Sister Caitriona was Joe Hart's Cousin -

She did this Good Roads movement for Joe -

No problem with ownership

THE LEAGUE OF AMERICAN WHEELMEN AND THE GOOD ROADS MOVEMENT

1880 - 1912

WITH PARTICULAR EMPHASIS ON THE TRANS-MISSISSIPPI WEST

Sister Caitriona Quinn
History 453
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PREFACE

The bicycle, often considered a recreational vehicle, and perhaps an insignificant vehicle for transportation, has never risen to the esteemed reputation of the train or the automobile. It would seem that, with the invention of the latter, a new chapter in history was written to follow the period entitled "Railroads. " The bicycle wedged between, for a slight period of twenty years had an important contribution to make to the railroads of the past as well as to the auto owners of the "future."

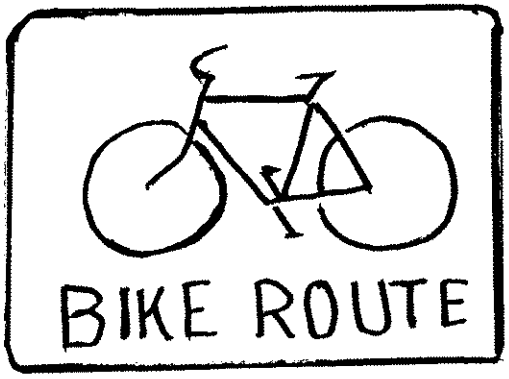
The co-ordinated efforts of the bicyclers took on new meaning when organized into the League of American Wheelmen. With this League the necessary groundwork was planned and executed for a system of road administration capable of producing better transportation facilities for the Railroads, and of meeting the needs of the automobile age.

Much credit is due the L.A.W. for its work in the States toward a general reform which came about on the local level. It was the League which first set in motion and encouraged the movement for good roads. The League arrived on the scene, took up the challenge of the campaign wholeheartedly, made numerous contributions to the "cause", and then departed almost as quickly as it began.

At the present time the League is trying to revitalize with one of its main headquarters in Chicago. While doing research on the League it was interesting to note that even though League members are pressed with heavy traffic and many similar problems today, yet they are reaping the rewards of their work in the 1880's and 1890's. Today the Federal Government has taken an interest in the new bicycling craze. In July 1966

the Bureau of Outdoor Recreation granted over $367,000 to twelve urban areas to get trails started. Money for this project comes from the Land and Water Conservation Fund Act, passed by Congress in 1966. Also, the Bureau of Public Roads, Department of Transportation, has authorized a Bike Route sign and a Bicycle Crossing sign for use on bikeways and bike paths and trails. The signs were approved by the National Joint Committee on Uniform Traffic Control Devices in 1968.

American Road Builder Feb, 1968
James T. Jenkins "A Sign of the Times," 17.



There are now federal plans for nearly 200,000 miles of bike path development. We have certainly come a long way from the early struggle of the League of American Wheelmen and the Good Roads Movement. Yet it is a period that cannot be deleted from the pages of progress.

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PART I FORMATION OF THE LEAGUE OF AMERICAN WHEELMEN AND AGITATION FOR A GOOD ROADS MOVEMENT

Little or nothing was heard of the "modern" bicycle in American history until 1877. Frank W. Weston, called the "father of American bicycling", returned to the United States from England in 1877, fascinated with the possibilities of the vehicle. Suggesting the commercial potentiality of the bicycle to Dr. Harold Williams, Sidney Heath, and Arthur Cunningham, Weston later entered with them into the bicycle trade.[1] In November, 1877, Cunningham, Heath & Company of Boston became American importers of bicycles.[2]

During the summer of the same year, John Harrington, an English bicycle enthusiast, brought with him a bicycle made for Colonel Albert A. Pope whom he was visiting.[3] Pope, a Bostonian merchant and a former Civil War officer, learned to ride and decided to order and receive eight bicycles from an English firm in January, 1878.[4] Pope quickly bought up bicycle patents and in a short time brought the attention of the American public to the bicycle. Rightly it may be said that he gave the first real impetus to a movement that would reach its peak in the 1890's,[5]

Dropping copies of his newly founded American Bicycling Journal onto train seats and in other public places, Weston soon gathered other interested men to his cause.[6] Feeling a need for this unifying esprit de corps among bicyclists, Weston interviewed men of social standing

to establish an organization for bicycle riders. On February 11, 1878 a meeting of fourteen interested men took place in Albert Pope's office, and the Boston Bicycle Club, the first of its kind in the United States, was established.[7] There were about five hundred bicycles in Boston by mid-1879, and the Boston club numbered thirty-five members.[8]

No sooner were there three or four wheelmen in a vicinity than a club was formed.[9] By the middle of 1879 there were forty-nine bicycle clubs in the United States, modeled after the original Boston club, totaling 859 members, and stretching westward to St. Louis, Missouri.[10]

One of the most probable outcomes of these clubs was to meet for racing. The first meet worthy of the name brought wheelmen from different parts of the country to Walnut Avenue in Boston on the morning of September 11, 1879 for the "Wheel around the Hub." That excursion, originated, organized, and carried out by Charles E. Pratt, Esq., another original Boston Club member, probably did more to give an impulse to bicycling in America than any other event up to that time.[11]

The desire of Frank Weston and Charles Pratt for a national bicycle organization rallied a bicycle meet at Newport, Rhode Island on May 29, 1880. Previous to the parade, a meeting called by Pratt was held in the skating rink.[12] It was at this meeting that the League of American Wheelmen came into being, in response to this new and rapidly emerging cycling craze.[13] Charles E. Pratt was elected president and representatives from twenty-one states were appointed. The constitution read: "...to promote the general interests of cycling; to ascertain, defend,

and protect the rights of Wheelmen; to facilitate touring, and to secure improvement in the condition of the public roads and highways." Bicycling World was made the official organ.[14]

It was later complained that the bicycle was selfish, unsociable, and isolating in its tendency, but the history of the sport proved this to be untrue. From the beginning of bicycling the Wheelmen showed a disposition to get together, creating a fraternal feeling not seen in many other clubs.[15] In six and one half years the number of bicycles in the United States had risen from three to thirty thousand.[16]

Many reasons were given for believing the West would lead the United States in bicycles. Westerners were said to be more energetic and enthusiastic, the country more level, the population less crowded, and living conditions less expensive than the East.[17] The bicycle in the West provided such easy access to the great outdoors that by 1883 Salt lake City, Utah, had a flourishing club of twenty members, the Minneapolis club had sixteen members, the St. Paul Club had eighteen members[18] and the Missouri Bicycle Club at St. Louis was making plans for a $15,000 club house.[19] Even The Wheelmen, a journal founded by Colonel Albert Pope in October, 1882 and published by the League,was at this time noting contributions from League men as far west as Wyoming.[20]

The next meet, after the unforgettable Newport rally, was held in Boston on May 30, 1881 and twenty thousand spectators viewed the eight hundred Wheelmen parading the streets. It was said that the spectators "evinced

their interest and enthusiasm by continuous applause."[21]

As a token of the "continental" character of the League, Chicago was chosen for the meet the following year. Western State Divisions included Iowa, Minnesota, Missouri and California. The Wheelman was confronted in Chicago with the same road problem he had experienced in his home state. In Parsons' Account we read:

> The absence of some of the wooden blocks at frequent intervals leaving holes reaching down to Chicago's original mud, is rather astonishing to the unsuspecting man whose wheel suddenly drops into one of these vacant places. Frequent and frantic attempts to avoid these holes became monotonous and many a timid Wheelman promised himself during this ride that he would not take part in the parade next day.[22]

The League's national structure was composed mainly of committees, the principal ones being those of transportation, racing, and touring. To be eligible for League membership, the candidate had to be eighteen years old, and have his name published in the official organ for two weeks to give opportunity for criticism. Having passed these tests, two dollars was the entering permit.[23] Almost immediately upon its inception, the League of American Wheelmen began a Roads Improvement Department, with each State Division appointing a good roads committee.[24] The League urged discreet conduct when on the road and thorough courtesy to all pedestrians, riders and drivers.[25]

Between 1883 and 1885, the League organship shifted from the Bicycling World to The Wheel and the Amateur Athlete. In 1885, the League published its own organ, the Bulletin, and incorporated it as part of the Bicycling World.[26] The Bulletin remarked quite appropriately,

"It is one of the striking facts of bicycling experience, that the moment any person becomes a Wheelman, he is instantly and ardently convinced of the necessity of improved highways." Its national journal The Wheelman launched a sustained campaign for road improvement. By far the greatest number of affiliated cycling clubs were in the East, but by 1887 Wheelmen and subscribers to the Journal were also found within almost every state and territory west of the Mississippi River.[27]

Bicycles were regarded with suspicion at first and frequently were forbidden on streets and parkways. Enthusiastic Wheelmen were not to be stopped. They were particularly proud of the "Liberty Bill", passed in 1887, which gave New York cyclists the right to ride through Central Park and on every city street.[28]

The League of American Wheelmen or L.A.W. as it was called succeeded mightily in educating the American public to the advantages of good roads. At the annual national rallies Wheelmen never failed to make statements about the miserable conditions of the roads, on the necessity for remedying the situation, and on the profits that would result from road improvement.[29]

Individual members wrote letters and articles for the press and appealed directly to public officials throughout the nation. In most instances Farm journals were willing to publish without making any changes, articles sent in to them about good roads.[30]

In 1889 the L.A.W. appointed the first committee on improvement of highways, quickly exhausted twenty thousand copies of a handbook on roadmaking, and in 1891 published The Gospel of Good Roads by Isaac Potter, "treating of the economic worth of high-class roads, their value to the farmer and the merchant and the duty of the State in this making and repair of the main wagon roads.[31]

Good Roads magazine, founded by the Executive Committee of the L.A.W. in January of 1892, was devoted to pushing the roads improvement reform with more extended facilities and upon a broader basis than had ever before been attempted in the United States. It was the first publication in the world devoted strictly to the cause of road improvement. The creed, politics, purpose and declaration of the principles of this publication could be declared by the two words of its title, Good Roads.[32]

Local clubs did much to spread the word about better roads. California's League motto was, "We want good roads in California." Local clubs promoted Good Roads' Days, established as another means of propagandizing.[33]

Good Roads wondered why it was that in the line of public improvement and especially those improvements which affect the agricultural population, the United States Government had been so slow to avail itself of the advanced ideas and methods which seemed to be adopted and taken up so quickly by foreign countries when once the value of these improvements had been established. They received some enlighten-

ment on the question when they examined the report of Secretary Rusk, of the Department of Agriculture for the year 1890. In this report it appeared that the Department of Agriculture was practically without any representation abroad, and that the march of improvements, which in other departments had kept pace with the genius of France and England, had been crippled and neglected in that branch of the public service especially designed to serve the interests of the farmer.[34] Even in the year 1888 the report of the Department of Agriculture contained: "While our railway system has become the most perfect in the world, the common roads of the United States have been neglected, and are inferior to those of any other civilized country in the world."[35]

Canada, too, was used in a comparison of roads. Canada was said to be 150 years ahead of the United States in the matter of roads. The Wheelman reported:

> Our soil cannot differ materially from Canadian soil. We have railroads, telegraphs, steamships, telephones, etc., but when we are compelled to use a road it is the same one our forefathers used one hundred years ago. We have bicycles as perfect in construction and adaptability as we can make them, and the problem that now confronts the bicycler is Roads.[36]

France, England, and Canada were quite interested in the Good Roads magazine, as the January issue reported that the illustrated pamphlets published by the Roads Improvement Department of the L.A.W. during the previous year had attracted the attention of foreign readers and applications had been received from proprietors of English and French publications

for permission to reproduce the plates and printed matter in columns.[37]

Much was done to convince the farmer of the necessity of better roads, as the farmer was almost completely responsible for the maintenance and construction of country roads. Bates told them: "There is no public improvement which pays farmers, rural villages, and all country towns a percentage of profit as first-class roads."[38]

In many parts of the West, thirty miles a day was good average speed for a week's journey by a first-rate horse with a light traveling buggy or wagon - or 180 miles in a week with common roads. On the other hand, with first class macadam or gravel roads, nearly double these distances were travelled with more than double loads and less fatigue and wear and tear.[39] Wheelmen argued that good roads would enable farmers to haul their produce to rail lines at minimal cost and effort. The first demand for better roads came when vacant lands could not be found close to waterways and was ended by an era of Railroad construction. Now vacant lands could not be found close to Railroad stations, so again there was need and demand.[40] Pope declared, "There is no class in the community to whom the necessity of better roads is more apparent than the presidents of the great interior transportation lines."[41]

The Wheelman's approach to farmers in behalf of good roads was double-edged, marked, on the one hand, by condemnation and even ridicule, and on the other hand by an appeal to reason.[42] The New York Times reported that, with all due respect to the farmer, he did not know how to make roads, and that he might do well to "put a few dollars into the

relief of galled and broken-down horses that have lost their breath on our miserable highways."[43]

In an appeal to reason they argued that, with good roads, the average rapidity of travel with horses would increase as much heavier loads could be hauled. Transportation would consume less of the farmer's labor and profits. The cost of living in villages and cities would diminish and be less liable to needless fluctuation. Farms would increase in value and their nearness to market would not be so essential as it was at that time. "To these reforms the rapidly growing army of Wheelmen are and will be the most enthusiastic and personally interested contributors," urged Bates, in The Wheelman.[44]

Many farmers, reported the Commissioner of Public Roads in 1895, when asked to favor a project for the improvement of roads, put it off as a luxury "until better times." Yet it was pointed out that roads would be a good investment, comparable to raising higher grade stock.[45]

There was also a social side involved to this issue. Improved roads destroyed the isolation that was an objective to farm life and promoted sociability among farmers, exchanging new ideas. "Man is a social animal," wrote the Commissioner, "and as we mend our ways and give our city cousins the opportunity to come among us and see us they would rejoice at the evidence of our enterprise and perhaps become one of us."[46]

Hon. E. H. Thayer of Iowa wrote in Good Roads that it was the farmer's duty to make conditions such that "the boys and girls could easily, cheaply and speedily run from the town to the country, and from the

country to the town. They would in this way be able to enjoy all the comforts, pleasures and advantages of both city and country life and thus stay on the farm."[47]

Eastern farmers were prodded on by the reminder that, although situated in the midst of the greatest population, her farm lands were decreasing because the production of western farms was cheaper in lands and in transportation.[48] Regarding the latter, though, most roads were so bad that it cost farmers as much to get their goods to a railway station (usually about ten miles away) as to pay for four hundred miles of shipment by rail. The railroads were in such bad shape that hundreds of thousands of freight cars were empty for weeks. Then when the weather improved, they were jammed with more freight than they could carry. It remained for the riders of another kind of vehicle to encourage farmers and railways to look at the situation with hopes for possible solutions.[49]

Good Roads reported in March, 1892, that Farmers during that year had lost six cents on the bushel on wheat marketed since January 1 because the wheat could not be taken over existing roads before Christmas. Yet the farmer balked at a road tax that would cost him one half of his wheat loss.[50] However the State Report of 1896 stated that the fear of increased taxation that so generally prevailed among farmers was rapidly giving way to an intense desire that they would be sooner benefited than the limited appropriation which the State allowed and that better roads would allow them to share in cheaper transportation.[51]

That roads were much discussed among the farmers is seen in Hon. Mortimer Whitehead's statement from the National Grange:

> Roads, What a subject: How much we farmers have to do with them. Like the poor, they are always with us. When a neighbor drops in, it is first, 'How do you do?' And next, 'How's the roads?' At this season of they year they are more talked about than the weather.[52]

At an address delivered at the Southern Immigration and Industrial Congress in Augusta, Georgia, it was reported that the money value of improved highways was alone sufficient to justify the cost of their construction and that this fact would be "confidently claimed or readily admitted by many farmers, wuestioned by others and denied by not a few." This same report noted that there were about one-fourth of the farmers who viewed with apprehension the agitation in favor of improved highways, yet the annual loss per acre was over seventy-six cents. Thus in five years the losses would amount to the construction cost of two miles of road. Some objected that improved roads would not increase the productive capacity of the land, while the enhanced commercial value would increase taxes. Yet it was bluntly asked:

> Would not our objector, after enjoying the benefits of good roads, be very willing to give the extra five dollars it would cost him per year, if necessary. Would he keep the money and go back to the thraldom of mud roads? If so, he has the option of selling his farm at an advance, according to the average estimates of his brother farmers, that will more than doubly reimburse him for his expenditures on highway improvement, and he can then remove to some native wild whose quiet waters have not been 'troubled' by the Spirit of Progress.[53]

More encouraging was the Nebraska State Journal in its praise of the systematic crusade inaugurated by the League of American Wheelmen

for better roads, which "promised to yield important results." The arguments put forth by the League sounded "complete and convincing." The Journal commented further that the American farmer and business man could see at a glance that good roads were no more costly than bad ones and that it would pay to inaugurate a system of good roads in every State of the Union. "The League is doing a good work for the farmer, and deserves the fullest measure of success in its present campaign.[54]

The Wheelman, forced to ride the muddy roads and streets, and oppressed by un-uniform legislation, became, in the 1890's forcefully and certainly more fully aware of the total mess of roadway transportation. Not only did he see that the bicycle was suffering, but the carriage and wagon were also. His own needs made him very much aware of not only the farmer's needs but all classes of humanity dependent on the road. Chief Consul Choat of the L.A.W. Minnesota Division remarked accurately that the "history of the United States cannot be written without mentioning the 'Good Roads Crusade' of the League," and that long after the organization had ceased to exist, "a national system of building and repairing wagon roads would constitute an everlasting reminder and a continual song of praise of the League of American Wheelmen."[55]

Isaac B. Potter, onetime Editor of Good Roads, and Chairman of the Improvement Bureau of the L.A.W.,was of the opinion that America had, in many respects, an even greater need of hard surfaced roads than had

France or England because our rainfall was considerably heavier than theirs, and our dirt roads for weeks at a time were half as deep as they were wide.[56]

The League was of the opinion that hope for better roads lay not with the States but with the long somnolent federal government. Following the Civil War, the activities of the federal government were restricted to the construction of roads in the territories and military roads between forts. As the frontiers disappeared, these activities diminished, until the federal government abandoned both direct and indirect participation in road work. Thus this period was marked by this drastic regression in road administration with the State governments giving little or no attention to the subject and relying wholly on the local revenues, labor, and initiative to supply the States with a road system. As an expected result of such a system a great many roads were laid out, but very little thought was directed toward the actual improvement of these roads.[57]

The reason for this lapse of interest by the national government has never been definitely determined, but Winther suggests that "from the viewpoint of the dominant agricultural elements, steamboats and railroads met the basic transportation requirements in moving farm produce to major markets, "and although the farmer was aware of conditions, he was unwilling to pay the price.[58]

The farmers controlled the county and township tax funds. This type of administration had never proven satisfactory and was a complete

failure in the matter of intercounty roads. Yet this continued in all of the States up to 1890. Simon remarks that because "there was virtually no co-operation between counties for the planning of inter-county highway systems, it would not be uncommon to find county roads leading to nowhere."[59]

Road taxation was corveetype, calling for payment of poll taxes in the form of personal labor on road projects. Only in Kansas had the labor poll tax system worked satisfactorily. In the Western States the work was directed by a county road supervisor, who, in the opinion of one railroad official, "has about as little idea of how to make a good road as does a Sioux Indian."[60] Each man's labor counted as a day, a boy counted as a half a day, a team counted two days, a plough or scraper counted as one, and in some instances, hoe, pick and shovel received credit for a day's labor each. There was some truth to the statement that "this was merely playing at making a road," or that this was "no better than road building in the time of Moses."[61]

As a general rule state laws tried to protect the property of the farmers, the farmers maintaining ownership of the land on which county roads were built. Minnesota and Kansas were examples of the fact that farmers kept the rights to use grass, stones, gravel and sand within the so-called rights-of-way. Thus we may not be surprised to read most uncomplimentary views of travelers and others interested in road improvement prior to 1890 about western county roads. The accounts of these travelers seem to suggest that only a small amount of work had been done

on the roads to make them barely passable.[62]

From the East a citizen of Connecticut moaned: "What we complain of under the present condition of affairs is that all four of the wheels of our wagons are often running on different grades."[63] "A Carriage as much as possible ought to stand upright in traveling," came the view of one Westerner when discussing the miserable road conditions of the country.[64]

Good Roads tried to foster a drive to change tax laws, placing the burden more evenly on every citizen rather than on the farmers alone. A plea was sent out for plans and a promise to devote as much space as possible to the subject of how the money should be raised, and whether the United States should take part in road building.[65] Some seemed to think that in order to secure good roads in the country, it was chiefly necessary to change the highway laws so as to require all highway taxes to be paid in money, rather than to "work out" taxes. "Then the well known shrewdness of the farmers in dealing with public money will induce them to watch closely after their interests, and see that they get the worth of their money in good roads."[66]

In the cities the situation was different. The systems there resolved into three major divisions: 1) The whole city had created one highway district; all highway expenditures being made at the expense of the whole city, 2) Streets were improved at the expense of the property owners on the lines of such streets, adjacent thereto, 3) The first pavement was laid at the expense of the property-owners on each street, but all subsequent repavements, repairs, etc., were made at the expense of the whole city. Many disagreed with these three methods because

political powers were given to some areas and they were apt to become extravagant; the property owners were slow to make improvements and selected cheap pavement for immediate results or property-owners would put down cheap roads at first, knowing if it was worn out the State had to pay for repairs. This latter was the "curse" of many Western cities.[67]

Railroads were constantly being prodded into road improvement. Potter noted that "if one were to travel along the route of any of the great trunk lines belonging to the American railroad system, he could find that the local freight business, immense as it may appear in the aggregate, was a very reliable barometer in the determination of the rural weather and a most exact indication of the condition of the country roads."[68] Potter also thought that railroad proprietors did not thoroughly understand that highways were in immediate need of improvements and development and that they should be constructed and repaired under a thoroughly competent system and by competent persons. However arguments that bad roads kept back valuable agricultural freight from the railroads and prevented the growth of suburban communities, through which the railroad would run, were used to gradually gather railroad support of the Good Roads Movement.[69]

Good Roads for January, 1894, had this notice, directed to the Chief Consul of the League of American Wheelmen in each State:

> Now is the season when you will make arrangements for division expenses for the coming year. Do not forget the work for improved roads. Its agitation in your State brings your division into prominence, attracts new members, increases the number of Wheelmen, adds force to the movement, and brings us a little nearer to ultimate success. Some features of the

> work may be discouraging, but, compared with the work of seven or eight years ago, our efforts today are bristling all over with the most gratifying success. A series of small handbooks will be ready for use by State divisions at an early day. Meanwhile, see that a fund for good roads is not left out in your annual appropriation.[70]

Thus the League was by no means limited in its campaign to the farmers or the country. The city and communities of denser population and Railroads were of prime importance. It was noted that in 1896, four years previous, there had been great objection to the expenditure of public funds for roads, particularly from the city. Now they no longer heard opposition from this source. Since all the principal thoroughfares near the cities in a few states had been improved, the more distant points had caught the contagion, and some of the more remote townships wanted an improved road.[71]

Good roads were said to decrease taxation, decrease living expenses, increase property values, increase railroad business, promote prosperity, and promote civilization, while bad roads were said to cause stringency in the money market, hard times, dull times, unemployed labor, corners in meat and breadstuff, fluctuating prices, and finally spasmodic speculation in stocks.[72] The value of comfort, convenience, safety and healthfulness to a community as affected by the condition of their roads and streets were stressed and could not be readily stated in figures. They were said to have a money value, both in their effect upon the general life and business of the community and in the attraction presented to outside business enterprises or home-seekers. Even the effect of a pavement upon the health of the residents of a locality was cited to be affected by the tendency of the materials composing it to decay, by its permeability, and by its degree of freedom from noise and dust.[73]

Mud was the King and ruled the land. He was the great conqueror, worse than an invading army, was the report circulated.[74] Mud Baths were advertised:

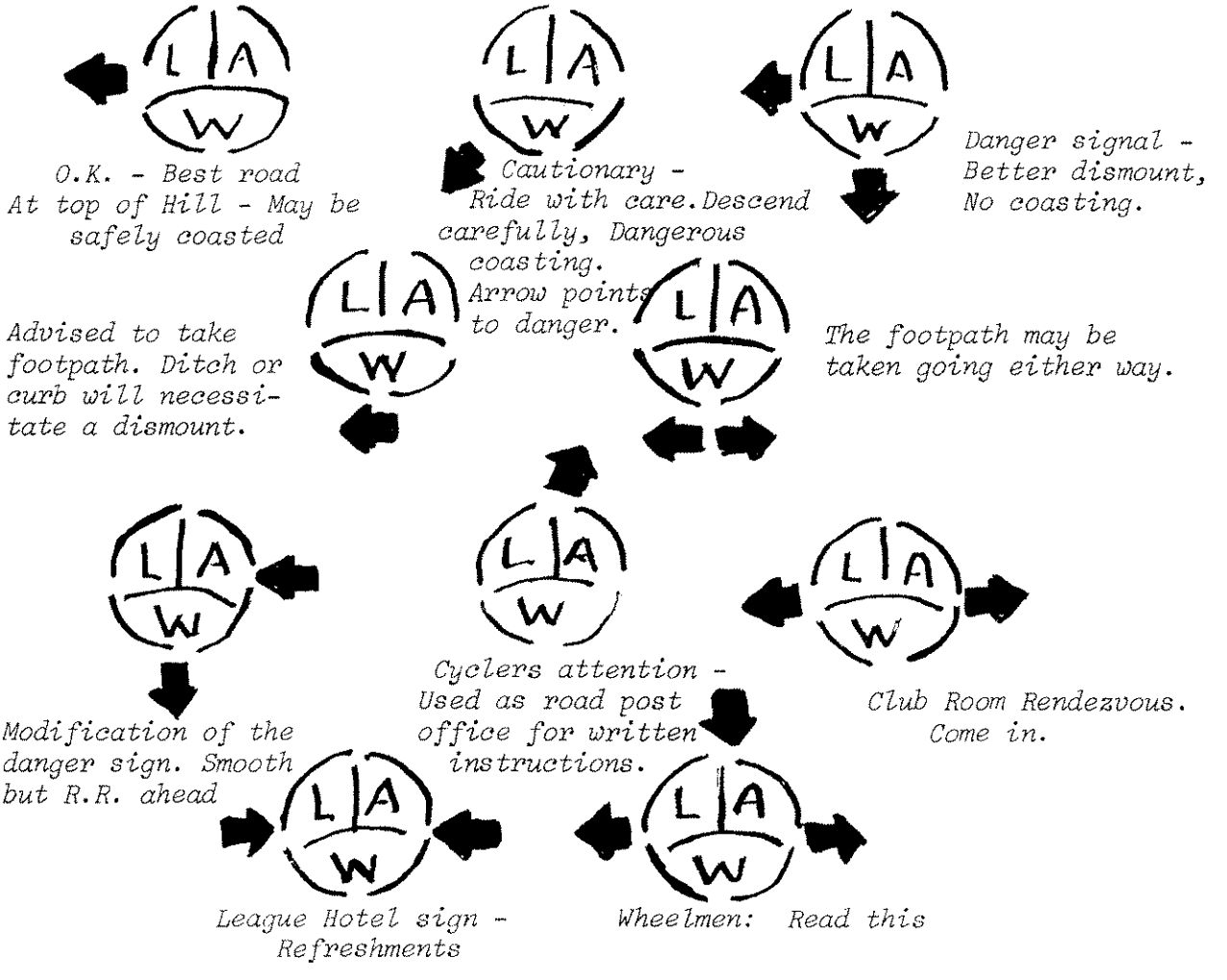
> People who are thinking of going to Arkansas to try mud baths for medicinal treatment will find they can save money and get all the mud baths they want by going in the street alongside of my house, at the corner of Front Street and the Scuffletown road. Call early and avoid the rush![75]

Isaac Potter had said, "A chain is no stronger than its weakest link and a road is little better than its deepest mud hole."[76]

First class roads, leading from a large city out into the country were said to tend strongly to carry city capital and city homes out into the country, thus greatly enhancing the value of property within a radius of fifteen or twenty miles from the city. In a city thus where all roads led out into the country and were sandy, muddy, or stony, or bad to travel over at any season of the year, it was said that the wealth of that city remained in the city and dwelt in city homes. City dwellers were urged to make first-class roads out into the country and immediately along such roads the wealth of the city would begin to be built. First class roads linking a large city with the neighboring country were to be the best paying investments to which public moneys could possibly be directed. Like causes were said to produce like results, any and everywhere else.[77]

Even tramps, perhaps more numerous now due to the depression of 1893, were considered in the movement; it being suggested that all tramps be appointed road inspectors and be paid out of the fines which would be collected from every township where poor roads were found. This would remedy two evils at once.[78]

The Public was also aware of the Wheelman's work on directional signs. This project, though limited, proved to be of some assistance in unfamiliar areas. A worry to the cyclists out in the country was this lack of road signs. Signposts had not been needed until then, for farmers and families knew directions and few other people used the roads. Signs and road maps made by the Wheelmen assisted the traveler.



The Wheelman for September, 1883, noted the above stencil signals painted by the Wheelmen on boards, posts, and fences, where a stranger might want to know the best route for bicyclists.

The League was very much interested in the important question of tires. Soft roads, i.e. those that were made on sand or loam, would never, except when frozen, be able to stand narrow tires. If the farmers or others engaged in teaming were requested to increase the width of their wheel tires only to save the roads it would have been to the teamsters interest to do it, though the reason might not have always been visible to the man who wanted to see immediate results.[79]

From Youngstown, Ohio, M. J. Lewis, a well-known Wheelman and advocate of good roads told about a ride over country roads where he found wagon tracks made by six inch tired wheels. These tires had made the country roads where they had traveled almost like a pavement, and he found the owner of the wagon could haul heavy loads with such tires when the roads were in a bad condition. On soft roads where the tires had gone over, it made it an easy matter for cyclists to spin over the country.[80] California reported much progress in this matter, as public opinion was educated through the Santa Clara Grange and the League of American Wheelmen in favor of wide tires, until it became a rarity to see an old-time wagon on the road.[81]

Another method used by the Wheelmen to arouse interest in better road conditions was to offer cash prizes through the University of Pennsylvania for the best papers and essays "Upon Road Making and Maintenance," with competition open to all. The main prizes of $400, $200, and $100, and honorable mentions, together with notes and a carefully prepared digest of all the other papers were printed and presented as a contributions to the cause of better roads.[82]

Colonel Albert Pope offered one hundred bicycles as prizes on Good Roads essays and issued yearly badges to those who paid for road improvement.[83]

Wheelmen appealed to various groups of men for the need of good roads. In 1882, speaking to the "average man", the Wheelman reported that the bicycle was the vehicle of luxurious roads of the highest civilization. While it was known to be the poor man's house and carriage it could not exist at all in a country of poor roads. In a state of good roads it was said that its riders would take long tours - doctor, merchant, tourist, and farmer would use it as their most durable vehicle.[84]

Isaac Potter urged the local L.A.W. organizations to convert the newspapermen, lawyers, engineers, and clergy of their communities to the cause. He motivated them to establish a finance and subscription committee to issue yearly badges to anyone who subscribed fifty cents or more to the road movement, to publish subscription lists in the newspapers, to publish reports on services and materials needed for road construction, and to place road photographs in newspapers.[85] In November, he offered one hundred dollars in prizes for photographs of good and bad roads. The magazine had response from 480 prominent newspapers and men, commending its purpose and work.[87]

Good Roads reported that there was an inclination "out West" to treat the road question with the dignity and consideration which it

deserved. Hundreds of letters came in every week to the editorial office giving evidence of an increase in the movement among the prairie states that showed a certainty of success. "Sometimes it seems as though our Western friends have inherited the courage of their pioneer ancestors and imbibed the energy of a prairie cyclone."[88]

A. H. Overman, President of the Overman Wheel Co., gave six thousand dollars to the Good Roads campaign, and noted that the Civilization of a people could be measured by the condition of their roads and their breadth of mind by their appreciation of the means of locomotion. Life, he thought, was ever linked with motion, and the man who would be in the greatest sense comprehensive would necessarily lend himself to the best means of getting about. He further remarked that, as our arteries are the means of circulation, so our roads were the real evidences of life in our great land.[89]

The Wheelmen themselves were given as a cause for Better Roads:

> Were there no other reasons for the rapid improvement of our common roads, the argument of the greatest good to the largest number would apply to the benefitting of our immense army of Wheelmen, to which recruits from all classes, by the thousands, are yearly being rapidly added. By improved highways they maintain health and enjoy our scenery so cheaply that travelling is no longer only the province of the rich. What better argument for the speedy improvement of roads than the necessity of affording easy passage for this immense number of wheels.[90]

The League, as an organized group, also tried to exert needed pressure on legislation. With political hopes for the L.A.W., the Editor of Good Roads even went so far as to say that "Unless some unforeseen and remarkable blunder is made, the L.A.W. will stand

firmly on its own legs long after there isn't a Republican or Democrat on the face of the Earth."[91]

It was the Minnesota Division of the L.A.W. that made the pioneer effort in a direction from which success eventually came. At the National Republican convention in Minneapolis, Chief Consul Choate presented the subject of better roads to the committee on the platform. The "dignified" Statesmen were full of "sympathy" with the roads improvement scheme, but they were quick with ready reasons why the roads questions should not be specially referred to in the platform. "The G.O.P." reported Good Roads,"will go on shouting tariff until November and then wake up to impassable roads on election day which means the practical disfranchisement of 200,000 farmers." Much credit was given to this Division of the League for the practical good accomplished in raising the roads issue in this political setting.[92]

"Hard times and the people can't afford it," was the sober, serious verdict offered by nine-tenths of the legislators when a proposition was made to spend public money for the improvement of roads. Yet it was shown that the people of the United States spent $1,641,903,406 for drink and tobacco in 1894.[93]

Even though met with opposition, the League gathered money and labor from their communities for the cause. They did not always accomplish the expensive and permanent road construction carried on by the different Township, County, and State acts, but they did carry a sentiment so persuasive that almost everyone that came under its influence was

persuaded to contribute a portion of his labor and means, to work independently with, or to assist their towns or townships. Under this influence, many roadways had not only been improved, but their sides had been beautified by trees and other shrubbery. Foot-paths and cycle paths were also created due to the League's efforts.[94] It was said of the Wheelmen that, if Washington, D.C. abandoned the new system of asphalt pavements and returned to the use of stone, wooden blocks, or any other less smooth and comfortable style of pavement, the bicycle riders of that city would, without exception, be found solidly and determinedly opposed to this change and would manifest their strength, by vote, voice, pen, business and political influence, against any such action. Thus the League made it quite clear that any return to inferior forms of pavement would not only lose votes, but would meet with active opposition of every bicycler and tricycler in the vicinity. This was made known for those who were not aware of the "growing political influence of the Wheelmen."[95]

Bicyclers believed that the cost of first class roads and pavements was the wisest and most absolutely necessary expenditure of public money. They were as set in their opinion that they must and would have first-class highways, at any necessary expense, as were intelligent voters convinced "that good public schools were necessary no matter what the cost." At the same time, the Wheelmen were as strongly opposed to extravagance as any class. They knew what a good

roadway was, and they wanted the lowest price to secure it.[96]

The New York Press had this to say of the League:

> The L.A.W. has taken the agitation for good roads up with the earnestness that must bear fruit. It has circulated tons of literature among the farmers, and has sent lecturers with glib tongues and flashing stereopticons to show them the wickedness of the mud. It has had bills drafted and introduced in state legislatures and in Congress and in several instances has had them passed. It has started a neat and well edited magazine called Good Roads, devoted to the subject which its title indicates. It has spent thousands upon thousands of dollars for which it is willing to let the future thank it, for the present doesn't know enough to be grateful now.[97]

PART II ESTABLISHMENT OF THE OFFICE OF ROAD INQUIRY IN THE DEPARTMENT OF AGRICULTURE

Chicago held its Roads Convention in 1891, presided over by Judge Thayer of Iowa, with delegates from existing State organizations for road improvement. They came from Boards of Trade and Agricultural Colleges and Universities, Farmer's Clubs, and the League of American Wheelmen. Interested in a national movement for better roads, this group formed the National League for Good Roads.

General Roy Stone, Secretary of the newly formed N.L.G.R. was in agreement with the Wheelmen in the thought that hope for their cause would reside not with the State but with the Federal Government.[1] However, it was Colonel Pope who took the initiative and sent an open memorial to Congress requesting a special Good Roads building at the World's Columbian Exposition, to be in Chicago in 1893, instead of the roads exhibition, as he felt would lose itself as a part of the buildings of Mines, Transportation, and Agriculture. Pope also sent a petition to Congress, four-fifths of a mile long,[2] signed by 150,000 businessmen and seventeen Governors to establish an institute of Road Engineering and a Road Department similar to the Agricultural Department for the purpose of promoting knowledge in the art of constructing and maintaining roads.[3] Pope received replies from President Harrison, the Secretaries of War and Interior and the Postmaster General sanctioning his suggestion.[4]

The National League for Good Roads held its first convention in Washington, D.C. Its committee on legislation was supposed to work for federal aid in building and maintaining country roads and its committee on the World's Fair was to work for an independent road exhibit.[5] During this rally of July, 1892, the League's President, Charles L. Burdett of St. Louis, Missouri, had a conference with a receptive President Benjamin Harrison and told him about the tremendous volume of business the Railroads were losing due to miserable roads throughout the country.[6]

First signs of State aid for roads came in 1891 when New Jersey passed a state-aid law providing an annual fund of $75,000 for the construction of highways in cooperation with the counties. As for federal aid, at the time of the creation of the Office of Public Road Inquiry in 1893, the only participation of the federal government in the construction of roads in the United States was in the District of Columbia, the national cemeteries, and on the government reservations.[7]

The National League for Good Roads was very active in urging this national aid upon Congress, and there is evidence tending to show that this group was largely instrumental in having the Office of Road Inquiry created. This was further substantiated by the fact that the Secretary of the League, General Roy Stone, was the one chosen as Special Agent of this office.[8]

In the appropriation for the Department of Agriculture for the Fiscal year ending June 30, 1894, Congress provided:

> To enable the Secretary of Agriculture to make inquiries in regard to the system of road management throughout the United States, to make investigations in regard to the best method of roadmaking, to prepare publications on this subject suitable for distribution and to enable him to assist the agricultural colleges and experiment stations in disseminating information on this subject, ten thousand dollars.[9]

The Office of Road Inquiry was created by the Secretary of Agriculture under this appropriation to carry out the Congressional wishes. Thus the road services were not established directly by Congress, but rather, indirectly by an appropriation for these services. In each case the Secretary of Agriculture was authorized to appoint a special agent to carry on the inquiry of roads.[10]

The initial instructions given to the first Special Agent, General Roy Stone of New York, on October 3, 1893, were:

> You have been this day appointed to supervise and carry out the investigation pursuant to the statute approved March 3, 1893, which has four branches: 1. To make inquiries in regard to the systems of road management throughout the U.S., 2. To make investigations in regard to the best method of road making, 3. To prepare didactic publications on this subject, suitable for publication, 4. To assist the agricultural colleges and experiment stations in disseminating information on this subject.
>
> It will not be profitable to enter upon all these points at first. The work under the appropriation will need to be of gradual growth, conducted at all times economically. Therefore, it is not expected that there will be any considerable force of clerical help, and aside from your salary, no considerable expenditure for the present. It is understood that you have at your command the data for a compilation of the laws of several of the States, upon which their road systems are based. It should be your first duty, therefore, to make such collections complete, and prepare a bulletin on that subject.
>
> Incidently, while preparing this bulletin you should charge yourself with collecting data relating to different methods of roadmaking, which in the first instance, should be generic in

their character, including: 1. The best method of constructing a common highway without gravel or stone, 2. Gravel highways, 3. Macadam and other stone roads, 4. Data upon which to base suggestions for the transportation of material within reasonable access, for the proper surfacing of the roadbed. These data should form the foundation for the second bulletin or second series of bulletins.

There are certain restrictions I wish specifically to bring to your attention. It must be borne in mind that the actual expense in the construction of these highways is to be borne by the localities and states in which they lie. Moreover, it is not the province of this department to seek to control or influence said action except insofar as advice and wise suggestions shall contribute toward it. This department is to form no part of any plan, scheme, or organization, or to be part to it in any way, which has for its object the concerted effort to secure and furnish labor to unemployed persons or to convicts. These are matters to be carried on by States, localities, or charities. The Department is to furnish information, not to direct and formulate any system of organization, however efficient or desirable it may be. Any such effort on its part would soon make it subject to hostile criticism. You will publish this letter on the preface of your first bulletin.[11]

The first report by the Secretary of Agriculture about the Office of Road Inquiry stated that the results of the first year of work were successful.[12] Nine bulletins were published by the Office, which proved to be extremely popular, and in many cases the first editions were exhausted and reprints were ordered. The report of General Stone showed that, from October, 1893, until June 30, 1894, in addition to the bulletins issued, he attended and addressed meetings devoted to the improvement of roads.[13]

The work of the Office continued in spreading information through publications, lectures and consultations. The League of American Wheelmen during this same period was working quite actively in the States for the same purpose. In 1896 a new method was added, as a way

to cooperate with the agricultural colleges and experiment stations. This took the form of object lessons. Money for this project came from the state, county, township, college, or experiment station for whom the road was constructed and the necessary machinery was often borrowed from manufacturers of road equipment. In 1897 two object lessons were built: one at the Experiment Station in Geneva and one at the Agricultural College and Experiment Station in New Jersey. By 1905 there were twenty-one object lesson roads in nine states.[14]

The Department of Agriculture divided the United States into four areas, namely, the Eastern States, the Southern States, the Prairie States, and the Rocky Mountain States, with an assigned agent in each district. The agent had to be qualified in geology and civil engineering. They were to establish a scientific plan of road building, report for publication often, and give aid and lectures to the colleges or other educational institutions.[15]

Experimental roads were also built. However these did not increase in number or importance as the object lesson roads did. Another field opening up at this time was road material testing and sampling. The annual appropriation bill for 1897 added the authorization to investigate the best kinds of roadmaking materials in the several states.[16] One representative of the Western States traveled 35,000 miles throughout the trans-Mississippi West for a road-improvement program. This resulted in local experimenting in grading methods and the use of road-building materials. Louisiana experimented with a mixture of clay and sand, and in the Far West oil was used for settling dust.[17]

Special Agent and Engineer for Road Inquiry was the title given to Colonel Stone from 1893-1896. The name was changed to Director of the Office of Road Inquiry in 1897. In 1898 Martin Dodge took the same office. By 1899 the Department changed to the Office of Public Road Inquiries under Co. Stone. Martin Dodge took this office from 1900-1904. In 1905 there was a reorganization of the work. The Division of Tests of the Bureau of Chemistry and the Office of Road Inquiry were consolidated under the name of the Office of Public Roads.[18]

The appropriation for the fiscal year 1894, under which the work was started, was $10,000. The same amount was given for each of the two following years and then the appropriation dropped to $8,000 for four years. In 1901 it went up to $10,000, the next year $20,000 and then $30,000. For 1904 and 1905 the annual appropriations were $35,000.[19]

With this Government involvement in the road conditions, Good Roads encouraged its readers to supply facts which would show damage to farming industries by reason of deep mud in Spring and Fall, and to send them to any member of the committee for Better Roads, which included from the West, Senators William Peffer of Topeka, Kansas, William Washburn of Minneapolis, and Henry Hansborough of North Dakota.[20] The Office Of Road Inquiry furnished a rallying point for the friends of reform and a signal tower from which its progress could be watched and reported every day.[21]

Correspondence between General Stone and School Superintendents was a common practice in order to stir up enthusiasm in school authorities and enlist the "great educational organization" of the country in the

present campaign of agitation and instruction, and to train up a generation of better road builders for the future.[22] The Alabama State Superintendent of Education put much weight and value in this issue. He remarked:

> Good roads help regularity in school attendance. Without regularity the pupil makes slow progress, the classes are retarded, the entire school is disorganized, and the teacher is discouraged. A school may be perfectly equipped as to the building, furnishings, and trained teachers, and at the same time prove a failure on account of a lack of accessibility. Accessibility depends on the kind and condition of public roads.[23]

The League of American Wheelmen had worked and won many legislative battles on the State level, yet their work for the creation of a national highway commission seemed stalemated by the appropriation to the Agriculture Department for road research.[24] The aid that was given by the national government from 1893 to 1913 for the construction and maintenance of roads was indirect. Through the Office of Public Roads the government informed the nation of the necessity of good roads, but did not directly assist in the work itself.[25] Direct participation of the Federal Government could only be had with a widespread movement agitated by such a society as the National Good Roads Association,[26] to which cause the L.A.W. gave much incentive.[27]

Many members of the L.A.W. in the early years of the League must have been unaware of the political power it possessed, since the League was not organized for the purpose of exerting direct political power. Yet it was said that the League "represented a powerful organization, possessing control of money, brains, business, social influence, votes, and represented a considerable political power."[28] In their struggle to obtain a Highway Commission they had most people in agreement that

"no great system of permanent highways in any country was ever built up without the aid and support of the general Government of that country."[29]

General Roy Stone remarked at the Good Roads Banquet of the L.A.W. in Albany, New York, February 11, 1897:

> There is no need to preach good roads to the Wheelmen. Every Wheelman is a preacher, a worker, and a fighter for good roads. It is only necessary to furnish him texts for preaching, tools to work with, and weapons to fight with and then hold him back when his zeal outruns his discretion. I know well how the Wheelmen can fight for good legislation. In my first experience, five years ago, with the help of the L.A.W. under the guidance of President Burdett, and when the League had less than half its present strength, I found how potent an agency it could be.
>
> Our bill for a national highway commission was pushed through the Senate of the U.S. almost entirely by the Wheelmen's aid, and only failed in the House of Representatives through the determination of one many who had it in his power to put his foot upon it. He was one who came from a district where the roads were so bad that he had scarcely a Wheelman for a constituent. In that contest the most grave and reverend seniors of the Senate were startled by the enthusiasm of their constituents for good roads, as shown by floods of telegrams and columns of editorials, all of which I happened to know were inspired by our friends of the wheel.
>
> The Wheelmen have kept alive the agitation of this subject when other classes of road users have fallen silent. Their literature has flooded the country and their road committees have worked without ceasing. Whenever the farmers are ready in any State to propose legislation for road improvement, the Wheelmen will take care that the city members of the Legislation are not indifferent and whenever the cities are called on to aid in county road building they will move heaven and earth to have this. In short they will render any service to the cause of good roads that a quick intelligence can discover and an earnest zeal can execute and their aid will be welcomed by every citizen who takes that cause deeply to heart.[30]

During the Panic of 1893 General Stone thought that the people should realize that it was not the lack of money, but the lack of circulation for it, that made the hard times. At first money was taken

out of the banks and then out of business. The former was replaced, but due to a lack of confidence in business this was not replaced. The capital withdrawn from business, which gave employment to labor was being added to the mass of bank deposits and labor was turned adrift. To break this deadlock he suggested that the time to push public works with profit was when private enterprise dropped out of competition. Thus the roads were for the public welfare and, when begun, would furnish as much, if not more, employment than did the railway building in its most active days.[31]

To keep Federal Aid and the employment question ever in mind Good Roads carried on a campaign to report the general feeling from different States. From Colorado one bicycler stated that the most interesting road he traveled on was also the worst:

> The road for ten miles was composed of sand, gravel, mud, stones and muck holes. The grade was terrific and along the sides of the road were the carcasses of horses, mules, and donkeys that had fallen by the way. The cost of that road was enormous, not only in wagons and draught animals but in machinery and expensive merchandise that was broken and destroyed. I saw the wreck of a piano that had gone over the pass, and a load of show cases and mirrors that did not have a handful of glass in them.[32]

From California came the cry that the general character of the roads throughout the State, during wet seasons, was bad, particularly in January and February, when the roads were almost impassable.[33] Texas reported unworked roads and Road laws that were seldom executed. Bayard Taylor wrote that at least "a million dollars annually should be spent in each Territory between the Mississippi and the Pacific on roads and bridges."[34]

Missouri, one of the first Western States to join the L.A.W., was also quite prominent among the Western States in her movement for improved roads. She went about her work in a manner which often put to shame the wealthier and more populous States.[35]

Montana reported the "good" natural roads and original trails of the early emigrant were still in use and remained practically unchanged. "Chinook" winds evaporated the melting snow and after the light spring rains the soil baked hard and remained that dusty way until the following spring. The mountain roads, constructed for the benefit of the miners and lumbermen had grades, holes and slants to make anyone's "hair turn grey in a few hours."[36]

Hon. John J. Ingalls thought that Western roads were "much like the roof of the cabin of the Arkansas Traveler, which did not leak in dry weather, and when it rained could not be repaired." He also cited that nothing else could be imagined worse than Western roads in Spring and Autumn. For weeks traffic was absolutely suspended by the mud and "unfathomable mire." He thought permanent improvement could not be expected while the "shiftless, improvident and irresponsible method prevailed."[37]

Minnesota's appraisal was made by A. B. Choate, Division Consul Leader who reported that Minnesota had not shown great wisdom on the subject of road improvement. He thought it was a question of how long it would take to remove prejudice, and educate the obstructionists to the wisdom and importance of reform.[38] Another Minnesotan remarked:

> In this town, just at present, it is a question of which is the best means of travel, a skiff, a stone boat, or a land roller with a high seat. A wheeled vehicle is about out of the question.[39]

No matter where, the bicycle, of all modern inventions, was the perfect road tester. It was the most sensitive of all vehicles to the slightest imperfection in the construction or condition of a road surface. The Wheelman asserted that the bicycle-rider "feels the bumps in his own muscular and nervous system, just as the horse does, and if horses could talk, their expressions on this subject would exactly agree with the bicycle rider, and form a concensus of equine and human opinions which would revolutionize legislation in one campaign."[40]

It was found too that the pleasure of travel was conditioned, more than anyone wanted to admit, upon such unromantic things as roads, wagons and bills of fare.[41] Thanks to the Wheelmen a new era for the care of the quality of roads was dawning.

Enthusiastic Wheelmen attended the road convention held in Sacramento, California, in 1895. They were joined by representatives of the university, commercial bodies, manufacturers, municipalities and county governments, granges, alliance institutes, and humane societies. The guest speaker, General Roy Stone, representing the Office of Road Inquiry, thought California reminded him of France except in her roads. France was a delight; California "was in winter a task, and in summer a torture." Yet he thought California represented the highest forces of American Civilization and urged taking New Jersey for a pattern of State Aid and California for the use of

convicts in preparing road materials.[42]

Lewis M. Haupt thought that this time could be regarded in history as the "revival of the road era," and that States which first provided themselves with a good system of firm highways, passable at all seasons of the year, would be the first to reach the goal of commercial, industrial, and agricultural prosperity, while those that lagged in the race would find themselves in the "slough of despair."[43]

Ira Baker in his Treatise on Roads and Pavements listed the financial advantages of Good Roads: 1. Decrease the cost of transportation, 2. Permit the cultivation of crops not otherwise marketable as fruits and vegetables, 3. Give a wider choice of time for the marketing of crops, 4. Permit the marketing to be done when the prices are most favorable, 5. Give a wider choice of the market place, 6. Tend to equalize the produce market between different climatic conditions. 7. Tend to equalize railroad traffic between the different seasons of the year, 8. Tend to equalize mercantile business between the different seasons of the year, 9. The social and educational advantages of good roads: 1. Permit more easy intercourse between the members of rural communities and also between rural and urban populations, 2. Facilitate the consolidation of rural schools and thereby increase their economy and efficiency, 3. Facilitate rural mail delivery and thereby tend to improve the social and intellectual condition of the rural population, 4. Change rural into suburban property and sometimes help induce tourist travel and secure vacation residents.[44] Public opinion could not but see the validity of the Cause.

During the bicycle's "peak years" 1880-1899, League expansion kept pace with the cycle trade. Bicycle production reached nearly 2,000,000 in 1898, while the League's membership rose to an all-time high of 102,636 during the same year.[45]

Then, almost as quickly as the cycling craze came about, it vanished just as quickly from the scene. The public turned to a newer vehicle - the engine carriage. With this the League membership in 1900 dropped to 76,944, then to 8,629 in 1902. Each year found fewer members.[46]

Outing reported in April of 1901:

> One of the most remarkable present conditions is the indifferent interest taken by the average rider in the L.A.W. This organization, which for years held undisputed sway over the destinies of cycling, seems to be fast losing its hold.[47]

and in the next issue:

> The wisdom of forming a life membership class in the L.A.W. is decidedly questionable, and its success is extremely doubtful. The project of ten dollars life membership shows a glaring need of funds. A decrease in membership in the past few years has reduced the League's finances alarmingly.[48]

With membership and funds dwindling, The League of American Wheelmen amalgamated with several existing or newly formed organizations according to the interest of the remaining members, that is - racing, touring, or the Good Roads Movement.

Much of the League's road work became, after 1902, associated with the American Road Makers, organized in 1902, and later, in 1910, to become the American Road Builders Association, whose membership now includes the entire highway industry and profession.[49]

Many Bicycle Club Houses were taken over by automobile clubs whose members had, at one time, been members of the L.A.W. An example of this is the now existing Franklin Club House of Wilkes-Barre, Pennsylvania, built by the West End Wheelmen in 1898. The present Club in its formative years contributed greatly to the advance of the automobile age, just as its predecessor had contributed to the bicycle era.[50]

It was the bicycle manufacturers such as Colonel Albert Pope, Charles Duryea, and E. C. Sloan who, already owning the required facilities, were the first automobile manufacturers. Henry Ford, William Duryant, Charles Nash, and John Willys received their start in the bicycle industry, too. And what is more, many fundamental parts of the modern motor car were invented and developed by the cycle trade; without this it would have been many years before the motor car could become a practicable vehicle.[51]

PART III. OTHER FORCES ACTIVE IN THE GOOD ROADS MOVEMENT

Other factors and forces worked with the League of American Wheelmen for the betterment of roads. An interesting one, used to supplement publications, lectures, and object-lessons in disseminating knowledge of road building, was the good roads train, organized in 1901 by the National Good Roads Association for the Office of Public Road Inquiry.

The train travelled through the country spreading interest in good roads and building object-lesson roads most likely where a good roads convention was being held. Lectures were given from the train by Governors, Congressmen, Professors, business men and experts from the Office of Road Inquiry. The Railroad supplied the train, the manufacturers supplied the road building equipment, and the local communities supplied the common labor.[1]

The Southern Railroad sent their Good Roads caravan consisting of ten to twelve cars jammed with road-making machinery, another car for laborers, and two private cars for the "Good Roads" headquarters. They built sample roads, sometimes twelve miles long.[2] Besides this, the Railroad helped in the equal distribution of their traffic through the seasons, securing constant employment of their force.[3]

Much is owed to the early inventors - de Pont's manufacture of blasting powder in 1856, Eli Whitney Blake's "jaw rock crusher" and dump wagon, stump extractors, power rollers, and the manufacturing company of Portland Cement in 1871.[4]

Schools contributed their share in good road building. In response to General Roy Stone's soliciting the aid of schools, W. T. Harris, Commissioner of Education, replied with complete cooperation and assistance on June 6, 1896:

> It is clear that teachers may form road committees among pupils and at proper times and seasons the attention of the school will be called to methods of making a road and preserving it. The teachers may appoint a committee of four or five bright boys and loan them the circulars to study at home.[5]

R. H. Jesse, President of the University of Missouri hoped that with better roads, the schoolhouse would become a lyceum where people would gather. "Men," he stated, "will not go to the country store to swap lies and they will not spend so much time in barrooms. They will sometimes go to the schoolhouse and the reading room and lecture room."[6]

Road conventions were called in at least half the States in the 1890's. At Sedalia, Missouri, the convention in 1893 resolved to urge the passage of any laws that would enable counties to obtain practical application of the best methods of improving roads.[7] Many of the conventions helped to bring about resolutions needed for practical and specific planning of the Good Roads Movement within the States.

Early in 1899 the Interstate Good Roads and Public Improvement Association inaugurated an interstate campaign. The Association visited the leading States of Minnesota, Wisconsin, Iowa, Illinois, Missouri, Tennessee, Arkansas, and Texas and organized thirty-eight district and State conventions, constructing thirty-four sample roads of macadam, gravel and sand as object lessons under the direction of Mr. E. E. Harrison, expert of the Office of Public Road Inquiry, assisted by

leading manufacturers of road machinery. The distance traveled was 105,000 miles on the railroad and there were over one million pieces of literature distributed, while they spent over nine thousand dollars to defray necessary expenses.[8]

One danger was the popular belief that road-making was such a simple thing that anybody could do it without knowledge or experience. Road-making gradually became a science and road engineers learned to take the materials at hand and make roads that would withstand rain, frost and ordinary wear. Such roads were missionaries to convert the people to scientific road-making.[9]

Through the efforts of Colonel Pope, special instructions in road engineering were introduced into the curriculum of the Massachusetts Institute of Technology. Pope gave six thousand dollars to the Institute to establish the department of road engineering, as well as his being largely responsible for the establishment of the Massachusetts Highway Commission.[10] J. B. Bishop wrote concerning the matter:

> Putting all other social and economic effects of the bicycle aside, its influence as a pioneer in scientific road building is alone sufficient to entitle it to the lasting gratitude of the American People.[11]

The American Road Machine Company of Kennett Square, Pennsylvania published a pamphlet of forty-eight pages on Good Roads and How to Make Them. Good Roads reported: "Its pages are by no means devoted to the exclusive advertising of the company's business. It is largely instructive, both as to the benefits of improved roads and the practical methods of making them."[12]

Just as the bicycle laid the foundation for the automobile, so there was early evidence that the automobile would continue the League's road improvement work. A hundred dollar contribution in 1908 by Henry Ford, and other contributions from auto owners, for the good roads movement were an indication of the fact that automobile manufacturers and auto users were enthusiastic about carrying on the work "ambitiously begun three decades earlier by the League of American Wheelmen."[13]

Aside from the acknowledged interest in the good roads movement from builders of wagons, carriages, bicycles, traction and farm engines, and implements of coaching and country clubs, coach and carriage owners, horse-breeders, and all merchants and manufacturers, there were many great semi-public institutions with interests deeply involved, such as bankers, labor organizations, telegraph and telephone companies, and newspapers.[14]

Newspapers became a formidable exponent for good roads. One reason for this was that their circulation would expand with free delivery that would follow good roads. Many papers were definite in their opinions on the work of the L.A.W.

The New York Times was impressed by the untiring efforts and the ingenuity of the Wheelmen and commented that it "hardly seemed possible that so much could have been done for road improvement as had been accomplished by an 'athletic organization'."

The Chicago Tribune and the Chicago Times, at the very time they were daily sneering at and ridiculing the bicycle and its riders, fell

into the trap set up by the Wheelman, Bates, and published vigorous editorials, rehashing his arguments and facts in favor of a reform in the highway laws and highway construction. In one column would be found sneering references to the bicycle fraternity, while in another they urged the bicycler's reasons and facts in favor of highway legislation.[16]

The New York Tribune cited, "To provide the nation with good roads is a stupendous undertaking, but in the way the League does it, it can be accomplished."[17]

Nor was the League of American Wheelmen the only organization involved in the campaign for better roads. Others following the Wheelmen were the National League for Good Roads, The National Good Roads Association, the American Road Builders Association, and numerous State and even county organizations. From these emerged state and federal action.[18]

The National Board of Trade and Transportation in 1892 voiced this positive statement:

> We recognize the exceeding poverty of the country, even amid its riches, in the universally deplorable condition of its public highways, and favor a system which will provide for their immediate improvement under control of State Governments.[19]

In the same year the Chamber of Commerce of New York adopted strong resolutions and approached Hon. C. M. Depew to represent the Chamber at the Chicago convention for the organization of a National League for road improvement.[20]

It was due to the efforts of the L.A.W. that the matter of roads received the unqualified endorsement of very many of the prominent men in the country, that it had the attention of ten or twelve State Governors in their annual messages and that in many States new bills were presented to provide practical reforms and remedies.[21]

D. R. Francis of St. Louis, President of the Expo. said:

> Today public sentiment has become so entirely in favor of street improvement that no property holder can hold out against it. The taxpayers authorized the municipal authorities to put an unlimited tax upon any lot in order to improve the street in front of the lot. The result is that you will see in St. Louis miles of improved streets.[22]

Hon. A. M. Dockery, Governor of Missouri, stated that Missouri, Illinois, and every other State of the West would be laggards in this work so long as the existing system of attempting to "work the roads" is maintained. He thought the only way to arouse the people to action was to educate them so they would be willing to tax themselves.[23]

Senator Manderson said that he knew of no subject more important to him than the bettering of the roads of the United States. "It was a source of very great pleasure to me that in the county of Douglas, in the State of Nebraska, the people have started to build better roads, and voted $150,000 for this purpose."[24]

Besides his active advocacy of good roads in the Daily Age, Judge E. H. Thayer of Iowa inaugurated a good roads convention at Des Moines in August, 1892. It was the largest assembly outside of a political gathering ever held in the State. He was elected Chairman of the

convention and when the permanent organization, known as the Iowa Road Improvement Association,was established, he was elected the president. Good Roads lauded him: "Judge Thayer embraced every opportunity to publicly discuss the question, being firmly convinced that the outcome of the universal agitation on the subject would establish a general system of good roads construction, leading to great results."[25] General Stone mentioned three great leaders fighting their separate battles for good roads in the United States: Colonel Pope in the East, Judge Thayer of Iowa in the West and Isaac Potter all along the line.[26]

Senator Joseph N. Dolph of Oregon urged:

> There is no reason why every thickly settled and productive region in this country should not be supplied with good roads. In most cases the reason why the roads in this country are not better, is not that the cost of construction and maintenance is beyond the ability of the people, but that it is the indifference of the parties interested, the failure in some instances to properly locate the roads, the lack of intelligently devised plans for their construction and improvement, and the extravagant use of funds raised for the purpose of better roads.[27]

From Senator Knute Nelson of Minnesota came the encouragement that "the enterprise you are engaged in is one of the great civilizers of the age and I trust you may meet with that success which your earnest and systematic efforts are clearly entitled to."[28]

Governor Markham of California extended General Stone much aid in obtaining information concerning road conditions in California, and also recommended an agent to represent Gen. Stone in the distribution of good road literature printed by the Federal Government.[29]

Governor Allen of North Dakota felt the people of his State did not feel the need of improvement of highways enough but, he also thought that the day was not far distant when "they will realize that the subject should have received earlier and more careful attention."[30]

General STone spoke at the Good Roads Convention in Houston, Texas, in 1895 and said that Texas had made less headway than any other State in the direction of better roads. He thought that this might be due to the fact that Texas was so big that it took a long while to get the people stirred up. Shortly after his statement Mr. J. S. Daugherty of Dallas, on behalf of the committee on resolutions, recommended the immediate organization of a State League for Good Roads.[31]

The Vice President of the U.S., Hon. Levi P. Morton, noted that he was "in hearty sympathy with the objects of the League, particularly the improvement of the common roads of the country and send them best wishes for success."[32]

In 1893, President Cleveland remarked:

> I consider that the Wheelmen of this country, if they succeed in carrying out the improvement of roads in which they are engaged, will be deserving of the name of philanthropists.[33]

The National Organization met in Chicago in 1900 with thirty-eight States represented. This resulted in a group of seventeen going to Washington, D. C. to present this subject to President McKinley. This was the first time a President of those "modern times" took up the

matter and present it to Congress, since the railroad began sweeping across the nation.[34]

President Roosevelt attended the National Good Roads Convention in St. Louis on April 27, 1903 and announced:

> We should have a right to ask that this people which has tamed a continent, which has built up a country with a continent for its base, which boasts itself, with truth, as the mightiest Republic the world has ever seen...we should have a right to demand that such a nation build good roads.[35]

On November 19, 1911 President Taft informed L. W. Page that he had a cold for a week but that he had been looking forward to taking part in the Good Roads Convention because, "I am in full sympathy with the movement that is gaining strength in every State in the nation. The effect that they will have in increasing the value of farms, in making the lives of farmers much more full of comfort cannot be exaggerated. As a result of this work going on it is no longer necessary to talk to American people about the advantages of good roads. What is now needed is to direct public sentiment in favor of construction."[36]

The League itself summarized the various interests involved and the manner of their concern in this language:

> No person or association in the land can afford to neglect a movement so vital as this to the country's progress and prosperity. Few indeed have not, in addition to their concern in the general welfare, some specific interest, direct or indirect, in the condition of the highways.[37]

PART IV. PROGRESS OF THE GOOD ROADS CAMPAIGN TO 1912

Comparing the conditions surrounding the convention of 1903 with those conditions of the convention of 1893 of the National League for Good Roads, it was thought that the latter was called in fear and trambling for the result while in 1903 there were a multitude of high officials with perfect confidence in the Nation's interest and participation. The Delegates in the earlier convention were self-appointed and only whispered "National Aid to road building," while the latter convention had officials appointed by the municipalities, States, and public votes, shouting about Federal Aid for highways. Ten years previously the majority of the people of the United States never saw a good road, the Congressmen were paralyzed by hinting at a Government appropriation for good roads, and borrowing money was "robbery of future generations."; while at the later convention the people were familiar with National object-lessons and the good road trains, and the Congressmen only asked "How much", thinking that appropriation for highways and any money for roads was a blessing.[1]

It was reported that some progress had been made in all the Middle Western States on road improvement by 1904,[2] the number of convicts employed had increased, and the use of this force was found helpful, especially in Tennessee, Kentucky, and Texas. By 1898 the territory of New Mexico, using convict labor, had appropriated five thousand dollars to pay for the tools and other expenses for this type of employment.[3]

However, due to "lack of intelligent and skilled supervision, many Southern and Western State funds to improve highways were being injudiciously expended.[4] Following New Jersey's example, six other States had state aid by 1900 and all the States by 1917.[5]

With the organization of the National League for Good Roads came a serious attempt to gather information on the subject of legislation for road improvement and cost and methods of road construction and effects of road improvement. According to the census of roads conducted by the Office of Public Roads in 1904, there were 2,151,000 miles of public roads in the United States, only 7.14 percent of which were improved. The average percent 2.51 of the 28,568 miles of improved roads in the trans-Mississippi West fell far short of the national average. The Census also showed a total annual expenditure for roads in 1904 was $79,000,000 or an average of thirty-seven dollars per mile.[6]

Western cities were engaged in a general system of paving street by issuing bonds with the burden falling lightly on the shoulders of each property owner. With this, the cities had the use of the paved streets years in advance of the cash-down system.[7]

California in a Law of 1893 had road districts and a Board of Supervisors to take charge of all repairs, and receive twenty cents per mile of roading, not to exceed $300 per year. Missouri had a local option law creating a county system, whereupon she had Supervisors to

make quarterly reports. Road improvement was by county courts so when a citizen subscribed fifty dollars or more for a road, the court could subscribe a like amount. Poll tax was two dollars and property tax was ten to twenty cents per one hundred dollars, payable in money.

North Dakota, by a law of 1893, had a special tax for road improvement, and Oregon passed a County road law in 1893 which gave the Court the right to improve roads. Road viewers were established to apportion the estimated cost upon land with three miles on all sides. The county fund was to pay half of the cost. All roads were free of toll and Petitioners for county roads would have to do one day's work on road or pay two dollars to the supervisor.

The Tennessee Road law of 1894 established road districts and commissioners to control highways and purchases and gave the right to employ convicts. In 1909 she established a highway commission.

Washington Road laws of 1900 established the right of commissioners to control highways and purchases and gave the right to have elections for bonds; the bonds not to run more than twenty years and not to exceed six percent interest and were to be sold at not less than par. The State road through the Cascade Mountains was to be built under authority of a special commission.

Arizona, under territorial legislation, appropriated two million dollars for roads in 1910 while Arkansas complained that she spent $1,500,000 per year on roads, but without intelligent direction it

was lost.

Idaho had not done a considerable amount on roads by 1910. Several counties were starting construction and a number of mining companies had also laid out roads.

Iowa spent five million dollars per year on roads; many of the cities using brick or macadam. Kansas had no law for a State highway department, yet, but the people were awakening to the value of good roads.

Louisiana had no State Highway department. Road building was conducted mainly by police juries of the parishes, under local provisions and ordinances. Missouri, on the other hand, had a State Highway Department and was doing considerable work.

Montana had no State Highway department by 1910. Public funds were under county supervision only. State Engineer John Wade wrote that "nothing could be more unsatisfactory, and it will remain so until through the example of the older and wiser commonwealth we awake to the importance of road building in this great State."

Nebraska was hoping for a State Highway department in 1911, while Nevada had no legislative action yet in the construction of roads. The 1909 legislative assembly of the territory of New Mexico provided for a commission working on sand and clay roads.

South Dakota, in the matter of road and highway construction, was sadly neglected; Texas, under a County Commission spent five million dollars for sand or clay roads; Utah made twenty-seven thousand dollars available for 1910; and Wyoming had a number of counties building roads.

to accommodate agricultural interests, but the extent of cattle and sheep industries rendered this impracticable in a large section of the State.[8]

The work begun by the Wheelmen was continued by the auto owner. The early motorists were faced with much the same problems as the Wheelmen in many areas and demanded attention from engineers as to whether or not there should be new means and methods for road maintenance.

Motor cars threw up fragments of road stones into the windows of houses. By 1907 Col. William D. Sahlier said that a macadam road made of crushed stone and bound with rolled screenings and water had gone out of date. The subject of road-dust became acute. A better and more enduring surface had to be made.[9]

Logan W. Page, Director of the U. S. Office of Public Roads made this statement in 1907:

> In recent years perhaps the most important and difficult problem of highway engineers is the prevention of dust. Until the general introduction of motor vehicles, dust was considered as neither more nor less than a nuisance. Wheels moving at high speeds strip the macadam of all fine material, until the road disintegrates. No matter how important we may deem the building of good roads, we cannot but consider it even more important to preserve those already constructed.[10]

Drivers carried wooden planks or lengths of strong ropes to pull them out of the mud. By 1908 there were only 650 miles of macadam roads, no concrete roads, not too many road maps, and directions were still hit or miss.[11]

From 1893 to 1913 construction and improvement of roads was not carried on by direct federal aid. Rather it came indirectly through appropriations made to the Department of Agriculture.[12]

Prior to 1912, the activities of the Office of Public Roads was restricted to experimental work. Fields of activity were enlarged by cooperation with other national agencies as: the Geological Survey, the Forest Service, and the Post Office Department. This latter cooperation assumed an unusual proportion. In order to facilitate rural delivery of mails by improving roads, the Fourth Assistant Postmaster would report bad roads to the Director of Public Roads. The Director, in turn, sent an engineer to give advice to local highway authorities.[13]

During the first six months of the session of Congress in 1911 over sixty bills, providing for some form of direct aid by the national government, were introduced.[14]

In 1912 the first actual construction of roads by the national government was begun. An act, entitled, "An Act Making Appropriations for the Service of the Post Office Department for the fiscal year ending June 30, 1913, and for no other purposes," was passed. This appropriated $500,000 out of any money in the Treasury, not otherwise appropriated, to be expended by the Secretary of Agriculture in cooperation with the Postmaster General in improving the conditions of roads to be selected by them over which rural delivery is or may hereafter be established, and provided for the appointment of a joint committee, composed of five men of the Senate and five men of the House "to make inquiry into the

Subject of Federal aid in the construction of post roads, and report at the earliest practicable date.[15]

In February, 1913, the Chairman of the Joint Committee on Federal Aid in the construction of Post Roads sent to a large number of newspapers, commercial organizations, and granges a circular letter asking for a statement of the consensus of opinion upon the question of national participation in highway improvement. The letter of inquiry made no reference to any particular plan for Federal aid, but sought to ascertain the trend of public opinion in general.

Newspaper editors communicated the consensus in their communities, commercial organizations and granges held meetings, discussed the question presented and adopted resolutions setting forth their views.

Replies representing 100,000 individuals came from every State in the Union and, since requests for opinions were made without discrimination and the answers received were from all parts of the U.S., it showed a fair accuracy. The consensus was ninety-seven percent in favor of Federal aid and three percent against it.[16]

George W. Cooley, State Engineer of the State Highway Commission of Minnesota reported:

> I believe the general sentiment throughout the West is almost, if not quite unanimously, in favor of Federal cooperation. The people who settled the great West contributed to the transcontinental railways $250,000,000, or rather they paid double minimum prices for even sections lying within the railroad land grants in order to make good the price of such grants by the Government, and we believe we are justified in asking a return of this money for the purpose of still further improving our means of intercommunication.[17]

Reports were submitted to the Joint Committee on Federal Aid

in the construction of Post Roads during the period of 1913-1915 and the Federal Aid Road Act became a law July 11, 1916.[18]

"It is safe to say," declared an expert of the census bureau in 1900, "that few articles ever used by man have ever created so great a revolution in social and economic conditions as the bicycle."[19] It may also be true to say from this study that the League of American Wheelmen made that statement a valid one.

Crossy Morrison, speaking in Milwaukee on the subject of highways said that today:

> There is not a town or hamlet, a city or State, that is not constantly discussing road improvement, and what does this mean? Will it not put bread into the mouths of the hungry? As it was they who gave this movement its impetus, let us give the laurel wreath of grateful recognition to the League of American Wheelmen.[20]

J. W. Stockwell from Sutton, Massachusetts remarked:

> To the Cyclists belong the honor of introducing the first bill for a radical change in road management. They had one object in view: better roads, and they had the money and talent at their command.[21]

As for the project for which they toiled, Horace Bushnell, American Congregational Divine, has said:

> The road is that physical sign or symbol by which you will understand any age or people. If they have no roads they are savages, for the road is the creation of man and a type of civilized society. If you wish to know whether society is stagnant, learning scholastic, religion a dead formality, you may learn something by going into universities and libraries; something also by the work that is going on in Cathedrals or churches, or in them - but quite as much by looking at the roads, for if there is any motion in Society, the road, which is the symbol of motion, will indicate the fact.[22]

We may say with Isaac Potter, "To the man who reads to consider and who travels to observe, these facts will become doubly impressive."[23]

FOOTNOTES

PART ONE

1. Mary Ann Parker, "The Bicycle in American History" (unpublished Master's dissertation, Dept. of History, University of Illinois, 1947), p. 10.

2. Bicycling World, "Notes by the Way," XI (July 17, 1885), p. 261 quoted in Parker, p. 10.

3. Charles E. Pratt, "American Bicycling and Its Founder," Outing, XVIII (July, 1891) 341, 348, 349.

4. Parker, p. 11.

5. "Pope, Albert," Dictionary of American Biography, Vol. XV.

6. Parker, p. 12.

7. Bicycling League of American Wheelmen Bulletin, "Fathers of American Cycling," XXV p. 296 quoted in Parker, p. 12.

8. J. Wilcox, "The Bicycle and Riding It," Lippincott's Magazine, XXIV (July, 1879), 624.

9. A. S. Parson, "The League Meet at Chicago," The Wheelman, I (November, 1882), 115.

10. Charles E. Pratt, The American Bicycler (Boston, 1880) pp. 184, 186 quoted in Parker, p.13.

11. Parsons, p. 125.

12. Ibid., p. 115.

13. Oscar Osburn Winther, Histories of the American Frontier - The Transportation Frontier - Trans-Mississippi West 1865-1890 Chicago: Holt, Rinehart & Winston, 1964) p. 150.

14. Parker, p. 17.

15. Parsons, p. 116.

16. Charles E. Pratt, What and Why (Boston, 1884), p. 40 quoted in Parker, p. 26.

17. L. F. Bates, "The Effect of the Bicycle Upon Our Highway Laws," The Wheelman, I (November, 1882), 100.

18. The Wheelman, "Wheel News," II (August, 1883), 379.

19. Bicycling World, II (July 17, 1885), 266 quoted in Parker, p. 28.

20. W. D. Owen, "A Tour Over the Rocky Mountains," The Wheelman, I (January, 1883), 284.

21. Parsons, p. 117.

22. Ibid., p. 119.

23. Karl Kron, Ten Thousand Miles on a Bicycle (New York, 1887), p. 633.

24. Parker, p. 17.

25. C. E. Hawley, "Uses of the Bicycle," The Wheelman I (October, 1882), p. 29.

26. Kron, p. 618.

27. Ibid., p. 765.

28. Val Hart, The Story of American Roads (New York: William Sloane Associates, Inc., 1950) p. 174.

29. Philip B. Mason, "The League of American Wheelmen and the Good Roads Movement, 1880-1905," (Unpublished, Master, University of Mich., 1957), p. 50 quoted in Winther, p. 151.

30. Winther, p. 153.

31. League Publications, Roads Improvement (New York, 1891), Back page.

32. Good Roads, "Editor's Table," I (January, 1894), 42.
Good Roads, "Retrospective, Present, and Prospective," V (April, 1894), 148.

33. Ibid.

34. Good Roads, "Editor's Table," I (January, 1894), 44.

35. Good Roads, "Editor's Table, I (February, 1894), 79.

36. The Wheelman, "Roads," II (September, 1883), 468.

37. Good Roads, "News and Comments," I (January, 1892) 48.

38. Bates, The Wheelman, I, 126.

39. Ibid., 129.

40. Federal Works Agency, Highway Practice in the United States of America (Washington: U.S. Government Printing Office, 1949) p. 4.

41. Albert A. Pope, Wagon Roads as Feeders to Railways (Boston, 1892) p. 8.

42. Winther, p. 154.

43. New York Times, September 11, 1892.

44. Bates, The Wheelman, I, 128.

45. Henry Budd, Second Annual Report of the Commissioner of Public Roads. (New Jersey: MacCrellish and Quigley Co., 1896) p. 17.

46. Ibid.

47. Hon. E. H. Thayer, "How to Keep Boys and Girls on the Farm," Good Roads, IV (July, 1893), 46.

48. Budd, Second Annual Report of the Commissioner of Public Roads-1895, p. 17.

49. Hart, p. 178.

50. Ibid.

51. James H. Macdonald, Report of the State Highway Commissioners of Connecticut. (Norwich: The Bulletin Co., 1895-1896), p. 8.

52. Hon. Mortimer Whitehead, "A World from the National Grange," Good Roads I (February, 1892) 81.

53. United States Department of Agriculture, Office of Road Inquiry, "Addresses on Road Improvement," Circular No. 14 (Washington: U.S. Government Printing Office, 1894), p. 2.

54. Good Roads, "Nebraska State Journal," I (February, 1892) 110.

55. B. T. Edwards, "Highway Improvements Legislation," B.W.L.A.W. Bulletin XXV (October 7, 1892) 79 quoted in Parker, p. 84.

56. Isaac B. Potter, "The Common Roads of Europe and America," Roads Improvement (L.A.W., 1891), pp. 8-10.

57. Harold Meyer Simon, "Federal Highway Legislation and Administration," (Unpublished Master's dissertation, Dept. of Political Science, University of Illinois, 1936), p. 29.

58. Winther, p. 147.

59. Simon, p. 30.

60. Winther, pl. 148 & Edward J. James in the First Annual Report of the Illinois Highway Commission for 1906 (Springfield: Phillips Brothers, 1907) p. 1 had this to say: "It frequently happened that a man informed an overseer that he was ready to bring his teams and men on the road to work out his tax. Practically in all cases the amount of work was less than the same amount of work these teams and men would perform for private hire."

61. Earl Mayo, "A Good Road, A good Investment," World's Week II (October, 1901), 1285.

62. Winther, p.148.

63. Albert A. Pope, The Movement for Better Roads. (Albert A. Pope, Boston, 1892) p. 8.

64. Winther, p. 147.

65. Good Roads, "Growth of the Road Movement," V (May, 1894), pp. 157-158.

66. Bates, The Wheelman I, 40.

67. Ibid.

68. Isaac Potter, "Railroads and Wagon Roads," Good Roads I (January, 1892) 39.

69. Ibid. 40-41.

70. Good Roads, "Editor's Table," V (January, 1894) 42.

71. Henry I. Budd, Third Annual Report of the Commissioner of Public Roads - 1896 (New Jersey: MacCrellish and Quigley, 1896) p. 8.

72. Ibid. and United States Department of Agriculture, Office of Road Inquiry "Going in Debt for Good Roads," Circular No. 26 (Washington: U.S. Government Printing Office, 1897), p. 6.

73. Fred Spalding, A Text-Book on Roads and Pavements (New York: John P. Wiley, 1909) p. 10.

74. U. S. Dept. of Agriculture, Circular No. 26, p. 6.

75. Good Roads, "Advertisement," III (February, 1893)

76. Isaac B. Potter, "The Gospel of Good Roads," Good Roads, I (January, 1892), 2.

77. L. F. Bates, "The Political Power of the League of American Wheelmen," The Wheelman, II (May, 1883), 98.

78. Good Roads, "The Inside of a Tramp," V (April, 1894), 111.

79. Good Roads, "Wide Tire Information Wanted," V (September, 1894), 163.

80. United States Department of Agriculture, Office of Road Inquiry "Wide Tires," Bulletin No. 14 (Washington: U. S. Government Printing Office, 1894) pp. 1-16.

81. Ibid.

82. Lewis Haupt, A Move for Better Roads (Philadelphia: University of Pennsylvania Press, 1891) p. 111.

83. Parker, p. 89.

84. Bates, The Wheelman (October, 1882) 40.

85. Potter, "The Gospel of Good Roads," 3

86. Good RoadsII (October, 1892), "Editor's Table" 233.

87. Good Roads II (November, 1892), 282.

88. Good Roads III (February, 1893), 109.

89. A. H. Overman, "Roads," Good Roads III p. 27.

90. Budd, Henry I. Third Annual Report of the Commissioner of Public Roads - 1896 p. 27.

91. Roy Stone, "The League of American Wheelmen As a Political Party," Good Roads, VI (October, 1894), 175.

92. Good Roads VI (July, 1892), 52.

93. Good Roads IV (January, 1894), p. 42.

94. Budd, Henry I. Third Annual Report of the Commissioner of Public Roads - 1896, p. 8

95. The Wheelman I (January,) .

96. Bates The Wheelman I (November, 1882) 126-127.

97. Good Roads II (February, 1893) 93.

PART II

1. Winther, p. 150.

2. Good Roads VI (August, 1894), 95.

3. W. Stull Holt, The Bureau of Public Roads: Its History, Activities, and Organization. (Baltimore: Institute for Government Research, John Hopkins Press - 1923) p. 5.

4. Albert Pope, A Memorial to Congress (Boston, 1892) pp. 7-11.

5. Parker, p. 90.

6. George Chatburn Highways and Transportation (New York, 1923) p. 133.

7. Simon, p. 29

8. Holt, p. 5

9. U.S. Statutes at Large, 737, March 3, 1893. Same in 28 Statutes at Large 266, August 8, 1894, 28 Statutes at Large 728, March 2, 1895.

10. Holt p. 6

11. Ibid. pp. 6-7.

12. Simon, p. 37.

13. Yearbook of the Department of Agriculture, 1894, Report of the Secretary, 53-55.

14. Yearbook of the Department of Agriculture, 1900, Report of the Secretary, 53.

15. Ibid.

16. 29 Statutes at Large, 99,104.

17. Annual Report of the Department of Agriculture (Washington D.C., 1899) p. xi.

18. Holt, p. 9.

19. Ibid.

20. Good Roads, "Good Roads and the National Government," V (September, 1893), 122.

21. United States Department of Agriculture, Office of Road Inquiry "Addresses on Road Improvement," Circular No. 14, p. 2.

22. Budd, Henry, Third Annual Report of the Commissioner of Public Roads - 1896. pp. 1-18

23. United States Department of Agriculture Office of Road Inquiry "Road Conventions in the Southern States 1902," Bulletin No. 23, (Washington, D.C.: Government Printing Office, 1902), pp. 1-89

24. Good Roads I (January, 1892) 44.

25. Holt, p. 13.

26. Holt, p. 14.

27. United States Department of Agriculture Office of Road Inquiry "Address on Road Improvement in Maine, New York, North Carolina, and Illinois," Circular No. 28 (Washington, D.C.: Government Printing Office, 1897) p. 2.

28. Bates, The Wheelman, II (April, 1883) 99.

29. Martin Dodge, "The Govern,ent and Good Roads," Forum, XXXII (November, 1901) 294-297.

30. U. S. Dept. of Agriculture Circular No. 28 and Roy Stone New Roads and Road Laws in the U.S. (New York: D. Van Nostrand, 1894) p. 30.

31. Ibid. Stone p. 126.

32. J. D. Ellsworth, "Popular Road-Making Does Not Always Make Popular Roads," Good Roads VI (September, 1894) 149.

33. Winther, p. 149.

34. Ibid.

35. Good Roads I (March, 1892), 168-169.

36. A. M. Ryan, "The Roads of Montana," Good Roads, VI (October, 1894), 186-189.

37. Hon. John J. Ingalls, "Roads of the Western States," Good Roads, I (April, 1892), 175-176.

38. A. B. Choate, "The Home of Minnehaha," Good Roads, VI (August, 1894), 68.

39. Good Roads, "Popular Opinion," I (April, 1892), 231.

40. Kron, p. 513.

41. Hiram M. Chittenden, "Roads in Yellowstone National Park," Good Roads V (January, 1894), 1-23.

42. Roy Stone, "Good Roads," Overland Monthly, XXV (March, 1895) 234-236.

43. Lewis M. Haupt, "Importance of Good Wagon Roads," Roads Improvement (L.A.W., 1891), p. 29.

44. Ira Osborn, A Treatise on Roads and Pavements (New York: John Wiley & Sons, 1909), p. 44.

45. League of American Wheelmen, Cycling Handbook (Cleveland: The Judson Co., 1947), p. 20.

46. Ibid.

47. Outing, "Bicycling," XXXVIII (April, 1901), 115.

48. Outing, "Bicycling," XXXVIII (May, 1901), 232.

49. James T. Jenkins, Jr., "A Sign of the Times," American Road Builder XLV (February, 1968), 14-17 and Highway Practice in the USA, p. 4.

50. H. W. Bartleet, Bartleet's Bicycle Book (London: E. J. Burrow Co., 1928) p. 4. Extract taken from an address by Mr. A. J. Wilson at the Royal Automobile Club, Sept. 6, 1928.

51. Times Leader Evening Newspaper, Wilkes-Barre, Penn. Feb. 3 and Feb. 10, 1968, p. 2.

PART III

1. Holt, p. 9

2. Hart, p. 178.

3. Roy Stone, "National Aid to Road Building," Good Roads II (September, 1892), 139-144.

4. Winther, p. 157.

5. Henry I. Budd, Third Annual Report of the Commissioner of Public Roads - 1896, p. 8.

6. United States Department of Agriculture Office of Road Inquiry, Bull. 26, "Proceedings of the National Good Roads Convention Held at St. Louis, Missouri, 1903," (Washington, D.C.: Government Printing Office, 1903), p. 34.

7. Winther, p. 155.

8. United States Department of Agriculture Office of Road Inquiry, "The Social, Commercial, and Economic Phases of the Road Subject," Circular No. 34, (Washington, D.C.: Government Printing Office, 1900), p. 3

9. J. D. Ellsworth, "Popular Road-Making Does Not Always Make Popular Roads," Good Roads VI (September, 1894), 149.

10. Dictionary of American Biography, Vol. XV, pp. 74-75.

11. Joseph B. Bishop, "Social and Edonomic Influence of the Bicycle," Forum, XXI (August, 1896), 680-689.

12. Good Roads, "Trade Notes," VI (January, 1894), 44.

13. Winther, p. 163.

14. Roy Stone, "New Roads and Road Laws in the U.S. p. 120

15. New York Times, September 11, 1892.

16. Bates, The Wheelman I (October, 1882), 40-44.

17. Stone, New Roads and Road Laws in the U.S. p. 7.

18. Winther, p. 154 and Highway Practice in the U.S.A., p. 4.

19. Stone, New Roads and Road Laws in the U.S. p. 120.

20. Ibid.

21. Roads Improvement, p. Front Cover.

22. U. S. Dept. of Agriculture Bulletin No. 26, p. 7.

23. Ibid.

24. Stone, New Roads and Road Laws in the U.S. p. 10.

25. Good Roads, VI (November, 1894) 256.

26. U. S. Dept. of Agriculture Bulletin 26.

27. Hon. Joseph N. Dolph, "A Plea for Better Roads," Good Roads, I (March, 1892), 116-122.

28. Ibid.

29. United States Department of Agriculture Office of Road Inquiry "Good Roads," Extracts from Messages of Governors, Bulletin No. 14, Washington, D.C.: Government Printing Office, 1894, p. 1.

30. Ibid.

31. United States Department of Agriculture Office of Road Inquiry "Proceedings of the Good Roads Convention of Texas, 1895," Bulletin No. 15, (Washington, D. C.: Government Printing Office, 1895) p. 7.

32. Good Roads, "Popular Opinion," I (February, 1892), 110.

33. Parker, p. 94.

34. U. S. Department of Agriculture, Bulletin No. 26.

35. Hart, p. 180.

36. American Association for Highway Improvement, Papers, Addresses, and Resolutions, Before the American Road Congress, Held at Richmond, Virginia, November 20-23, 1911, (Baltimore:Waverly Press, 1912)

37. Stone, New Roads and Road Laws in the U.S. p. 120.

PART IV

1. U. S. Dept. of Agriculture Bulletin No. 26, p. 46.

2. Maurice O. Eldridge, "Public Road Mileage," United States Department of Agriculture Bulletin No. 32 (Washington, D.C., 1907), pp. 8-9. SEE CHART AFTER THESE FOOTNOTES.

3. Martin Dodge, United States Department of Agriculture - Report of the Office of Public Road Inquiries for 1904 (Washington, D. C.: Washington Government Printing Office, 1904), p. 419.

4. Ibid.

5. Highway Practice in the United States, p. 4

6. Eldridge, Bulletin No. 32, pp. 8-9. SEE CHART AFTER THESE FOOTNOTES.

7. Stone, New Roads and Road Laws in the U.S. p. 17.

8. Ibid. and Good Roads VII New Series "Road Improvement in the United States in 1909 and 1910," (March, 1910) 95-107.

9. William Pierson Judson, Road Preservation and Dust Prevention New York: Engineering News Publishing Co., 1908) p. 3.

10. Ibid.

11. Ibid. p. 178.

12. Holt, p. 13

13. Yearbook of Department of Agriculture 1906, Report of Secretary, 117.

14. Holt, p. 14

15. 37 Statutes at Large 551, August 24, 1912.

16. Report of the Joint Committee on Federal Aid in the Construction of Post Roads, Federal Aid to Good Roads, (Washington, D. C.: Washington Government Printing Office, 1915)

17. Preliminary Report submitted to the Joint Committee on Federal Aid by Jonathan Bourne, Jr. Chairman. January 14, 1913, and April 25, 1913. p. 48.

18. Holt, p. 16.

19. Bishop, Forum, XXI, 680-689.

20. Cressy Morrison, "What the League Had to Do With It," Good Roads, (July, 1894), 13-16.

21. J. W. Stockwell, "The Agitation for Better Roads," Good Roads III (January, 1893), 24.

22. Potter, Good Roads I (January, 1892) 1.

23. Ibid.

PUBLIC-ROAD MILEAGE AND EXPENDITURES IN THE TRANS-MISSISSIPPI WEST IN 1904

State or Territory	Total Mileage	Total Miles of Improved Road	Percentage Improved	Total Dollars Spent on Roads
Arizona	5,987	217	3.62	109,309
Arkansas	36,445	236	.64	1,395,343
California	46,653	8,803	18.87	2,157,396
Colorado	30,214	178	.58	707,224
Idaho	18,163	212	1.16	311,588
Iowa	102,448	1,664	1.62	3,106,607
Kansas	101,196	273	1.26	1,232,817
Louisiana	24,897	34	.13	951,873
Minnesota	79,324	6,247	7.87	1,961,629
Missouri	108,133	2,733	2.52	2,368,973
Montana	22,419	65	.28	404,098
Nebraska	79,462	23	.02	878,547
Nevada	12,585	64	.50	46,876
New Mexico	15,326	2	.01	165,652
North Dakota	59,332	212	.35	550,341
Oklahoma	43,554	0	.0	774,776
Oregon	34,258	2,589	7.55	796,376
South Dakota	59,295	151	.25	383,283
Texas	121,409	2,128	1.75	4,138,157
Utah	7,090	608	8.57	218,676
Washington	31,998	1,976	6.17	1,436,070
Wyoming	10,447	153	1.46	345,932
Trans-Mississippi West	1,050,635	28,568	2.51	24,441,543
Unites States	2,151,570	153,662	7.14	79,771,418

Data compiles by the U.S. Dept. of Agriculture, Office of Public Roads, Public-Road Mileage by Maurice O. Eldridge, Bulletin No. 32 (Washington D.C. - 1907) 8-9.

PHOTOGRAPHS USED

Placed on Pages 70 - 71 - 72

IN THEIR ATTEMPT TO STIR THE PEOPLE OF AMERICA TO ADVANCE THE CAUSE OF BETTER ROADS, THE LEAGUE OF AMERICAN WHEELMEN ENCOURAGE READERS TO SEND IN PHOTOGRAPHS OF ROADS. THESE WERE PRINTED WITH THE HOPE THAT ALL WOULD SEE THE CONDITION OF THIS NATIONAL TRAGEDY.

THE ROADS OF AMERICA WERE COMPARED TO THE ROADS OF EUROPE. THESE WERE DIRECTED AT THE FARMER'S POCKET.

SOME ROADS WERE THOUGHT TO BE THE DELIGHT OF THE BAD ROADS CAMERA FIEND, SENDING HIM INTO ECSTASY.

ROADS OF MONTANA

Taken from Good Roads Volume V, October, 1894
A. M. Ryan's 'Roads of Montana", p. 188.

Minnesota Road

Taken from U. S. Department of Agriculture, Circular 31
A. B. Choate's "State Aid to Road Building in Minnesota", p. 7

A Modern Venice

Taken from Good Roads V (June, 1894), p. 222

A Conundrum

Taken from The Wheelman 2 (October, 1892).
Caspir Taboit, "The Wheelman and the Public Roads," p. 206

THE BEGINNING OF THE LEAGUE OF AMERICAN WHEELMEN

Taken from Cycling Handbook League of American Wheelmen, Cleveland, 1947. p. 16.

THE MAIN ROAD OF OHIO - MARCH 28, 1891

Taken from Roads Improvement L.A.W. 1891 - Isaac Potter's "The Common Roads of Europe and America." p. 5.

DON'T GET INTO A RUT

Taken from Good Roads Volume V, June 1894 p. 226.

ABANDONED LOAD OF HAY - FARMER'S PLIGHT IN AMERICA

Taken from Good Roads Volume I, January, 1892 Isaac Potter's "The Gospel of Good Roads," p. 19.

FRENCH FARMERS LOAD OF HAY

Taken from Good Roads Volume I, Janaury 1892 Isaac Potter's "The Gospel of Good Roads," p. 20.

CONFUSION AT THE CROSSROADS

Taken from American Road Builder February, 1968 Volume 45, James T. Jenkins, Jr. "A Sign of the Times", p. 15.

A MINNESOTA ROAD

Taken from Good Roads Volume 6 August, 1894 A. B. Choate's "The Home of Minnehaha," p. 67

BIBLIOGRAPHY

REPORTS:

Budd, Henry I. Second Annual Report of the Commissioner of Public Roads - 1895. Trenton, New Jersey: MacCrellish and Quigley Co., 1896.
Useful for arguments persuading farmers to improve roads.

Budd, Henry I. Third Annual Report of the Commissioner of Public Roads - 1896. Trenton, New Jersey: MacCrellish and Quigley, 1896.
Contained interesting communication between Genl. Roy Stone and School Superintendents on the Roads issue and teacher involvement.

Clark, William Bullock. Report on the Highways of Maryland. Maryland Geological Survey. Baltimore: The Johns Hopkins Press, 1899.

Dodge, Martin. United States Department of Agriculture - Report of the Office of Public Roads Inquiry - 1903. Washington, D.C.: Washington Government Printing Office, 1903.
Gives a summary of the work enacted by the Office for the year 1903.

Dodge, Martin. United States Department of Agriculture - Report of the Office of Public Road Inquiries for 1904. Washington, D.C. Washington Government Printing Office, 1904.
Gives a progress report of the roads movement throughout the country for the year 1904.

First Annual Report of the Illinois Highway Commission for 1906. Springfield: Phillips Brothers, 1907.
Helpful in explanation of the cash systems at work in the State.

Second Annual Report of the Illinois Highway Commission for 1907. Springfield: Phillips Brothers, 1908.
Given explanation of cash system, labor system, and poll tax at work in the State.

Macdonald, James H. Report of the State Highway Commissioners of Connecticut. Norwich: The Bulletin Co., 1895-1896.
Helpful in support of the conviction of the good roads campaign.

Report of the Joint Committee on Federal Aid in the Construction of Post Roads. Federal Aid to Good Roads. Washington, D.C.: Sicty-Third Congress - Third Session. Document No. 1510 Serial 6884. House Documents Volume 99. January 21, 1915.

Preliminary Report submitted to the Joint Committee on Federal Aid by Jonathan Bourne, Jr. Chairman January 14, 1913 and April 25, 1913.

Present public opinion on -he issue.

Study Committee on Federal Aid to Highways. A Study Committee Report on Federal Aid to Highways. June, 1955.

PAMPHLETS:

American Association for Highway Improvement. Papers, Addresses, and Resolutions, Before the American Road Congress, at Richmond, Virginia, November 20-23, 1911. Baltimore: Waverly Press, 1912.
Interesting messages from Statesmen.

Jenkins, James T. The Story of Roads Washington D.C.: American Road Builder, 1967.
Chronological history of roads in America from the early Indian trails to the present day. Section on the efforts of the L.A.W. was helpful.

Lewis, Elmer. Laws Relating to Federal Aid in the Construction of Roads. Washington, D.C.: U.S. Government Printing Office, 1936.

Owen, Wilfred. A Study in Highway Economics. Cambridge: The Society, 1934. Including an extract from Public No. 336 Sixty-Second Congress, Post Office Appropriation Act, August 24, 1912.

Pope, Albert A. A Memorial to Congress on the Subject of a Comprehensive Exhibit of Roads, Their Construction and Maintenance at the World's Columbian Exposition Albert A. Pope, Boston, 1892.
Compilation of reaction to the idea signified in the title. Western thought brought out in a few contributions.

YEARBOOKS:

Page, Logan W. "Progress and Present Status of the Good Roads Movement in the United States," Department of Agriculture - Yearbook 1910, 265-275.
Resume of history of road conditions. Not as helpful as I had anticipated.

The Official Good Roads Year Book of the United States. Published by The American Association for Highway Improvement, Washington, D. C. - 1912.

UNPUBLISHED MATERIAL:

Parker, Mary Ann. "The Bicycle in American History," Unpublished Master's dissertation, Department of History, University of Illinois, 1947.
This was most helpful in preparing this paper. Excellent resource on the bicycle as the library is limited in its books on cycling.

Simon, Harold Meyer. "Federal Highway Legislation and Administration," Unpublished Master's dissertation, Department of Political Science, University of Illinois, 1936.
Furnished assistance on the legislative aspect of the Good Roads Movement.

BULLETINS:

Petty, Ben H. "Highways Then and Now," Engineering Bulletin Purdue University - Extension Series 52 XXV (November, 1941) pp. 1-27.

United States Department of Agriculture Office of Road Inquiry-Bulletins. Washington, D. C.: Government Printing Office, 1894.

Stone, Roy. "State Laws Relating to the Management of Roads," #1.
Branner, John C. "Report on Road-Making Materials in Arkansas, #4.
Officials of Various Railroad Companies, "Information Regarding Road Materials and Transportation Rates, " #5.
Stone, Roy. "Earth Roads: Hints on the Construction and Repairs, #8.
"Proceedings of the National Road Conference," July, 1894, #10.
Crump, M. H. "Kentucky Highways," #13.
Extracts from Messages of Governors. "Good Roads," #14.
"Proceedings of the Good Roads Convention of Texas, 1895, #15.
Stone, Roy. "Road Building in the U. S." #17.
Stone, Roy. "State Laws Relating to Management of Roads Enacted in 1894-1895," #18.
"Progress of Road Construction in the U.S. 1897," #19
"Proceedings of the International Good Roads Congress," 1901, #21.

BULLETINS CONTINUED:

"Proceedings of the Third Annual Good Roads Convention 1902," #22.
"Road Conventions in the Southern States 1902," #23
"Proceedings of the North Carolina Good Roads Convention 1903," #24.
"Proceedings of the National Good Roads Convention Held at St. Louis, Missouri 1903," #26
Bulletin #5 helpful for Western States; #14 Interesting remarks by Western Governors; #15 Presented views of General Roy Stone on Texas and California progress, #26 Good comparison of 1893 and 1903 conventions.

CIRCULARS:

United States Department of Agriculture. Office of Road Inquiry
Road Inquiry Circular Vol. 1-100.

"Addresses on Road Improvement" Circular 12, June 1894.
"An Act to Provide for the Construction of Roads by Local Assessment, County and State Aid." Circular 15, 1894.
"Origin and Work of the Darlington Road League," Circular 17, 1895.
"Report of the Committee on Legislation," Adopted by the State Good Roads Convention, Circular 18, 1895.
"Traffic of the Country Roads," Circular 19, 1896.
"Comments on Systems of Maintaining Country Roads," Circular 20, 1896.
"Methods of Constructing Macadamized Roads," Circular 21, 1896.
"Nashville, Tenn. Report." Circular 22, 1896.
"Money Value of Good Roads to Farmers," Circular 23, 1896.
"Practical Results of the Daily Care of Common Roads," Circular 24 1896.
"Brick Paving for Country Roads," Circular 25, 1896.
"Going in Debt for Good Roads," Circular 26, 1897.
"Address on Road Improvement in Maine, New York, North Carolina, and Illinois," Circular 28, 1897.
"The Forces Which Operate to Destroy Roads," Circular 29, 1897.
"State Aid to Road Building in Minnesota," Circulars 31-32, 1898.
"Road Improvement in Governors' Messages," Circular 33, 1899.
"The Social, Commercial, and Economic Phases of the Road Subject," Circular 34, 1900.
"List of National, State, and Local Road Associations and Kindred Organizations in the United States," Circular 36, 1902.
"The Railroads and the Wagon Roads," Circular 37, 1904.
"Public Roads of the State of : Washington, Circular 39, 1904.
Arizona, Circular 40, 1904.
Arkansas, Circular 41, 1904.
Oregon, Circular 42, 1904.
Iowa, Circular 43, 1904.

CIRCULARS CONTINUED:

"Public Roads in the State of: New Mexico, Circular 52, 1904.
Montana, Circular 54, 1904.
Wyoming, Circular 55, 1904.
North Dakota, Circular 56, 1904.
South Dakota, Circular 57, 1904.
Nebraska, Circular 61, 1904.
Nevada, Circular 62, 1904.
Idaho, Circular 64, 1904.
Colorado, Circular 65, 1904.
Oklahoma, Circular 67, 1904.
Utah, Circular 68, 1904.
California, Circular 69, 1904.
Missouri, Circular 72, 1904.
Minnesota, Circular 80, 1904.
Texas, Circular 85, 1904.

"Progress Reports of Experiments With Dust Prevention," Circular 89, 1908.
"Sand-Clay and Earth Roads in the Middle West," Circular 91, 1910.
"Special Problems in the Southern States," Circular 95, 1911.
Generally useful for topics indicated. Photographs in Circular 14 helpful.

BOOKS:

Baker, Ira Osborn. A Treatise on Roads and Pavements, New York: John Wiley & Sons, 1909.
Enumerated advantages of good roads of some assistance.

Bartleet, H. W. Bartleet's Bicycle Book. London: E. J. Burrow & Co., 1928.
London orientated so provided a small amount of information on the American scene.

Faulkner, Harold N. The Quest for Social Justice. New York: The MacMillan Co., 1931.

Federal Works Agency. Highway Practice in the United States of America. Washington: U.S. Government Printing Office, 1949.
Presents good summary of State and Federal policy for assistance on roads, regarding maintenance and construction.

Hart, Val. The Story of American Roads. New York: William Sloane Associates, Inc., 1950
Emphasis on material for roads. Quite useful for this paper.

Haupt, Lewis. A Move for Better Roads. Essays on Roadmaking and Maintenance and Road Laws for which prizes were awarded through the University of Pennsylvania. Philadelphia: University of Pennsylvania Press, 1891.
Gives an insight on the thinking of several creative minds on the subject of roads at this period.

BOOKS CONTINUED

Holt, W. Stull. The Bureau of Public Roads: Its History, Activities, and Organization, Baltimore: Institute for Government Research, Johns Hopkins Press, 1923.
Complete investigation of the work carried on by the Bureau of Public Roads, organized into a study of the testing, investigation, and research accomplished. Particularly helpful for Part II of this paper.

Ihlseng, Magnus. The Road Making Materials of Pennsylvania. Printer of Pennsylvania, 1900.

Jackson, W. Turrentine. Wagon Roads West. Los Angeles: University of California Press, 1952.
Provided information and other source material through the Bibliography but the period studied preceded the time of this paper.

Judson, William Pierson. Road Preservation and Dust Prevention. New York: Engineering News Publishing Co., 1908.
Deals mainly with motor cars. However the problem of dust and its prevention was most acute before 1912 as ably described in this presentation.

Kron Karl. Ten Thousand Miles on a Bicycle. Karl Kron New York; 1887.
This is what its Preface states it to be - a Gazetteer, statistical guide, thesaurus of facts, meant less for reading than for reference. Contains Cycling and League information as well as description of his travels.

League of American Wheelmen, Cycling Handbook, Cleveland: The Judson Co. 1947.
Presents information on touring, and mechanics of the bicycle. The chapter on the League of American Wheelmen was helpful for a short summary of the history of the League.

Palmer, Arthur. Riding High. New York: S. P. Dutton & Co., 1956.
Chronological history of the bicycle. Not too helpful regarding the work of the League on better roads.

Pope, Albert A. An Open Letter. Albert A. Pope, Boston, 1892.
Gives evidence of Pope's untiring effort on the subject of roads.

Pope, Albert A. Wagon Roads. Albert A. Pope, Boston, 1892.
Compilation of opinions regarding roads with specific reference to the Railroads.

BOOKS CONTINUED

Schlesinger, Arthur, and Fox, Dixon Ryan. A History of American Life. New York: The Macmillan Co., 1956.
Was interesting to note in this "recent" book the credit given to the L.A.W. in its work for roads. A very short section on this topic but helpful to view this in its proper perspective regarding the full scope of American life.

Shaler, Nathaniel S. American Highways. New York: The Century Co., 1896.
Not too beneficial for this paper.

Spalding, Fred. A Text-Book on Roads and Pavements. New York: John P. Wiley, 1899.
Emphasis was on type of pavements and not the Good Roads Movement itself.

Spinks, William. The Law and Practice as to Paving of Private Streets. New York: E. & R. N. Spon, 1887.

Stone, Roy. New Roads and Road Laws in the U.S. New York: D. Van Nostrand, 1894.
The author was directly involved in this issue, being the Special Agent chosen with the creation of the Office of Public Roads. Excellent account of roads.

Symposium conducted by the Tax Institute November 8-9, 1956. Financing Highways. Princeton: Tax Institute Incorporated, 1957.
Not particularly helpful for this paper.

Winther, Oscar Osburn. Histories of the American Frontier - The Transportation Frontier-Trans Mississippi West 1865-1890. Chicago: Holt, Rinehart & Winston, 1964.
The last chapter proved to be of great assistance in summarizing the necessity of the League and its contribution to the Trans-Mississippi West. Excellent Bibliography.

ARTICLES:

"A Novel Path for Bicyclists." Scientific American, LXXXI (May 13, 1899), 296.
Presents the Footpath as an answer for riding space. Not too helpful.

Baker, Ira O. "The Cost of Bad Roads," Good Roads, II (September, 1892), 123-129.
Propaganda style of writing for the Movement.

Barker, D. W. "To the Wheelmen of America," Good Roads, III (February-March, 1893), 91-93, 168-169.

Bates, L. F. "The Effect of the Bicycle Upon Our Highway Laws," The Wheelman, I (November, 1882), 126-129 and (October, 1882), 40-44.

ARTICLES CONTINUED:

Bates, L. F. "The Political Power of the League of American Wheelmen," The Wheelman, II (May, 1883), 98-100
Both of the above articles by Bates quite signigicant in this study of the Wheelmen for the early campaign of the 1880's.

Bishop, Joseph B. "Social and Economic Influence of the Bicycle," Forum, XXI (August, 1896), 680-689.

Bruce, Robert. "The Wheel Highways of Ontario, A Trip from Detroit to Montreal," Outing, XXXVI (July, 1900), 401-406.
Descriptive of roads but not particularly useful for the Trans-Mississippi area.

Bull, W. S. "The Plain Facts of the Case," Good Roads, III (February, 1893), 81-83.

Cheney, Francis J. "Good Roads and School Attendance." Good Roads, III (February, 1893), 71-74.
Interesting report with typical ideas for this period of history regarding schools.

Chittenden, Hiram M. "Roads in Yellowstone National Park," Good Roads, V (January, 1894), 1-23.
Descriptive account but lacked a disgust with road conditions.

Darling, Gen. Charles W. "Roads, Good and Bad," Good Roads, III (April, 1893) 175-181.

"Do Good Roads Pay?" The Prairie Farmer LXXII (December 22, 1960), 6.
Urgent plea to the Farmers of America. Helpful for the section of this paper on the Farmers.

Dolph, Hon. Joseph N. "A Plea for Better Roads," Good Roads,I (March, 1892), 116-122.
Helpful report from this Senator of Oregon, giving reasons for indifference in this issue.

Editorial, "The Wheelman, II (August, 1883) 378-379
Notes Western Members of the League and their progress.

ARTICLES CONTINUED:

"Editorial," The Wheelman, II (September, 1883), 468-469.
Good comparison of roads of Canada.

"Editor's Table," Good Roads, V (January, 1894), 42.
Shows effort put out by this Magazine to urge Chief Consuls in every area to continue their work for roads.

"Editor's Table," Good Roads, I (March, 1892), 162.

Fowke, Vernon C. "National Policy and Western Development in North America," Journal of Economic History, XVI (December, 1956), 461-479.
Not of much assistance for this paper.

"General Miles and the Wheelmen," Good Roads, III (March, 1893), 164-166.

"Good Roads," Pacific Rural Press LIX (April 28, 1900), 260.
Helpful for persuasion used with the Rural Area.

Goodrich, Carter. "American Development Policy: The Case of Internal Improvements," Journal of Economic History XVI (December, 1956), 449-460.
Topic did not continue to cover the period of history involved in this paper.

"Growth of the Road Movement," Good Roads, V (May, 1894), 157-158.

Hawley, C. E. "Uses of the Bicycle," The Wheelman, I (October, 1882), 222-229.
References made to the bicycle clubs and their influence on each other was helpful.

Hubert, Philip "The Bicycle & The Wheel of To-day," Scribner's Magazine, XVII (June, 1895), 692-702.

Ingalls, Hon. John J. "Roads of the Western States," Good Roads, I (April, 1892), 175-176.
Interesting account from a Western Senator from Kansas on the road conditions of this area.

Irwin, Hon. J. O. "Ways and Means," Good Roads, II (September, 1892), 130-132.

Jenkins, James T. Jr. "Bikeway - A Sign of the Times," American Road Builder XLV (February, 1968), 14-17.
Up-to-date information of the recent developments of bicycle legislation as well as a good summary of the history of the bicycle.

ARTICLES CONTINUED:

Kerrigan, F. H. "The League of American Wheelmen in Politics," Overland Monthly, XXVIII (September, 1896), 285-287.
Report from this Chief Consul, North California Div. of the L.A.W. gives good summary of the legislative efforts on the topic of roads in California.

Light, Edward "Colorado Roads and Scenery," Good Roads, VI (August, 1894), 69-79.
Descriptive, but not particularly useful.

Markham, Gov. H. H. "Good Road Movement in California," Good Roads, VI (July, 1894), 13-16.
Shows his awareness and interest in the Movement.

Mayo, Earl "A Good Road, A Good Investment," World's Week II (October, 1901), 1285-1289.
Describes the inconsistency of the method of labor on roads.

Miller, William A. "Good Roads," Good Roads, I (May, 1892), 246-254.

Morrison, Cressy "What the League Had to Do With It," Good Roads, V (May, 1894), 219-221.
Article seems to be "dripping" with exaggeration in favor of the L.A.W.

Mott, Albert. "National Highways," Good Roads, I (January, 1892), 30-33.

"News and Comments," Good Roads, V (February, 1894), 94-95.
Short items showing progress of the Roads Movement.

"News and Comments," Good Roads, I (February, 1892), 107-109.

Owen, James, "The Birthplace of American Road Improvement," Good Roads, III (April, 1893), 313-320.

Owen, W. O. "A Tour Over the Rocky Mountains," The Wheelman, I (January, 1883), 284-287.
Lauds the good natural road as compared to the made roads of the East. Descriptive.

Parsons, A. S. "The League Meet at Chicago," The Wheelman, I (November, 1882), 115-125.
Excellent description of the early organization of the L.A.W.

Perkins, Hon. George A. "The Growth and Constitution of the Roads Question," Good Roads, III (January, 1893), 4-9.

ARTICLES CONTINUED:

Pollard, Percival "The Road and Its Rewards," Outing XXXVI (June, 1900), 299-302.

Potter, Isaac B. "The Gospel of Good Roads," Good Roads, I (January and February, 1892), 1-29, 51-80.
"Definitive" statement on the Roads Issue. Referred to quite often in any readings on the campaign.

Pope, Albert A. "Some Road Problems," Good Roads, VI (August, 1894), 61-62.

Pratt, Charles E. "Legislation As to Bicycles on Highways," Outing X (May, 1887), 157-161.

"Retrospective, Present, and Prospective," Good Roads, V (April, 1894), 148.
States the purpose of the Magazine and gives a report on progress made thus far.

"Road Improvement in the United States in 1909 and 1910," Good Roads, XI New Series (March, 1910) 95-107.
Excellent summary of individual States and their standing as of 1910 on Roads Improvement.

Retifer. "The Wheel in the West," Overland XXXV (June, 1900), 521-529.
Stands in praise of California's roads for cycling.

Ryan, A. M. "The Roads of Montana," Good Roads, VI (October, 1894), 186-189.
Short summary of the road situation in Montana. Issue dedicated to the State of Montana.

Spalding, Hon. N. G. "Profit and Loss to the Farmer," Good Roads, IV (November, 1893), 185-191.
Presents to the farmer the necessity for good roads.

Stone, Roy "National Aid to Road Building," Good Roads, II (September, 1892) 139-144.
Good presentation on Federal Involvement in Better Roads.

Stone, Roy "The League of American Wheelmen As a Political Party," Good Roads, VI (October, 1894), 175-176.
Slanted view, slightly exaggerated commendation of the League.

"The Inside of a Tramp," Good Roads, V (April, 1894), 110-111.
Amusing and yet creative idea on the labor of tramps.

"The League of Am-rican Wheelmen," American Cycling IV (August, 1965) 12-13.
Summary of the history of the League of American Wheelmen.

OTHER SOURCES:

"Pope, Albert," Dictionary of American Biography, XV American Council of Learned Society, 1935.

"Roads and Highways," Encyclopedia Americana XXIII New York: Americana Corp., 1967.

"Roads: Good Roads Movement," Dictionary of American History IV New York: Scribner's 1940.

Times Leader Evening Newspaper of Wilkes Barre, Pennsylvania (February 3, 1968 and February 10, 1968) p. 2.