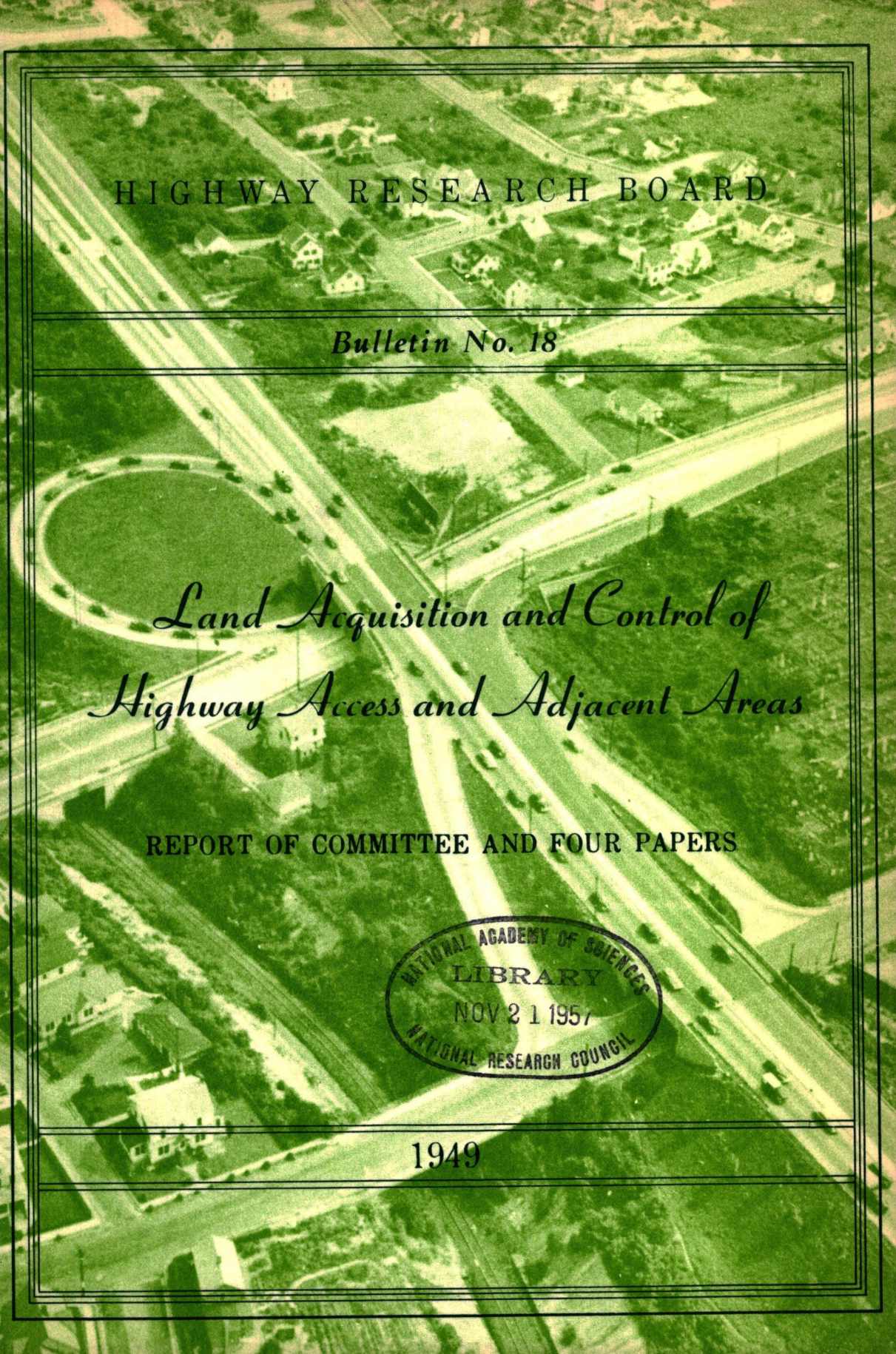

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Bulletin No. 18

Land Acquisition and Control of Highway Access and Adjacent Areas

REPORT OF COMMITTEE AND FOUR PAPERS

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HIGHWAY RESEARCH BOARD

Bulletin No. 18

LAND ACQUISITION AND CONTROL OF HIGHWAY ACCESS AND ADJACENT AREAS

REPORT OF COMMITTEE AND FOUR PAPERS
PRESENTED AT THE TWENTY-EIGHTH ANNUAL MEETING

1948

HIGHWAY RESEARCH BOARD
DIVISION OF ENGINEERING AND INDUSTRIAL RESEARCH
NATIONAL RESEARCH COUNCIL

WASHINGTON 25, D. C. APRIL 1949

DEPARTMENT OF ECONOMICS, FINANCE AND ADMINISTRATION

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FOREWORD

In many ways, this has been a "right-of-way year," to coin a phrase. For this year, a top spot at a general session was assigned to a presentation and discussion of the highway right-of-way problem. In addition, important discussions of land acquisition and roadside problems, and matters related to control of access, were sponsored by the Committee on Land Acquisition and Control of Highway Access and Adjacent Areas, Department of Economics, Finance, and Administration, Highway Research Board.

It is the hope of those who are associated in this segment of highway development that the timely concern of highway administrators with the right-of-way problem will soon result in a lessening of land acquisition difficulties.

REPORT OF COMMITTEE ON LAND ACQUISITION AND CONTROL OF HIGHWAY ACCESS AND ADJACENT AREAS

David R. Levin, Chairman

Highway right-of-way problems continue to perplex highway management. These problems, not all of them found to exist in all the States, of course, may be enumerated as follows, not necessarily in order of their importance: (1) Lack of availability of right-of-way funds in advance of construction funds; (2) maximum right-of-way width limitations in statutes; (3) lack of machinery for reserving rights-of-way prior to their acquisition or immediate need; (4) right-of-way clearance difficulties; (5) absence of effective public control of the roadsides; (6) lack of legal authority to obtain possession of lands when needed; (7) inefficient organization of land acquisition functions; (8) inadequate compensation for right-of-way personnel; and (9) obsolete land acquisition practices generally.

The efforts of the Highway Research Board Committee on Land Acquisition and Control of Highway Access and Adjacent Areas, since its formulation, have been directed toward the study of these problems and their betterment. What has been accomplished this year on some of these is recorded in the following pages.

The 1947 annual report of the Committee and special papers sponsored at the 27th Annual Meeting of the Highway Research Board were published in February 1948 as Bulletin No. 10 entitled "Report of Committee on Land Acquisition and Control of Highway Access and Adjacent Areas and Special Papers."

ACQUIREMENT OF LAND

Right-of-Way Clearance

A critical problem affecting all present highway development is that of displacement of occupants from buildings which must be removed from rights-of-way needed for highway construction. The technique of the State of California is noteworthy, because of its extensive experience with clearance matters.

In the Los Angeles area, the State auctions off improvements located on the right-of-way of proposed State highways, and in order to prevent undue hardship to occupants of the dwellings involved, the Division of Highways imposes the following terms of sale on the buyers of such properties.

The successful bidder is required to execute a covenant with the Division of Highways agreeing among other things:

1. To permit all of the present tenants to continue in occupancy until the actual moving operation is commenced.
2. To furnish said tenants with other reasonable living accommodations within a distance not to exceed eight miles from tenants' present location during the moving of the building, including, where necessary, storage facilities for their furniture and other personal property; said building to be moved to a site within a reasonable distance, not to exceed eight miles from its present location.
3. To permit said tenants to reoccupy same units in the building, or comparable units, as soon as possible, such right of occupancy to be for a minimum period of six months from the date of such relocation, at a rental not to exceed the maximum rent fixed by the regulations of the rental authority then in control; subject, however, to the buyer's right to evict any such tenant for nonpayment of rent, commission of any waste or nuisance, or such just cause.
4. To be bound by the fact that the obligation to provide such occupancy consti-

stutes a contract made expressly for and inuring to the benefit of the tenant presently occupying the building sold within the meaning of Section 1559 of the Civil Code.[1]

Nature of Interest Acquired for Right-of-Way Purposes

Reversing the opinion of the Attorney General for the State of Mississippi as to the nature of the interest acquired by the State Highway Commission in the purchase of land for highway purposes, the State Supreme Court has recently held that the State acquires only an easement and not a fee simple title.

The Mississippi State Highway Commission acquired certain parcels of land for highway purposes. Several years later the owner executed mineral leases covering his entire farm, including portions acquired by the State, without reference to the previous deeds. The State sought to have the court cancel the defendants' claim to the oil, gas and other minerals, "located in, on and under" the land previously conveyed to the State. The Chancellor decreed for the State and held that it had acquired a fee simple title.

The defendants appealed the case to the Mississippi Supreme Court, asking for reformation of the deed and asserting that representatives of the highway department had verbally assured the owner that the State was not acquiring the timber or mineral rights, although nothing to this effect appeared in the deed. The Supreme Court, in its first decision, reversed the lower court and ordered reformation of the deeds, on the ground that statements to the landowner by a representative of the highway commission that the State was not acquiring the mineral rights induced him to believe that the deeds would convey only a right-of-way over his land and therefore constituted inequitable conduct on the State's part, even though the right-of-way agent was not authorized to make such statements. (See Whitworth et al. vs. Mississippi State Highway Commission, 32 So. (2d) 867 (December 1947).)

The majority opinion implied that the State acquired a fee simple title to the land in question, while a special concurring opinion indicated that only a right-of-way for highway purposes--"a mere easement"--was conveyed. The State therefore filed a suggestion of error on the reformation order.

In a subsequent decision, the Mississippi Supreme Court concluded that the highway commission acquired only an easement for highway purposes, stating that,

> "We are of the opinion that the purpose of our highway statutes is the acquisition of lands solely for highway purposes....It would attribute unwisdom to the Legislature to construe the powers delegated to the Commission as to divest a landowner of interests which the Commission could not in turn exploit....We are unable to detect any difference between the rights acquired by the Commission through purchase and those acquired by condemnation....We are of the opinion therefore that in this case the appellee acquired no more than it was empowered to acquire, that is to say, a right of way or easement....The estate acquired by appellee is measured by the language, not of the deeds, but of the statutes."

Since the reason for reforming the deeds no longer existed, the court set aside its former judgment and dismissed the bill of complaint. (See Whitworth et al. vs. Mississippi State Highway Commission, 33 So. (2d) 612 (January 1948).[2]

AASHO Survey of Right-of-Way Practices

The Right of Way Committee of the American Association of State Highway Officials surveyed State right-of-way practices by questionnaire last year. The Association committee requested this committee to analyze the questionnaire returns and present its findings of fact on each of the divisible subjects involved in the investigation.

To date, information has become available for 35 States and the Territory of Hawaii. The factual analysis on five subjects included in the questionnaire returns is now substantially completed, namely, (1) right-of-way financing, item number 11; (2) right-of-way appraisals, item number 7; (3) roadside development, item number 26; (4) rehousing problems, item number 23; and (5) acquisition agency, item number 1.

[1] See Memorandum No. 20, August 1948, Committee on Land Acquisition and Control of Highway Access and Adjacent Areas, Highway Research Correlation Service, Circular No. 44.

[2] See Memorandum No. 19, April 1948, Committee on Land Acquisition and Control of Highway Access and Adjacent Areas, Highway Research Correlation Service, Circular No. 39.

Since the Association committee is still hopeful of receiving replies from the States that have not made submissions to date, the Committee is not yet in a position to submit its findings to the Association group.

In general, the Committee will analyze and synthesize the material, and submit its findings of fact to the Association Committee. The latter group will then evolve and propose an administrative policy with respect to every phase of highway land acquisition for adoption by the American Association of State Highway Officials.

The Highway Right-of-Way Problem

In order to bring to light the essential elements of the right-of-way problem, the Committee sponsored a paper entitled "The Highway Right-of-Way Problem," presented by Mr. Frank C. Balfour, Chief Right of Way Agent for the California Division of Highways and Chairman of the AASHO Committee on Right of Way, at the general sessions of the 1948 annual meeting of the Highway Research Board. Organizational and personnel problems associated with land acquisition are stressed. The complete text of the paper is included in this bulletin.

Application of Mathematics to Right-of-Way Appraisal

The Connecticut State Highway Department has gone far in applying mathematics to right-of-way appraisal problems, in a practical manner. An insight into the technique used by the Department is given in a paper sponsored by the Committee at the 1948 annual meeting, entitled "Application of Mathematics to Right-of-Way Appraisal," by Harrison W. Hill, Valuation Engineer of the Connecticut State Highway Department. This discussion, contained in this bulletin, may offer some helpful hints for right-of-way officials in other States.

California Land Acquisition Practice[3]

The size of the construction program now being carried on by the State of California necessarily calls for an extensive program of land acquisition involving the expenditure of millions of dollars for highway right-of-way. The technique adopted by the State for acquiring the needed right-of-way is necessarily very thorough.

First steps in the State land acquisition process begin early in the life of a project, when copies of layout sheets, containing complete information as to topography, property ties and other necessary information, together with field surveys and notes, are given to the right-of-way engineers and appraisers so that the former may prepare legal descriptions, deeds and other necessary documents to be executed by the owners of the property, while the latter prepare the appraisals.

Necessary documents and appraisals are thereupon turned over to the negotiators assigned to the project, who, together with appraisers concerned with preparation of the appraisals, accompany the District right-of-way agent on an intensive field survey. Every effort is made to see that the negotiators are thoroughly familiar with conditions existing in the general vicinity of the project which might have any bearing on land values. The effect of the project on the entire community through which the highway is to pass, as well as on the lands involved, is also the subject of close study. As a result of this survey and a thorough study of the appraisal, negotiators are able to answer questions or meet objections raised by property owners.

Negotiators are also provided with copies of the preliminary title report, supplied by a regularly organized title company and including all matters affecting title to the land being acquired. Consideration and evaluation of this preliminary title report are the concern of the district right-of-way personnel, after search and examination by the title company.

Now the negotiator is ready to contact the owner, and when or if he is able to come to some agreement with said owner, a contract is prepared embodying all or any of the following, as the case may be:

1. The amount of payment.
2. Work to be done by the State as condition of transaction.
3. Exceptions to clear title which the State is willing to accept, or any other terms and conditions of any kind.

[3]This brief account is summarized from materials prepared by the right-of-way department of the California Division of Highways in connection with a survey of State right-of-way practices undertaken by the AASHO Committee on Right of Way.

4. Any terms and conditions mutually agreed upon relative to continued occupancy or use of the land or of agricultural or building improvements located thereon, in the interim period between transfer of title and the actual necessary use of the land for State highway purposes.
5. Any obligation assumed by the State in connection with relocation, reconstruction or alteration of improvements, such as buildings, fences, pipe lines or other facilities.

When the holder of the fee has accepted the transaction, and he and other interested parties have signed the necessary documents, the negotiator must prepare and forward to the district right-of-way agent a complete memorandum covering all terms and conditions set forth in the contract. In addition to covering all terms and conditions included in the contract, the memorandum indicates any variations between the market value according to the appraisal, and the settlement, with reasons for such discrepancies. If the title is accepted subject to any exceptions, the reasons therefor are set forth. If the property is to be rented or leased during the interim period, the rental data sheet accompanies the submission.

The District right-of-way agent, after careful review of this submission, must make a recommendation to the District Engineer who, if satisfied with the transaction, forwards copies of all papers, including a certified copy of the right-of-way contract, to headquarters right-of-way office for review and approval. If headquarters office accepts the transaction, an approved copy of the contract, together with all other documents, are returned to the district right-of-way office.

After the District Engineer has executed the right-of-way contract for the State, and one copy has been returned to the grantor, the district right-of-way office must obtain the signature of the grantor and holders of any subordinate interests, if they are to receive any part of the payment, on the standard form of schedule, together with signed bill in triplicate. These documents, with certified copies of all documents conveying fee or any lesser interests, plus a copy of the preliminary title report, after preparation and review by the district right-of-way agent and approval by the District Engineer, are forwarded to headquarters right-of-way office where they are checked for any discrepancies with the right-of-way contract to make sure that the State's title will be in accordance with terms and conditions set forth in the right-of-way contract.

When the schedule has been approved by headquarters right-of-way office, papers are forwarded to the State controller and a warrant is issued for payment to the parties involved. This warrant is turned over to the escrow agent for the district office to be paid when the State has obtained title and the deed is recorded.

In practice the State generally uses an escrow arrangement for land acquisition in connection with highways. For this purpose the facilities of title companies of banks located in the vicinity of district right-of-way offices are normally used, although the Los Angeles district office operates its own escrow. Instructions agreed upon by the State and property owners, together with necessary papers and documents essential to transfer of title to the State are deposited in the escrow.

Finally a policy of title insurance in duplicate is issued by the title company, the original being forwarded to headquarters office for review and comparison with the right-of-way contract and then forwarded to archives for permanent filing.

Eminent domain proceedings may be instituted in the event that negotiations with property owners are unsuccessful, but during the period that such proceedings are being instituted, negotiators continue negotiations and are in fact available to reach a settlement out of court even during the trial period. Condemnation proceedings, when necessary, are recommended by the district office to the State highway commission, through headquarters right-of-way office. Necessary papers are prepared by the legal department and expert appraisers are employed to act as independent witnesses. Then if further negotiations are still impossible, the case goes to trial and title is acquired through eminent domain proceedings.[4]

[4]See Memorandum No. 17, March 1948, Committee on Land Acquisition and Control of Highway Access and Adjacent Areas, Highway Research Correlation Service, Circular No. 35.

Federal Participation in Right-of-Way Acquisition Costs

During the last several years of Federal participation in right-of-way acquisition costs, a number of questions concerning the Federal reimbursement of such expenditures have arisen requiring clarification. Mr. Lester E. Boykin, Solicitor of the Public Roads Administration, presented a paper at the 1948 meetings of the committee, entitled "Federal Participation in Right-of-Way Acquisition Costs," reproduced in full in this bulletin. Many of the problems that are confronting the State highway departments in this field are dealt with in Mr. Boykin's discussion. Careful review of it is recommended.

Urban Right-of-Way Acquisition

Urban right-of-way perhaps involves more difficulties in its acquisition than any other type. The State of Texas has made excellent progress in its urban program, and its experience in this field, from a practical point of view, is therefore of utmost significance at this time. Mr. J. L. Dickson, Engineer-Manager of the San Antonio Urban Expressway, Texas State Highway Department, has refreshingly set forth his views on the urban right-of-way problem, in a presentation entitled "A Practical View of Urban Right-of-Way Acquisition," the text of which is included in this bulletin.

Reservation of Lands Prior to Acquisition

The committee is now exploring the problem of reserving lands for future rights-of-way, a matter rapidly assuming outstanding importance at this time. Present experience in a few States is being studied, and possibilities for future adaptation explored.

In this connection, California's new "Weber Act" (Chapter 1451, California Statutes of 1947), authorizing control of building construction on planned locations of State highways in unincorporated areas, was investigated.

Under the procedure set up by this act the State highway department is to submit to the county planning commission (or the county board of supervisors if no planning commission exists) copies of maps showing the location of proposed State highways which have been laid out and surveyed. These maps must be in sufficient detail to show the location of each parcel of land to be traversed in the county. The county will then prepare a precise plan showing the right-of-way, which plan is to be submitted to the governing body of the county for approval and adoption. The approved plan is then to be filed with the agency whose duty it is to issue building permits in unincorporated areas. Thereafter, no building may be erected in the proposed right-of-way, with the exception of temporary structures costing less than $500, without a permit.

Property owners denied building permits may request a hearing before an appeals board which is usually the governing body of the county, but may be a special group if appeals are too numerous to be handled by the former body.

The law specifies that the appeals board may issue permits if any of the following are true:

> "(a) That the property of which the mapped highway location is a part is of such nature that the owner of the land will be substantially damaged by the refusal to grant the permit.
> "(b) That the property will not earn a fair return on the owner's investment unless the construction involved is authorized.
> "(c) That, balancing the interests of the public in preserving the integrity of the officially mapped highway against the interest of the owner of the land in using his property, the granting of the permit is required by considerations of justice and equity."

Conversely, permits are not to be granted if either of the following is true:

> "(a) That the owner of the land will not be substantially damaged by locating the proposed structure on his land outside of the lines of the mapped highway.
> "(b) That, balancing the interests of the public in preserving the integrity of the mapped highway against the interest of the landowner in using his property as proposed to be used, the resulting disadvantages to the State would be unreasonably disproportionate to the advantages to the owner to be derived from so using the property."

The law specifically states that nothing therein "shall be construed to restrict the right of any person to such declaratory relief" (in accordance with established procedures) or, "to avail himself of any other legal or equitable remedy applicable to his particular case."

In assessing property affected by this article due note is to be taken of any decrease in value resulting from the estab-

lishment of the location of the highway.

Administrative procedures formulated by the highway department for the purpose of carrying out the provisions of this act indicate that it will be used only in connection with the widening of existing highways where ultimate widths of rights-of-way are definitely known and where construction will start within a three-year period. These restrictions on the use of the act are considered expedient for two reasons. In the first place, the act has a weakness because no time limit is specified, tying up the owner's use of his property indefinitely without compensation.

In the second place the filing of plans for a large number of projects before construction is actually contemplated might work contrary to the State's interest. If appeals were filed by a number of property owners on a project it would be quite possible that the county appeals board might decide that the desired permits should be issued, in which case the State would be forced to start proceedings to acquire the land at once. And if this same thing happened on a number of projects at the same time, the State's entire construction program could be thrown out of line because of the necessity of the right-of-way department concentrating on this type of work.

However, the department feels that the act will be helpful in preventing new construction while right-of-way negotiations are going on or before condemnation procedure can be instituted.

District right-of-way men are instructed to be on the lookout for proposed or actual building construction on lands mapped for highway right-of-way and to report any violations or contemplated violations of the law to the county. Counties are also requested to report all requests for building permits which have been denied.[5]

CONTROL OF HIGHWAY ACCESS

Highway Terminology

The preliminary efforts of the committee with respect to highway terminology were completed during the year and transmitted to the AASHO Committee on Right of Way because the latter group was engaged in evolving a policy with respect to highway nomenclature, particularly as it relates to express highways. Preliminary agreement of the Association's Committees on Right of Way and Legal Affairs was obtained at the September 1948 meetings of the Association at Salt Lake City, Utah.

More recently the Association has designated a Special Committee on Nomenclature, with representatives of most of the various branches of highway activity, such as traffic, right-of-way, design, etc. This group is now endeavoring to evolve a set of standard terms and definitions for the more important highway concepts.

Wisconsin's Legislated Express Highway

The 1947 Wisconsin legislature enacted section 84.103 (Laws of Wisconsin, Chapter 193) authorizing the establishment of the so-called "Silent Cross Memorial Highway." Dedicated as a living memorial to our soldiers, living and dead, of all wars in which the United States has engaged, these sections of highway will, when completed, conform to the most modern standards of express highways. Particularly significant are the features relating to control of access and roadside development.

Without regard to the wisdom of selecting the particular routes designated in the legislation for the application of the advanced standards specified, the approval of the public control of access and the regulation of the roadsides is salutary in and of itself. An examination of the law itself is revealing.

The highway is patterned after a cross, roughly consisting of portions of State trunk highway number 30 and of United States highway number 51. The alignment and grade of the highway is to be constructed to the most modern standards, with structures of appropriate strength and designed with due regard to aesthetics. It shall, where practical to meet present and reasonably anticipated need for complete traffic and driver service, consist of a 4-lane, double divided concrete highway, suitably landscaped, seeded and planted, and shall include appropriate wayside development for emergency stops and for rest and observation. The economy, efficiency, safety and permanence and memorial quality of the highway shall be complemented

[5] See Memorandum No. 19, April 1948, Committee on Land Acquisition and Control of Highway Access and Adjacent Areas, Highway Research Correlation Service, Circular No. 39.

and enhanced by complete border control and restrictions to access according to the latest and advanced standards of highway development.

The Silent Cross Memorial Highway is to be developed over a period of 50 years and finally completed by July 1, 1997. The State Highway Commission shall proceed with such development, so far as practical, in the manner and order following:

(a) It shall establish definitely the final location of the highway.

(b) It shall lay out for acquisition as needed a right-of-way of sufficient width for ultimate development.

(c) It shall by orders regulate and restrict the location, shape, height, size and set-back building lines of buildings and other structures along such location, right-of-way or highway and along any natural water-course, body of water, stream, creek or place of vantage in near proximity thereto; and it may by orders regulate and restrict the use of land along such location right-of-way or highway and the operation of vehicles thereover. No such order shall prohibit the continued use or location of any building, structure or premises existing at the time such order takes effect, but the alteration of or addition to any building or structure so existing and not conforming to such order may be prohibited. No commercial enterprise or activity shall be authorized or conducted by the commission upon any part of the property designated as a part of such highway or acquired for such purpose. But the commission shall, in order to permit establishment of adequate fuel and other services for users of the highway by private owners or their lessees, provide for access roads within said right-of-way at points which in its opinion will best serve the public interest. All orders made pursuant to this paragraph shall be reasonable and designated to promote the public health, safety and public welfare. Any person violating this paragraph or any such order shall be punished by a fine of not exceeding $500 or by imprisonment for a period not exceeding six months or by both such fine and imprisonment. Compliance with this paragraph and such orders may be also enforced by injunctional order at the suit of the State Highway Commission or any owner of real estate affected thereby.

(d) When plans are made for any construction on the highway such plans shall provide for the ultimate development even though only a part thereof is to be carried out at the time; all construction shall conform with the plans of development, both as regards elevation and alignment. Landscaping of the highway shall be considered and included in the plans prior to or at the time of construction and shall closely follow construction of the highway.

Except as otherwise required all provision of law relative to the acquisition of land for highway purposes, highway surveys and plans establishing, laying out, widening, enlarging, extending, constructing, reconstructing, improving, maintaining and financing of highways, bridges, streets and roadside parks shall apply to the acquisition of land for the Silent Cross Memorial Highway, surveys and plans therefor and establishing, laying out, widening, enlarging, extending, constructing, reconstructing improving, maintaining and financing of the Silent Cross Memorial Highway and bridges, streets and roadside development in connection therewith.

Pursuant to the request of the Wisconsin State Highway Commission, the Office of Attorney General of Wisconsin rendered an opinion construing this legislation on August 21, 1947. The outstanding findings of the Attorney General are significant. (See Opinions of Attorney General of Wisconsin, Volume 36, page 368.)

To start with, the Attorney General ruled that existing plans and relocation orders affecting reconstruction of portions of highways to be included in the program need not be discarded when the same are not in conformity with the legislation, but this may be done where it is deemed expedient to do so in complying with the 50-year limitation for completion of the Silent Cross Memorial Highways.

Regulations and restrictions as to use of land adjoining such highway ordered by the State Highway Commission pursuant to the legislation will supersede local zoning ordinances where in conflict therewith.

Such restrictions cannot be imposed without compensation to the owners of the lands affected thereby. The Attorney General further is of the opinion that under the act, the landowner is entitled to damages whether he is deprived of access which he previously had to an existing highway or whether he is denied access to a newly created highway traversing a portion of his lands.

In acquiring conveyances of right-of-way for such highway, the Attorney General feels that the necessary restrictions as to use of adjoining lands by the landowner should be obtained whenever possible. In subdividing or platting lands having restrictions as to access to such highway, provision should also be made for public streets

or highways which will provide access to such highway through some street or highway at a point where access is permissible.

The committee recommends thorough study of this lengthy opinion of the Attorney General, since it reveals a rare and farsighted understanding of the problems of modern highway development. Though the legislative act establishing the Silent Cross Memorial Highway may be amended many times before the highway actually is constructed, if ever, the present recognition of expressway fundamentals by Wisconsin is commendable.[6]

Condemnation of Access Rights in Oregon

The Oregon State Highway Commission's authority to condemn access rights for highway purposes has been greatly strengthened by decisions recently rendered by the Oregon Circuit Court in State of Oregon vs. Walter J. Fawcett et al, (Clerk's Nos. 10,390, 10,310, 10,328 and 10,340). In these cases, the State sought to condemn certain pieces of property and certain rights of access in connection with the construction of a State highway. Owners of several of the tracts involved filed objections to the State's plans, attacking the Highway Commission's authority to proceed.

Three of the answers filed by the defendants questioned the State's authority to control or limit access. The first of these took exception to the State's intention to condemn rights of access, asserting that the title of the law containing the provision relating to condemnation of access includes no reference to such right. Defendants asked that the law, or at least that part of it relating to condemnation of such rights, be declared illegal, void and unconstitutional in that it violates Section 20 of Article IV of the State constitution to the effect that "Every act shall embrace but one subject and matters properly connected therewith, which subject shall be expressed in the title ..." The court held that the title of Chapter 59, Oregon Laws 1939, does not violate the provisions of the above-mentioned article of the constitution, since the title states that the act provides for the "construction, maintenance and operation of a system of State highways," and provides for the acquisition of real property for use in connection with the purposes of the act. An opinion of the State Supreme Court was cited to the effect that in order to declare a portion of a law invalid under this section of the constitution it would be necessary to prove that it was entirely disconnected with the subject embraced in the title, wholly incongruous, consisting of matters of which the title gave no notice.

In a second answer the defendants claimed that the condemnation of rights of access was not necessary for any public use or purposes and if acquired by the commission, would not be used for or serve any present or future public use or purpose. It was asserted, therefore, that the taking of the right of access would amount to the taking of property without due process of law, such an act being an "arbitrary, capricious, and unreasonable abuse of discretion." However, although the court brought out the fact that the Cook case (Burnquist vs. Cook, 220 Minn. 48, 19, N. W. (2d) 349) was to date the only one in which a State's right to condemn the right of access of the abutting owner in taking land for a right-of-way for a public highway had been upheld, stated the belief that condemnation of such rights of access was the taking of private property for public use and as such did not violate the due process clause of the Federal constitution or the equal privileges and immunities clauses of the State and Federal constitutions.

In the third answer filed in these cases, the defendants contended that the acts of Highway Commission followed no set plan, because in one case the entire right of access was to be condemned and in others limited rights of access were preserved to the abutting owners, and these acts were therefore arbitrary, capricious and an unreasonable abuse of discretion, depriving owners of property without due process of law and so forth. The court called attention to the fact that in some of these cases, apparently where the owner's land would be divided by the proposed highway, provision was made for establishment and maintenance of "farm crossings" for as long a period as the present abutting owners remained in possession of the land on each

[6] See Memorandum No. 17, March 1948, Committee on Land Acquisition and Control of Highway Access and Adjacent Areas, Highway Research Correlation Service, Circular No. 35.

side of the highway, but held that the defendants' allegations were conclusions not supported by facts alleged in the answers. The fact, in itself, that the commission saw fit to leave temporary limited rights of access to the abutting owners in some cases did not necessarily indicate that the commission was acting arbitrarily, capriciously or unreasonably.

A fourth answer filed by two defendants, portions of whose property were being acquired for the purpose of obtaining road-building materials, questions the necessity, location and extent of taking of land which the Highway Commission claimed to contain such materials. In one part of this answer it is alleged that the land to be condemned for road-building materials did not contain materials of any kind or nature suitable for highway construction and consequently condemnation of this property was not the exercise of eminent domain for public purposes and constituted taking of property without due process of law. But the court held, in substance, that the matter of whether or not the materials to be obtained from the tract of land were suitable for road-building purposes was one for determination by the Highway Commission.

Another part of this fourth answer alleged that lands sought to be condemned for a right-of-way from the highway to the land claimed to contain road-building materials divided the property of the defendants into two separate parcels which greatly reduced and impaired its use and usefulness, thereby materially reducing the value of the property. The defendants claimed that other property was available for the Highway Commission's purposes which would be more convenient and useful and would not divide the defendant's property. The court called attention to a recent decision (City of Eugene vs. Johnson, 46, Or. Adv. Sh. 425) in which it was alleged that the City of Eugene was attempting to condemn more land than was necessary for the maintenance and operation of its water system, in which case the court had held that "The necessity, propriety or expedience of appropriating property for public use, the amount and location of the property to be taken and its suitableness for the proposed use are all political or legislative questions and the determination of these matters by the grantee of the power of eminent domain is, in the absence of fraud, bad faith or abuse of discretion, final and not subject to review by the court." In line with this decision the court in the present case held that the defendants could not litigate the question of the necessity for the taking of the land in question or the right-of-way from the highway to such land.

In a subsequent decision handed down by the Circuit Court (State of Oregon vs. Coen Lumber Company) dated May 24, 1948, the Highway Commission's right to condemn access to or from property was upheld by the presiding judge, who cited the above cases and stated that he concurred in the decision rendered.[7]

Compensation for Access Rights in California

In the recent case of People vs. Al G. Smith, Ltd., Curtis I. Sawday and Antonia P. Sawday (194 Pac. (2d) 750, June 18, 1948), the California Court of Appeals denied damages to abutting owners for the taking of access rights in connection with the construction of a freeway. More recently, a petition for review has been denied by the State Supreme Court (August 12, 1948) so the decision is final. Ultimate savings of thousands of dollars by the State may now be possible as a result.

The defendants in this case were the owners of a tract of land consisting of 600 acres with some 2,000 feet frontage on the proposed freeway improvement on State Highway 99 north of the City of El Centro. The State sought to obtain a fee title to the right-of-way over which an easement for a public highway already existed, allowing the owners access to the freeway at three separated 30-foot openings. Before improvement, the highway consisted of two lanes with a borrow pit outside and parallel to defendants' property over which three driveways, constructed with culverts, gave access to the abutting land. The property owners asked for, and were apparently awarded, $5,000 for the taking of the fee.

The defendants also asked for $10,000 for damage to the remainder of the property, basing their claim entirely on the

[7] See Memorandum No. 20, August 1948, Committee on Land Acquisition and Control of Highway Access and Adjacent Areas, Highway Research Correlation Service, Circular No. 44.

question of impairment of access thereto. All testimony presented at the original hearing before the Superior Court of Imperial County, related to the question of value of the property for either industrial or commercial purposes or any change in value due to construction of the freeway. Evidence was submitted which indicated that the value of the land for farm purposes was $500 per acre and for commercial purposes $1500 to $2000 per acre. The owners claimed that 15 five-acre tracts could be carved out of the land along the highway and that because of deprivation of access it would be necessary to construct a road inside of the property line to serve these parcels.

Expert witnesses for the State testified that in their opinion the property was not damaged by the taking of the access rights since new entrances were constructed near the ones previously in existence, and if any possible damages did result, they were offset by benefits from the new highway. The jury, on the basis of evidence submitted, and from its own observation of the premises, decided that the defendants were not entitled to recover damages by reason of the taking of access rights.

The District Court of Appeals in affirming judgment of the lower court referred first to the theory established by two previous cases, Lane vs. San Diego Electric Ry. Co., 208 Cal. 29, 33, and Bacich vs. Board of Control, 23 Cal. (2d) 343, 349, to the effect that "a property owner abutting upon a public street has a property right in the nature of an easement of ingress and egress to and from his property and that right cannot be damaged nor taken away from him without due compensation." Then the court referred to the general rule quoted in the case of Rose vs. State of California, 19 Cal. (2d) 713, 737, which states that "Where private property is taken for a public use and damage results to the remaining property of the landowners, compensation for such damage must be awarded which is measured by the diminution in value of that property which remains." Thus to determine the value of this right of access the court held that it was necessary to determine the depreciation in market value of the property involved due to the construction and operation of the improvement, and in so doing possible benefits accruing to such land must be considered. Since it was determined that there was no depreciation in value of the land in this case, there was no legal injury and consequently no right to compensation.

The Appeals Court also sustained the lower court in disallowing the introduction of evidence relative to the probable cost of building a roadway inside of the fence line on the Sawday property to service the property in the event it was to be used for commercial purposes. Although allowing that it was perfectly permissible for experts to testify as to the value of the property before and after taking of the access rights, to allow appellants to introduce witnesses to prove as a collateral fact the cost of constructing a roadway for a special use would be to impose a purported additional element of damage upon a "before and after" theory of depreciation in market value.[8]

ROADSIDE CONTROL

The committee is continuing its studies of the roadside problem.

Roadside Surveys

Comprehensive surveys of roadside conditions, at least with respect to the more important routes of travel, are needed today to provide the factual basis for desirable reform. Progress in this direction has been made during the past year. Inventories of the roadside are being conducted, through the mechanism of the Statewide highway planning surveys, in five States, Florida, Michigan, Minnesota, New Jersey and Ohio. These inventories concern billboards, access and roadside culture. The committee intends to present summaries of this survey information during the coming year.

Roadside Survey for New Jersey Memorial Highway

New Jersey seems to have originated the idea of dedicating portions of highways as living memorials to men and women who served in World War II by designating a short section of U. S. Route 22 as The Blue

[8] See Memorandum No. 20, August 1948, Committee on Land Acquisition and Control of Highway Access and Adjacent Areas, Highway Research Correlation Service, Circular No. 44.

Star Drive. The State now finds itself the center of a movement sponsored by the National Council of State Garden Clubs and the American Association of State Highway Officials to establish a national memorial highway system, stretching from Maine to California. Plans call for beautification of the roadside by planting of trees native to the area, establishment of roadside parks and rest areas, erection of suitable markers and other similar projects.

In line with this expanded plan, the State legislature by resolution adopted April 9, 1947, designated the entire length of U. S. Route 22 in New Jersey as a part of this Blue Star Memorial Highway System. Since the route to be so dedicated, like the majority of existing highways everywhere, new or old, has been commercialized to such an extent that little resemblance to the memorial highway envisioned by the garden clubs now exists, the Institute of Local and State Government of the University of Pennsylvania was requested by Spencer Miller, Jr., New Jersey Commissioner of Highways, to make a survey and report on the entire route.

The result of this study, "A Report on Roadside Protection on New Jersey State Highway Routes 28-29 (U. S. Route 22), The Blue Star Drive and the Proposed Blue Star Memorial Highway," (May 1947), is of interest not alone because it points out the shortcomings of the route involved in New Jersey, but because it may serve as a possible guide for necessary studies in other States. Since similar conditions will presumably be found elsewhere, suggested solutions will undoubtedly be of great value.

Since State roadside zoning is not possible in New Jersey under existing legislation, the solution to the problem of providing adequate roadside control, according to the report, lies in the enactment of effective local zoning ordinances. But as the report points out, municipal zoning must be stimulated, and it is recommended that this be done in New Jersey through the Route 28-29 Association, which should be expanded to include representatives from each municipality along the route. The Association might, among other things, advise and support citizens or local associations sponsoring zoning legislation, publicize and dramatize the plan, perhaps by sponsoring contests for the best design of a roadside marker, or by installation and unveiling of roadside markers awarded to municipalities which fulfill requirements. It is suggested that efforts be concentrated on receptive municipalities where the completion of the project may serve as inspiration for more backward or hesitant communities.

The report covers a survey of roadside conditions existing along some 50 miles of U. S. Highway 22 between Phillipsburg and Newark, not including city or near-city portions at either end. Existing zoned and unzoned mileage is shown by cities and counties, revealing that although slightly over one-half of the municipalities along the way have zoning ordinances (52 percent), less than half of the mileage involved was included in the zoned area (46 percent).

Three series of base maps showing roads by county sections were used to indicate first, existing zoning; second, business land uses; and third, suggested zoning. In addition each municipality is discussed separately, with comments on existing zoning and suggestions for improvements where considered necessary.

On the first series of maps, colors were used to indicate land uses in the zoned portions of the highway. From this series, it was learned that the mileage zoned for business, 8.1 miles, and for industry, 0.1 of a mile, plus the unzoned portions of the highway, 27.7 miles or 71 percent of the total mileage, was available for business use. Set-back regulations are also shown on these maps.

The second series was used to show a breakdown of the existing business uses. Results are indicated below:

	Number of Uses
Gas station, garage	132
Roadhouse, restaurant, diner	85
Tourist cabins	7
Billboards (large)	100
Store, miscellaneous business	56
Industry	9
Total	389

As the report states, "If the above uses were evenly spaced along the highway, gasoline could be obtained every four-tenths mile, and a meal or a sandwich, every six-tenths mile along the highway. If evenly spaced, a motorist traveling at a 45-mile-an-hour speed would see a gasoline pump every 32 seconds and a restaurant or a lunch stand every 48 seconds."

The third series of maps suggests a plan of zoning for the entire length. This has been rather realistically done, inasmuch as no attempt was made to recommend residential zoning where existing business uses indicated the improbability of accomplishing this purpose. In fact all recommendations were tempered by the idea of feasibility rather than perfection, as indicated by the fact that the suggested mileage to be zoned for business and industry was actually increased from 8.2 miles to 9.4 miles, although practically all of the unzoned area of 27.7 miles was recommended for residence and farm zoning. Nor does the report frown on the placing of industries along the route, calling attention to existing examples of light industry in parklike settings throughout the State that would be assets rather than detriments to the contemplated memorial highway.

In conclusion the report suggests certain provisions which should be included in existing and new zoning ordinances as follows:

a. Set-back provisions, 25 feet should be the minimum, measured from the side line of the highway.
b. The requirement of off-street parking facilities for uses that invite parking.
c. The limitation of signs on sites where businesses are located.
d. The prohibition of billboards.
e. The elimination of nonconforming signs and billboards after period of amortization.
f. Regulation of tourist cabins and automobile courts to insure proper location, attractive appearance and protection of health, safety and morals.

The Institute is to be congratulated on this excellent report. Progress on the roadside improvement and beautification of the memorial highway will be watched with interest.[9]

Zoning Control of Roadsides in Virginia

The need for roadside control in the State of Virginia has been strikingly brought to light in a pamphlet entitled "Dollars and Sense," issued by the Joint Committee on Highway Zoning of the Department of Highways and the State Planning Board. This Committee, formed to comply with the Governor's request that the urgency of this problem be brought to the attention of the citizens of the State, has drawn on facts and statistics resulting from studies made by the Department of Highways in connection with the proposed "Twenty Year Plan" of highway development.

The committee indicates that the cost of not having adequate roadside control is extremely high, both in actual dollars and cents and in human lives. Studies made on certain sections of road to be modernized show the cost of moving buildings located on the right-of-way of the new highways to be a substantial part of the total cost. Review of a number of completed projects indicates that the expense involved in moving structures on 178 miles of construction in rural areas entailed an expenditure of $528,668 or an average of $2,970 a mile. The following items were included:

283 houses at a cost of	$288,910
45 stores at a cost of.	42,894
79 service stations at a cost of	75,955
191 other buildings at a cost of.	80,844
33 wells at a cost of	9,893
1 railroad track at a cost of .	1,427
Trees and shrubs at a cost of	28,745

An analysis of right-of-way requirements for proposed highway construction in Fauquier County reveals that 240 buildings will have to be moved at an estimated cost of $600,000, as preliminary to construction. Additionally, highway development contemplated within a ten-mile radius of the city of Richmond will necessitate moving 140 stores and other structures and 70 filling stations at an approximate cost of half a million dollars before the project can be initiated.

On the basis of this study, it is estimated that similar costs on projects included in the "Twenty Year Plan" will amount to more than $26 million out of a total estimated cost of $422,863,000. Furthermore, new buildings are constantly being erected on the proposed right-of-way which will result in an even higher cost when the work is actually carried out.

The committee also calls attention to the enormous cost in lives and property damages due to hazardous conditions "at highway or driveway intersections which were blind because of structures built too close

[9] See Memorandum No. 19, April 1948, Committee on Land Acquisition and Control of Highway Access and Adjacent Areas, Highway Research Correlation Service, Circular No. 39.

to the edge of the pavement to permit clear vision, or of indiscriminate access to highways by patrons of roadside commercial establishments."

As a proposed remedy, the committee recommends the adoption of protective highway zoning ordinances, including adequate set-back regulations, by local governmental units, as being preferable to a State-wide roadside control act. Nine counties, 15 cities and 14 towns have adopted such ordinances, according to the pamphlet, and the committee has prepared an outline for a suggested highway zoning ordinance for the benefit of local units desiring to adopt such regulations.[10]

Billboard Control in Oregon

The Oregon State Highway Commission is attempting to control billboard advertising along State highways by agreement with abutting property owners, and in one instance at least has been very successful. In relocating a twelve-mile strip of the Pacific Highway East between Albany and Salem the State acquired a 220-foot right-of-way and control of access from abutting owners. In addition to this, property owners were told, the State would like to control outdoor advertising but since no authority exists to do this, it could be done only by agreement. Cooperation in this case was 100 percent, the fifty property owners involved agreeing to allow the Commission to incorporate a clause in the deeds of conveyance whereby the State Highway Commission is granted full control of outdoor advertising for a distance of 500 feet from the center of the highway. Following is a copy of this clause, and incidentally property owners in this particular case would accept no consideration for inclusion of this provision.

"It is agreed, as part of the consideration herein stated, that no part of the abutting private property of the grantors within a distance of five hundred (500) feet from the above described land shall ever be used for the placing and/or maintenance of advertising signs, bills or posters; provided, however, that these grantors reserve the right to use any part of said property for the advertising of farm names or for the sale, renting or leasing of said property or for the sale of livestock or commodities or products produced or raised thereon. These burdens and covenants shall run with the land and shall forever bind the grantors and their successors in interest."[11]

Zoning Set-Back Regulations in New York

The Supreme Court of the State of New York recently upheld a local zoning board of appeals in its refusal to grant a variance to an existing 10-foot set-back regulation, in the case of Delyanis vs. Cooper et al., Zoning Board of Appeals, 75 New York Supplement (2d) 751 (1948).

The petitioner in this case made application to the village zoning board of appeals for a variance of the building zone ordinance to permit him to erect a building on the property line of a corner lot on Sunrise Boulevard in the Village of Rockville Center. The application was denied, first in connection with a two-story building consisting of six or seven stores and 18 offices and later for a one-story building consisting of seven stores.

When application was made for review by the State Supreme Court, the court found that the decision was neither arbitrary nor capricious. No proof could be found that the zoning board of appeals had discriminated against the applicant while granting similar petitions of others, since the board had adopted a rule to be uniformly applied that in all cases a modification of the 10-foot set-back on corner lots would be denied where the frontage in blocks facing Sunrise Boulevard was unimproved or where existing buildings had observed said set-back. As the property in question came within this rule, the court could find no evidence that the applicant had been discriminated against and consequently dismissed the petition upon its merits.[12]

THE PARKING PROBLEM

Provision of Parking Facilities Under Zoning Mechanism

The committee is now completing two studies concerning the provision of off-

[10] See Memorandum No. 16, January 1948, Committee on Land Acquisition and Control of Highway Access and Adjacent Areas, Highway Research Correlation Service, Circular No. 32.

[11] See Memorandum No. 20, August 1948, Committee on Land Acquisition and Control of Highway Access and Adjacent Areas, Highway Research Correlation Service, Circular No. 44.

[12] See Footnote 11

street parking facilities through the zoning mechanism. One concerns the requirements for off-street automobile parking facilities contained in zoning ordinances, building codes or other local laws. The other deals with comparable requirements for off-street truck loading and unloading facilities. Model legislation for both purposes will be included.

Legal, Administrative and Economic Aspects of Parking Surveys

The committee has developed certain legal, administrative and economic aspects of the parking problem heretofore not included in urban parking surveys undertaken by the State highway departments with the cooperation of the Public Roads Administration. A paper on this subject, entitled "Legal, Administrative and Financial Aspects of Urban Parking Surveys," was sponsored by the committee and presented at the 1948 annual meeting of the Highway Research Board. It is being included in a symposium on the parking problem, to be issued in pamphlet form by the Board, under the auspices of the Parking Committee of the Department of Traffic and Operations.

Underground Parking for Boston, Massachusetts

As a result of a recent decision of the Massachusetts Supreme Judicial Court, the City of Boston is authorized to proceed with plans for providing underground parking space beneath the Common and the Public Garden. (Lowell, Pierce, McCarthy, et al. vs. Boston, 79 N.E. (2d) 713, April 17, 1948.)

Authorization of such procedure was contained in Chapter 294 of the Laws of 1946, wherein it was declared that congestion of the public ways of Boston, caused by the great number of motor vehicles, had become a nuisance which could not be abated except by construction and maintenance of a garage under the Common. The City was authorized to contract through its park department, and with the approval of the Mayor, with a private corporation for construction and operation of a garage, at the expense of the corporation and without cost to the City. Details as to the location of the garage are included in the act and it is obvious that small portions of the surface of the Common will be removed from use as such to make provision for entrance to and exit from the garage. Financial aspects of the plan empower the City to lease the site for a term of not more than 40 years at a rental of not less than two percent of the gross receipts.

Negotiations with Motor Park, Inc., for construction of the proposed garage were interrupted by the filing of three petitions. One by Alfred P. Lowell and others sought to restrain municipal officials from imposing unauthorized financial obligations on the City, and alleged that the proposed use of the Common would be contrary to the terms of certain testamentary gifts which the City had accepted. The second petition, filed by Myron E. Pierce and others, maintained that the City held the land by a gift made in 1634 to the town for the use primarily by its inhabitants as a Common and that the City held the land in a trust relation to those for whose use the land as a Common was provided. The third petition, by Anna C. McCarthy and others, sought to enforce the terms of the gift by George Francis Parkman, who it is claimed devised the residue of his estate to the City for care of the Common and the Public Garden, subject to the condition, so the petition declares, that no part of the land included therein would ever be used for any other purpose.

In considering the Lowell petition the court expressed doubt that it could be maintained as a taxpayers' petition to restrain the City from raising or expending money or from incurring obligations for any purpose for which it had no right to use funds or assume obligation. For all expenses involved in construction and operation of the garage are to be borne by the lessee. Furthermore, if the garage is not subject to taxation, no loss is involved, since no taxes are assessable under the present use of the land. Finally, in reply to petitioners' contention that the lease would impose certain obligations on the City the court answered that since execution of the lease was sanctioned by the legislature it could not be said to amount to the incurring of an authorized obligation unless the statute was invalid. The court did not consider it necessary to examine the proposed contract from this point of view, since the petition could not be held to be otherwise maintainable.

The court dealt at length with the Lowell and Pierce petitioners' contention that the town took title to the land involved subject

to a trust for maintenance of a training field and cow pasture and in general as a common or public park. It appears that one William Blackstone sold the land now occupied by the Common and the Public Garden to the town of Boston in 1634 for 30 pounds. There is no evidence that Blackstone gave a deed in selling the land and petitioners' assumption that the land was taken for a training field and cow pasture and in general as a common or public park is based on a deposition made in 1684 by four "ancients of the town" to the effect that one William Blackstone sold the land to the citizens of the town and their heirs and assigns in 1634, each citizen paying six shillings and some paying more, and that thereafter the land was used as a training field and for the feeding of cattle.

In reply to petitioners' allegation that title to the property was taken by the inhabitants rather than the town, the court found considerable evidence that the town itself acquired the title either directly from Blackstone or from the inhabitants. At a meeting of the town in 1634 it was voted to appoint five persons to "make and access... a rate of 30 pounds for Mr. Blackstone, a rate for the cowes keeping, a rate for the goates keeping..." implying that the town itself bought the land and taxed the inhabitants therefor. There is nothing to show that the inhabitants received a share in the land proportional to what they contributed to the purchase price. Every recorded action indicates that the inhabitants dealt with the land as if it belonged to the town. Nor was mention made of a training field at the meeting of 1634. Subsequent records indicate that there was discussion from time to time as to whether or not land included in the Common was to be granted to individuals. The court considered that had the land been held in trust for a training field there would have been no question as to its being parceled out to indivuduals. At various times subsequent to this period land included in the Common was leased by the town and at least two pieces were actually sold. Furthermore, definite recognition of the City's title to the land was given by the legislature in the original and the amended charters. The court concluded that the town bought and paid for the Blackstone land and received the fee from him free from restrictions.

However, the court did not agree with respondents that the City now possesses title free from any restriction, for it is plain that the town has dedicated the Common and the Public Garden to the use of the public as a public park. And the City holds the title to the Common and the Public Garden in a corporate capacity as an agency of government as distinguished from a private or proprietary capacity.

The Lowell petition also questions the validity of the act of the legislature authorizing lease of the land for a garage. The only question here, says the court, is whether it was within the competency of the legislature to pass the statute. In maintaining the Common and the Public Garden the City was merely acting as representative of the general public, which in turn was represented by the legislature. If the sole purpose of the act were the construction and operation of the garage and nothing more it would be necessary to consider whether maintenance of such garage stood in the people's interest. But the garage is only incidental to the legislative plan to abate a public nuisance--the garage is a method employed to accomplish the primary purpose of the statute. The court held that the statute was within the power of the legislature to enact for the purpose of eliminating a public nuisance even though it will result in withdrawing from the use of the public a small part of the surface of the Common.

The McCarthy petition sought enforcement of the Parkman gift, based largely on interpretation of a phrase included in the donor's will to the effect that the bequest was made "in the hope and expectation that the Boston Common shall neither in whole or in part be diverted from the present use as a Public Park for the benefit and enjoyment of its citizens." The court, however, held that the words "hope and expectation" were used in an ordinary sense as expressing a desire and a wish and not as imposing a limitation or condition which constituted an integral and essential part of the trust. The withdrawal of comparatively small areas of the surface of the Common from public use as contemplated for the operation of the proposed garage can hardly be said to result in a material interference with the public uses. The court therefore was of the opinion that the proposed use of these areas would not constitute a breach of any mandatory and essential pro-

vision as distinguished from any directory and precatory provision contained in the Parkman trust.

The three petitions were therefore ordered dismissed by the court and it was further ordered that a decree be entered to the effect that the City has title to the Common and the Public Garden subject to an easement in favor of the general public for the purposes of a public park.

This case is being appealed to the United States Supreme Court.[13]

[13]See Memorandum No. 21, October 1948, Committee on Land Acquisition and Control of Highway Access and Adjacent Areas, Highway Research Correlation Service, Circular No. 46.

INFORMATION INTERCHANGE

The committee has issued periodic memoranda containing current practices and legal techniques in the field of highway land acquisition, control of access, and the roadsides, as follows:

Memorandum No. 16, January 1948
Memorandum No. 17, March 1948
Memorandum No. 19, April 1948
Memorandum No. 20, August 1948
Memorandum No. 21, October 1948

From evidence available to the committee, it is apparent that these memoranda are widely read and provide a desirable means of dissemination of information not otherwise available. The committee will continue this practice.

THE HIGHWAY RIGHT-OF-WAY PROBLEM

Frank C. Balfour, Chief Right-of-Way Agent
Division of Highways, State of California

For the purpose of the record, may it be understood, please, that the opinions expressed and the statements made are those of your speaker, and that they do not necessarily represent the views or the opinions of the organization he represents.

Your Right-of-Way Department can no longer be looked upon as an orphan child that you countenance as a sort of necessary evil. Right-of-way acquisition work is actually in some of the States recognized as a function compared in importance to the functions of highway construction and maintenance.

Some States still turn gasoline tax funds--the motorists' money--over to the counties and cities to acquire right-of-way for State highway improvements. This makes every day Christmas Day.

Experience in the highway departments of some States has long since proven that a county or city administration may be very cagey and efficient in expending its own tax monies, but when it receives funds from State or Federal sources, it is an entirely different matter--easy come, easy go.

There are a very limited number of cities and counties in the several States, properly organized and equipped to handle this very important and difficult function.

Perhaps a local governmental agency is too close to home to expend outside sources of revenue wisely and judiciously.

There are still a few States constructing highways through remote rural areas where donated right-of-way is in order, but this procedure is becoming the exception and not the rule. Soon these days will be gone forever.

The highway right-of-way problem, with properly trained manpower and proper organization and procedure, transforms itself from a problem to just another job to be accomplished.

Development of the several State Highway Systems from a right-of-way standpoint is becoming ever more complex and difficult, with some States presently having the responsibility of carrying State highway improvements straight through the cities.

The vitally necessary and rapidly increasing program of freeway development represents increased problems and design difficulties in engineering, but represents a complete transition, new approach, and entirely new procedure in right-of-way acquisition.

To best understand the right-of-way problem, you must understand what adds up to a competent Right-of-Way Agent and the type of work he must handle.

He must of necessity have a sound working knowledge of economics and a thorough background of education and experience in land economics. He must be a capable appraiser, with ample background so that he may, with the utmost degree of accuracy, determine the fair market value of any type of land and improvements taken, severance damage if there is a remaining portion not taken, consequential damage if any, because of construction of the improvement in the manner proposed, and the damage, if any, because of taking of access rights either for freeway or limited type of freeway construction.

He must be well versed in real estate law, land title and escrow problems, with a working knowledge of the law of eminent domain and rules of evidence in the trial of eminent domain cases in his State. He must have a working knowledge of highway engineering to enable him to interpret highway construction plans and explain to the affected property owner how and where his property ownership will be affected.

He must be a clean-cut, neat-appearing, presentable individual with an excellent personality, and he must have outstanding sales ability. His sales ability and all other knowledge must lead him to the ultimate result that every property owner is offered and is willing to accept the fair market value--no more, no less.

If the employee handling right-of-way negotiations in your organization does not measure up to the minimum qualifications I have just outlined, I say without fear of contradiction that time will prove he is not a Right-of-Way Agent.

Research will prove that some State officials have the nerve to expect the services of this type of men with this outstanding background of education and experience, for compensation less than the truck drivers operating on the State highways of their State are being paid--a salary less, even, than semi-skilled laborers are paid.

Actual experience during the last two and a half years in training over one hundred returning war veterans, all in the twenties or early thirties, all with college educations but no previous right-of-way experience, has convinced me that it takes from two and a half to four years to train an inexperienced man and educate him to the point that he can be classed as a full-fledged Right-of-Way Agent, assuming that he has the personality, appearance and sales ability, so vitally necessary to make him a success in the right-of-way profession.

Yet in some States, every two or every four years a change of administration probably means that a complete house-cleaning takes place in the Right-of-Way Department with new, inexperienced men coming into the organization; and even though such new men may have a background of years of experience as real estate brokers, it is rare that they are of any greater value than college graduates with no background of experience. Right-of-way work is entirely different and far more complex than ordinary real estate sales work.

The very nature of right-of-way work forces the Department to give the Right-of-Way Agent a practically free hand; he must use his own initiative and his own good judgment. Heavy responsibility and trust are, of necessity, placed in him.

The right man must do a thoroughly honest, efficient and fair job both for the Department and for the property owner. He represents both.

The wrong man may unconsciously and unintentionally be taking advantage of the property owner or his Department. Though he may be handling only $100,000 a year in transactions, he may be costing the Department many thousands of dollars through lack of ability, experience or training. It is most difficult, if not impossible, to put your finger on your "problem child" and correct the situation.

Unfortunately, in a few of the States, the important field of right-of-way work is looked upon as a dumping ground to solve personnel problems. If the Administration has a political debt to pay and the recipient is incapable of handling any other job--make him a Right-of-Way Agent. If he has proven incompetent and inefficient in the various engineering functions, but nevertheless he has a friend and is a "good guy", put him in the Right-of-Way Department and carry him along.

The antiquated procedure of stuffing a bundle of deeds under a Right-of-Way Agent's arm with instructions to go get the right-of-way, belongs in the category of history.

There is no substitute for sound business-like procedure in land acquisition for public use. Certainly an engineer would not expect to call for bids, award a contract and construct a highway without complete plans and specifications.

Neither should you expect or permit a Right-of-Way Agent to attempt to negotiate contracts with property owners until he is supplied with a reliably prepared and accurate appraisal covering every parcel on the project.

As surveys, plans and specifications are the very foundation of highway construction, so also is the appraisal the very foundation of right-of-way acquisition work.

The successful Right-of-Way Agent obviously must be a part of a properly organized and properly functioning Right-of-Way Department, and of necessity must be supported by well-trained and experienced stenographic and clerical assistants, a competent land title department, and a very capable "Insurance Department." This latter department consists of the attorneys who try the condemnation cases in the event the property owner refuses to accept a fair and equitable settlement.

There is no better insurance to guarantee successful negotiations than awards in condemnation cases that are in line with the thoroughly fair and reliable appraisals prepared by the valuation staff of the right-of way organization previous to commencement of negotiations.

The Right-of-Way Department responsi-

ble for land acquisition for freeways in urban areas must be properly equipped to make economic studies of the effect of freeway construction upon the various types of abutting properties as well as the effect of freeway construction upon contiguous communities and entire cities. The Department must also be equipped to make land economic studies and preliminary appraisals so that the right-of-way man is able to make recommendations from an economic and land-value standpoint on several possible locations.

A careful analysis of the organization and procedure in connection with right-of-way functions of our several State Highway Departments leads me to the conclusion that one of our most important problems is lack of a proper accounting and record-keeping system within the Right-of-Way Department, permitting the Administrative Head of your organization at all times to keep his finger on the progress of right-of-way acquisition and the efficiency of the workmanship of the right-of-way personnel, not only on a State-wide basis but on a project basis and on an individual basis.

Your record-keeping system must be so devised that you know what right-of-way is costing. You must have a complete record of the performance of every Right-of-Way Agent and every Staff Appraiser.

It is of vital importance that you know from your records the percentage of parcels acquired by condemnation as compared with negotiations, the reason for any material change in these percentages during any particular time, and the financial analysis of what the change in percentage between acquisition by negotiation as compared to condemnation may be costing you.

It is very important that you know the ratio of right-of-way expenditures, your overhead cost per parcel, the ratio of right-of-way clearance costs to land values, the production results you are getting from each man within your organization, and how your Right-of-Way Agent handles himself in the field. Is he conducting his work in such a manner that the net result is a completed transaction fair to the property owner and fair to his organization? Is he conducting himself in the field in such a manner that he is leaving satisfied customers behind him, or is he leaving a trail of dissatisfied and disgruntled property owners who for all time to come are enemies and not friends of the Department? Has he left with the property owner a feeling of respect and confidence for the organization he represents?

I repeat--the Right-of-Way Agent must get the right-of-way, but he must be the type of man who leaves the property owner satisfied and in a friendly attitude, and at the same time the right-of-way must be acquired on a sound, businesslike, equitable basis.

In the final analysis, the property owner with whom negotiations are being carried on is one of the stockholders in the organization the Right-of-Way Agent is representing.

It is all-important that this stockholder be treated fairly. It is only proper that he be paid the fair market value for the land taken from him. In fairness to him, not a cent less; in fairness to the other stockholders, not a cent more.

Obviously, this result cannot be accomplished without a thoroughly sound and efficiently prepared pre-negotiation appraisal to determine the fair market value of land to be taken and the damage, if any, to the remaining property not taken.

The transition from construction of conventional type of State highways to limited freeways and freeways, introduces many new problems into highway right-of-way acquisition work.

The right-of-way appraiser and negotiator dare not guess--he must know through study, education and experience the effect upon each individual parcel of land, of the taking of access rights on a limited or complete basis. He must know what the effect will be upon all types of real estate holdings whether agricultural, residential, industrial, wholesale or retail business, or roadside business when these various types of land are deprived of direct access to the through lanes of traffic or in the future will have access to an outer highway which connects with the through lanes of traffic only at points designated by public authority.

He must know what the effect is going to be upon the retail merchants along Main Street when a paralleling freeway is constructed perhaps several blocks away to permit through traffic to bypass the local business section.

May I pause at this point to say that perhaps one of the most glaring weaknesses in our State highway organizations today

is a lack of proper study and research to determine the economic effect upon business and real estate, both rural and urban, because of construction of controlled access highways in the rural areas and freeways in the urban areas.

The affected property owners are, in my opinion, entitled to expect the Right-of-Way Agent who is negotiating for the necessary land for this modern type of improvement to be able to outline to them what the effect will be, and they are also entitled to expect the Right-of-Way Agent to have the factual information to support his statements.

Is your Right-of-Way Agent equipped to handle this important economic function of his work? I am sorry to say that in practically every State Highway organization the right-of-way negotiating personnel are not so equipped.

This fact leads to another very important conclusion. How can your staff appraisers in the right-of-way organization determine the fair market value of the damage because of the taking of such access rights if they do not know what the effect of the taking of such access rights will be upon the remaining portion of the property from which the access rights are taken?

When freeways are being constructed, necessitating the closing of certain less important local streets at the freeway right-of-way line, converting what was formerly a through street into a cul-de-sac street, how can your staff appraiser determine the damage, if any, to the property fronting upon such newly created cul-de-sac street, as compared to comparable real estate holdings on nearby through streets, if he is not supported by proper research and background through study of conditions and values on existing cul-de-sac streets in his State or City?

How can you possibly expect to satisfy the owners of the abutting and contiguous properties when you are constructing a freeway through any section of a city or community unless studies have been made to determine the effect where similar projects have been constructed through reasonably similar areas in other sections of the State or in other States?

What are the benefits that accrue in rural areas when a limited access highway is constructed through this area leading up to and connecting with a freeway through the urban area?

Considering the State Highway Departments of our Nation as a whole, there is great need of a well laid-out plan of attack to get the answer to these questions. A very limited number of our State Highway organizations show some interest in attacking this all-important research problem, but I believe it is a fair statement that, as a whole, the interest is only of the lukewarm variety.

It may be that this attitude stems from the lack of appreciation on the part of many of our highway officials of the value of a sound program of public relations.

I know of no more important function in our endeavor to serve the stockholders in our several organizations than to get together now on a well laid-out plan of procedure to handle this very important research problem.

A few of the State Highway organizations are presently responsible for the construction, maintenance and operation of State highways through cities. It is my belief that many more of the States will be called upon to take on this added responsibility in the near future, as the necessity for freeway construction becomes more apparent, desirable and necessary. From personal experience I can assure you that the complexities and difficulties in connection with the planning, design and construction of freeways in urban areas multiply to a far greater extent in the Right-of-Way Department than they do in the Engineering Department.

Two of the more important additions to the right-of-way functions are the property management and the right-of-way clearance functions. When you plan and build freeways through urban areas, your Right-of-Way Department will have to assume all of the problems that go along with the position of landlord.

The very nature of freeway planning and construction greatly expands the time between the commencement of right-of-way acquisition and the commencement of construction, resulting in the Department coming into possession of many improved real estate holdings that must be in your possession for a period of as long as perhaps three years, necessitating the operation of a right-of-way rental and leasing department.

As the time arrives to commence construction, the Right-of-Way Department is

called upon to clear the right-of-way of the affected building improvements.

In general, where freeways are constructed you are confronted with maximum value real estate. In many instances, the severance damage to the remaining portion of the property not taken will represent perhaps as high as 90 percent of the fair market value of such remaining parcel.

It therefore becomes necessary, if your Right-of-Way Department is going to function effectively and properly, to purchase the entire parcel and later dispose of the excess; provided, of course, it is to the financial advantage of the State to acquire the entire parcel, and the laws of the State permit the acquisition of such access land.

Experience will prove that a law permiting the acquisition of excess parcels under such circumstances is of vital importance to any State Highway organization that is responsible for freeways through urban areas.

The final and perhaps most troublesome function of the Right-of-Way Department in constructing a freeway through urban area, and especially so in those sections of the country where acute housing shortages exist, is the clearance of residential tenants from State-owned buildings within the right-of-way area, followed by clearance of the building improvements so that construction can proceed. I believe your speaker could spend the balance of the day on this one right-of-way problem alone.

In fairness to the right-of-way staff, I would strongly recommend, if you have not already done so, that you separate appraisal functions from negotiation functions and, in fairness to your Right-of-Way Agents, your organization and the public, never have the same man handle both appraisals and negotiations on the same project. The reasons are too obvious to be explained here.

There is a crying need for vast improvement in the appraisal technique in many of our State Highway right-of-way organizations.

It is important that you have complete integration of right-of-way activities with planning, design and construction activities; and finally, your right-of-way man, again assuming that you have the right man, by the very nature of his work can and should be your top public-relations man. Certainly, if any branch of public enterprise needs sound public-relations work, and needs it quickly, it is our several State Highway organizations. Our State Highway Engineers have done a great job. They are continuing to do a great job under trying conditions and many difficulties. The people are entitled to know the whole story, and the Highway Engineers should be proud of their outstanding record of accomplishment.

APPLICATION OF MATHEMATICS TO RIGHT-OF-WAY APPRAISAL

Harrison W. Hill, Valuation Engineer
Connecticut State Highway Department

Any consideration of real estate values must be preceded by a conclusion as to the future use the property, under consideration, may reasonably be devoted to. "Value is the present worth of the future benefits that accrue by reason of ownership." The benefits, accruing by reason of ownership, of course are directly associated with the use the property is put to. While the use a property may reasonably be put to is governed by a nearly endless number of conditions--its soil qualities, mineral content, climate, environment, etc.--the chief factor governing value and use, in urban and suburban property, is the population density of the area in which it lies. In considering the use to which a property may in the future be devoted, it is helpful to have as realistic a notion of the future growth pattern of the area as possible.

The most recent and thorough study of population growth is that of Professors Pearl and Reed of Johns Hopkins University. They give the general equation:

$$y = d + \frac{k}{Me\ a_1 x + a_2 x^2 + a_3 x^3}$$

where: y = population; x = time; k, M, and a constants, d the total attained in previous growth, and e the old pal that turns up in the oddest places; 2.718, etc., the basis of natural logs.

While this equation may be simplified for a single growth cycle to:

$$y = \frac{k}{1 + Me\ a_1 x},$$

one glance at it will make the average engineer or real estate man shake his head in dismay.

Getting away from the abracadabra of the mathematician and down to words we all understand, this equation probably is, by far, the best yet devised for predicting population increments. It is too academic for most of us to attempt to use.

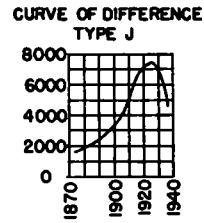
The curve of the equation is a reflex curve and exactly symmetric around the inflection point. The first part of the curve must be smooth and regular and fit or nearly fit the statistical curve of the past population data. If the inflection point can be located on the adjusted statistical curve, then all we have to do is to fold the paper at the inflection point along both the x and y axis, and the adjusted statistical portion of the curve--the lower left--becomes the prediction part; the upper right and the curve is completed. Locating the inflection point is a major project in pure mathematics. Again looking for the easy way--the table of difference of a symmetric reflex curve, when plotted, is a symmetric type J or mound curve with the inflection point of the reflex at the apex of the J. The apex of a type J curve is obvious on inspection when the data considered include more than 1/2 of the complete curve. It is generally agreed that most, if not all, American towns have more than reached the midpoint of their growth.

Figure 1 is an illustration of the application of the method.

The calculation of the curve, by the Pearl method, requires considerable time and knowledge of mathematics. The graphic method requires about 20 minutes, a french curve and a piece of tracing paper. No claim can be made of equal accuracy, but population increment in detail usually is whimsical. What we require is a reasonable approximation of the pattern, not the exact number of people living in the area 20 years hence.

The practical application of the information, derived from the growth prediction, is more or less a matter of common sense

Census Data		Adjusted	Difference
1870	3,788	4,000	1,500
1880	5,347	5,500	2,000
1890	7,382	7,500	2,500
1900	9,643	10,000	4,000
1910	13,502	14,000	7,000
1920	20,620	21,000	7,400
1930	28,451	28,400	4,100
1940	30,167	32,500	



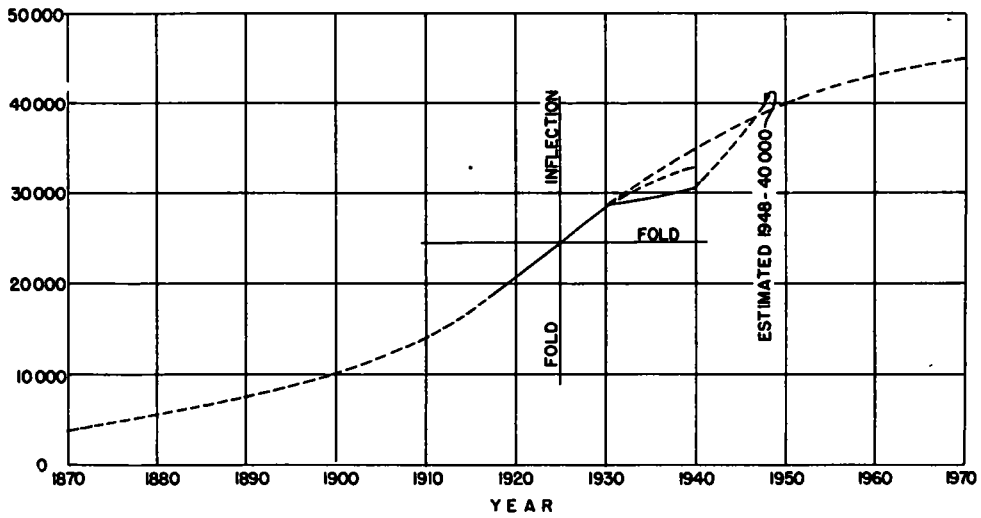


Figure 1.

and experience. Having the size of a town at any particular time and the normal growth expectancy, it is relatively certain what the demand for new residential structures will be. Similarly, the number of stores, garages, gas stations, etc., the area will support can be estimated. With the growth rate in mind, a correlation of the existing home and business structures with the present population usually suggests the future land-use pattern of the undeveloped portions of a community, and the transitions in use of the downtown properties.

Having estimated the present and future highest and best use of a property, we come to the problem of expressing it in dollars. Here social and economic forces of an extremely complex nature manifest themselves. The problem is to estimate how many dollars an informed and willing, but not compelled, customer would probably part with in order to obtain the property under consideration. Usually, what people will do is best guessed by referring to what they have done under the circumstances being considered. In other words, the comparative method.

For the valuation engineer interested in reasonably exact results, this means work. The first thing is to gather the comparative sales data. Figure 2 shows the form we use to record the sales information. We usually visit the land record office, and take from the records the transfers of real properties similar to those under consideration that have taken place within a reasonable time. The number of sales taken is largely controlled by the type of property and the size of the town. It is desirable to get a comprehensive sample. Often, because of lack of comparableness or infrequency of sales, something less than a comprehensive sample is all that is available.

A field study of the sales data is then made. We check the consideration paid, obtain a record of apparent age, condition, size and construction details of the buildings, and the quantity and quality of the land involved in the sale. This is probably a standard procedure throughout the coun-

FIGURE 2 - COMPARATIVE SALES INFORMATION

Date:

By:

Town:

Sales No.

Vol. Page

Location of Property

Grantor Witnesses

Address

Grantee

Address

Date of Sale Recorded

Price $ Terms Cash$ Mortgage$

Stated by Date I. R. Stamps $

ASSESSMENT

List of 19__

Buildings:

House — Rooms___ Bath___ Floors_____ Heat_____

Basement Floor_____ Foundation_____

Ceilings_____ Walls_____

Water Supply_____ General Condition_____

Barns_____ Garage_____ Other Buildings_____

Land:_____ Acres Classified as follows:

Grade A._____Acres $_____ Grade B._____Acres $_____

Grade C._____Acres $_____ Pasture_____Acres $_____

Sproutland___Acres $_____Swampland_____Acres $_____

Woodland_____Acres $_____ Other_____Acres $_____

Improvements and Changes Since Purchase:

Utilities: Pavement_____ Water_____ Sewer_____ Gas_____

Electricity_____Sidewalk_____Public Transportation_____

Replacement Cost of Structures:

Estimated Break-down of Prices:

Surroundings:

Special Features:

(See Back of Sheet for Additional Data)

Figure 2.

try. Unfortunately, all the sales disclose is the gross price for the property. The reduction of the sales data to usable form offers some difficulty. What we want is units of value to apply to the property under appraisement; land by the front foot or acre; buildings by the cubic or square foot. Now, if the various lands and buildings can be expressed in terms common to all, or approximately so, there are possibilities for the mathematical breakdown into unit price.

A first-year high school boy would have little difficulty with the solution for the price of each bird of, "A man bought 3 ducks and 4 geese for $15, and later 3 ducks and 2 geese for $9." Except for the fact that the prices actually paid for property usually are not consistent, the same rule the boy used on the ducks and geese would apply to the breaking down of the price for land and building. They are simple simultaneous equations. The rub comes because the price paid for real estate is not usually consistent. The treatment of inconsistent equations should be no novelty to an engineer although its use in land appraisal is not common.

If we write so many units of land--plus so many units of buildings--minus the price paid--plus or minus the variance from the normal price equals zero, we have the problem in a form we should recognize. Using a to represent the number of units of land; b, the number of units of buildings; p, the price paid; x, the unit price of land; y, the unit price of buildings; and v, the departure of this particular sale from the normal for the entire data. This is the equation:

$$ax + by - p = v_i$$

Going back to your school days. Does not this strike a chord of recollection? Did you never have to do a problem in least square adjustments?

By the Legendre principle--when the sum of the squares of the variances are a minimum, we have the most probable value for the unknown quantities. In a short article of this kind, it is not appropriate to go into the complete detail of the solution of inconsistent equations. For the people whose recollection needs only refreshing, the form of the equation should be sufficient. For a complete text, I suggest "Wright and Hayford's Adjustment of Observations." The book is available at, or can be ordered through, any stationery store.

To the readers who have been so long away from pure mathematics as to have completely lost the recollection of the solution of inconsistent equations, it is possible to get a sort of synthetic answer by the cut and try method. Write up your data in the form given, then guess as well as you can the price per unit of the land, and express your buildings as a percentage of the cost obtained by the method outlined. Compute the value, using these trial figures, and see how they compare with actual prices paid. The difference in your price as calculated and the price paid in each sale sample is the v for that sale. If you have guessed right, or nearly right, your v's will be small and about evenly balanced as to over or under the actual price.

If, as you probably will, you develop v's that are too large, or too small, change your assumed values and try it again. By a little juggling, a set of unit values can be found that will be reasonably accurate. When a man can draw upon many years of real estate experience, it often is the case that very close approximations of values can be made without the bother of making the involved calculation required in the least square method.

The work of solving a dozen or more sales by this method is tedious, but the results more than justify the effort. Prices are shown in their true light--probable values only. The departure from the normal price of every sale is found. The use of variants will be touched upon later.

The important thing to remember is to express both land and buildings in terms of common value in respect to each other.

As to land--particularly building lots--there is little difficulty. Use equivalent front feet in residential and business property. Adjust the actual dimensions with any of the standard depth tables and corner influence factors. For industrial property, I use the square foot unit; but try to select samples that are reasonably comparable in size and location.

Getting buildings expressed in common terms of value is more difficult. It is generally recognized that, as the volume of a building goes up, its unit price goes down when the quality remains constant. From an extended study of building costs it ap-

Figure 3 - Appraisal Weight Sheet

Date:
Inspector

Owner _____ Town. _____ Project: _____

ITEM	DESCRIPTION	WEIGHT
Excavation & Sewer		
Rack fill - grading		
Piers	2.0	
Ring Wall	2.5	
Full Cellar, 2 floors or more	4.0	
Full Cellar, 1 floor	5.0	
Foundation		
Piers	1.0	
Ring Wall	2.5	
8" Wall	4.5	
10" Wall	5.5	
12" Wall	6.5	
Sheathing	2.0	
Side Wall Surface		
Novelty Siding	1.5	
Wood or Asbestos shingle	2.0	
Clapboard	2.5	
Stucco or Brick Veneer	3.5	
Stone Veneer	4.0	
Exterior Trim		
Simple	1.0	
Average	2.0	
Expensive	3.0	
Exterior Paint		
Poor	0.5	
Average	1.0	
Best	1.5	
Roof including boarding		
Rolled Paper	2.0	
Asphalt or wood shingle	3.0	
Asbestos shingle	4.0	
Slate or tile	4.5	
Sheet Metal		
Galvanized gutters, etc.	0.5	
Copper gutters, etc.	1.5	
Garage doors, fire-proofed	1.0	
Chimney		
Exterior	0.5	
Interior	1.0	
Exterior with fireplace	3.0	
Interior with fireplace	4.0	
Water Service		
City	1.0	
Country	4.0	
Concrete Floor		
1 Story	2.5	
2 Story or more	1.5	
1 Story with garage	3.0	
2 Story with garage	2.0	
Steel Work		
Lallys	0.5	
Steel Sash	0.5	
Framing & Bridging		
Sub-standard	6.0	
Standard	9.0	

Figure 3 - Continued

ITEM	DESCRIPTION	WEIGHT
Sub-floor	1.5	
Finish Floor Including Porch Floor & Ceiling		
Poor	2.0	
Good	3.0	
Excellent	4.0	
Asphalt Tile or Linoleum (Battleship)		
Kitchen	0.5	
Interior Walls		
Sheet rock or wall board	4.0	
Plaster except in basement	6.5	
Plaster including basement ceiling	8.0	
Tile Work		
Bath	2.0	
Bath & Lavatory	2.5	
Interior Trim		
Average	1.0	
Best	1.5	
(with wood paneling)	2.0	
Interior Doors		
Average	2.0	
Best	2.5	
Closets, Cabinets, etc.		
Closets only	0.5	
With kitchen cabinets	2.5	
with book cases, china closet, cedar closet, mantel etc.	4.0	
Stairs		
Fair	0.5	
Enclosed	2.0	
Open	2.5	
Interior Decoration		
Poor	2.0	
Average	4.0	
Best	6.0	
Windows		
Old type (thumb latch)	4.0	
Sash and weight	5.0	
Silentite type	7.0	
Hardware		
Average	1.0	
Best	2.0	
Insulation	2.0	
Electric Installation		
Poor	2.0	
Average	3.0	
Best	4.5	
Plumbing		
Poor	1.0	
Average	4.5	
Best (Bath & Lavatory)	6.5	
Heating		
Pipeless	1.0	
Hot Air	3.0	
Steam	4.5	
Domestic Air Conditioning	7.5	
Hot water, average	6.0	
Hot Water, best	7.5	
Extra, automatic heat	1.5	

Total Weight _____

Figure 3.

TABLE 1
REPRODUCTION COST TABLE
prepared by
CONNECTICUT STATE HIGHWAY DEPARTMENT
MAY 1, 1948

Cubic Feet	Price per Cubic Foot		
	Modest 60	Average 80	Excellent 100
1,000	68.9	82.3	94.3
2,000	64.7	79.8	91.7
3,000	61.2	77.4	89.5
4,000	58.2	75.5	87.6
5,000	55.9	73.7	85.8
6,000	53.6	72.1	84.0
7,000	51.7	70.5	82.5
8,000	50.2	69.2	81.2
9,000	48.7	67.9	79.9
10,000	47.4	66.7	78.5
11,000	46.3	65.6	77.4
12,000	45.3	64.6	76.5
13,000	44.3	63.6	75.4
14,000	43.5	62.8	74.5
15,000	42.7	61.9	73.7
16,000	42.0	61.3	72.8
17,000	41.4	60.5	72.1
18,000	40.7	59.8	71.3
19,000	40.2	59.2	70.6
20,000	39.6	58.5	70.0
21,000	39.1	58.0	69.3
22,000	38.5	57.4	68.8
23,000	38.2	56.9	68.2
24,000	37.7	56.3	67.8
25,000	37.4	56.0	67.2
26,000	37.1	55.6	66.7
27,000	36.7	55.0	66.2
28,000	36.4	54.7	65.8
29,000	36.1	54.2	65.3
30,000	35.8	54.0	64.9
31,000	35.5	53.6	64.6
32,000	35.2	53.2	64.1
33,000	35.0	52.9	63.9
34,000	34.8	52.6	63.5
35,000	34.5	52.3	63.1
36,000	34.3	52.0	62.8
37,000	34.2	51.7	62.6
38,000	33.9	51.5	62.2
39,000	33.8	51.3	61.9
40,000	33.6	50.9	61.6

TABLE 1--Concluded
REPRODUCTION COST TABLE
prepared by
CONNECTICUT STATE HIGHWAY DEPARTMENT
MAY 1, 1948

Cubic Feet	Price per Cubic Foot		
	Modest 60	Average 80	Excellent 100
41,000	33.4	50.7	61.4
42,000	33.2	50.6	61.2
43,000	33.1	50.3	60.8
44,000	32.9	50.1	60.7
45,000	32.8	49.9	60.5
46,000	32.6	49.6	60.2
47,000	32.5	49.5	60.0
48,000	32.3	49.3	59.8
49,000	32.2	49.1	59.5
50,000	32.1	48.8	59.4
51,000	31.9	48.7	59.2
52,000	31.9	48.6	59.0
53,000	31.8	48.4	58.7
54,000	31.7	48.2	58.6
55,000	31.6	48.1	58.5
56,000	31.5	48.0	58.2
57,000	31.5	47.7	58.1
58,000	31.2	47.6	58.0
59,000	31.1	47.5	57.9
60,000	31.0	47.4	57.6
61,000	31.0	47.3	57.5
62,000	30.9	47.1	57.3
63,000	30.9	47.0	57.2
64,000	30.8	46.9	57.0
65,000	30.6	46.8	56.9
66,000	30.6	46.6	56.8
67,000	30.5	46.6	56.7
68,000	30.5	46.4	56.5
69,000	30.4	46.3	56.3
70,000	30.4	46.2	56.3
71,000	30.3	46.1	56.2
72,000	30.3	46.1	56.1
73,000	30.1	46.0	56.0
74,000	30.1	45.8	55.9
75,000	29.9	45.7	55.7
76,000	29.9	45.7	55.7
77,000	29.8	45.5	55.6
78,000	29.8	45.4	55.4
79,000	29.8	45.4	55.3
80,000	29.7	45.3	55.3

pears that this relationship is on a hyperbolic curve. Equally, it is true that cost and quality vary directly in respect to each other.

If we can devise a scheme to express the quality of a building numerically and consistently, even though the number plan is arbitrary, we are on safe ground.

Figure 3 is a plan for expressing the quality of a residence on a numerical

scale. Various items of the building are listed, and a weight assigned to each. The sum of the weight numbers is the total quality weight of the building. Not all items are covered, but there are enough to sample fairly the entire building.

Table 1 is a calculated table of relationship for size. This gives the cubic foot cost in Hartford, Connecticut, about May 1, 1948 for buildings with quality weights of 60, 80 and 100. To use the plan, simply interpolate. Do not be confused about adopting, as value, these cubic foot costs. They are simply used to express buildings in common terms. Calculate the building cost on this plan, and use it for your building's symbol coefficient. When you have solved the equation, the building symbol will work out to have a value of one plus or minus a fraction. The plus or minus fraction represents the depreciation or appreciation above or below this cost figure in the actual normal market your sample sales represent.

In respect to the variances that are developed for each sale, they arouse some interesting speculations. On a number of cases worked out, they suggest that "The magnitude of a variance is inversely proportional to the square of the frequency of its occurrence." If this were provable, it would offer a possibility of expanding a small sample infinitely. Having in mind the results of the presidential poll samplers in this year's election, we had better forego comment along this line.

More seriously--it seems to be a part of the American way of life to give the individual the benefit of every reasonable doubt when he is dealing with the public. Some of the text writers have gone so far as to say in connection with public acquisition, "Fair Market Price is the highest price a person could have obtained for his property in reasonable probability had he been willing to sell it."

As far as I know, a thing is reasonably probable when the chances of its occurring are the same as the chance of its not occurring.

Assuming that the sales sample is representative, we must admit that there are the same probabilities of the next sale being below the average as above. There is much less probability of the sale falling exactly on the line than there is that it will fall above or below the normal line.

If, however, we divide our variances into quarters two above the median line and two below, we can say, truthfully, that there is the same probability of the next sale falling within the two quarters next to the median line as there is of falling in the outer quarters. Anything within the two center quarters is reasonably probable.

Now, if we want the highest of reasonable probability, take the top of the quarter above the line. Conversely, when it is necessary to give the individual the benefit of reasonable doubts the other way, say for tax assessment purposes, use the bottom of the lower center quarter. Both are reasonably probable. Both seem to satisfy our general plan of doing public business.

Actually, when we use the higher figure, we say 3/4 of the buyers of our sample got bargains--only 1/4 overpaid. When we use the lower figure, 3/4 overpaid and 1/4 got a bargain. In a fairly realistic market, the variances tend to be small. The top of the upper central quarter will be only 20 to 25 percent above the bottom of the lower central quarter.

FEDERAL PARTICIPATION IN RIGHT-OF-WAY ACQUISITION COSTS

Lester E. Boykin Solicitor
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The problem of acquiring rights-of-way for highway improvement projects only recently has begun to receive that degree of recognition which its importance has always merited. The tendency of both administrative and engineering highway officials has been to treat it very much as the orphaned child of the highway construction industry--something unwanted that was thrust upon them and had to be tolerated but which neither cared to claim as a part of his official duty and responsibility.

It was obvious that in order to build a road the right-of-way on which to locate and construct it would have to be provided. However, the matter of acquiring the land necessary for this purpose was often treated as an unpleasant incident which ultimately would have to be taken care of but could be postponed until after provision had been made for all other steps in the planning and programming of the work. Accordingly, the practice became all too prevalent of proceeding with all other preliminaries, including the preparation of plans, specifications, and estimates of construction items but deferring the preparation of plats, descriptions, title evidence and appraisals of the individual parcels of land required until all other phases of preparatory work were completed and then undertaking to acquire the right-of-way on the basis of pressure and a demand for speed to meet construction schedules fixed without adequate and timely consideration being given to the time element and other factors necessarily involved in all land transactions. The result often was that at the last moment the acquisition of rights-of-way was approached without the basic data that would be required having been assembled and from the delays which followed there arose a chorus of complaints that construction was constantly being held up because of the antiquated and cumbersome procedures that had to be pursued in securing the land. Such diagnosis, however, was not always correct.

It should be stated that the inept attitude and approach to the right-of-way problem outlined above stemmed from all levels of government. It was manifest in the county, city, State, and Federal governments, including their judicial and legislative branches as well as the units of government having jurisdiction over highway construction and maintenance activities. This of itself presents a subject which merits further and more detailed discussion which the scope and purpose of this paper will not permit. It, therefore, will be passed over at this time and the remainder of this discussion will be confined to the authority for participation in right-of-way costs by the Federal Government as reflected in the Federal-aid road legislation.

The Federal-aid road legislation provides aid to the States in the construction of roads. The original Federal-Aid Road Act, approved July 11, 1916 (39 Stat. 355), contained a definition of the term "construction" in broad, general terms which did not mention right-of-way costs. Said Act did not specifically authorize or exclude Federal participation in such costs. However, the Federal Highway Act of November 9, 1921 (42 Stat. 212), expressly excludes Federal participation in such costs by redefining the term "construction" in the following manner:

> "The term 'construction' means the supervising, inspecting, actual building, and all expenses incidental to the construction of a highway, except locating, surveying, mapping, and costs of rights-of-way."

The effect of this definition was to bar right-of-way costs from Federal participation, and it remained a part of the basic Federal-aid legislation for a number of years. Not only so, it was in effect reaf-

firmed and extended by section 204(a) of the National Industrial Recovery Act, approved June 16, 1933 (48 Stat. 200), which section authorized the expenditure, in accordance with the provisions of the Federal Highway Act, of a very substantial sum for emergency construction on the Federal-aid highway system and the payment of any part or all of the cost thereof, including specifically the cost of surveys and the preparation of plans, but not right-of-way costs as to which there appeared the following inhibition:

> "No funds made available by this title shall be used for the acquisition of any land, right-of-way, or easement in connection with any railroad grade elimination project."

During the latter half of the 1930-40 decade, a number of bills were introduced in the Congress proposing to authorize Federal participation in right-of-way costs. Some of these bills also proposed to permit acquisition of necessary lands for right-of-way purposes by the Federal Government. However, none of them received favorable consideration by the Congress.

The next legislative expression on the subject by the Congress was contained in the Federal Highway Act of 1940, approved September 5, 1940 (54 Stat. 867), and applied to the Territory of Hawaii to which the provisions of the Federal-aid road legislation had previously been extended by the Act approved March 10, 1924 (43 Stat. 17). This provision will be found in section 4 of said Act and related to any balances of the Federal-aid road funds apportioned to Hawaii for the fiscal years 1939 and 1940 which remained unexpended at the close of the period of their availability and authorized the Commissioner of Public Roads to enter into any agreements which he might deem necessary with the Territory for the expenditure of such funds in the construction of projects desirable from the standpoint of the national defense, and further authorized him at his discretion

> "**** to pay all or any part of the costs incurred after approval of any such project, including the cost of surveys, the preparation of plans, specifications and estimates, and of necessary new or additional rights-of-way,***."

This represents the first departure on the part of Congress from the policy of not paying for right-of-way costs which it had pursued from the inception of the Federal-aid road legislation, but it was followed in 1941 by enactment of the Defense Highway Act of 1941, approved November 19, 1941 (55 Stat. 765), which was an emergency measure for the immediate construction of roads urgently needed for the national defense. This latter Act provided for the construction of access roads to military and naval reservations, to defense industries and defense industry sites, and to sources of raw materials, and for the improvement of projects to correct critical deficiencies in lines of the strategic network of highways. It authorized the payment of all or any part of the cost of access roads (S. 6) and the payment of three-fourths of the cost of strategic network projects (SS. 4, 12, and 13) and provided that such payments might include the cost of acquiring new or additional lands necessary for rights-of-way for such projects. It also authorized the Federal Government itself to acquire (S. 14) any new or additional lands that might be required for such purposes and many parcels of land were acquired pursuant thereto by the Public Roads Administration throughout a number of States. However, the Act was designed to apply only during the national emergency declared by the President on May 27, 1941, and while said emergency has not been officially terminated it is generally considered that the Act has served its purpose and is no longer in effect except for the closing out of pending cases.

These departures from the established policy of not participating in right-of-way costs were followed by enactment of the Act of July 13, 1943 (57 Stat. 560), section 1 of which redefined "construction" as follows:

> "The term 'construction' means the supervising, inspecting, actual building, and all expenses, including the costs of rights-of-way, incidental to the construction of a highway, except locating, surveying, and mapping."

In the following year there was enacted the Federal-Aid Highway Act of 1944 (58 Stat. 838), section 1 of which again revised the definition of "construction" to read as follows:

> "The term 'construction' means the supervising, inspecting, actual building, and all expenses incidental to the construction or reconstruction

of a highway, including locating, surveying, and mapping, costs of rights-of-way, and elimination of hazards of railway-grade crossings."

When this latter Act was under consideration, there was considerable opposition manifest on the part of some members of the Congress to any further authorization for participation in right-of-way costs. Nevertheless, the legislation was finally enacted with authority for participation in right-of-way costs retained therein but with certain limitations written into the Act (S. 5(a)) which restricts the Federal share of such costs in the case of any highway project to not exceed one-third plus the usual increase authorized by law in the public land States, and in the case of any project for the elimination of hazards at railway-highway crossings at grade to not exceed 50 percent of the right-of-way and property damage costs that may be paid from public funds of the State or its subdivisions.

The regulations for carrying into effect the provisions of the 1944 Act which were approved April 21, 1945, contain certain provisions respecting Federal participation in right-of-way costs and for the issuance of operating procedures and instructions, which provisions will be found in sections 1.12 and 1.24 which read, respectively, as follows:

"Sec. 1.12 Right-of-way.--Federal participation in right-of-way shall be restricted to costs of new or additional lands required and acquired subsequent to July 13, 1943, and subsequent to the date of approval of the program which includes the project for which such right-of-way is acquired. Payment will not be made for any land owned by a State or its subdivisions that is not acquired for and used as a part of the right-of-way for such project, but payment may be made in proper cases for the readjustment, repair, or restoration of facilities and improvements on such publicly owned lands made necessary by reason of the construction of the highway project thereon. Only such right-of-way costs as are paid from public funds of the State or its subdivisions shall be eligible for reimbursement."

"Sec. 1.24 Operating procedures and instructions.--The Commissioner is hereby authorized to issue such operating procedures and instructions not in conflict with the act or with these regulations as he may deem necessary for carrying out the provisions and effectuating the purposes of the act and these regulations, and all such operating procedures and instructions issued by him shall be and continue in full force and effect from the date on which issued or made effective until modified or revoked by him."

Mention also should be made of the fact that section 17 of the Federal Highway Act made provision whereby rights-of-way might be granted to the States across public lands or reservations of the United States for any highway or forest road or as a source of materials for the construction or maintenance of any such highway or forest road adjacent thereto. It further should be mentioned that by section 16 of the Federal Highway Act; the Act of October 22, 1919 (41 Stat. 304), which became a law without Presidential approval; and the Act of May 25, 1920 (41 Stat. 621), railroad companies to which grants for rights-of-way through the public lands had been made by the Congress, or their successors in interest or assigns, were authorized to convey to any State, county, or municipality any portion of any such right-of-way needed for use as a public highway or street, the only restriction being that no such conveyance should diminish the right-of-way of such railroad to less than fifty feet on each side of the center of the main track of the railroad. These provisions of law have proven very helpful and of tremendous value to the States and their subdivisions. They were especially important with respect to the authority which they granted for railroad companies to convey portions of their rights-of-way across the public lands where needed for public highways or streets for the reason that prior to their enactment the railroads were without statutory authority to make any such conveyance and under the decisions of the Federal courts, including the Supreme Court of the United States, any attempt to alienate any portion of the right-of-way of a railroad that was granted across the public lands would have been null and void.

Thus far I have merely reviewed the history of Federal legislation pertaining to rights-of-way and to participation in right-of-way costs and have set forth the law and the regulations on this subject that are now in force and effect. There are no other applicable laws or regulations. It might be helpful at this point, therefore, to briefly summarize the basic extent to which Federal participation under current legal authority may be allowed in right-of-way costs, which is as follows:

1. It may be allowed only in the cost of new or additional lands acquired and used for the particular project on account of

which it is claimed;

2. It may not be allowed in the cost of any lands already owned by a State or its subdivisions not acquired for and not used as right-of-way for the particular project on account of which it is requested;

3. In the case of a highway project it may not exceed one-third of the cost of right-of-way acquired for such project, plus the usual increase authorized in public land States;

4. In the case of a railroad grade crossing project it may not exceed one-half of the cost of the right-of-way acquired for such project;

5. In no case may it exceed the aforementioned pro rata of the cost of right-of-way for a project actually paid by the State or its subdivision from public funds available to them.

This brings us to the point where consideration may now be given to the operation of the law and the regulations as hereinbefore set forth, with appropriate reference to operating procedures and instructions that have been issued, and to their over-all application to projects and to particular situations in connection with projects. This necessarily will involve a discussion of what may be included as right-of-way costs and under what conditions and to what extent Federal participation therein may be allowed. No attempt will be made to anticipate and deal with every conceivable situation that may arise, for that obviously would be impossible. However, an effort will be made in the light of experience with situations that have actually arisen and anticipating so far as possible what may arise to set forth general principles that have been or should be applied and which by intelligent application should provide the answer to most of the problems that may occur in the normal course of projects on which participation in right-of-way costs may be requested.

First of all, it seems desirable to state that the actual acquisition of lands for rights-of-way for projects to be undertaken under the Federal-aid road legislation will have to be by the States or their appropriate subdivisions. There is no authority of law at this time by which the Federal Government can acquire any lands for such purpose. Federal participation in right-of-way costs, therefore, will be in the form of reimbursement in the same manner as for other items of construction. However, there are certain fundamentals which should be observed or with which the procedures of States and their subdivisions should conform in acquiring rights-of-way on which Federal reimbursement will be requested in order that efficiency and economy may control. These will be found interwoven in what follows.

It should be observed also that a great many States have elected to assume the whole problem of providing rights-of-way without requesting Federal participation in the cost thereof. Such States are not directly interested in the conditions and limitations which may apply where Federal participation is sought. States do not get any less Federal money by not requesting Federal participation in right-of-way costs, as such participation can only be paid out of their apportionments of Federal-aid road funds and where no part of a State's apportionment is absorbed in meeting right-of-way costs the whole apportionment is left available for expenditure in actual construction work on projects. I wish to emphasize this latter point as there frequently is evidence of more or less general misconception with respect thereto.

Items that generally may be included as right-of-way costs, conditions and limitations that may have application thereto, and the extent of Federal participation allowable therein, are set forth in the following numbered paragraphs:

1. It may be well first to call attention again to the provision in section 1.12 of the regulations hereinbefore quoted that Federal participation will be allowed only in the cost of lands that are acquired subsequent to July 13, 1943, and subsequent to the date of approval of the program that included the project for which they are required.

2. No particular problem should arise where the price paid for a parcel of land and any improvements thereon that are included in the taking represents only the fair and reasonable value of such land and improvements and does not involve any element of damage. The price actually paid in such case, if reasonable and properly supported, would be eligible for Federal participation. It has been my experience in acquiring property for highway rights-of-way that the owners of a great many of the parcels acquired were satisfied to set-

tle for the fair and reasonable value of the lands and improvements actually taken, without seeking damages over and above such value. Negotiation of mutually acceptable settlements in all such cases usually was accomplished with very little difficulty. In the case of other parcels, however, damages often were claimed beyond what could be justified and such claims had to be considered in endeavoring to work out settlements with the owners. Extreme care must be exercised in giving consideration to claims of this latter class for it is in this field that the unwary or incompetent representative of the acquiring agency, to use a slang but forceful expression, may be unmercifully "skinned." It likewise is the field in which the greatest opportunities for dishonesty and fraud exist. It is of such importance that it is believed that it should be treated more fully in a separate paragraph. Accordingly, it will be discussed further in the next succeeding numbered paragraph.

3. (a) Claims for damages in connection with right-of-way acquisitions appear in such a multitude of forms that I shall not attempt to catalog them. The character of property involved in each parcel taken and the use to which it is devoted usually determines to a large extent the nature of any claim that may be made for damages because of its being taken. However, it rarely is possible to accurately anticipate such claims. Some property owners and the appraisers and attorneys whom they employ are quite ingenious in conjuring up elements of damage upon which to base claims, many of which are so fantastic and remote that they really do not merit serious consideration. Nevertheless, where damages are alleged the issue must be met whether the acquisition is undertaken by negotiation or by condemnation through the courts. In all cases extreme care must be exercised to avoid paying for items that are not compensable and to make certain that excessive payments are not made for items that are compensable. Where the damages alleged are real and the amount claimed or agreed to be paid on account thereof is reasonable, they may be considered as eligible items of r i g h t - o f - w a y costs. For the purpose of this discussion all parcels of land taken may be divided into two classes, namely, those which take the whole property of the owner with nothing left to be damaged by the taking and for which the compensation paid should not exceed the reasonable market value thereof, and those which do not take the whole property of the owner and for which the amount to be paid should not exceed the fair market value of what is actually taken plus reasonable compensation for the damages, if any, that may be suffered by what remains after the taking.

(b) Damages generally are classified in law as "severance damages" and "consequential damages." A third class, known as "proximity damages," has recently obtained some recognition, but in my judgment this latter class is pretty well comprehended under the first two classes mentioned. "Severance damages" occur where only part of an owner's property is taken and the taking of less than the whole results in injury to the remainder. In such case the measure of damages is the injury done to the fair market value of the entire tract by the taking of only a part thereof, and the owner is entitled to recover the difference between the market value of the entire tract before the taking and the market value of what is left after the taking. Most damages that are claimed come under this class. "Consequential damages" is the term applied when property is not actually taken or entered upon but is damaged as the natural result of an act lawfully done by another. An instance of such damage might be where the access of an adjoining owner from whom no land is taken is obstructed. Other instances might be the impairment of light, air, and view, which at best are of doubtful merit as the basis for right-of-way damage claims. In fact, I am convinced that most claims under this class result from construction of the highway facility and not from the taking of the right-of-way. As to "proximity damages," an extreme case that came to my attention was based on the shifting of a railroad switch track about five feet to get it in the center of the street as a part of the improvement of such street, and it was proposed to allow damages to property on the side of the street towards which the tracks were to be moved. It was my view that such damages should not be allowed. This is a subject that could be pursued indefinitely, but in view of the limited time available I will pass along to the next phase of the matter which I wish to mention.

(c) Where the property acquired for right-of-way has located thereon buildings, structures, or other improvements and the acquisition agreement or condemnation decree reserves no rights therein to the prior owner, all of his right and title to such land and improvements would be extinguished and would become vested in the acquiring agency. If there are buildings, structures, or other improvements on such property which the prior owner desires to retain with the rights of salvage or the right to move them either at his own expense or at the expense of the acquiring agency, such reservation of right should be specifically set forth in the agreement with the owner. Should the acquiring agency be required to have such improvements moved or relocated or to pay for their removal or relocation, in accordance with the terms of the agreement with the prior owner and as part of the consideration for the acquisition, the expense incurred could be considered a right-of-way item. Likewise, the expense of physical adjustment or reestablishment by the acquiring agency of any existing improvements, such as fences, wells, private walks, and other similar surface improvements located on property acquired for right-of-way may be considered a right-of-way cost if the agreement with the landowner provides for such adjustment or reestablishment at the expense of the acquiring agency. On the other hand, if such agreement makes no provision for the adjustment or reestablishment of such improvements by the acquiring agency such adjustment or reestablishment will be deemed a responsibility of the landowner and any work of that nature performed by the acquiring agency would not be eligible for Federal participation.

4. Participation will not be allowed in the cost of land already in public ownership that may be used as right-of-way for a project but which was not actually acquired for such project even though the State or local agency having jurisdiction and control over such land is required by law to receive compensation for its use for a public highway right-of-way. However, participation may be permitted in proper cases for the removal, readjustment, repair, or restoration of facilities and improvements on such publicly owned lands that may be made necessary by construction of the highway project thereon. Nevertheless, it is recognized that there may be situations where lands already in public ownership are encumbered by vested private interests, such for instance as lands owned by a school district with bonds outstanding that are secured by mortgage or deed of trust on the school property, and under such circumstances the facts might be such as would warrant Federal participation in payment of the reasonable value of the lands taken for the right-of-way. Another instance might be in the case of tax lands against which a valid prior purchase agreement is outstanding.

5. A proper pro rata of the salaries and travel expenses of field representatives of the right-of-way office of a State, county, or city while engaged in right-of-way acquisition work may be included as eligible right-of-way costs. However, no part of the administrative and headquarters expenses of such offices, or of field offices, may be included. The cost of surveys, plats, appraisals, title evidence, advertising, recording fees, court fees, fees for certified copies of land records or court documents, and similar items may be included.

6. Title evidence may be furnished either by title companies or by attorneys and the fees therefor, if reasonable and proper, may be included as eligible items of cost whether furnished by title companies or by private attorneys. The employment of private attorneys, however, in other capacities may not be included as eligible for Federal participation. This applies even in the case of those States where the law provides that the fees of attorneys who represent property owners in condemnation proceedings shall be fixed by the court and assessed against the acquiring agency. The principal effect of such a law, of course, is to discourage settlement by agreement and serve as a powerful incentive to litigation.

7. I would like to say just a few words concerning the need for competent appraisals. It sometimes appears that the right-of-way authorities of at least some States, counties, and cities fail to appreciate the helpfulness that may be derived from appraisals by well-qualified appraisers. They are helpful in negotiations and are essential where condemnation is involved. There is some cost attached, of course, and this item of cost frequently discourages ac-

quiring agencies from securing appraisals. However, it generally will be found that whatever is spent for competent appraisals will prove to be a good investment. There should be a separate appraisal of each parcel which should represent the independent judgment of the appraiser. Joint appraisals amount to nothing more nor less than one appraisal and represent a compromise of the views of the appraisers that join therein. In all cases where right-of-way has been acquired by the Public Roads Administration, whether by agreement or by condemnation, we have had at least two and sometimes as many as five appraisals, depending on the nature of the property and the likelihood of contest. Appraisals should be made always before the property is disturbed by construction work. The only time that we failed to get two or more appraisals was an instance that involved an industrial plant and we engaged a technical expert who was recommended as the most competent person along that line in the country. We had him go over the property and gather such information as he desired before the property was disturbed. That parcel had to be acquired by condemnation. After the property was destroyed by construction operations a pre-trial conference was held at which the appraiser whom we had engaged virtually collapsed when confronted with experts who appeared for the property owner. We had no other appraiser and it was then too late to get another since the property had been destroyed. As a result we took the worst trimming in this case of any case we have ever had involving right-of-way acquisition, whereas if we had spent a little more for other appraisers we might have saved a substantial sum. Appraisals should be made before the landowner is approached in negotiations and also before condemnation proceedings are filed. The appraisers should be of such caliber that in case of condemnation proceedings they will be competent as witnesses to testify for the acquiring agency. The cost of appraisal services is a proper item for Federal participation.

8. A problem that has proven difficult of solution arises where right-of-way is acquired for a substantial period in advance of the date on which construction work may begin on the project for which it is acquired. Property so acquired usually is located in cities or urban areas and it frequently involves highly productive revenue property. Such property is sometimes residential and sometimes commercial or industrial and it may continue to be rented and used from the time of acquisition to approximately the date on which construction work may begin. The rentals derived from such property should be credited on the cost of the right-of-way and it has been difficult to formulate a plan for effectuating such credit on a basis that would be workable and would be fair and reasonable as between the Federal Government and the acquiring agency. The acquiring agency, of course, would have custody and control of the property and of the rentals, including the collection of such rentals and the disposition of the proceeds. We think we have about found a solution to this problem and I had hoped to have it worked out so that it could be announced in connection with this paper. However, it has not been developed quite to the point where it can be announced in toto. I would say, however, that it probably will involve a method of calculation which may be stated briefly about as follows: The present worth of estimated annual net rentals to be received by the acquiring agency over the anticipated period of rental, together with the present worth of estimated salvage value at the anticipated date of demolition, would be subtracted from the acquisition cost of each right-of-way parcel and the result would be the effective net cost of acquisition of such parcel to the acquiring agency and Federal participation would be based on such effective net acquisition cost. It is believed that the plan in mind can be perfected so that it will operate with equal fairness to the acquiring agency and to the Federal Government and thus make it possible for the States to submit final vouchers in the case of advance right-of-way acquisition projects and for such vouchers to be paid and avoid an accumulation of unpaid final Federal-aid vouchers both in the records of the States and the Public Roads Administration. It should facilitate the work.

9. A further problem which we have been unable to work out in final detail relates to the classification of certain items as between construction costs and right-of-way costs. The fact that the law permits payment of the full Federal pro rata of construction costs and only one-third of right-

of-way costs makes this of some importnace. It was hoped that this also might be worked out so that it could be included in this paper. However, time did not permit of its accomplishment, but it will be pursued and it is anticipated that it soon will be possible to issue a memorandum that will include such classification.

In conclusion, I would like to state that there is in preparation a memorandum on the subject of Federal participation in right-of-way costs which it was anticipated might be completed and ready to be issued before this meeting. It further was the thought that my discussion before this committee would be based primarily on said memorandum. However, so many other matters arose that required attention that it was not possible to complete the memorandum by this date and also prepare a paper. It probably would have been better to have concentrated on the preparation of the memorandum instead of this paper since one of them had to be omitted. The memorandum, when completed, will cover a number of details and operating procedures, especially as to the supporting data that should accompany vouchers for reimbursement of right-of-day costs, which no attempt has been made to include in the paper presented at this time. The purpose will be to make it as simple and free from burdensome or technical requirements as possible, and it is hoped that, when issued, it will be easily comprehended and may facilitate the handling of problems in connection with right-of-way acquisition.

A PRACTICAL VIEW OF URBAN RIGHT-OF-WAY ACQUISITION

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San Antonio Urban Expressway
Texas Highway Department

The term "practical view" is being used in this paper in a dual sense: that is, by "practical" is meant "that which may be applied in practice"; and by "view" is meant the "point of view", or rather the "direction in which a thing is seen". Of the two, the latter is the more important as the practicality of most things herein discussed depends in a large measure upon the direction from which each is viewed.

This discussion is therefore intended to direct your attention to that period of time in which the studies, the surveys and the decisions are made that eventually result in the completed P.S. and E. for the construction of an urban highway project, including the usual right-of-way map and field notes for right-of-way procurement. Those charged with the responsibility of the economical acquisition of right-of-way, logically hold that factors peculiar to right-of-way procurement should be simultaneously considered with the physical features of design, because both are inextricably linked with right-of-way acquisition. For instance: where data pertinent to design will develop the type of bridge to be built across a stream, or whether to go over or under a railroad, or the need for a grade separation at the crossing of a busy street; data pertinent to right-of-way will bring out the value to the community of providing a crossing either over or under the project itself because of a school, or because of a church, or because of the economies resulting from providing "community-access" to a corner grocery store.

Among the many factors affecting right-of-way cost of an urban highway project is that of "accessibility"--not merely accessibility to the urban highway itself, for that is to be taken for granted--but accessibility to business property in its immediate vicinity. It is now generally recognized that the value of business property is largely dependent upon its accessibility to people who desire to use it. Destroy or impair this accessibility, and you may be sure that compensatory damages are thereby incurred. Right-of-way sections can furnish the answer if given the opportunity.

The function of acquiring right-of-way is all too often looked upon as a somewhat mechanical and routine procedure following the completion of the geometric design of the project--a repetitious matter of property appraisal, followed by an offer that is either accepted or rejected by the property owner, and if rejected, acquisition by condemnation is the next step; with any later claims for damages either compromised or resisted as is considered most expedient. Experiences of right-of-way men most certainly refute this point of view!

On projects in urban areas where costs of right-of-way can exceed many times the cost of construction, it is high time that right-of-way procurement be given its proper place in the preliminary studies leading to the development of the design. Acquiring right-of-way most certainly is not just a routine procedure--it is even more than the art it has been forced to become--it is a science, and as such has a most important place in the field of highway economics.

Nowhere in the highway picture does the economics involved occupy a more commanding position than in the urban field. The urban highway, in addition to performing its functional purpose, can stimulate growth and enhance property values along its entire route. On the other hand, because of inferior location or improper design, or both, it can be the means of stifling further development of a growing section, and even

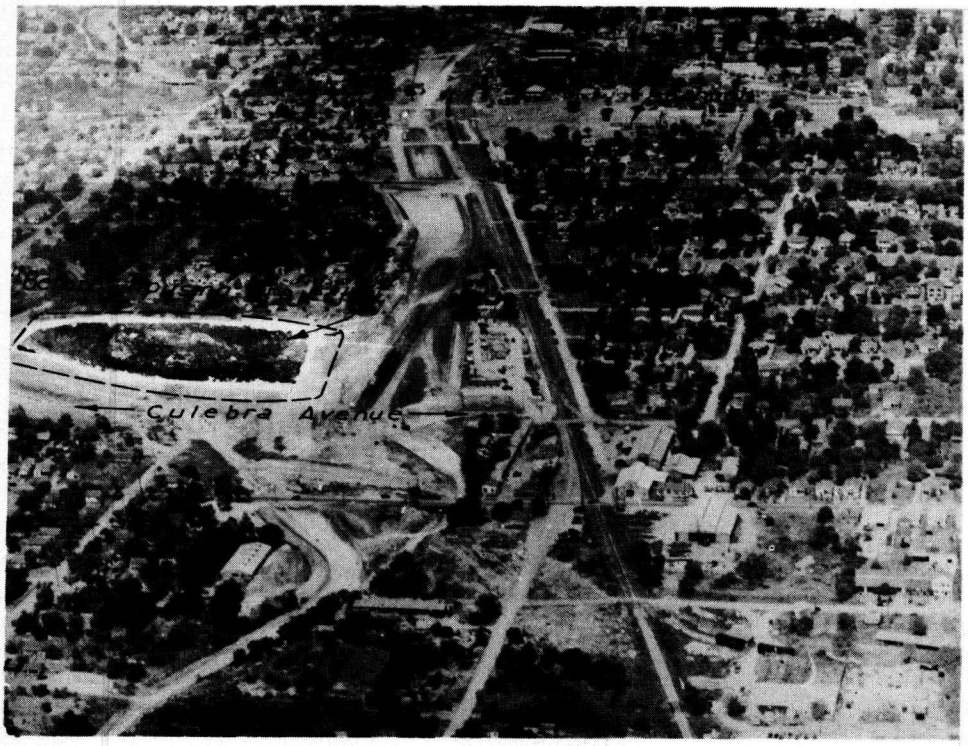

Figure 1. A Section of U. S. Route 87 in San Antonio, Texas, Before Improvement

be the cause in some instances of depreciation in the values of adjacent property. More constructively speaking, each individual section of an urban highway should be not only an asset to the community as a whole from a traffic service standpoint, but should also be a stimulus to further development of the immediate locality--otherwise it will be a detriment and a determent.

From a standpoint of pure design-technique, the right-of-way is simply an area of land ample in all dimensions to contain a highway adequate to efficiently serve the ultimate traffic anticipated thereon. In other words, the technician is prone to consider right-of-way only in respect to its adequacy to the proposed design. This attitude overlooks completely the broader function of right-of-way sections, as has been most ably brought out by Mr. Strauss of Ohio at the annual meeting of last year. And, I would add that those charged with the responsibility of right-of-way procurement can rightfully insist that the economic factors peculiar to right-of-way, if they are to be of economic value, must be given consideration in the early stages of location and design. This is particularly true of those factors pertaining to an urban highway project, where the importance of such factors are increased many times because of the high costs involved.

The route of an urban highway is established from the usual study of "traffic desire lines", and is generally a "band" of a width sufficient for considerable latitude in the selection of the actual location. It is at this stage that right-of-way men feel, in addition to the actual value of the property taken, that a careful analysis should be made of the effect of the highway itself on adjacent property. There are many items that must be considered at that time if they are to be correctly evaluated, such as: Land use; possible resulting change in land use; effect on housing; property damage; rights of ingress and egress; frontage street or cul-de-sac; inter-community access; tax loss to the community; and many

other questions that plague those acquiring right-of-way when negotiating with affected property owners and municipal authorities.

The analysis to develop the economic value of the preferred location should also investigate the possibility of any over-design in the facilities proposed for the anticipated traffic, the value of which to the community when compared to the costs thereof, may not justify the expenditure. It is here that the factor of a "community-asset" is certainly in the picture, and right-of-way men should be called upon to supply the answer.

sible volume of traffic; then estimate the possible increase in traffic volume within a certain number of years--usually 20 years; then plan a type of highway that will most efficiently serve the anticipated traffic; and, lastly require a right-of-way adequate in all respects for the construction and subsequent maintenance of the project.

To the community, the problem of readjusting itself to a right-of-way of rather substantial width within its midst is not quite so simple. A residential section, for instance, suddenly wakes up to the inconvenience of homes being separated from

Figure 2. Route 87 After Improvement Showing Vehicle and Pedestrian Overpasses Provided to Link the Residential Area and the Left with the Community Center, Church, School, Etc., on the Right

If we are at all realistic we must admit the following four separate points of view as to the relative importance of right-of-way in the urban highway problem as a whole--the point of view of the Design Section; of the community; of the municipality; and of the Right-of-Way Section.

To design, the real problem is to find a location that will serve the greatest pos-

schools or shopping centers, or churches by a stream of heavy traffic, and with but infrequent crossing opportunities. This is but one of many problems to the community.

To the municipality, the problem is generally in "duplicate". It first ponders over the value to the community as a whole of the proposed urban highway when related to its effect on the areas it traverses; then

turns its thoughts on the problem of replacing the revenues lost from the taxable property formerly within the right-of-way. And in Texas would be added the third problem of the municipality providing the funds for the actual purchase of the required right-of-way.

To Right-of-Way Section, the problem is largely one of salesmanship in reconciling these different but not necessarily conflicting points of view. In selling to design the idea that certain modifications in the ideal design will prevent gripes from the community from developing into suits for damages. In selling to the municipality the idea that the benefits from the project far outweigh any other disadvantages, if any there be, including the cost of the right-of-way where required of the municipality. This right-of-way men have done in a most outstanding way.

It would be most desirable for Design and Right-of-Way Sections, from the first inception of an urban highway project until it is completed and opened to the traffic it is planned to serve, to give each factor peculiar to design and each factor peculiar to right-of-way such joint consideration as would result in a practical elimination of a major divergence in these various points of view. The dividends from such a procedure would be most gratifying to all.

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