

2001 Chairman's Report – Annual Report - Draft

by Jim Schantz

A perfect summer day on August 24 marked one of the principal highlights of 2001 for the Seashore Trolley Museum: the Summer Reading Celebration staged in collaboration with 70 libraries from three southern Maine counties. More than 2,000 visitors enjoyed hearing former first lady Barbara Bush read from *Grandfather's Trolley*, then watched as she joined with the Seashore members who starred in that book on newly repainted Connecticut open car 303. That event, combined with a new thrust in fundraising, with a wonderful year in the Museum Store, with some major developments in the restoration shop, and progress on many other fronts to make the Museum's 62nd year a memorable one.

Seashore's Director of Community Relations Phil Morse conceived of the reading program and actively recruited libraries to participate. Under the program, libraries encouraged young students to devote part of their summer vacation to reading, with the promise that if they complete the program, they could participate in the special day at the trolley museum with our honored guest. The participants all appeared to have a great time as Mrs. Bush read—interactively with the students—from the book, and then all were treated to trolley rides. Special thanks go to the 150 members and friends who volunteered to help and to the many local businesses that contributed more than \$6,500 worth of goods and services. A listing of those donors is found on page _____. The day was a financial success for the Museum as well, as admissions, store sales, and food sales topped \$9,500. Planning is underway for an even more successful reading event in 2002.

The year also marked the first time that the Society worked with a development consulting firm to improve its fundraising results and to enhance development skills among Seashore volunteers. The firm retained for the assignment, Demont and Associates of Portland, began by meeting with a wide number of officers, volunteers, and donors. Their subsequent recommendations were to expand the annual fund campaign by including special projects as a first step in an evolving development program. During this first year, a number of Seashore volunteers would learn the techniques of direct solicitation of gifts, an important step to undertaking higher-reaching campaigns in the future. As well, they recommended broadening the base of membership and addressing some governance issues, areas that are both receiving attention from the Board at year end.

The most measurable result of our association with Demont was raising more than \$107,000 during the annual campaign, the largest total in the Museum's history. Of that total more than \$17,000 was available for needed structural repairs to Connecticut open car 838, a mainstay of the regular passenger fleet, and for renovations to the restrooms in the Visitors Center. The total raised, though impressive, fell somewhat short of Demont's original goal of \$122,500, and the firm consequently offered to work with us on a pro bono basis in 2002 to help us prepare a program to meet a more ambitious goal in 2002.

Our thanks to all of the members and friends who gave so generously to the 2001 annual fund campaign for helping the Society make such important progress in the development area. As well, our thanks go to the many members who also supported the many restricted programs, principally in the restoration area, enabling these vital programs to continue to move forward.

In the area of governance, Demont recommended a revision to the current system under which voting in Society elections is normally conducted based on shares of contribution (with one share awarded to members for each \$10 contributed). This has led to extensive discussion of alternative voting systems by the Board and membership, and a survey of other nonprofits, both in the rail preservation and other areas. Briefly, the study found that most museums outside of the volunteer-founded rail community have boards that are self-perpetuating, meaning members do not vote for board members or officers. Most volunteer-founded rail museums have some type of voting, based on classes of membership, voting by all members, or share voting. Several rail museums that have recently sought to strengthen ties to their local community have revised their structure so that some board members are elected by the membership and others (normally community figures) are selected by the board, consistent with the practice at most non-rail museums. Consequently, at year end Seashore's board initiated discussion of a system under which one quarter of members would be elected by share voting, one quarter by one-member one-vote, and up to one half would be selected by the board. This would provide a compromise including both types of voting favored by groups of Seashore members plus the system typically used in the broader museum community. This proposal will continue to be considered and refined or revised in 2002. The goal is to arrive at a consensus that can be supported by the majority of the membership.

Of vital importance to Seashore's long-term existence is the development of its endowment. Though the focus of this year's fundraising activities was the annual fund campaign, donations continued to the endowment with a total of more than \$25,000 added. The approximately 65 members and organizations who donated to this are to be commended for their commitment to the Museum's future well being. Members and friends of Seashore are asked to consider current gifts or bequests to the endowment. The money so given will never be spent, but rather it will be invested and a part of each year's earnings will be devoted to covering necessary museum operating expenses. Our prudent investment strategy for these funds has served us well as even after the two worst years of investment returns in recent memory, the total endowment funds remain well in excess of \$200,000 and were able to make a meaningful contribution to the 2001 budget.

Another very positive activity in 2001 was the evolution of the Museum Store. Under the guidance of Treasurer/Comptroller Ray Hamlin and the direct management of Store Manager Ron Newton, the store registered very impressive gains in per-visitor sales and an overall increase of approximately 30 percent. With the active support of staff members Helen Heffner and Dick Swift, and many volunteers, the store presented a very inviting image and was stocked with goods that were well received by visitors. An area of special significance was the scale model streetcars and buses manufactured by Corgi, which were bought by store patrons in record numbers. A new year-end catalogue boosted mail order

and Internet sales, handled by Helen Newton, late in the year, adding to the overall performance. Thanks to all who have contributed to this important 2001 success.

Another very active area in 2001 was the volunteer-led marketing program under the direction of Maryline White. With the support of marketing consultant Jane Tholen and a dedicated group of volunteers, the marketing and publicity team issued a high number of press releases, placed many articles in publications throughout the region, and circulated television public service announcements to stations around New England.

The bi-monthly *Dispatch*, our member newsletter, was produced and mailed to the membership on a timely basis throughout the year, thanks to the good efforts of the Editor, the Vice-President for Business Administration, the Membership Secretary, and other office volunteers. At year's end, we initiated plans to have the *Dispatch* produced on coated (glossy) paper beginning in 2002. Use of the more expensive paper affords much better reproduction of photographs. In addition, mailings will henceforth be done in manila envelopes-a decided improvement over those difficult-to-extract staples used in the past. Museum leadership feels that these improvements are appropriate in light of the sustained and generous financial support given to the Museum in recent years by its many devoted members.

In other areas, two potential developments mentioned in last year's report moved to less than satisfying conclusions in 2001. First, the potential opportunity to acquire an important parcel of land, including several usable buildings, adjacent to the Museum entrance did not advance as the owner decided to retain the land rather than sell. Should he again consider selling, Seashore will again actively consider purchasing the land, as it is the final parcel that would complete our core holdings at the main Museum site. Secondly, the application to the State of Maine for funding under the TEA-21 Federal transportation enhancement funding program to support restoration of Atlantic Shore Line locomotive 100 was not funded, as the State received over \$14.5 million in requests for the \$6 million of funding. We thank the town of Kennebunkport for enthusiastically supporting our application to the State. We will pursue another application when funding is next available under this program.

The Museum's curatorial program was a central area of activity this year, as always. Once again, both volunteer and staff restoration programs advanced. See full reports on pages _____. A highlight this year was the essential completion and return to service of Connecticut open car 303 after an extensive repainting funded in part by maintenance funds and mostly by member donations. The long-term, member sponsored restoration of Wheeling Curved-side car 639 made major advances as much interior work was completed. The thorough repainting and restoration of Chicago, Aurora & Elgin interurban 434 neared completion. The total rebuilding of Rochester "Peter Witt" car 1213 reached a major milestone as the new steel underframe was placed under the car body. Two classic New England wooden streetcars also advanced as Connecticut 1160 and Bay State 4175 saw significant progress on restoration of their interiors. Cedar Rapids and Iowa City interurban 118 was another car to see major progress on the restoration of its interior. Also, Rochester 394, an early deck roof streetcar obtained as a

body recently, received significant structural and surface work aimed at making it a static display. Members of the Museum's track crew made significant progress on the complete restoration of Boston & Maine inspection car 500, which the crew plans to use in track maintenance activities. A host of other projects also advanced as covered in the conservation reports.

Under the guidance of Shop Foreman Chris Perry, major improvements to the restoration shop itself were also undertaken during the year. Most importantly, the deteriorated foundation wall along the northeast corner of the building, left from the Quonset hut structure formerly on this site, was replaced with a proper frost wall and new siding, including a door to enable the track to be extended beyond the building, and preparations were made for encasing the track in this area in concrete. The woodworking area of the shop was reconfigured to ease workflow and make all woodworking machines available and operational. Finally, preparations were made to install a restroom and shower facility in the building.

The efforts by one of our younger restoration volunteers, Douglas Carrier, to raise funds for the eventual restoration of Middlesex & Boston Street Railway car 41 made important progress. In June a 100th birthday celebration was hosted for the car as a fund raising event. A total of nearly \$20,000 is now on hand toward the rehabilitation of this car, the only survivor of the once huge network that ran in many suburbs to the west of Boston.

The year also brought closure to a nagging issue stemming from the lease of Denver & South Platte Birney car 1 to the Valentine Museum of Richmond Virginia some years ago. That museum left the car outdoors, subject to weather effects for an extended period in direct contravention of the lease agreement they had signed. After years of inconclusive negotiations, the Valentine finally forwarded approximately \$25,000 to cover the needed repairs to the car.

Our joint efforts with the City of Lowell and the Lowell National Historic Park in support of the planned extension of Lowell's heritage trolley line and establishment of a Seashore branch museum in Lowell continued to advance during the year. This effort remains a very important potential project for Seashore, as it would open a new and highly appropriate venue for interpretation and operation of Seashore's fleet; would establish some very important partnerships for the Museum (perhaps including the Smithsonian); and would open new potential avenues of fundraising. Most significantly in 2001, the National Park was awarded approximately \$200,000 of Federal funding to sponsor a formal feasibility study of the expansion of the park's trolley line into a transit operation running through the downtown area. An agreement to undertake this study was completed with the Volpe Center of the U.S. Department of Transportation in Cambridge, and the study was well underway by year-end. Plans call for completion of the study in 2002, after which the National Park will seek funding for an environmental review as the next step in the development of the proposal. An interpretive plan for the Seashore branch museum was completed in 2001, funded by the Park Service.

Also under evaluation during the year was the possibility of bringing a Seashore car to Lowell for display and operation in the near term, and potential installation of a Seashore exhibit in Lowell as a precursor to the branch museum. The evaluation showed that to operate on the current Lowell track, cars must have full railroad profile wheels, not the streetcar profile wheels on Seashore's city cars. Though the Lowell system will ultimately be converted to streetcar profile, the possibility of temporarily placing a Seashore car on trucks with railroad profile wheels is being evaluated. Similarly, sites and funding sources for a Seashore exhibit in Lowell are also under evaluation.

As a result of our partnership in Lowell, Seashore was invited by the American Public Transportation Association (APTA) to participate in the formation of a task force to serve as a clearinghouse and standards and practices body for the increasing number of cities planning heritage trolley systems to aid in urban redevelopment. Seashore has long supported heritage trolley lines by supplying expertise and in many cases by selling surplus components for use in heritage cars. A delegation of Seashore and Lowell representatives has attended all meetings of this task force. Most significantly, Seashore volunteers created a website for the organization (www.heritagetrolley.org) and Seashore hosts this site as a service to APTA. Both the Lowell and APTA activities are important new avenues that can help Seashore fulfill its educational and preservation mission.

The operations department at Seashore was as always very active in 2001, as summarized in the report on page _____. Also this year a group of operations volunteers, under the leadership of Donna and Richard Perkins, built a new passenger platform at Talbott Park, giving visitors much easier access to the site.

Another operational highlight was in September when 30 members of the Lehigh Valley Chapter of the National Railroad Historical Society came to Seashore to commemorate the 50th anniversary of the closure of the Liberty Bell route interurban line from Philadelphia to Norristown. Liberty Bell car 1030 was specially operated for the commemoration. This car has special significance for the Museum as its acquisition a half century ago was the first step in development of Seashore's National Collection, as it was the first exhibit to come from outside of New England.

A further activity that tied the Museum to the street railway industry's rich history occurred on October 6, when member Debra Brill signed copies of her newly published history of the J. G. Brill Company, the most famous builder of streetcars. Debra and her brother Ken, also a Seashore member, are great-great-great grandchildren of the company's founder.

Rubber tired operations were once again a major outreach activity for the Museum. Our very active Bus Department participated in a number of activities through the year. This included the annual *La Kermesse* parade in Biddeford, in which Boston bus 6169 and a team of 15 volunteers represented Seashore for the thousands of our neighbors who attended that parade. Several key buses were added to the collection this year as well. See the Bus Department report on page _____ for further information.

Maintaining the track and overhead wire at the Museum remain demanding tasks each year. The Track Department continued their program of tie and rail renewal as explained in their report on page _____. In the area of overhead maintenance, a total of seven new line poles, including one steel pole, were set during the year. Preparations were made for installation of more steel poles in the near future, which will help smooth operation of the shuttle car to Highwood carhouse. Wire leading into Central and Fairview yards was rebuilt and tightened. This ongoing program will continue with additional span wire and back guy replacement.

In a related area, the Signal Department spent considerable time preparing the placement and loading of a 40-foot storage container to protect signal components and make them easily accessible. Several signal repairs were also completed.

As the above summary of the year's activities shows, 2001 was a very active one for the Museum. And as always, all of this was made possible only by the countless hours of contributed labor and many thousands of dollars donated by our members and friends. Our deep thanks go to all who contribute their time and resources. This loyal base of support together with a rich collection are fundamental to the Museum's existence. Though a tremendous amount of work remains to be done, these vital building blocks provide the basis for the Museum's future growth.

2001 Development Report – Annual Report – Draft

by Jim Tebbetts

In 2001 Seashore tried something different with respect to fundraising, and it succeeded, but not in the way that was originally envisioned. When the Board appointed the Development Plan Committee to be the successor to the Development Plan Task Force in late 2000, it enacted a restriction that any costs incurred by any construction projects administered by the DPC would have to be funded from sources other than the general fund. With well over \$100,000 of construction work under consideration, the DPC then needed to find a way to attract financial support in a way that would include major sources of funding outside the Seashore community. It became clear that the time-honored ways would probably fall short, and that at least taking a look at new ways might prove to be worthwhile.

After some investigation the DPC decided to approach the institutional development consultancy Robert Demont & Associates of Portland. Headed by a man with eighteen years of experience, including senior positions with some of the nation's foremost fundraising and development consultancies, Demont & Associates had a track record of having raised some \$600 million for the benefit of nonprofits, mostly in northern New England. Following a thorough tour of the museum facilities with Robert Demont, several meetings took place during which requirements were reviewed and a plan was developed.

Demont explained that for an organization new to fundraising, for every dollar spent on consultancy fees and solicitation costs, one dollar would be raised, but because Seashore had already established itself, the return was likely to be far higher.

Though the DPC's goal at this point was still a capital campaign, Demont suggested that a capital campaign might not be best at the time, but proposed instead to conduct a study of what Seashore's potential was and determine what areas, if any, needed improvement to render Seashore more attractive to outside sources of funding. Such a study would cost \$10,000. Seashore's Board not only approved the plan, but also raised three quarters of the fee from among the Board members themselves. Every single Board member made a cash commitment.

During July and August a team from Demont & Associates conducted an internal study during which there were interviews of a number of Board members, Seashore employees, officers and major shareholders. Demont submitted a verbal preliminary report on September 8, with the final report due on September 22.

In his initial report, Mr. Demont expressed the opinion that although Seashore had considerable strength in certain areas that would enhance Seashore's ability to attract major outside funding, it also needed to resolve several structural and organizational issues for a major capital campaign to be viable. Thus a more focused approach of increasing support within the Seashore community and expanding that community seemed to be more appropriate. The General Fund, not a capital campaign, would be the focus of fundraising efforts in 2001, and the DPC with a team of in-house solicitors would carry it out.

That team of solicitors, initially nine individuals with little or no background in fundraising at the proposed level, eventually grew to thirteen. Seashore's own people would be more effective at solicitation within the Seashore community than any staff from the outside because Seashore's people went into it with both the passion of one who really believes in what one is doing, and the personal commitment to the Museum.

The Board members showed their support of the proposed Annual Fund Campaign by increasing their own overall contributions by more than 30 percent over the prior year. Each solicitor made a pledge to the campaign as well.

September 11 brought the terrorist attacks, and with them the transformation—at least temporarily—of the nature of the charitable landscape of America. Given that reality, Seashore's solicitation team knew that it had a tough task ahead.

At an open meeting on Seashore's Members' Day in October, Vice President of Development Jim Tebbetts launched the 2001 Annual Fund campaign with a check for \$5000, and Board Chairman Jim Schantz followed with a check for \$6500.

Unlike prior Annual Fund Campaigns, this one looked beyond simply balancing the books but focused upon providing funding to four specific areas of need. The first was to pay for upgrading the restrooms in the Visitors Center. The second was to perform major restoration work on Connecticut open car 838. The third was to hire a part-time volunteer coordinator. The fourth would underwrite part of an engineering study of the Museum infrastructure with an eye to getting preliminary design material for a new library and carhouse.

After several sessions of training by Demont & Associates staff, the solicitors went about their business, approaching members and friends face-to-face, by mail, phone, or any way they could. In mid-November they conducted Seashore's first "Phon-a-thon" from a facility graciously donated by Digital Research of Kennebunk. During that day they telephoned hundreds of members across the country, successfully turning many into donors.

By the end of 2001, the campaign had proved its worth, bringing in almost \$107,000 from all sources. Not only had it surpassed all previous campaigns by a wide margin, but also brought in enough to give Seashore its greatest General Fund surplus since 1994.

2001 Operations Report – Annual Report – Draft

by Jay McMahon and Todd Glickman

The Operations Department has responsibility for the daily operation of the demonstration railway, as well as interpreting the Museum's collection by offering tours to the visiting public. The Operations Department also has the responsibility for the of training new operators, and the annual requalification of all operators, dispatchers, and instructors. Director of Railway Operations, Robert Hughes; and Superintendent of Railway Operations Jay McMahon, assisted by Jack Grieve and Peter Hammond, lead the group.

In 2001 we had a very successful new operator program. The new candidates went through a several week program covering all aspects of the Museum, as well as an internship to become qualified as an operator. Over the course of the season, these new operators became an important part of our daily operation. Working with experienced instructors, dispatchers, and other operators, they ran the cars, served as conductors, and gave museum tours. Typically, first year operators train and qualify on "straight air" cars, such as Connecticut open 1391, New Orleans 966, 434D from Dallas, and Boston's 5821. Returning second year operators are given the opportunity to qualify on other cars, such as New York's Third Avenue Railway System 631, Liberty Bell 1030, and the hand-brake operated *City of Manchester*.

Statistics compiled by instructor Mike Peters show that 86 volunteers contributed a combined 8,720 hours in operations during the season, ranging from six hours for one individual to a whopping 432 for another! Fifty percent of the hours were performed by 20% of the volunteers. The Museum truly appreciates everyone's contributions, no matter how large or small. But in order to be counted – all operators are urged to submit their volunteer forms, so that they may be counted and acknowledged.

The "Be a Motorman" (BAM) program continued to be an increasingly successful venture. In this program the visitor gets to experience operating a trolley under the guidance of an instructor. Included is a photograph, certificate of accomplishment and a lot of smiles! Thirty-nine individuals participated in the paid BAM program, plus six additional individuals who "won" the BAM opportunity through the WGBH-TV (Boston) Channel 2 Auction. Seashore donated these BAMs to the Auction, in return for on-air promotion; the highest bidders to the auction were awarded the BAMs. Seashore Instructor Eliot Kaplan organized a group of members to appear in uniform on the auction, and they were introduced by instructor Todd Glickman, who also serves as one of the hosts of the auction. It's gratifying to know that publicity such as this can be effective—one of the frequent volunteers in the Town House Shop was introduced to Seashore after winning a BAM from the Channel 2 Auction.

Paid attendance in 2001 was less than a tenth of a percentage point higher than 2000, with 15,290 paid regular visitors. There were also 5,686 free admissions, comprised mostly of children under six, but also including guests of members.

Once again many bus tours from outside of New England visited the Museum during the season. Many people remember riding these cars when they were in service in their hometowns. The stories exchanged add to the wonderful "rolling history" that we are so fortunate to have at Seashore. In 2001, 3,478 individuals came to Seashore through these tours, just one fewer than the prior year.

Speaking of buses, in cooperation with the Bus Department, a number of groups enjoyed "multimodal transportation" to, and at Seashore. For example, in July, the Ogunquit Summer Recreation Program visited the Museum, and in September, the New School in Kennebunk came for a day. In each case, one of the Museum's historic buses was dispatched to pick up the group, and transport them to Seashore. Then, while on the property, the groups enjoyed tours and rides. At the end of the day, our bus returned the group to their facility. The groups, which would have otherwise not been able to afford transportation to visit Seashore, were able to learn about how different transportation modes have been used throughout history; and Seashore gained by using its bus fleet to help the local community take advantage of the great resources we have to offer. All of these events were organized by Curator of Buses and Trackless Trolleys Tom Santarelli, and the buses (including MBTA 6069 and 6169) were driven by Todd Glickman.

Of all the events that the Operations Department participated in during the 2001 season, by far the most spectacular event was when the "Summer Reading Celebration" came to Seashore. Former First Lady Barbara Bush was the featured guest in this event that brought over 2000 visitors to our Museum!

Our collective thanks and appreciation go out to all of the volunteers that helped to make the 2001 season a success, and we look forward with anticipation to 2002.

2001 Acquisitions – Annual Report – Draft

by Ben Minnich

No electric railway vehicles were accessioned to the collection during 2001. However, Seashore's conservators did rescue an interesting car for possible preservation by others. Early in the year, we learned that Laconia Street Railway Car 17, which ran in the same town in which it was built, was threatened with eviction from indoor storage and probable destruction. The car was turned out by Laconia Car Company in 1900, and ran on the local system until it ended service in 1928, about the same time as the manufacturing firm itself gave up. The only known survivor of the Laconia Street Railway, No. 17 was used, stripped, but otherwise unmodified, as a summer camp until 1989, when it was placed in the back of the engine house at a local steam tourist railway. It was still in remarkably good condition when its space became needed for other purposes. This car is very similar to one of the first incomplete carbodies acquired by Seashore. Mass Northeastern Car 50 was built by Laconia in 1902 to the same generic design as No. 17. Also essentially similar is Wason built Connecticut Company 1160, now well advanced toward a complete restoration. Several other institutions had expressed interest in No. 17, but were unprepared to move in time, so Seashore agreed to host the car temporarily until a suitable home could be found. Car 17 was brought to Maine by a Seashore moving crew and tarped, and remained so at the end of 2001.

Seashore's program of acquiring major mechanical components overseas continued with the coming of two single truck snow sweepers donated by the City of Hakodate, the major port on the Northern Japanese Island of Hokkaido. These cars had been partially dismantled and were on the scrap line when discovered by a Seashore search party in the spring of 2000. The municipality agreed to give the cars to Seashore, and a contractor was engaged to cut the carbodies down so they could fit in a shipping container. This involved removing the sweeper booms, and cutting off the roof at the belt line. All electrical and mechanical components were removed and placed in the carbodies for shipment, except the brooms themselves, which were left behind for spares on the three remaining identical units still in service. The cut down carbodies were wheeled into the containers, where they were a very tight fit. They arrived by sea and were unloaded without incident. These components will materially expedite restoration of some of the early four-wheel "Toonerville" type cars of which Seashore has several that cannot now be run or even exhibited.

Three later model RTS buses came from Gloucester, Massachusetts, with the thought that they would supply useful components for others now on hand, though one has been accessioned.

2001 Vehicle Conservation Report – Annual Report – Draft

by Donald Curry and Fred Maloney

Town House Shop was, as always, a very active place in 2001. This year at least 30 cars received attention in various degrees within the building and in the adjacent yard. The degrees involved everything from minor repairs to ongoing major rebuilds and restorations. The staff performing this work consisted of volunteers as well as the paid staff that averaged four. Many volunteers participate on a regular basis making them seem like paid staff, while others are able to help on an occasional basis. It is this blend of full-time staff, who can provide expertise and continuity, and volunteers, who can either work on ad-hoc projects, or take on the responsibility for their own projects that makes for this long list of accomplishments for each year. We want to extend our deep thanks to so many of our loyal members who faithfully give their financial support to continue work on our long term full restoration projects. Their patience and generosity result in an increasing number of cars from *The National Collection of American Streetcars* being expertly and completely restored.

Curatorial Issues

Our Standards

Inspired by a visit to the National Tramway Museum in Crich, England, where restoration and maintenance standards are first class, followed by a visit of their Workshop Foreman to Seashore a new credo for work standards has been informally adopted by Town House Shop. In any work done ask, the following questions in this order:

1. Is it safe?
2. Will it last 30 years?
3. Is it curatorially correct?

With these standards in mind, our conservation forces are researching and putting into use the best methods and practices possible. These have involved more diligent inspection of brake systems, air pressures, wiring, motor brushes, tripping, and “catching” hazards.

Passenger Fleet Maintenance

Using an 11-page checklist as a guide, each regular operating car is thoroughly inspected from top to bottom. In 2001 this led to finding and correcting a number of incipient failures that could have caused significant problems at a later time. Six cars were commissioned for regular service and an equal number for occasional operation. Each inspection form is thoroughly annotated indicating the need for future work.

With this intense scrutiny, the cars that pass operate with greater reliability. Unfortunately, a number of significant problems were found which put several former regular cars on the sidelines for later more extensive work. As an example Connecticut open trolley 1391, whose

wheels are approximately ½ inch under-gauge, tends to “hunt” as it goes down the track. Not only has this given a sub-standard ride for our visitors, it caused bolts to loosen up which hold the center bearing to the body and caused structural damage to the body. Another example is New Orleans 966 that has a badly worn motor suspension bearing, evidence of which was covered with years of grease. However, this increased scrutiny is expensive and points out the need for training of volunteers to perform inspections. Experience has demonstrated on a number of occasions that the inspection staff must be carefully trained to prevent critical areas from being overlooked.

Authenticity and Curatorial Correctness

As an educational institution it is Seashore's responsibility to carry on its restoration and exhibits work to the highest possible standards. The result of research and networking with other museums of Seashore's type brought us more appropriate and authentic components for restoration work:

- Dyed wire-centered signal cord replacing vinyl-covered wire or ordinary clothesline applied to seven cars.
- Additional period advertising cards, made available by a member of the Illinois Railway Museum, were then laminated in a matte-finish to protect them permanently from dampness and dust. (Note: The Museum is still looking for cards of local interest, especially for the ongoing major projects including cars from Wheeling, Cleveland, eastern Massachusetts, Montreal, and Toronto.)
- “S-sided” bulbs of the type used early in the last century.
- K-Control parts: arranging a mass purchase in cooperation with the Association of Railway Museums members to greatly lower the price, purchase to be made in 2002.
- Researching the proper material for car window shades: *Pantasote* is no longer made.
- Obtained hard-to-find cartridge fuses for small electric switches.
- Acquisition of proper cross-seats for Cleveland and Bay State Street Railway cars to enable authentic outfitting of cars.

Restoration detective work involves careful and frequent study of photographs of the subject cars at any period of its life and from every possible angle. At each new glance another detail pops out, more than once changing the course of the work. This is especially true in restoring “chicken coops” (cars which have seen non-transit-related secondary service after retirement, or which were otherwise acquired incomplete).

It also involves drawing on recollections from the ever-diminishing number of persons having experience with the actual trolleys. Seashore is very fortunate to have a member who rode Cleveland cars like 1227 and has a near photographic memory, technical and artistic ability, and who has written several comprehensive letters describing details.

It also involves observation of practices of the times and of a particular company's following or deviating from these practices, making each car a living document to the car builders' and maintainers' art.

Records

Careful documentation of all work that is done and what was discovered before and while doing the restoration work is essential. The Shop office has an entire shelf of these narratives and accompanying photographs, developed over the last few years, validating the work done as well as the reasons behind it.

One member has taken on the task of compiling the mention of each car, its history and any work done to it while at the Museum as found in the Museum's various publications: *The Dispatch*, Annual Reports, appeals, etc. This will form an historical outline for members of the future and a memory-jogger for those who were present when the various events occurred.

Several members are compiling a database of the trucks that are in stock or not under the proper vehicles. Each truck is then given a durable metal tag to indicate its status. Currently there are 164 trucks in this database.

Some concerns and issues regarding restoration work.

Preservation and continuity. Members who have been with the Museum for a long time have undoubtedly observed, in addition to many splendidly restored and operating cars, two other groups:

- Cars formerly part of the regular operating fleet. Seashore, like other museums of its type, is finding that after sustained use in museums service cars need major work. Without intense mechanical and body care and better storage, the number of former "runners" will increase. This is a cost that must be recognized in the operation of any car.
- Cars on which work was begun, often with great enthusiasm, only to be suspended. The reasons for abandonment are various: funding source dried up; the project sponsor moved away, died, or lost interest; other projects became more urgent; or the project became more than was bargained for when it was started or beyond the skill or means of those involved. When there is a hiatus in a project's schedule, valuable time is lost in reviving momentum, parts can become lost or misplaced, or records seem unclear to successor staff. It is obvious that to maintain the Museum's credibility, completed cars must be turned out on a regular basis, and followed by continuing curatorial care and careful operation.

Training. Currently training in the Shop is done on an ad-hoc basis. There is no formal apprenticeship, although a few members, who volunteer regularly on tasks assigned by the permanent staff, are becoming skilled in many areas including painting, varnishing, cabinetry (as applied to trolleys), and research.

There is a great need for certification of those who use each of the machine tools both from a safety standpoint and effective usage.

Staff Development. Members of the Shop staff attended two conventions: the Association of Railway Museums (ARM) regional convention at the Railroad Museum of Pennsylvania in Strasburg and the ARM/Tourist Railway convention in Spencer/Salisbury/Charlotte, North Carolina.

At the Railroad Museum of Pennsylvania they were given a tour of the new Restoration Shop, completely furnished with modern machines and equipment. They noted, because it contains space for only one major project, it forced them to concentrate on that. The head of the Shop described how their volunteers are trained and work responsibly as if they were regular employees.

Their curatorial philosophy can be summarized:

- Preserve rather than restore
- Restore rather than replace
- Replace only when necessary.

The case study, however, was a badly deteriorated wooden snowplow which, because much of the structure had to be replaced, illustrated the compromises necessary in application of their curatorial philosophy.

The Railroad Museum of Pennsylvania also has the archive of builder's photos of the subsidiaries of the J. G. Brill Company. Obtained were clear excellent photos of Seashore's Aroostook Valley 71 (twin to AVR 70 which has already received considerable restoration work) and Denver and South Platte no. 2 (now York Utilities Birney no. 82).

By way of contrast, the profit-making Strasburg Rail Road, across the street, maintains cars and equipment to operate and look presentable to the public. While the equipment is striking to see, they do not feel the constraints of authentic restoration and documentation.

At the ARM/Train Convention curatorial and restoration issues were covered in seminars on the "Anatomy of a Restoration" and collections management and vividly in "Steam in the Next Century". The major concern of the latter was the passing of the last generation with first-hand experience with steam (read trolley) and need for apprenticing and encouraging the next generation(s) of technically adept enthusiasts. Equally important was the emphasis on research and careful documentation of what is discovered in disassembly.

Seashore was a major contributor to the ARM Parts Meeting where representatives of many museums discussed needs and sources for obsolete and authentic components.

Major Restorations

Chicago Aurora & Elgin 434 is one of two surviving heavyweight steel interurban cars out of an order of fifteen that were delivered to the CA&E in 1927 by the Cincinnati Car Company. The museum acquired the car in 1962.

Other than a repaint approximating its World War II livery in 1968, the car had been the beneficiary of very little in the way of restoration work until a significant program began in late 1996. The goal is to return the car to its scarlet and blue/gray exterior with aqua and white interior as when last outshopped by the CA&E in 1951.

Work in 2001 advanced the project to the point that the basic paintwork on both the exterior and interior is done, save for the interior of the lavatory. Both vestibules are now structurally complete, all remaining work consisting of details such as replacing the weather-stripping and performing some finish painting and lettering. Work on the smoking compartment included stripping and repainting the walls, and the replacement of deteriorated linoleum on the floor.

The program of rebuilding the brass side window sash, problem-plagued by technical complications early on and then by the unexpected death of shop machinist Ed Johnson, came to life again with the contracting of the machining and soldering work to Acton Machine Company of Acton, Maine. Actual work was scheduled to start in January of 2002.

By late fall of 2001 the trucks sported fresh black paint and refurbished third rail beams were in place.

In 2002 plans are to complete work on the interior, complete the remaining vestibule repairs, complete the mechanical repairs and reinstall the rebuilt side windows.

The year 2002 is the centennial of the Aurora Elgin & Chicago, later reorganized as the CA&E. Having the car presentable for that event will be the motivating factor for the year.

Connecticut Open car 303. This car looked much better on its 100th birthday than it has looked for many years. The car, last repainted in 1972, upon the completion of a major body and mechanical restoration, was showing signs of wear. This repainting job is now in its fourth year. By the end of the 2001 working season, the exterior enamel was applied to all surfaces returning it to its beautiful early yellow and white color scheme with decorative striping and aluminum leaf "Connecticut" on the letterboards. Fortunately there was enough aluminum leaf and gold leaf left from the 1972 lettering that none was purchased. Likewise, the original patterns provided by streetcar restoration expert Fred Bennett then were also usable.

The seat bottoms were thoroughly scraped, filled, and enameled and their backs given coats of varnish. The inside clerestory area had never been completely stripped so, in preparation for several coats of varnish, that area as well as all associated moldings, was carefully scraped and sanded. Experience has taught the Shop that multiple coats of varnish are necessary to protect the wood fully in the Museum's non-climate-controlled car barns. The floor and running boards were given a durable coat of epoxy enamel. The car should be completed in 2002.

Cleveland Center Entrance Car 1227. The most noticeable change to Cleveland 1227 was final installation of all side and rear window sash. The sash had been rebuilt, along with other work, some years ago under a federal Institute of Museum Services matching grant. They had since been painted on the exterior and varnished on the inside. In 2001 the interior surfaces of all sash were sanded and given a final coat of varnish, and the glass was cleaned. Most window pocket covers and numerous pieces of sash retaining molding were similarly sanded and given a final

coat or two of varnish. Then followed the lengthy process of final fitting and installation of all sash and retaining molding.

Inside the car a considerable amount of final sanding and application of final coats of varnish was done. This included the entire ceiling, the front motorman's compartment paneling and the longitudinal seat support spindles. But until the car is actually outshopped similar work will continue.

A large sheet of steel dimple plate was located in stock and cut to size for the long strips that cover the aisle in the center of the car and for shorter pieces for the four steps. The edges were ground smooth, the pieces cleaned, and then primed and painted on both sides.

If the restoration project for an incomplete car, such as 1227, extends over an extended period an important side benefit is that the extra time can make it easier to find vital authentic components. As an example, our friends at California's Orange Empire Railway Museum provided us with the proper type of brake valve salvaged years ago from a Pacific Electric Railway Hollywood car.

Also, during a visit to Trolleyville USA, one of two Cleveland area streetcar museums, a Seashore member discovered spare cross seat frames from an identical car. Trolleyville's Director, Mark Brookins, kindly made them available for sale to Seashore, in exchange for cash and spare safety glass salvaged from scrapped Boston PCC cars years ago. This follows a unsuccessful exhaustive searches for No. 1227's original cross seats by our friends at the Electric City Trolley Museum in Scranton, Pennsylvania, former owner of No. 1227. Only three cross seats remained with the car when it arrived at Seashore in 1984. We now have a complete set of twelve, preparing the way for completion of the seating.

Seashore's Parts Department ended a very long search for the proper air compressor by acquiring and furnishing a rare National BB2 unit. Had the restoration of the car advanced more rapidly, we were prepared to rehabilitate and reupholster spare Montreal car seats of a different type, and substitute a different air compressor and air brake assembly.

In similar development, after research and inspection of other cars in the Museum's collection, front safety fender castings were borrowed from Los Angeles Railway No. 521 and Rochester No. 1213 to use as patterns to replicate those used originally on No. 1227's long gone "Eclipse" fender and associated supports.

Newly installed air piping and the Pacific Electric air brake assembly were tested for leaks. Also, many long lengths of heavy motor wiring were installed, along with the associated conduits and mounts. Following this the new cable box under the longitudinal seating was permanently reassembled. Additionally, final installation of the auxiliary wiring to the taillights and to the trailer car jumper socket was completed.

In the period around and just after year-end exposed areas of the floor were sanded smooth, and given two coats of gray/green floor paint exactly matched from samples found on areas of the trucks long protected from light by the car body (and grease).

The special long carriage bolts, running through the longitudinal seat support spindles and floor were degreased, primed, and enameled. The spindles were then installed under the in-place

seating, replacing temporary support boards, followed by permanent installation of all seat backs and bottom cushions, further revealing that the car is truly approaching completion. These longitudinal seat backs and bottoms were fabricated, and in some cases rehabilitated, thanks to the previously mentioned federal Institute of Museum Services grant. Also at the start of the new year shop artisans were busily fabricating new wood components to make replicated cross seat back and bottom cushions, while a source for seat springs was located. No. 1227 will have the Cleveland Railways configuration of cross-seats on the "door" side and longitudinals running the length of the "blind" side.

As part of educating the membership on the significance and history of important collection items, Lead Restoration Technician Donald G. Curry prepared a major article on our Cleveland streetcars that was published in the January-February, 2002 Dispatch. This article offers much insight into the operation of Cleveland motor-trailer streetcar operation and details the many changes made during the very long service career of No. 1227, and of its difficult life thereafter until acquired by Seashore in 1984.

During 2002 further work will include completing the new and rebuilt cross seat cushions, repairs to some cross seat frames, probable bodywork preparation and finish painting of the lower exterior body, finishing and installing the doors, and an undetermined amount of finish-up interior work as well as some underfloor mechanical work. We are optimistic that No. 1227 will be completed within two years. This, in turn, will set the stage to commence a major restoration program on matching trailer car 2318. Only a very few streetcar trailer cars exist in museums, giving the total project an important place in the field of streetcar preservation.

Wheeling Traction Company Curvedside car 639 must be setting a record of years spent by any museum as a project, turning it from a deteriorated hulk to a nearly new car. Since 1974 it has received major work, much of it a piece-by-piece replacement of the underframe, body shell and roof and multitudes of other components. (A look at various reports prior to 1974 show a great optimism about the time it would take to do the car—in the neighborhood of a few years!) After a hiatus, concentrated work resumed in 2000 and has continued since. The car is one of three cars currently in the Shop that have had other non-transit lives and one of the three which are being back-dated to its original configuration. With most original equipment and fittings scrapped or discarded and various modifications made by subsequent owners (a dentist in 639's case who used the car basically to store junk), the job of recreating or replicating the original is daunting. The best sources of information are excellent and clear builders photographs that have been greatly enlarged to show details. By scaling the photos and comparing with what remains on the car, it is possible to get quite close to the original. Repairs made to the car during its service life sometimes confuse this process, so what is found does not match what the earlier photos show. Also each time an examination is made of a photo, another detail previously overlooked seems to pop out. All of this makes the work very challenging but satisfying when completed.

No. 639 is being returned to its original configuration: one-man-two-man. Involved in this was the design of new corner seats created by constructing a full-sized mockup of the corner. The frames to hold the seats were constructed and the actual cushions will be made in 2002. The design involved making sufficient room for the pneumatic door-operating engines under them. The interior of the vestibules has been completed—new wainscot panels, panels over the sash,

cherry molding, and step edges. Installing the ad racks along each side and spray-painting the headlining completed the upper part of the interior. Many pieces of new cherry trim were made, installed, and varnished. The glass in the side sash was upgraded for safety reasons. Original type "battleship" linoleum was obtained to go over the previously installed cork insulation that lines the interior of the body shell. Using the original photos, a pattern was made for the conductor's signal cord hangers, long missing from the car, which were subsequently cast.

All interior auxiliary wiring was installed and many switches and various electrical components mounted over the end sash. Work was continued during the dark winter hours by using the car's lights equipped with low-voltage bulbs to operate on 110 volts.

Seashore is working with other museums to obtain the correct air brake valves and hand brake mechanisms. Using a part borrowed from CRANDIC car 118, also built by the Cincinnati Car Company, aluminum castings were made of the stanchion bases. Seashore's Parts Department has furnished authentic marker lights, side roll sign boxes, switches and numerous other parts.

A large part of 2002's work will be concentrated on seats. These include rebuilding ex-Chicago 4000-series elevated car seats obtained many years ago for the 18 cross seats and fabricating the four corner seats using the builder's photos as a guide. Sash and doors will be painted and permanently installed and the pneumatic door engines installed and made functional.

Connecticut Company box car 1160 is being restored to its latter days as a passenger car in 1935 before it was turned into a work car (fortunately without modification). Much polishing was done to the brasswork of the lamp sockets and fare register mechanisms. One windowsill, previously unfinished, was given a thorough coating of epoxy filler and primer. The car's second exterior side was scraped and an old gouge, extending along most of the side, was filled. About 3½ feet of matchboard siding had deteriorated and was removed in preparation for replacement. The bottoms of many other pieces were built up with epoxy so they now are even. A complete inventory of all the car's components was made. The sash for the car's second side were refinished and are ready for installation. All new maple floor stripping was made and is ready for installation. Inside the car a volunteer finished stripping the clerestory area of the second side.

Because the Connecticut Company appeared to have done minimal servicing to 1160 during its latter days, it is completely "beat" mechanically. Bronze axle bearings were worn to the point of near non-existence. Further, the housings in the motor cases, where the bearings are mounted, are worn egg-shaped to the point that it is impossible to fit a new bearing without building up and machining the housing to a perfect round.

During 2002 the first truck will be brought into the Shop and worn holes reshaped, assembly of the frames begun, and the motors disassembled for machining the bearing fits.

Boston and Maine Railroad Inspection (motor) car 500. The exterior was substantially completed during the year. Defective warped hardboard panels were replaced, various trim pieces applied, then the entire exterior given the proper yellow, aluminum and black color scheme and numbered 500. The pilot, rear step and front ventilator were also straightened and rebuilt. Wiring was replaced as necessary.

Cedar Rapids and Iowa City Railroad CRANDIC) Interurban car 118. The major change a visitor to 118 would notice at the end of 2001 is the installation of the car's correct Hale and Kilburn bucket type interurban seating. These replaced the ex-school bus seating that arrived with 118 and was used only a short time on the CRANDIC. The bucket seats were displaced from the Museum's Lehigh Valley Transit *Liberty Bell Limited*, 1030 by the installation of parlor car furniture. Originally these seats were in a Dayton and Troy (Ohio) interurban, a predecessor of the Cincinnati and Lake Erie, original operator of 118. Because of the great expense of reupholstering all the seats, they have been installed in order of condition with the best at the front. Those deemed unsuitable will be reupholstered and repaired as needed. As a pattern for ultimate rebuilding, an original H & K "900 D" type seat with the long-distance style headrest is on loan. The motorman's leather-covered seat was sent to a local upholsterer.

The car's 24 heaters were precisely restored and are well regulated by the two original automatic mercury thermostats. Interior heat made cold weather work possible (electricity was metered and reimbursed by the car's primary sponsor). The heater relays, while functional, await further attention. The lavatory was largely restored, while a start was made on restoration of the front vestibule and dash area.

A striking touch is the new Cincinnati Car Company builder's plates in the floor. The car was brought over the Shop pit for bearing lubrication and a test of all power contacts for closure and (vital) quick dropout time. The exterior of the dasher was repainted. During 2001, 118 received a total of 585 volunteer hours plus additional time spent on research and documentation.

A former motorman from the CRANDIC and his family were guests of the museum during the summer. Mr. Dick Eldeen operated the car on the Main Line to the standing applause of members.

Bay State Street Railway Semi-convertible car 4175. Work continued steadily throughout the year largely by volunteers with consultation by the paid staff. All 40 of the cherry side sash were varnished and carefully fitted and installed. Surrounding them is naturally finished cherry molding and hardboard wainscoting. The sash on a semi-convertible is meant to maximize the window opening. In this car the top piece of sash goes up and the bottom sash drops into a pocket in the car's side walls. The uppers are held in position by latches that must exactly match holes with little clearance in the window posts. As work was in progress, the thought was expressed that these must not have been opened often in regular service because of the difficulty of alignment. All clerestory sash have been varnished and installed as well.

The car came to the Museum as a stripped body in October 1984, so finding proper components has been a challenge. After studying photos and examining other cars at the Museum, the bases for the four longitudinal seats were designed and constructed. The cross-seats, originally intended for the car, were not exactly the right type but were the best available at the time. In 2001 twelve Hale and Kilburn seats from Chicago, Aurora and Elgin interurban car 320 became available from the Old Threshers Reunion in Mt. Pleasant, Iowa. For 4175 the cushions are too large and the 'theatre seat' type ends are incorrect but the remainder of the frame is correct. Previously cast aluminum seat ends will replace these giving the correct appearance. Using components borrowed from cars in the Museum's collection from the early part of the 20th century as patterns, bronze castings have been made for latches, signal cord hangers and many

other small parts. Over 150 pieces have been cast. These are in the process of being machined and polished. As part of the staff education process two staff members visited a metal polishing facility where they witnessed a demonstration of a *Dynafile* that greatly speeds up removal of the initial roughness of a sand casting plus other polishing methods and equipment.

The inner cherry bulkheads, which enclose the sliding vestibule doors, were fitted and quarter panels duplicating those of the original (as deduced from photos) were made. The sliding doors have been fitted and the mechanism that makes them slide has been installed and carefully adjusted so the doors work easily.

During 2002 work will continue on completing the interior appointments including seating.

Portland-Lewiston Interurban no. 14 *Narcissus*. "A Treasure Preserved for the People of Maine". No. 14's project manager is carefully preparing for the car's restoration by making computer-based drawings of many of the car's components including the underframe in order to determine where the original (long-missing) equipment should be mounted. He is also carefully examining enlarged photos of No. 14 and its sisters for details to add to the accuracy of the restoration. Additionally he is locating the numerous components including control and brake equipment. The Museum was extremely pleased to receive the donation from Connecticut's Shore Line Trolley Museum of a set of 18 of the arched clerestory sash from car No. 10, *Arbutus*.

When *The Narcissus* was used as a camp and diner, the owner rearranged the light wiring to accommodate 110-volt bulbs wired in parallel rather than the five-in-series of the direct current trolley period. Fortunately the general condition of the body is as straight as when it left the Laconia Car Company plant in 1912. There is, however, deterioration of the end framing where the wood interfaces with the steel frame. Rebuilding work will commence on one end, using the untouched opposite end as a pattern.

New York State Railways (Rochester) Peter Witt car 1213. After the assembly of the new floor/underframe it was slid under the upper section of the car body. This short sentence cannot capture the amount of hard work involving driving numerous 3/4 inch hot rivets, cutting, welding, fitting, and finally rigging this very large and awkward assembly—a project undertaken by a very hardy crew in some of the coldest weather. The car is body is now poised for reconstruction into a single unit merging the new underframe with the original upper structure. AS funds become available, No. 1213 is destined to become one of the most important cars in the restored operating fleet because of its extensive reconstruction and consequent need for a high percentage of new materials.

Eastern Massachusetts Street Railway semi-convertible car 4387. In 2001 scraping, priming and repainting of 59 of the car's 105 window sash was completed. (The 46 not touched were in good condition.) A higher grade of primer (epoxy) and enamel (polyurethane) was used which should greatly prolong their service life. In 2002 the sash will be installed and attention given to some of now-deteriorated cane seat cushions that did not require work in the 1987 restoration of the car.

Other Restoration Work

Boston Orange Line Elevated car 01179. As a volunteer project to correct the multiple leaks in the roof, the louvers along each side of the car were removed to access the deteriorated steel roof. Then a strip of steel about 5 inches wide was cut off each side of the car and a new one was welded and huck-bolted in place. Then the louvers and new steel was thoroughly painted.

Rochester Semi-convertible car 394, obtained as a body for display purposes only, required considerable strengthening. The platforms were reinforced, some posts replaced and the roof repaired and canvassed. The car now rests on a correct pair of Brill 39E maximum-traction trucks. When completed the car will give the appearance of a delicate and well-proportioned Brill semi, once so common on the streets of many cities.

Toronto Peter-Witt car 2890. As Toronto's street railways operate a their unique 4 foot 10 7/8 inch wide-gauge track, it is necessary to press 2890's wheels to the Museum's standard gauge. This has been done to the first pair of axles and the second will be done soon. The brake shoes and associated hangers also have to be relocated on the trucks to accommodate the gauge change and those on one truck are nearly completed. Meanwhile the car remains on exhibit in Highwood Barn on a temporary pair of standard-gauge trucks

New York City Transit Authority R9 Rapid Transit cars 800/1400. Battery charging and traction motor resistors are being rebuilt, a lengthy and labor-intensive project.

Oshawa Steeple-cab Locomotive 300. Preliminary work has been done on the repair of deteriorated flooring and air brake leakage.

Lehigh Valley Transit High-Speed Interurban car 1030 *The Liberty Bell Limited*. In preparation for a visit of the Allentown Chapter of the National Railway Historical Society commemorating the 50th anniversary of the abandonment of the LVT, cleaning and servicing was done. A significant part of this was rebuilding the arc chutes of the control group through which the heavy motor currents flow, making experimental use of high-temperature cement. Presently 1030 is equipped with 300-volt traction motors that draw twice the current its original 600-volt motors did. The Museum now has possession of three of its four original 600-volt motors and major parts of the fourth. At some time in the future, when funds become available, the change back to 1030's proper motors will be made.

Middlesex & Boston Street Railway single truck wood car No. 41. The program to raise funds M&B 41, a car in the pipeline for restoration, approached an important milestone as total funds raised neared \$20,000. Fundraising is continuing. Meanwhile, as reported elsewhere, an appropriate Brill 21-E truck of early vintage has been acquired for this car from Japan. Although the truck requires regauging, it is in excellent condition, and its acquisition represents a major step toward the restoration of the car.

Sioux City (Iowa) Service Company No. 46. The pending need to relocate this car, obtained as a body only some years ago, revealed that the body structure had become unstable. Early in the spring, in terrible weather, volunteers used two pieces of spare rail to fashion connections

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between the trucks and the car bolsters. Other pieces were fabricated to keep the car from leaning excessively when being towed.

Internal-combustion equipment

Diesel Locomotive D-1. Due to a deteriorated gear in its complex starting mechanism, this very useful piece of equipment has been out of service for some time. Fortunately a correct one was salvaged from a bulldozer and installed. After the engine was started, it became obvious the air compressor required work. It will be replaced in 2002 and the electric starter for the pony starting engine made functional.

The Portec tamper received new crankshaft bearings for its diesel engine.

The useful Michigan front-end loader, long out of service with bent lifting cylinders, is now operational. One member donated the cost of a new cutting edge for the bucket.

Protection of Cars Stored Outside

During the course of the year volunteers worked to protect several important and historic car bodies stored outside by covering them with specially made heavy-duty vinyl tarps underwritten by the primary sponsors of the cars. Among the cars now protected by this effort are Newport & Providence open car No. 9, Southwest Missouri wood interurban No. 39, Rochester and Sodus Bay wood interurban No. 113, and Washington, DC Capital Transit Jewett No. 197. In addition shop staff made minor repairs to Ottawa Transportation Commission No. 825 and Kansas City Public Service No. 922 and then repositioned and fastened their tarps. Lightweight tarps on Oakland Key System No. 804 and Pacific Electric Railway Hollywood car No. 680 were put back in place shortly after both blew aside in heavy winds.

Tarps for several other cars are still awaiting installation. The need to put so much expense and effort into tarps clearly demonstrates the criticality of constructing a new carhouse to protect more of the Museum's priceless collection.

Shop Facilities and Equipment

Town House Shop Facility. The Shop building saw considerable improvement over the year, including some substantial reconstruction.

The sudden displacement of the bases of three H-columns supporting the building's roof trusses caused by heavy snow sliding from the east side roof alerted staff to the urgency of upgrading the entire east wall foundation. When the present main structure replaced the original Quonset Hut, which collapsed in a 1967 snowstorm, the east wall was built right on the original unreinforced foundation wall. Over time the wall had weakened.

A multi-year construction program was developed to effect permanent repairs. The last remaining section of unpaved floor and the associated trackage was dug out and the three affected columns were raised and supported in a way to permit excavation of 60 feet of the old foundation. A very substantial solid concrete foundation was constructed, to a greater depth than the original. The track was then relaid using heavier rail. Included in this construction is the

provision for a truck turntable that will make it possible to remove a truck from under a car and roll it out the side of the building.

New steel tube-framed doors were constructed at the end of the track (the pit track), and beside the truck turntable site. The wall was then resheathed with a heavier "Galvalum" siding. This heavy construction work was done entirely by shop staff and Museum volunteers, so was at a modest cost. But this was at the expense of reduced hours actually spent on car conservation work.

In order to increase efficiency and promote safe working, the various broad categories of work are being separated. This is resulting in considerable rearrangement of the Shop work areas. Woodwork and the machine shop will be on the first floor. On the second floor will be general assembly, sash and door work, and component painting and varnishing. To accomplish this, new benches are being constructed and machinery moved to the proper related areas. The tool room was renovated with better lighting and repainted light colored walls. Improved lighting was added to the inspection pit with improved power feed for the area. A member from Pennsylvania donated an up-to-date large spray booth that will be set up over time as Shop renovations continue.

A new 12-inch disc sander and a small but versatile box and pan type sheet metal bending brake were donated to the Museum. The welding area was improved by the donation and setup of a heavy steel welders bench and associated metal rack and heavy vises. To be set up is a heavy-duty South Bend toolmakers lathe. The Shop's present two metalworking lathes are too large for many jobs.

A major donation was of a babbitt (soft-metal bearing lining) melting furnace and controls from the Johnson Gas Appliance Company, of Cedar Rapids, Iowa. This donation resulted from connections with the New Orleans Regional Transit Authority, and its maintenance procedures on cars similar to the Museum's New Orleans No. 966. The Authority gladly shared its babbiting practices and the origin of the furnace used in Carrollton Shops. Before the donated furnace can be used a major investment in sufficient babbitt metal to fill the furnace's pot must be made.

Outside the Shop, the original water line to the facility failed so was replaced. To prevent deterioration of steel stock which has had to be stored outside a 40-foot container was purchased and set up to the west of the shop.

Other Shop Activities

In combination with the Kennebunk Portside Rotary Club, Town House Shop was a very popular and well-received stop on their annual Artisans Tour. The tour participants were brought from Kennebunkport via a Seashore bus and the Kennebunkport rubber-tired "Trolley". All were given an on-the-floor tour including going into cars in progress. This gave them a far different appreciation for the scope of the work done which they would never receive from their normal visit from the Visitors Gallery.

Finally, this year volunteers constructed additional new sales cabinet/bookshelves in for the Museum Store.