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And, according to many, although not all were union-built, unions were a big factor in those building projects.

One of the main reasons was that under President Roosevelt's New Deal, the federal government for the first time gave its support to the union movement.

Major legislation in 1933, the National Industrial Recovery Act, included provisions to guarantee the right to collective bargaining. (That same year, 67% of Ohio's construction workers were out of work.) After the U.S. Supreme Court struck this right down, the 1935 Wagner Act (National Labor Relations Act) strengthened the right to collective bargaining. But that still didn't give these workers other protections.

Because those depression-molded Stationary Engineers and Hoisting and Portable Engineers did without, they helped create an organization that today offers its members health and welfare programs, pension benefits and other fringes.

Benefit plans grow dramatically

Employee benefit plans and programs grew dramatically in the 1940s and '50s, when unions began negotiating for health insurance plans for members. During World War II, employers improved their benefit packages, adding health care, to entice employees when they could not offer increased wages because of wartime wage freezes.

According to the Bureau of Labor Statistics, union workers are more likely than their nonunion counterparts to be covered by health care and receive pension benefits. In March, 2008, 79% of union workers were covered by health insurance through their jobs, compared with only 52% of nonunion workers.

In addition, 86% of union workers participate in pension plans as compared to 51% of nonunion workers, and 77% of union workers are in defined benefit plans compared to 20% of nonunion workers.

Today, Local 18's pension plan is paying more than $110 million annually to almost 7,000 retirees and surviving spouses. That would have bought a lot of gas and eggs 70 years ago.

The Operating Engineers pension program provides income to members in their retirement, with the amount dependent on plan terms, length of service, age at retirement and the form of payment selected by the member.

Local 18’s Health and Welfare Plan provides medical, prescription drugs, loss of time and death benefits to eligible members, with medical and prescription drug benefits available to spouses and dependent children.

Free medical screenings to promote healthy lifestyles were initiated several years ago. Members are checked for prostate and skin cancer, blood pressure, glucose, blood cholesterol HDL levels and body mass index computations.

If there has been a dramatic change in benefits in seven decades, there has been an even more dramatic change in equipment.

In 1939, the use of mules and human labor was not far removed from building America's highways, bridges and dams. The advent of gasoline engines, later replaced by diesel engines, was a major factor in the development of advanced – for the time – construction equipment.

Steam shovels and belt-loaders, top-loading dump trucks and crawler-mounted dump wagons pulled by crawler-tractors were the earth-moving methods until the appearance of effective crawler-drawn, cable-operated scrapers.

In 1939, most scrapers were drawn by crawler tractors, but early motor scrapers were just entering the market. Most scrapers of the period were cable-operated from control units mounted on the back of the crawler-tractor or prime mover. The LeTourneau Tournapull, introduced late in the decade, was the first integrated wheel tractor-scraper.
By the 1970s, tractor-drawn scrapers had been largely phased out, but they made a resurgence in the 1990s with one to three hydraulic scrapers behind large rubber-tired or rubber-belted tractors.

Open-bowl motor scrapers were drawn by single- or dual-axle wheel tractors which were largely replaced by articulated dump trucks, and only the single-axle tractors are used today.

Those crawler tractors themselves were offered as basic machines in 1939. They were to be equipped with various attachments and allied equipment from other manufacturers as the customer required.

Much of the equipment was easily interchangeable and was operated by cable. Hydraulics didn’t become the standard for larger tractors until the 1960s. Gasoline power was still used on many smaller tractors, but diesel engines were making major inroads to domi-

**IMPROVES QUALITY OF CONCRETE, REDUCES COSTS, says Turnpike Engineer**

On the Pennsylvania Turnpike Jaeger Spreaders Enabled Contractors to Meet the Most Severe Schedule in Paving History!

BUILDING the first phase of the Pennsylvania Turnpike in 1940 required the use of this Jaeger Spreader, which as the ad says, “enabled contractors to meet the most severe schedule in paving history.”

IN THE '30S, most scrapers were drawn by crawler tractors, but early motor scrapers were just entering the market. As with the loaders, most scrapers of the period were cable-operated from control units mounted on the back of the tractor or prime mover. Ironically, in the 1990s tractor-pulled scrapers had a resurgence, with one to three hydraulic scrapers behind large rubber-tired or rubber-belted tractors (above).
Seven decades of change and growth

nance as the power of choice, with power conveyed to the crawlers by direct drive.

Unfortunately for the operator, there was no protection from the elements and even worse, from rollover. Today, the operator is enclosed in a sound-suppressed, heated, air-conditioned fully protective cab.

There also has been a change in the crawler tractors themselves. They are more purpose-built for dozing, and there are fewer choices of dozers available. Far fewer attachments are offered, and most are from the tractor manufacturer itself, rather than allied manufacturers.

Another piece of equipment, the loader, was purpose-built as early as 1939. For years they were cable-operated, using a decades-old technology.

Bucket capacity was a cubic yard or less and the only control over the bucket was to trip it for dumping. To reset it, the operator had to catch it on the side of what had received the load, or drop the bucket to the ground and back up.

Hydraulic control for loaders was introduced after World War II, and articulated frames for improved steering and maneuverability were developed in the mid-'50s.

REX Pipeline brings changes

With the advent of the REX Pipeline, changes in pipeline equipment over seven decades are not as obvious as with other equipment.

By the end of the 1930s, contractors were beginning to use track-mounted side booms able to lift up to 30,000 pounds for pipe laying. Things stayed pretty much the same until late in 2008 when Volvo (see Buckeye Engineer for January, 2009) introduced pipelayers that utilize load, boom and cab-mounted sensors that allow onboard computers to monitor boom angle and cab orientation and inclination.

The computer uses this information to compute and display actual loads and rated working loads in real time through in-cab monitors and audible warning systems. The local management system utilizes boom-mounted load indicator lights for visual communication with ground staff and between adjacent machines during multiple lift operations.

The new pipelaying machines have sensors, and other modern equipment features GPS units that are being used for earthmoving in bulldozers, backhoes, road graders, excavators and compactors.

Those 1939 operators would be shocked to see how the industry has changed in 70 years, but no more so than their 1869 predecessors would have been with the changes in those seven decades.

Where will the industry and Local 18 be in 2079? That answer remains to be seen.

Photos and information about early equipment courtesy of the Historical Construction Equipment Association, Bowling Green, Ohio. The HCEA will be holding its 24th annual convention, featuring antique construction equipment, September 18-20 at the museum in Bowling Green, Ohio. For more information, go to www.hcea.net.

NO ONE’S quite sure how old this RX 40 is, but it’s 20,000 hours of use make it several decades old and it still was in use earlier this year on I-271.

WHAT 1939 Local 18 members didn’t have was health care, including screenings such as are given today. Nor did they have such equipment as the revolutionary Volvo pipelayer, introduced at the end of 2008.