

In Face of Federal Act Failure, ARTBA Fights to Preserve Program

By Tom Kuennen

Members of the American Road & Transportation Builders Association (ARTBA) lobbied for and built the roads that fueled the fabulous “Roaring Twenties.” But it was done in the face of the failure of the first Federal-Aid Road Act and amid strong skepticism that a federal/state program would work.

Along with its allies, ARTBA fought to maintain a federal presence that preserved the federal/state partnership begun in 1916. And its government agency and contractor members constructed the highways that served an explosion in the number of automobiles, the birth of the trucking industry at the expense of rail and the United States’ first massive consumer economy.

As the federal/state partnership was under fire in 1921, ARTBA was so closely connected with the federal road establishment that its chairman was a chief administrative officer within the U.S. Bureau of Public Roads.

In the decade of the Twenties, ARTBA’s involvement with the national road program was such that in 1928, the association moved its headquarters from New York City to Washington, D.C., was reincorporated under D.C. law and moved to the recently finished National Press Club Building.

Back then, ARTBA was known as the American Road Builders Asso-

ciation (ARBA). Then as now, ARTBA was active in the promotion of funding for improved roads, in this case, brand new paved thoroughfares in stead of a muddy track.

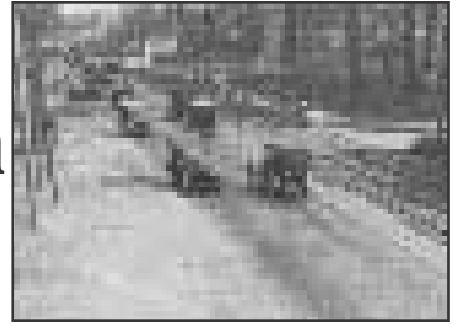
But it wasn’t easy, even in the prosperous Twenties.

Failure of 1916 Federal-Road Act

In the late Teens, ARTBA members and the entire industry were congratulating themselves on having witnessed the birth of the first federal commitment to road funding in the Federal-Aid Road Act of 1916 (see “ARTBA Helps Achieve First Federal Investment in Roads,” *Transportation Builder*, February 2001, page 12).

This act launched the federal/state road-building partnership that persists today. It provided a 50:50 federal-state match for road construction; required states to establish a road agency; apportioned funds to states based on population, area and road mileage; provided a type of annual obligation ceiling; required that states maintain federal-aid roads; and provided \$75 million for roadbuilding over five years.

But the 1916 act turned out to be problematic. “The large [state] highway bond issues of 1915 and 1916, plus the prospect of sizable road expenditures under the 1916 Federal-Aid Road Act, led many experienced and inexperienced road



1920s photo of first Portland cement concrete street—Woodward Avenue in Wayne County, Mich.—laid in 1908.

contractors into the road business,” said the Federal Highway Administration (FHWA) in its definitive U.S. Bicentennial history, *America’s Highways, 1776-1976*.

“With the outbreak of war, they immediately began to encounter difficulties in getting materials, especially steel, and in retaining labor on the job,” FHWA said. “Within a few months material costs advanced 20 to 30 percent and wages of common labor went up to \$2.50 and even \$3.00 [\$38 to \$46 in 2000] per day. Railroad car shortages made deliveries of stone and asphalt uncertain.” Contractors went out of business or refused to bid on new contracts.

ARTBA Leadership Speaks Out on Trucks

In the meantime, the number of trucks escalated dramatically, and a new kind of “wildcat” independent-operator trucker began battling his way across unpredictable roads on long hauls from city to city, further destroying existing roads and taking freight from railroads.

U.S. Commerce Department data show the number of new truck registrations increased more than 300 percent in the decade, from 1.1 million in 1920 to 3.5 million in 1929. The number of automobile registrations increased just as dramatically, from 8.1 million in 1920, to 23.1 million in 1929.

“There is now pretty nearly universal agreement that no single public improvement has done in recent years, or will do in the coming years, more for the general good of the country, than the development of our highway system ... [ARTBA] has been a chief contributor in this direction and it is with much pleasure that I extend to its members my best wishes for their continued success.”

-- President Warren G. Harding to ARTBA members, six weeks after passage of Federal Highway Act of 1921

ARTBA TIMELINE

1920

Virginia Highway Commissioner George P. Coleman elected ARTBA chairman.

1921

Federal Highway Act of 1921 corrects errors of 1916 bill, paves way for huge increases in road construction throughout “Roaring Twenties.”

Chicago Board of Local Improvements President Michael Faherty elected ARTBA chairman.

1922

Lt. Col. H.L. Bowlby, U.S. Bureau of Public Roads, elected ARTBA chairman.

June: Bowlby resigns but remains a director. Thomas J.

Wasser, New Jersey state highway engineer, completes the term.

ARTBA’s annual convention held in Chicago.

1923

North Carolina State Highway Commission Chairman Frank Page elected ARTBA chairman.

ARTBA leadership was outspoken on the challenge of growing truck traffic. For example, a board member of ARTBA, Delaware state highway engineer Charles M. Upham, said truck traffic would continue to grow and would have to be accommodated.

“The motor truck ... has shown that it has solved an economic problem,” opined Upham in *Public Roads* magazine, 1918, the year he became an ARTBA director. “The heavy truck will be utilized for transporting freight and express within expanding limits. We must build and maintain in such a way that our roads will withstand, as permanently as possible, the demands of the future heavy truck traffic.”

ARTBA Participates in Birth of TRB

The decade of the 1920s saw the founding of one of the most important institutions in transportation today, the Transportation Research Board (TRB), and ARTBA was there.

Every January, thousands of researchers, academicians, civil and structural engineers, lobbyists and other allies to the industry, travel to Washington, D.C., to meet and hear the newest technical research in every aspect of transportation.

In 1920, what we now call TRB was founded as the National Advisory Board on Highway Research. In 1925 it was renamed the Highway Research Board (HRB), and was designated the TRB in 1974, to reflect the growing multimodal nature of state and federal transportation agencies and funding.

A continuing theme of U.S. road building is that the United States lags European technology and practice. Indeed, European roadbuilding practice dates to Roman times and France’s road research institution was founded by Napoleon. But at the time of the U.S. Good Roads Movement at the end of the 19th century, virtually no improved roads linked any U.S. city, and Americans relied on the rails to travel across country. And little research was being undertaken as to how to make roads last longer and hold up to traffic.

One shock of the decade of the Teens was that the improved roads constructed as a result of the Good Roads Movement were disintegrating before the eyes of those who built them.

At the 1919 conference of the Division of Engineering of the National Research Council, U.S. Bureau of Public Roads Chief Thomas H. MacDonald said: “Let there be a recognition upon the part of both federal and state legislative bodies that expenditure of a reasonable proportion of these funds for highway research and experimental studies will be the best investment that can possibly be made.”

Later that year, Anson Marston, dean of the Engineering Department at Iowa State College, laid out a plan for a national highway research program at the fifth annual meeting of the American Association of State Highway Officials. ARTBA’s board of directors was invited to actively participate in creation of the HRB at that time, and lent its support. For nearly 50 years following, ARTBA was a member of the HRB and participated in setting HRB policy.

HRB’s first convocation in 1922 brought only 30 participants. But that number had grown to 273 by 1924, and at TRB’s 80th annual meeting this year, over 7,000 delegates heard over 2,000 technical papers or presentations.

the viability of the federal/state aid model, a bill was introduced to Congress in 1919 that would establish a Federal Highway Commission that would oversee a federally run trunk road system.

The inability of states to get roads built in this period did not inspire confidence in the 1916 model. Less than \$500,000 of funds authorized by the 1916 act had been paid out to the states by the time World War I ended in 1918.

“For a variety of reasons, the states were slow getting started on their 1919 programs,” FHWA said. Many states did not have plans ready and in some states matching funds weren’t available until late in the season. And there was a shortage of trained engineers, contractors and construction equipment.

Even larger state programs were rolled out in 1920, but these too were stymied by shortages, including cement and



Charles M. Upham, ARTBA’s first full-time employed executive, served as association president for twenty years (1929-1949).

When he contributed those words to the national dialogue, Upham was just beginning his distinguished career with ARTBA, later serving as business manager and association president for 20 years.

But ARTBA records show not all members saw the future role of trucks in cross-country transport. “The truck is limited to short haul business,” said S.E. Bradt, former Illinois superintendent of highways, at ARTBA’s annual meeting in Chicago in 1923. “This is chiefly the work it is doing today and is probably the field to which it will be economically confined in the future, leaving the long-haul business to the railroads.”

Federal-State Model Undermined

Then as now, federal-aid mileage—as abetted by the 1916 act—did not keep pace with the growth in vehicles. By 1919, only 13 miles of federal-aid highway had been completed. Amid political furor over

“During the past year [1921] the activities of the association have been increased and the scope of its work has been materially broadened. There is no question but what this organization can be made the most potent influence in highway development in this country, if not in the world. For nineteen years it has ‘fought the fight’ against heavy odds and survives today as the pioneer organization whose object was the building of Federal roads in this country. Other organizations have come and gone, but the American Road Builders Association still endures.”

-- Lt. Col. H.L. Bowlby, chief, War Materials Division, U.S. Bureau of Public Roads, and ARTBA chairman

ARTBA TIMELINE

ARTBA launches member magazine.

Annual meeting held in Chicago. More than 6,000 people attend. Cost to attend convention banquet is \$3.00.

1924

Ethel S. Birchland appointed association president, serves 1924-28.

J.H. Cranford, president, Cranford Paving Co., is the first contractor elected ARTBA chairman.

Business manager for ARTBA, Charles M. Upham, Delaware state highway engineer, becomes executive director of the Highway Research Board, predecessor of the Transportation Research Board, through 1928.

1925

Pennsylvania acting secretary for highways, William H. Connell, elected ARTBA chairman.

1926

Henry G. Shirley, Virginia state highway commissioner, elected ARTBA chairman.

rail cars. “When the construction season ended in December 1920, not more than one-quarter of the anticipated program had been realized,” FHWA wrote.

Like the contractors, states had trouble coping with the boost in road spending. “They [the public] are expecting the States which had no highway organizations

three or even two years ago, to create an organization full sprung from the earth, to build instantly hundreds of miles of modern roads,” said American Association of State Highway Officials (AASHO, later AASHTO) President A.R. Hirst in 1919, FHWA reported. “In older States in the highway game,” he said, “they are asking us to double, triple or quadruple our annual output of roads.”

But the industry was responding. The manufacture of road machinery and supply of building materials boomed, as evidenced by the hugely successful display of construction equipment each year—the ‘Road Show’—held in conjunction with ARTBA’s annual meeting.

Still, a growing political body was convinced that states were incapable of administering a grand, federal-aid pro-

“The first [ARTBA] exhibit of road machinery and equipment was at the Columbus meeting in 1909 ... the size of the exhibit has been increasing each year ... The exhibit of road machinery, equipment and materials at the [1926 Road Show] excels any exhibit of the kind ever held in the world, and it is not only interesting but instructive ... Everyone attending this [ARTBA] convention should make it his business to spend at least several hours at the Coliseum.”

-- William H. Connell, ARTBA chairman, and acting secretary, Pennsylvania Department of Highways (1926)

gram, and that only a National Commission could successfully build and operate trunk highways in the United States. It didn’t help that changing expectations exposed flaws in the 1916 act, principally that it essentially was an act aimed at getting farmers out of the mud, not establishing state highway systems.

MacDonald Reinforces Federal-State Model

To the rescue came the seminal figure in American roadbuilding history, the man still referred to at FHWA as “The Chief,” Thomas H. MacDonald (1881-1957).

In 1919, MacDonald left his post as director of the Iowa Highway Commission—where he helped Iowa become one of the first states to develop a state highway plan—to fill the vacancy left by the death of Logan Waller Page at the U.S. Bureau of Public Roads (BPR), predecessor of FHWA.

He would head the BPR through seven presidential administrations, until 1953. But first he would become the prime mover for the Federal Highway Act of 1921, providing leadership on the expiration of the 1916 act.

MacDonald—an AASHTO member before coming to Washington—forged a power base consisting of road builders and owners supporting elements of the 1916 act, such as AASHTO and ARTBA; but went beyond to embrace proponents of a national road commission, like the American Automobile Association.

ARTBA’s work in supporting the successful bill was such that



ARTBA Conventions and Road Shows were held in Chicago from 1921 to 1927. This photo is from a 1925 exhibit.

ARTBA’s ‘Road Show’ Comes of Age in 1920s

The ‘Road Show’—the exposition of construction equipment and machinery first begun under the association’s auspices at ARTBA’s annual meeting in 1909 in Columbus, Ohio—came of age in the Roaring Twenties.

At ARTBA’s annual meeting in Indianapolis in 1910, some 1,500 delegates visited only 45 exhibitors. But bolstered by the stabilization of the federal-aid road program in 1921, rising federal and state revenues for road construction and a growing number of manufacturers serving the industry, ARTBA’s Road Show became a major attraction for the road contractors and state and municipal road agency delegates attending ARTBA’s annual meeting.

From 1921 through 1927, ARTBA’s Road Shows were held in Chicago. In January 1926, the 17th Road Show took place in Chicago’s famous Coliseum. The exhibitors numbered 295, compared with 287 the previous year, 232 in 1924, and 213 in 1923. Products included a wide range of both heavy and light equipment, and various construction materials.

Since the late Teens, the Road Show had been bolstered by the participation of a manufacturers’ group, the Highway Industries Association (HIA), the forerunner of today’s Construction Industry Manufacturers Association (CIMA). By 1927, the cooperation had blossomed to the point that HIA members also formed and constituted the Manufacturers’ Division of ARTBA.

Total registration at the 1926 Road Show of about 15,000 included highway engineers and officials, contractors and manufacturer representatives, up substantially from 6,000 in 1923. The 1926 show was administered by ARTBA’s long-time business director, Charles M. Upham.

Through subsequent decades the Road Show was an integral part of ARTBA conventions. But at the beginning of the Interstate Era, in 1957, the Road Show was administered for the first time by CIMA. Thus ARTBA’s Road Show evolved into what we now know as CONEXPO/CON-AGG.

ARTBA TIMELINE

1927

Charles Babcock, Minnesota Highway Commissioner, named ARTBA chairman.

ARTBA’s board authorizes seven divisions: Engineers and Officials, County Highway Officials, City Officials, Manufacturers, Highway Contractors, Pan-American, and Membership-at-Large.

1928

ARTBA headquarters moves from New York City to the Washington, D.C., National Press Club Building.

ARTBA annual meeting is held in Cleveland, Ohio.

R. Keith Compton, Richmond, Va., director of public works, elected ARTBA chairman.

City Officials and Pan-American Divisions established.

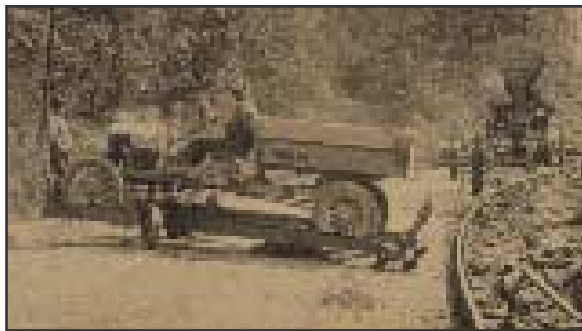
1929

Charles M. Upham appointed association president (1929-49).

In another first, New Jersey consulting civil engineer Frederick Reimer is elected ARTBA chairman.

Sen. Lawrence Phipps of Colorado—a co-author of the 1921 act—commended ARTBA afterwards in saying “In the matter of sane and comprehensive highway construction, our interests and wishes are identical.”

To satisfy the latter camp, MacDonald fought for a 1921 bill that would compel a state to designate a state highway system, a portion of which had to be “interstate in character.” The act answered the call for a national commission by concentrating funds on a limited, interconnected system and by requiring minimum engineering standards for those roads, such as a minimum 18-foot width. It passed Congress November 1921 and results were seen immediately.



Paving U.S. 40, near Blackwater Bottoms, Mo., in 1925 was accomplished by Model T batch trucks.

“Fiscal year 1922 was a banner year in which nearly 14,000 miles of the Federal-aid system were improved,” FHWA observed. “By July 1925, 46,486 miles, or over one-quarter of the system, had been brought up to a reasonably travelable standard.” This was abetted by Congress’ authorizing appropriations of \$50 million in 1923, \$65 million in 1924 and \$75 million in 1925.

ARTBA Challenged for Future

By 1927, over a billion dollars [\$9.5 billion in 2000] was being spent by all governments on road construction alone, said ARTBA Chairman Henry G. Shirley, and chairman of the Virginia State Highway Commission. Another billion was being spent on maintenance. This boom in construction meant new challenges for ARTBA and prospects for growth.

“The industry you are engaged in represents an annual expenditure of approximately two billion dollars a year, with

“[Thomas H. MacDonald] snowed opponents with facts and figures while remaining apolitical ... His credibility with Congress was enormous. Typically, MacDonald spewed forth a barrage of charts, graphs and tables to accompany his customary blizzard of facts, far beyond the capacity of any member to absorb but which nevertheless left the subtle, subliminal message: ‘This man knows what he’s talking about.’”

-- Stephen B. Goddard in *“Getting There: The Epic Struggle Between Road and Rail in the American Century”* (1994)

every prospect of increasing rather than decreasing,” Shirley said at ARTBA’s 1927 convention in Chicago. “It is most important that the activities of the American Road Builders Association be enlarged to help solve the many problems that will be imposed upon the road building of the country to properly expend this large sum.”

Then as now, he emphasized ARTBA’s unique role in bringing all elements of the roadbuilding community to the table for the benefit of the industry.

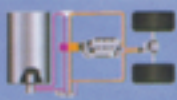
“[Improvements have] been brought about very largely by the close coopera-

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In 1924, J.H. Cranford was the first contractor elected ARTBA chairman.

tion between the highway engineer, the contractor, the manufacturer of materials and the builder of equipment and machinery," the Virginia roads commissioner said in 1926. "It is here that the American

Road Builders Association has played such an important part in bringing together the various elements that go to make up the industry."

But concord was not enough, he said. ARTBA had to grow or lose its position. "We must as a body expand as this great road movement has," Shirley said, "and the American Road Builders Association must undertake in a conservative way those things that must be done in this great industry, or else some other organization whose membership is not so well qualified as the American Road Builders Association will take it up and carry it on."

This decade of unimagined abundance ended in 1929, with the Great Depres-

sion following the stock market crash in October of that year. A slowdown in road construction already had begun in 1929, as completed federal-aid mileage fell to 9,386 miles, down from 19,174 miles in 1928.

But as the depression deepened, road revenues remained stable, and massive diversion of road taxes to fund relief programs and fill other tax shortfalls created new challenges for ARTBA and other champions of road building. And the industry was on the verge of a new era of public works spending, with millions for road, tunnel and bridge work yet to come. **TB**

**NEXT MONTH:
Public Works Drives Transportation
Construction (1930-1939)**

About the Author

Tom Kuennen is Principal, The Expressways Publishing Project (EPP), located in Wheeling, Illinois. He has more than 20 years writing experience on transportation construction issues. You can learn more at EPP's website, www.expresswayonline.com.

100th Anniversary Trivia..

1. What U.S. President was once a member of ARBA?

- A) Dwight Eisenhower
- B) Harry S. Truman
- C) Herbert Hoover
- D) Calvin Coolidge

2. What year was the Manufacturers Division established?

- A) 1925
- B) 1927
- C) 1929
- D) 1931

3. What year were the Contractor & Education Divisions established?

- A) 1936
- B) 1941
- C) 1946
- D) 1951

Answers: B, B, A

