorado at Colorado Springs (UCCS) complex on North Nevada Ave. Both Colorado College and UCCS have expressed support for the concept. Lines to Manitou Springs and elsewhere are possible also. A feasibility study was completed in 2010 by Mountain METRO for the line and recommended proceeding. The City Council supported the concept, provided no city funds are used at this time. Fund raising efforts are currently underway for the next steps.

The first re-introduction of a Birney car to revenue service in the U.S. was McKinney Avenue in Dallas, Texas in the 1980s. They operate former Dallas Railway & Terminal No. 636. This car originally had a Brill 79E1 truck. The McKinney Avenue Transit Authority home built a truck in order to bring this car back to service. A total of seventy-four Birney type cars out of over 6,000 built are known to still exist, albeit most not complete. One of these which originated in the US is now on display in Brazil (Companhia Forca e Luz do Parana). Of these surviving Birney cars, forty-one are body only, without their original trucks. Eleven Birney cars operate intermittently and seven are undergoing restoration, including this car. Of those seven, three are body only cars.

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number 9 Page 7

Fort Collins Municipal Railway No. 22
El Paso County, Colorado

BIBLIOGRAPHY

Books

Colorado Rail Annual No. 17 by Charles Albi and William C. Jones, eds. Colorado Rail Museum, Golden, CO, 1987

Journeys to Yesteryear, A Chronological History of the Rocky Mountain Railroad Club & Rocky Mountain Railroad Historical Foundation by David C. Goss. Rocky Mountain Railroad Club, Denver, CO, 2005

Railway Car Builders of the United States & Canada, by E. Harper Charlton. Los Angeles: Interurbans Special 24 (Ira L. Swett), 1957.

The Birney Car by Harold E. Cox. Self published, 1966.

The Time of the Trolley by William D. Middleton. Kalmbach, Milwaukee, WI, 1967

Standards

APTA *Standard for Vintage/Heritage Trolley Vehicle Equipment* (APTA SS-HT-001-05). 30 June 2005.

Web Sites

www.fortnet.org/trolley. Fort Collins Municipal Railway. Accessed 28 March 2011.

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number 10 Page 8

Fort Collins Municipal Railway No. 22
El Paso County, Colorado

GEOGRAPHICAL DATA

VERBAL BOUNDARY DESCRIPTION

FCMR No. 22 (renumbered as CS&IR No. 135) currently resides in a roundhouse located at 2333 Steel Drive, Colorado Springs, CO 80907.

BOUNDARY JUSTIFICATION

The nomination includes only the historic resources itself. No real property (i.e. land) is included in this nomination.

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Fort Collins Municipal Railway No. 22
El Paso County, Colorado

Section number _ Page 9

PHOTOGRAPH LOG

The following information pertains to all photograph numbers except as noted:

Photographer: Gregory C. Roberts
Date of Photographs: 9/10/09
Negatives: TIFF digital file

Photo No. Photographic Information

0001 Car interior
0002 Car end
0003 Car end
0004 Car view looking down