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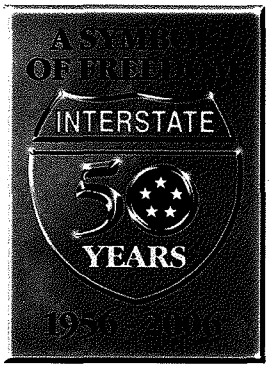
Mn/DOT Celebrates
the
50th Anniversary
of the
Interstate Highway System



A compilation of articles regarding the planning and building of the Interstate Highway System in Minnesota

MINNESOTA HIGHWAYS

Mn/DOT Celebrates
the
50th Anniversary
of the
Interstate Highway System

A compilation of articles regarding the planning and building of the Interstate Highway System in Minnesota selected from the following Mn/DOT publications:

MINNESOTA HIGHWAYS
DOT SCENE
Mn/DOT EXPRESS

July 1952 - December 1992

Compiled by Pamela Gonzalez
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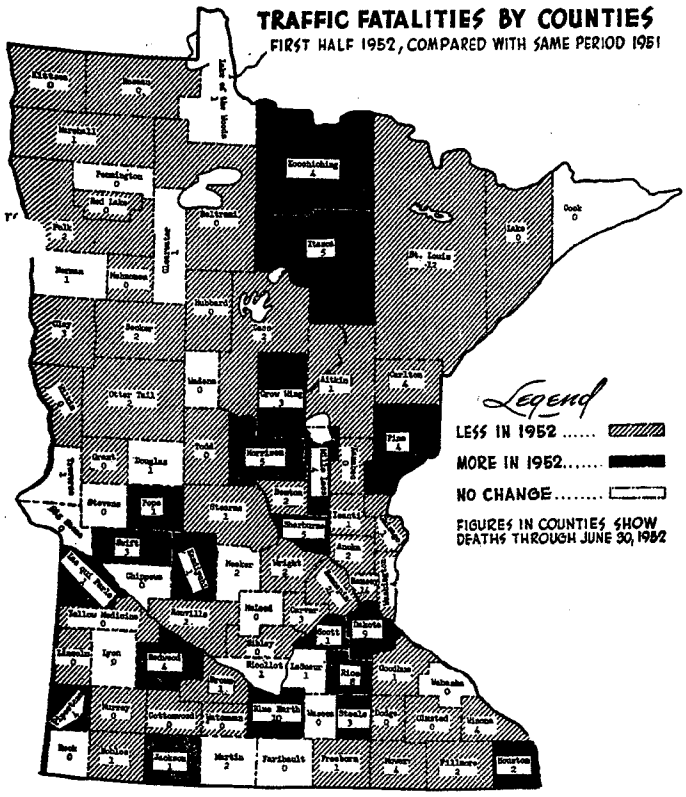
August 2006

MINNESOTA HIGHWAYS

VOL. 1, NO. 9 | 1246 University Ave., St. Paul 4, Minn. | JULY, 1952

Minnesota's Share of New U. S. Road Aid *$13,744,000*



Traffic Deaths Less In 1952

While still presenting a tragic picture, traffic fatalities in Minnesota were less for the first six months of the year over the same period in 1951. The reduction in deaths for the same period shows about 25 per cent lower for 1952. During the first half of 1951, 254 lives were lost in traffic accidents, while this year, for the same period, just 188 have been killed in traffic.

The above map shows a comparison by counties of the record for this year. All of the counties in white have contributed to the better record of 1952 by having fewer fatalities than during the similar period of 1951. The high number of counties, more than half in the state, that have fewer traffic deaths is an important factor in the overall reduction in deaths. There are 46 counties that have reported a reduction for this year. Included in this group are the three having the largest population in the state—Hennepin, Ramsey and St. Louis.

In these three counties alone, there were 27 fewer deaths during the similar period.

The dark picture, though, is shown by 20 counties who reached mid-year mark with poorer records than they had a year ago. In these counties, there were more fatalities this year. While most of the individual counties' increases were very slight, two—Blue Earth and Dakota—have had 14 more deaths than they had in the first six months of last year. An ironical side of this is that both counties received honors for their achievements in preventing traffic deaths during 1951.

However, traffic accidents with multiple deaths, for example in Blue Earth county where 7 persons died in 3 accidents, made the total very high.

On the map, those counties

(Continued on page 2)

Minnesota will receive approximately $13,744,000 in federal aid road-building funds during each of the next two fiscal years as a result of Congressional legislation recently signed by the President. This is an increase of almost two million dollars over the $11,900,000 which the state was allotted this year.

A substantial item of the increase, however, is represented by a new allocation of $654,000 for expediting development of crucial highways on the Interstate System. In Minnesota, these comprise some 700 miles of strategic highways, including all of T.H. 16 from LaCrescent to Manley, T.H. 69 from Emmons to Albert Lea and T.H. 65 from Albert Lea to Minneapolis with T.H. 13 from its junction with T.H. 65 to Minneapolis designated as an alternate route.

Other Minnesota highways included in the Interstate System are T.H. 12 from the Hudson bridge to St. Paul, T.H. 8 from Minneapolis to Jct. T.H. 61, T.H. 61 from St. Paul to Duluth, T.Hs. 218, 152 and 52 from Minneapolis to Moorhead and T.H. 53 from Duluth to International Falls.

Other annual allotments, all to be available as of July 1, 1953, are $6,405,000 for rural primary trunk highways, $4,517,000 for secondary rural highways, and $2,168,000 for improvements of arterial routes in urban areas.

For the past several years, the Department of Highways has been turning over virtually all of the monies allotted to the state for secondary highways to the several counties, for use in building up their main-travelled county roads. The federal aid secondary system includes approximately 4,400 miles of state trunk routes and 10,000 miles of county roads and as yet no decision has been made as to what proportion of next year's FAS allotment will be required for secondary trunk route improvements and what amount may be turned over to the counties.

All of these federal funds, whether utilized by the state or relinquished to the counties, must be matched with state or county funds before they can be used for construction of urgently needed improvements.

Minnesota's increased share of 1954 and 1955 fiscal year allotments was due to stepping up of the total of highway fund authorizations by Congress in recognition of the mounting urgency of highway improvements to meet soaring traffic demands. The new Federal Aid Act of 1952 authorizes $575,000,000 in what are known as regular federal aid funds for each of the fiscal years as compared to $500,000,000 a year provided in the 1950 Act. By comparison with the 1950 Act, the new bill provides $247,500,000 for Federal Aid Primary roads as against $225,000,000 previously; $165,000,000 for FAS roads as compared with $150,000,000 and $137,500,000 for urban improvements as against $125,000,000. In addition it provides $25,000,000 for Federal Aid work on the Interstate System.

In addition to the "regular" allocations which must be locally matched, the new bill carries $50,000,000 for access roads to critical or defense industries; a $10,000,000 emergency fund; $22,500,000 for national forest highways; $10,000,000 for national parkway roads; $10,000,000 for Indian roads and $2,500,000 for public lands roads.

Patrol Team Wins First Place

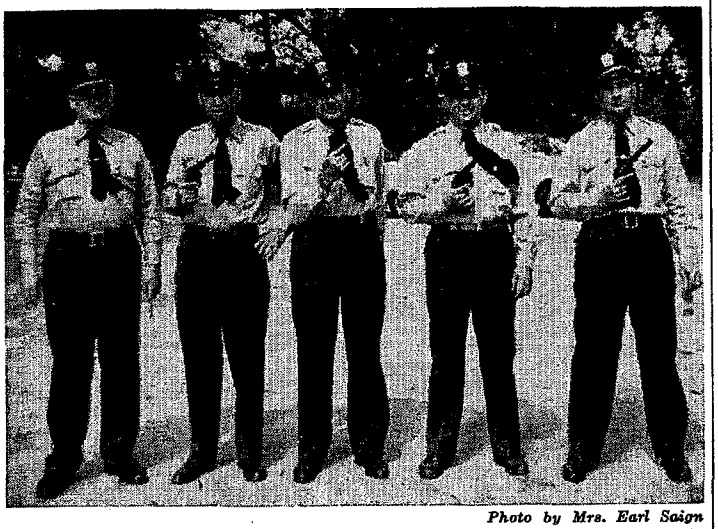


Photo by Mrs. Earl Saign

Two first-place awards is the record for this pistol team at the annual competition of the Minnesota Peace and Police Officers convention, St. Cloud, last month. Ably coached, managed, and shepherded by Sgt. Chet O'Toole, Mankato, (L) the team was composed of (L to R) Earl Saign, Brainerd; Ken Strohl, Fairmont; Norman Storvick, Caledonia; and Neil Deemer, Thief River Falls.

Together they won individual silver panel awards in the Marksman classification with a team score of 1068 out of a possible 1200. This was a higher score than any made in the Sharpshooter classification. High shooter was Strohl with 269.

The other top award went to Earl Saign. Shooting at silhouette targets on the F. B. I. course, he garnered a score of 98.8 out of a possible 100.

MAGRAW WINNER IN GM CONTEST

Experiences gained during his work in the Department of Highways evidently were of value to Dan Magraw. He won top honors in the state division of the General Motors better highways contest, netting a $1,500 prize.

His ideas for organizing a national highway administration were in response to the question asked by the General Motors Corporation—"How to Plan and Pay For the Safe and Adequate Highways We Need."

More than 44,000 entries were received in the national essay contest which was won by Robert Moses, New York, city parks commissioner.

Magraw presented a 15 page booklet incorporating an organization of an American highway coordinating council which would meet the need for proper relationship between the many groups concerned with the nation's highways.

This council would develop plans for a long range national integrated highway system extending beyond the national defense system, strive to coordinate activities of various highway agencies, conduct continuing research on construction methods, materials and standards, and aid in smoothing and simplifying inter-governmental relations.

Magraw had been a familiar figure around the highway personnel office until he joined the Department of Conservation.

Lost And Found Dept.

Vic Benson, DME at Duluth, has lost two books and asks our help in finding them. The books are *U. S. Manual on Surveys,* black cover, size about 5½" by 9" and *Surveys and Boundaries,* red cover, size 6" by 9".

Quoting Vic: "I sent two books with one of our men who went to the Central Shop to pick up a new truck. He said they were left at the shop to be sent to the Central Office for the use of a couple of engineers who needed them for study in connection with registration examinations for engineers. They have not received the books."

The books were placed in a large MHD envelope addressed to Stanley A. Axtell, Construction Plans. They are valuable to Benson, one is out of print, the other was given to him as a birthday present.

Air Force Gets Driver Training

One hundred consecutive accident-free days of road operation, a new record, is the happy result of combining the talents of the Drivers License examiners with that of the 514th Air Defense Group installation near Fort Snelling.

Examinations of all drivers at the 514th motor pool were given by state examiners, indicating that 20% were not sufficiently well trained to cope with local driving conditions.

Further analysis revealed that the same group of drivers who failed to pass the tests were responsible for a high percent of the accidents previously charged against the organization.

The idea for utilizing the department's examiners came as a result of mounting traffic accidents throughout the Air Defense Command of which the 514th is a part.

The problem was presented to Leonard C. Hotaling, St. Paul Park, supervisor of the Drivers License Examiners who with four assistants examined 289 drivers.

The air base then initiated a 40 hour course in safe driving which all personnel who drive USAF vehicles must attend and then pass the Minnesota Drivers test before being issued drivers permits.

The project was further proof of the necessity of training and examining persons before issuing them permits to drive vehicles in traffic. The high safety record reflected in the rapid decrease in accidents came after prospective drivers proved their ability to handle vehicles before they were permitted to operate them.

It's a poor fish that doesn't go for safety at all times . . . whether it's fishing season, or just picnicing . . . be sure you get there, and be sure you get home again . . . by driving with caution, by parking with care . . . start out early enough to arrive in time without speeding . . . don't be a poor fish on the highway.

Proper hand signals were demonstrated by Leonard Hotaling, examiner supervisor, to T/Sgt. Joseph Stork, in charge of the drivers school, as the Drivers License Division cooperated with the air force unit in examining all drivers employed at the motor pool.

Governor, from page 1

Stressing the need for conscientious efforts to avoid waste of any kind Governor Anderson said:

"Too often there is a tendency on the part of people in public positions *to forget that they have a very special trust.* They are handling someone else's money. I know that there are things which I would do in my own business that I would hesitate to do as Governor. In my business I am spending my own money. As a public official, I am handling someone else's business and money. The consequences affect many people . . . We have a most serious obligation to place the proper values on these dollars and to see that we can deliver a full dollar's worth of governmental service for each of them we spend."

The Governor concluded his talk to department heads with the observation, equally applicable to all department employees, that: "It is good that occasionally we make a self-appraisal—take inventory of our faults and our good points—and then try to be the best we can. Somewhere I have heard that our goal in this world is not to be better than our fellow men but to be better than ourselves."

"That sergeant! I've never heard a man talk so fast in my life."

"Why shouldn't he? His father was a tobacco auctioneer and his mother was a woman."

Jul 1953

Will be at Austin

First Free-way for Minnesota

Construction of the initial section of Minnesota's first stretch of "free-way" is anticipated for next year. It is a five-mile section of highway to be built along the north outskirts of Austin, as a part of the new interstate highway network.

(A generally accepted definition of the term free-way is a highway with no grade intersections and no left turns.)

Plans for the new route at Austin were outlined by Walter Schultz, assistant engineer of plans and surveys.

Austin's free-way, to be designated T. H. 252, will be an alternate route for that section of U. S. 16 which bisects Austin from east to west, Schultz said. Highway 252 will join U. S. 16 east and west of the city. From the east junction, it will have a two-mile extension southwestward to T. H. 218, a north and south route through Austin.

Total cost of the seven miles is estimated at about $2 million, with the construction to extend over several years.

The free-way, to be a four-lane divided highway, ultimately will have nine traffic interchanges, two railroad grade separations, and three stream bridges. Besides relieving the present heavy volume of U. S. 16 traffic through Austin's congested areas, it will eliminate intersection traffic problems over its entire length.

The south extension will be a two-lane highway. This link will permit traffic transfers between U. S. 16 and T. H. 218 without going into the city's congested business area.

The nine interchanges on the free-way, according to Schultz, will be at the following points:

At its east and west connections with U. S. 16, at its junction with T. H. 218, at a road to the Hormel meat packing plant north of the city, at East and Tenth Sts., at Freeborn Rd., and at the airport and golf course entrances east of Austin.

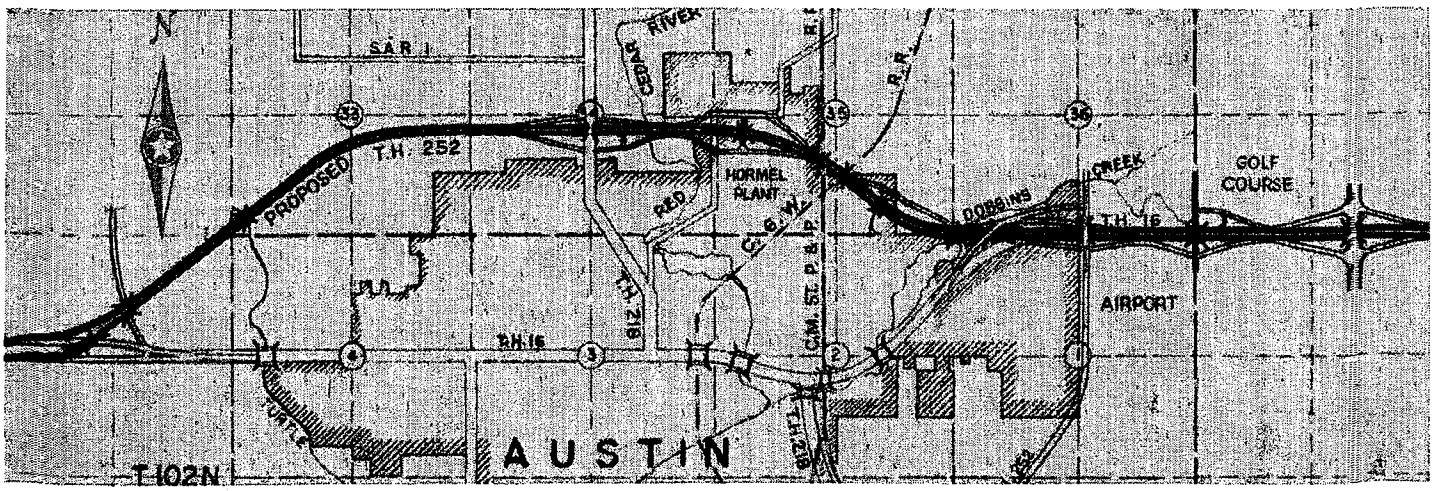
Initial construction on the five-mile link is expected to be at the railroad crossings, where the highway will underpass the railroad tracks.

Construction of T. H. 252 as a "high type" highway link had been scheduled before plans were announced by the federal government to contribute to the financing of construction of a national network of interstate highways. With this announcement, putting emphasis on the development of the interstate system of highways, including U. S. 16, further studies were made by the Minnesota Highway department which indicated the feasibility of integrating into the system the five-mile portion of T. H. 252 lying north of U. S. 16. Congress has not yet determined the plan of federal financing for the network.

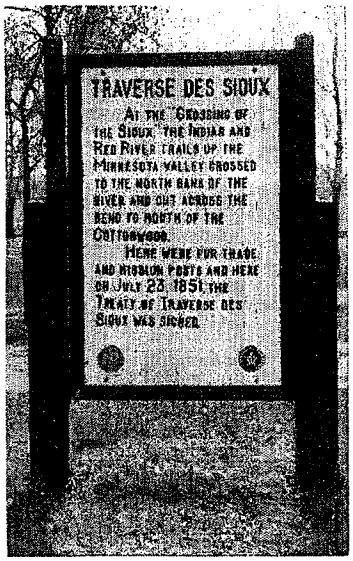
Schultz reported that under existing statutes, 60 per cent of the cost of T. H. 252 is scheduled to be paid by the federal government and the remaining 40 per cent from state highway funds. Pending legislation in congress may provide for financing on a basis considerably more advantageous to the state.

Recent approval by the Highway department and the City of Austin of a revised general layout plan for T. H. 252 cleared the way for preparation of detailed plans and the start of construction.

The heavily marked section of the projected T. H. 252 at Austin shows where Minnesota will have its first free-way. Traffic interchanges, railroad grade separations, and stream bridges are marked in brackets.



Historic Treaty Here Opened Large Territory



When you encounter this Highway department marker on T. H. 169 1½ miles north of St. Peter, remember that you are at one of Minnesota's most historic locations. Here, on July 23, 1851, was signed one of the two treaties of that year which opened vast areas of Minnesota to an immediate wave of permanent settlement and speeded statehood.

In treaties made here and at Mendota a few weeks later, the Sioux Indians relinquished most of their lands west of the Mississippi, both in Minnesota and Iowa, and agreed to live in peace with the white men.

Traverse des Sioux was a principal point at which Indians and whites, also, crossed the Minnesota river in traveling between southern and northern Minnesota and the Red River valley.

DESIGN STANDARDS DESCRIBED FOR NEW NETWORK

Following is an abstract of salient provisions in the new Design Standards for the National System of Interstate and Defense Highways (Interstate network), as adopted by the U. S. Bureau of Public Roads, Department of Commerce. The presentation is by direct quotes except for two condensations, in parentheses.

The 41,000 miles included in the projected Interstate network is approximately one per cent of the nation's total mileage of public highways and roads of all types, but carries approximately 12 per cent of the traffic.

The network's 936 miles located in Minnesota is somewhat less than one per cent of the state's total highway mileage. But it is expected that when it is constructed, it will carry greater than 10 per cent of Minnesota traffic.

GENERAL

The highways of this system must be designed in keeping with their importance as the backbone of the Nation's highway systems. To this end they must be designed with control of access to insure their safety, permanence and utility and with flexibility to provide for possible future expansion. Two-lane highways should be designed so that passing of slower moving vehicles can be accomplished with ease and safety at practically all times. Divided highways should be designed as two separate one-way roads to take advantage of terrain other conditions for safe and relaxed driving, economy and pleasing appearance.

Traffic Basis

Interstate highways shall be designed to serve safely and efficiently the volumes of passenger vehicles, buses, and trucks, including tractor-trailer and semitrailer combinations and corresponding military equipment, estimated to be that which will exist in 1975, including attracted, generated, and development traffic on the basis that the entire system is completed.

The peak-hour traffic used as a basis for design shall be as high as the thirtieth highest hourly volume of the year 1975, hereafter referred to as the design hourly volume, "DHV(1975)." Unless otherwise specified, DHV is the total two-direction volume of mixed traffic.

Control of Access

On all sections of the Interstate System, access shall be controlled by acquiring access rights outright prior to construction or by the construction of frontage roads, or both. Control of access is required for all sections of the Interstate System.

Railroad Crossings

Railroad grade crossings shall be eliminated for all through traffic lanes.

Intersections

All at-grade intersections of public highways and private driveways shall be eliminated, or the connecting road terminated, rerouted, or intercepted by frontage roads, except as otherwise provided under Control of Access (for sparsely settled rural areas).

Design Speed

The design speed of all highways on the system shall be at least 70, 60, and 50 miles per hour for flat, rolling, and mountainous topography, respectively, and depending upon the nature of terrain and development. The design speed in urban areas should be at least 50 miles per hour.

Gradients

For design speeds of 70, 60, and 50 miles per hour, gradients generally shall be not steeper than three, four, and five per cent, respectively. Gradients two per cent steeper may be provided in rugged terrain.

Width and Number of Lanes

Traffic lanes shall not be less than 12 feet wide.

Where the DVH (1975) exceeds 700 or exceeds a lower two-lane design capacity applicable for the conditions on a particular section, the highway shall be a divided highway. For lower volumes, the highway shall be a two-lane highway so designed and located on the right of way that an additional two-lane pavement can be added in the future to form a divided highway.

Medians

Medians in rural areas in flat and rolling topography shall be at least 36 feet wide. Medians in urban and mountainous areas shall be at least 16 feet wide. Narrower medians may be provided in urban areas of high right-of-way cost, on long and costly bridges, and in rugged mountainous terrain, but no median shall be less than four feet wide.

Shoulders

Shoulders usable by all classes of vehicles in all weather shall be provided on the right of traffic. The usable width of shoulder shall not be less than 10 feet.

Slopes

Side slopes should be 4:1 or flatter where feasible and not steeper than 2:1 except in rock excavation or other special conditions.

Right-of-Way

Fixed minimum widths of right-of-way are not given because wide widths are desirable, conditions may make narrow widths necessary, and right-of-way need not be of constant width.

(The statement of standards includes a table of recommended minimum widths ranging from 150 feet for two lanes without frontage roads to 300 feet for multiple, divided roads with frontage roads.)

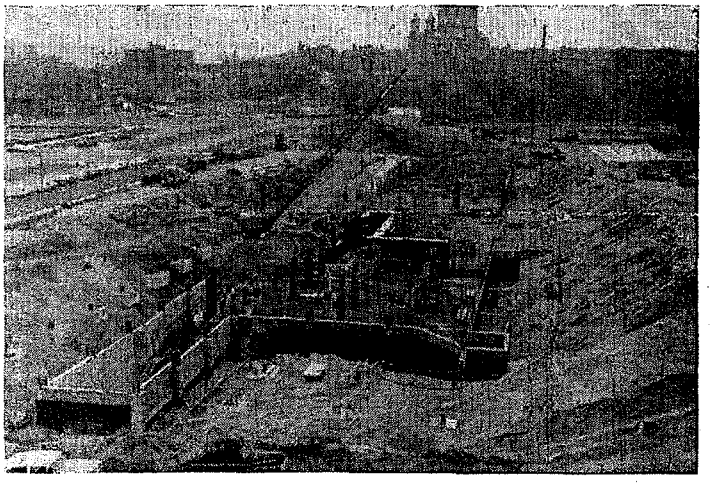
Bridges and Other Structures

The following standards apply to Interstate highway bridges, overpasses, and underpasses. Standards for crossroad overpasses and underpasses are to be those for the crossroad.

Bridges and overpasses, preferably of deck construction, should be located to fit the over-all alignment and profile of the highway.

The clear height of structures shall be not less than 14 feet over the entire roadway width, including the usable width of shoulders. Allowance should be made for any contemplated resurfacing.

The width of all bridges, including grade separation structures, of a length of 150 feet or less between abutments or end supporting piers shall equal the full roadway width on the approaches, including the usable width of shoulders.



PROGRESS REPORT By early November, construction of the new Highway department headquarters building, near the state capitol, had reached this stage. As pictured, the building faces to the left (east) on John Ireland boulevard.

In the foreground, are foundation walls enclosing the subbasement and flanked by piers which will support the structure's greater total area. In the background is the ramp leading to the basement garage wing. Including the basement and subbasement, the central building will have eight levels, while the wing containing the garage and other facilities will have two stories above ground. In the far background is the St. Paul cathedral.

MINNESOTA HIGHWAYS

VOL. 6, NO. 3 | 1246 University Ave., St. Paul 4, Minn. | JANUARY, 1957

Safety Head, Assistant Patrol Chief Named

Harry A. Sieben of Hastings, Minnesota state liquor control commissioner for the past two years, is the new state director of highway safety. His appointment was announced January 4 by Commissioner Hoffmann.

The commissioner at the same time announced the promotion of Captain Leo M. Smith of Rochester, to assistant chief of the Minnesota Highway patrol.

The appointment of Sieben, who was to assume his new duties later this month, fills the vacancy which has existed since the resignation of Earl M. Larimer October 15, 1956. Sieben rated highest in the civil service examination conducted for the appointment.

Prior to his appointment by Governor Freeman as liquor control chief, Sieben held a number of business and governmental positions in the Twin Cities area, including that of state director of the federal Office of Price Stabilization from 1951 to 1953.

In his liquor control post, Sieben has gained a wide acquaintanceship with local peace officers and county sheriffs throughout the state, a factor which will be of value in his state-wide promotion of highway safety through education and traffic law enforcement.

Captain Smith, a 14-year veteran in the Highway patrol, has been stationed at Rochester since September, 1954, when he was promoted from sergeant to captain. Previous to his appointment as a patrol officer in 1942, he was with

(Continued on page 5)

Leo M. Smith

Harry A. Sieben

F. W. Thorstenson Is Chosen As New Hydraulics Engineer

The Highway department has a new hydraulics engineer, Frederick W. Thorstenson of St. Paul, former assistant regional (hydraulic) engineer of the U. S. Fish and Wildlife service and a former employee of the department.

Thorstenson, who assumed his new position December 17, succeeds Marvin E. Hermanson who in September was named assistant engineer of surveys and design.

After his graduation from the University of Minnesota as a civil engineer in 1937, Thorstenson worked for the Highway department for 18 months as a draftsman. He held various positions until 1946 when he became assistant regional engineer for the Fish and Wildlife service.

In that capacity, he was in charge of technical engineering services for fish stations, refuges and federal aid programs in 11 states. This and previous employment has given him extensive experience and responsibility in hydraulic engineering. Thorstenson is a registered professional engineer in Minnesota and president this

(Continued on page 4)

Fred Thorstenson

Laws Sought on Safety, New Interstate Routes

Steps to increase highway safety and to take full advantage of the recently enlarged program of federal aid for highways are major proposals of the Minnesota Highway department's recommendations to the 1957 State Legislature, which opened its session January 8.

Other leading requests are for higher salaries for "all grades and classes" of department employees on a basis competitive with private industry and local governments, and to increase the size and training facilities of the state Highway patrol.

Enabling legislation is recommended to supplement provisions of Constitutional Amendment No. 2, and to implement the expanded interstate highway program, particularly as to the establishment of new interstate routes and necessary connections to existing trunk highways and for the control of access on the interstate system and on other important highways.

After two years' use of a system of "absolute" speed limits for designated sections of the rural trunk highways, as authorized by the 1955 Legislature, Commissioner Hoffmann has recommended to the 1957 Legislature that it review and amend the statutes relating to speed regulation to "remove the existing confusion." Posting of different sections of the highways for "absolute" and prima facie speed limits "is highly confusing to most drivers and of little benefit in improving driver performance," he said.

Minimum Limit Sought

He also asked authority to zone for minimum speed limits on the basis that minimum speed regulations have proved beneficial on

(Continued on page 6)

Chief Congratulates Cummings

Retired after 26 years' service in the Highway patrol, Cal Cummings, left, of Detroit Lakes, was congratulated by Chief Paul Martz, right, at the recent retirement party given by the patrol. With them are Mrs. Cummings and Inspector Otto Dougher.

Laws Sought on Safety, New Interstate Routes

(Continued from page 1)

some higher type roads, particularly of the type contemplated for the interstate system.

One legislative proposal would make it unlawful to enter or leave an access controlled highway at locations other than officially designated and constructed approaches. Another proposal asks consideration of the adoption of a law by which a person accepting a driver's license thereby gives consent to a chemical test, in case of an accident, of his competency to drive.

Requirement is asked for renewal of drivers' licenses every two years, instead of every four years, as at present, primarily to make this activity self-supporting.

"A material increase in the personnel strength" of the Highway patrol is recommended to "more effectively deal with the increasingly serious problem of traffic, in the interest of accident prevention and aid to highway users, and also for the protection of the highways themselves."

Authorization for establishment of a patrol training center near the Twin Cities metropolitan area is suggested on the basis that present available facilities are inadequate for needed training of new patrol members and for in-service training.

Recommendation is made that the law with respect to vehicle sizes and weights be amended to conform "more closely to the recommendations of the American Association of State Highway Officials." The association recommends an over-all length limitation of 50 feet, as compared to the present 45-foot limit in Minnesota.

In recommending competitive salaries for all grades and classes in the Highway department, Commissioner Hoffmann stated: "Our skilled engineers, designers, draftsmen, technicians, maintenance employees and clerks are seriously under paid in relation to industry and local governments."

The department also asks extension for another two years of its present authority to employ consulting (private) engineers on highway and bridge design.

HERE'S WHO

The man in the Who? photo on page 4 is

G. G. GLADMAN

plans, surveys and design engineer, as he looked in about 1922 when he was chief of surveys.

Disconcerting Approach

Love Your Enemies. It will drive them nuts.

Patrol School Is Set for Recruits

School bells—in this case traffic whistles—will ring out February 18 for 50 candidates when the Highway patrol opens it's 1957 recruit school at Camp Ripley. The 50 students will be the top of a list of applicants which totaled about 1,200 before written, oral, physical and background examinations screened out ineligibles.

Candidates will be given an intensive 436-hour schedule of classes ranging from traffic law and photography to radio operation and criminal law. The daily schedule begins with 6 a. m. reveille and calisthenics and continues with classes and training session until 9 p. m., with lights out at 10 p. m.

Experienced patrol officers who will be instructors include Captain Neil Deemer, plans and training officer, and Sgts. Ralph S. Potvin, Lawrence Nelson and Thomas Gilpin. Additional instructors will come from other enforcement agencies and from other Highway divisions.

Graduation day is set for April 25.

Miss Jones, Please Take a Letter:

As an incidental remark in a discussion of tax administration costs, Charles P. Stone, former Minnesota state deputy tax commissioner, mentioned that industrial surveys indicate that it costs 75 cents to write one business letter.

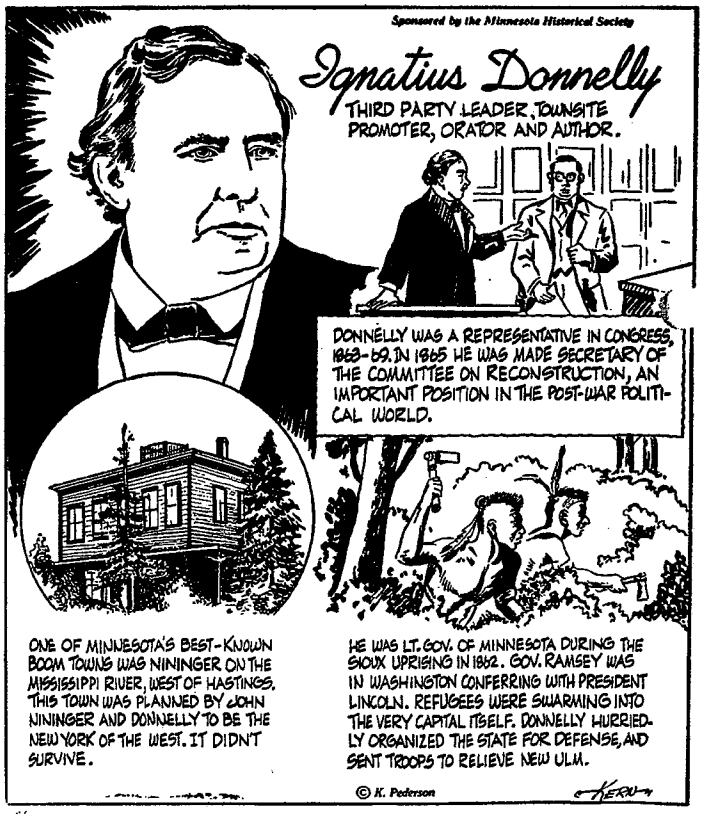
Wasted time is wasted money. When next you have occasion to write a business letter, consider whether you would accomplish the same result with a quick phone call or pencilled memo. If a formal letter is necessary, then make it to the point and dictate it so clearly that neither you nor your stenographer will have to waste valuable time in revising and correcting it.

Some smart administrators with real smart secretaries give their secretaries only the key facts for a letter, saving dictating time for themselves, at least, possibly the secretaries, also.

Jack: How long have you worked on this job?

Jim: Ever since the boss threatened to fire me.

· MAKERS OF MINNESOTA ·



MINNESOTA HIGHWAYS

VOL. 6, NO. 4 | 1246 University Ave., St. Paul 4, Minn. | FEBRUARY, 1957

6-Month Program Covers 530 Miles

Improvement of more than 530 miles of Minnesota trunk highways at an estimated total cost of $37,817,000 is called for in a record shattering revised construction program adopted by the Highway department for the last half of the fiscal year ending June 30.

Added to the $28,278,000 of work contracted during the first half of the fiscal year, July 1 to December 31, 1956, the fiscal year's program will total the sizeable sum of more than $66 million, the biggest 12 months' contract total in the department's history.

The $37,817,000 total for the current six months represents 86 projects. As listed by Commissioner Hoffmann, they include:

74 miles of concrete pavement.

156 miles of plant-mixed bituminous surfacing.

112 miles of grading, base and bituminous.

74 miles of base and bituminous surfacing.

102 miles of grading and base.

47 structures to be built.

In turn, the structures include 22 traffic separations, 19 stream crossings and six railroad overheads and underpasses.

The largest single river bridge to be built is a new one over the Mississippi at Newport, on T.H. 100. It will replace the present crossing at nearby Inver Grove, which is being used on a lease basis.

Some Work from 1956

In addition to the $37,817,000 in contemplated new contruction projects, Commissioner Hoffmann stated that there is being carried over for completion this year a total of $29,090,000 in contracts awarded in 1956.

Regarding the revision of the program for the 1956-57 fiscal year, the Commissioner said it was found necessary at the close of the 1956 construction season "to revise our program for the balance of the year to better utilize the various funds available to the department for construction purposes."

He noted that although some of the projects announced last spring as part of the program have been deferred, they will be undertaken as soon as possible.

It has been found necessary, because of the department's limited engineering staff, to proceed now with those projects for which plans are ready or can be completed in the very near future. This will permit continuance of construction work at a high level while department and consulting engineers hasten preparation of plans for "a balanced program giving full consideration to all classes of trunk highways," Commissioner Hoffmann said.

An important added feature, he said, is the inclusion of several projects on the newly designated Interstate highway network.

This will provide a material start on Minnesota's share of the 40,000-mile network. It also will make good use of state highway funds, since the state is required to provide only $10 for each $90 of federal aid the state will receive for construction of the network highways.

How extensive is to be the construction for the state's network routes is shown in five projects listed to be contracted before June 30 on T. H. 252, all in Mower county.

(Continued on page 10)

Refugee Enters Design Section

:e Vida, 40-year old Hun- ..l refugee newly employed in the Highway department, is having some difficulty with the English language. But, as a patriot in the Hungarian people's fight for freedom, he has encountered no difficulty in adjusting to American democracy.

Vida is working as a draftsman in the geometrical design section of the Plans division, of which Harvey Dartt is supervisor. A German speaking member of the section, Paul Valters, translates words Vida does not know and drafting is drafting the world around. Actually, Vida already knows quite a bit of English.

Landing in New York January 11 under Lutheran sponsorship,

(Continued on page 10)

Imre Vida

Five Employees Receive Awards

The state employees Suggestion Award program paid off for five Highway department employees in the past month for a total of $105. Four prize winners are auto mechanics, the fifth, an auto mechanic foreman. For two of the men, the award was supplemental to a previous one for the same suggestion.

Development of a quick detachable snowplow hookup for mounting the plows on trucks has brought a $30 Suggestion program award to Lawrence Purrington, auto mechanic in Maintenance district 16, Windom. In granting the recognition, the state Merit Award board said snowplows throughout the district are now equipped with the device and that

(Continued on page 2)

Lawrence Purrington

Read: Network Routes Will Have Big Impact . . . . Page 5

6-Month Program Covers 530 Miles

(Continued from page 1)

They include 2.7 miles of grading from Jct. T. H. 16 to Jct. T. H. 218 in Austin, 2.4 miles of grading, base, and bituminous surfacing from Jct. 218 in Austin to one-quarter mile east of Jct. T. H. 16, and six bridges—a grade separation structure at Jct. T. Hs. 218 and 252 in Austin, three bridges over the Red Cedar river a quarter mile east of T. H. 218, and two bridges .6 mile east of Jct. T. H. 218.

Trunk highway 10 is assigned three network projects in Ramsey county, a grade separation bridge to carry Lexington Ave. over the highway, two traffic separation bridges at Island Lake, and a grade separation to carry Maryland Ave. over the highway along Mississippi St. in St. Paul.

Other network projects listed for contracting during the current six months include:

On T. H. 52, two interstate bridges near Moorhead (to be let by North Dakota) and 8.4 miles of base and bituminous surfacing from Melrose to Sauk Centre.

On T. H. 65, a grade separation bridge at Ninety-fourth St. in Bloomington, and 8.3 miles of concrete paving, base and bituminous ramps from Jct. T. H. 14 at Owatonna to Jct. T. H. 165.

On T. H. 100, an overhead bridge in South St. Paul, a bridge over the Mississippi river at Newport, and .2 mile of grading easterly from the bridge in Newport.

Several Paving Jobs Listed

On T. H. 5, traffic separation bridges carrying T. H. 100 over Thirty-fourth Ave. S. south of Minneapolis, and carrying T. H. 5 (east bound) over T. H. 100 (west bound) and a mile of grading in the vicinity of Thirty-fourth Avenue.

Important among the projects not on network routes are several for major sections of concrete paving. They include these:

On T. H. 75, 10.4 miles of paving from Madison to Bellingham; on T. H. 99, 13.1 miles of paving from St. Peter to Le Center; on T. H. 59, 12.9 miles of paving from Fulda to Slayton; and on T. H. 61, 9.8 miles from Newport to Jct. T. H. 10. The project for T. H. 61 also includes a mile of grading, base and bituminous surfacing from Jct. T. H. 10 to the overhead bridge, and bituminous surfacing from the overhead bridge to the Hastings bridge.

Another important project for T. H. 61 is in Winona county, 6.4 miles of grading, base, and bituminous surfacing from Homer to a point two miles east of Lamoille, and three bridges, one near Lamoille and two 3.4 miles southeast of Homer.

Retirement Proposals

Discount for Age Provision Noted

The proposal of the SERA (State Employees' Retirement association) for coordination of its present retirement program with the federal Social Security program includes a "discount for age" provision in the case of voluntary retirement before the age of 65 years.

Several Highway department employees have pointed out that the article on the project in last month's Minnesota Highways did not include this particular provision. In substance they pointed out the following regarding optional retirement before the age of 65 years.

> After 35 years' service irrespective of age, or after 20 years' service and attainment of age 58, the retirement allowance, under the plan proposed, would be reduced approximately one-half of one percent for each month the person was under the age of 65.

A reduction of approximately one-half percent per month (six percent a year) is thus the cost of retirement at an age under 65. In a seven-year period, for example, this would be equivalent to a 42 percent reduction in retirement benefits.

Under the proposed plan, the member could, at his option, have the retirement allowance actuarially adjusted so as to provide a *greater* monthly payment than otherwise from the retirement fund *prior* to attaining age 65, or for women prior to attaining age 62, and a *lesser* amount from the retirement fund *thereafter*. This gives the employee the right to obtain the larger annuity *until* he is eligible for social security benefits.

Highway Dept. Family Has Five Generations

Maintenance district 5 is proud of its family with five generations of women. Mrs. Fred Hollander of Thief River Falls, upper right, is the wife of one of the district's maintenance men. Shown with her are her mother, Mrs. Mattie Sorenson, lower right, Thief River Falls, aged 91; her daughter, Mrs. Morris Brodahl, upper left, Grand Forks, N. D.; her granddaughter, Mrs. Kenneth Clacher, Grand Forks; and her great granddaughter, Cary Ann Clacher.

Driver Examiners Have 3-Day Review Training

Minnesota's 54 driver license examiners attended a review school in St. Paul during January, their first in nine years. Two three-day meetings were conducted, one half the group being present Jan. 21-23 and the other half, January 28-30. Subjects of study included the state driver's manual, driver testing procedures and other factors concerned with license examination.

Refugee Joins Department

(Continued from page 1)

he was accepted for employment in the Highway department January 15 and went to work the next day. He and his wife, who accompanied him on his flight from Hungary, are living in St. Paul.

When interviewed about his experiences in Hungary and in coming to America, Vida said: "I want to take this opportunity to thank the personnel of the Highway department for accepting me, even with my language handicap, and for helping me to get established in my new job."

For the Vidas, who have no children, the race from death or imprisonment by the Communists began when they found themselves cut off from their hom Budapest by a line of Russian tanks. As a World War II captain on the Hungarian army's general staff and a supporter of last October's citizens' rebellion in Hungary, Vida knew he would be in crucial difficulty if he were apprehended by the government forces.

In the immediate shadow of Russia's mailed fist, Vida and his wife hesitated not upon their departure. Without trying to return home for any possessions or farewells, they fled to Austria and thence came to America on a ship carrying 2,000 other Hungarian refugees. All the Vidas brought with them to America were a few items in a small satchell. A party of 20 in their shipload came to Minnesota.

On Vida's application form for employment in the Highway department, he listed his last p vious day of employment as tober 23, 1956. That's when the Hungarian rebellion broke out in open street fighting. He was working for a state enterprise on the purchase and distribution of raw materials and collection of manufactured articles for exhibit.

Previous to that he had been a technical draftsman for a Budapest construction engineering firm and had done two years of forced labor after World War II on the nation's reconstruction program.

Vida had six years' service in World War II. As the war ended, Vida's hatred for the Russians was so great that he maneuvered the surrender of his company to a British unit, rather than suffer the humiliation of capture by the Communists.

In the previous employment sequences on his application f Vida put down as his reason separation from his World War II post, "We lost the war."

But balancing that is the reason he penned in bold strokes for his unemployment beginning last October 23: "Refugee from Hungarian fight for freedom."

To Vida, a trained and experienced soldier and civilian fighter for democracy, the plans on which he now works for the new interstate network are far more than plans for a system of freeways for easy travel. They are, as their title states, a National System of Interstate and DEFENSE Highways, to be ready to perform an important service if and when anyone tries to over-run the United States as his country was over-run and enslaved.

Network Routes Will Have Big Impact

A radically new look in highways is coming to Minnesota.

The new look will be freeways—936 miles of them in the new Interstate Highway network.

These wider, divided highways with controlled access for safer, uninterrupted travel at from 50 to 70 miles an hour will span the state with three principal routes—east to west from north of La Crescent to Luverne, north to south from Duluth to Albert Lea and the Iowa border, and northward from the Twin Cities to Moorhead. One hundred thirty-five miles of the construction will be in and encircling the Twin Cities metropolitan area.

The complete national network will total some 41,000 miles to connect major cities and industrial and defense areas throughout the United States.

Impact of the freeways on community life and planning in a large area of the state, as well as upon motor traffic and upon the Highway department, itself, is just beginning to be realized as the design engineers continue to unveil additional details of their size, design and potential service. They will provide a new and challenging outlook to highway engineering in Minnesota for years to come.

Construction on a major scale will start this year and the 936 now planned is expected to be completed in about 13 years.

A telling measure of the impact of the freeways on the state is seen in a quick review of their cost and size.

In the next 13 years, the National Highway Act of 1956, which authorized construction of the 40,000-mile National Highway network, will furnish $570 million to $600 million of federal aid to Minnesota for its network links, plus $270 million of federal aid for other highways.

Costs of the network highways in Minnesota are expected to range from $500,000 to $2 million per mile, including the cost of interchanges and right of way. Including the interchanges, there will be about 675 grade separation structures in the 936 miles of network freeways, costing in excess of $100 million.

Freeway costs will be determined by the types and size of construction and the amount and value of property required for right of way.

Wider Right of Way

In place of present trunk highway rights of way varying in rural

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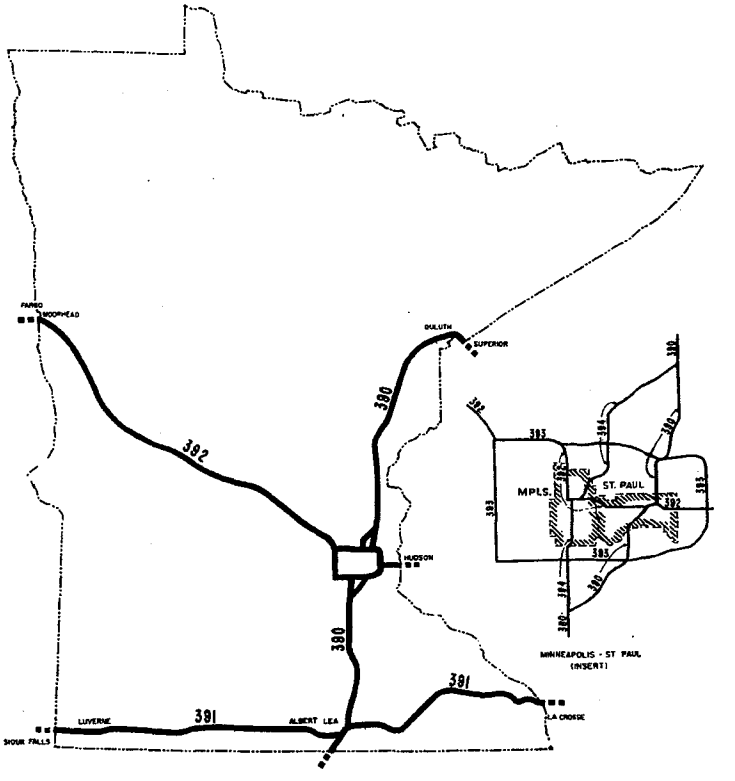
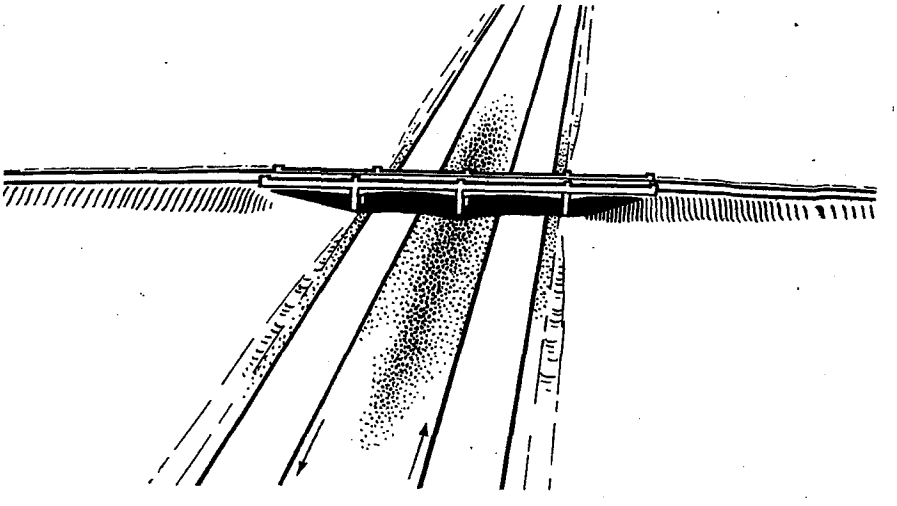


INTERSTATE NETWORK LINKS. The state outline map above shows the general location of the Interstate links to be built in Minnesota. The diagram at the right presents the routes entering and encircling the Twin Cities metropolitan area.

GRADE SEPARATION. Here's a diagram of a simple type of highway grade separation. All intersections on Minnesota's Interstate Network routes will have a separation of grade levels.



Network Routes Will Have Impact

(Continued from page 5)

areas from 100 to 150 feet in width and in urban areas from 150 to 200 feet, network rights of way will range from 150 to 200 feet in country sections and from 250 to 350 feet in the cities, according to the need to relieve congestion and the extent of property which is practicably available.

The main objective of freeways, expressways and similar high standard highways is to permit a free flowing, rapid traffic—not through excessive speed, but through sustained, safe speeds.

To provide this free, safe flow, the network freeways will be of bigger and more variable design than any highways ever built before in Minnesota. For their purpose, they will be as good as any ever built or now building in the United States.

Here are some of their distinctive features:

As compared with the present general two-lane width in rural sections and four lanes in many congested areas in the state, the new freeways will generally have four lanes in the country and from six to eight lanes in the urban areas, each lane to be at least 12 feet wide.

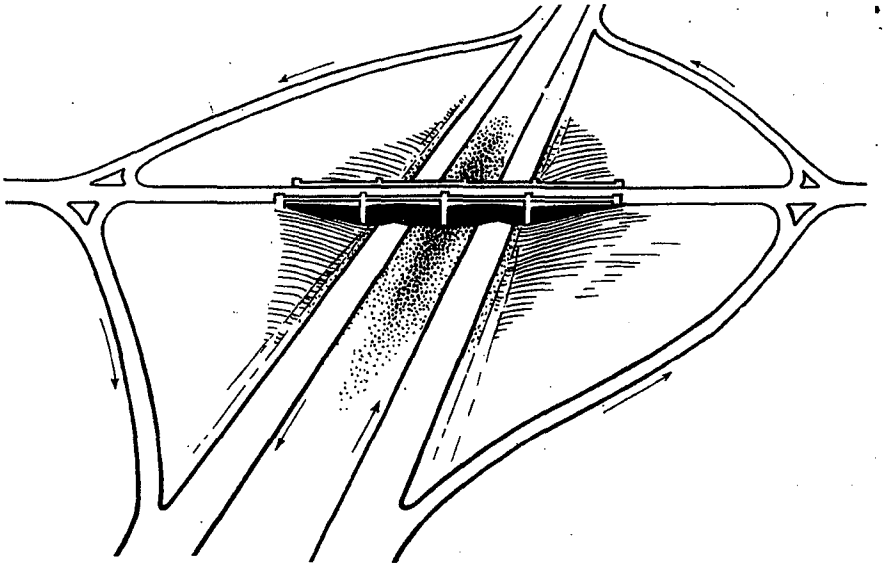
Controlled Access Provided

As true freeways, the network links in Minnesota will have controlled access throughout all of their length, probably the most revolutionary change in highway design in modern times. Controlled access, sometimes called limited or designed, is the limitation to designated locations of all entrance to or exit from a highway.

It will, for the first time in history, free the motorist from the delay and accident hazard of hundreds of grade intersections and traffic moving to or from the highway on connecting private driveways.

Intersecting roads which connect with the freeways will do so through interchange links between the intersecting roads, which will cross each other at separate levels. Interchanges will be located in accordance with major intersecting roads, averaging three miles apart in rural sections and one-half mile apart in urban areas.

The network freeways will have no grade level highway intersections or railroad grade crossings in their entire length.



DIAMOND INTERCHANGE. The diamond interchange is a comparatively simple facility for movement of traffic from a highway to an intersecting one at a separate grade level.

A single freeway may be elevated, depressed, or at surface level, or a combination of elevations. The network freeways in Minnesota will be mostly at surface level for their long rural distances, passing either over or under intersecting roads.

As another step toward an unimpeded flow of traffic and greater safety, the freeways, in closely settled areas, will be fenced and prohibited to pedestrian traffic, tractors, and similarly slow moving vehicles. Safety and ease of driving also will be increased by night lighting in closely settled areas and at interchanges.

Median Barriers Included

In areas of comparatively high traffic volumes the traffic moving in opposite directions will be separated by median barriers, fences, or land strips. Median strips in Minnesota are planned to have minimum widths of 40 feet in flat and rolling rural country and four feet in urban sections.

In many urban areas, the appearance of the freeways will be enhanced by attractive landscaping designed, as far as possible, to fit them into their surroundings.

Some of the other design standards include the following:

Design for speeds of at least 50 to 70 miles per hour in open areas, depending on topography, and at least 50 miles per hour in urban areas; adequate sight distances and sweeping curves for ample driver vision; gradients not steeper than three to five per cent, except on rugged terrain; all-weather shoulders with outer shoulders having a 10-foot minimum usable width for parking; and bridges and overpasses preferrably of deck construction, with clearance heights of at least 14 feet.

The foregoing design standards for the Interstate network were formulated by the American Association of Highway Officials and adopted by the U. S. Bureau of Public Roads.

To Have Big Impact

The revolutionary freeways, through their size and design, large sums of federal aid, and increased volumes of traffic, are bound to have great impact upon the state, particularly the areas in which they will be located. Their construction, alone, will provide direct and indirect employment for thousands of men for more than a decade. Also, their superior type of design undoubtedly will be extended to other principal highways in the state which are not now adequate for their needs.

The freeways will become a dominant factor in settlement and community planning. Location and layout of industrial and residential areas and public institutions will be for the first time largely determined by, instead of determining location and types of highways. The freeways will not lead directly to stores, hospitals, or neighborhoods, but to communities and their supporting areas.

The interchanges, of various patterns according to local requirements, will, in many instances though not all, become the centers of commercial and industrial development and of residential areas. Paralleling service roads will serve locations near the freeways in many sections, feeding to access roads and interchanges.

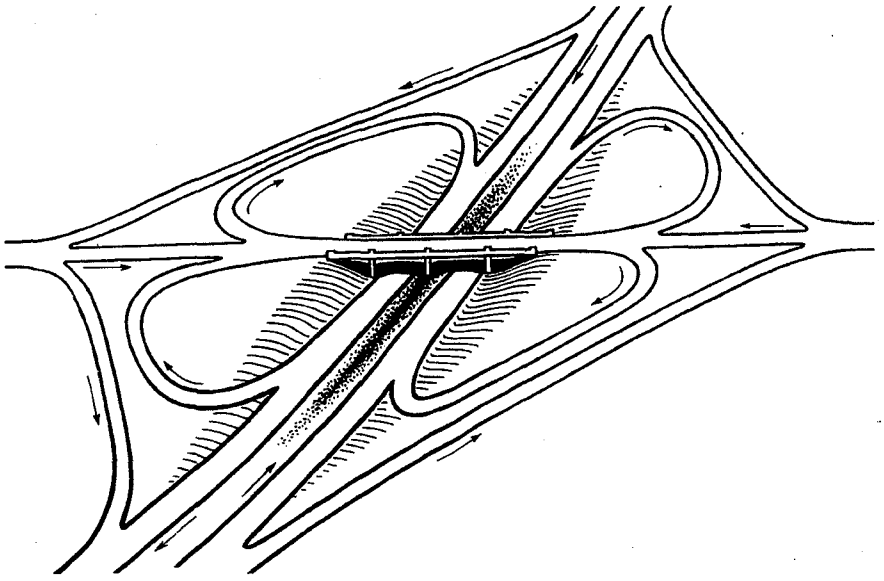
Indication of the economic effect of the freeways in the communities they will serve is given by the experience of cities in other states which have had freeways for some time.

Property values in the vicinity of the Gulf freeway at Houston, Texas, went up an average of 65 per cent in the first five years after it was built. In communities located along Boston's circumferential freeway, a link such as the Twin Cities will have, property values increased as high as 700 per cent. In Atlanta, Ga., undeveloped land along the freeway route, which formerly sold from $100 to $400 an acre, now is selling at from $1,200 to $1,400 per acre.

In San Antonio, not only has freeway construction prompted new residential development, but it has produced an increased leasing rate for rental properties served by the new facilities, reports the Automotive foundation.

Can Benefit Blighted Areas

Also, points out the foundation, experience shows that freeways help convert blighted areas to new



CLOVERLEAF INTERCHANGE. This type of interchange provides for movement between intersecting highways at separated levels by means of turns to the right.

industrial areas, civic centers, and similar uses. The association calls attention to the relationship between the redevelopment of the state capitol approach area in St. Paul and the projected freeway construction in that vicinity as an example of how freeways and redevelopment can go hand in hand.

The tendency of a freeway to separate the through from the local traffic of a community has been shown to have an economic advantage in permitting a faster turnover of customers and making the shopping area more convenient and attractive.

The California Highway department reports that "average daily traffic through North Sacramento ...ped off 44 per cent after the ...ning of the North Sacramento freeway by-passing the city, but that the total volume of business in the ensuing two-year period jumped upward 31 per cent."

Operating Costs Lowered

The freeways also will have an economic impact in their reduction of operating costs for motor vehicles through less fuel consuming stop-and-go driving. Total outlays of money for freeway construction are high, but the cost per vehicle mile of travel is low, compared with that of earlier types of roads.

A study by the City of Los Angeles has shown a saving of two cents per vehicle mile traveled on its first 46 miles of freeways. The total saving at this rate would fully offset the construction cost in 18 years. Some other freeways are expected to pay for themselves in shorter periods.

Besides the savings in operating costs, freeways provide economies in the faster and therefore more profitable travel time of commercial vehicles, including buses, and in the material reduction of accident costs for car and truck owners.

Because Minnesota is a state of considerable distances, the freeways' faster travel time will have particular importance, economically and socially. Farmers and business and professional men will save working time, vacationers will have more "free" time, and people generally will be encouraged to visit relatives and friends at distant points more often.

Tourist Business Will Benefit

What freeways, with less travel time, will do to stimulate tourist travel is bound to be reflected in Minnesota in one of the state's biggest businesses.

Present day highway congestion and higher speed vehicles made provision for faster travel, with safety, the major objective of freeway design. Even though speed has about doubled on rural highways in the past three decades, free flow of traffic is still blocked in many places, particularly in urban areas, by narrow roads, dangerous gradients, sharp curves, numerous traffic control devices, and free access from grade crossings and roadside business places and residences. Travel speed on

(Continued on page 8)

Some Handy Definitions of Highway Terms

To make easier the identification of the increasing number of classes of highways in Minnesota, here are non-technical definitions of some of them, and of some of terms associated with them.

ROADWAY — The traveling width of a highway *from shoulder to shoulder*, or, in the case of divided highways, from shoulder to median barrier. Thus, divided highways have two roadways.

TRAFFIC LANE—The width of that part of a roadway which accommodates a single line of vehicles.

DIVIDED OR DUAL HIGHWAY—A highway on which traffic moving in opposite directions is separated by a barrier, fence, or median strip of land.

MEDIAN—The part of a highway separating traffic moving in opposite directions.

GRADE INTERSECTION, CROSSING, AND SEPARATION—A grade intersection is the crossing of highways at the same grade level; a grade crossing is that of a highway over a railroad track at track level; and a grade separation is a crossing of highways, or of a highway and railroad tracks at separate levels.

INTERCHANGE — A highway grade separation designed to permit transfer of traffic between the intersecting highways via connecting lanes.

DIRECTIONAL FLOW INTERCHANGE—A type of interchange in which traffic may transfer between the intersecting highways on right or left turning lanes which pass over or under opposite traffic.

ACCESS—Points at which vehicles may enter or leave a highway.

CONTROLLED ACCESS—Restriction of points for entering or leaving a highway to a limited number of designated locations. (Also called limited or designed access.)

FRONTAGE ROAD — A local road or street beside an arterial highway for the service of adjoining property.

TRUNK HIGHWAY—A principal highway; in Minnesota, a segment of the designated highway system controlled by the state.

PRIMARY TRUNK ROUTE—One of the group of trunk routes so designated because they carry relatively heavy traffic in volume and weight.

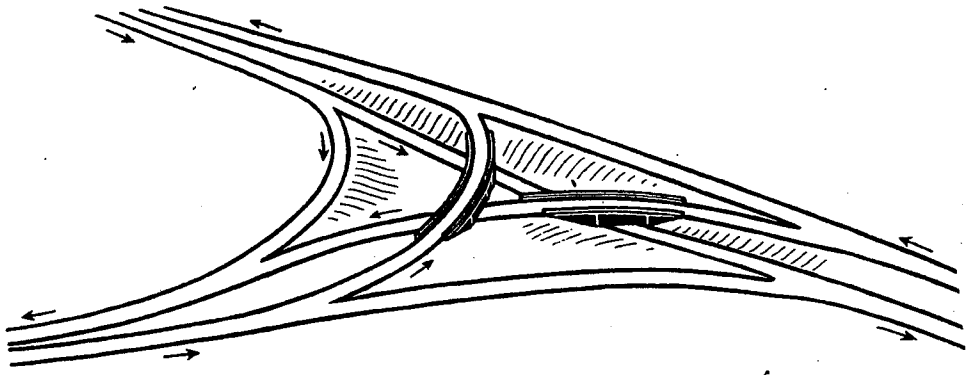
SECONDARY TRUNK ROUTE—One of the trunk routes so designated because they carry relatively light traffic.

LAND-SERVICE ROAD — A road without through traffic, which gives access to land.

FREEWAY — A highway designed for rapid, unimpeded traffic flow by use of fully controlled access, divided roadways, grade separation at all intersections, and no left turns at grade level.

EXPRESSWAY—A highway designed for rapid traffic flow, but not as strictly limited as a freeway in access control or elimination of grade intersections. (Also called Throughway.)

INTERSTATE SYSTEM — Projected 41,000-mile national network of major highways, as designated by Congress, to connect the country's principal cities and industrial areas. It is for national defense as well as peacetime service.



DIRECTIONAL FLOW INTERCHANGE. In this type of interchange, traffic may transfer between the intersecting highways on right or left turning lanes which pass over or under opposing traffic.

(Continued from page 7)

urban streets has not increased materially in many years.

Minnesota's projected freeways will largely solve the traffic congestion problem for a good many years, being designed to accommodate normal traffic needs until the year 1975.

An idea of the freeways' affect in congestion reduction is gained from the following:

Under favorable conditions, the conventional city street can carry approximately 600 vehicles per lane per hour. One-way operation and elimination of curb parking increases the limit somewhat.

Modern freeways are generally designed, and will be so designed in Minnesota, for the movement of 1,500 vehicles per lane per hour. At that rate, the present 24-hour volume of traffic, about 30,000 vehicles, on St. Paul's six-lane University Ave. could be handled in 3-1/3 hours on a six-lane freeway.

A four-lane divided freeway will carry as much traffic as three 60-foot conventional streets, according to recorded traffic counts.

Traffic counts on some freeways now in operation show the following daily volumes are being achieved:

Two lanes each direction....
...50,000 vehicles per day

Three lanes each direction...
..110,000 vehicles per day

Four lanes each direction...
..160,000 vehicles per day

These volumes usually are attained without appreciable congestion or reduction in speed.

At the same time the freeways, themselves, provide faster travel, they will, particularly in urban districts, relieve the congestion on nearby parallel roads, thereby speeding the safe movement of traffic on these roads.

Safety Factor Increased

Faster movement of traffic on the freeways will be accomplished with a material gain in travel safety. Accident records for existing freeways show that they are twice as safe as city streets in regard to fatalities and five times as safe regarding accidents. Rural traffic safety will be increased by improved curves and gradients, controlled access and elimination of left turns at grade level.

If the impact of the network freeways on the state as a whole appears big, consider what it will be on the state's Highway department which must handle their location and design, acquire right of way, let the contracts, and supervise construction.

The 13-year program, already entering the construction stage, will require increased manpower not only in the varied engineering phases, but in acquirement of right of way, accounting of the vast monies involved, and related supplementary activities, even to blue printing, testing, and typing operations.

The right of way division already has acquired additional personnel and efforts are under way to recruit additional engineers in the state and elsewhere.

And the increased manpower will have need for more field and office equipment if production bottlenecks are to be avoided.

The problem of engineering personnel is a striking example of what confronts the department in the matter of manpower.

Up to now, the department has employed not more than 550 engineers for the state's 11,800-mile trunk highway system. Now, in the face of one of the nation's greatest shortages of qualified civil engineers, the network program, coupled with the expansion improvement of other trunk highways under the enlarged federal aid provided by the 1956 National Highway act, calls for the services of 250 additional engineers. That is the estimate of L. P. Zimmerman, the department's chief engineer. In the present competitive situation, it poses a bottleneck capable of creating still more bottlenecks.

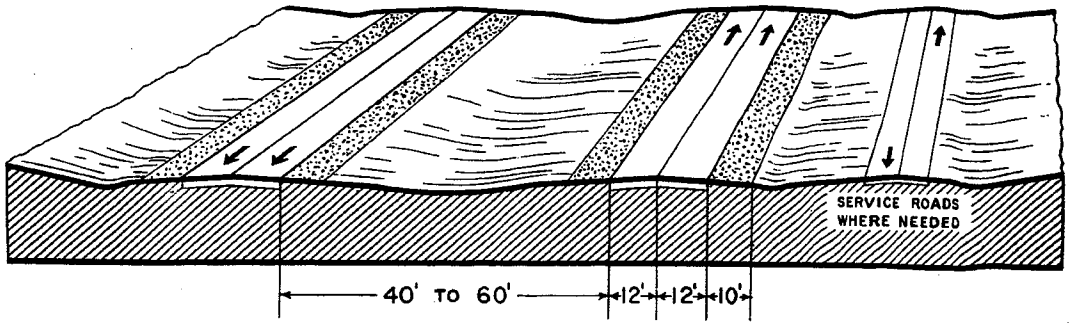
As one step to free engineers as much as possible from time consuming detailed computations, the department has leased a Univac 120 electronic computer. Extensive use will be made of aerial photogrammetry to survey network routes faster and with fewer men than ground surveying requires.

By their extent, size, and improved design, the Minnesota network freeways provide a challenge to the highway engineer's knowledge and ingenuity to chart new paths in design and construction. Their affect on community planning will lead him into a broader conception of highway planning as it relates to community development, as well as traffic movement. He will deal more closely with public officials and community leaders.

The state's increased dependence on high standard highway transportation will give him a professional stature and opportunity far beyond anything in the past.

In the same degree that the nearly 1,000 miles of network highways in Minnesota provide a present challenge to the Highway department and its personnel, they will provide a new high standard of service to the public and a pattern for future highways.

HIGHWAY CROSS SECTION. Comparative space relationships of a network rural highway are shown in this diagram. Limited right of way available in urban areas will narrow the space between traffic in opposite directions.



MINNESOTA HIGHWAYS

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New Training Head Chosen

Development of the Highway department's expanding training program was boosted in February by the appointment of a full-time training officer. He is Gunnar P. ...erson of St. Paul.

... a member of the personnel ..., he will plan, organize and administer a varied training program designed to extend throughout the department with in-service instruction and courses arranged in co-

Gunnar Pederson

operation with various educational institutions and industrial concerns.

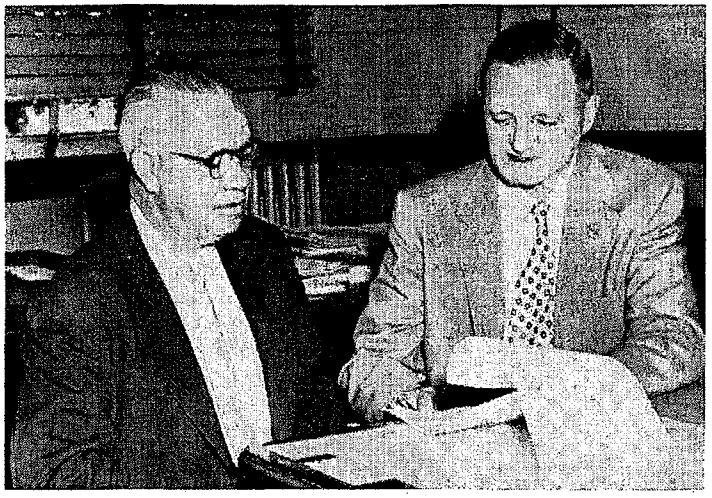
Pederson has been a department manager and buyer at the Emporium, St. Paul department store, for the past 7½ years and before that he managed a store in Minneapolis and served 3½ years in the Marine corps during World War II. In the corps, he was a master technical sergeant, supervising the receiving and issuing of military property on the west coast and in the South Pacific theater.

He received his higher education at Augsburg college, Minneapolis; St. Olaf college, Northfield, where

(Continued on page 7)

Zimmerman Named Commissioner

New Chief Is Well Qualified



Already sharing, as chief engineer, in many of the administrative problems of the Highway department, L. P. Zimmerman, left, confers with Commissioner Hoffmann on some of the additional responsibilities he will assume when he succeeds next month to the commissionership.

Recent appointment of Chief Engineer L. P. Zimmerman to succeed M. J. Hoffmann as Minnesota Commissioner of Highways retains the Highway department's top administration in the hands of a professional engineer who, like Commissioner Hoffmann, has had wide experience in highway construction and maintenance in Minnesota, including extended service in the department.

Governor Freeman named Zimmerman to the post, effective April 21, after Commissioner Hoffmann notified the governor that he did not wish to be considered for reappointment. Governor Freeman asked Commissioner Hoffmann to continue with the department in the capacity of special adviser. Hoffmann has been commissioner since 1939.

Both Commissioner Hoffmann and Zimmerman are natives and lifelong residents of Minnesota, both are engineering alumni of the University of Minnesota, and both have spent most of their adult lives in highway engineering in the state.

Native of Wadena

Zimmerman is a native of Wadena and a 1916 graduate of the University of Minnesota; was Wadena village engineer in 1916-18, and served in World War I in the United States and France with the 45th Engineers, a railroad construction and maintenance regiment.

After being Big Stone county highway engineer 1919-21, he entered the Highway department, where he served successively until 1933 as maintenance superintendent in the Morris district, and as Southwestern and Metropolitan di-

Hoffmann Cites Economic Gains from New Freeways

"Truly, the pulse of every section of our state and its business activity will be quickened as work progresses on this gigantic construction program."

In these words, Commissioner Hoffmann summarized the impact on Minnesota of the building within its boundaries in the next 13 years of 936 miles of the new Interstate highway network.

The Commissioner described the manpower and materials which will be required for Minnesota's network construction in an address at the recent annual meeting of the Minnesota Editorial association in Minneapolis. He said:

"More than 975,000 tons of steel will be required. Upwards of 28 million barrels of cement and 2½ million tons of bituminous material will be needed. Aggregate requirements—that is sand, crushed rock and gravel—will total upwards of 194 million tons.

"Increased earth moving machinery and other power equipment to build the roads will need 266 million gallons of petroleum products.

"Finally, more than 8,100 practically full-time workers will be required for on-site work throughout the 13-year period within our state.

"In addition, it is anticipated that at least twice as many workers will be employed elsewhere to build equipment and to produce,

(Continued on page 3)

Two New Captains, Two New Sergeants Named in Patrol

Capt. T. M. Gilpin Capt. L. W. Nelson

Commissioner Hoffmann this month promoted two Highway patrol sergeants, Thomas M. Gilpin and Lawrence W. Nelson, to the rank of captain. He also elevated Patrol Officers Bert W. Johnson and Stanley I. Dickinson to sergeant.

With two existing vacancies for captains, filling of which would create two sergeant vacancies, the four appointments were recommended by Chief Paul R. Martz on the basis of the results of recent promotional examinations. The four men promoted placed highest in the qualification tests for the two levels.

Gilpin and Nelson most recently have been stationed at Detroit Lakes and Willmar, respectively, and Johnson and Dickinson at Thief River Falls and St. Cloud.

Following the promotions, Sergeant Johnson was assigned to Willmar to replace Captain Nelson, and Sergeant Dickinson was assigned to Rochester. Dickinson will succeed Sergeant James Stevens, now instructing at the patrol training school at Camp Ripley. At the school's conclusion, Stevens will go to Detroit Lakes to replace Captain Gilpin.

Assignment of the captains was not made immediately. They are currently instructors at the patrol school. Captain vacancies exist at Rochester and Virginia.

Captain Nelson joined the Highway patrol in 1941 and Captain Gilpin, in 1942. Both were promoted to sergeant in 1955. Sergeants Dickinson and Johnson both joined the patrol in 1942.

When candidates for promotion in the Highway patrol appeared recently for their oral examination, the questions came from this examining board: L. to R., Lawrence Beier, chief of the Wisconsin Hiway patrol; John Haider, assistant chief examiner in the St. Paul municipal personnel bureau; and W. B. Schroeder, Scott county sheriff.

Sgt. Dickinson Sgt. Johnson

Hoffman Cites Gains

(Continued from page 1)

furnish, and transport the required road materials."

He said the road building industry and the allied equipment manufacturers will enjoy a boom in increased activity for their services and products.

Considering economic factors outside the actual construction program. Commissioner Hoffmann said "It is most likely that new industrial sites will be developed along segments of these interstate highways to provide better locations for light and medium industries which will depend upon modern highway transportation."

Though Minnesota has not had any real experience with the so-called super-highways, the Commissioner pointed out that the experience of other states is that where the super-highways by-pass local business districts "Removal of through traffic from the business districts has invariably brought an increase in local business."

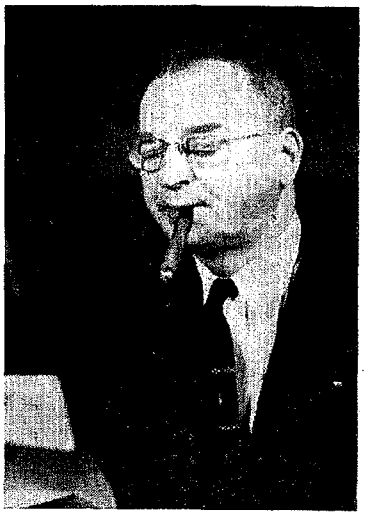
"Customers under such conditions find it possible to drive into the business area without combatting the impatient drivers of numerous cars and trucks who are anxious only to get through the town and be on their way," he said.

He also cited reduced operating costs for motor vehicles on superhighways as a further economic advantage in store with the introduction of the freeways. Lower operating costs will result from shorter routes, elimination of stop-and go traffic and other features of the improved highways, he pointed out.

Then there was the termite who boasted to his buddies, "This'll bring down the house."

Vacation—a short period of time during which you go broke trying to make strangers believe you can't.

Silverstein Leaves Highway Department



If, as the saying goes, it is better to smoke here than hereafter, then Max Silverstein appears well insured against any heat treatment in the hereafter. His slow burners, complete with holder, have been his trademark in the Highway department for many years. With customary stogie in place, Max "inventoried" an inventory report just before his retirement.

Max Silverstein, a quarter century veteran of the Highway department and a picnic promoter of exceptional talents, retired from the department February 28. Employed in the Maintenance division central office most of the time, Max has worked largely on coding, inventory and payrolls.

Picnic-wise, Max has been a mainstay of the Hiwayan club for many years in rounding up prizes and favors. He was a long-time councilman in the club and a "willing worker" in its social and sports activities. Max also was something of a utility man in the department, working at a variety of tasks when a quick hand was needed to unplug a bottleneck.

At a dinner in his honor February 26 at the Town House in St. Paul, Silverstein was presented with a traveling bag, cigars, and other gifts, including a varied collection of household remedies, a gold brick, and a tree bearing folding money (non-negotiable). Max expressed his appreciation to those present and to his other fellow employees for their gifts and expressions of goodwill.

Just a fleeting thot—a chrysanthemum by any other name would at least be easier to spell.

MINNESOTA HIGHWAYS

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Hoffmann Has Memories of Dept. Growth

In its earlier years, the Highway department was confronted by many situations little dreamed of by employees of only more recent years. Commissioner Hoffmann recalled some of these problems and their solutions as he prepared to retire April 20 as commissioner, after 43 years in the department, 18 of them as commissioner.

He served in a variety of staff and executive positions before becoming commissioner, as reported in last month's Minnesota Highways.

Quarters Were Limited

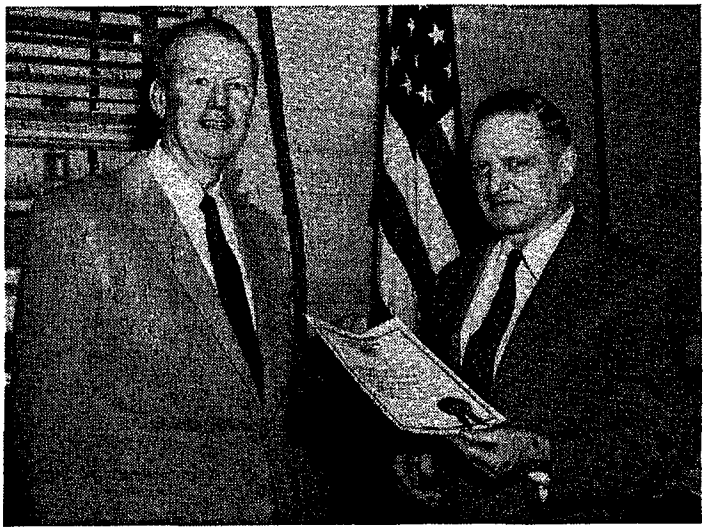
"When we first occupied the present Highway central office building in 1922," he recalled, "it was only the western wing of the present building. The department rented the first and second stories, using the third floor only occasionally for Hiwayan gatherings, [illegible]s and the like. At that time, [illegible] no Highway patrol, Driver License or Traffic and Planning divisions, etc., and no office employees."

When the state highway system was established in 1921, the Commissioner explained, the department had to make arrangements with the various county boards to take over the maintenance organization which the counties then had on state aid roads, as those roads, in the main, constituted the new so-called 7,000-mile trunk highway system.

"Maintenance operations on dirt and gravel roads mainly involved the use of horse-drawn equipment," Commissioner Hoffmann said. "Under our agreements with the various county boards during

(Continued on page 2)

State Senate Honors Commissioner



Commissioner Hoffmann displays the resolution adopted by the 1957 Minnesota State Senate coferring upon him the title of Commissioner of Highways, Emeritus, in recognition of his "unsurpassed contributions to our highway development." Formal presentation of the resolution had just been made by Senator Norman H. Larson, chairman of the senate highways committee.

Hoffmann Expresses Appreciation

To My Fellow Workers in the Highway Department:

With my retirement from the Highway Department near at hand, this issue of Minnesota Highways affords an opportunity for me to express to all of you my heartfelt appreciation for the splendid cooperation you have given me during many years. I have had deep satisfaction in my experiences in the Highway Department, not alone in the work I have had to do, but in the people with whom I have had the opportunity to serve—in the Central Offices and over the entire state. Whatever success we have achieved in building and maintaining a good highway system is the result of the total effort of all of us. No one realizes that better than I who have had a close view of the department's varied operations. The happiest memories I will carry with me are of my associations with my fellow workers in the department, many of whom have likewise devoted their lives to public service in highway work.

In Mr. Zimmerman as my successor as commissioner, you will have a highly qualified engineer and administrator, fully worthy of your continued loyalty and best efforts. He has long been known to many of us and I know the others of you will be happy to become acquainted with him. I bespeak for Mr. Zimmerman the same cooperation and friendship you have so generously given to me.

May I extend to all of you my best wishes for continued success in your work and for your good health and happiness.

Zimmerman Sees Three Important Activities Ahead

Preparing to assume the post of state Commissioner of Highways April 21, Chief Engineer L. P. Zimmerman has in mind what he considers to be three major activities for the department in the months immediately ahead.

He revealed his thinking on future plans after his appointment last month by Governor Freeman to succeed M. J. Hoffmann, who has held the post since 1939 and whose present term expires April 20. Commissioner Hoffmann had notified the governor that he did not wish to be considered for reappointment. The commissioner's term is for six years.

The three fields of activity listed by Zimmerman are:

New thinking throughout the department to meet new needs for more and better highways to move more traffic more rapidly and at the same time to provide greater traffic safety.

Reorganization of the department as needed to cope

L. P. Zimmerman

with Minnesota's expanding highway program, made possible by greatly enlarged federal aid.

Informing the public fully about the expanding highway construction program to obtain fullest possible public acceptance and active support for that program.

Of the three fields, Zimmerman believes the third may be the most important for over-all achievement of the department's objectives.

"In that connection," said Zimmerman, "we have an educational task ahead of us by which public officials and civic leaders, particularly, who are concerned with highways, may have all the information and understanding they need and desire to help the department, as well as the communities and areas they serve."

As an indication of how rapidly the expanding highway program is progressing in Minnesota, Zimmerman pointed out that $10 million of contracts already have been let toward construction of the state's 936 miles in the new Interstate highway network. He expects that an additional $20 million of construction will be contracted during the present fiscal year, ending June 30, plus a like expenditure for right of way.

"In planning Minnesota's highways for the future," he said, "we will have to think in terms of wider roadways, more structures such as under and over-passes for controlled access, more by-passes, and increased traffic control.

"Because of limitation in the number of qualified engineers obtainable by the department, we will have to organize our procedure so that about one-half our design work can be done by private engineers.

"At the same time that we are engineering hundreds of miles of Interstate network routes, we will have to be planning and designing for the improvement and extension of the state's total trunk highway system, as well as for improvement of the secondary road system, also made possible on a large scale by the enlarged federal aid program."

All in all, according to Zimmerman, the Minnesota Highway department is at the threshold of one of the most important periods in its history.

The first mile of concrete road in the United States was built in Wayne County, Michigan.

Zimmerman Greets Personnel

It is a singular honor to address you on the eve of becoming your new commissioner, and it is of special significance to greet you at this time when we are on the threshold of having a part in the greatest nation-wide highway improvement program known to man.

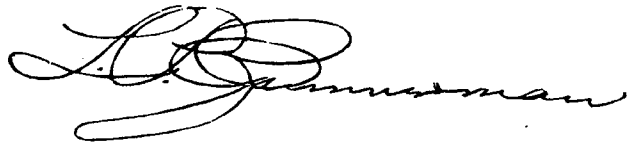
It is also a pleasure and privilege to me to pay my personal tribute to the great engineer-leader I am about to succeed, Mike Hoffmann, who has so wonderfully served the Highway department and the people of Minnesota. I will be proud, indeed, if I measure up to the standard of accomplishment he has set. I am convinced that I speak for everyone in the department in wishing him every future happiness and the saying of "Thanks, Commissioner, for the quality of your administration over many years."

Not only are we of the Highway department to have the opportunity of participating in a record-breaking highway construction program, but we will have means through the use of modern design practices to make a significant reduction in the death toll our highways are taking each year.

This great potential contribution, coupled with material reduction in the cost of motor vehicle operation, elimination of time losses, reduction of property damage, and increased comfort and safety, presents a challenge. It is a challenge to maximum accomplishment that we must recognize and it defines a goal that we dare not fail to reach.

With a record of our past leadership as a reminder of the many difficulties that have been encountered and resolved, and a splendid background of pioneering a nationally recognized highway improvement program, we cannot but be inspired to meet new problems that confront us. We have the encouraging assurance that our past experiences have made us more nearly ready for the task than our predecessors were when they started. One of the deterrents to adequate highway improvement has been removed with the definite assurance of the intent of the federal government to furnish more nearly sufficient finances than have ever been heretofore projected for public improvement.

With the advantages of these important factors in our favor and with the complete cooperation of all concerned, we will meet our problems with a confidence that solutions will be found and that we may all reap the harvest of pride in a worthwhile accomplishment.



4 Governors Pay Tribute

Following are brief excerpts from laudatory letters received at the Highway department in connection with Commissioner Hoffmann's impending retirement, from four of the five Minnesota governors under whom he served as commissioner and from W. A. Bugge, president of the American Association of State Highway Officials. Commissioner Hoffmann is a former president of the association. Former Governor Harold E. Stassen was in Europe when the retirement was announced.

Former Governor Edward J. Thye: Commissioner Hoffmann has rendered excellent service to Minnesota ,as well as the nation, in his years an as engineer within the Highway department, and in later years as commissioner.

Former Governor Luther W. Youngdahl: I found him to be loyal, fearless and efficient in the administration of his important office . . . The citizens of Minnesota are indebted to him for his complete dedication to honest public service.

Former Governor C. Elmer Anderson: Mike Hoffmann will go down as one of the outstanding Commissioners of Highways in Minnesota history. His integrity was never questioned.

(Continued on page 3)

Hoffmann Has Memori

(Continued from page 1)

the first year or more, we reimbursed them on the basis of what they paid the maintenance employees.

"I well recall that at that time the maintenance men worked 10 hours a day, six days a week, and were paid 40 to 45 cents per hour. Allowance made for a team of horses was 15 to 20 cents per hour. (Obviously, Civil Service was not in effect at that time.)"

Commissioner Hoffmann recollected that during the first several years after organization of the department, it experimented with snow plow equipment, particularly on the North Shore road between Two Harbors and Grand Marais, where residents in the wintertime were entirely dependent on service.

Made Own Snowplows

"For a period of some seven years," he said, "the Highway department manufactured all its own snowplows, mostly at the Central shops in St. Paul. Actually, at that time, there were no commercial snowplows on the market.

"Maintenance employees in the first several years were continued on the job until they snowplowed the highways, after which they were laid off until they were rehired the following spring.

"Arrangements were made to leave sufficient snow on a portion of the road so that sleighs could be used in rural areas.

"It was my privilege to serve as the third president of the Hiwayan club. I am proud of the fact that during this time, Mr. 'Red' M naugh and I were delegated the club's surplus funds fo purchase of a piano at a cos. $200 for our various entertainments. I believe that the present piano in the department is that same piano, which has served so well, even to the point of having helped develop Mary Schroepfer's Hiwayan club Choraliers."

A significant memory to Commissioner Hoffmann was the enforced layoff of a number of employees during the early years of the depression, due to a lack of funds. He noted that this has never occurred since in the department and that during the depression, employment was afforded to many people by organizing maintenance crews to work two shifts, each shift working three days per week.

New Legislation

40 Enactments Affect Highways

More than two score of laws affecting the new Interstate highway network, traffic safety, and the general administration of the Highway department were adopted by the 1957 State Legislature.

A principal measure enacted was the authorization of the commissioner of highways to designate controlled access highways. This law permits the Highway department to restrict the number and location of access openings on trunk highways for a faster traffic flow with increased safety.

Action on Utilities

Further action facilitating construction of the Interstate network was the adoption of a measure to designate the network routes as state trunk highways, thereby making it possible to pay the state's 10 per cent share of the network costs from trunk highway funds; and another to reimburse public utilities for the expense of moving equipment as required by construction of the Interstate network routes.

Implementation of Constitutional Amendment No. 2, adopted by the voters last fall, was covered by enactment of a law which includes a distribution formula for the apportionment of highway user tax funds going to county state aid highways and municipal state aid streets.

Legislation adopted on behalf of state employees included an enabling act for higher salaries (described elsewhere in this issue) and two retirement measures. One of the retirement acts provides a new retirement plan which becomes effective July 1. The new plan has a "savings" clause by which employees' benefits will not be less than benefits computed under the present law.

The other act authorizes coordination of the state retirement and federal social security programs, subject to a referendum vote of the employees. Detailed explanation of the new retirement legislation will be given later by the State Retirement association.

In traffic safety, a major legislative step was the increase of the authorized strength of the Highway patrol from 255 to 330 men. Other safety laws were enacted to:

Raise patrol salaries about 9½ per cent and to pay $200 per month to patrol candidates in training. Prohibit driving on the highways by persons less than 17 years old between midnight and 5 a. m., unless accompanied by an adult. . . . Provide mandatory jail sentences for second drunk driver offenders. . . . Authorize alcohol tests of suspected drunken drivers to be taken within two hours after an alleged "offense" instead of after "arrest" as previously provided.

Establish a special driver's license of a different color for persons under 21 years of age. This is to prevent misuse of licenses for attempted identification as an adult. . . . Authorize the commissioner of highways to establish minimum speeds on some sections of state trunk highways.

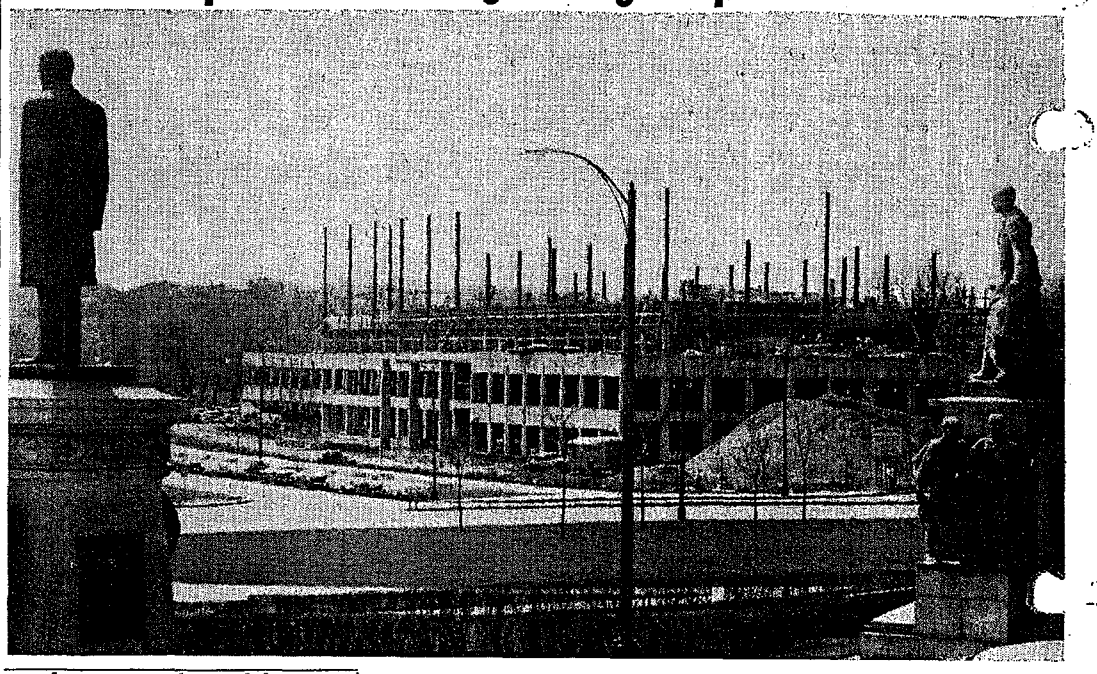
In general highway activity, two enactments of importance were extension of authorized length of trucks on the highways from 45 to 50 feet, with an accompanying increase in truck weights and taxes; and authorization for an additional two stories on the new Highway department headquarters building, to take it to nine stories, plus two basement levels.

Other enactments relating to the Highway department included:

Authorization for continued employment by the Highway department of consulting engineers to compensate for the shortage of engineers in the department.

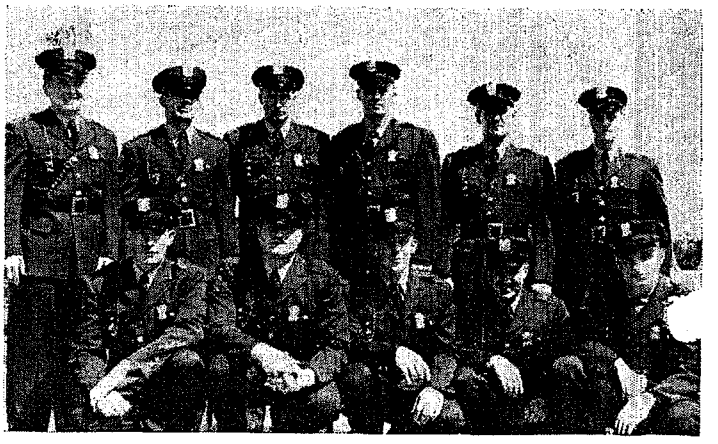
Establishment of an interim commission to study and recodify the state's highway laws.

New Headquarters Building Taking Shape



Now taking definite shape in construction is the Highway department's new headquarters building southwest of the state capitol. The above view is from the capitol steps, with statues to the left and right, respectively, of the late Knute Nelson, former Minnesota governor and U. S. senator, and the late John A. Johnson, Minnesota governor in the first decade of this century. The new building's main entrance, with its portico, is at left center.

Patrol School Graduates 55



The first 11 men sworn into the Highway patrol after the recent candidate training school were, L. to R.: Front row—Louis Etter, Michael Johnson, Donald Olson, Marlin Wicklund, Donald Jordan. Back row—Donald Jokinen, Lyle Baker, Arnold Waldron, Harry Lamson, Roy Bradley, H. William Magaard.

The entire graduating class of the recent Highway patrol candidate school went on the job May 1. Of the 45 who successfully completed the training 11 went to work April 26, with the remainder going on duty later. The first group was sworn in at the school to fill then existing vacancies.

The second group, 34 officers, went on duty at 26 different stations in the state as the first increment of men to be added to the patrol under authority of H. F. 482 which added 70 officers and five sergeants to bring the patrol's authorized strength to 330 officers and supervisors.

The patrol now has vacancies for 36 officers, in addition to five more positions to be vacant following promotions to fill the new sergeant spots.

'eripatetic Painters

(Continued from page 3)

'hich follows the paint truck to ick up the cones and other warn-ıg signs as soon as the paint is ry. The cones are snatched from he road and tossed to the truck loor by a man with a sharp eye nd a sure grip who squats on a tep at the rear of the truck.

For every miss, a squealing of ıakes, some well chosen com-nents shouted from the cab, and ı back-up to retrieve the miss.

No Time for Daydreaming

At the speed the paint and pick-ıp trucks travel, there is no time :or , daydreaming by drivers, ıaint controllers, or cone "plant-ers" or collectors.

The regional crews work on the same plan, except for their small-er mobile painters, equipped for wo colors only, white and yel-low.

In the winter time, personnel in the regional crews are general-ly assigned to other duties. Be-cause of the volume of work scheduled each summer for the north and south crews, their members usually have a backlog of overtime for a winter layoff.

The increasing number of pave-ment traffic markings present a bit of a problem in identification.

The broken white line on trunk highways is a traffic lane bound-ary and usually consists of 15-foot painted strips alternated with 35-foot unpainted gaps. However on concrete highways with narrow expansion joints, the lines now are being painted in alternating white and black sec-tions.

A single solid yellow line, as used on curves and hills, means no crossing over from the lane in which it is located and is there-fore a barrier against passing at that point. A double yellow line means no crossing over in either direction.

Special Markings Increase

Lettered markings to designate turning or no turning lanes, and to warn of approach to railroad crossings are appearing in in-creasing numbers on Minnesota trunk highways.

Diagonal yellow stripes are painted on the pavement to warn of decrease or increase in the number of driving lanes or of ap-proach to obstructions such as divider "islands".

The special, localized mark-ings, generally are applied by the regional crews with the use of large stencils and their mobile compressor painting machines.

Once called centerline crews because the extent of their work was to paint centerlines on two lane highways, the traffic line crews have greatly expanded their important activity to keep pace with requirements of the state's bigger and more varied highway patterns.

Highway Exhibit Will Cover Four Subjects

Minnesota's share in the new Interstate Highway network, highway litterbugs, school traffic safety, and driver licensing will share the spotlight in the High-way department's exhibit at the State fair August 24 to Septem-ber 2.

Plans for the interstate net-work and its impact on the state will be portrayed by maps, pho-tos and text. What litterbugs cost Minnesota in yearly cleanup ex-pense and despoiling of scenic values will be shown in another section of the exhibit. With schools opening at about fair time, the display will emphasize the importance of the compliance by pupils and motorists with school patrol authority, school bus traffic regulations, and traf-fic signs and signals.

Drivers will be reminded that they may lose their driver's li-cense, not by the whim of any court, but only through their own traffic law violations.

Traffic safety movies will be shown and state highway maps and copies of the state traffic and motor vehicle laws, as amended by the 1957 State Legislature, will be distributed.

As in previous years, the high-way exhibit will be in the State Exhibit building, where the 1957 theme will be the activities and public services of 35 state depart-ments and agencies.

Transitions

By her retirement July 31, Katherine Forbes became the fourteenth member of the Rock-ing Chair club, organization of retired employees of the Bridge division. Previous to her retire-ment, Miss Forbes was honored by 60 of her fellow bridge em-ployees at a coffee farewell as-sembly. Top department offi-cials also were present, including Commissioner Zimmerman. She was presented with a commenda-tion certificate, $50 cash gift, and a corsage. Miss Forbes was sec-retary to A. E. La Bonte, bridge engineer, as well as three pre-vious bridge engineers.

* * *

A second retirement July 31 was that of Otto J. Gerner, proj-ect engineer who most recently had been assigned to construc-tion work on T.H. 61 between Winona and Homer. He had pre-viously been in charge of several southeastern Minnesota projects and resided at Winona. He was in the highway department 36 years. He and Mrs. Gerner planned to establish their per-manent home at Child's lake near Hackensack.

Ball Team in Tie for Second Place at First Season's End

The Hiwayan 1957 softball team: L. to R., front row—Pat Welsh and John ... Construction; Bob Staeheli, Tr. & Plan.; Craig Quickstad, batboy; Lowell Be... Tr. & Plan.; Jerry Jacobson, Patrol; Denny Gontarek, Lab.; back row—Bud Broos and Sam Bernick, Plans; Dean Swanson, Construction; George Quickstad, Tr. & Plan., manager; Ernie O'Neill, Tr. & Plan.; Roger Kallroos, Plans; and Don Tomsche, Personnel.

Players not in the picture were Pat Patterson, Drivers Lic.; Stan Paulson, Roadside Dev.; Jim Oeffler, Lab.; and Dick Swanson, Tr. & Plan.

With seven wins against three losses, the Hiwayan softball team tied with the Brandtjen & Kluge sqaud for second place for the season in the St. Paul Monday Class C Commercial league. Northwest Airlines and Mutual Service divided first place hon-ors with nine wins and one loss each.

The Hiwayans won their final game 12-8 over Northwest Aeron-autical July 29 and their preced-ing game 12-5 over the Canteen Co. July 15.

The Hiwayans' showing for the season was considered exception-ally good in view of the fact this was the team's first year.

Retirements

Walter Beschenbossel, White Bear Lake
CE I, Const., Bridge

Stanley Andrezejczyk, Virginia
Janitor, Maint. Dist. 1

Leo Louden, Hastings
HMM II, Maint. Dist. 11

Elliott W. Nelson, Benson
HMM I, Maint. Dist. 8

Deaths

Peter Peterson, Brainerd
HMM II, Maint. Dist. 4

Michael Gannucci, Duluth
Auto Mech. Foreman, Maint. Dist. 2

Arthur J. Todd, St. Paul.
Cust. Wkr. I, Central Offices.

Paul E. Jennings, 68, of St. Paul, a clerk III in the Construc-tion division central office, died July 9 of a heart condition. He entered the department in 1942 as a clerk II and was in Construc-tion thereafter. Surviving ... his wife, Hazel, and a daug... Mrs. Joseph E. Bradley, St. ... Park.

HERE'S WHO

The man in the Who? photo on page 4 is

E. J. McCubrey

district engineer of the Twin Cities Metropolitan district, as he was in 1925 as a resident en-gineer directing a survey crew. Entering the Highway depart-ment in 1921 as an instrument man, McCubrey moved upward in the Construction and Right of Way divisions to his present post.

Maintenance District 5
CROOKSTON

By PHYLLIS SPENCER

District 5 has had one thing in common, we imagine, with other districts and that is the hot!!!!!! weather. We hove had quite a siege of it but your reporter would rather write about warm weather than blizzards. Anybody with me on the matter?

Tom Helland, HMM II at Ada, spent several days in the Ada hospital with a bout of pneumonia. He tells us he is feeling much better, and though at this writing he is not yet back on the job, he expects to be soon.

The arrival of two new baby boys, future Highway employees we suppose, have made two families very happy. The Clarence Prosjes have named their 7 lb. 11½ oz. son, James Edward. Mr. and Mrs. Donavan LeDoux also have a new son born July 25. The new heir has been named Michael Donavan.

Our district clerk, Arne Hovland, is a proud "gramp" again. The Hovland's daughter and son-in-law, Mr. and Mrs. Louis Cournia (Nancy), have had a new son. This makes three daughters and two sons for the Cournias. Hovland is one of the youngest, gayest grandfathers we have ever seen.

Mr. and Mrs. Ed. Langerak spent their vacation at Bemidji visiting Ed's parents, Mr. and Mrs. Geo. Langerak.

Mr. and Mrs. Bert Valley spent part of their vacation at a cottage at Clearwater Lake.

Mr. and Mrs. Andrew H. Fortier and family enjoyed a week's vacation at Detroit Lakes and Clearwater Lake.

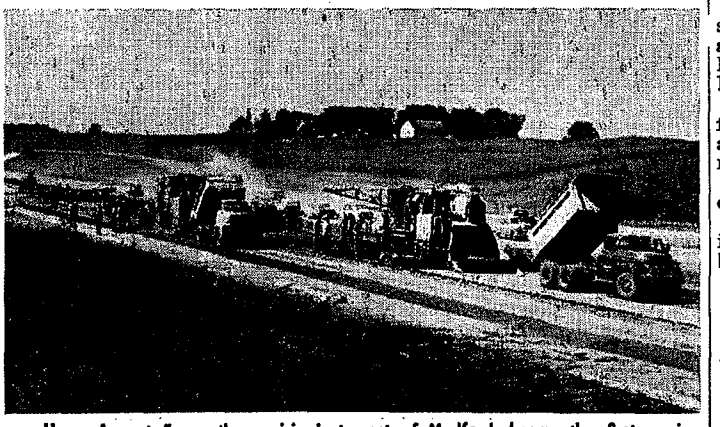
Mrs. E. F. Austin of Seattle, Wash., called at our office recently. Mrs. Austin is the former Helen Lindberg and is an ex-highway employee, having worked in the District 5 office some years ago.

Your reporter took a week's jaunt. In the company of two other girls we made a trip to Mackinac island, Mich. For those of you who haven't heard—there are no cars allowed on the Island, with horses, bikes and your own two feet as a mode of travel once you get off the boat. I, therefore, had my first ride in a "surrey with the fringe on top". We had a wonderful trip—covered 1,780 miles in the '51 Chev. with little or no trouble; saw the torchlight parade in Minneapolis during the Aquatennial.

Mr. Boyd spent a few days in the company of friends at Lake Andrusia. He tells us he was fishing but the fish just wouldn't cooperate.

Happiness is that peculiar sensation you acquire when you are too busy to be miserable.

First Paving Is Begun on Network



Here, August 5, on the prairie just west of Medford, began the first paving operation for construction of Minnesota's share of the new 41,000-mile Interstate Highway network. The Woodrich Construction Co. of Hopkins poured the first concrete that day in a $1,466,987 contract for paving 8.1 miles of the four-lane divided highway northward from Owatonna into Rice county, on Route 390. In Minnesota the route will extend from the Iowa border through St. Paul to Duluth.

Working northward on the west bound lane are a gravel truck, a mixer pouring a six-inch layer of concrete, men laying a wire mesh reinforcement, and a second mixer on the road shoulder pouring a three-inch concrete layer atop the wire mesh, followed successively by the screen and bull levelers to smooth the top surface. West of the equipment is a road which wil become a service road, connecting with Medford through an underpass.

Maintenance District 11
ST. PAUL PARK

By MARGARET RICHARDSON

Promotions in this district: Reuben T. Lindblom, Armin P. Portz, Darrell Somerville, all from HMM I to HMM II. Lindblom replaces Leo Louden who retired last month.

Peter Mueller is convalescing at home after a siege of virus in St. Lukes hospital.

Patrick H. Kenney, a former employee now with an eastern firm, is spending some time at home.

Mr. and Mrs. R. B. French (Maxine and Rudy) have moved into their new home at 929 Summit. If you will ezcuse this—the throes of moving nearly threw them. They sold their old house to the Northwest Refining Co.

A former employee, C. V. Johnson of Afton, father of Marvin Johnson, passed away and was buried July 25. Our sympathy is extended to the family.

Vacations are the order of the day. Ray and Mrs. Huber are spending theirs at St. Croix Falls. The Somervilles drove to South Dakota and to the North shore. Fishing and just plain loafing seem to be popular pursuits with many people. Others just refuse to be pinned down as to what and where.

Nick Zechmeister has returned to work after an extended illness.

Clyde G. Hickok of St. Paul, has joined our force as an HMM I.

Harold E. Frederickson and his wife enjoyed a long vacation in the west. The Ray Hanson family vacationed in North Dakota.

Maintenance District 13
OWATONNA

By GLYNN HARDEN

Employees of District 13 and their families enjoyed their annual picnic at Alexander Faribault park at Faribault July 10. The park was an ideal spot for the event, the weather was good and food abundant; and outside of a few cases of sunburn, the day was most pleasant.

James Farmer, formerly stock clerk I, has been promoted to stock clerk II, with James Caswell temporarily acting as stock clerk I.

Best wishes for a speedy recovery go to Mrs. Sam Caswell, wife of one of the district's mechanics, who recently underwent surgery at the Owatonna City hospital.

Cigars were handed out by Don Ruhl, automotive mechanic apprentice, the occasion being the birth of daughter Sharon July 11.

Maintenance District 16
WINDOM

By CAL MILLER

June and July saw many employees taking time off for relaxation, among them were Rosener, Gladhill, Ehn, McFerian and Walt Nelson. Some of these might be pea pickers though, you guess who.

Al Hemme, HMM II at Lu[illegible] passed away July 7.

Max Wilson has been appo[illegible] sectionman at Jackson and wi[illegible] assisted by Merlyn Ennis, from Lakefield. Welcome to the force, Merlyn.

Bert Neumann was at Rochester for a kidney operation and will be away from work for a couple months.

Lawrence Purrington will also be off duty due to severe headaches.

Greiner is catching mosquitoes instead of fish, maybe you need bigger minnows, George.

Patrol By-Ways

By SGT. GEORGE KAISERSATT

A delayed report from the Highway patrol revealed that its No. 1 pistol team placed second in the Master classification [illegible] annual matches of the Mi[illegible] Police and Peace Officer [illegible] ciation, at Rochester. The[illegible] bers: Officers Norm Storvick, Austin; Earl Saign, Brainerd; Ken Strohl, Fairmont; and Don Dahl, Mankato. Team No. 2 placed third in the Sharpshooter class. The members: Capt. Neil Deemer, Rochester; Sgt. Harold Fredeen, St. Paul; and Officers Art Ousley, Wadena, and Dale Roehrich, Wabasha.

Individual winners from the patrol were: Storvick, second in Free-for-All and in Master class grand aggregate: Saign, third in Master class; Strohl, third in Expert class and in Expert class grand aggregate; Captain Deemer, first in Sharpshooter class and first in Sharpshooter class grand aggregate.

Storvick ranked fourth in the entire field of 146 contestants.

MINNESOTA HIGHWAYS

Published by the Minnesota Department of Highways as an official administrative medium of information to correlate the work of its many employees throughout the state and to stimulate courteous and efficient public service in the maintenance, construction, administration and safety of the Trunk Highway System.

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1246 University Avenue, Saint Paul 4, Minn. Phone: MI 6-4688

Pavement Manual Proposed

At the AASHO conference in St. Paul, Dwight Burns, right, plans, surveys, and design engineer in the Minnesota Highway department, presented literature on Minnesota freeways to C. A. Weber, left, chairman of the AASHO Committee on Design, and W. J. Liddle, the committee's permanent secretary.

Preparation of a proposed manual on pavement and base design by the American Association of State Highway Officials was advanced at a regional meeting September 23 and 24 in St. Paul of the association's Committee on Design. The manual, reported to be the first of its kind and including material on the new Interstate highway system, is expected to be published during the coming winter.

More than 150 design engineers from 11 Mississippi Valley states met with the national committee to review two of the manual's final chapters. Presiding were C. A. Weber of the Michigan State Highway department, chairman of ASSHO design committee, and W. J. Liddle of the U. S. Bureau of Public Roads, committee secretary.

The meeting included several addresses and a tour of sections of the proposed Twin Cities freeway routes.

Minnesota Highway department representatives who spoke were Commissioner Zimmerman, extending greetings to the visitors; O. L. Kipp, former chief engineer and now consulting engineer to the department on the Twin Cities are a interstate routes; F. C. Fredrickson, assistant materials and research engineer, and E. C. Carsberg, concrete engineer.

Kipp discussed proposed interchange sites on the Twin Cities freeways and Fredrickson and Carsberg spoke on "Pavement and Base Design Practices in Minnesota."

Dwight Burns, plans, surveys, and design engineer of the Minnesota Highway department, was arrangements chairman.

Similar meetings have been conducted at Old Point Comfort, Va., and Seattle, Wash.

Patrol School To Graduate 59

The 1957 legislature increased the total strength of the Minnesott Highway Patrol from 255 officers and supervisors to 330 men. During the early part of this year a school was held at Camp Ripley and all 45 graduates were placed to fill the expanded ranks of the patrol. This number failed to bring the Highway Patrol to its authorized strength so a second school now in session was started August 26. Students attending are vying for appointment to the existing 48 vacancies. The remainder will be placed on a civil service register to provide a backlog of eligible men for future vacancies.

Present recruits were chosen through civil service procedures and are top selections from over 900 original applicants. Their average age is 28 ond all but seven are married. Some of these still in the single status are already spoken for, however.

The graduates appointed will be assigned to each of the patrol districts in the state. Here they will continue their training "on-the-job," working with experienced officers. At the close of this phase of their training they will be assigned to permanent duty stations. During part of their training in the districts they will ride double with older officers, but will cruise singly when assigned.

These men, highly trained in first aid and three-way radio communication, will be patroling Minnesota trunk highways to help prevent accidents, render needed public services and to move traffic smoothly and efficiently everywhere throughout the state.

Interstate Highways To Have New Signs

Motorists traveling the new 41,000 mile interstate highway network, the National System of Interstate and Defense Highways, should experience little difficulty in identifying the route markers.

The route signs will be big—36 inches across—and brightly hued—red, white, and blue.

The Minnesota Highway department has received approved specifications for the interstate markers from the American Association of State Highway Officials which prepared them with the approval of the U. S. Bureau of Public Roads.

Construction and installation of the uniform route markers and directional signs will be the responsibility of the state highway departments since the interstate highways will be a part of the state highway systems of the states through which they pass.

The department also was notified of the assignment of new numbers for three of Minnesota's interstate routes: Route 35 for the one beginning at Duluth and passing through the Twin Cities and Albert Lea to continue southward to the international boundary at Laredo, Texas; Route 90 for the route transversing southern Minnesota from La Crescent to the Luverne area; and Route 94 for the one crossing Minnesota southeast to northwest, from the Wisconsin border at Hudson, Wis., to Moorhead.

Route 90 extends from Boston, Mass., to Seattle, Wash., and Route 94, from Detroit, Mich., to a junction with Route 90 at Billings, Mont.

New numbers for the other two routes in the state, the north-south Minneapolis freeway and the new Twin Cities belt line, have not yet been determined.

East-west interstate routes will be designated by even numbers and north-south routes by odd numbers. The national numbering pattern is so arranged that no state will have duplicate numbers for interstate and U. S. highways.

The 36-inch shield or nearly heart shaped route markers will be used along interstate routes for route identification.

Similar 24-inch shield signs will be placed on intersecting U. S. or state routes or major city arterial streets to indicate an interchange junction or intersection with an interstate route. Current plans, according to the state highway officials' organization, are for installation of 18-inch "trail blazer" signs to direct traffic in urban areas to the interstate routes.

In addition, the interstate routes will have large guide signs one and two miles in advance of intersecting interstate routes.

The uniform pattern for the route markers provides for white lettering and borders. Across the top will be the word, INTERSTATE, on a red background. On the blue background below will be the name of the state in which the marker is located and large two-digit numerals designating the route number. All three colors will be reflectorized.

Steps are being taken with the U. S. Patents office to prevent use of the marker design by private individuals or commercial interests, A. E. Jo[illegible] executive secretary o[illegible] AASHO, reported.

Designation of interstate [illegible] numbers and plans for posting the signs are in line with the association's statement of purpose and policy for them. Among other things, it provides for designating the routes for maximum continuity between control points and that "Interstate Highway patterns in urban areas be carefully numbered and marked for the convenience of the traveling public."

The new interstate markers and directional signs will be installed as rapidly as sizeable sections of interstate routes are opened for traffic, beginning probably late next year in Minnesota.

Credit Union Shows Strong, Steady Growth

Steady growth of the Credit union, with corresp[illegible] service to Highway depart[illegible] employees, was reflected in the announcement by union officials that its total assets have increased from $82,000 in 1948 to $1,615,000 this year. Membership increased during the past year from 1,817 to 2,191. Another happy increase for the members was the raising of the interest rate on deposits October 1 from 3¼ to 4 per cent, compounded quarterly.

He is a smart husband who buys his wife such delicate china she will not let him dry the dishes.

Every father believes in heredity until his children begin acting like fools.

MINNESOTA HIGHWAYS
Oct, 1957

MINNESOTA HIGHWAYS

VOL. 7, NO. 2 | 1246 University Ave., St. Paul 4, Minn. | DECEMBER, 1957

Steps to Save On Maintenance Are Presented

A dozen steps for reducing roadside maintenance costs without sacrificing maintenance standards were advocated by George Meskal, MHD maintenance engineer, in a paper delivered at the recent annual meeting of the American Association of State Highway Officials in Chicago.

Noting that roadside maintenance expenditures for Minnesota trunk highways have increased 203 per cent in the past 10 years, to a 1956 total of $2,300,000, Meskal warned that expanding highway programs and public demand for increased services will call for additional maintenance expenditures throughout the nation in the years ahead.

A major step urged by Meskal to hold down roadside maintenance costs was the "acceptance and incorporation of soundly designed roadside development practices" into original construction plans, as well as in the maintenance program. Such early planning, he said, also will add to the attractiveness of the highways.

First Years Are Hardest

Noting that the first few years after construction are the period of greatest erosion, slides, washing and silting of ditches and culverts, and other drainage and erosion problems, Meskal said "It is necessary that we avoid special erosion problems by providing proper drainage and erosion control structures, and other facilities during construction."

"Conservation of the existing vegetation," he said, "is a most important item for consideration in grading projects. On some projects, seedlings, shrubs and trees within the construction limits could be salvaged and transplanted to new locations within the right of way limits. All vegetation existing beyond the construction limits should be carefully preserved and protected to provide erosion control, to save on mowing costs, and to serve as

(Continued on page 7)

Greetings of the Season

At this Christmas and New Year season, more than any other, we become filled with the spirit of holiday good will. Our thoughts, with this stimulus, turn to those who are near and dear to us and to those with whom we are associated in our everyday duties. A great desire is born to express to them the best of good wishes.

It is my sincere hope that Christmas will hold for each of you a maximum of happiness and the joy of sharing it with your loved ones.

The year so soon to end has held for all of us many hopes, some joys, some disappointments, and perhaps some sorrows. In the new year, may we not rest upon our past successes or failures, but press forward with the assurance that we will be rewarded with satisfaction and happiness for our efforts in the future.

With sincere wishes for a happy holiday season.

Commissioner

Allotment Steps and Authority Outlined for State Aid Program

By MAC EVANS, State Aid Engineer

The year 1957, which is soon to become history, will long be remembered by the city and county engineers for the many months of added work required to develop the new State Aid system and procedure. This cooperative participation with the State Highway department was an entirely new operation for the city engineers who will receive their first state aid allotments in January. Although long experienced in state aid operations, the county engineers were faced, under provisions of the recently adopted constitutional Amendment No. 2, with a more difficult task of developing data on a much larger system that now includes 787 smaller municipalities.

Data as to the needs on each segment of the approved county and municipal State Aid systems are now being coded and punched on cards that will be fed into the department's electronic computer to determine the amount of state aid that each county and municipality will receive. It is estimated that the 9 per cent municipal share of the total road user tax collections will approximate $7½ million and the counties' 29 per cent will amount to some $24,300,000. Commissioner Zimmerman will make the actual apportionment on or before the second Tuesday in January in accordance with the formulas established by the 1957 Minnesota Legislature.

County allotments will be divided into three accounts including the regular construction and maintenance accounts and a new municipal account for use exclusively within municipalities of less than 5,000 population. On or before January 25, each county will receive an advance 50 per cent of its annual maintenance allotment. Another advance of 40 per cent will be paid in July, with the final 10 per cent retained until the end of the year.

(Continued on page 7)

1957 Contract Awards May Top $34½ Million

During the calendar year, 1957, to date, the Minnesota Highway department awarded highway construction contracts totaling $33,681,877. Of this amount, $22,993,406 was for regular state trunk highways and $10,688,471 for projects in the new Interstate network.

Bids on an estimated $885,000 of additional highway construction, all on regular trunk routes, are to be opened December 20 to complete the year's lettings.

Early awarding of contracts for the December 20 projects would bring the total of contracts awarded in 1957 to greater than $34½ million.

As evidence that needed work on the regular trunk highway system is not being sacrificed in favor of the Interstate network, MHD officials pointed to the fact that the year's total of contracts awarded for regular trunk routes is more than double the total let for Interstate routes.

Success of the Minnesota programs for both regular trunk and Interstate network highways may be measured by the fact that the state is listed among the top 10 states in accomplishment in both areas.

Of the grand total of $33,681,877 of contracts awarded this year, $16,892,598 worth, or 50.2 per cent, are already completed. Of the $22,943,406 of regular trunk highway contracts awarded, $14,236,548, or 61.9 per cent, are completed, and of the $10,688,471 of Interstate contracts, $2,656,050, or 24.8 per cent are completed.

Contracts awarded for the regular trunk highways covered 689.2 miles and 29 bridges. Work completed on the regular trunk highways totaled 182 miles and four bridges, with 25 partially completed.

The Interstate network contracts awarded were for 22½ miles of highways and 15 bridges. Twelve miles are completed, but none of the bridges.

The volume of work contracted in 1957 and to be carried into

(Continued on page 2)

1957 Contract Awards

(Continued from page 1)

1958 for completion, about $16¾ million, plus projects expected to be let in the first quarter of 1958, an estimated $20¾ million, will provide a total of approximately $37½ million of highway construction ready for action at the opening of the construction season.

Of the work scheduled for letting in the first three months of 1958, about $9,700,000 worth is for regular trunk routes and the remainder, about $11,100,000 is for Interstate network routes.

For the regular trunk highways in 1957, the greatest amount of work contracted, in terms of mileage, was for base and bituminous surfacing, 382½ miles, with grading second, at 203½ miles, and concrete paving was last, with 103.2 miles.

For the Interstate network, base and bituminous surfacing again led, with 11.1 miles. Concrete paving was next, with 8.1 miles. Grading contracts totaled 3.3 miles.

Following are tabulations for the two areas of regular trunk and Interstate network highways, according to types of construction and showing total mileages or numbers of bridges, and totals of money contracted for each type, together with the volume, value and percentages of work completed during the year in each type:

Types of Work	Contracts Let, 1957 Miles	Cost	Completed, 1957 Miles	Value	Per Cent Completed
REGULAR TRUNK HIGHWAYS					
Grading	203.5	$ 6,296,924.18	122	$ 3,638,368.11	57.7
Base & bituminous	382.5	6,153,893.52		4,364,464.71	70.9
Concrete paving	103.2	7,495,207.65	60	5,018,014.93	66.9
	No.		No.		
Bridges	29	2,904,508.07	4	201,065.78	
Bridges partially completed			25	1,019,694.97	37.7
Signals and misc.		142,873.00			
Totals		22,993,406.42		14,236,548.45	61.9
INTERSTATE NETWORK					
Grading	3.3	1,186,427.93	2.0	640,162.07	54.0
Base & bituminous	11.1	467,182.53	4.0	65,511.15	14.0
Concrete paving	8.1	1,466,987.18	6.0	1,176,915.65	80.0
	No.		No.		
Bridges	15	7,488,453.08	0		
Bridges partially completed			15	765,518.73	10.2
Miscellaneous		79,420.00		7,942.00	10.0
Totals		10,688,470.72		2,656,049.60	24.8
Grand Totals		$33,681,877.14		$16,892,598.05	50.2

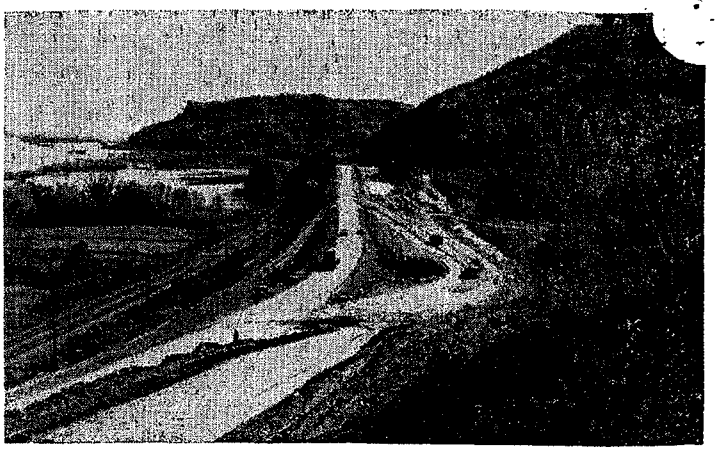
Given BPR Appointment

John A. Swanson, who gained early engineering experience as a draftsman in the Minnesota Highway department from 1931 to 1935, has become the regional engineer for Region 1 of the U. S. Bureau of Public Roads, with headquarters in Albany, N. Y. Region 1 includes the New England states, New York and New Jersey. Swanson, a native of Minnesota and a graduate of the University of Minnesota, was in the bureau's St. Paul division offices from 1935 to 1950, except for special assignments in the Philippines and with the United Nations. For the past two years, he was divisional engineer for Massachusetts.

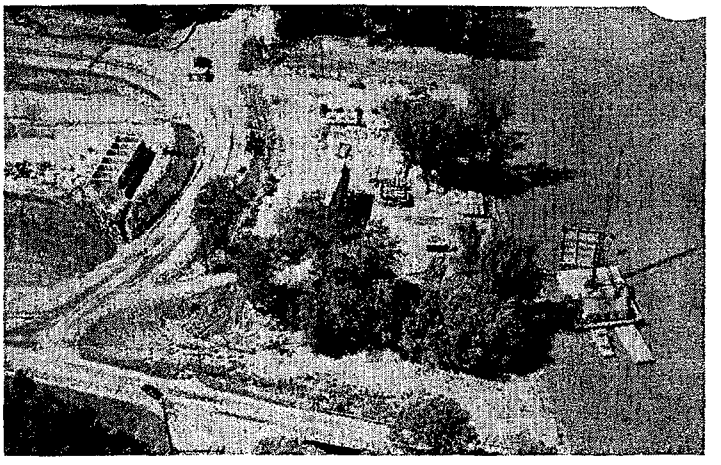
Deegan On State Board

Ray C. Deegan, Blue Earth county engineer, who is a past president of the Minnesota Association of County Engineers, a former project engineer with the Minnesota Highway department and at present is chairman of the sub-committee on inter-governmental relations of the National Association of County Highway Engineers, was recently appointed to the Minnesota Board of Architects, Engineers and Land Surveys for a term ending January 1, 1961. He replaces E. S. Rankin of Brainerd.

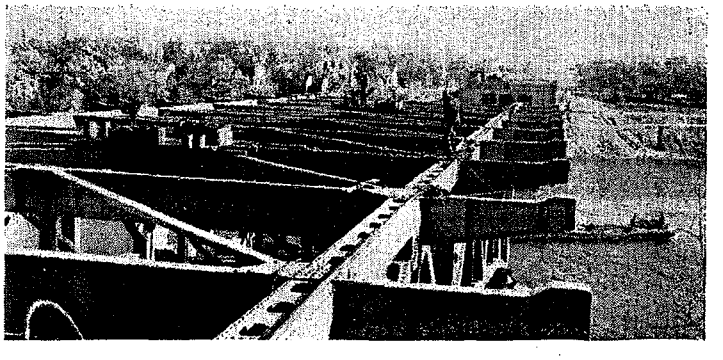
Minnesota Good Roads, Inc., has re-elected Elmer V. Erickson of Cambridge, as president for the ensuing year.



The 1957 construction project shown here, the four-laning of six miles of the T. H. 61 former two-lane road north of Lamoille, is part of a big general improvement program for this important scenic route along the Mississippi from the Twin Cities to La Crescent on the southeastern Minnesota boundary. The two-lane addition, including three bridges, will cost $1,387,000. Hank Kraus is the resident engineer in charge.

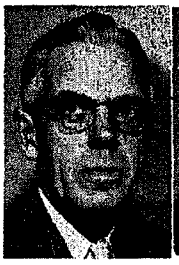


A major 1957 Interstate network project in Minnesota was the start of construction of a $2,857,000 bridge over the Minnesota river south of Minneapolis on Int. Rte. 394 (T. H. 65). The steel and concrete structure, a short distance w the present T. H. 65 23-foot wide turntable bridge, will have two 27-foot roadways and will be 1,386 feet long. On November 30, the new bridge per cent completed. M. A. Loftfield is the project engineer.



This 890-foot steel and concrete bridge, to cost $1,298,000, will span the Mississippi river at St. Cloud on T. H. 23. It will have two 27-foot divided roadways and will replace the present 24-foot wide St. Germaine St. bridge. The new bridge is 70 per cent completed. Erling M. Warner is the project engineer.

Herb Schultz Is New Hiwayan Club Prexy



Schultz

Bovitz

Mazzitello

Harrington

Herb Schultz, state aids accountant in the Finance division, is the Hiwayan club's new president, succeeding Forest Tester, clerk in Traffic and Planning.

Named with Schultz in the club's annual election were: Vince Bovitz of the Public Information division, to be vice president; Betty Harrington, Bridge division, secretary; and John Mazzitello, Maintenance, treasurer.

Herb is a former treasurer and councilman of the Hiwayan club, former president of the Hiway Credit union, and a present member of the executive board of Local 1011, State Employees union.

At the club's annual board meeting, at which the ballots were counted, the board voted to again sponsor a Highway department basketball team in the St. Paul Commercial league.

In recognition of their services during the past year, the club's retiring officers and councilmen were entertained with a luncheon December 11 at the Criterion cafe, St. Paul.

5 Emergency Blood Trips

Within 11 hours on November 30 and December 1, Highway patrol officers made five emergency blood deliveries from the St. Paul Red Cross Blood center, covering 600 miles. Two were to auto accident victims at Buffalo, two to the Kanabec County hospital at Mora, and the fifth to the Chisago City Lakes hospital. St. Paul police transported the blood to the St. Paul city limits.

Importance of New Graduate Engineers Noted

Importance of the newly graduated civil engineer in the Minnesota Highway department's expanding construction program was emphasized in a conference conducted by the department November 27 for 26 recently graduated civil engineers now in its employ. Also attending were 25 of the department's top administrative engineering staff, including engineering division heads and district and assistant district engineers.

Held at the Prom ballroom in St. Paul it was the first Graduate Civil Engineers' conference ever conducted by the department. Commissioner Zimmerman and Kermit Bergstralh, personnel director, were the principal speakers.

Purpose of the all-day assembly was to acquaint the new engineers with the department's policies and organization and the opportunities for varied experience and advancement which it provides. They were welcomed to the conference by Assistant Commissioner A. O. Torgerson.

The afternoon was devoted to a 20 minute interview for each graduate engineer for a personal discussion of his career progress and the department's program for rotation of graduate civil engineers among its varying fields of engineering activity.

Addressing the luncheon session on "The Interstate Highway Program, an Engineering Challenge," Commissioner Zimmerman declared:

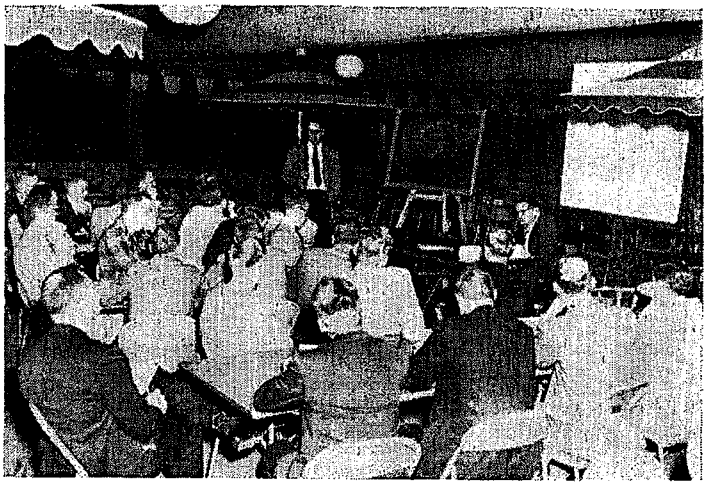
"You are stepping into the greatest engineering age of all time. And you are literally in at the beginning of the greatest road building program ever undertaken by mankind."

He also told the young engineers:

"You are the young men who someday will be the senior prophets of the highway program and sit in the high seats of program management. I am sure that most of us on the executive staff envy you, both for your youth and for your opportunities."

The new interstate highway program and the expanded primary and secondary state highway program which must accompany the interstate development is not just a program of grading, base construction, and surfacing, he said.

"It is a job of creating, of designing, of making dreams come true," he said. "It is a job of building the Roman roads of tomorrow."



Kermit Bergstralh, standing, personnel director of the Highway department, addresses the Graduate Civil Engineers' conference. Lee Nelson, personnel officer, is seated at table.

Turning to specific aspects of the Interstate program, Commissioner Zimmerman pointed out that "It is highly significant that we are entering, for the first time in history, upon an assured and definitely charted 15 or 16-year plan."

In comparison with this long-range program, he said, "The longest commitment on federal aid funds prior to the 1956 Federal Aid Highway act was the three-year program laid out by Congress after the conclusion of World War II."

The Commissioner called attention to the fact that the new joint state-federal program will give Minnesota in excess of $244 million for matched federal aid construction during the three fiscal years of 1957 through 1959.

"Over $122 million of this will be spent," he said, "on a 90 per cent federal-10 per cent state matching basis, on the interstate system routes, alone. An equal amount will be expended on the greatly expanded construction programs for regular federal aid highways — primary, secondary, and urban.

"Dollarwise, this is more construction, for the three-year period, than was accomplished during all the first 20 years of the State Highway system's existence, from 1921 through 1940."

For their conversational or other contacts with the public, Commissioner Zimmerman said he considered it important for them to know that, contrary to the apprehensions of some people, the Highway department's regular construction and maintenance program is not being sacrificed for the interstate program.

"In fact," he pointed out, "The primary, secondary, and urban programs have been increased by several millions of dollars per year over their previously highest levels."

He urged the new employees to keep themselves "broadly and accurately informed concerning the over-all operations of the Highway department," for their own benefit and for greatest possible teamwork in the department.

At the morning session, Bergstralh pointed out that the Highway department's expanding program has and will enlarge its need for administrative engineering personnel and that the department will benefit most by filling such positions with men of comprehensive experience within the department.

In preparation for such appointments, he said, the department seeks to employ at the beginning engineering levels younger engineers with sound training who can become thoroughly acquainted with the department at the same time that they contribute to its advancement.

To best acquaint the engineers with the department's total engineering operation and to gain most from their individual capabilities, the department has organized a procedure by which they may be rotated among the various types of engineering positions, he said.

(Continued on page 4)

First in Area

Vertical Sand Drains Used on 700-Foot Slide

By DICK BRAUN
Soils Research Engineer

A type of highway construction new to Minnesota and its surrounding states is being used on T.H. 394, a new interstate route, south of Minneapolis. The method, called vertical sand drains, is a remedial installation to reduce pore water pressure and increase the shear strength of the foundation soil prior to placing any more fill. Pore water pressure is the excess pressure exerted on the underlying soil by the placement of the fill. This water and consequently pressure was not dissipated because of the non-drainability of the underlying soil.

This new interstate route heading south out of Minneapolis, which lies west of present T.H. 65 (Lyndale Ave.), required considerable grading through Richfield and Bloomington. Trunk Highway 65 now crosses the Minnesota river in south Bloomington on a low draw bridge. In order for T.H. 394 to have sufficient vertical clearance the bridge approach fills required were up to 75 feet high. Prior to commencing embankment construction in November, 1956, all peat was excavated from the fill area. All fill material is sand. A system of settlement plates in the fill and control points surrounding it was installed as work started.

Slide Occurred

The fill across the river bottoms was about 50 feet above the natural ground when a serious slide occurred on June 13, 1957. The slide, north of the river, was about 700 feet long and extended in an arc from centerline west. The maximum displacement was about 12 feet and occurred at the centerline.

A "crash" subsurface investigation was carried out using the Highway department's own forces and some rented equipment. In addition to a series of deep borings to bedrock, over 100 piezometers (pore pressure gauges) were installed to determine existing pressures and indicate any future reduction in pressure. Borings consisted of undisturbed sampling to depths of 160 feet. This was accomplished by the use of a bentonite drilling mud to keep the hole open and only a small amount of casing near the surface. Borings were also taken through the fill with the Buda gravel testing augers to determine the shape of the failure plane below the fill. Some sampling equipment worked 16 hours a day and longer on two shifts.

Although over 1,000 lineal feet of undisturbed sampling was done in the original investigation prior to design, an additional 1,600 lineal feet of more exacting sampling was done in the investigation after failure. Also over 3,000 lineal feet of auger borings were taken. At the time of failure the Materials and Research division was in the process of taking additional samples beneath the fill. It was one of these cased holes which evidenced water pressure to heights 30 feet above the top of the fill that first caused alarm for the condition of the underlying soil.

Tests Were Made

The Highway department laboratory tested all samples. Unconfined compression, direct shear, consolidation and permeability tests were run in addition to the routine physical constants. This investigation showed stable ground to be at a depth much greater than the so-called "false bottom of sand" as originally reported. The cause of sliding was attributed to the non-drainability of the soft silts and clays. The original investigation indicated the condition of this embankment site of such a nature that counterbalances (see diagram) were required for stability. They were included in the original design and construction.

The occurrence of a slide at this time was especially critical since 25 feet of fill was yet to be placed. In addition, a tight construction schedule extending into 1959 has to be met because the north bridge abutment will rest on this completed fill. Stabilization of this abutment area will have to be assured before any bridge work will be attempted.

Upon completion of the field investigation and laboratory testing, stability analyses were made using as a guide the calculated shear strengths of the soil at the time of the slide. It was obvious from these calculations that the strength of the underlying soil had to be increased before any more fill could be placed. To help stabilize the embankment area the counterbalances were widened. It was realized, however, that the excess pore pressure in the soil directly below the fill would also have to be relieved.

After consultation with the Bureau of Public Roads' experts in Washington and the consulting firm of Howard, Needles, Tammen and Bergendoff of Kansas City, it was decided to install a system of vertical sand drains in six main rows with the drains on 30 foot centers. Rows are to be 50 feet and 125 feet left and right of centerline with a row transversely across the toe of the main fill and possibly one at 240 feet left of centerline. These drains consist of holes 18 inches in diameter extending down into the clay layer and backfilled with clean, free draining sand.

It was decided not to penetrate the granular aquifer which is under pressure. The pressure in this aquifer is equal to a column of water to elevation 735. Many of the local wells extend down into this stratum. Localized pressures in the silty clay loam between the fill and the aquifer equalled elevation 770. Some of these excessively high pressures have since dissipated.

Each drain consists of a vertical column of sand which allows the water to move laterally to the drain, up the drain, into the granular fill, and out of the embankment area thereby increasing consolidation. As an added safety measure the north end of the bridge was reduced in height allowing a reduction in the final fill height of about 12 feet.

Contract Is Let

Plans and specifications were drawn up by the department and the contract was let on October 25, 1957. Low bidder was Luhr Bros. Inc., of Columbia, Ill. The contractor chose to use a method called "Reverse Rotary Drilling" which utilizes water to remove the cuttings from the hole and does not require casing.

Prospective bidders indicated that several other methods of advancing the hole were being considered. Four of the possibilities were rotary drilling, reverse rotary, driving an open end casing and cleaning it out, and driving a closed mandrel. Each method has its advantages from the contractor's viewpoint. They also vary considerably in smearing and densification of the side of the hole. The last two methods listed above are self-explanatory. Rotary drilling utilizes a cutting head with drill rods extending from the head to the transfer case on the machine. The flow of water is from the slush pit to the pump, through the drill rod to the bit, and up the sides of the hole carrying the cuttings to the pit. This method is used by the contractor to 14 piezometers.

Reverse Rotary drilling [illegible] is being used on all sand drain installations on this project has the flow of water in exactly the opposite direction. Water flows by gravity from the pit down the hole and is brought to the surface with the cuttings through the center drill stem. This method is especially suited to large diameter holes since the return velocity is greatest and the cuttings are more easily transport-

See pictures →

ed. This method is often used to install relief wells on the back side of earth dams to prevent a "quick" soil condition.

All piezometers in which the water elevation was at or above the ground line froze when cold weather began. Methods were devised to displace the wat[illegible] and add kerosene in ord[illegible] have an accurate record of pressure through the winter [illegible] contractor, too, had to compl[illegible]ly winterize his operations. Since about 20,000 gallons of water per hole is needed it is obvious that winterizing is a major problem with him.

Since the Highway department's inspectors had no previous experience with this type of construction, it was necessary to devise methods of assuring the desired results. A device was improvised to check the diameter of the hole prior to backfilling with the washed sand. This "gadget", was named "Sputnik." It is lowered on a cable to the bottom of the hole to assure a full diameter for its entire depth. Comments included the statement that the Highway department is sending its "Sputnik" down while everyone else is sending theirs up.

The contract was about 65 [illegible]cent completed by Janua[illegible] The installation is expec[illegible] make it possible to open th[illegible]tion of Minnesota's freeway schedule.

17 C. S. Exams Scheduled

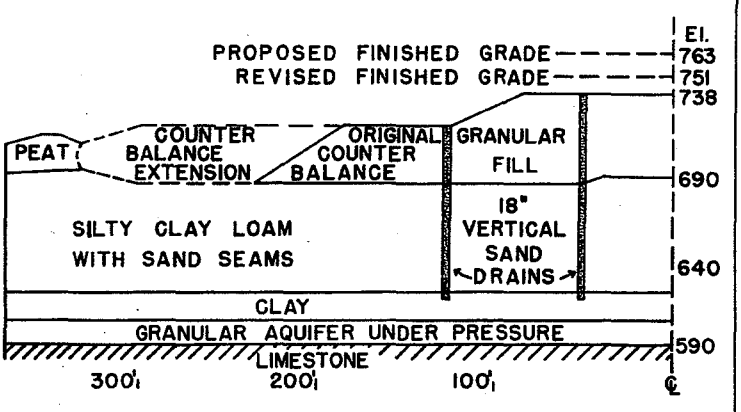
Civil service examinations scheduled for January 18 and 25 include 17 for positions related to the Highway department. They are:

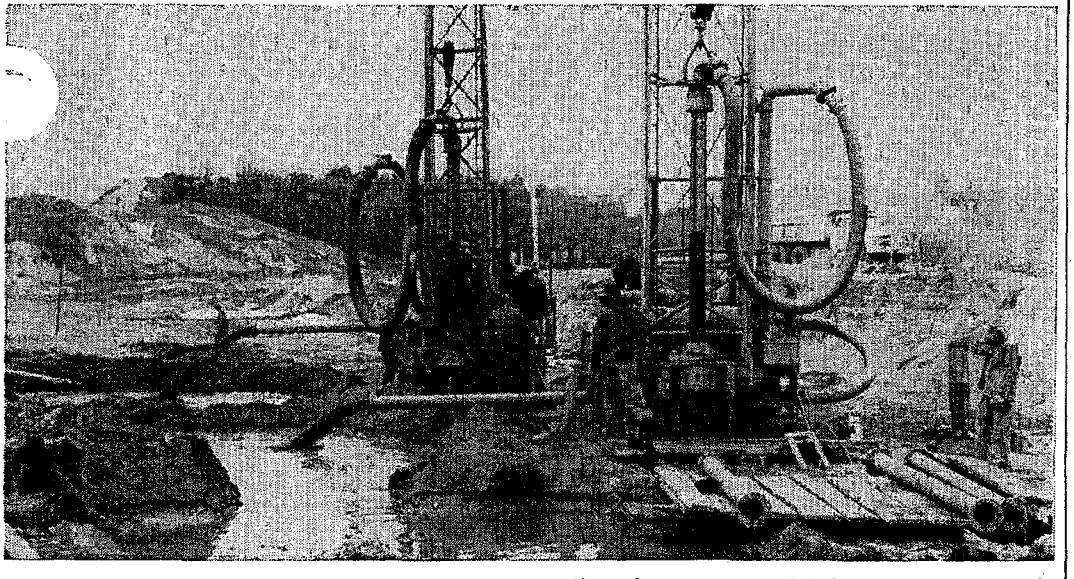
January 18 — (Performance) Clerk stenographer III and Engineering Aide I. (EA exam at 1094 University Ave. St. Paul.)

January 25—(Written) Bookkeeping Machine Clerk I, II; Carpenter, Chemist Aide, Civil Service Technician I, Clerk I, Clerk Stenographer I, Clerk Typist I, Cook I, II; Groundsman I, Mason, Painter, and Research Analyst, I, II.

This view, looking south, of the slide which occurred at the Minnesota river bridge approach on Interstate Route 394 in Bloomington shows the main failure plane in the background, with some of the "companion" cracking in the foreground.

Here is a typical cross section from the slide area showing the existing earth formations, grade levels, counter balances required for stability and drain locations, with the various elevations above sea level.





Shown here are two sand drain rigs in operation in the slide area. A cutting head is attached at the bottom of each of the suspended shafts.

Department Offers ICS Study Courses

A new educational opportunity has been introduced by the Training division in conjunction with the International Correspondence schools (ICS) to help Highway department employees prepare for their future with the Highway department. This new program consists of home study through correspondence lessons, geared toward the sub-professional employee who wishes to further his education in the fields of highway and civil engineering.

Courses are to be selected by each individual student. He may proceed at his own rate of speed, dependent upon his background, ability, and the amount of time he has available for study. Standard courses are available in Highway Engineering and Civil Engineering as well as some specialized courses such as Principles of Surveying and Principles of Mapping.

The department will participate in tuition costs for selected, qualified students at approximately 50 per cent. A reimbursement policy has also been worked out applicable to employees who are currently studying under ICS on an individual contract.

Any employee in good standing may apply for this program. Eligibility standards which will be determined on an individual basis include the following: (1) Applicant plans to make a career of the Highway Department; (2) He is capable of handling the course selected. Applicants will be interviewed by a project director from the Training division.

Full information and application blanks are available from division and district headquarters and resident and project engineers. Any further inquiries should be directed to: ICS Project Director, Personnel Office, Minnesota Highway Department, 1246 University Ave., St. Paul 4, Minn.

Darrell Foster of Fairmont, assistant county highway engineer in Martin county, has been appointed highway engineer of Swift county, at Benson. Effective February 1, he will succeed Stan Rasmussen who then will become an assistant district engineer for the Minnesota Highway department's Mankato district.

MINNESOTA HIGHWAYS

VOL. 7, NO. 5 | 1246 University Ave., St. Paul 4, Minn. | MARCH, 1958

State Highways Cost $1 Billion

From its inception in 1921 to the present, Minnesota's state highway system represents a total investment of more than one billion, 233 million dollars.

Of that sizeable expenditure, ... than one-billion, 50 million ... s was spent for actual high- ... construction and mainte- ...ice. Only about $183 million went for other expenses, including equipment, administration, and such public services as the Highway patrol and the Drivers License division.

These facts, as reported by Commissioner Zimmerman, were gleaned from a compilation of Highway department financial reports prepared by the department's Finance division.

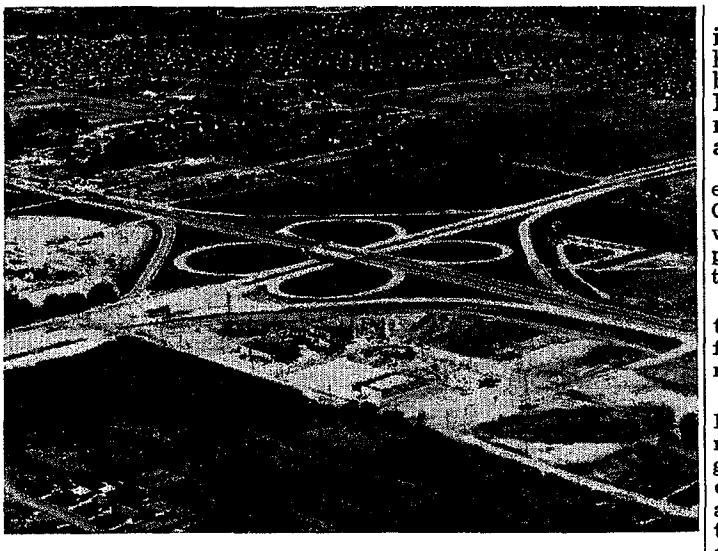
Expansion Speeds Up

The huge sum required for development and maintenance of the state's extensive highway system was obtained principally from highway user funds—motor vehicle and gasoline tax revenues—and federal highway aid.

Construction figures alone show the great increase of Highway department activities. In the 20 years from 1921 through 1940, ...tly more than $234 million ...ent on building the system, ... in the 17 years from 1941 ...gh last December 31, more than $495 million was spent. The state now is in the early stages of building its $728 million sys-

(Continued on page 6)

Present Network Building Totals $18 Million



Pace setter for major highway interchanges in Minnesota's budding Interstate network links is this bridge and cloverleaf carrying Interstate route 393 (T.H. 100) over Interstate route 394 (T. H. 65). Construction is largely completed except for surfacing, landscaping, and the like.

Moving rapidly to advance its new interstate network highways from drawing board to freeways in use, Minnesota has nearly $18 million of network routes actually under construction.

This total includes only projects contracted under the 1956 Congressional act for the network, not projects undertaken previously on routes absorbed into the network.

Here is a brief summary of interstate network construction so far under construction in Minnesota:

On Interstate Route 390 (Duluth-Albert Lea)—for eight miles northward from Owatonna, grading and concrete paving completed, paralleling T. H. 65, and six bridges nearing completion. Bituminous surfacing of shoulders and ramps to be completed this year. Total cost: approximately $3 million.

On I. R. 394 (by-pass route through Minneapolis for I. R. 390)—eight miles of grading and 10 grade separation bridges southward from Fifty-fourth St. in Minneapolis, across Richfield and Bloomington and continuing south of the Minnesota river to Jct. T. H. 13, paralleling T. H. 65; plus about three miles of frontage roads on I. R. 393 (Twin Cities circumferential) south of Minneapolis. Total cost: approximately $3,900,000. A separate item in the above stretch of work on I. R. 394 is the bridge to carry the highway over the Minnesota river, to cost $2,800,000.

On I. R. 393—a $4½ million bridge over the Mississippi river between South St. Paul and Newport, $430,000 of approach grading east of the bridge, and a nearby $300,000 bridge over the Chicago, Great Western railroad, for a total of $5,230,000.

On I. R. 391 (east-west route across southern Minnesota)—two miles of grading around north edge of Austin, at $572,000, and six vehicular bridges and one pedestrian bridge, at a total of approximately $1,243,000, giving

(Continued on page 6)

Future Bridge Inspectors Train at Dunwoody Industrial Institute

See picture, page 2

Design and construction of some 1,200 bridges on Minnesota interstate and trunk highways in the next 13 years is one of the problems confronting the Minnesota Highway department as an important part of its expanding program. A sub-problem is finding enough inspectors to check the progress of the construction of the many bridges.

The department has moved to meet at least partially the question of enough bridge inspectors. At Dunwoody Industrial institute in Minneapolis, 36 engineering employees of the department are now two-thirds through a six-week concentrated course of training to become qualified bridge inspectors.

It is being conducted for the Highway department by Dunwoody institute. John C. Hansen, head of Dunwoody's building construction and highway departments, is coordinator for the institute, with Herbert Bergstrom, bridge construction engineer, as coordinator for the Highway department. The instructors are William C. Merritt, and Keith V. Benthin, bridge project engineers from the Highway department.

Classes meet from 11:15 a.m. to 6:00 p.m., with study periods and field trips scheduled for the early mornings. Costs of operating the school are borne by the Highway department, with the students receiving their regular pay during the school term. The students are providing their own drafting tools and paying for their textbooks. All students successfully completing the course will receive graduation certificates.

Hiwayans Enjoy Valentine Party

Under the aegis of the State Aid division and with the careful planning of Mack Evans, state aid engineer, 200 Hiwayans enjoyed a merry evening at the Hiwayan club's Valentine party February 11 in the Prom ballroom's Arizona room. Social dancing, an entertainment program, and refreshments were the features.

Entertainment of superior quality was presented by the Dominic club of St. Paul. The Dominic troupe included as one of its vocal soloists Gene Zappa, a member of the Highway patrol. An added entertainment attraction was a tango danced by Louie Hoffman of the State Aid division, and Mrs. Hoffman.

The door prize, a picnic freezer, was won by Bob Blanck of Plans. Serving as master and mistress of ceremonies were Herb Schultz, Hiwayan club president, and Joan Widerski, secretary in the State Aid division. Evans was arrangements chairman.

The State Aid division sponsored the party under a new plan by which each of the club's 1958 social events is to be sponsored and arranged by one of the Highway department's divisions or special units.

Charley Woodbeck, Project Engineer, Dies at Mora

Following a short illness, Charley Woodbeck, 65, a veteran engineer in the Plans division, died February 23 at Mora where he had been stationed in recent years as a project engineer. Entering the Highway department in 1921 as a rodman, he advanced through a variety of surveying and engineering assignments and levels. For two years beginning in 1937, he transferred to the maintenance division, where he served as district maintenance engineer at Marshall. He retired from the department in December, 1952, but returned three years later.

Present Network Building

(Continued from page 1)

the present Austin work a total of about $1,815,000.

On I. R. 390—grading between Jessamine and Sherwood Aves., and a bridge on Maryland Ave. Total cost: $612,000. On I. R. 393, $200,000 bridge carrying Lexington Ave. over 393, and $217,000 bridge carrying Rice St. over 393, both in St. Paul.

State Highway Costs

(Continued from page 1)

tem of Interstate freeways over the next 15 to 20 years, but the federal government will pay for 90 per cent of this.

Another indication of modernization of the system is the growth of the Highway patrol, which was started in 1929 with an expenditure of $13,450. By last year, it had grown to an annual expense item of $1,829,586. But during the year the patrol brought an income of $882,677 in fines collected.

Revenue from Licenses

Another revenue - producing unit is the Drivers License division, which has cost $5,414,319 since it was organized as a separate unit. License fees charged by the division have brought in $4,944,715.

Principal income from the time the Highway department was organized through last June has included $492,304,862 from state motor vehicle licenses, $453,447,464 from the department's two-thirds share of the state gasoline tax and $200,740,633 in federal aid.

Last July 1 new laws changed the method of income so that all vehicle taxes and all gasoline taxes now go into the Highway Users fund, of which 62 per cent goes to the Highway department, 29 per cent to the counties and nine per cent to municipalities of 5,000 or more population. Under this system, Highway department income for the last six months of 1957 was $21,972,316 from the Highway Users fund plus $15,900,000 in federal aid.

Under the Highway Users fund formula of distribution, the Highway department will lose about $16 million annually in income.

K. B. Rykken Named to Head New Unit in AAA

Kermit B. Rykken, former employee of the Highway department, has been appointed to head a new highway and legislative department at American Automobile association headquarters, in Washington, D. C. Before he joined the AAA staff in Washington, in 1950, Rykken was with the Highway department for 17 years, his last assignment with the department being as director of the Statewide Planning survey.

Social tact: Making your company feel at home even if you wish they were.

Bridge Men Receive Safety Awards

Harry Sieben, right, state highway safety director, is seen presenting safe driving awards at a meeting February 21 at the Golden Valley district headquarters of bridge maintenance workers from the southern half of Minnesota. L to R.: Ge Flynn, bridge maintenance project engineer, meeting chairman; Ed. Hansen, Ed and Olaf Nelson, members of bridge maintenance crew No. 2; Damion Hillseth man of crew No. 4; Harold Langanki, crew 5 foreman; Dalton Langanki, cre 5 member; and Herbert O. Nelson, crew No. 2 member.

This was the first safety meeting conducted especially for bridge maintenance workers, with 16 awards presented. Speakers were Walter Nitardy, assistant bridge engineer; John Daly, state Labor and Industry department; Sam Fisher, Maintenance District 9 signman; and Charles Ross and Charles Getchell, Highway department Safety division.

St. Cloud Is Picked for First Statewide Highway Pin Tourney

The St. Cloud Granite Bowl lanes have been selected as the site for the first state-wide Highway Department bowling tournament on Saturday, April 19. An entry fee of only $5 will cover all bowling expenses for the day and evening, plus a buffet lunch after the last pin has fallen in the evening competition.

The day's activities will start at 1 p.m., with the men and women competing in their doubles and singles contests. Each bowler will roll three games in the doubles event and three in the singles. Succeeding shifts will follow at 3 p.m. and at 5 p.m.

Following time out for dinner, all bowlers will return to the firing line for a Scotch mixed doubles, consisting of four games. The women will roll the first ball in each frame of the first and third games, with the men having to pick up the spares — or splits. The procedure will be reversed for the second and fourth games.

This will be followed by the buffet lunch, at which time prizes will be awarded champions in the men's and women's singles and doubles events and to the Scotch champions, as well as to other winners.

This will be a handicap tournament, with the women to receive two-thirds of a pin for the difference between their averages and 175 scratch; the men's scratch will be 198, also with a two-third pin handicap. There will be no limit on handicap.

Entry blanks and posters are being sent to all district and maintenance district offices. Entries must be received not later than April 10. On the basis of present arrangements, the tournament will be limited to the first 48 men and 48 women who submit entries, but this can be extended.

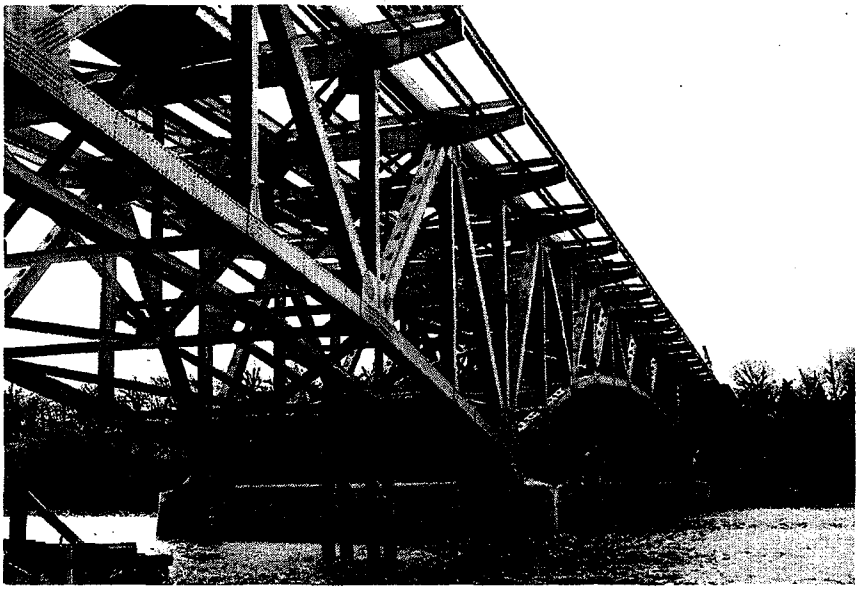
Entries are open to all Department employees and their w husbands, girl friends and friends. Applications must b companied by an entry fee o for each person and should be sent to Vince Bovitz, Highway Department Bowling Tournament, 1246 University Ave., St. Paul 4. Each entrant will be notified when he or she is to bowl.

Each bowler's highest league average, as of March 1, must be used in determining handicap. Bowlers not having league averages must use 120 for women and 150 for men.

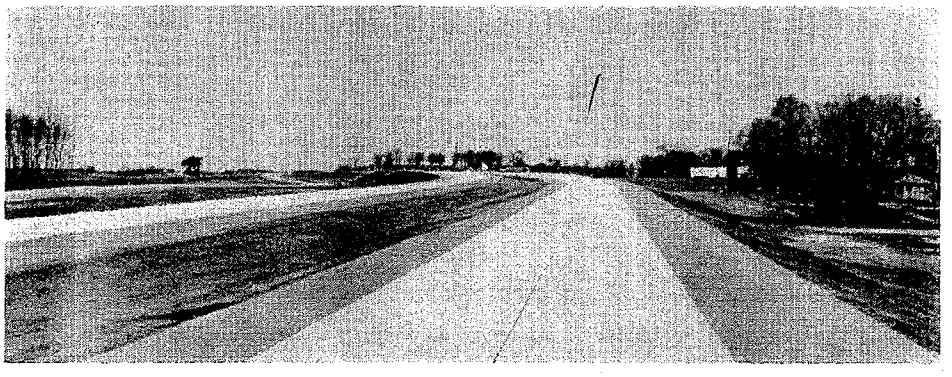
New St. Cloud Engineer

William Ridge, Anoka city engineer, is scheduled to become city engineer and superintendent of public works at St. Cloud on April 1.

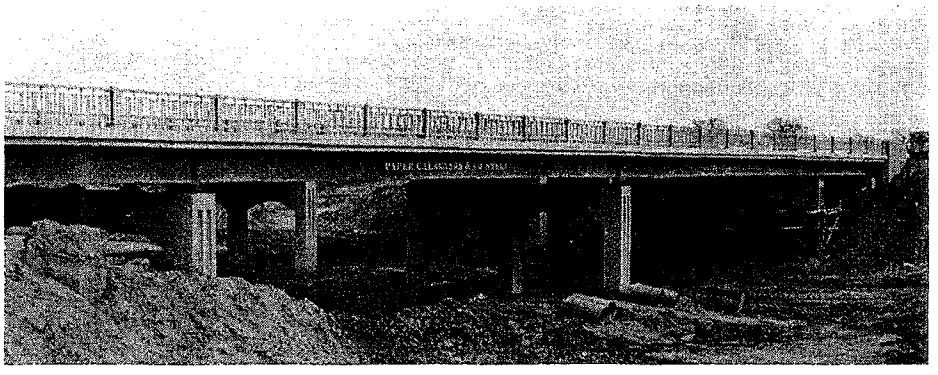
Four projects typical of trunk highway construction activity this year in Minnesota.



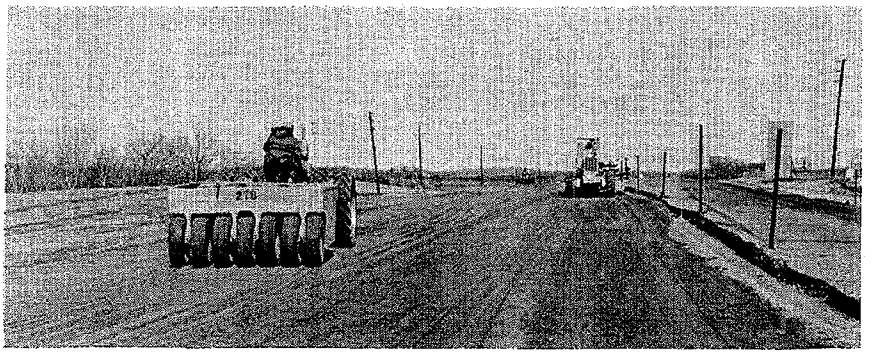
Bold against the sky is the steel work for the 890-foot-long, four-lane bridge which will carry T.H. 23 over the Mississippi river at St. Cloud. The highway extends diagonally across Minnesota from Duluth to Manley in the state's southwest corner.



This newly completed stretch of four-lane divided concrete highway on Interstate Route 35-1 (formerly 390), near Owatonna, is part of a freeway being built to interstate standards from Minneapolis south to the Iowa border. The Owatonna area project will be the first interstate network link to be completed in Minnesota.



Located in Roseville, north of St. Paul, this bridge is to be part of a cloverleaf interchange between T. Hs. 36 and 51. Trunk Highway 51, running on Snelling Ave., carries a heavy volume of traffic into the St. Paul midway.



Trunk Highway 10, carrying heavy east-west traffic across central Minnesota, is being widened to four lanes, divided, between points 1½ miles west of Hawley and 5½ miles east of Detroit Lakes. Trucks comprise one-fourth the traffic volume in that area. Work under way is the compaction of the grade.

Centennial Highway Highlights

From Ox Carts to Freeways

Not where Minnesota's cities now flourish and paved highways criss-cross bounteous farmlands, but in its furthest forest clad northeast corner, north of Lake Superior - - - that's where Minnesota's first road construction occurred.

The first record of a constructed road within the present boundaries of the state is of one built from Grand Portage bay to Fort Charlotte on the Pigeon river. It was built sometime before 1816, apparently not by Americans but by British soldiers.

The wilderness area of its location remains today much as it was then, celebrated now as an unspoiled recreation area.

This truly pioneer road building and other interesting and significant events in Minnesota's early road and highway development are brought to mind by the statehood centennial celebration this year with its historical observances in so many communities whose founding and development were contingent to a large measure upon the grouth of the state's primary and secondary road systems.

"Vehicular" transportation had not waited upon the building of that first road by the British soldiers, or the building of any other road.

Ox Carts Were Pathfinders

By 1789, only a few years after the American Revolution, trails of the Red river ox carts coming down from Hudson's bay and Ft. Garry (Winnipeg) in Canada. had extended to Lake Traverse on Minnesota's present western boundary.

By 1823, the squeaking and squealing of the ox carts' two wooden wheels and axles were heard the length of trails between Mendota and the Red River valley. Two trails followed the Minnesota river to Lake Traverse and the Bois de Sioux to the Red river. One trail followed the west side of the Red river to the Bois de Sioux, the Otter Tail and Sauk rivers and the east side of the Mississippi to St. Paul.

Another trail ran from Pembina , on the North Dakota side of the Red, via Thief River Falls and Elbow Lake to the Sauk. Still another followed the Red river to the crossing of the Wild Rice , then along Detroit and Otter Tail lakes and the Leaf and Crow Wing rivers, and the east bank of the Mississippi. A winter route went via Gull, Leech and Red lakes.

Not constructed roads, they were routes of least resistance, compacted by hoofs and wheels, crossing rivers by fords.

Following the establishment of Ft. Snelling in 1819, soldiers built roads to Lake Calhoun and the Falls of St. Anthony.

Wisconsin Laws Copied

A year after the territory of Wisconsin was organized in 1836 there was added to it the district west of the St. Croix river and north of the Mississippi, now a part of Minnesota. A road was built from Taylors Falls to Ft. Snelling and one from St. Paul to Stillwater.

The latter, continuing over a road on the present Wisconsin side of the St. Croix to Galena, Ill,, was the only road connecting the capital with the outside world when Minnesota was organized as a territory in 1849.

Because the Wisconsin territorial road laws held force in the St. Croix valley until establishment of Minnesota territory, the Wisconsin laws became the foundation for Minnesota's road laws, which provided for opening of roads by petition of freeholders. These laws also required road supervisors to see to it that all males 21 to 50 years old worked on the roads three days per year.

The supervisors also were to collect the road taxes, then limited to one-half of one per cent of the value of real estate.

In the brief territorial period, road building became a matter of prime importance to bring new settlers into the area and to promote trade.

With federal grants totaling $467,000 from 1849 to 1858, the date of statehood, roads were built from Wabasha to Mendota, from Mendota to St. Peter and Mankato, St. Anthony to Ft. Ridgley, Point Douglas to Superior, St. Paul to Crow Wing, Long Praie, Leech lake and Red lake; and from Leech and Red lakes to the White Earth Indian agency.

The territorial legislature enacted a law regulating laying out of territorial roads by special commissioners, the roads to be surveyed and marked and to be 66 feet wide and permanent.

More Roads - - More People

This territorial preoccupation with road building is explained by the census figures of the period, only 6,077 population in the territory in 1850, grown to 172,023 by 1860.

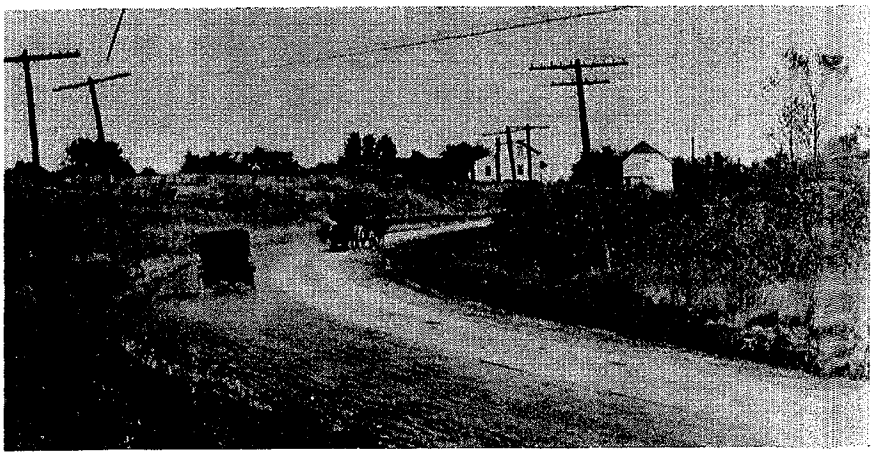
Then, with statehood, a boomerang that missed its target but dealt the highways a blow of nearly a half century duration.

To protect the state's financial resources against possible "state aid" grabs by the expanding railroads, the framers of the constitution inserted therein a clause prohibiting the state ever to contract "any debts for works of internal improvement, or be a party in carrying out such works. . . ."

That failed of its intended purpose

(Continued on page 8)

All-wooden ox carts carrying supplies from St. Paul to the Red River valley and furs on the return trip were pathfinders for Minnesota's highways.



The old Tannery road at Red Wing was one of Minnesota's earliest paved highways. Even then we had with us the in-a-hurry driver who insisted on passing on a curve.

You Name It and You Can Have It

The May Mystery Location picture, showing T. H. 12 in the east environs of Willmar, was so easy we have tried for a toughy for this issue. Alert MHD veterans should be able, however, to identify the above scene of a good many years ago on a principal Minnesota trunk highway. That pavement was just nine feet wide. What a spot for a collision!

The first half-dozen MHD employees to send in a correct WRITTEN identification (Trunk highway and fairly close location thereon) will receive 8 x 10 enlargements of the photo. Include your name, position, and mailing address and send your answer to Minnesota Highways, 1246 University Ave., St. Paul 4. ONLY WRITTEN ANSWERS CONSIDERED.

Early winners for May included Oscar Alm, Tr. & Pl.; Tom Carter, Willmar Maintenance district; Ike Sotendal, Mat. & Equip.; C. B. Bolter, L. & R./W.

Ball Team Wins Three Of First Four Games

Away to a good start, the Highway department softball team won three of its first four games, defeating Waldorf Paper, 12-9; Haldeman Homme, 14-7; and American Linen, 13-1. The Hiwayans lost to St. Paul Dispatch, 4-5; June 9.

Final games in the schedule, all to be on Mondays at 6:30 p.m. on McMurray field, St. Paul, include: June 30, Waldorf Paper; July 7, Dispatch; and July 14, Courteaus.

Everyone is invited to watch the games.

Highway History

(Continued from page 3)

with the railroads, but it effectively barred state participation in road building until the constitution finally was amended.

The 1890's saw a revival of interest in road building with the first statewide good roads convention conducted in 1893 at St. Paul, and the first Good Roads day at the state fair in 1894.

Roads were needed by the farmers for marketing, for the new rural free delivery of mail, by bicyclists, by merchants seeking to extend their trade territories.

State participation in road building was authorized in a constitutional amendment in 1898, but the necessary legislation to put it into effect was not forthcoming until 1905.

Roads Were for Business

By now the automobile was on the scene and the first motor vehicle regulatory legislation, requirement for registration of motor vehicles by the state boiler inspectors, except those which were municipally licensed, was passed in 1903. State registration of all motor vehicles in the state began in 1909. But roads to the nearest creamery or railroad station were still more in demand than for Sunday drivers.

The auto came into its own as a spark-plug for road building from 1911 to 1921.

Meanwhile, a state highway commission, was established in 1906 with George W. Cooley as secretary and state engineer, and abolished in 1917 in favor of a single commissioner of highways, with Charles M. Babcock as the first single commissioner. A federal aid highway law was passed, with a federal aid system of 6,200 miles established in Minnesota.

Then the Babcock Plan

Now came the famous Babcock plan, the establishment by constitutional amendment of a trunk highway system, adopted by the voters in 1920, implemented by legislative action in 1921 with 6,800 miles in the initial system. This has grown to 11,800 at present.

The state entered road building directly in 1921 after the many years in which the main responsibility rested with first the townships and then the counties. The state Highway department was reorganized for its new responsibility.

With establishment of the trunk highway system and its extension and maintenance, has followed a succession of highway events too numerous and too well known to more than enumerate here.

Total registration of motor vehicles, for instance, has grown in the 36 years since the Babcock amendment from 332,652 in 1921 to 1,496,675 in 1957.

A gasoline tax amendment was adopted in 1924 to provide highway funds, the amount rising from an original two cents per gallon to a present 5 cents.

United States routes in the state were first numbered in 1926. . . . .In 1928, the total of registered motor vehicles was 679,590. more than double the 1921 total and reflected in greatly increasing traffic. . . . .A county aid system was established and the State Highway patrol instituted in 1929. . . . .Firmly fixed policy by this time was that highways be kept open the year around.

Driver Licensing Began

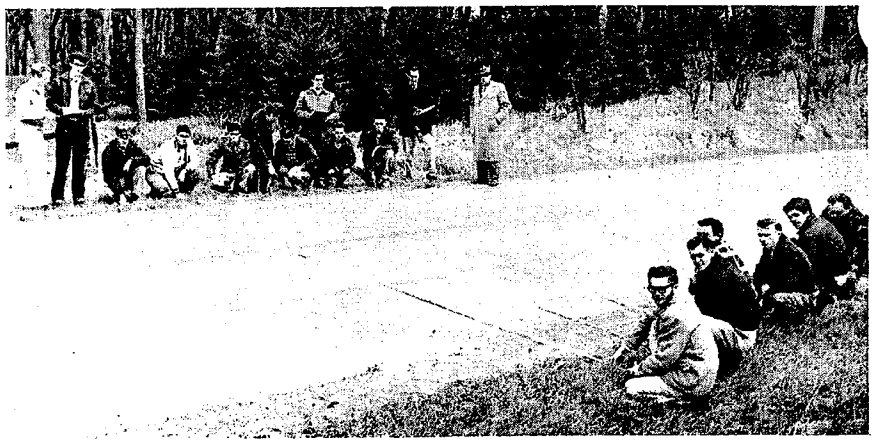
In 1933, N. W. Elsberg succeeded Commissioner Babcock. . . . .The driver's license law was passed that year. . . . .

In 1935, $8 million of bonds were issued to meet new federal aid requirements. . . . .M. J. Hoffmann became state highway commissioner in 1939. . . . .In 1947, a legislative interim commission launched a comprehensive study of road laws, road needs, and finances, and the requirement began for examination of all new applicants for driver's licenses. . . . .L. P. Zimmerman became highway commissioner in April, 1957.

The 1956 Congressional act for the National System of Interstate and Defense Highways launched an approximately 13 year program for the construction of 41,000 miles of high standard, access controlled highways in the nation, of which approximately 900 miles are to be built in Minnesota.

As with its first constructed road, military defense has an important part in Minnesota's newest type of highway, in addition to its importance in the growing peacetime traffic.

Practice for Road Inventory Class



Field crews in the Highway department's recent Road Inventory class were instructed in roadway and surface type measurements. L to R: Dick Schultz, Tom Martin, Frank Robinson, Bruce Falz, Ray Peterson, Warren Gerber, Don Paulson, Don Stark, Dick Jobes, Ed Wilander, Bill Ebert, H. E. Swanson, instructor, Tom Straw, Ron Dietz, John Tubbesing, Lowell Benson, Bruce Libby, and Holly Grinager.

MINNESOTA HIGHWAYS

VOL. 7, NO. 9 | Minnesota Department of Highways, St. Paul | JULY, 1958

First Interstate Link Will Be Opened Aug. 21

By DON LARSON
Resident Engineer

The official opening of an 8.3 mile portion of the Interstate route north of Owatonna, (Route 390) August 21 will mark the beginning of a new era of highway construction in Minnesota. This will be the first portion completed of 888 miles scheduled to be built in Minnesota within approximately 13 years.

This is the first major roadway in Minnesota with fully controlled access. There are no grade crossings or any cross traffic facilities other than overhead grade separations. Traffic can only enter at specifically controlled access points and will merge with the existing traffic. The controlled access has posed problems never before encountered in right of way negotiations. Some property owners will now have to travel several miles just to get to their property on the other side of the highway. To completely control the access physically it will require that the entire roadway be fenced and it is anticipated that the fencing contract will be awarded in the near future.

Construction Cost $3,100,000

The construction cost alone for this project amounted to over $3,100,000. Breaking this down: The grading, box culverts, and gravel contract amounted to over $1,100,000; the paving and bituminous shoulders amounted to over $1,500,000; and the six bridges amounted to over $490,000.

In order to cope with the large scale operations conducted on this project it was necessary to use a much larger staff of inspectors and it was necessary to place a senior inspector in charge of the entire group to coordinate the various inspection duties with the contractors' operations. It became necessary to use four field parties for survey work and this work also was coordinated by the senior instrumentman.

It was necessary to train a group of density inspectors to properly classify the various types of soils in order to use the corresponding Proctor test for density evaluation. Our density inspectors took over 1,900 density tests and the gradation inspectors took over 1,200 gradation tests. It was necessary to use 20 Proctor curves in order to completely classify all the variances in soils on the project although the area was predominately in the clay-loam ranges. Various types of compacting equipment were used and it was a conclusion that the 60-inch dual-drum sheepsfoot roller could readily get 100 per cent or more of Proctor density in these soils without too much difficulty.

It was also concluded that design shrinkage factors should vary proportionately with the size of the cut areas encountered, with the highest shrinkage factors applying to the very light "scratch" balances and the smallest shrinkage factor applied to the large, heavy balances.

Densities were taken of the clay-loam material in its natural state approximately 30 feet below ground in one of the cuts and it was found that it averaged 104 lbs. per cubic foot. The Proctor test for this material was 108.6 lbs. per cubic foot. A majority of this material was specified to be compacted to 95 per cent Proctor or 103.2 lbs. This would indicate that this portion of the material should not have been designed with a high shrinkage factor as it actually indicates a swell.

395-foot Right of Way

The wide construction area consisting of two main roadways and two service roadways on most of the project with a basic right of way width of 395 feet brought about a problem of where to put the survey construction stakes. The roadways were not individually balanced so all roadways had to be constructed at the same time. It was agreeable with the contractor to put the stakes near the right of way line in the heavy excavation areas and to supplement them with early shoulder blue-tops. This made it difficult for the contractor's grade men to get the rough grading very close using hand-levels as has been common practice. The contractor finally began using a dumpy level and had a greater measure of success.

Wide areas such as were encountered in this type of construction points to the need for contractors to staff their own organizations with a small field party. This could eliminate much rehandling of materials due to miscellaneous errors incurred in using hand operated instruments not intended for use in this range.

Six Figure Quantities

Of special interest in this type of construction is the magnitude of all items: Close to two million yards of earth were moved; one of the largest box culverts ever to be built in the state had to be constructed over Crane Creek (C11-14-11 x 14T) containing over 1,500 cubic yards of concrete; and over 590,000 tons of gravel were used on the roadways. The paving portion which consisted of two parellel 24 foot wide slabs uniformly 9 inches thick was completed in nearly record time with the contractor placing nearly 235,000 square yards of pavement between August 5 and October 8, 1957. On a good paving day the contractor was using five to six railroad cars of cement, 20 to 25 cars of rock, and 700 to 800 tons of sand.

An indication of part of the expenses incurred by the contractor to process a job of this type can be given as follows: The grading contractor had equipment valued at over $1,500,000 on the project at one time; he also used over 102,000 gallons of gasoline, 238,000 gallons of diesel fuel, and 7,400 gallons of motor oil. Also the paving contractor's payroll would run between $14,000 and $16,000 weekly.

This, of course, indicates the boost given to a local community's economics as it is estimated that 500 persons were given a direct measure of employment during the construction. Although all were not local citizens, they all resided in Minnesota.

Cover Picture

Photographed from the air while under construction, this diamond traffic interchange is on Interstate Route 390, just north of Owatonna. The eight-mile project of which it is a part will be the first interstate road project to be completed in Minnesota. The interchange carries 390 over the road connecting Owatonna and the Owatonna airport. (See article about the project on this page.)

Gala Program Set for Road Opening

The official opening of Minnesota's first completed road construction project in the Interstate highway network will be fittingly celebrated Thursday, August 21. The project is the 8.3-mile stretch of four-lane divided highway extending northward from Owatonna. The new highway, Interstate Route 390, generally follows T.H. 65.

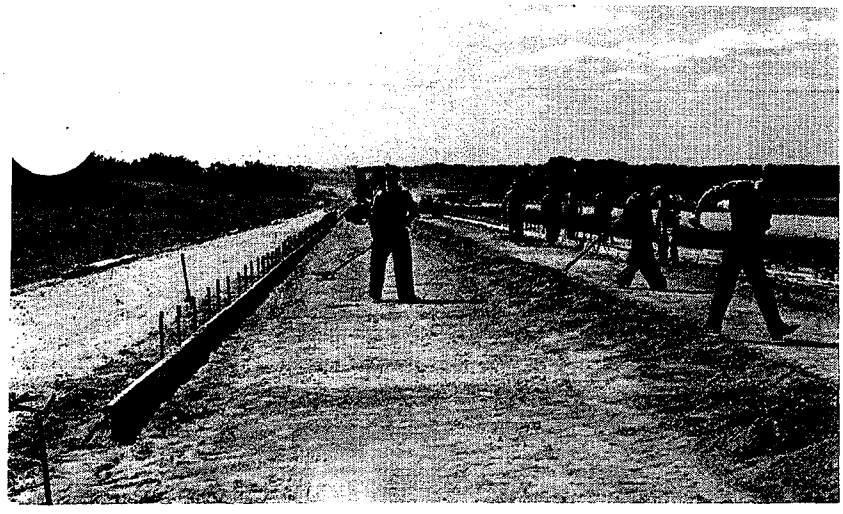
The Owatonna Chamber of Commerc is arranging a gala official openir ceremony to start at 2:30 p.m. and tc take place at the diamond interchange just north of the city. (See cover photo.) Paul Mathews is general arrangements chairman.

Plans call for participation in the highway history making event by Governor Freeman, Highway Commissioner Zimmerman and other state highway officials, and representatives of local governmental units and civic organizations.

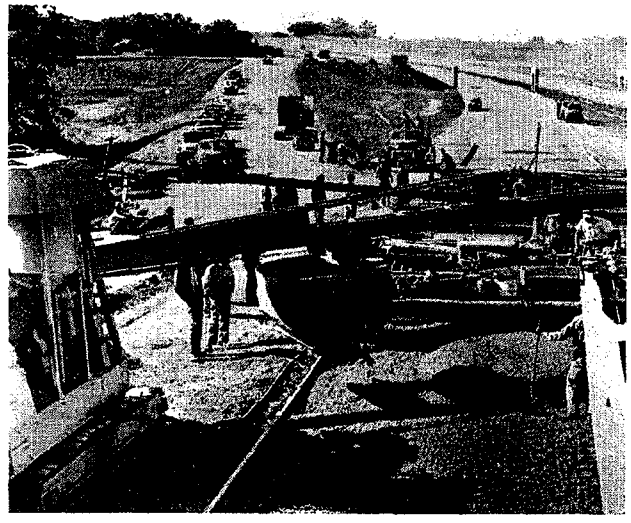
A luncheon for the official party and community representatives is planned to take place in Owatonna just preceding the ceremony opening the newly constructed eight miles for traffic.

Don Larson has been in charge of the I. R. 390 construction near Owatonna, first as project engineer and more recently as a resident engineer.

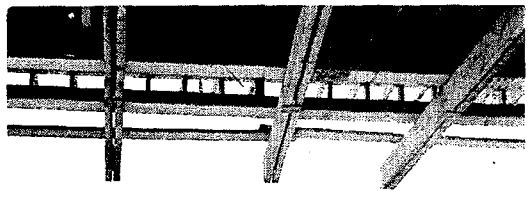
Construction on Network Project

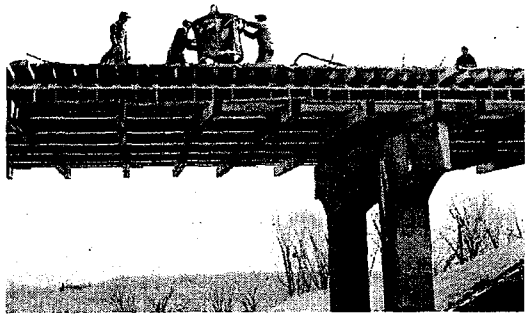


Placing of side forms and leveling of the subgrade to specifications were typical early steps in construction on the I. R. 390 project.

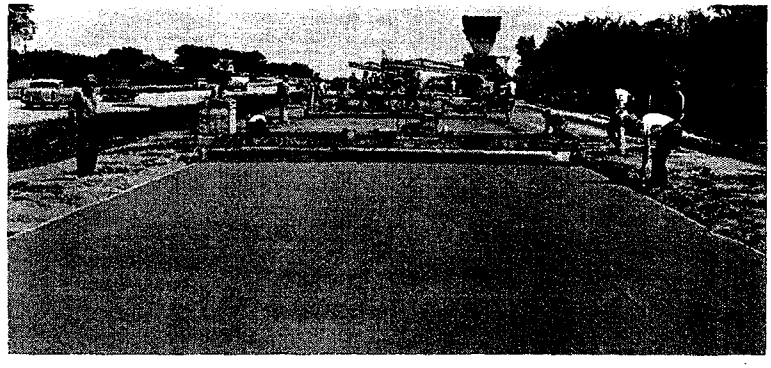


Big machine for big job! Laying of concrete moved at a fast clip as the hopper poured it from the big boom, just ahead of the leveling screed. Visible in the foreground is the checkerboard of steel mesh reinforcement. Concrete thickness: Nine inches, uniform.





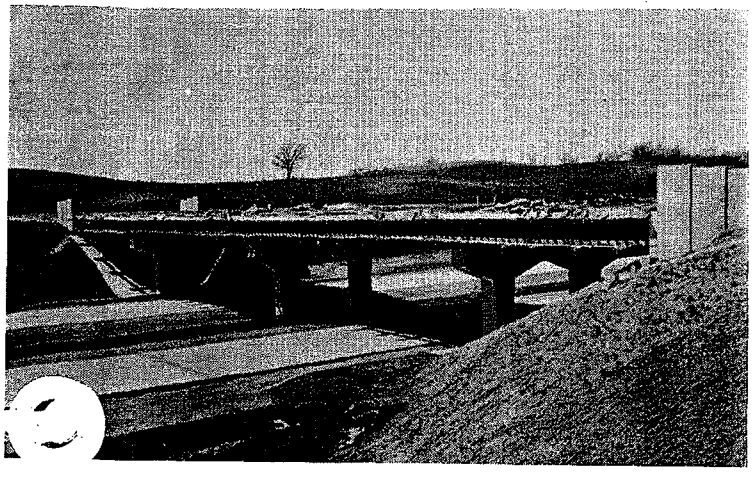
Concrete for the deck of this bridge at Clinton Falls was delivered to its pouring position by a crane standing on a completed section. At top is companion bridge for traffic in the opposite direction.

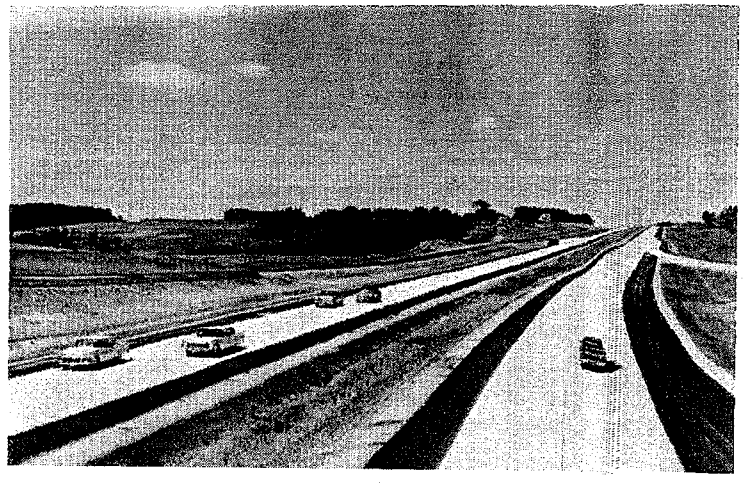


The screeds leveling the concrete were suspended between wheels traveling along the side forms, close behind the mixer.

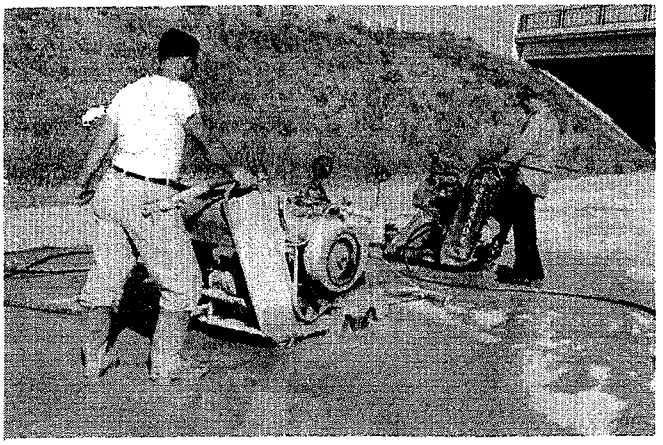
The eight-mile stretch of highway includes several grade separation bridges such as this one, shown as it neared completion, with I. R. 390 passing under the intersecting highway.

The two 24-foot north and southbound roadways shown above are separate at this point by an approximately 40-foot depressed median strip, and hav 10-foot outside and six-foot inside shoulders --- important in traffic safet The shoulders have a two-inch bituminous surface. The median strip wi have a grass cover. T. H. 65 is at the extreme left.





New Interstate Paving Begun



* * * * *

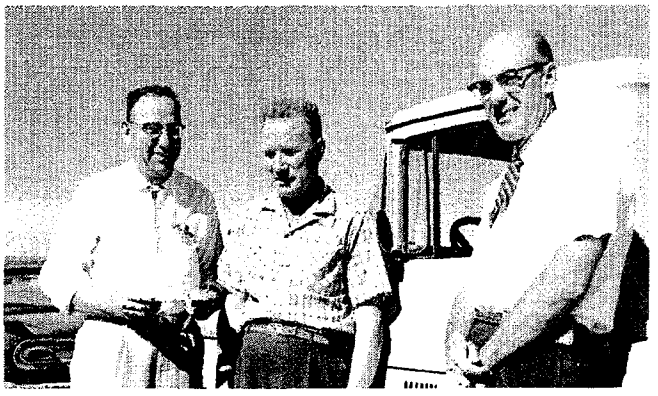
Diamond tipped, motorized saws are used in cutting joints in the hardening concrete on I. R. 35 in Bloomington. The saws shown were in action immediately south of the Ninety-fourth St. grade separation.

* * * * *

* * * * *

Three men with major responsibility for the I. R. 35 paving project are, L to R, Ed Carsberg, department concrete engineer; Ring Beito, project engineer in charge, and Warren Woodridge of the Woodridge Construction Co. the prime contractor.

* * * * *



First Interstate network paving operation in the Twin Cities area is well under way on a 6.3-mile project on Interstate Route 35. The $1,654,592 job for a four-lane divided highway extends from Fifty-sixth St. in Minneapolis, through Richfield to One Hundred sixth St. in Bloomington. The north 1.3 miles, Fifty-sixth to Sixty-sixth Sts., runs along T. H. 65 (Lyndale Ave. S.) The remaining distance veers slightly to the west and then southward toward the Minnesota river, paralleling T. H. 65. The prime contractor is the Woodrich Construction Co., Hopkins. The project, which includes minor grading, gravel base, plant mixed bituminous surfacing of frontage roads and approaches, and concrete paving, was begun in August and is scheduled for completion by next July 11.

Federal Aid Boost

The extent to which the United States will increase its federal aid to highways in the next few years was described by Bertram D. Tallamy, federal highway administrator, in an Associated Press dispatch from Washington, D. C. The increased aid is expected to speed recovery from the business recession at the same time that it accelerates highway improvements throughout the nation.

Tallamy said spending on road construction and improvements will approach $6¼ billion this year, compared with slightly under $5¾ billion in 1957.

An even sharper increase, to more than $7 billion, is expected next year, with highway outlays of more than $8 billion forecast by 1962.

Federal aid will pay for about 29 per cent of this year's projects, and for about 40 per cent next year. The federal aid is then expected to increase gradually until it is stabilized at about 42 per cent.

The spurt in federal contributions, the AP reported, will stem from acceleration of work on the 41,000-mile Interstate highway network on which the federal government will pay 90 per cent of the cost.

LEGION APPOINTMENTS

Newly installed as commander of of Highway Post, American Legion, for the 1958-59 year, Ed Heinen of Construction, has appointed the following:

Chic Boelter of Lands and Right of Way, as adjutant; Pat Patterson, Construction, chaplain; and Walt Haefemeyer and Ted Keeler, both of Road Design, Americanism and child welfare chairmen, respectively.

HOUSECLEANING TIME

It is now approximately two months before the start of moving personnel and their equipment into the new Highway department headquarters building on the capitol mall. The transfer period will be from November 21 to December 13, on Fridays, Saturdays and Sundays.

Packing, labeling, unpacking and installing will be quite a job. The task will be considerably lightened for the folks who, well before their moving date, thoroughly houseclean their desks, cupboards and filing cabinets of obsolete and otherwise useless items.

Just for Laughs

Modern Version

Early to bed and early to rise - - -
And your girl goes out with other guys.

* * * *

Sad Situation

Judging by widespread accounts of juvenile delinquency, the reason some parents spare the rod is because Junior is probably carrying one.

* * * *

The Good Old Days

The teacher was telling her second graders about a famous American.

"When he was your age," she said, "he lived in a little cabin in the country, and every day he had to walk six miles to the schoolhouse."

Came a shout from a tot in the back of the room. "Crazy kid kept missing the bus, huh?"

* * * *

Bored is what people drink to overcome being --- then they wind up being stiff as a ---.

* * * *

Be Yourself

Two ducks walking; one says to the other, "Oh, quit trying to walk like a woman wearing slacks."

* * * *

Before The Storm

"Congratulations, my boy. You will always look upon this as the happiest day of your life."

"But I'm not getting married until tomorrow."

"Yes, I know."

* * * *

Plain Stupid

Anyone who thinks marriage is a 50-50 proposition either doesn't understand women or fractions.

* * * *

What Next?

Small boy explaining a broken window to policeman: "I was cleaning my slingshot and it went off."

* * * *

New Excuse

"I'm really not late, boss," said the tardy secretary, hanging up her hat. "I just took my coffee break before coming in."

Bridge Unit Changed

Transfer of the Bridge Maintenance section from the Bridge division to the Maintenance Central Office division, was announced by Commissioner Zimmerman. All Bridge Maintenance positions, personnel, and equipment were included, with George Flynn, Sr., continuing as bridge maintenance supervisor.

The building structural design unit, handling construction and remodeling of Highway department buildings, was moved several months ago from the Bridge Maintenance section to the Maintenance division's Plant and Equipment section.

Recent Retirements

Arthur A. Christianson, Erskine, HMM II, Maint. Dist. 5 .... C. L. Hendricks, St. Paul, Hwy. Tech. II, Construction Field 9.

MINNESOTA HIGHWAYS
Sep 1958

Ceremony at Owatonna

Formal opening of the first completed Minnesota link in the Interstate highway network was climaxed by the cutting with a four-foot pair of steel shears of a ribbon decorated with red, white and blue roses. L to R: Deputy State Highway Commissioner Frank Marzitelli, State Treasurer Val Bjornson, Highway Commissioner Zimmerman, Congressman Eugene McCarthy of St. Paul, Dan C. Gainey of Owatonna, master of ceremonies, (partially hidden); Governor Freeman, State Representative John A. Hartle, Owatonna; Ira E. Taylor of Kansas City, Mo., assistant regional engineer of the Bureau of Public Roads; Mayor Glen Myers of Owatonna; and State Senator Harold S. Nelson of Owatonna, (behind the mayor).

Members of the Highway department who were on-the-site workers for Minnesota's first completed link in the Interstate highway system: L to R --- Front row, G. W. Johnson, R. C. Wandrey, M. L. McGowan, Tom Fowler, M. G. Johnson, and D. L. R. Kohnert; second row, I. B. Anderson, A. L. Sotebeer, I. L. Anderson, Don Larson, resident engineer; E. N. Erickson, R. K. Kenow, A. R. Baud, and E. J. Reyer; third row, G. E. Cain, T. H, Duerre, J. M. Larson, J. E. Mracek, H. J. Haglund, and C. M. Sommerstad. All except Don Larson are highway technicians.

I. R. 35
Link Opened

Formal opening August 21 at Owatonna of Minnesota's first completed link in the Interstate highway network was hailed by Governor Freeman and Commissioner Zimmerman as the start of a new era in the state's highway facilities.

They were the principal speakers at the dedication ceremonies for the 8.3 miles of four-lane divided highway extending northward from Owatonna to a mile inside Rice county, along T.H. 65.

The governor said the new freeway will influence the people's thinking and have far reaching social and economic consequences. He saw the road as opening Minnesota recreational facilities to more tourists, envisioned a striking effect on industrial development and predicted creation of new industries and commercial centers to serve the interstate traveler.

To Be State Pattern

Commissioner Zimmerman declared that "The tremendous amount of work which will follow on the Interstate highways in our state will use the pattern established here in the construction of this first section which we are dedicating today."

"In every sense of the word." he said, "this is a highway for the future."

After stressing the importance of the Owatonna project, the commissioner gave credit to the people concerned in its planning and construction in the following words:

"Uncounted hours of labor and devotion to duty have gone into what we see here today. Few of us realize how hard others have worked that this project may be completed and made available for the use of motorists.

"I think it is only fitting that we salute these workers, both employees of the Department of Highways and the employees of the several contractors, who did such an excellent job in translating plans into this finished highway and beautiful structures. This is truly a monument to their labors."

The commissioner said he called the Interstate link a highway for the future because it was designed and constructed "so that it will serve for many years to come." He said no effort had been spared "to make this not only a beautiful highway, but also the safest that human ingenuity can devise."

BPR Praises MHD

At a civic luncheon in Owatonna which preceded the dedication ceremony, Ira E. Taylor of Kansas City, assistant regional engineer for the Bureau of Public Roads, said Minnesota is "particularly fortunate to be served by one of the outstanding highway departments in the nation."

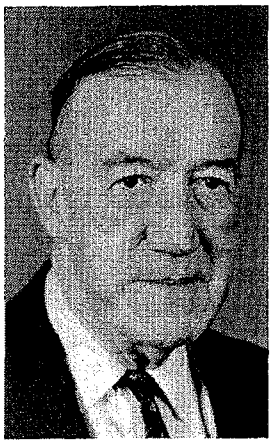
He said the MHD's advice and council "has always been most helpful to the Bureau of Public Roads and has been sought by many of the other states in the development of modern practices in the field of highway administration and design."

More than 100 persons, including state officials, state legislators and civic leaders attended the luncheon, presided over by Charles E. Cashman, Owatonna attorney. More than 200 persons were at the dedication ceremony, where Daniel C. Gainey, president of the Josten Manufacturing Co., Owatonna, was master of ceremonies. Paul Mathews, Jr., was chairman of the dedication committee.

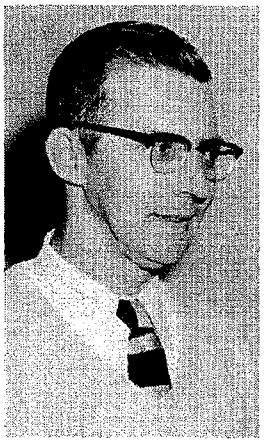
MINNESOTA HIGHWAYS

VOL. 8, NO. 5 | Minnesota Department of Highways, St. Paul | MARCH, 1959

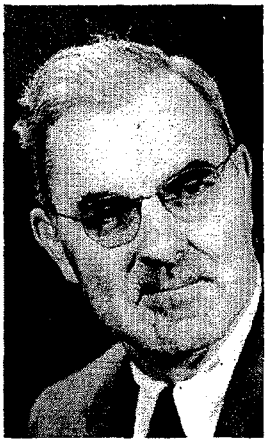
Highway People Win Six Awards



George E. Flynn



Pat Chandler



Guy Chilson

Better map folding, protection of the interior appearance of the new State Highway building, and safety promotion—for employees and the public — are the subjects of six new State Employee Suggestion awards made to MHD personnel.

The awards:

To Dale M. Peterson, highway technician in the Rochester district headquarters, $50 and a certificate on his proposal for a device to be used in folding large maps into the 8½ x 11-inch folder size. The device is intended to speed and improve neatness of the folding, with less experience required for the work.

To Guy Chilson, file clerk in the Construction division headquarters, $10 and a certificate for his proposal to install rails or buffer strips to protect walls above the mail conveyor counters located on each floor of the new building. The rails are intended to keep the metal framed conveyor baskets from scuffing or gouging the walls when the baskets are moved about on the counters. The conveyor system moves documents and office supplies from floor to floor on an endless belt, picking up and discharging the baskets by electric controls.

To George E. Flynn, bridge maintenance engineer, a certificate for a proposed safety slogan design usable as a highway sign, in shops and offices, and on mobile equipment. The design consists of an outline map of Minnesota with the slogan, "Be Careful Today," inscribed within the state's border line. The design is adaptable for use in stencils and decals of any size, and in printed matter.

Harry Sieben, state highway safety director, has announced that Be Careful Today signs are to be placed on the dashboards of all Highway department trucks, cars, graders and other vehicles, on all machine tools in shops and laboratories, and as posters in shops and offices. He suggested that the slogan, framed with the outline of the state map, is particularly suitable for use in all departments of the state government.

To Pat Chandler, project engineer in the Metropolitan district, $25 and a certificate for a simple safety tunic to be worn by highway flagmen, and by surveyors working along established traffic routes. As suggested by Chandler, the tunic would consist of front and back panels of red or orange cloth, having a head opening and snaps or ties to fasten it around the body. Flagmen now generally are protected by white Sam Browne belts, in addition to their flags, and surveyors are protected by warning signs marking their working areas.

To Lawrence W. Purrington, auto mechanic at the Windom Maintenance district headquarters, two awards. One was $10 and a certificate for a uniform design for warning poles on maintenance trucks. It includes a permanent hinged mounting on the unit body permitting inclination to a horizontal position and a 30-inch copper tubing for upper section, permitting bending for low clearance doorways, tree branches, etc.

Purrington's second award was $15 and a certificate for a proposal for a shop-made hood to be attached to rotary sand spreaders used in spreading sand from trucks onto the highway. Through an opening in the movable hood, sand may be spread in any given direction instead of in full circle, as with the open spinners. The hood is intended to provide increased efficiency and economy through the greater control of distribution.

COVER PICTURE
Bloomington Bridge

Scheduled for completion by July 1 is the 1,387-foot steel deck girder, four-lane divided bridge (at right) over the Minnesota river on Interstate Route 35W, at the south edge of Bloomington. Steel work and riveting was completed early this month and work on concrete forms was to get under way immediately. The bridge, begun in mid-1957, will have two 27-foot roadways and clear low water level of 55 feet to permit passage of cargo vessels. The view is southward.

The construction contract is for $2,857,683, with the Industrial Construction Co. of Minneapolis, as builder. Because the bridge is on an interstate route, federal funds will pay 90 per cent of the cost.

To the left of the new structure is the 39-year old, 791-foot lift span bridge now serving T. H. 65 (Lyndale Ave. S.). Since T.H. 65 will be moved to I. R. 35W through this section, the old bridge will be wrecked after completion of the new one.

Route 35W runs from Duluth to Laredo, Texas, with alternate legs through Minneapolis and St. Paul, 35W being the Minneapolis leg.

Suggestion Work Wins Plaudits

Generous praise has gone to five MHD employees for four years of extensive and successful service to the State Employees Suggestion Award program. The five have completed their period of official duty in the continuing recognition program.

Governor Freeman and Commissioner Zimmerman tossed verbal bouquets to Ing Morehouse, director of the department's Data Coordinating division. Ing, in turn, expressed appreciation of their good services to Hi Damsgard, Metropolitan district office manager; L. J. Koalska, St. Paul Park maintenance district foreman; Mrs. Connie Koch, clerk steno in Drivers License; and Count Ilstrup, consultant design engineer in Road Design.

Morehouse served four years as a member of the state Merit Award board, including two as board secretary, and he was the first chairman (for two years) of the Highway department's Suggestion Award committee.

The other four all have served four years as members of the MHD Suggestion Award committee, with Damsgard being the chairman the past two years.

Appointment for Pearson

Morehouse has been succeeded as Merit Award board secretary by Carl Vorlander, research and planning director of the Department of Administration. Governor Freeman also has announced the appointment of Ken Pearson, MHD assistant maintenance engineer, as a member of the five-man Merit Award board, Robert Whitaker, deputy state public examiner, is the chairman.

No appointments have been made for a new Suggestion Award committee in the Highway department.

Established by the 1955 State Legislature at the instigation of Governor Freeman and the Department of Administration the Merit Award board decides the granting of suggestion awards and administers the program. The MHD Suggestion Awards committee receives and evaluates suggestions from Highway employees, submitting them, with appropriate recommendations, to the Merit Award board. Evaluations obtained from qualified MHD officials and employees are used in formulating the recommendations.

Legion Sets New Record

Hiway post of the American Legion has passed a 200 membership total for 1959, thereby exceeding by more than 30 its assigned quota of 170 members for the year. The figure was 201 on March 1. The highest previous year's total was 201.

Help for Motorists

Freeway Motorists Services Are Planned

Construction of interstate and state trunk freeways for "non-stop" travel is posing a serious problem--- that of providing needed services for the motoring public.

On these faster, limited access highways, how will motorists obtain roadside emergency repair service? How can the location and accessibility of gas stations, restaurants and lodging be planned to benefit both the traveler and the commercial interests catering to his needs? How can these private enterprises advertise their services without marring the scenery?

Where can the driver stop safely and conveniently to obtain highway information or make telephone calls? What first aid and ambulance service will be quickly available?

For the best answer to these questions, foresight will be much more efficient and less expensive than hindsight!

With its increased emphasis on planning ahead of need, the Minnesota Highway department has acted to solve the freeway motorist's service problems on a statewide uniform and equitable basis.

As the first step, nearly a year ago, the MHD through its Roadside Development division, enlisted and organized the aid of well qualified civic and business leaders, safety and health agencies, and state, county and local officials, as well as authorities within the Highway department.

Committee Formed

A Minnesota Motorist Services committee of 62 members was formed to develop statewide policies, guides, and standards for such services. The chairman is John H. Mullen, executive secretary of Minnesota Good Roads, Inc., and former MHD chief engineer. Hugh Craig, executive secretary of the Minnesota State Automobile association, is vice chairman and Harold Olson, MHD roadside development engineer, is executive secretary.

The committee has three subcommittees for study in as many major fields of motorist services.. Heading the planning and zoning subcommittee are Guy Kelnhofer of the state Department of Business Development, and Ralph Keyes, of the State Association of County Commissioners, as chairman and vice chairman. The emergency services and communications subcommittee is headed by Earl Larimer, safety director of the Arrow Insurance Co., and former chief of the Minnesota Highway patrol, and Keith W. Vogt, Minnesota Telephone association. Heading the personal services subcommittee are Fred Haverland of the Minnesota Motel association, and V. B. Edwards of the Pure Oil Co.

The other members of the committee bring to its deliberations years of experience in other fields serving the highway traveler--- restaurants, public garages, hotels, street lighting, ambulance firms, advertising agencies, chambers of commerce, county, municipal and private engineers, building contractors, architects, food retailers, safety organizations, the U. S. Bureau of Public Roads, resort owners, peace officers, trucking firms, fire departments, and the state Departments of Business Development, Education, Health, and Highways.

In many instances, the members are designated representatives of state associations in their respective business and professional fields.

To Study Land Use

The Planning and Zoning subcommittee has been directed to study land use on frontage roads and on roads intersecting interstate routes and major trunk highways, for the most advantageous use of such land.

The subcommittee will study the possibility of steps for zoning land along approach roads to bar unsafe, unsightly, and otherwise unsuitable installations.

This subcommittee also is to seek to determine easy methods for traffic to get on and off the interstate and trunk highways without disrupting local land use and values.

The subcommittee on Emergency Services and Communications is charged with setting up suitable procedures for providing automotive repairs and services for the benefit of distressed motorists and the quickest removal of their vehicles as traffic hazards.

Planning for ambulance service and fire protection on the highway is another responsibility of this group. It also is to make recommendations on various types of communication such as wayside telephones, advance notice signs for rest areas and information centers, and the use of "send help" flags by motorists with breakdowns, flat tires or other emergencies.

The Personal Services subcommittee is to study the location and construction of comfort services and rest areas, with proper maintenance, and the placing of signs to direct travelers to food and lodging off the highways.

Information Centers Planned

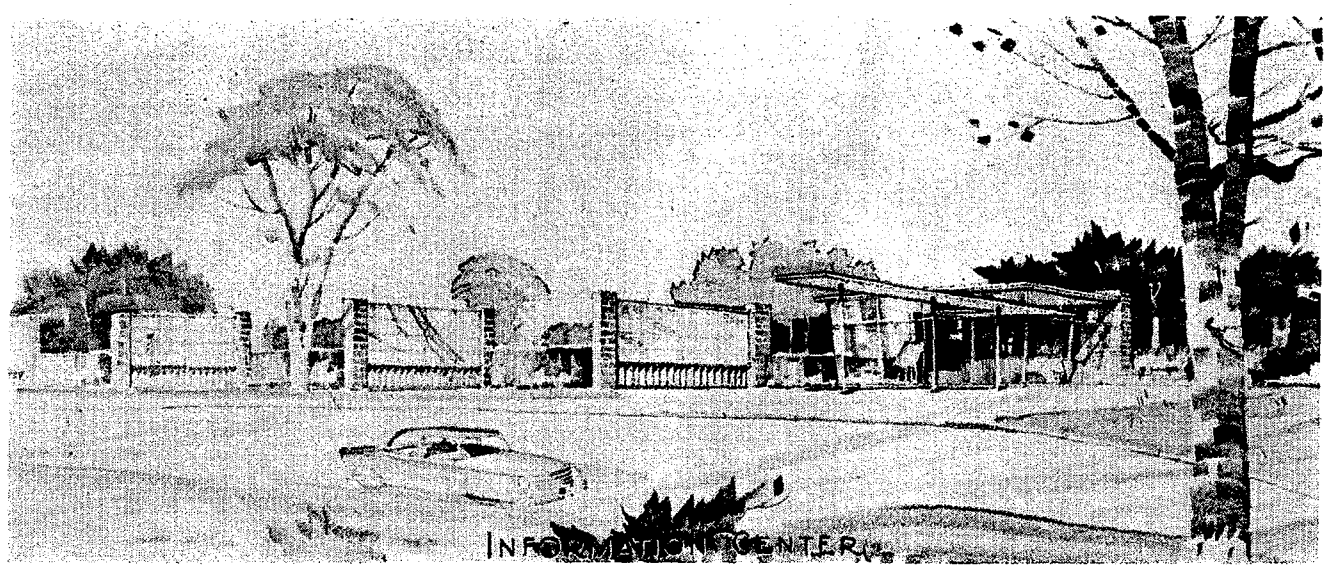
A major step in motorist services contemplated by highway officials and motorist services committees organized in Minnesota and in some other states is the establishment of information centers at designated intervals along interstate routes and state trunk freeways.

At these centers it is possible to consolidate certain services such as comfort stations, telephones, picnic facilities, and the like.

Permissable services at these centers vary between the interstate routes and state trunk highways.

Federal regulations prohibit commercial establishments on the interstate right of way, such as gas stations and restaurants, and advertising is sharply restricted.

(Cont. on page 4)



This information center, including no commercial features, is designed for use on either interstate or state trunk freeways. Besides facilities for comfort stations, telephones, and parking, it has uniform sign boards for advertising nearby restaurants, lodging, and resorts.

Service Need Felt

Evidence from other states of the need for well planned and regulated motorist services on the freeways:

A postcard survey of portions of the Ohio turnpike showed that 50 per cent of all motorists stopped at least once at a service plaza, 28 per cent patronized rest rooms, 21 per cent took on gasoline. Mechanical difficulty was experienced by 4½ per cent of the vehicles, chiefly flat tires, motor trouble, and out of gas.

Every fifth vehicle breakdown on the Pennsylvania turnpike during June, 1958, was caused by an empty gasoline tank. A total of 4,957 vehicles ran out of gas.

Phone booths along some toll roads have had to be doubled and tripled in recognition of the tremendous need by motorists for making calls to home, offices, customers, for reservations, etc.

Experience on high-volume controlled-access highways indicate that about one automotive breakdown can be expected per mile of highway per day.

Freeway Services Planned

(Cont. from page 3)

It is probable that commercial services to the motorist will be located on frontage, service, and intersecting roads near interchanges.

The interstate informational centers, themselves, may have picnic tables, comfort stations, telephones and the like.

Broader Services Possible

Addressing a recent meeting of the Minnesota Motorist Services committee, Deputy Highway Commissioner Frank Marzitelli pointed out that the information centers on state trunk freeways will be able to provide car servicing and restaurants, as well as telephones, rest rooms, and similar items.

Plans are under study for providing space at these informational centers for installation of signs giving notice of lodgings, eating establishments, and resorts in the immediate area. Regulations would be established for the size and types of signs.

The information centers would be screened from the highway and designed for best appearance. They might be sponsored by local governmental bodies, civic organizations, or private enterprise, under strict regulations as to proper maintenance and use.

Establishment of information centers and other motorist services along many miles of freeways will add to their cost. But, according to Harold Olson, the committee's secretary, the heavy volume of traffic which will use the freeways calls for such services on an organized basis not only for the convenience of the traveling public but for its safety, and also for the protection of the appearance and proper use of the right of way and the adjoining areas.

A married couple reminisced about the "old days." "By the way," mused the husband, "what ever became of the old-fashioned girls who fainted when a man kissed them?"

"What I'd like to know," retorted the wife, "is what happened to the old-fashioned men who made them faint."

10 Steps Urged In Supervision

"One of the most challenging and neglected sources of improvement in any organization is getting more profitable action from its executives."

This was an opening assertion from F. G. Emrick, vice president of Schleh Associates, Inc., Twin Cities management consultant firm, at the MHD annual Engineers' conference in the Pick-Nicollet hotel, Minneapolis. He was the key-note speaker for the three-day program, centered on management problems.

From his initial statement, Emrick went on to recommend steps by which management personnel can better fulfill its supervisory function. He centered his discussion on 10 supervisory functions:

Set objectives for workers.
Give fair assignments.
Be responsible for training of workers.
Check progress.
Take disciplinary action as required.
Follow up on achievement of objectives.
Stimulate employees by showing sincere interest in their work and ideas.
Expect to find some mistakes.
Don't keep workers' noses to the grindstone.
Call employees to account as circumstances indicate.

Make It Crystal Clear

According to Emrick, a new employee's greatest problem often is the failure of his supervisor to make entirely clear what the employee is expected to do. Sometimes that is because the employee's immediate supervisor has not himself been properly briefed, or because the supervisor explains more at one time than the employee can digest, or lacks clarity in expression.

Emrick advised that all significant instructions be stated in writing to avoid misunderstanding.

A supervisor's procrastination in getting an employee started properly on a job is apt to make the employee feel that either he or his job is not considered of much importance, Emrick said.

"Most employees don't need to be told several times how to do a job." he said. "What they need and want is to be told once so clearly that they can fully understand it.

"When you tell a worker no mistakes will be tolerated, you won't get much work from him. He'll play it safe. Where there is a normal amount of thinking to be done, there will be a normal amount of mistakes.

"It is well to remember that people will incline to do things the way they already know how to do them unless they receive proper directions to do them otherwise. People can learn things they don't know.

"When a worker asks you, as his supervisor, to help him with a problem, don't hand him a dictatorial, hard and fast procedure. Give him the help with which he can work it out himself."

Interest Beats Pressure

Other thoughts expressed by Emrick:

To operate productively, all managers must be given an organization framework based on sound "results" objectives, clear-cut accountability, and a system of current controls that provide a realistic picture of how well they are meeting their objectives.

Because most people seek to do a good job, a sincere interest in how they are getting along is a better stimulant than are pressure tactics or even prizes and similar rewards. But this interest cannot be properly displayed if a supervisor is responsible for too many employees.

A worker whose nose is kept to the grindstone has little time to think, to improve his job or himself.

Records should be geared to the man who can use them most, the man doing first-line supervision.

On the importance of amicable relations between management and workers, Emrick said "The man who gathers the honey doesn't fight with the bees"

Guest Speaker Plan Popular

A new format designed for the MHD 1959 Engineers' conference appeared to win wholehearted approval from the 400 engineers attending the February 23-25 assembly in the Pick-Nicollet hotel, Minneapolis.

New this year were a central discussion theme, expounded through two and a half days of general sessions, and a preponderance of speakers from outside the department, authorities in their respective fields. Performance of management functions was the central theme.

Previously the conferences have consisted mostly of group sessions for discussion of technical problems in construction, maintenance, right of way, traffic and planning, etc.

Last month's conference was attended by staff, district, assistant district, resident, project, materials, design and soils engineers.

The Keynote address, "The Engineer's Role as a Manager," was by Franklin G. Emrick, vice president of Ed Schleh Associates, Inc., Twin Cities management consultant firm.

Other guest speakers included George S. Odiorne, General Mills; Arwood Miller, U. S. Corps of Engineers; Theodore R. Lindbom, of Rohrer, Hibler and Repogle; Albert M. Fulton and John R. Borchert, University of Minnesota; J. B. McMains, Northern States Power Company; Robert Hunter, Missouri Highway department; and J. W. Clark, Minnesota Department of Business Development.

Commissioner Zimmerman headed a group of MHD executives and administrative engineers who participated as speakers or meeting chairmen.

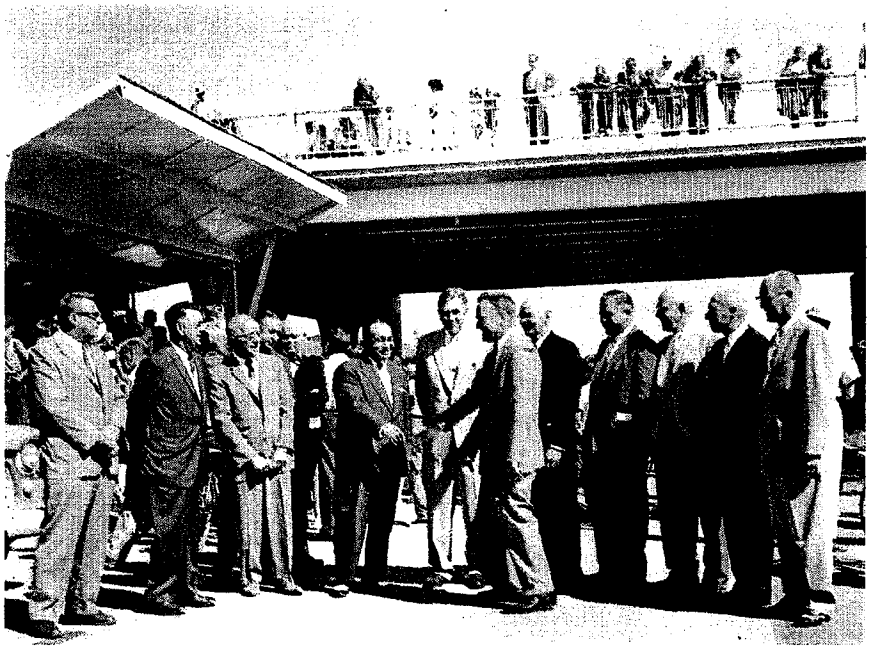
Highway post of the American Legion was host to members of the conference at its annual Engineers' stag party February 24 in the Pick-Nicollet. Sixty-five persons attended. Robert Hanson of Madison, the Legion's Minnesota department commander spoke.

Federation Meeting

The Minnesota Federation of Engineering Societies conducted its thirty-seventh annual meeting February 25-27 at the Pick-Nicollet, including professional sessions, a luncheon session, dinner, stag party, and dinner-dance.

Governor Speaks

5 Miles Opened on 35W



A full platoon of happy top MHD officials turned out for the dedication of five miles of I. R. 35W August 17. Deputy Commissioner Frank Marzitelli, left center, extended his hand to congratulate R. C. Beito, right center, project engineer for the newly completed link.

The others: L to R, Arnie Wahlroos, assistant construction engineer; Assistant Chief Engineers C. C. Colwell and J. C. Robbers, Maintenance Engineer George Meskal, Bridge Engineer A. E. LaBonte, Construction Engineer Stan Ekern, Harold Van Krevelen, assistant district engineer, Metropolitan district; Vince Bovitz, public information director; Chief Engineer John Swanberg; E. J. McCubrey, district engineer, Metropolitan district; and Don McFadden, assistant district engineer, Metropolitan district.

Governor Freeman headed the group of distinguished people who celebrated the opening for traffic of a five-mile section of I. R. 35W southward from Minneapolis August 17. He was the principal speaker at a dedication ceremony conducted at the Eighty-sixth St. interchange under auspices of the Minneapolis Area Chamber of Commerce.

The section extends from 56th St. in Minneapolis through Richfield to 108th St. in Bloomington. It is the second Interstate section opened in Minnesota, the first having been eight miles on I. R. 35 northward from Owatonna, opened a year ago.

With E. William Boyer, chapter president, presiding, the prominent guests included Mayors P. Kenneth Peterson of Minneapolis; Irving Keldsen, Richfield; and Gordon W. Mikelthun, Bloomington; and Deputy Commissioner Frank D. Marzitelli, who spoke briefly for Commissioner Zimmerman who was unable to be present.

Addressing a crowd of several hundred persons, including a delegation of a dozen MHD officials, Governor Freeman stressed the economic betterment the Interstate Highway system will bring to the country, as well as its travel convenience, safety, and importance for national defense.

Torchy Peden of Bloomington, former world bicycle road racing champion, pedaled through the barrier ribbon to formally open the highway link. The Bloomington city band played.

More Cash for Suggestions

Bigger cash awards are in store for Minnesota state employees who submit acceptable proposals in the State Employees' Suggestion Award plan.

Also, processing of the suggestions is to be streamlined to speed the issuance of awards.

These are two major changes made by the State Employees' Merit Award board in a recent revision of its regulations and operating procedure. The board wants more suggestions and will pay well for them.

The changes are of particular importance to the Highway department because it has exceeded any other unit of the state government in the number of acceptable suggestions submitted by its personnel.

The board plans to grant larger cash awards than previously to better represent value of the proposals to the state government, according to Ken Pearson, MHD assistant maintenance engineer and a new member of the Merit Award board. For this purpose, the $50 maximum for any award has been eliminated, he said. No cash award will be for less than $10.

To speed action on the awards, the board has assumed broader responsibility for the evaluation of suggestions submitted, with the assistance, as required, of qualified state personnel.

Suggestions, as submitted, will be assigned to individual members of the board for study and recommendation for approval or rejection, Pearson said. Proposals relating to MHD procedures will go to Pearson.

As announced when the Suggestion program was instituted, its prupose is to improve "efficiency, economy and character of state services" and to increase employee understanding of problems of administration.

Robert Whitaker, deputy state public examiner, is chairman of the Merit Award board; Carl Vorlander, research and planning director in the Department of Administration, is secretary.

CASH for IDEAS

Try for a

Suggestion Award

Have Any Ideas?

In every organization, large or small, there is always room for improvement. It is well to keep in mind that no one of us is as smart as all of us and that is why your suggestions are needed.

For efficiency, economy, improvement of service in the MHD, and for cash awards, send your ideas to Ken Pearson, MHD Suggestion Awards chairman, via Maintenance section.

Suggestion Leader

The Highway department has been the pace setter among all units of the state government in the Suggestion Award program.

Of six 1958 suggestions listed by the Merit Award board of outstanding, four were submitted as MHD employees. The board estimated that the six suggestions, for which awards totaled $440, will result in continuing savings of approximately $20,000 per year.

The four top MHD awards were for improved marking of guard rail posts, a new format for preparation of highway financial data, for a simplified method of grid coordinate platting, and development of better soil testing equipment.

The format for preparation of highway financial data for the Bureau of Public Roads has been recommended by the federal government for use by the other 49 states.

From January 1, 1958, through May of this year, cash awards were granted for 29 MHD employee proposals as compared with 21 made to Public Welfare department employees, the second largest group for that period. Awards totaled $850 for the 29 MHD awards, $640 for the 21 Public Welfare awards.

LIP SERVICE

Cute Steno: "Your wife wants a kiss over the phone, sir."

Boss: "Take the message. I'll get it from you later."

Interstate Estimates Sought

Task Force Studies Costs

Newest unit in the Highway Department is the Task Force, organized by the Engineering Division to make a current estimate of the total cost to complete Minnesota's portion of the Interstate Highway System.

Put in operation last month, the Force is to submit its completed report to the Bureau of Public Roads in Washington, D.C., on or before August 1.

Such a study is required periodically in each state by the 1956 National Highway Act which provided for the establishment of the nation's 41,000-mile Interstate Highway System. From the total findings of the current study, factors will be made by the BPR for the apportionment of each state's federal aid Interstate System funds for the fiscal years 1963-64-65-66.

BPR Cooperating

The BPR's St. Paul Divisional office is cooperating with the Minnesota study.

The Minnesota Highway Department made its first cost estimate study under the 1956 act three years ago. The next one is to be made five years from now. The periodic estimates are to keep cost information up to date in determining the apportionment factors.

Chief Engineer John Swanberg delegated responsibility for the current study to Assistant Chief Engineer J. C. Robbers, with Assistant Road Design Engineer M. E. Hermanson designated as full time Task Force chairman. L. E. Lybecker of the BPR St. Paul Division office, is co-chairman.

To conduct the study, Robbers assigned a full time staff of 12 people, engineers and specialists, and arranged for assignment of additional personnel for part-time service, as needed, all from within the MHD. The Task Force is quartered in Room 407, State Highway Building.

To obtain a comprehensive and fully accurate knowledge of anticipated costs for the 875 miles remaining to be completed in Minnesota's share of the Interstate System, the Task Force must carefully study each construction project to be undertaken, except projects committed for letting up to 1960, Hermanson said.

Hermanson and Lybecker must make an on-the-site review of each mile of the Minnesota Interstate System, as to line location and interchange and separation sites in local road systems.

Other supporting personnel will go on field trips as necessary to obtain information for their particular tasks.

Cover Every Phase

The completed cost estimates must cover every phase of Interstate construction, planning, design, right of way, general road construction, interchanges, separations, fencing, landscaping and every other necessary piece of work in the 15 years planned for completion of the Interstate.

Highway construction unit costs for fiscal 1959 are the basis for computing the cost estimate.

Early in the study, a joint meeting of MHD and BPR officials determined design policies for the study, including Minnesota Interstate construction standards to be used in the estimating.

M. E. Hermanson

Supervisory and "working" members of the Task Force include experienced specialists in varied fields from the Construction, Planning and Programming, Administration, Road Design, Bridge Design, Traffic Engineering, and Lands and Right of Way Sections.

Full cooperation of all Highway Department personnel, as may be needed, was called for by Robbers so that, as he expressed it, "Minnesota will have the best possible estimate of its revised needs."

"I cannot emphasize the importance of this too much," he said.

Special Tasks Assigned

Necessary specialist responsibilities to augment and support the Task Force include: For the Planning and Programming Division, BPR program status data, traffic data, drafting charts and strip maps, and printing and binding reports. For the Road Design Section, cost estimates on earthwork, surfacing, etc., on utilities and roadside development; and support on photogrammetry, survey data, and preliminary design layout data.

For the Traffic Engineering Section, lighting and signing cost estimates. For Administration, IBM computer service for estimates. For the Bridge and Right of Way Sections, cost estimates in their respective fields.

The Minnesota Highway Department was one of seven state highway departments invited to assist the BPR in preparing the operating manual for the current study. Swanberg and Robbers represented the MHD in this activity, in Washington, D.C., last November.

"Oh, I know my wife is through with me this time."

"How is that? What happened?"

"Last night she made me turn in my towel marked HIS."

Tech Exam Open

A forthcoming examination for the Highway Technician III classification offers a promotional opportunity for lower level technicians. Separate tests will be given for three HT III activity fields---right of way, traffic, and draftsman. The examination, for which applications will lbe accepted until February 17, will be open to HTs I and II who have permanent or probationary Civil Service status.

The Personnel Section reports that approximately 15 vacancies in the draftsman catagory will be filled in the near future. No vacancies presently exist in the right of way or traffic fields. However, successful candidates will qualify for eligibility lists from which future appointments will be made.

Candidates for Highway Technician III, right of way and traffic, may not bring materials to the exams. But HT III draftsman candidates may bring to the exams trigonometric functions, logarithmic tables, functions of curves, a straight edge, stadia reduction table, steel handbook, and slide rule.

Applications are now open for examination for the welder classification.

An examination is scheduled for February 27 at various locations in the state for qualification for the classification of Highway Maintenance Man II. Applications for this test, if not already filed, must be submitted immediately. This classification is open continuously for examination.

Examiners Honored

Colonel Murphy and Commissioner Zimmerman

The United States Army has awarded "Certificates of Achievement" to two men of the MHD Drivers License Section, Cletus Effle and Woodrow Madsen. The recognition is for their voluntary assistance in recommending Army service to qualified young men and for referring such men to the Army Recruiting Service.

Colonel Daniel J. Murphy of Minneapolis, commanding officer for Army recruiting activity in most of Minnesota and western Wisconsin, presented the certificates to Commissioner Zimmerman for later formal presentation to Effle and Madsen.

As driver examiners, Effle and Madsen have had frequent contact with alert young men seeking driver licenses. Madsen is stationed at Willmar, while Effle, formerly an examiner at Hutchinson, has recently been promoted to examiner supervisor at Detroit Lakes.

Patrol Studies Interstate Duty

Patrolling of Minnesota's 888 miles of Interstate Highway routes, when completed in about 15 years, will call for an additional 183 men in the Highway Patrol, in the belief of Chief Leo Smith and other patrol supervisory personnel.

This force would have to be built up gradually in pace with the opening of newly completed segments of the Interstate routes.

Their conclusion is based on extensive study of the experience of patrol units on turnpikes and freeways now in use throughout the United States and on the presumption that the patrol will be the only traffic enforcement arm operating on the Interstate routes.

The estimated total of 183 men includes 160 patrol officers, 19 sergeants, three captains and one inspector.

Heavy Traffic Foreseen

Present authorized strength of the Highway Patrol is 331 men, considered a minimum for adequate patrolling of the state's present 11,000-mile trunk highway system. Greatly increased traffic and other problems are the reason for a higher proportion of patrol officers recommended for the Interstate routes. When completed Minnesota's Interstate routes are expected to carry one fifth of the state's total motor vehicle traffic.

That the patrol is giving definite thought to its functions in traffic safety on the Interstate System and legislation required to prepare for performing those functions properly was revealed at a meeting of the Minnesota Motorist Services Committee February 1 in the State Highway Building.

Captain James Stevens, patrol plans and training officer, told the committee the patrol's plan to meet the new problem is to ask the State Legislature to authorize the Commissioner of Highways to add additional uniformed personnel, as needed, to patrol the Interstate System, the need to be determined according to the mileage requiring protection.

He pointed out to the committee that periodic legislative authorizations from biennium to biennium for specific increases in patrol strength would present a problem because the highway engineers do not expect to be able to make long-range forecasts on when various sections of the interstate routes will be ready for traffic.

Close Conformity

With a standing authorization through the Interstate construction period, the Commissioner could appoint additional patrol officers in direct conformity with the need, the captain said.

Captain Stevens explained that the proposed 160 patrol officers for the 888 Interstate miles by completion time would provide one officer for each 25 miles of freeway, permitting one-half hour patrol frequency for 16 hours of each day, and one officer on every 50 miles during the eight hours of lightest traffic. Also included in the computation are two accident investigation units in the Twin Cities metropolitan area.

"This is somewhat less than the absolute minimum of one half hour patrol frequency recommended by the states we have contacted who are patrolling this type of highway at the present time," Captain Stevens said.

The patrol's plan for the Interstate routes also provides additional training for officers assigned to freeway duty "so that they can cope with the special service problems of this type of operation."

States with extensive freeway patrolling have reported that at least half of patrolling time is spent handling automotive breakdowns and other emergency situations causing safety hazards.

Captain Stevens advanced three purposes for freeway traffic law enforcement being delegated to a single state agency, namely the Highway Patrol in Minnesota:

To establish and maintain regular patrol frequencies, to eliminate overlapping jurisdictions and inconsistencies in enforcement policies and operation, and because a statewide communication system, such as that already in operation by the Highway Department, is "an absolute necessity in providing the services and enforcement required on the freeways."

$781 in March of Dimes

The St. Paul March of Dimes annual campaign headquarters praised the Highway Department for employee contributions totaling $781 in the drive conducted January 11-15 in the State Highway Building, Central Shop, and offices at 1246 University Ave. Motor Vehicle Division employees in the State Highway Building were included. George Larson of Traffic Engineering, was chairman, with 21 volunteer solicitors participating. Nine Toastmasters volunteered as St. Paul campaign speakers.

E. C. Wicktor Stricken

Word has been received of the death January 21 of Elmer C. Wicktor, 61, of Royal Oak, Mich., veteran employee and former chief accountant of the Highway Department. His position was the forerunner of the present post of financial services director. Mr. Wicktor was in the Highway Department from 1917 to 1936, as chief clerk and chief accountant. He was a charter member and the first adjutant of Hiway Post, American Legion, serving also as vice commander for two years and historian for three years. Mr. Wicktor is survived by his wife, a son and a daughter, two grandchildren, and a brother Howard, who is a Highway Patrol officer at St. Cloud.

Retirements

John A. Deis, Gaylord, HMM I, Maint. Dist. 14 ... Ansel Fadden, Wayzata, Maintenance Foreman I, Maint. Dist. 9 ... Raymond E. Huber, St. Paul, HMM II, Maint. Dist. 11 ... Harry Lieder, Northfield, HMM II, Maint. Dist. 13 ... Olaf Nelson, St. Paul, bridge worker, Maintenance Bridge ... Clarence Lien, Cottonwood, Signman I, Maint. Dist. 15 ... Harold E. Norton, Ortonville, Highway Maintenance Foreman II, Maint. Dist. 10 ... Roy H. Shepherd, Bemidji, HMM II, Maint. Dist. 3.

BPR Division Chief

W. W. Fryhofer is the new St. Paul divisional engineer of the U. S. Bureau of Public Roads. A picture was not available when his appointment to succeed A. L. Overbee, retired, was announced in last month's Minnesota Highways. Fryhofer was with the MHD before he joined the BPR in 1934. Before taking his present appointment, Fryhofer was regional design engineer in the BPR's regional headquarters in Kansas City, Mo.

Just for Laughs

A new employee reported for work and the resident engineer told him to pick up the broom and sweep out the field office.

"But, sir, I'm a college graduate," the youth said.

"Oh, well," said the R.E., "give it to me and I'll show you how."

* * * *

Modern psychology tells us that it's bad to be an orphan, terrible to be an only child, damaging to be the youngest, crushing to be in the middle, and taxing to be the oldest. There seems to be no way out, except to be born an adult.

* * * *

Many a small boy is the kind of kid his mother wouldn't want him to play with.

* * * *

The Feline Touch

The butcher was busy waiting on a customer when a women rushed in and said, "Give me a pound of cat food, quick."

Turning to the other customer, she said, "I hope you don't mind my getting waited on before you."

"Not if you're that hungry, the other women replied.

(Cont. on page 10)

The How and Why

BPR Engineer Explains Contract Controls

In his keynote address at the MHD Engineers Conference, E. H. Swick, regional engineer, Bureau of Public Roads, Kansas City, Mo., outlined the purpose and operation of the new contract control program for federal highway aid. He commended the MHD's type of participation, including its conduct of public hearings. Here are pertinent excerpts from his talk:

Most of you have heard about the contract control program for federal highway aid. But even if you haven't, your day to day operations over the last several months have been influenced by contract control provisions and limitations.....

You may want to hear from a Bureau of Public Roads representative about what those contract controls are that our organization had to institute last fall. Actually, we don't call them contract controls; we call them reimbursement planning. It seems a much gentler term, somehow.

I will try to tell you what contract controls are, why they are, and how long we may expect to have to live with them.

Over the 40 years of federal aid highway activity between the 1916 act and the Federal Aid Highway Act of 1956, which set up the Interstate program, public roads to all intents and purposes had a blank check on the United States Treasury insofar as reinbursements to the states were concerned. This blank check had as its ceiling the amount of the federal aid authorization.....

Pattern Was Changed

The Federal Aid Act of 1956 changed all this. It set up annual authorizations of funds over a 13-year period to complete the Interstate System and it earmarked certain new and increased federal excise taxes on highway users, to go into the Highway Trust Fund, to provide revenue for the program.

When the legislation was being written, a balance of authorizations and revenues was anticipated over a 13-year period. Such a balance was not anticipated on a year-to-year basis. It was recognized that a surplus of revenues would build up the first few years; that would be followed by a number of deficit years, and then, finally, there would be sufficient surpluses toward the end of the program to overcome the earlier deficits. In fact, a clause was included in the legislation permitting repayable advances to be made to the Highway Trust Fund from the general funds of the Treasury.

However, another clasue was written into the 1956 Act that took precedent over the provisions for advances. This was the pay-as-you-go clause or, as more commonly known perhaps, the Byrd amendment.

It limited the amount of each annual Interstate authorization to the anticipated capacity of this Trust Fund, to pay the cash needed to reimburse the states promptly for the work that had been accomplished. In effect, it required a year-by-year balancing of estimated revenues and expenditures with limitations on Interstate apportionment to the amount that could be liquidated from the Trust Fund.

Now the Interstate program, of course, required time for organization.....

And so, as anticipated, the Trust Fund idea worked fine for the first couple of years. A day of reckoning with the Trust Fund was hastened by the passage in 1958 of legislation which considerably increased highway authorizations to combat a recession, which never got here. This legislation deferred for its particular authorization this pay-as-you-go concept and provided that we had to apportion the money to the states whether we had it or not. Meanwhile, the Interstate program really began rolling and we started to receive vouchers in a large way.

E. H. Swick

These facts all added up in July, 1959, to the fact that the BPR would be out of money to reimburse the state highway departments on or about the first of October unless Congress increased the revenues reaching the Trust Fund or, as an alternate, permitted borrowing for the Trust Fund from other revenues of the federal government.

To meet these certain deficits, Congress was asked to increase the federal gasoline tax by one and one-half cents. Congress saw fit to limit this to a one-cent increase which didn't become effective until the first of October, 1959.

As a result of this smaller taxing fee and the smaller receipts reaching the Trust Fund from them, it became necessary to impose artificial ceilings on obligations of federal funds the states could incur. These are contract controls.

They were required if the states were to be assured of prompt reimbursement of bills presented by them and, incidentally, in many states they were necessary if the contractors were to be assured of prompt payment of their estimates. I don't believe that was true in Minnesota.

Now these procedures did provide that if a state was "flush", as you might say, it could go ahead and spend its own money on federal aid projects with the understanding that the reimbursement would be made if and when it could be. That wasn't a very good procedure and to many states, of course, it gave no particular date on which a state could receive reimbursement. This is what is known as "E" projects.

How Long? Is Problem

Now this brief discussion is attempted to outline generally the "how" and the "why" of contract control. The "how long" is anybody's guess.

If there is no change in the present financial structure of the Highway Trust Fund, contract controls of some kind will be necessary until about the middle of 1963. Before then, however, there will have been four annual sessions of Congress. Anyone of these could change the picture completely, of course.

To be specific concerning Minnesota, at the end of January you had available in unprogrammed, programmed, or otherwise unobligated federal money, including Interstate, about $80 million. However, between now and July 1, according to our records, you will be permitted to obligate only about $27 million of federal money, or about one third of the funds that we have to your credit.

Now this is simply a deferral of fund availability, not a loss of funds to Minnesota. I want to make that clear. In this connection, the Minnesota Highway Department has complete freedom as to whether the $27 million of contract authority is spent on Interstate projects or on primary or secondary projects.

Now if you are interested in our guess as to the legislation which will be enacted by the Congress which went into session last month, it is our feeling that there will be no additional basic legislation affecting the Interstate program this year. The reason for this prediction is that Public Roads has to present to Congress early in 1961 a comprehensive study of the whole highway tax structure. Some of you may have heard of this as the 210 study.

New Cost Estimated

There also has to be a new estimate of the cost of completing the Interstate System, that used to be called the 108B study. Parenthetically, there, we are much gratified at the way that the Minnesota Highway Department is gearing itself to make this new estimate....

It is probable that Congress will await these two reports before it makes any further revision in highway financing procedure that will be necessary if there is to be much change in Interstate concepts.

There must be, however, in the present session, legislation continuing the authorization for the primary, secondary, and urban programs—that's what we call the ABC fund. The last authorized funds were those that have been apportioned to the fiscal year 1961.

Our present guess is that we may expect a continuation of these programs—these ABC programs—at about the present rate which is $925

(Cont. on page 5)

Conference Speeches

This and other pages of this issue of Minnesota Highways carry full or partial texts of four of the addresses delivered at the annual MHD Engineers Conference February 22-24 in St. Paul.

The conference attracted more than 200 persons, MHD engineer and staff members, county highway engineers, and representatives of the Bureau of Public Roads. This year's program gave prominence to guest speakers from outside the Highway Department.

The Finished Contour System and the electronic computers do not stand opposed to one another, but rather most certainly complement each other.

Many state highway departments in this country are using Aerial Photogrammetry to some extent; however, no organization is using it to its full capacity. In many cases the attitude has been one of reluctance to branch out to a more complete use of aerial photographs. This is unfortunate in view of the tremendous highway construction task facing us.

Perhaps it would be of some interest to the listener if I would list some of the uses in which various engineering agencies in this country have employed Aerial Photogrammetry. The first one that comes to mind is in the field of reconnaissance studies. This was perhaps the original major use in highway engineering work. Aerial photographs have been used very widely in this respect, especially in states possessing rugged terrain. A complete picture of the land with its natural passages and obstacles has proven very helpful in the selection of new highway routes.

Determination of drainage areas has been another popular use in which Aerial Photography has been called into the picture. Along this same line we may mention its usage for bridge site maps, also for surveying flood damage to highways and structures, as well as terrain in close proximity.

The City of Los Angeles has a traffic use that might be of interest to the listener. Street intersections that are showing congestion problems are photographed with large scale photography at peak hours. These photographs are then enlarged to a scale of one inch equals 20 feet. Traffic flow and possible solutions are then studied directly from the photographs.

The state of Indiana has done very well in putting to use aerial methods for materials investigation. In this field, most states have entirely neglected the use of aerial photographs in spite of the fact that valuable aid can be obtained towards the location of marshy sites, slide possibilities, and borrow pits.

New Jersey has employed the flying technique in maintenance studies. Aerial photographs with a scale of one inch equals 80 feet are obtained. They are in turn enlarged to one inch equals 20 feet. The flying height employed is 660 feet with an 8¼ inch focal length camera. The enlarged photographs show complete details of pavement cracks and the conditions of side ditches. Their goal was a complete survey of New Jersey highways by this method. At this time the project is probably close to completion.

California is employing the Finished Contour System quite extensively to obtain earthwork quantities, and, I might add, with very favorable results as far as accuracy is concerned. Cumbersome stacks of cross section sheets are deleted from the plans in this method as well as gaining advantage as far as placing drainage pipes on the plans. The contours give a much more accurate picture of drainage therefore cutting field change orders on pipes considerably.

There are of course many more uses to which Aerial Photogrammetry and the Finished Contour System can be employed to advantage, such as in the field of roadside development. However, I believe I have listed ample examples to present somewhat of a case. These uses have proven themselves to be both economical and accurate, and therefore feasible by various engineering organizations throughout the country. Let us set about to prevail upon its many values and adopt it as an integral part of our engineering technique.

Contract Controls

(Cont. from page 3)

million annually on a nation-wide basis. Right now, it looks as if the Interstate apportionment for the next fiscal year should be about $2 billion as against the $1.8 billion which was apportioned for the last fiscal year. ....

If I may presume to do so, I want to leave one thought with you Minnesota Highway Department engineers here today. .... It is simply that you exert your every effort toward a better public understanding of our greatly expanded highway program. This program is a larger one than we have ever had. For the first time, everyone is interested, everyone is looking over our shoulder trying to tell us how it ought to be done. Yet, lacking public support, we may expect the program to face rather certain curtailment in the next year or two. .... The hard fact is that, without salesmanship, we may go out of business, or at least we may go out of this big business.

Public Relations Are Broad

As I analyze it, the important people in gaining this public support aren't only those who have the top spot and who have to meet with the press and address large gatherings. Fully as necessary is the support gained by a rural survey crew or by the engineer who spends a little time answering the city resident's questions about those stakes on the back of his lot. Maintenance men can be among our best or worst public relations people. .... Public hearings on highway locations are a device that can be used most successfully if used carefully and sincerely.....It is very important, of course, that there be an adequate preparation for a hearing, that there be understandable exhibits and somebody there that knows the facts.

Minnesota, in our analysis, is one of the states that has done the most to develop public hearings into a real aid to public understanding of our mutual programs. ....We do wish all of our states did as well on this particular thing as Minnesota does.

In closing, I want to express for Public Roads our appreciation of the fine relationship that has marked our joint endeavors over almost half a century, particularly during the rather hectic last four or five years.

Disaster Defense

(Cont. from page 2)

first aid. Schon commended the department for its present program to provide basic first aid training for all MHD field employees.

For increased knowledge of personal disaster steps, Schon mentioned that his office has a variety of pamphlets available for distribution.

"Organization and training already is under way outside the Highway Department," said Schon. "The state Health Department has completed its organizational and training procedure. Public service utilities leaders are working together now on the job they would have under disaster conditions to repair and maintain vital electric power and other facilities.

In concluding his talk, Schon emphasized that operation of the Highway Department on a disaster basis would be terminated as quickly as possible.

Bergstralh Leaves

Kermit L. Bergstralh

Kermit L. Bergstralh, MHD personnel director for the past six years, is leaving the Highway Department April 1 to accept a position with the Bureau of Public Roads, in Washington, D. C. He submitted his resignation to Commissioner Zimmermann February 26

In his new post, Bergstralh will establish and administer a new BPR service for state, county, and municipal highway departments. Its function will be to conduct research in management, organization, staffing, and personnel administration, and to provide counseling in these areas.

He will report in Washington April 4. Mrs. Bergstralh and their two sons and daughter will move to Washington in June.

Bergstralh joined the MHD in December, 1952, as a personnel officer, He served also as an administrative assistant for four years. Previous to joining the MHD, he was in the Civil Service Department for four years.

In accepting Bergstralh's resignation, Commissioner Zimmerman expressed for himself and Bergstralh's associates in the MHD and Civil Service Department, "appreciation for all you have done for the Department" and "our best wishes for a happy and productive future."

Mockenhaupt Leaves MHD

Chuck Mockenhaupt, personnel officer in MHD since 1957, resigned March 11 to take a personnel administrative post with the Fingerhut Manufacturing Co. of Minneapolis, maker of auto seat covers.

How and Why

The Federal Aid Picture

Nearly everyone has learned something of the serious problem which has developed in recent months regarding adequate funds for federal aid for highways. But a comprehensive, clear-cut explanation of the total situation and its specific effect on Minnesota has not been generally available to the majority of MHD employees. Such an explanation is given by Chief Engineer John Swanberg in the following address which he delivered at a meeting of Minnesota Good Roads, Inc., a civic federation for the promotion of good highways:

Federal aid legislation is not a new development in national-state relations. The first Federal-aid Highway Act was enacted in 1916. The motivating force was the fact that the highways being developed by the states did not meet at state lines and interstate traffic was being penalized. In 1921 another Federal-aid Highway Act was passed which required that the monies be used by the states on a connected road system for the national good.

These legislative actions by the Congress initiated the national-state relationship in the road building programs which has continued as a mutually beneficial association since that time. As a result of that relationship, as well as the activities of regional and national highway official organizations, there have been developed national standards of design, construction and operation which have made the American highways the finest in the world. If we may be pardoned for saying so, we believe that Minnesota has made substantial contributions in that development and that its highway system compares favorably with that of other states.

The 1956 Federal Aid Highway Act

In 1944 the Federal-Aid Highway Act was passed which created the Interstate System. This bill required uniform highway signing on Federal-aid projects and recognized the Urban highway problem. It was war time, however, and the nation's efforts were directed to the winning of the war so no great strides forward were accomplished. However, an Interstate system was agreed upon which formed the basis for the present Interstate System. This Department devoted considerable study to this program.

In 1954, recognizing the immensity of the need, a substantially accelerated highway program including that of an Interstate System, the President of the United States, proposed his "grand highway plan" and appointed a national committee, popularly known as the Clay Committee. At about the same time the state highway department, in cooperation with the Bureau of Public Roads, prepared a cost estimate of needs for all Federal-aid systems, other state highways and all other roads and streets in the United States. This constituted the best and most complete highway estimate ever made up to that time and was the basis for the Clay Committee study. This committee made its report in 1955 but the legislation implementing it was not passed until 1956 and became known as the Federal-Aid Highway Act of 1956.

Provisions of the 1956 Act

Contrary to popular conception, the 1956 Act was not concerned primarily with the Interstate freeway program. It was an overall program and concerned itself also with the so-called ABC program of primary, secondary and urban highways. In fact, it should be pointed out that the 1956 and subsequent legislation provides that the ABC funds must come out of the Trust Fund first, before the Interstate monies can be apportioned.

The Act provided for a 13-year program for the construction of the Interstate System and a continued program for the other Federal-aid roads. Apportionments were provided for the fiscal years of 1957, 1958, and 1959 for the ABC program. The apportionments nationally were $850 million for 1958 and $875 million for fiscal 1959. These amounts were to be increased annually by $25 million up to a total of $1 billion annually. These amounts have been increased in subsequent legislation. On the basis of the 1954 estimates of cost for the construction of the Interstate System, the authorization for appropriation for the 13-year period was made totaling for that period about $24,825 million dollars.

The Interstate mileage involved a total of approximately 41,000 miles of which Minnesota has about 890 miles. On the ABC systems the proportion of Federal participation remains at 50 percent and on the Interstate Systems the Federal participation is 90 percent.

The Act provided for the setting up of national minimum standards. These were developed and adopted by the Bureau of Public Roads and the states. On the basis of the approved standards, the Secretary of Commerce, in cooperation with the states, was directed to prepare periodic detailed estimates of the cost necessary to complete the Interstate System. This first estimate was due and presented to the Congress in January 1958. Because of increasing costs of materials, labor, etc. since the 1954 estimate, the estimated cost (of Federal participation) increased from $24,825 million to about $34,000 million. The next estimate is required in January, 1961.

The law also requires that studies be made to determine maximum desirable dimensions and weights of motor vehicles, a safety study to determine those elements which are vitally concerned with the saving of human lives, as well as studies to determine the equitable distribution of the tax burden among the various classes of users on the highways.

The law also provided for public hearings and the application of the Davis-Bacon Act which has to do with the establishment of wage scales on each individual Interstate project.

Title II of the 1956 Act

Title II of the Act provided for the financing of the program. There was set up a Trust Fund to which the dedicated portions of highway-user taxes were to be assigned. This fund was set up so that, in the words of the committee, the existence of this Fund will insure that receipts from the taxes levied to finance this program will not be diverted to other purposes. This should not mislead the listener to believe that all of the Federal highway user taxes go into the Trust Fund.

For the first year of operation, fiscal year 1957, certain adjustments were provided for. Subsequent to that date the following portions of the taxes listed were to be placed in the Trust Fund.

Motor fuel tax	3¢/gal.	100%
Tires for highway vehicles	8¢/lb.	100%
All other tires	5¢/lb.	100%
Inner tubes	9¢/lb.	100%
Tread rubber	3¢/lb.	100%
Trucks, buses and trailer excise tax	10% of manufacturers' price	50%
Vehicles of over 26,000 lbs. gross	$1.50 per 1000 lbs. annual tax	100%

It was anticipated that the above taxes would yield $38,498 million between 1957 and 1972.

This Act also authorized appropriations to the Trust Fund as repayable advances of such additional sums as may be required to make the necessary expenditures to meet the authorized appropriations. It should be pointed out that the Trust Fund was made liable not only for the future Federal-aid expenditures but also for previously authorized funds unexpended on the date of the institution of the Trust Fund and which amounted to $1,980 million.

The Byrd Amendment

Although the Highway Revenue Act, as passed by the House, authorized the borrowing of money (as repayable advances) from the General Fund to meet the requirements of the Trust Fund, the Senate added an amendment, generally referred to as the Byrd Amendment, which amounts to the placing of the program on a pay-as-you-go basis. It is this restriction, together with the lack of adequate receipts, which in recent months has substantially retarded the national highway program.

The Federal Aid Highway Act of 1958

The Act of 1958 established the apportionment for the ABC system for 1960 as $900 million and for 1961 as $925 million which was in accordance with the 1956 Act which provided for $25 million annual increases.

In view of the recessionary situation for 1958 and with the view of alleviating the situation to some extent with worthwhile construction projects, the Interstate authorizations for 1959, 1960 and 1961 were increased $200 million, $300 million, and $300 million respectively for a total of $800 million for the three years. In addition, there was provided a supplemental increase of $400 million in the ABC apportionments for fiscal 1959 with the stipulation that this be placed under contract before December 1, 1958, without retarding the regular ABC programmed projects. Under this $400 million apportionment, Minnesota received $9½ million of which $2 million was allotted to the counties. This was to be matched

(Cont. on page 10)

Federal Aid Picture

(Cont. from page 4)

on the basis of two-thirds Federal and one-third State funds and all were placed under contract before the specified date with no delay to the regular ABC program.

In order to successfully accomplish these additional apportionments it was necessary for the Congress to suspend the Byrd Amendment for the fiscal years of 1959 and 1960 and to borrow from the General Fund required on the basis of subsequent reimbursement.

Although much worth-while and necessary construction was accomplished it did cause considerable drain from the Trust Fund which has been increasingly apparent this last year.

The 1959 Highway Act

The 1956 Act with its Highway Trust Fund anticipated that in the early years under the Act the receipts would exceed the expenditures, but that subsequently the reverse would be true. There would come a time when it would be necessary to go to the General Fund and obtain repayable advances that would be necessary to balance the receipts and expenditures. However, it will be remembered that the Senate added the so-called Byrd Amendment which put the Federal-aid program on a pay-as-you-go basis. It could be expected that unless additional monies were provided, such as putting all of the highway-users taxes into the Trust Fund, that the program would be later curtailed.

Then, to compound the increase in expenditures resulting from the 1958 Act and its waiver of the Byrd Amendment, the Interstate program was placed in serious jeopardy in this fiscal year. On the basis of predicted receipts and expenditures we were advised that the program would be about $400 million in "the red" about October 1. Under the waiver of the Byrd Amendment until July 1, 1960, borrowings could be made until that date but in view of the situation apportionments were held up until the 1959 legislation had been passed.

Interim Tax Adopted

As you will recall, there was considerable furor in Congress and elsewhere until the legislation had been passed. The Administration strongly recommended a 1½-cent increase in the Federal gas tax. Other proposals included bonds, the placing of all highway-user taxes in the Trust Fund, repealing of the Byrd Amendment, etc. As you know, a compromise bill was passed which was subsequently signed into law which is known as the Federal Aid Highway Act of 1959. This Act provided that there would be an increase of 1 cent per gallon tax on gasoline and diesel fuel which would be in effect from October 1, 1959, until July 1, 1961. all of which would go into the Highway Trust Fund.

After June 30, 1961, one-half the revenue derived from the 10 percent excise tax on trucks, buses, cars, etc. and five-eights of the 8 percent tax on automotive parts and accessories will be transferred to the Highway Trust Fund for three years.

It is generally agreed that the current legislation will not keep the program under way as contemplated in the 1956 Act. As stated above, the ABC program, at least as presently provided for, is to be financed first and will be of about the magnitude indicated in the 1956 Act.

The pinch is being presently felt because of the diminished Federal apportionments. Minnesota's apportionment for fiscal 1961 is a total of $54,092,000. This reflects the reduction in available funds, and is presently being committed to contract, engineering and right of way purchases. Its commitment is further restricted by the Administrator of the Bureau of Public Roads to a $19,575,000 total to October 31, 1959, $4,907,000 from October 31 to December 31, 1959, $14,805,000 from January 1, 1960 to March 31, 1960, and the same amount for the last quarter of the fiscal year. *This is known as contract control.*

We do not know what the apportionment may be for the next year but we have hopes that it may be greater. The apportionment of $54 million for the current fiscal year compares with a total of $68 million the previous year. Balances from previous apportioned funds which were not committed as of July 1, 1959, are being held in abeyance by the Bureau but it is hoped that these may be subsequently released

We would like to point out that as of July, 1959, we were the only state in the Union which had committed all of its 1960 Federal apportionment of ABC funds. On the Interstate apportionments Minnesota has used up all of its 1959 apportionment and a portion of its 1960 apportionment except as indicated above.

It can be expected that there will be considerable activity in the coming year to do something on the revenue aspects of the current highway legislation. To maintain the Interstate program as projected in the 1956 Act will require increases in revenue over and above that presently provided. To accomplish the objectives of such a program will require the thoughtful consideration and actions of interested groups such as this one.

DISTRICT NEWS

By EARL PERRY

Hi folks, remember us, Maintenance District 1. It's my fault if you don't. What a lousy correspondent I turned out to be, so all my relations tell me, but here goes on another effort.

We are enjoying a beautiful spring--sunny and warm. Come up North here and get away from the tough winters. Seriously, we've had a milder winter than the southern part of the state, and much less snow.

But, we haven't been just whiling away the time. We've been producing aggregate most of the winter and have had our bituminous plant in operation for the past month. It's been phenomenal, the summer production completed in the past several months and the boys enjoying productive work rather than fighting snow balls.

Congratulations are in order for the following promotions: James Melterud for mechanic, Laurie Muhonen to HMM II in Virginia, and James Hastings to HMM I at Effie.

Recent new employees include A. H. Stevens and Almon Johnson, janitors, Recent retirements are Arthur Carlson, HMM II at Tower: Ole Nelson, HMM I at Tower; and John Lemettinen, long time laborer at Hibbing.

John B. Martin, equipment serviceman, is enjoying an extended vacation in California.

Ray South has returned to work after a four-year hitch with the United States Navy.

Einar Koivisto, project engineer, is convalescing from a heart attack and will be out of commission for a month or so more.

Jalmer Nyberg, retired, drops in frequently for a visit. Seems he misses the old grind. We see J. G. Johnson, retired, occasionally down at the bowling alley. He no longer is an active bowler, but is still much interested in his favorite sport. Guy Granger drops in for coffee every now and then. He still looks in wonderful condition.

We have a charming new steno, Denise Metsa who, we hope, will take over the duties of correspondent and give us better representation.

(Including Maintenance District 4)

By ROSANNE LARSON

At this writing, Jane Moyer, our news reporter, is enjoying a three weeks' trip, destination Corpus Christi, Texas. In her absence Lily Byrne, Clif Buller and Bob Nelson ferreted out the Maintenance District 4 news while Ray Wurdelman, Harold Homme and myself compiled the lowdown on happenings in Construction District 3.

This gives us an opportunity to thank Jane for her faithfullness in preparing our news every month. Most of us are not usually very responsive when she asks for news, but she always seems to scrape together enough for a column. We appreciate it, Jane.

K. V. "Ken" Pearson, has joined our forces as our new Construction District engineer. He was previously assistant maintenance engineer in the Central Office. We are very glad to have him with us.

To Mr. and Mrs. Herb Seline, a son, born December 27, last. Mr. and Mrs. Gerald McGuire also became the parents of a boy, born February 7. Both Herb and Gerald are from our Sauk Centre office. Our belated congratulations.

Roy Walz and Lawrence Terwey enjoyed a two-week vacation to Florida and parts unknown.

Gerald McGuire was hospitalized at Sauk Centre and Minneapolis during most of March for treatment of an infection. We hope he's back to normal again.

Ed Larson was out of circulation for a while after undergoing an emergency appendectomy, March 28 at St. Joe's in Brainerd. We hope he's feeling better and that he had many pretty nurses.

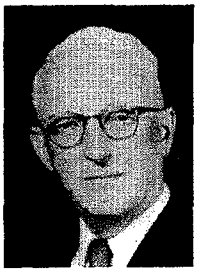
Louise P. Anderson, Clerk II at Brainerd, left us in mid-April to accept a clinical secretary position with the Brainerd State School and Hospital.

Karen and Al Jacobsen have started planning for a new split level home, which they are going to build this summer on Crosby Beach.

Frank Loidolt, HMM I at Pierz, retired April 20.

New Maintenance District Formed

Vernon Harty



Holger Palmer

Impact of the new Interstate highways and growing state trunk highway traffic in the Twin Cities area was evidenced in the establishment late last month of a new MHD maintenance district to serve the Interstate and state highways in the Minneapolis-St. Paul metropolitan area.

Commissioner Zimmerman appointed Holger (Red) Palmer, veteran highway engineer, to head the new maintenance district as assistant district engineer, maintenance, in the Twin Cities Metropolitan Construction District, of which E. J. McCubrey is district engineer.

To replace Palmer as assistant district engineer, maintenance, at St. Paul Park, the Commissioner promoted Vernon Harty, resident engineer at Albert Lea. In the Highway Department since 1931, Harty has been a resident engineer 3½ years and was a project engineer for several years previously.

Palmer has been in charge at St. Paul Park since 1957. Before that, he was a county engineer successively for Wilkin, Wadena, and Dakota counties. He was an MHD location engineer 1927-29.

The area for the new maintenance district will coincide with that of the Twin Cities Metropolitan Construction District, encompassing the Twin Cities and general suburban area, previously serviced by the Golden Valley and St. Paul Park Maintenance Districts.

The new maintenance district headquarters will be at 1246 University Ave., St. Paul, the Metropolitan District headquarters.

Skjervold Dinner

Following the resignation June 17 of Paul Skjervold as deputy attorney general heading the MHD legal staff, 60 of his friends and associates in the Highway Department and state government gave him a farewell dinner June 29 at the Commodore Hotel, St. Paul.

Speakers included Attorney General Walter Mondale, Commissioner Zimmerman, Deputy Commissioner Frank Marzitelli, Rolf O. Slen, Skjervold's successor as deputy attorney general; Ray Faricy, president of the Minnesota Board of Realtors; Skjervold and others. Paul Doerner, special assistant attorney general in the Highway Department, presided.

Skjervold was presented with a wrist watch.

1963 Interstate Program Given

A $50,547,000 Interstate highway construction program in Minnesota for fiscal 1963 was announced by Governor Orville L. Freeman and State Highway Commissioner L. P. Zimmerman. This program will continue the Interstate construction on virtually the same dollar level as planned during the 1962 fiscal year.

The 1963 program on the regular trunk highways -- the ABC program -- was to be announced later, according to Zimmerman.

Included in the Interstate improvements are 38 miles of concrete base and surfacing, 92 miles of grading, 38 miles of gravel and gravel base, 32 miles of fencing, lighting, signing and planting, and 113 bridges. This does not include other necessary work on ramps, legs and frontage roads or other miscellaneous construction.

The listing of the fiscal 1963 Interstate projects (1962-63 fiscal year) shows that about 39 per cent of the work (by dollar value) will be located outside the Twin Cities Metropolitan area. Initial Interstate construction was heavy in the Twin Cities area because of the proportionately heavy traffic there and because the metropolitan area is a hub for travel on I.Rs. 94 and 35, crossing the state east-west and north to Duluth.

New Radio System

(Cont. from page 2)

installation of some 40 repeater stations required for total state coverage, and installation in up to 350 additional trucks. This would include about 110 mobile units for the Construction Section (project and resident engineers).

This phase would cost an estimated $1,525,072, of which $1,218,262 would be for the stationary equipment and $306,810 for the mobile units. The higher cost of the second phase, compared with the first is due to the larger amount of stationary equipment included.

Although a separate system, the new radio network would be tied in with the existing MHD Highway Patrol radio system for integrated communication. Thus, a patrol officer could call a maintenance district headquarters to report a flooded or iced highway and the headquarters then could radio to its maintenance unit nearest the scene, or maintenance men could radio a report of a traffic accident through their headquarters to the nearest patrol unit.

Letting of contracts for the first phase construction awaits approval of allocation of federal funds.

Mobile units to be equipped in the first phase would include 43 for district and assistant district engineers; 16 for district foremen; 50, highway foremen; 186, maintenance trucks; 143, special units (heavy and seasonal equipment); 16, field mechanics; 16, sign trucks, 15, Central Offices personnel; and 15; radio service units.

County Sign Schools

A relief model highway is used by George A. Larson, MHD field traffic engineer, to demonstrate proper establishment of no passing zones.

Promotion of uniform traffic marking and signing of all public highways and streets in Minnesota was a major objective of the third annual series of County Sign Schools conducted by the MHD Traffic Engineering Section.

The eight one-day schools, at Crookston, Morris, Windom, Rochester, Willmar, Brainerd, Hopkins and Virginia, drew an attendance of 231 highway engineers and signmen from 59 counties and 16 of the larger cities.

Counties sent 145 representatives, the cities, 30, and 56 MHD employees attended. The MHD assistant district engineers, state aid, were active in promotion of the schools, and presided. George A. Larson, MHD traffic field engineer, supervised the project.

Instructors were Larson, discussing no passing zones and the Minnesota Sign Manual, the legal authority for uniform signing and marking; Armand Perrault, MHD signman supervisor, offering practical shop and field suggestions and talking on city signing; and the assistant district engineers, state aid, discussing state, county, and city cooperation. Signmen from the MHD demonstrated tools and equipment.

Bruce Kalb Stricken

Bruce M. Kalb of St. Paul, 62, a civil engineer II in Lands and Right of Way, died suddenly early Sunday, July 10, at Hoffman, apparently of a heart attack. He had just started his annual vacation. Masonic funeral services were conducted July 13 at Alexandria.

Mr. Kalb was in the Construction Section from 1924 to 1953, working in various positions, including project engineer. In 1953, he transferred to Lands and Right of Way. He was a World War II veteran. Surviving is his wife, Maude.

MINNESOTA HIGHWAYS
Jul 1960

Picture at Left

President Eisenhower, no less, cut the ribbon opening the new Minnesota-Wisconsin bridge over the Mississippi River at Red Wing, with representatives of the two states observing. L to R: Lieutenant Governor Philleo Nash of Wisconsin; United States Senator Hubert H. Humphrey of Minnesota; President Eisenhower, Governor Orville L. Freeman of Minnesota, and Mrs. Freeman.

Picture at Right

A sizeable delegation of MHD representatives attended the South St. Paul opening of a section of Interstate Highway 494, the Twin Cities circumferential route. L to R: Deputy Commissioner Frank Marzitelli, Walter Schultz, staff assistant; Patrol Officer Henry Zagda, Sergeant Conrad Erickson, Officer Edward Confal, Commissioner Zimmerman, W. L. Hunziker, resident engineer, cutting the ribbon; Chief Engineer John Swanberg, District Engineer E. J. McCubrey, Maintenance Engineer George Meskal, Ellsworth Johnson, assistant district engineer, construction; Assistant Chief Engineer J. C. Robbers, Construction Engineer Stan Ekern, Vern Harty, assistant district engineer, maintenance; Paul Staffeld, planning and programming engineer; and Assistant Commissioner Clayton Swanson.

Eisenhower Opens Bridge

Red Wing Ceremony

The new Hiawatha highway bridge over the Mississippi River at Red Wing, between Minnesota and Wisconsin, was formally dedicated and opened October 18 by no less a personage than the President of the United States.

His presence, plus the interest in the opening of a modern structure to replace a long out-dated bridge drew an estimated 20,000 spectators.

Many Minnesota and Wisconsin state and local officials were present to extend an official welcome to President Eisenhower and to pay tribute to the improved highway link between the two states. From Minnesota, the group included Governor Freeman, Senator Humphrey, Congressmen Albert Quie and Walter Judd, Mayor Harry Rardin of Red Wing and Highway Commissioner Zimmerman and other MHD officials. Lieutenant Governor Philleo Nash headed the Wisconsin party. Henry Swanson of the Red Wing Chamber of Commerce, was chairman of the event.

In his dedicatory address, delivered from an open air rostrum in the Red Wing business district, President Eisenhower identified the new bridge as "another effective example of Federal-State partnership in meeting both local and national needs."

He dipped into history of an estimated 400 years ago to recall that the bridge is named for an Indian chief who was one of the founders of "the first United Nations organization in America."

That nation, composed of five Iroquois tribes, was organized, said the president, "for the purpose of stopping for all time the shedding of human blood by violence." Its Constitution, he continued, "had as its founding principles justice, righteousness, and power, or authority——". He called on his listeners for the degree of international cooperation and sense of justice which will insure the success of the present United Nations."

After his address, President Eisenhower was escorted to the bridge where he cut a red ribbon to officially open it for traffic. He then was driven over the structure to the Wisconsin side and back to Red Wing, from where he left for Abilene, Kan., his boyhood home.

So. St. Paul Program

The South St. Paul Chamber of Commerce sponsored a ceremony and luncheon October 17 for the formal opening there of a 1½-mile section of Interstate Highway 494. The four-lane divided concrete pavement, extending westward from the new South St. Paul bridge over the Mississippi River, is a link in the Twin Cities Interstate circumferential route. The project included three bridges and the contract totaled $1,441,474. W. L. Hunziker was the resident engineer in charger.

Commissioner Zimmerman was the principal speaker at the luncheon, given in the South View Country Club for civic leaders, state and highway officials, and members of the Chamber of Commerce.

The commissioner pointed out that the improved beltline highway will greatly benefit the meat packing and livestock industries centered in South St. Paul through its connection with trunk highways serving Minnesota and Wisconsin.

New Cage League

There's a new look to the upcoming basketball season for the MHD St. Paul area— and it looks like a good time for more players and spectators than previously. The good time will be laced with some strong factional rivalry.

Instead of entering a single Highway team this season in the St. Paul Commercial League, the Hiwayan Club is sponsoring a Highway seven-team intra-mural league playing two games a week, Fred Maurer, Hiwayan president, reported.

The seven teams represent the Planning and Research, Bridge Design, Lands and Right of Way, Management Services, Road Design, and Materials and Research Sections, and the Twin Cities Metropolitan District.

Games are played Mondays and Thursdays at 5 p.m. at the Palace playground gymnasium, Jefferson and View, in St. Paul. The season is from November 7 to January 31, with each team playing at least one game per week. A suitable trophy will go to the season's championship team.

Co-chairmen for the project are Jim Knutson and John Schorn, both of Management Services.

11 Plaques Scheduled

(Cont. from page 6)

Highway Safety Director Harry Sieben, presenting plaques; George Meskal, maintenance engineer, and Stan Ekern, construction engineer, presenting individual awards; Charley Ross and Gene Farrell, safety information representatives, conducting a safety quiz and showing a safety movie; Bob Green, safety engineer for Mutual Service Insurance Companies; and the district and assistant district engineers, maintenance.

On the day of the meeting in the respective districts, the half-day not occupied by the safety meeting will be given to a session of maintenance employees, only, for discussion of maintenance activities and related questions.

Six Districts Tie In Driver Contest

In the MHD 1960 Motor Vehicle Contest, three construction and three maintenance districts went through the year without a preventable traffic accident among their eligible employees. This qualified each of the six districts to receive a plaque at the safety award meetings to be conducted during April.

The winning construction units were the Bemidji, Willmar, and Brainerd districts. The accident free maintenance units were the Windom, Owatonna, and Marshall Maintenance Districts. The Bemidji and Willmar construction Districts and the Windom Maintenance District also were winners in the 1960 Industrial Safety Contest, with no lost time injuries.

The Motor Vehicle Contest included as eligible participants only those employees who spent more than half their working time in driving, and covered only accidents experienced during working hours.

Of the three construction district winners for 1960, the Bemidji district has won six times previously, in 1952-53-54-56-57-58. The Brainerd district received motor vehicle awards in 1954 and 1957, and Willmar in 1950, 1956, and 1958.

Among this year's maintenance district winners, Marshall had received a district award 10 different years, 1932, 1942-44-45-46-47-49-50-51-54-58. Awards went to the Windom district five times previously, in 1944-45-46-50-59. Owatonna had received awards in 1943 and 1954.

County Engineers Named

Recently appointed county highway engineers in Minnesota include:

Deane R. Anklan, in Ramsey County, previously in the department he now heads; Floyd Muchlinski, in Nobles County, previously county engineer of Lincoln County; Dwight Herman, in Lincoln County; and Hershel Koenig, in Hubbard County, previously a condemnation engineer in the Minnesota Highway Department.

Five Winners in Industrial Race

Three construction and two maintenance districts went through 1960 with no lost time injury of employees to become the winners of the MHD 1960 Industrial Safety Contest. The Willmar, Bemidji, and Mankato Construction and Windom and Bemidji Maintenance Districts were the winners. The Willmar, Bemidji, and Windom districts also were winners in this year's Motor Vehicle Safety Contest.

The Bemidji Maintenance District previously had won in the Industrial Contest in 1954-57-59-60. The 1960 competition was the first Industrial contest in which the construction districts competed.

Charley Ross, informational representative for employee safety, said all the construction districts made an excellent showing in their first industrial contest last year with both a low rate of injury frequency and a "very low" severity rate.

He congratulated the Windom Maintenance District for its first achievement of a full year with no lost time injuries.

Ross noted that the Brainerd Maintenance District was the runner-up among the maintenance districts with a rate of 5.0 for the year.

Farrell in New Job

Gene Farrell

Gene Farrell, an informational representative in the Safety Promotion unit for the past 18 months, has assumed the former duties of Charley Ross in the unit's MHD employee safety program. On January 1, Ross succeeded Charley Getchell, retired, as head of the employee safety program.

Farrell, who previously worked on public traffic safety promotion, now will engage in the field education side of employee safety, particularly on prevention of shop and industrial type accidents among MHD employees.

Ross and Farrell will divide between themselves the responsibilities for general employee safety educational functions and cooperative activity with district safety programs. Ross succeeds Getchell as chairman of the Accident Review Board which determines responsibility for employee accidents. He will supervise the annual district and individual safety awards. Farrell will take over Ross' contacts with the district safety committees.

Progress Shown on Interstate Routes

Minnesota has 26 miles of new Interstate Highway system completed and open for traffic, 71.9 miles under construction at present, and 63 miles additional scheduled for start of construction this year.

Total of the Interstate system in Minnesota will be 898 miles.

An MHD tabulation lists the completed mileage as follows:

South of Minneapolis, 7.1 miles on T.H. 494 (the Twin Cities circumferential route), and 7.9 on T.H. 35W. At South St. Paul, two miles on T.H. 494. Northward from Owatonna, eight miles on T.H. 35. At Moorhead, a mile on T.H. 94.

Under construction:

Vicinity of Sandstone, 16.7 miles on T.H. 35. South of Minneapolis, 2.9 miles on T.H. 494. North of Newport, 3½ miles on T.H. 494. In and north of St. Paul, 10 miles on T.Hs. 35E and 694. (Twin Cities circumferential). At Duluth, .8 mile on T.H. 535 (to Duluth-Superior interstate bridge). Near Fergus Falls, 11½ miles, and at Moorhead, 3.2 miles, both on T.H. 94. At Austin, 19½ miles, and at the South Dakota border, 3.8 miles, both on T.H. 90.

Scheduled for start of construction this year:

On T.H. 35, 10.8 miles northward from Pine City to the south junction with T.H. 23, and 10 miles in Pine County between 35's junctions with T.Hs. 19 and 21. On T.H. 35W, 2.8 miles from its junction with T.H. 36 in northeast Minneapolis to south of the Soo Line bridge in Ramsey county. On T.H. 535, .3 mile for the approach to the Duluth-Superior bridge.

On T.H. 94, nine miles from south of Fergus Falls to the south Ottertail County border. On T.H. 494, 10.6 miles from its junction with C.S.A.H. 18 in Bloomington, through Minnetonka village to the Minnesota Western R.R. tracks in Plymouth village.

On T.H. 90, nine miles from west of Austin to Petran, in Freeborn and Mower Counties; 5½ miles from 3½ miles southwest of Dexter to Jct. C.S.A.H. 2 in Mower County; and 5.1 miles from the south Olmsted County line to 90's junction with T.H. 63.

Trunk Highway 94 is the Interstate route crossing Minnesota from Hudson, Wis., northwestward to Moorhead, via the Twin Cities; T.H. 90 crosses the southern section of the state from LaCrescent to Manley, east-west; and T.H. 35 extends from Duluth southward to Emmons on the southern boundary.

A large share of the construction is completed or well advanced on the Interstate's heavy traffic links in the Twin Cities, including the circumferential route, permitting increasing emphasis on Interstate construction in rural sections, where it will advance more rapidly in terms of mileage.

For Minnesota

Fiscal '62 Interstate Program Plotted

Highway construction to cost an estimated $46,713,000 has been programmed for the 1961-62 fiscal year on the Interstate highway system in Minnesota, according to an announcement by Commissioner Zimmerman.

The schedule, as prepared by the Planning and Programming Division, includes 41 miles of grading and 44 miles of surfacing to be placed under contract, plus 69 bridges, and many miles of fencing and planting, as well as sign and lighting installations.

The program is subject to possible revision in accordance with the amount of federal highway aid which may be available when the contracts are let. Ninety per cent of the cost of the Interstate highway system is financed by federal funds. A statement accompanying the list of scheduled projects said, in part:

"At this time there is considerable uncertainty as to the amount of federal aid Interstate funds that will be made available under the reimbursable obligation control schedule for fiscal 1962. There is some question as to whether we will even have obligation control during this next fiscal period....

"It may be necessary to revise the attached program at a later date when the decisions affecting program financing have been made."

Projects in Six Districts

Work is programmed in Districts 1, 4, 5, 6, 7, and 9. Slightly more than half of the total expenditure will be for work in District 9, the Twin Cities Metropolitan District. There, the requirement for additional traffic lanes and more interchanges and grade separations, increases the construction cost per mile over less populated areas.

The 12.3 miles of construction programmed for District 9 is only 16½ per cent of the total mileage scheduled and is only approximately one half the mileage listed for District 6, the Rochester District. District 4, the Detroit Lakes District, also has more mileage listed than District 9.

The breakdown by districts for construction mileage, number of bridges (interchange and grade separation), and total cost is:

District	Total Miles	Total of Bridges	Total Cost
1 (Duluth)	3.8	2	$ 840,000
4 (Detroit Lakes)	13.5	3	3,321,000
5 (Golden Valley)	12.0	18	4,878,000
6 (Rochester)	24.2	7	11,618,000
7 (Mankato)	8.5	6	1,762,000
9 (Metropolitan)	12.3	33	24,294,000
Totals	74.3	69	$46,713,000

For the entire program, the fencing totals 48½ miles and the planting of trees and shrubbery, 59.3 miles, indicating the high standard facilities required for the Interstate freeways. It should be noted that the fencing, planting, lighting and signing projects are separate from the grading and surfacing projects in the 1961-62 program and may be at different locations. Their mileage totals are not included in the mileage totals for grading and surfacing projects.

Some of the major projects in the various districts follow:

District 1

Nearly four miles of grading is to be done on Interstate Highway (I. H.) 35 in Pine County, between the junction with T. H. 70 and the south limits of Pine City.

Two bridges are to be built. One will carry I. H. 35 under C.S.A.H. 3, in Carlton County, the other will carry I. H. 35 under T. H. 70, in Pine County. The total estimated expenditure: $840,000.

District 4

Nine miles of grading is scheduled on I. H. 94 in Otter Tail County between the highway's south junction with T. H. 52, south of Fergus Falls, and the south Otter Tail County line.

Also in Otter Tail County, 4½ miles of surfacing is listed for I. H. 94, between the highway's north junction with T. H. 52 and C.S.A.H. 15.

Three bridges programmed in Otter Tail County will carry T. H. 52, C.S.A.H. 35, and a township road over I. H. 94. Total estimated espenditures: $3,321,000.

District 5

A start on 18 bridges on I. Hs. 35 and 494 (Twin Cities circumferential) provides a major share of the 1961-62 program planned for District 5. Seven of the bridges will be in Dakota County, at I. H. 35's intersections with the M. N. & S. Ry., T. H. 50, Crystal Lake Rd., I. H. 35E, and carrying I. H. 35W under C.S.A.H. 11.

Eleven bridges are scheduled for Hennepin County, on I. H. 494. They will be at intersections with the M. & St. L. Ry. and C.S.A.H. 5, the G. N. Ry. and Stone Rd., Oakland Rd. Dr., T. H. 12, Proposed Rd., and C.S.A.H. 15, C & N. W. Ry. and Proposed Hope Ave.

Grading listed for District 5 includes 5½ miles in Dakota County and 3½ miles in Hennepin County. In Dakota, 3½ miles of grading is listed for I. H. 35 from near the south junction with T. H. 50 to the south junction with I. H. 35E and 35W; and two miles of grading is listed for I. H. 35W from its south junction with I. H. 35 to near the junction with T. H. 13.

Hennepin is scheduled for 3½ miles of grading on I. H. 494 between the M. & S. L. Ry. in Minnetonka and the Minn. Western Ry. The major item for Washington County is three miles of surfacing on I. H. 494 from near the Ramsey County line to Upper Afton Rd. Total estimated espenditures: $4,878,000.

District 6

A major project in District 6 will be the grading and surfacing of 5.7 miles on I. H. 90 in Winona County, between Dakota village and the Mississippi river bridge. Also on 90 will be two other surfacing projects. One, for nine miles, will be in Freeborn and Mower Counties, between Petron and a point near 90's junction with T. H. 16 west of Austin. The other for 9½ miles, will be in Mower County, from the Austin east limits to 3½ miles southwest of Dexter.

Seven bridges are programmed for District 6, at I.H. 90, intersections with C.S.A.H. 19 north of Rose Creek, C.S.A.H. 16, C.S.A.H. 12; over the outer drive to T.H. 61 at a point 2.2 miles southeast of the 90-61 junction, and over the outer drive at a point 2.7 miles southeast of the junction. Total estimated expenditure: $11,618,000.

District 7

For District 7, the program lists 8½ miles of grading and six bridges on I. H. 90, all in Rock County. The grading will extend from Beaver Creek to near 90's junction with T. H. 75, south of Luverne.

The seven bridges will be at 90's intersections with T. H. 16 and the C. & N. W. Ry., C.S.A.H. 6, C. R. 11 three miles west of the junction with T. H. 75, and at the junction with T. H. 75 south of Luverne. Total estimated expenditure: $1,762,000.

District 9

Superstructure projects for two bridges over the Mississippi river are among major items in the District 9 program.

One of the bridges, between south and southeast Minneapolis, at Dartmouth Ave., will carry I. H. 94 traffic between Minneapolis and St. Paul. The other will carry I. H. 35E traffic between St. Paul and Mendota, on Lexington Ave. This project includes construction of abutments, as well as the superstructure.

Another large scale project programmed for the district will be a storm sewer tunnel 2½ miles long near the junction of I. Hs. 94 and 35W south of the Minneapolis loop, serving the two routes.

Grading and surfacing projects in the program for District 9 include:

Grading and surfacing of 3.8 miles of I. H. 35W in Ramsey County, from a half-mile south of the Soo-Line bridge to a half-mile north of 90's junction with T. Hs. 10 and 8.

Grading and surfacing of nine-tenths of a mile (two roadways only) on I. H. 94, in Ramsey County, from Broadway and Sixth St. to Plum St. and Hudson Rd.

(Cont. on page 12)

HIGHWAY SAFETY NEWS

Motor Vehicle Safety Contest

JANUARY 1 to JANUARY 31, 1961

District	Contest Standings: Chargeable Accidents: Rank	Emps	"P"	Per 100 Emps	Non-Contest Frequency: Total Accidents: "N.P." Accs.	This Month	To Date	Per 100 Emps.
MAINTENANCE DISTRICTS								
Virginia	0	100	0	0.00	0	0	0	0.00
Duluth	0	107	0	0.00	0	0	0	0.00
Bemidji	0	67	0	0.00	0	0	0	0.00
Brainerd	0	85	0	0.00	0	0	0	0.00
Crookston	0	68	0	0.00	0	0	0	0.00
Detroit Lakes	0	82	0	0,00	0	0	0	0.00
St. Cloud	0	99	0	0,00	2	2	2	2.02
Morris	0	65	0	0.00	0	0	0	0.00
Golden Valley *	0	161	0	0.00	2	2	2	1.24
Willmar	0	72	0	0.00	0	0	0	0.00
St. Paul Park *	0.	129	0	0.00	1	1	1	.78
Rochester	16	100	1	1.00	1	1	2	2.00
Owatonna	0	87	0	0.00	0	0	0	0.00
Mankato	0	77	0	0,00	1	1	1	1.30
Marshall	0	76	0	0.00	0	0	0	0.00
Windom	0	75	0	0.00	1	1	1	1.33
Totals		1450	1	0.07	8	8	8	0.55
CONSTRUCTION DISTRICTS								
Duluth	0	123	0	0.00	0	0	0	0.00
Bemidji	0	55	0	0.00	0	0	0	0.00
Brainerd *	0	86	0	0.00	1	1	1	1.16
Detroit Lakes *	0	80	0	0.00	1	1	1	1.25
Golden Valley	0	135	0	0.00	0	0	0	0.00
Rochester *	0	109	0	0.00	1	1	1	.92
Mankato	0	89	0	0.00	0	0	0	0.00
Willmar	0	24	0	0.00	0	0	0	0.00
Metropolitan *	0	100	0	0.00	1	1	1	1.00
Totals		801	0	0.00	4	4	4	0.50

* Accident review pending

Industrial Safety Contest

JANUARY 1 to JANUARY 31, 1961

Rank	District	Lost Time This Month	Injuries To Date	Man Hours Worked	Frequency Rate	Days Lost	Severity Rate
MAINTENANCE DISTRICTS AND CENTRAL SHOP							
1	Golden Valley	0	0	23,096	0.0	0	0.
2	St. Paul Park	0	0	21,954	0.0	0	0.
3	Virginia	0	0	17,044	0.0	0	0.
4	Owatonna	0	0	14,226	0.0	0	0.
5	Rochester	0	0	13,572	0.0	0	0.
6	Willmar	0	0	11,883	0.0	0	0.
7	Brainerd	0	0	11,268	0.0	0	0.
8	Detroit Lakes	0	0	10,972	0.0	0	0.
9	St. Cloud	0	0	10,844	0.0	0	0.
10	Mankato	0	0	10,415	0.0	0	0.
11	Marshall	0	0	9,975	0.0	0	0.
12	Central Shop	0	0	7,956	0.0	0	0.
13	Morris	0	0	7,564	0.0	0	0.
14	Duluth	1	1	20,489	48.9	6	2930.
15	Windom	1	1	9,763	102.0	10	1024.
16	Bemidji	1	1	8,250	121.2	1	121.
17	Crookston	2	2	9,062	221.7	29	3200.
Totals		5	5	227,395	22.0	46	202.
CONSTRUCTION DISTRICTS							
1	St. Paul	0	0	35,701	0.0	0	0.
2	Rochester	0	0	20,966	0.0	0	0.
3	Golden Valley	0	0	20,694	0.0	0	0.
4	Duluth	0	0	18,852	0.0	0	0.
5	Mankato	0	0	11,005	0.0	0	0.
6	Detroit Lakes	0	0	10,439	0.0	0	0.
7	Willmar	0	0	9,694	0.0	0	0.
8	Bemidji	0	0	6,431	0.0	0	0.
9	Brainerd	1	1	12,865	78.0	4	311.
Totals		1	1	146,647	6.8	4	27.

10 New Examiners Are Appointed

In preparation for assignment to regular posts, 10 driver examiner trainees will begin 100 hours of classroom instruction in the State Highway Building March 20, according to G. A. Hatfield, director of the Drivers License Section.

The new appointees; Richard H. Haan, Luverne; Clarence A. Roberts, Park Rapids; Howard E. Blix, Brookston; Lee E. Baker, Babbitt; J. David Hogle, Mantorville; Roy L. Reiten, Granite Falls; Robert H. Cookman, Fergus Falls; Dwight R. Bailey, Garden City; Samuel H. Schultz, Alexandria; and Edward L. Major, North St. Paul.

On completion of their classroom instruction, April 3, the trainees will be sent to the St. Paul and Minneapolis examining stations for three weeks of practical training with experienced examiners. Then they will be assigned to stations, mostly in the Twin Cities, by Ray Baseman, chief examiner. In charge of the examiner school will be Len Hotaling, operations officer for the examiner unit, with eight sector supervisors as instructors.

Of the 10 appointees, four will be replacements to fill vacancies. The other new men will be additions to bring the total examiner strength to 92.

'62 Program Plotted

(Cont. from page 5)

Surfacing of 3.9 miles on I. H. 694 (Twin Cities circumferential), in Ramsey County, between 90's junction with I. H. 35W and T. H. 49 (Rice St.).

Grading and surfacing a fifth of a mile on I. H. 94 in Minneapolis, between the Mississippi river and Twenty-seventh Ave.

Surfacing 2.9 miles on I. H. 494 in Hennepin County, between C.S.A.H. 18 and T. H. 100.

An important bridge in the District 9 program is one to carry I. H. 694 over the Mississippi river on West Broadway in Minneapolis.

Among other bridges in the program for District 9 are those to carry I. H. 94 under the East River Rd., and under Twenty-seventh Ave. in Minneapolis, and in Ramsey County to carry I. H. 94 under several streets, including Hamline Ave. and Sixth St., and over T. H. 100, and to carry I. H. 35W under the M. St. P. & S. St. M. R. R., Second St., New Brighton Rd, under I. H. 694, T. H. 96, under T. H. 10, and under the Twin City Arsenal entrance. Another major bridge in Ramsey County will carry I. H. 35E over Minnehaha Ave. and the Great Northern Ry. Total estimated expenditures: $24,294,000.

MINNESOTA Highways

VOL. 10, NO. 6 | Minnesota Department of Highways, St. Paul | APRIL, 1961

WHO?

(See page 12.)

COVER PICTURE

Lloyd Jendro, MHD photographer, aimed his camera westward for this closeup view of the new bridge in St. Paul which will carry Interstate Highway 94 eastbound traffic over the tracks of three railways---the Great Northern, Northern Pacific, and Chicago & North Western. A branching leg for eastbound traffic to Sixth St. shows at the right. The companion I. H. 94 westbound bridge, with its Sixth St. branch is to the right of the area shown.

The two bridges, with their Sixth St. branches, will replace the old Sixth St. bridge, already removed. Sixth St. traffic now detours the bridge site. Visible on the skyline are the domes of the St. Paul Catholic cathedral, left center, and the state capitol, far right.

The new bridges have concrete substructures and steel superstructures. The Walter D. Giertsen Co. of Minneapolis, has the construction contracts, totaling just over $3 million. Construction began late in 1959 and is scheduled for completion by September 1 of this year. Construction required for eastbound traffic to Sixth St. is to be completed for use by July 1.

The 20-span eastbound bridge, including its Sixth St. Branch, is 2,108 feet long and was 65 per cent finished on April 1. The 19-span westbound bridge, including its Sixth St. branch, is 1,992 feet long and was 36 per cent done. The roadways vary from 30 to 42 feet in width. Bob Brennan is the resident engineer in charge.

CS Exams April 29

Fifteen civil service classifications in the Highway Department are represented in appointment examinations to be given April 29. Promotional tests are scheduled for the ratings of Clerk II, Clerk Typist II, Clerk Steno II, and Highway Technician II (Field). Open competitive tests are listed for Blueprinter I, Highway Field Assistant, Highway Technician I. Highway Technician II (Materials and Research), Janitor, Laboratory Technicians I and II, Research Analysts I and II, and Tabulating Machine Operators I and II.

Applications are now open for examination for the classification of Traffic Engineer. This is a CE II position for supervision of the collection, analysis, interpretation, and application of traffic data for traffic and transportation planning in the Twin Cities Metropolitan area or in other construction districts. The pay range is $6828-8328, annually.

A second position open for application is that of Community Planner III, to fill the position of Transportation Economist in charge of the Economic Studies Unit in the Planning Research Section of the Planning and Programming Division. The monthly pay range: $694-844. The unit conducts research studies on the economic and social impact of highway construction in specific areas.

Cars to Be Checked

Governor Elmer L. Andersen will set the example for the drivers of Minnesota when he personally drives his own automobile through the Safety Check Lane to be operated all day Thursday, May 4, at the Rondo Street parking lot.

The check is being sponsored jointly for the second consecutive year by the Highway Department and Highway Employees Union 1011. Co-chairmen for the event will again be Len Arth and Bob Meyer of the Union.

This check, a part of the national Vehicle "Circle of Safety" emphasis, will serve as a "kick-off" for many local vehicle safety check lanes which will be set up in the communities of the state. Last year, 67 localities conducted checks involving over forty thousand vehicles.

Highway Department employees will again be given the opportunity to take advantage of the free 10-point check of their vehicle's mechanical condition. Further particulars of the event will be announced to MHD employees in the near future.

ATTENTION FISHERMEN: There's a beautiful lake in Webster, Mass., (owned by Indians) Lake Chargoggagoggmanchauggagoggchaubunagungamaugg. It means "You fish on your side; I fish on my side; nobody fishes in the middle."

Kenaley Retires

Jim Kenaley

Nearly three decades of service to the Highway Department ended April 4 for Jim Kenaley when he retired as assistant director of the Drivers License Section, a post he had filled since 1948. He supervised the installation of the Accident Records Section and administration of the Safety Responsibility Act applying to motorists.

Entering the MHD in 1933, Kenaley was successively in the Bridge and Road Design Sections and was office manager of the Construction Section in 1947.

In the Bridge Section, he worked on a half dozen bridges in the Twin Cities, and on bridges in St. Louis Park, Hopkins, LaCrescent, Minnesota City, Winona, Mora and other locations.

Kenaley is a past president of the Hiwayan Club and, as a World War I veteran, has been active in the American Legion and Disabled American Veterans.

A dinner in Kenaley's honor was scheduled by his fellow workers for April 27 in the Prom Arizona room, St. Paul.

Grace Samuels Feted

Some 40 distaff members of the Highway Department feted Mrs. Grace Samuels at a dinner in the Highway Department cafeteria to mark her retirement as a clerk in the Finance Section. Taking part in a program of music and talks were Mrs. Dorothy Pilcher as toastmistress; Vi Knutson, Emily Sirbascu, Rose Wos, and Pauline Fink. Grace was presented with a clock-radio, and check She entered state service in January, 1949, and worked in the Drivers License Section before joining Finance.

Mrs. Samuels

Commissioner Lauds Fallon Bill

Four principal persons at the Minneapolis Chamber of Commerce luncheon were: L to R, Elmer V. Erickson of Cambridge, president of Minnesota Good Roads, Inc.; State Highway Commissioner James C. Marshall; State Representative Charles L. Halstad of Brainerd, House Highways Committee chairman; and William Boyer, Chamber of Commerce president.

Commissioner Marshall was the guest of honor at a luncheon May 24 observing National Highway Week, at which he had the opportunity to meet Minneapolis business and professional men.

The luncheon was at the Normandy Hotel in Minneapolis under sponsorship of the Minneapolis Area Chamber of Commerce, the Downtown Council, and Minnesota Good Roads, Inc. Commissioner Marshall took the occasion to express firm support for the Fallon bill for increased federal highway aid.

Joining him in advocating its adoption by the Congress was Burton Miller, deputy executive vice president of the American Road Builders Association, Washington, D. C., who also spoke.

At the time of the luncheon, the Fallon bill had been passed by the House and was in committee in the Senate.

"Sufficient revenue is provided in the bill to put the federal highway trust fund on a sound basis," said Marshall.

He said that since 1959 the fund has not been able to provide enough money to allow states to obligate the full amounts of their annual apportionments. Minnesota has some $60 million in Interstate federal aid allotments which it has not been able to place under contract because of federal contract controls.

The pending legislation, according to Miller, will permit the interstate highway program to be completed on schedule in 1972 by revising the present authorization schedule and by providing "firm financing" to support the program.

Commissioner Marshall told the luncheon group that Minnesota will receive approximately $84 million in federal funds and that nearly $28 million in state and county funds will be available for Minnesota Highway projects in the fiscal year beginning July 1.

Praise for Motl

While serving abroad as a consulting engineer, Charley Motl, former MHD maintenance engineer who died April 30, was an excellent "good will ambassador" for the United States.

That was the word of Charles Upham of Washington, D. C., for whose large engineering firm Motl worked in Egypt, Honduras and Thailand from his MHD retirement in 1955 to August, 1960.

Upham attended the funeral services for Mr. Motl. At the services he visited with A. O. Torgerson of Detroit Lakes, retired MHD assistant commissioner. To Mr. Torgerson he made this comment, in substance:

"Charles Motl was one of the finest examples of real Americans we have ever sent to foreign lands to help rehabilitate and promote good relations for the United States. He was deeply respected and almost loved in every place he served because there was no sham or pretense in him, no arrogance or egotism in any of his contacts; he was the same sincere person to all whether a common laborer or a high official.

"I am convinced that a dozen men of his caliber sent to each country the United States is trying to help could and would do more to promote and cement good will and friendship for the United States than the millions of dollars of foreign aid money used to date."

In relaying Upham's remarks to Minnesota Highways, Torgerson said:

"A wonderful tribute to one of Minnesota's best known highway engineers."

An after-dinner speech that is sure to get a big hand is: "Put it all on one check, please."

Ground Survey Control

(Cont. from page 3)

errors that may occur in the location survey.

Land ties and bridge alignment surveys at river crossings are other applications where precise surveys are essential.

Need For Steel Towers Seen

Throughout many areas in the state there are places where, because of local obstructions, it is not possible to select station sites for a scheme of horizontal control having visibility between stations, from the ground. Also, on surveys that cover wide expanses of territory, the curvature of the earth must be taken into account.

Portable steel towers, will, therefore be necessary to elevate the observer and his instruments above such obstructions.

A complete tower is a combination of an inner and outer structure mutually independent of each other, so that neither structure will touch the other at any point. The outer structure supports the observer and the inner structure the instruments. The towers are assembled and erected on the survey site.

Electronics Cut Surveying Costs 52%

Distance measurements by Tellurometer accomplish great savings in time and money.

According to a report from the U. S. Geological Survey, field parties equipped with Tellurometers have completed in a 12-month period, measurements of 6,542 miles of lines on 40 different projects around the country. These assignments, ranging from 400 feet to 126 miles, were carried out over all kinds of terrain, and, in some instances, enabled crews to complete in a few days, surveying tasks which would have taken many weeks by traditional methods.

By ordinary methods the cost of such work has averaged $67.32 per linear mile. Using Tellurometers, the cost was reduced to $32.07 per mile - a 52% reduction.

While the MHD Mobile Unit has been in operation only the last two months, indications are that similar savings are being made.

Availability of Services

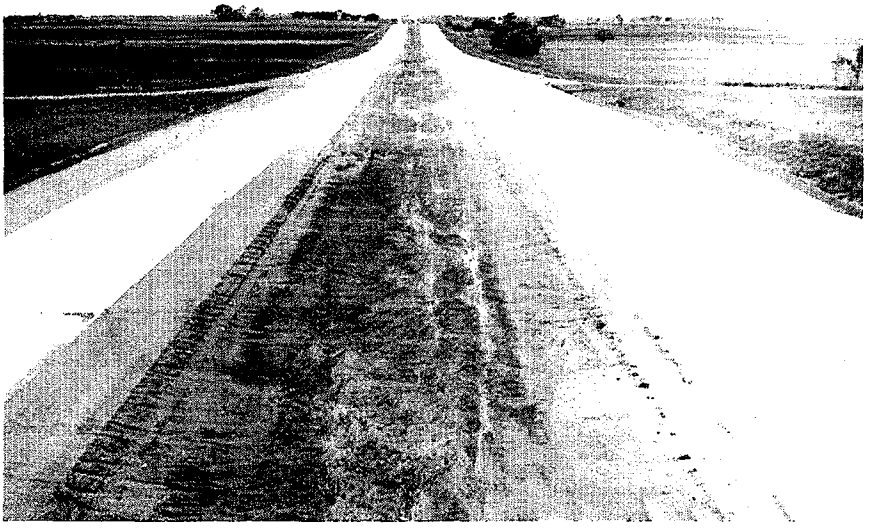
Services of the Mobile Unit are available upon request to the Photogrammetric Unit, Room 707, Minnesota Department of Highways, St. Paul 1.

Frank Mauritz Dies

Frank E. Mauritz, 60, of Minneapolis, a long-time employee of the Highway Department, died June 1. He had been on a disability leave since 1957, following injuries received in a traffic accident. He joined the department in June 1925 and worked in various surveying and engineering posts until he became a project engineer in 1947.

He was a talented violinist. Immediate survivors include his wife and two daughters.

Interstate Construction in S. W. Minnesota



In far western Minnesota it's often a long distance between curves. Shown here is a section of the new four-lane divided pavement on I. R. 90, west of Beaver Creek. Noticeable are the depressed median strip and the wide outer shoulders (not yet surfaced), flanked in the foreground by connecting roads to the T. H. 23 interchange bridge from which the picture was taken. The view is westward.

Despite an over-abundance of rainfall early this summer, work is progressing satisfactorily on a major rural Minnesota interstate highway project---construction of 3.8 miles of four-lane divided concrete pavement on I. R. 90 from Beaver Creek westward to the South Dakota boundary.

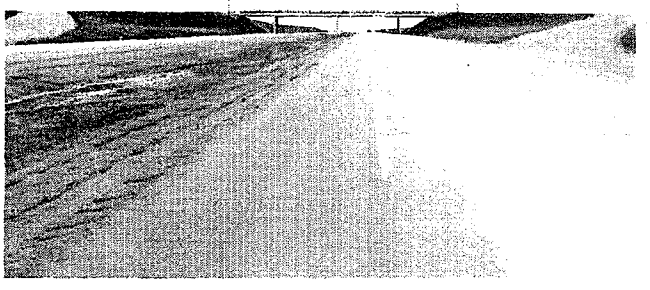
The new freeway will cross Minnesota from LaCrescent on the state's eastern boundary, generally close to the route of T. H. 16 and touching Austin, Albert Lea, Blue Earth, Fairmont, Jackson, Worthington, and Luverne.

The new route will provide in Minnesota a fast, high standard highway to serve a rich, populous farming area with direct transportation to a dozen sizeable communities and nearby service to a number of other Minnesota communities such as Winona, Rochester, Owatonna, Waseca, Mankato, St. James, Windom, Slayton and Pipestone. St. Peter, Faribault and New Ulm are slightly further north.

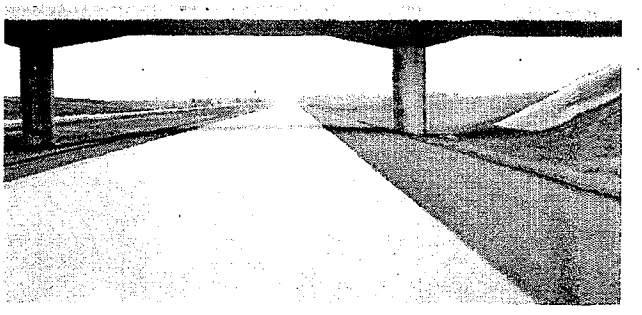
The total project under way from Beaver Creek to the South Dakota border is covered by three contracts, all nearly completed.

The Ashbach Construction Co. of St. Paul has a $1,442,492 contract for the grading, gravel base, concrete pavement,

(Cont. on page 4)

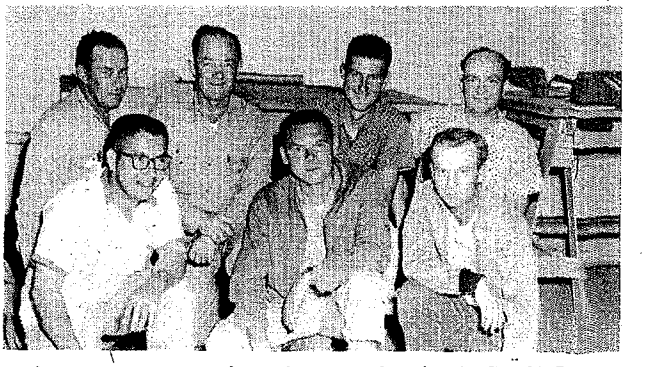


Looking westward, this view shows the interchange bridge (and connecting roads) which carries T. H. 23 over I. R. 90, a mile east of the boundary.



This bridge over I. R. 90 in South Dakota a short distance west of the Minnesota boundary shows a variance in design from the nearby Minnesota I. R. 90 bridge. The piers are round.

Removing paving forms for regrading on the Beaver Creek I. R. 90 project after heavy rainfall were contractor's workmen Robert Horn, left, of Montrose, S. D., and Edward Molock, Streeter, N. D.



The project engineer's field crew for the I. R. 90 Beaver Creek project includes: L to R, front, Lane Riordan, Dick Young and Ed Polesky; rear, Wendell Keeler, Bob Kerkow, Bernard Brommer and Wilfred Saner.

Interstate Highway

(Cont. from page 3)

and bituminous shoulders, as well as a 200-foot long interchange bridge to carry T. H. 23 over I. R. 90 a mile east of the South Dakota line. The four-lane bridge, already completed, has a 30-foot roadway.

The Thorson Construction Co., Inc., of Tracy, has the contract for two twin bridges to carry I. R. 90 over the Great

Ron Jensen of Mankato, is the project engineer in charge of the I. R. 90 construction west of Beaver Creek.

Northern Railway single track a third of a mile east of the South Dakota border. This contract, for $137,969, has been completed.

The third contract, held by the McGowen's Clearing and Sodding firm of Ottertail, for $15,390, is for furnishing and installing of 40,500 linear feet of woven wire fencing along both sides of the entire length of 3.8 miles. This work is done.

The 3.8 mile project is scheduled to by opened for traffic this fall, coincidentally with the opening of a section extending westward in South Dakota.

Marshall Is Speaker

Commissioner Marshall was the scheduled speaker for a Hiwayan Club luncheon July 19 in the Highway cafeteria. Announcement and crowning of the 1961-62 MHD queen was another event scheduled. The eight candidates were Mary Lou Cich, Gloria Rodrigues, Jean Sbragia, Mary Ann Stuart, Anne Doody, Sandra Krueger, Georgene Kimmel, and Charlotte Laska.

New St. Paul Bridges Progress

Pictures on the facing page show progress of construction for four new major highway bridges in St. Paul and its southwestern environs. They are the East Sixth St. twin bridges, within the city, and the Lexington Ave. and West Seventh St. bridges over the Mississippi river on the city's southwest boundary.

The East Sixth St. structures will provide east and westbound roadways for Interstate Route 94 and Sixth St. over the Great Northern, Northern Pacific, and Chicago and Northwestern Railway tracks at East Sixth St. The Lexington Ave. bridge, between St. Paul and Mendota Heights, will carry north and southbound traffic on I. R. 35E, and the West Seventh St. bridge, between St. Paul and Ft. Snelling, will carry east and westbound T. H. 5 traffic.

Interstate Route 94 will cross Minnesota from Hudson, Wis., to Fargo, N. D. Interstate Route 35 will extend from Duluth through Albert Lea in Minnesota. State Trunk Highway 5 runs from St. Paul to Gaylord in south central Minnesota. In the Twin Cities, I. R. 35 has a west leg through Minneapolis and an east leg through St. Paul.

The East Sixth St. bridges, to cost a total contract price of $3,181,493, will replace an obsolete single Sixth St. bridge, already wrecked. There has been no bridge previously over the Mississippi on Lexington Ave. The West Seventh St. bridge will replace an old and now inadequate structure.

As shown in the photo-diagram of the so-called Sixth St. bridges, two-lane westbound and eastbound roadways will connect the I. R. 94 location on Sixth St. to the west of the railroad tracks with the route's location near Hudson Rd., to the east of the tracks and south of Sixth St. The interstate links are about 2,000 feet long. The other two roadways, shown branching from the interstate links near the bridges' west ends, will provide west and eastbound connections between the sections of Sixth St. to the west and east of the tracks.

The contractor for the Sixth St. bridges is the Walter D. Giertsen Co. of Minneapolis. Construction was started in late 1959 and is scheduled for completion by September of this year.

On the Lexington Ave. bridge over the Mississippi and the Milwaukee and Chicago & North Western railroads, for I. R. 35E, the contract under way is for construction of the first six piers, progressing from 64 to 91 feet high. Work began last fall with completion of the piers scheduled by mid-November of this year. The contract, for $497,680, is held by Foley Bros., Inc., of St. Paul. The four-lane bridge will be 1,400 feet long, of steel and concrete construction, with two 29-foot roadways.

Interstate Route 35E will be an important freeway traffic artery between St. Paul and south central Minnesota and states to the south.

Work on the 1,198-foot long T. H. 5 bridge over the Mississippi River between West Seventh St. in St. Paul and Fort Snelling began in April, 1960, and is scheduled for completion by July 1, 1962. It will be opened for traffic this fall. It will have two 27-foot roadways for northeast and southwest traffic. The new bridge, of steel and concrete construction, will replace an old structure having only one narrow traffic lane in each direction.

Besides carrying T. H. 5's usual traffic, the new West Seventh St. bridge will be a greatly improved connection between St. Paul and south Minneapolis and its suburban area and will be a part of the extensive newly developed traffic complex in the Ft. Snelling area, including interchange with several trunk highways, and the Mendota bridge and its highways to southeastern Minnesota.

The new West Seventh St. bridge is being built by the Walter D. Giertsen Co. at a contract price of $1,965,264.

Closely associated with the construction of the new West Seventh St. bridge is current construction of two bridges to carry Mississippi Blvd. over T. H. 5 (the highway on the West Seventh St. bridge) and a third bridge to carry Edgecumbe Rd. over T. H. 5. These three bridges are at the St. Paul end of the new West Seventh St. bridge. The contract for the three bridges is held by the Ashbach Construction Co., St. Paul, at a price of $1,047,911. The contract also includes construction of four-tenths of a mile of the St. Paul approach to the new West Seventh St. bridge, extending from Munster Ave. to the bridge.

Exams for Execs

To rebuild its eligibility lists, the state Civil Service Department announced it would receive applications for promotional examination for the classifications of Executive I, II, and III.

An Executive I manages the operation of a small unit or division, planning procedures, interpreting laws and regulations, and reviewing work performed by the unit. The pay range is $385 to $468, monthly. An executive II, receiving from $450 to $547, monthly, plans and directs the work of a division of medium size or serves as an office manager of a major department. An Executive III directs the activities of a major departmental unit. The pay range is $547 to $667, monthly.

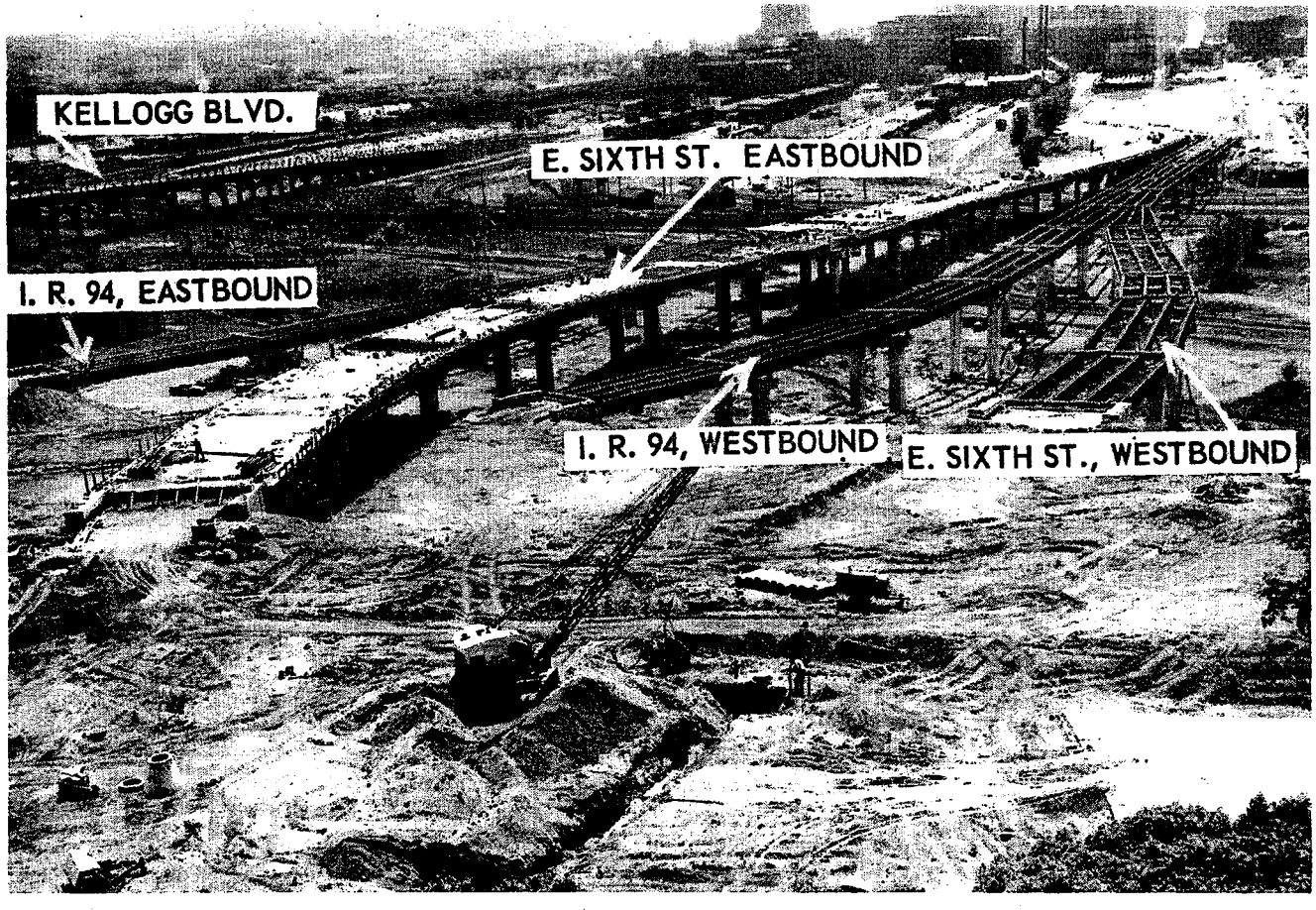
Applications also are being received for an open examination for the HT III classification of stereo plotter operator, a post paying $450 to $547, monthly, in the Photogrammetric unit. The operator will use and maintain the stereo plotter and peripheral equipment, compiling planimetric and contour maps and checking mapping work for accuracy and completeness.

A young lady on a vacation cruise stopped a sailor at his job and said, "I'd like to see the captain of this ship."

"He's forward, Miss."

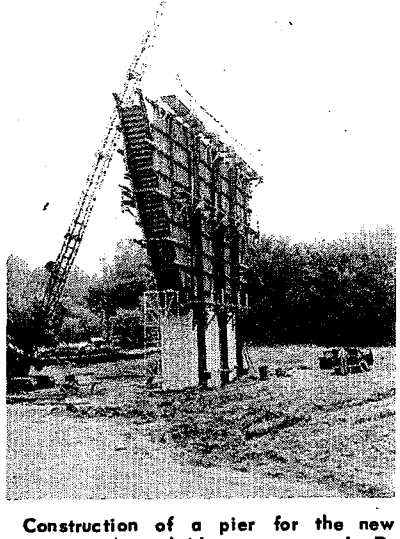
"Well, I don't mind. This is a pleasure trip."

MINNESOTA HIGHWAYS
Jul 1961

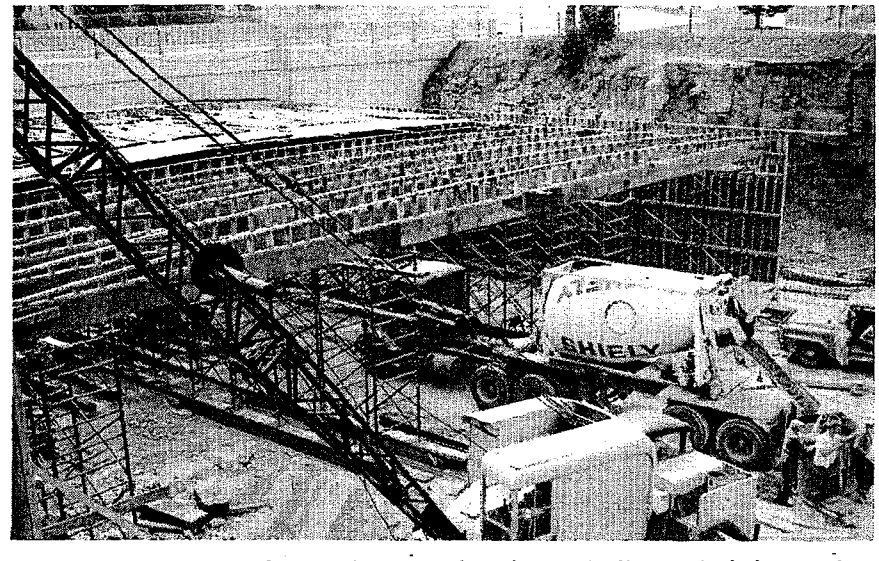


Looking westward toward downtown St. Paul, this photo-diagram shows the relationship of the four segments of the new East Sixth St. bridges which will carry I. R. 94 and Sixth St. over tracks of three railroads. The I. R. 94 segments will connect the highway's locations slightly to the southeast near Hudson Rd. and to the west on Sixth St. (upper right). The Sixth St. segments will join at both ends to connect with the street's present location. The eastbound Sixth St. leg crosses over the westbound I. R. 94 leg (left center). Merging of the westbound I. R. 94 and Sixth St. legs is visible to the upper right of the picture.

Construction Views of New St. Paul Bridges

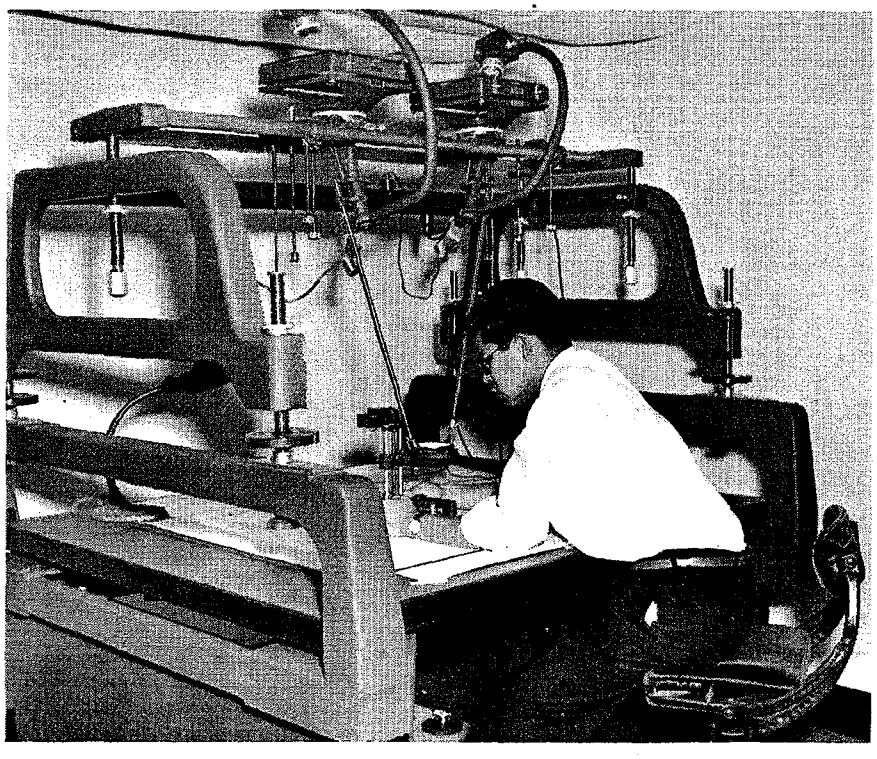


Construction of a pier for the new Lexington Ave. bridge to carry I. R. 35E over the Mississippi river south of St. Paul is shown here with the steel form for pouring concrete partially removed.



Here is construction under way for a tunnel at the Ft. Snelling end of the new West Seventh St. bridge over the Mississippi river between the fort and St. Paul. The roof will be landscaped to preserve the fort's historic and scenic values. The bridge will carry T. H. 5.

Mapping Device Installed



Anthony Martinez operates the new Kelsh plotting machine in the Photogrammetric Group's Mapping Squad. For greatest possible accuracy in projecting transparencies of aerial photographs, manual adjustments are provided to compensate the picture to the exact tilt and directional angle of the plane from which the picture was taken.

To aid MHD engineers and increase productivity, a new mapping device, known as a "Kelsh Plotter," has just recently been installed in the department's newly formed Mapping Squad of the Photogrammetric Group.

This new instrument is capable of producing topographic maps through the use of "Photogrammetry", which is the science or art of obtaining reliable measurements by means of photography.

The plotter projects transparencies of photographs taken with an airborne camera onto a table surface, creating a three dimensional "model" when viewed with spectacles having one red and one blue-green lens. This "model" is then measured and traced onto the manuscript sheet with a precise tracing device, producing an extremely accurate and detailed map.

For several years, the Highway Department has effectively employed such maps, prepared by private photogrammetric engineering firms, for location and design purposes.

Used for Checking

In addition to producing maps, the plotter will be employed to check those maps prepared for the department by outside agencies. Because a high standard of accuracy is required for engineering use, it is essential that all maps be tested to assure complete conformance with specifications. Heretofore, map testing was done by field survey methods. A substantial money-savings as well as a more comprehensive check will be realized by performing this operation on the new instrument.

Anthony Martinez, a former highway employee has returned to the department to serve as chief plotter operator. Mr. Martinez has attended the Army School of Photogrammetry at Fort Belvoir, Va., has had three years' experience mapping for the United States Army in Korea, and for the past seven years has worked in the Photogrammetric Laboratory at Mark Hurd Aerial Surveys, Inc., Minneapolis. Martinez was in the MHD for a period after his Korean war service.

Completes Services

The addition of this plotter rounds out the services which are available from the Photogrammetric Unit. This unit furnishes information, assistance and guidance in the selection and uses of aerial survey materials, conducts photo-interpretation studies and maintains a lending library of aerial photographs, photo-mosaics and topographic maps.

As the Highway department's representative in all aerial surveying and ground survey control work, all activities relating to services and contract performance of work performed in these fields by outside agencies is processed through this unit.

After completion of the organization of the Photogrammetric unit within the next few months for its expanded activity, an announcement will be made in Minnesota Highways of the total services available and the recommended procedure for submitting projects.

Interstate Link Opened for Use

The first Interstate Highway System link connecting Minnesota and another state was formally opened for traffic with appropriate ceremonies September 11.

On the Minnesota-South Dakota state line four miles west of Beaver Creek, Minn., and close to Minnesota's southwest corner, a ribbon was cut to signal the opening of about 10 miles of I. R. 90. The newly completed four-lane divided freeway extends from Beaver Creek to the state line and six miles westward into South Dakota, toward Sioux Falls.

Principal Minnesota highway officials taking part in the ribbon ceremony were Commissioner Marshall, Deputy Commissioner Frank D. Marzitelli and District Engineer Julian Idzorek, in whose territory the new construction is located. Leading representatives for the South Dakota Highway Department were Donald A. Haggar, director; and Ken Balgeman, personnel director and comptroller.

The ribbon cutting was preceded by a luncheon in Sioux Falls attended by highway and government officials and civic leaders of the two-state area.

The I. R. 10-mile segment intersects with U. S. 16 at Beaver Creek. When extended to Sioux Falls, it will intersect U. S. 77, a principal north-south highway; South Dakota T. H. 38, and I. R. 29, now under construction in the vicinity.

Praise at Mankato

Very favorable comment on recent highway construction in the Mankato area was expressed in a recent article by Franklin Rogers, columnist in the Mankato Free Press, entitled "The New Highway Looks Good."

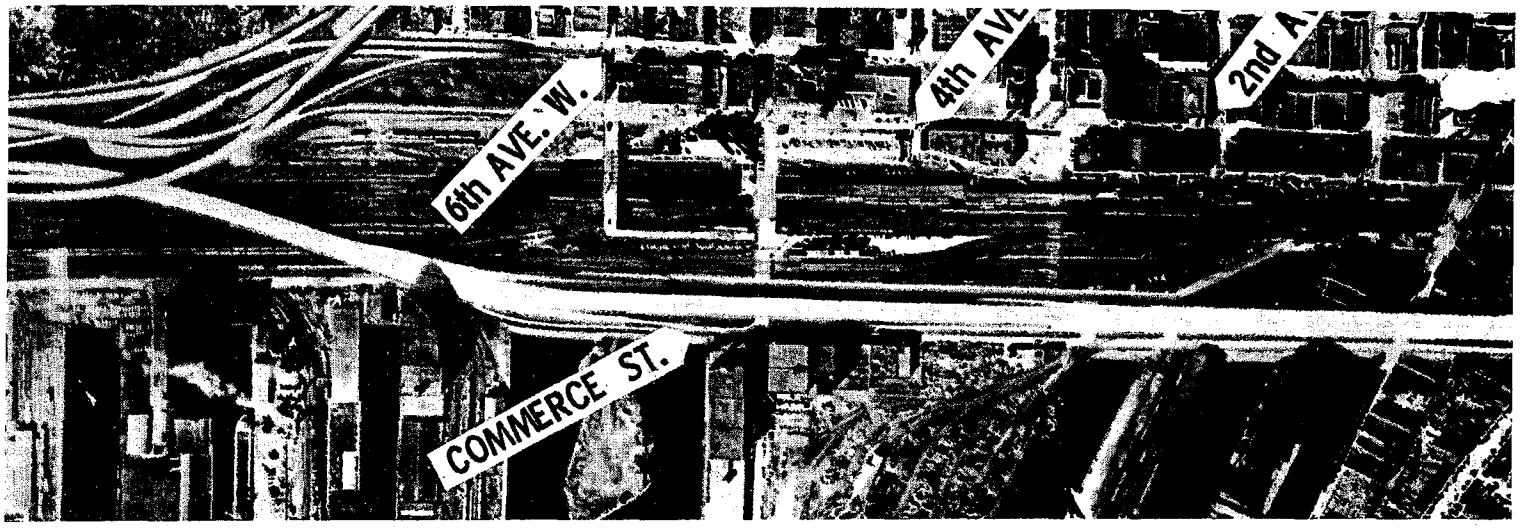
As reported by Mabel Johansen, Minnesota Highways' district correspondent at Mankato, Rogers admitted the T. H. 22 construction was expensive and inconvenienced many people. But he said that the engineers who designed the project were far-seeing and had planned a highway that will compare favorably with freeways.

Rogers pointed out that the highway will allow travelers who wish to enter Mankato access at the north and south ends of the city and also will allow those who wish to "by-pass" the city to proceed onward at speeds exceeding the city's 30-mile per hour limit. He closed his article with the comment: "A generation from now, the citizens may want to decorate the engineer for the wisdom of his choice."

Clerk Stenos Sought

Because of a shortage of eligible candidates for appointment as clerk stenographers II in the Highway Department Central Offices, frequent civil service examinations are now being given for this classification. The MHD Personnel Office urges all interested clerk stenos I and clerk typists I and II to take the test, for posting in the eligibility list.

MINNESOTA HIGHWAYS
Oct 1961



Interstate Routes to Be Big Boon

Duluth, a city of 110,000 souls, is located at the southwestern tip of Lake Superior. It is so geographically situated that it receives a large volume of traffic from the surrounding area. It is a shipping and industrial center which generates and attracts a large amount of truck traffic locally and regionally. The surrounding trade area does not have a high density of population and there are few main roads, these converging into the city.

Duluth also must handle all traffic traveling to and from the Lake Superior North Shore. It is so located that the automotive tourist traffic is almost forced to pass through the city when enroute to the Arrowhead Region and to the Canadian border lakes. Any land travel destined to go around Lake Superior must pass through the city. Because of its location it receives more traffic than it normally would if it were in a more usual geographical location.

The iron ore ranges will continue to have a significant effect on Duluth's traffic with the expected growth of the taconite industry. The harbors will grow with general taconite development.

The resort areas north and northeast of Duluth will obviously become more important as the nation's population increases. Not only will the number of tourists increase greatly, but resident population will also increase.

Another important external factor is the completion of a highway circuit around Lake Superior through Canada, from the Soo to Duluth, to Port Arthur and back to the Soo.

The Interstate highway, I.R. 35, from the Twin Cities, linking Duluth with the national Interstate system will have great influence on the traffic flow into Duluth, as well as will the St. Lawrence Seaway. It is now under construction.

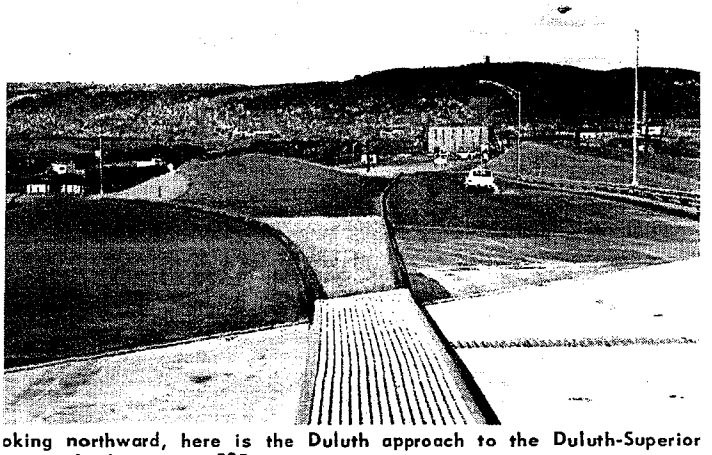
The terrain is quite rough for a city of it's size. In many areas, rugged rock bluffs rise sharply a short distance from the shores of the St. Louis River and Lake Superior. The major business and industrial sections are crowded along the waterfront as are most of the older residential areas. Seven railway companies have trackage squeezed in between the hill and the shore, also.

Due to this unusual topography, the city has stretched out to 26 miles in length, although it is only a mile wide in some spots. This makes for some strange traffic and highway problems in that there is not the usual radial street and highway system extending from the central business district (CBD).

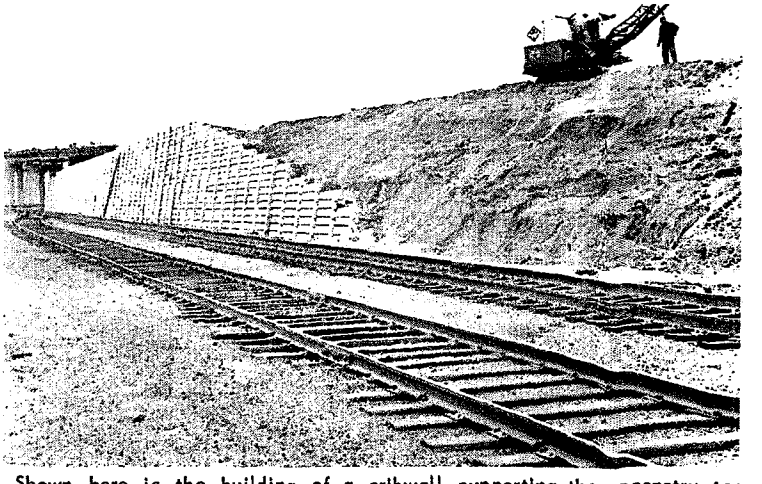
A serious traffic bottleneck exists at Tenth Avenue West, one-half mile from the heart of the CBD, where Superior Street (U.S. 61) passes the "Point of Rocks". Average daily traffic on a summer week-day is 30,000 vehicles.

The need for a through traffic survey of the Twin Ports of Duluth and Superior, Wis., came to a head in 1948. During that year an origin-destination survey was made and a complete report was published in 1949. This was conducted by the highway departments of the two states in cooperation with the Bureau of Public Roads and the Cities of Duluth and Superior.

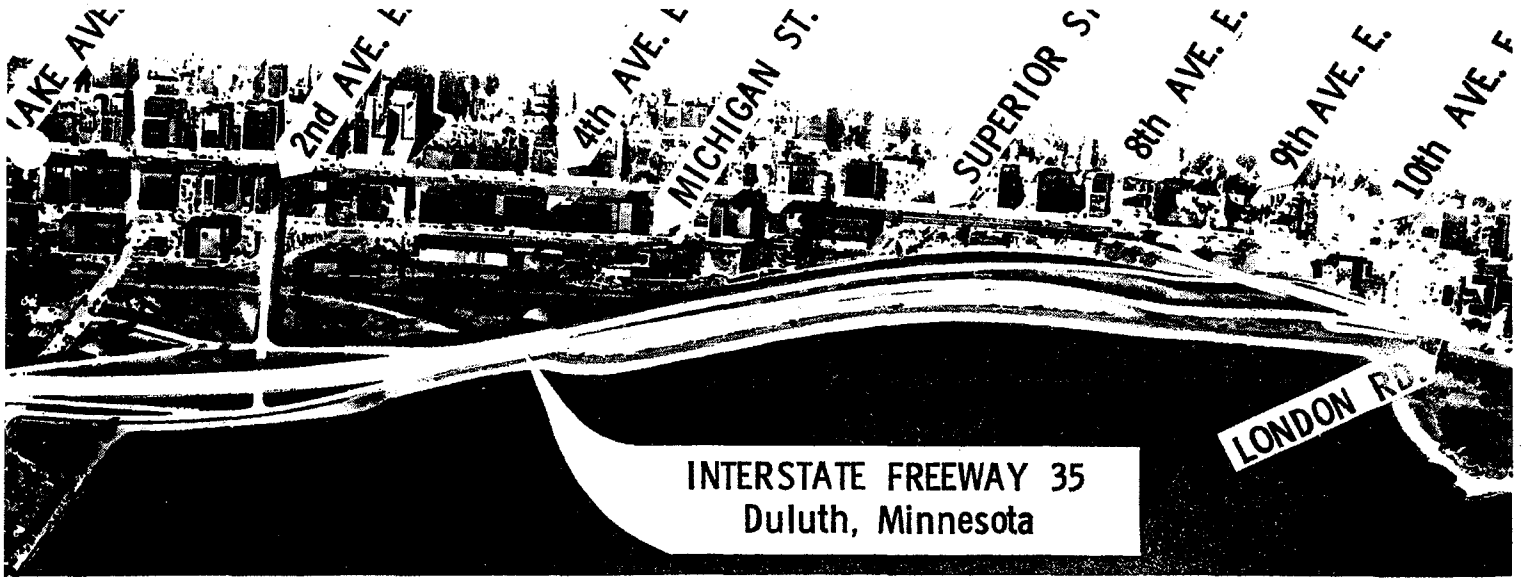
This report clearly indicated the need for a new high-level toll-free bridge between the two cities as well as for additional highway facilities through much of the length of Duluth.



oking northward, here is the Duluth approach to the Duluth-Superior erstate bridge on I.R. 535.



Shown here is the building of a cribwall supporting the reconstructe northbound roadway of Garfield Ave., adjacent to I.R. 535.



o Duluth

By JIM NEWLAND

Design Engineer, Duluth District

In 1953-1957, Duluth initiated a long-range, comprehensive plan for the city, part of which dealt with highway needs. Many of the concepts outlined therein are to become a reality now under the Interstate Highway System.

The Duluth-Superior High Bridge, actually a story in itself, was in the discussion stage since as far back as 1934. The old Interstate Bridge was built by the Great Northern Railway Company in 1897 to carry two railway tracks, with narrow vehicular roadways along both sides. This operated as a toll bridge and was inefficient due to it's low level which required it to swing open for lake vessels using the Inner Harbor facilities. It was open for boats as much as four hours per day during peak shipping months.

In 1948, the Cities of Duluth and Superior retained a Kansas City firm of consulting engineers, Howard, Needles, Tammen, and Bergendoff, to study the possibilities of replacing the old bridge. Its location study report was ready in 1949 and before all the necessary action by all of the governmental bodies (including the U.S. Congress) was taken it was 1953. Then the hassle was to make it a toll-free bridge, instead of a toll structure as recommended by the consultant.

The plans progressed slowly until 1956 when the U.S. Congress approved a National System of Interstate and Defense Highways. The proposed north-south route (I.R. 35) from Laredo, Texas; via Dallas, Oklahoma City, Kansas City, Des Moines, and Minneapolis-St. Paul, was scheduled to run through Duluth and to turn and cross St. Louis Bay and terminate in Superior, Wisconsin.

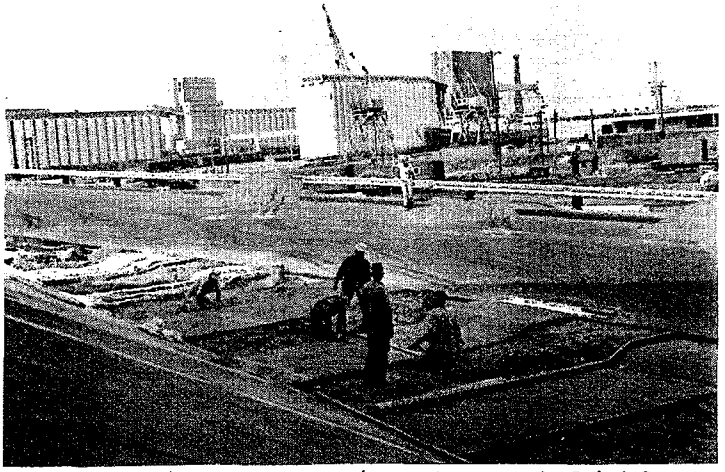
This resolved the Duluth-Superior High Bridge wrangle. Howard, Needles, Tammen, and Bergendoff prepared plans for the new structure and construction began late in 1958. (The Interstate link from Duluth to Superior, including the bridge, is designated I.R. 535.) Nineteen (19) contractors were employed and the total cost of the project was $19 million, plus the lives of three workmen.

The field engineering and supervision of the location was handled by C. R. "Bob" Swanson, resident engineer for Howard, Needles, Tammen, and Bergendoff. This four-lane divided structure is toll-free, is 7,975 feet between abutments, has 51 supporting piers, provides a main channel opening 600 feet wide and 120 feet high, and has 3½ per cent approach grades. Grading and surfacing of the Duluth approach ramps was performed by Ulland Brothers, Incorporated, of Duluth.

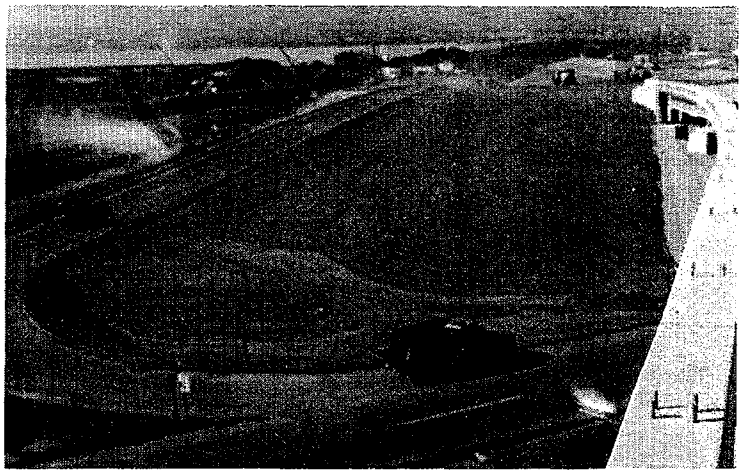
The bridge was dedicated and opened to traffic last December. The average daily traffic over the new bridge showed an increase of 46 per cent over the traffic volume recorded on the old Interstate bridge. Much of this was attracted from the Arrowhead Bridge, a toll facility located three miles west of the new one. It is most interesting to note that the total of all traffic between the two cities increased by one-sixth, or 1,800 vehicles per day.

The Interstate System originally was to swing through Duluth and cross over

(Cont'd on page 12)



Construction of slope paving was under way here near the Duluth-Superior ridge (I.R. 535), at the Duluth end.



Ramps A and F and the southbound roadway for Garfield Ave. are shown under construction.

Interstate Routes Boon to Duluth

(Cont'd from page 9)

the High Bridge into Superior and terminate. This plan would have missed the most heavily traveled and most congested section of Duluth. This is the previously mentioned Point-of-Rocks area and the CBD.

In November, 1957, the City of Duluth requested that the Interstate Route be extended from the West End (Twenty-second Avenue West) to Twenty-eighth Avenue East (length 4.2 miles). In September, 1958, the Bureau of Public Roads approved an Interstate Route extension through the Duluth CBD to terminate at Tenth Avenue East.

This terminus is five miles short of Lester River (Sixtieth Avenue East) where the heavily built-up portion of Duluth ends. In years to come, primary funds (50-50 federal-state) are expected to be used to upgrade this section.

The total length of Interstate routes within the corporate limits of Duluth will be 10 miles. Of this, 0.6 mile is now open to traffic (the Minnesota portion of the High Bridge and approaches), none is under construction at present, and 9.4 miles is in the design stage.

It may interest the reader to know that the grand total length of all proposed roadbeds comes to nearly 34 miles. A total of 60 bridge structures are proposed, with a total length of 5-1/4 miles.

The total cost of the Interstate System in Duluth, in addition to the High Bridge, is estimated at $47 million, including right of way costs. This means that a total of nearly $57 million will be spent on the Duluth portion of the Interstate System.

Details of cribwall construction along the Garfield Ave. northbound roadway are visible here. Alignment of units is under way. Note bridge in background.

This necessitates the largest R/W acquisition project ever undertaken north of the Twin Cities by the Highway Department. It is estimated the total cost of R/W will come to $13 million in Duluth.

In addition to several industrial and commercial properties, there will be a total of 330 residential buildings acquired. Some 425 families will have been relocated by the time the Interstate is completed in Duluth.

Our R/W Section is presently engaged in appraising the West Duluth properties required. The appraisals began last October and are expected to be completed by early 1963. A few home-owners have already signed options and two or three have vacated their properties.

Fourteen interchanges are proposed, including five full diamonds and two half diamonds. All the others are directional interchanges providing for only the major traffic movement.

Of the 10-mile total, 7½ miles are four-lane divided with the balance being six-lane. This 2½ mile section from Fortieth Avenue West to Eleventh Avenue West will carry the heaviest estimated volumes for 1975 of up to 67,000 vehicles per day.

Among the more interesting engineering problems encountered was the West End Interchange near twenty-second Avenue West. This will be the junction of Interstate Routes 35 and 535. It is expected that U.S. Highways 53 and 61 will also cross at this interchange. No less than 15 different interchange designs were developed for this important junction. At the time of this writing the plan to be used was still indefinite.

The physical problems encountered were the proximity of St. Louis Bay, the Soo Line Railroad tracks and roundhouse, the Northern Pacific tracks and their large Rice's Point Yards, as well as the much-discussed waterfront site under option by the International Duluth Seaway Corporation. This corporation is a Canadian firm proposing to build a large industrial and dock facility to serve the seaway trade.

Another roadblock for the West End Interchange was that portion of the harbor line known as the Twenty-second Avenue Slip. Established by the United States Congress in 1894, it had to be shortened 200 feet to provide space for the interchange.

A serious sub-soil condition was revealed during early 1961 where soft foundation soils were found to exist to over 80 feet below the surface right in the middle of the interchange area. This problem was sufficiently serious to cause the interchange site to be moved about 1½ blocks northeast of the originally proposed site.

Another difficult section to traverse was the Central Business District. Some 20 schemes were considered here, beginning in 1958, before the present route was agreed upon by the Highway Department staff engineers and the City of Duluth.

The problems in this area included the railroad tracks and depots of four railway companies, the numerous waterfront docks and warehouses, and the business buildings facing Michigan Street which is only a block from the main street (Superior Street). Preliminary borings showed the presence of as much as 70 feet of mixed soils before reaching bed rock.

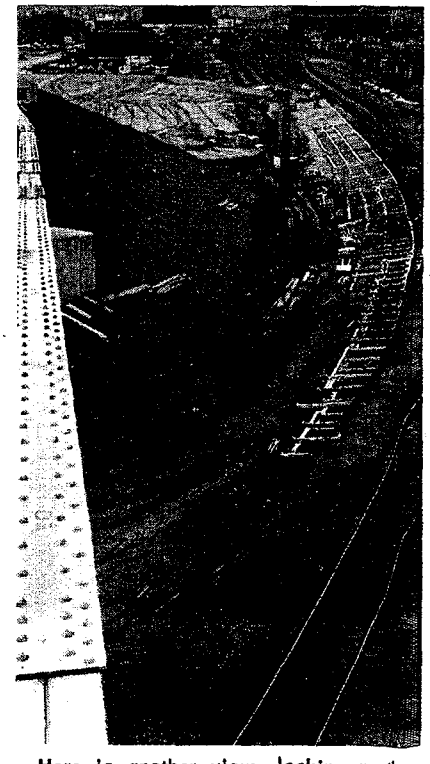
Between Tenth Avenue West and Fourth Avenue East, the freeway will be elevated on structure. This will carry four traffic lanes, will be over 6,000 feet long, and will vary in height to as much as 45 feet above ground level. An elevated structure was decided on due to the unstable sub-soils which require pilings for support of a modern highway facility and also due to the numerous avenues and railroad tracks which must be crossed. Right of way was at a premium which eliminated consideration of earth fills and wide slopes.

Present programming calls for all Interstate sections within Duluth to be under contract by 1968.

Most of the preliminary engineering was performed by Howard, Needles, Tammen, and Bergendoff under agreements with the Highway Department.

L. H. Miller, MHD district engineer, has worked actively on expediting the Duluth Interstate Route development during the past five years. It is estimated he has attended at least 200 meetings and hearings involving the 10 miles of Interstate Routes in Duluth. There is little question as to who will be the happiest man in the district once the whole system in Duluth is under contract.

During the past 14 months, the writer has had the privilege of assisting Mr. Miller with the many problems which have arisen in connection with this, the greatest highway project ever undertaken north of the Twin Cities.



Here is another view, looking northward, of construction of the cribwall along the northbound roadway of Garfield Ave.

I. R. 494 Segment Will Link Major Routes

Construction is close to completion on three miles of four-lane highway for I.R. 494 northeast of Newport.

Route 494 is the southern half of the Interstate highway which will encircle the Twin Cities.

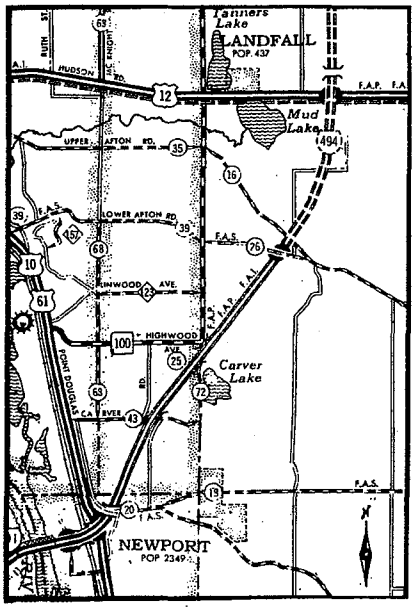
The three-mile segment under construction extends northeastward from the I.R. 494-T.H. 61 interchange at Newport to Upper Afton Road. (See accompanying map.) Under later contract, the segment will be extended northeastward about a mile from Upper Afton Road to connect east of St. Paul with T.H. 12 (Hudson Road), the location of the future I.R. 94.

The full link from Newport to I.R. 94 will greatly benefit traffic in the vicinity by providing a more direct route between the areas east and south of the Twin Cities.

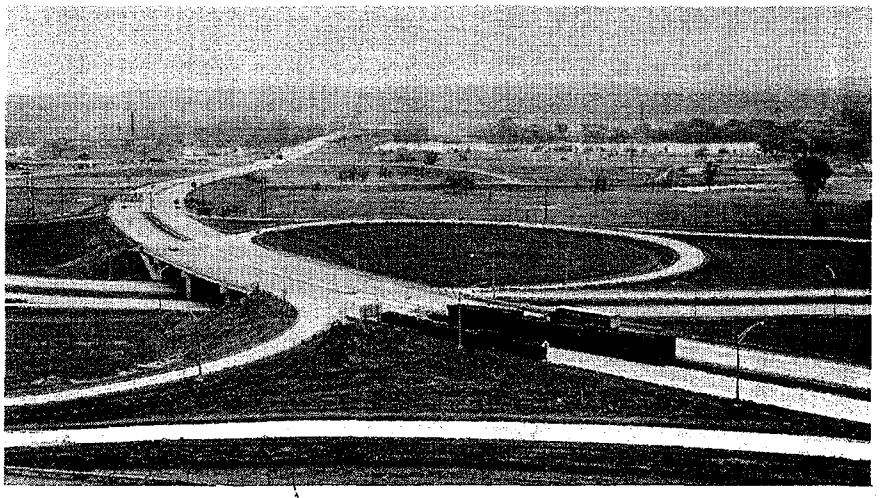
For vehicles moving between these areas, it no longer will be necessary to travel the dog leg from Newport along T.H. 61 and thence eastward along T.H. 100 on Highwood Ave. This will eliminate the hazards of the junction of T.H. 61 and 100 where 100 descends a steep slope directly on to 61. Collisions have been frequent there.

(Vehicles wishing to go northward on T.H. 100 will be able to reach it from I.R. 494 via Lower Afton Road after that short link is improved.)

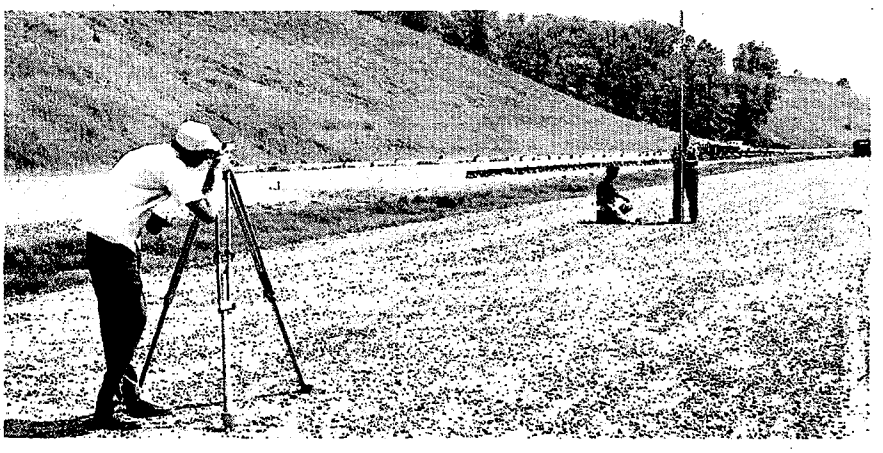
For T.H. 61 traffic bound for St. Paul's eastern outskirts, the new 494 link will avoid the congested area in the city and its southeastern suburbs. The thousands of cattle trucks which come to South St. Paul's packing center from eastern Minnesota and Wisconsin via T.H. 12 likewise will be able to skirt the con-



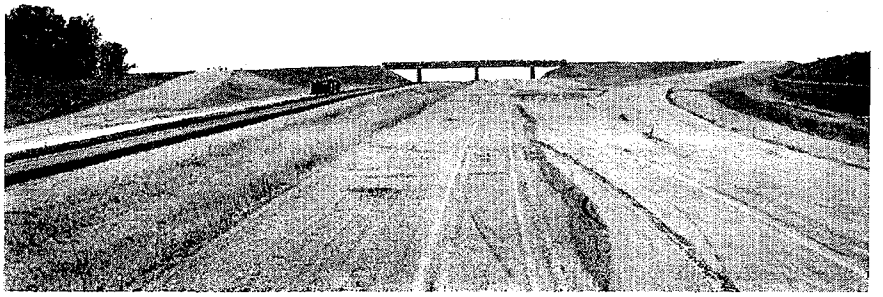
The current construction project on I. R. 494 near Newport is shown by the double lines, the previously completed construction by the solid lines, and the section remaining to be contracted to reach T. H. 12 (I. R. 94), by the broken double lines.



In the foreground, is a portion of the interchange at Newport between I.R. 494, shown extending westward across the Mississippi River to South St. Paul, and T.H. 61, running left to right under 494. The new 494 construction will extend northeastward from this interchange for a later connection with I.R. 94 east of St. Paul.



Bill Harholdt, left, took levels for the I.R. 494 construction near Newport, with Arlo Fobaire, kneeling, and Don Delage as his rodmen.



Here, looking southwestward, the new I.R. 494 construction northeast of Newport leads up to a diamond interchange with Lower Afton Road. To the left, a pneumatic rolling machine compacts the northeast bound roadway.

gested area and cross the Mississippi River directly into South St. Paul on 494.

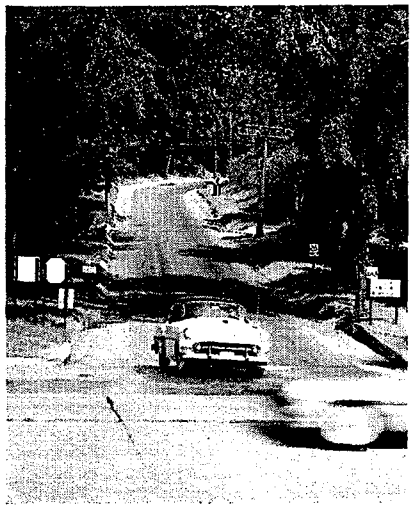
Construction of the three mile segment from Newport to Upper Afton Road will cost in the neighborhood of $1-3/4 million. Work began in 1960 and the highway is expected to be open for traffic next month. Grading and the construction of the five bridges called for was completed last year by Johnson Brothers Highway and Heavy Construction, Inc., of Minneapolis, at a cost of slightly above $1 million.

There is a diamond interchange bridge at Lower Afton Road, permitting the connection with T.H. 100, and north and south bound grade separation bridges at Carver and Century Aves.

Construction of the base for the three-mile segment was started last fall and paving with 10-inch uniform thickness concrete and bituminous shoulders was begun May 23. The Barton Construction Co. of Osseo has the surfacing contract at approximately $648,000.

The Newport to Upper Afton project is being fenced for its entire length by the Cyclone Fence Co. of U.S. Steel.

The full project is under the supervision of Roger Methven, MHD resident engineer at North St. Paul.



Re-routing of T.H. 100 on to the new I.R. 494 between Newport and Lower Afton Road will eliminate this dangerous junction where 100 now comes down the hill to intersect with T.H. 61. Collisions have been frequent here, particularly in icy weather.

Exam Opportunities

Scheduled for July 14 are civil service written and performance promotional tests for appointment to the state classifications of clerk typist II and clerk stenographer II. The clerk typist pay range is $281 to $342 monthly, the clerk stenographer II pay range, $292-356 monthly.

To fill existing vacancies in the Highway Department, the Civil Service Department this month began receiving applications for an open examination for the classification of right of way agent II. The pay range is $468 to $569 monthly.

Improved Computer System For Highway Department

By ING MOREHOUSE

Chief of Data Processing Services

There are changes taking place on the third floor---west side---Room 318 area of the State Highway Building. This location is the home of the Highway Department's Data Processing Services. It is in this area that the department's keypunching, tabulating, and electronic computer programming and processing operations are performed.

Data Processing has a new IBM 1410 computer system---the second one to be installed in Minnesota. The first was installed only recently at the Rochester, Minn., IBM plant.

The old 650 system was moved back into a corner where it is continuing in operation this month during transition of operations from it to the new equipment. Both the 650 and 1410 computers were obtained on a rental basis.

Openings were made in the raised flooring, cables were laid for the 1410 and the system, having been placed into proper position, was assembled, tested and turned over for Highway Department use. With many improvements and additional speed in the new equipment (Approximately four times as fast), the rental is approximately the same as for the replaced computer. Actually, the overall equipment rental will be less because additional tabulating equipment is to be released from service.

The 1410 is one of IBM's newest solid-state systems. The term "solid-state" means that the computer uses transistors instead of tubes.

Like other computers, the 1410 essentially reads, writes, adds, subtracts, divides, multiplies and makes logical decisions, all in accordance with the logic established by the programmers.

After it is given its instructions, which are developed by programmers, the system processes and analyzes reports with lightning speed and accuracy.

Some interesting facts and comparisons:

The 1403 printer in the new 1410 system prints information coming out of the computer up to the astounding rate of 600 lines per minute. Its speed is equivalent to printing a 500-page book in 15 minutes. The old system could print up to 150 lines per minute. The printer is automatically checked to be sure all positions have printed which should have, and that no positions have printed which should not have printed.

The 1402 card reader punch was built at the IBM plant at Rochester. It reads cards into the system at a maximum of 800 cards per minute and punches 250 cards a minute as directed by the system or programmer. The 650, in contrast, punched 100 cards and card-read up to 200 cards per minute. To insure reliability, the new unit automatically checks the data being read and punched. If an error is detected in the reader or punch, the system stops with a light turned on, revealing why the system stopped.

The 7330 tape drive units use one-half inch, 2,400 foot-mylar tape, recording data in a seven bit (Magnetic Spot) code using either 200 or 556 characters per inch density, which is selected by a switch on the unit. The tape is read or written at the rate of 20,016 characters per second, using 556 characters per inch density. Up to six additional tapes can be added if desired.

How much information can be stored on one tape? One 2,400 foot real of magnetic tape produced on our new system can store the same amount of information held on 177,000 fully punched 80 column cards. This is more than three times the capacity of the IBM 650 System. Less than one-half of one tape is required for the complete payroll records of over 6,000 bi-weekly and hourly Highway employees.

The Highway Department 1410 contains 40,000 positions of magnetic core storage for containing instructions and data. The storage may be increased in 20,000 increments to 100,000 position storage. All data in core storage are instantly available, and the special design of the core storage unit makes each position individually addressable. In this way, an instruction can designate the exact storage locations that contain the data needed for that operation.

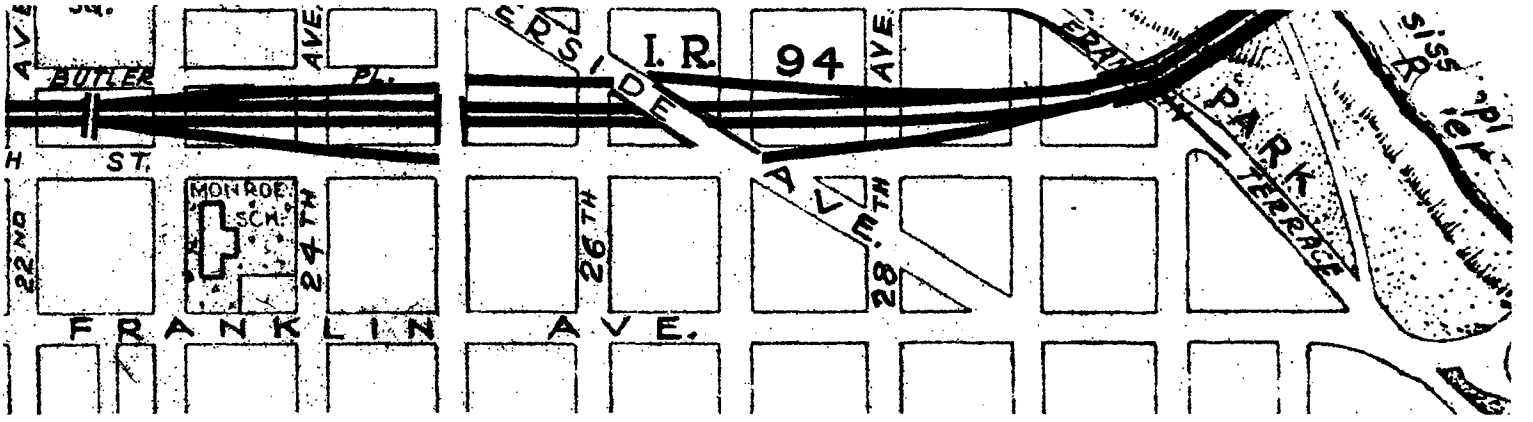
There are no control panels on this system, due to the powerful edit and control format instructions.

The console controls the activity of the computer as directed by the operator. It also indicates the status of progress of a job being processed. An IBM Selectric Typewriter is used as an input-output printer, which provides better processing control. A typewritten log is automatically furnished of all programmed error messages, recovery procedures and entries by the operator for that particular production run.

Valuable and mechanically incredible as it is, the 1410, like other computers, is dependent upon people:

First, management people who provide decision rules which the computer uses....then employees who provide input information....programmers and operators who direct the computer's operation....employees who utilize the output information....and finally, management which makes the decisions based on the information.

Data Processing personnel like their work, are proud of their contribution to the Highway Department operations, are ever willing to describe what they are doing, show and explain machine operations--all used in providing such services Won't you visit us soon? We may be able to help you to profitable use of electronic computation in your field of work.



I. R. 94 Construction Nears Minneapolis Loop

For the first time, construction of the Interstate Highway System is closely approaching Minneapolis' central business and industrial area, with the newly begun $1½ million project for Interstate Route 94 in the city's near south side. Route 94 will carry traffic east and west across Minnesota between Hudson, Wis., and Fargo, N. D.

The current project, to be completed by August 1 next year, is for the first link in a six-lane, depressed segment extending from 94's Dartmouth Ave. bridge over the Mississippi River, to a junction with I.R. 35-W at Lyndale Ave. S.

(The Dartmouth bridge piers were completed last year and construction of the bridge's superstructure is to be started this fall.)

In later construction, the I.R. 94 south Minneapolis segment will be surfaced with 10-inch concrete.

The current project is for .7 mile (3,439 lineal feet) of grading from the bridge's west approach at West River Road westward to Twenty-second Ave., and the construction of four bridges within that section.

The 300-foot wide right of way is bounded on the south by Ninth St. and on the north by Butler Place. Ninth St. will become a frontage road from Twenty-eighth to Twenty-second Aves. and Butler Place, from Riverside to Twenty-second Aves.

There will be three grade separation bridges, each approximately 120 feet long, at Franklin Terrace, Riverside Ave., and Twenty-fifth Ave., and a pedestrian bridge over the highway between Twenty-second and Twenty-third Aves. The Interstate highway will go under all the bridges, carrying the intersecting streets, except at Franklin Terrace, where it will go over the terrace.

The Riverside Ave. bridge, now under construction, must be completed for traffic by November 15 to hold interference with traffic during construction to a minimum. Riverside Ave. traffic is detouring around the bridge site, with northbound traffic going via Twenty-eighth Ave. and Eighth St., and southbound, via Twenty-fourth and East Franklin Aves.

The project includes a storm sewer to drain from the highway to the Mississippi, and bituminous surfacing of the Ninth St. and Butler Place frontage roads. The project also includes completion of the west approach to the Dartmouth bridge by November 15 to provide passage to and from the bridge during construction of the superstructure.

Contractor for the project, including the bridges, is Johnson Brothers Highway and Heavy Construction, Inc., of Litchfield. The grading, storm sewer, and frontage road surfacing will cost $792,000; the bridges, $754,000. Outside of the contract prices, the MHD also will expend about $250,000 for necessary relocation of utilities equipment displaced by the construction.

The Highway Department's principal representatives at the project site are: Bruce Graves, as project engineer; M. A. Loftfield, bridge project engineer; Fred (Skip) Will, chief inspector; and Bob Cartford, instrument man.

Graves

Loftfield

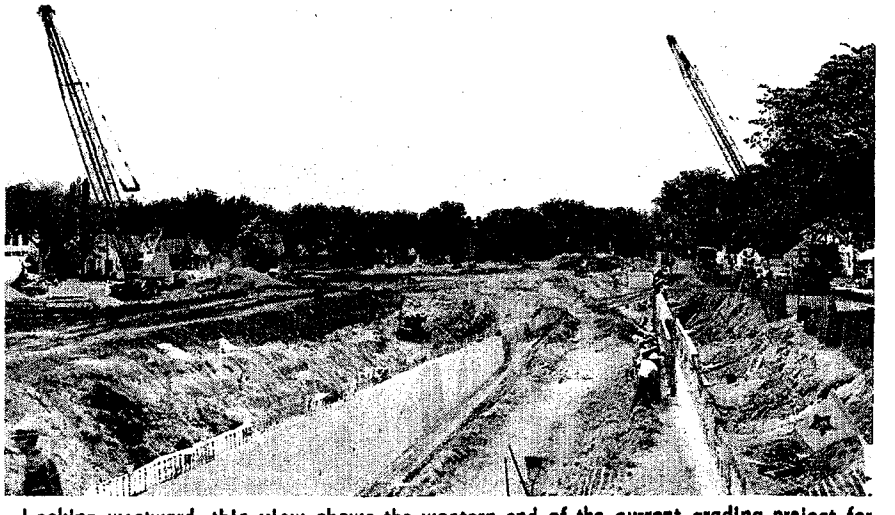
In place of interchange bridges, entry to and exit from the highway section under construction will be via four ramps connecting with frontage roads. East bound traffic may leave I.R. 94 at approximately Twenty-third Ave. on a ramp connecting with Ninth St. East bound traffic may enter 94 over a ramp beginning on Ninth St. at Riverside Ave.

West bound traffic may leave the highway via a ramp starting at approximately Twenty-eighth Ave. and leading to Butler Place. West bound traffic may enter the highway from Butler Place, at approximately Twenty-third Ave.

Interchange of traffic between the highway and West River Road will be via Riverside Ave.

The six-lane highway will be depressed to an average depth of 22 feet, requiring the excavation of a half-million yards of earth. Part of this will be used as a 40-foot fill along the river bank at the east end of Riverside Park, adjoining the river. The highway crosses Riverside Park. The eastward extension of the park with the fill will compensate for the land lost to the park for the highway right of way.

The storm sewer being built to drain the highway will vary from 24 to 42 inches in diameter. The trench has been excavated and manholes erected.



Looking westward, this view shows the western end of the current grading project for I.R. 94 in south Minneapolis. Trees and houses in the background are on Twenty-second Ave. At right, the derrick is lowering concrete into a form for the north wall of the west bound ramp from Butler Place to Route 94.

Interstate System Shows Good Progress in Minn.

By HOWARD OWEN

Public Information Section

The latest look at progress of Minnesota's Interstate Highway System, as tabulated by the Planning and Programming Division, shows that what has sometimes been referred to as "dibs and dabs" is now taking form as substantial stretches of completed or nearly completed freeways.

As shown on the accompanying maps, those segments which are now completed or essentially completed at the end of the present construction season are indicated by solid lines, and the continuations of those sections which should be essentially completed by the end of the 1963 season, are indicated by dotted lines.

The main purpose of this report is to show that widely scattered Interstate projects around the state are now being drawn together to form continuous, nearly-completed sections.

Following are the locations and mileages of those projects shown on the maps:

1. TH 35 -- From Jct. 14 (Owatonna) to one mile north of S. Rice County Line, eight miles.

2. TH 35 -- From 0.2 mile south of Jct. 70 to N. Jct. TH 23 west of Askov, 31.6 miles.

3. TH 90 -- From W. state line to 0.3 mile west of Jct. TH 16 (Beaver Creek), 3.6 miles.

4. TH 90 -- From Petran to 0.2 mile east of Jct. TH 63 (Stewartville), 42.9 miles.

5. TH 94 -- From W. state line to Jct. TH 52 (Moorhead), 2.9 miles.

6. TH 94 -- From N. Jct. TH 52 (north of Fergus Falls) to one-half mile south of N. Grant County line, 21.1 miles.

7. TH 535 -- In Duluth, Duluth-Superior bridge, 0.8 mile. (one-half length, Minnesota share of cost)

Twin Cities Metropolitan area:

1. TH 35E -- From near Case Ave. to W. Jct. 694, 4.8 miles.

2. TH 35W -- From 0.2 mile south of Jct. TH 13 to sixty-sixth St., 7.7 miles.

3. TH 494 -- From Minnetonka Blvd. to E. Jct. 5, 16.4 miles.

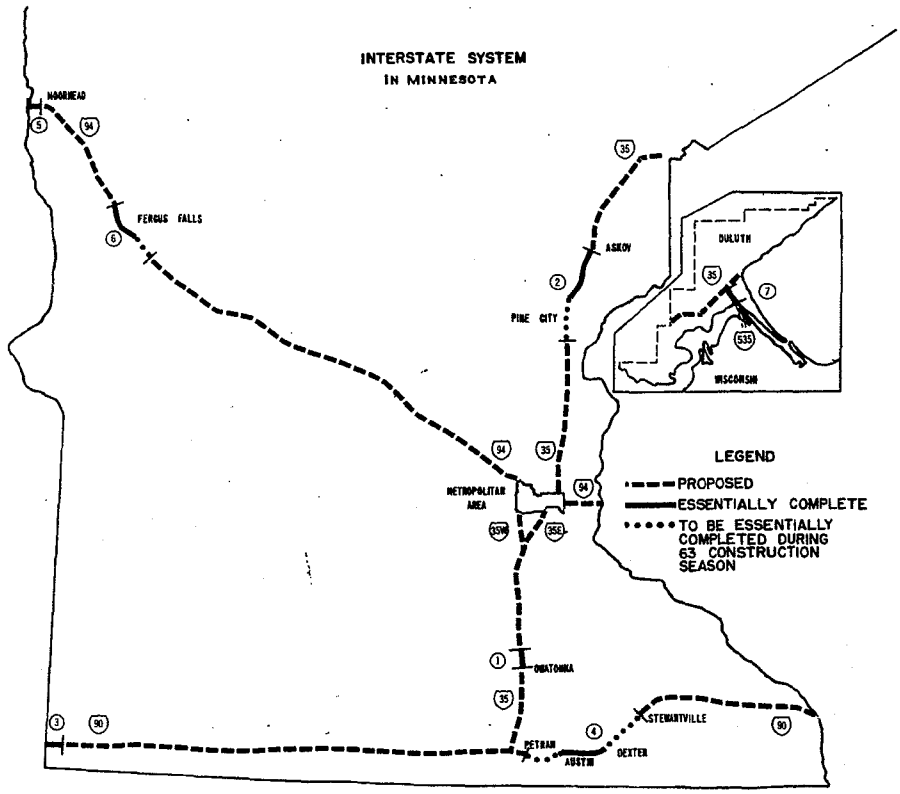
4. TH 494 -- From near west limits of South St. Paul to Upper Afton Rd., 5.9 miles.

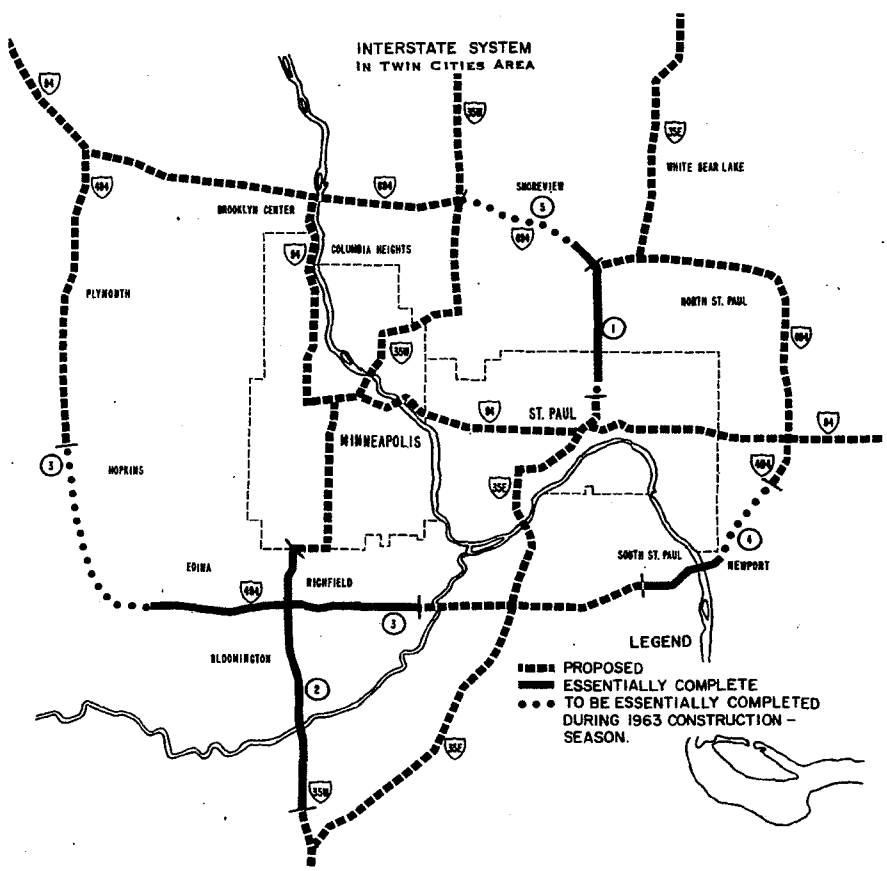
5. TH 694 -- From near Jct. 35W to Jct. 35E, 5.4 miles.

Of the above total of 151.9 miles, which includes the Sixth St. bridge in St. Paul, 82.9 miles are completed or essentially completed at the end of the present construction season.

There are also about 22 miles of Interstate trunk highways under construction that are not included above because they

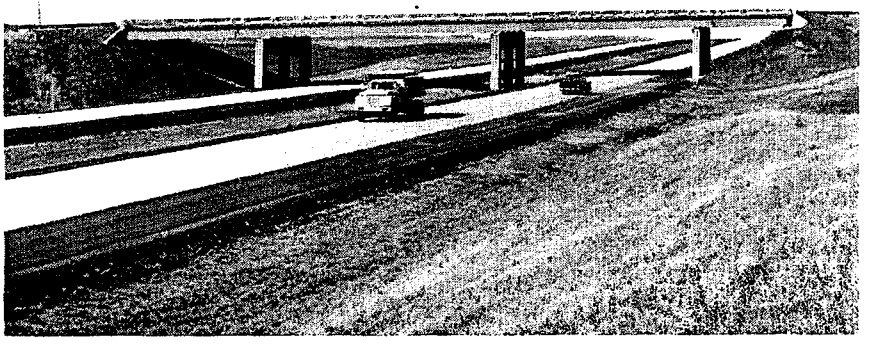
(cont'd. on page 13)





At Fergus Falls

I. R. 94 Opening Set for Oct. 3



Here is a part of the 11½-mile section of I.R. 94 near Fergus Falls which will be officially opened for traffic October 3. The bridge carries County State Aid Highway 25 over the Interstate Route about three miles south of Fergus Falls. The view is to the northwest. Note the depressed median strip, wide, sloping shoulders, and the high, wide clearance and open vision provided by the bridge design. The picture was taken before both roadways were usable, hence the "wrong-way" traffic.

The 11½-mile section of Interstate Route 94 bypassing Fergus Falls will be officially opened for traffic October 3 with a community celebration at which Governor Andersen will be the principal speaker.

Highway Commissioner Marshall plans to participate in the festivities and other state and local officials will be present, according to Jim Faber, manager of the Fergus Falls Chamber of Commerce. Gene Shaffer, chairman of the chamber's highway committee, is in charge of arrangements.

There will be a noon luncheon at the River Inn for visiting dignitaries and local officials. The formal dedication and opening ceremony will be at 2:30 p.m. at the junction interchange of I.R. 94 and T.H. 210 west of the city. Governor Andersen will be the main speaker.

The 11½-mile link to be opened October 3 extends between I.R. 94's junctions with T.H. 59 northwest and southeast of Fergus Falls, passing the city a short distance to the west.

Convenient access to Fergus Falls from I.R. 94 will be provided by interchanges with T.H. 59 northwest and southeast of the city and with T.H. 210 to the west, and C.S.A.H. 1, to the southwest. The interchange to the northwest also will connect with T.H. 52.

Construction of the 11½ miles of divided, high standard, concrete highway has cost more than $5 million, exclusive of right of way.

The entire segment has been fenced and the interchange with T.H. 210, extending into Fergus Falls from the west, will be lighted. Signs costing $14,000 have been erected.

Main contractors have included the John Dieseth Co. of Fergus Falls; the Berghuis Construction Co., Prinsburg; Megarry Brothers of St. Cloud; Brogan Construction Co., Des Moines, Iowa; Breckenridge Electric, and the Century Fence Co. of Appleton, Wis.

Interstate Progress

(cont'd. from page 8)

are not adjacent to any of the completed sections listed above. Most of these links will also be essentially completed at the end of next season.

An analysis of the total Interstate system throughout the state shows that we now have 174.4 miles completed or under construction. In addition, 22½ miles of right of way have been acquired for projects not yet under contract, 187.3 miles of right of way are in process of acquisition, 387 miles are under detail design, and 336.9 miles are in the study and preliminary design stage.

As to bridges in the Interstate System, 163 are now completed and another 76 are under construction.

The entire 898 miles of the Interstate System in Minnesota is scheduled for completion around 1972, at a total cost of almost $1 billion.

Civil Service Jobs

Primarily to fill a vacancy at the State Highway-Civil Defense Training Center in Arden Hills, the Civil Service Department is receiving applications for a promotional exam for the classification of Building Foreman I. September 28 is the designated closing date for applications. The pay scale is $433 to $526 monthly.

Desirable qualifications are journeyman experience in building construction and supervisory responsibility, and completion of a building trades apprenticeship.

Applications also were opened for promotional testing for the classification of Engineer in Training II, paying $526 to $641 monthly. The test is open to permanent or probationary Engineers in Training I. Engineers in Training II act as project supervisors or assistants to resident engineers.

BPR Expands Its Work In Research, Safety

The United States Bureau of Public Roads has established two new offices to expand its role in research and development, and in highway safety.

Heading the Bureau's new Office of Research and Development is Robert F. Baker, former director of Ohio State University's Transportation Engineering Center. The new Office of Highway Safety is directed by James K. Williams, Jr., former executive director of the Connecticut Safety Commission.

The bureau's research and development program ranges from highway materials studies to driver behavior and traffic operations. Williams will plan and direct a broad highway safety program throughout the United States.

The bureau also has reported the promotion of Henry A. Radzikowski, former chief of the Division of Development, to the post of deputy director of development.

MHD Bridge Worker Killed

John R. Biever, 54, of Reeds Landing, an MHD bridge maintenance worker, was killed September 13, when struck by a private truck on a T.H. 16 bridge a mile east of Houston. This was the first incident in the department's history of a bridge maintenance worker killed while at work on a bridge.

HERE'S WHO

Our mystery subject on page 2 is Paul Staffeld, 30-year veteran of the Highway Department, who became deputy commissioner last January. The picture was taken in the 1930's when he was an instrumentman. Other posts Staffeld has occupied are construction inspector, field draftsman, project engineer, planning research engineer, and program engineer heading the Planning and Programming Division.

WHO?

See page 13.

New MHD Retirements

Ruth S. Belchere, St. Paul, clerk II in Drivers License Section, Central Offices.. William H. Harris, Morristown, HMM II, Owatonna Maintenance Area.

Recent MHD Deaths

George J. Willman, Carver, HMM II, Golden Valley Maintenance Area.

COVER PICTURE

Governor Andersen and Highway Commissioner Marshall shared honors in a dual ribbon cutting ceremony October 2 which formally opened this 1,595-foot long, four-lane bridge carrying T.H. 169 over the Minnesota River between North Mankato, foreground, and Mankato. The Governor cut a ribbon barring the northbound roadway, and the Commissioner, a ribbon for the southbound roadway.

Mankato's business section is shown to the left. The interchange at the near end of the bridge connects T.Hs. 169 and 14. Besides the river, the bridge spans the Chicago and Northwestern railroad tracks and T.H. 14's eastbound roadway. The structure cost $1-3/4 million.

See page 3 for article and pictures on current highway dedications and openings.

Accelerated Highway Program

(A message from Commissioner Marshall)

As we all know by now, the Highway Department has prepared a new Interstate Construction Program covering our work for the current fiscal year and fiscal years 1964 and 1965.. The need for this revised program arose from the release by the federal government of some $55 million of previously frozen funds. We have also been told that we will be receiving more federal money during the remaining three-quarters of the current fiscal year and in the quarterly allotments for fiscal years 1964 and 1965.

To give an idea of the additional amounts of money involved, let us compare the amount available for fiscal year 1962 which ended last June 30th, with the funds earmarked for the current fiscal year. Last year the total of all federal allotments was about $64 million. Some six months ago we were told that the federal allotment for fiscal year 1963 beginning July 1, 1962, would be $78 million. Last June 14th, when the allotments came through, they totaled $89 million as compared to the $64 million available for fiscal year 1962.

Around the middle of August of this year, the federal government suddenly released an additional $55 million of previously frozen federal funds and advised us that the three quarterly allotments for the balance of fiscal year 1963 would also be increased. This means that we now have available for obligation during the current fiscal year ending next June 30th, a total of $150 million in federal funds. When you compare this allotment of federal funds to the $64 million that were available last year, it is easy to understand that we have quite a job ahead of us.

Practically all of us will be directly concerned with this expedited program and we will have to seek means of improving our planning, design, right of way, and construction operations in order to meet the enlarged program.

We are apt to stress the bottlenecks involved and to assume that it will be one or the other of the functions listed above which will be apt to impede progress in meeting the schedule.

It would be well for each of us to study the situation to see how we and our particular job are involved in this greatly stepped up program. We must realize that *all of us* are going to be plenty busy for the next several months.

In addition to the increased federal funds released, most of which are to be available for the Interstate Highway System, we have learned that Governor Andersen will propose to the next legislature a bond issue totaling $60 million to be available at the rate of $20 million for each of the three fiscal years covered by our present Blue Book construction program. Our proposed list of projects to be added, made possible by this bond issue money, was released a few days ago. Naturally, this adds considerably more work to our present planning, design, right of way, and construction schedules. This bond issue money is expected to be available for use only on ABC roads and will be allocated to the nine construction districts on a needs priority basis.

With the additional federal money and the funds expected to be made available through a bond issue, the Minnesota Highway Department will have a tremendous program during the next three fiscal years. I feel certain that all of us will face this added workload with confidence and do everything necessary to keep the work on schedule.

J. C. M.

* * *

ADDED NOTE:

While viewing a recent nation-wide TV program dealing with graft and irregularities in many states in connection with the Interstate Highway Program, it was gratifying to know that Minnesota and its Highway Department received favorable mention by being listed among the first ten states which in the opinion of the investigators were doing a good job and were considered free from graft and irregularities. Pleasing though it is to know that we are considered to be doing a good job, let us not be complacent and assume that irregularities cannot happen in our Department. Let us continue to do a good job and to improve our performance wherever possible.

50-Mile Total

Road Openings Mark Fall in Four Locations

The Minnesota Highway Department is topping off its 1962 construction season with the opening for traffic of some 50 additional miles of high standard highways in four widely separated locations. Slightly more than half of the mileage is freeway construction on three Interstate Routes.

Segments included are:

I.R. 494---2.9 miles near Newport.

T.H. 169---22 miles, from Mankato northward.

I.R. 94---11½ miles bypass at Fergus Falls.

I.R. 35.--Approximately 15 miles from Hinckley to Sandstone.

The total mileage completed and being opened for traffic in the six-week period is indicative of the rapidity with which Minnesota's trunk highway improvement program is moving ahead.

Three of the sections, on I.Rs. 494 and 94 and T.H. 169, have been opened, the fourth, on I.R. 35, is scheduled to be opened November 1.

Without benefit of a dedicatory program, the 2.9-mile, four-lane freeway section on I.R. 494 was opened September 18. The opening was advanced several weeks because I.R. 494 provides a new, safer location in this area for T.H. 100, the Twin Cities circumferential trunk highway. By re-routing T.H. 100 over 494 at this point, the Highway Department eliminated 100's dangerous grade level intersection with T.H. 61 at Highwood Ave. The old approach to T.H. 61 on Highwood Ave. was down a steep hill and the intersection was the scene of numerous collisions, several of them being fatal.

The 2.9-mile section of I.R. 494 extends northeastward from 494's bridge over the Mississippi River to Lower Afton Road.

With the Highwood Ave. intersection eliminated, T.H. 100 traffic now connects with T.H. 61 over I.R. 494 and Lower Afton Road.

Interstate 494, part of the Twin Cities Interstate circumferential, will be extended northeastward to I.R. 94, providing a St. Paul bypass connection between highways east and south of the Twin Cities.

On October 2, the Mankato and North Mankato city councils sponsored a civic luncheon and dedicatory program to mark the formal opening of 22 miles of new four-lane expressway construction on T.H. 169. The segment extends from the junction of T.Hs. 169 and 60 south of Mankato, through Mankato and north Mankato, and northward to St. Peter.

The 22 miles completed and opened to traffic is part of the general expressway improvement underway on T.H. 169 (the southwest radial route) southwestward from the Twin Cities.

Among several bridges in the 22 mile stretch is the 1,595-foot long four-lane

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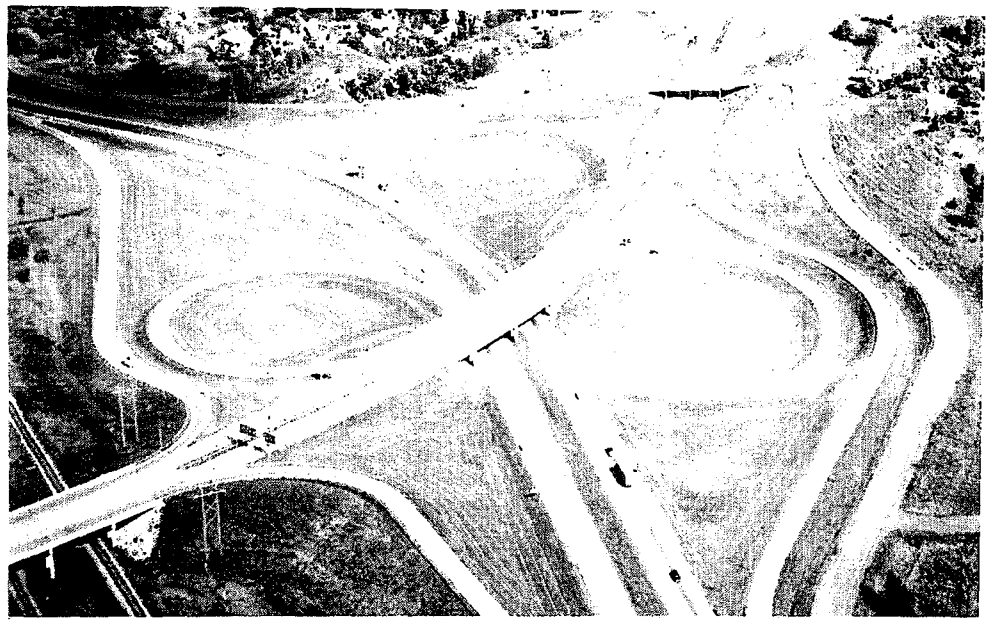
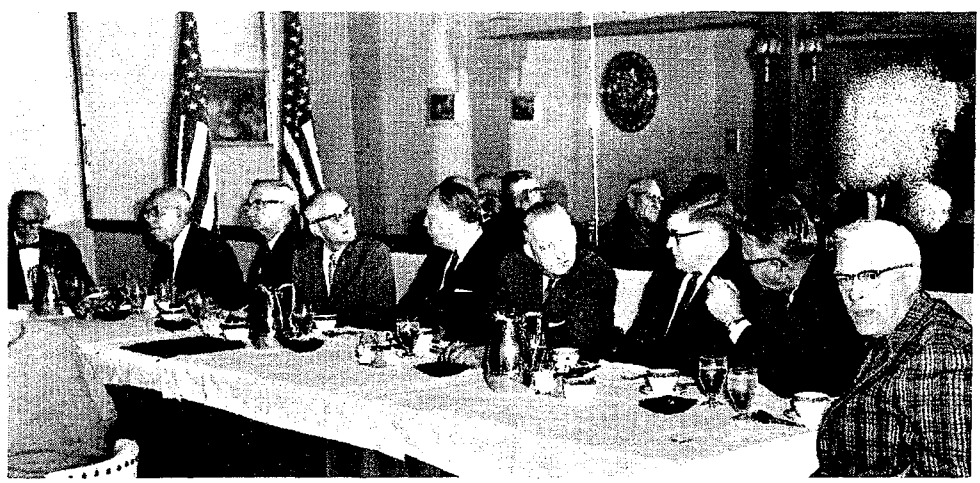


This is the new interchange near Newport between T.H. 61 and the newly opened construction of I.R. 494 from the Mississippi River to Lower Afton Road. The Interstate Route is shown over-passing T.H. 61 in the center of the cloverleaf. At left is the approach to the I.R. 494 bridge over the Mississippi to South St. Paul.



Congenial head table guests at the highway dedication luncheon in North Mankato were: L to R, District Engineer J. J. Idzorek, State Senators Val Imm, Blue Earth County, and Franklin Kroehler, Nicollet County; Rex Hill, Mankato mayor, presiding; Governor Andersen, Commissioner Marshall, Harold Hiniker, North Mankato mayor, who welcomed the guests; State Representative Harold Anderson, Nicollet County; and Erwin Hill, Mankato city manager.

Formal opening of the new bridge over the Minnesota River between Mankato and North Mankato symbolized the dedication of the entire 22-mile T.H. 169 improvement from Mankato to St. Peter. Governor Andersen cut the ribbon barring the bridge's northbound roadway.

Under scrutiny of Mayor Harold Hiniker of North Mankato, Commissioner Marshall cut the ribbon to open the southbound roadway. W. W. Fryhofer, Minnesota division engineer of the U.S. Bureau of Public Roads, is partly visible between the commissioner and mayor.

Road Openings

(cont'd. from page 3)

bridge carrying the highway over the Mississippi River between Mankato and North Mankato. It was on this bridge that the dedication program was conducted for the 22-mile segment.

Governor Andersen cut the ceremonial ribbon barring the bridge's northbound roadway to traffic, after which Highway Commissioner Marshall did the same for the southbound roadway. Civic delegations from Mankato and North Mankato advanced from their respective ends of the bridge to open the dedicatory program. Mayor Rex Hill of Mankato, and Mayor Harold Hiniker of North Mankato, presided jointly.

The bridge ceremony immediately followed a luncheon at the Century Club in North Mankato attended by civic leaders and governmental representatives from Mankato and North Mankato and state legislators. Mayor Hill presided and Mayor Hiniker welcomed the guests. Governor Andersen and Commissioner Marshall were principal speakers.

Describing the MHD's accelerated highway program, the Governor declared that the state Highway Department has a 25-year record of efficiency and honesty in the building and maintenance of the state trunk highway system, and that Commissioner Marshall's program of decentralization of authority and responsibility in the department is still further improving the department's efficiency.

Speaking briefly, Commissioner Marshall asserted that the state's interstate and state trunk highway program has made satisfactory progress during the past construction season, despite a good deal of bad weather over extended areas, and fund limitations. He foresaw "remarkable progress" in future years with the acquirement of required right of way and completion of plans for the greatly expanded highway program.

From Mankato, the Governor and Commissioner moved the next day to Fergus Falls for another civic luncheon and dedication to celebrate the completion and opening of the 11½ miles of freeway passing Fergus Falls at its western outskirts.

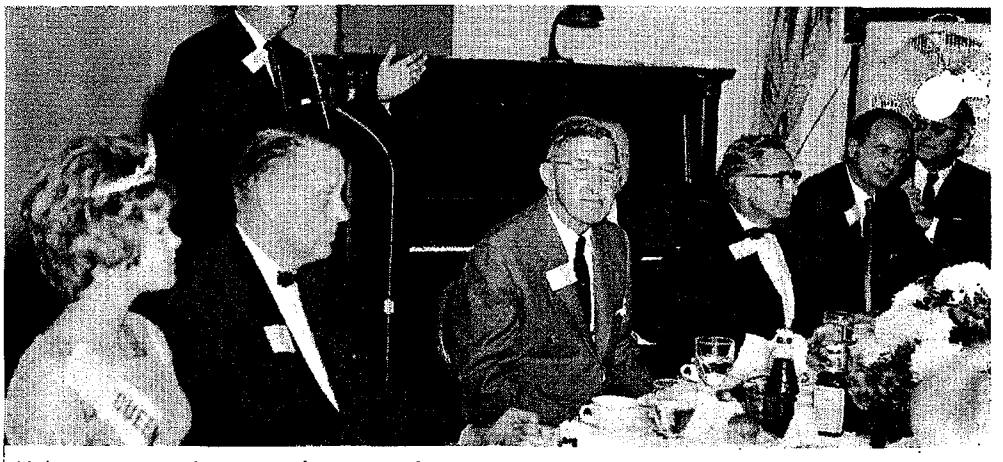
The four-lane freeway link extends between I.R. 94's connections with T.Hs. 59 and 52 northwest and southeast of Fergus Falls. Full access from the Interstate Route to the city is provided by existing highways, including T.H. 210, from the west. The new segment has interchange structures with T.Hs. 59, 52, and 210.

A colorful opening was given to the I.R. 94 festivities. A fleet of some 20 antique automobiles brought special guests to the dedication site on the highway from the civic luncheon in the River Inn in the city which opened the celebration. The procession was headed by a 1904 two-cylinder Reo in which rode Governor Andersen, Commissioner Marshall, and W. W. Fryhofer, district engineer of the Minnesota District, U.S. Bureau of Public Roads. The driver was George Shervey of Elbow Lake.

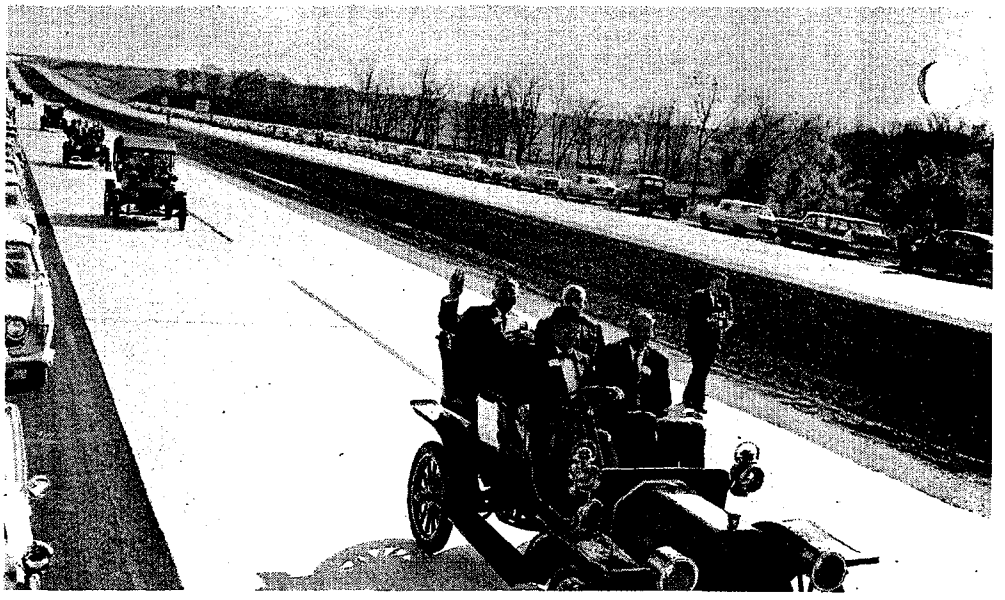
The dedication program began with the presentation of the colors by the color guard of Post 612, Veterans of Foreign Wars, and the playing of the Star Spangled Banner by the Fergus Falls High School band. C. B. Ayres, Fergus Falls Chamber of Commerce president, presided.

Commissioner Marshall told the audi-

(cont'd. on page 12)

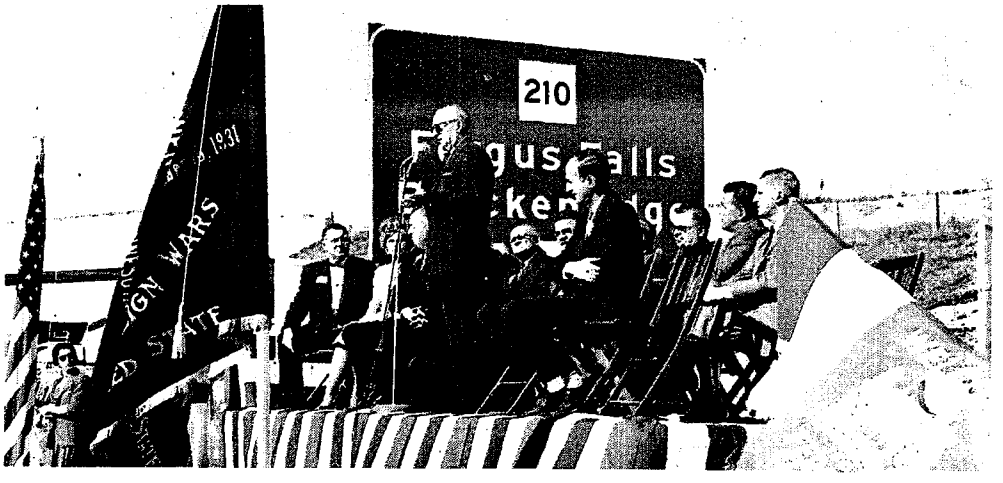


With Governor Andersen speaking, other leading dignitaries are seen at the civic luncheon which preceded formal opening of the Fergus Falls bypass segment of I.R. 94. L to R at table: Fergus Falls' Queen Snowflake (Lorene Hanson), C. B. Ayres, Fergus Falls Chamber of Commerce president; Gene Shaffer, Chamber highway chairman, presiding; Commissioner Marshall, Reno Mittelstadt, dedication program chairman; W. W. Fryhofer, Bureau of Public Roads; and V. I. Hanson, Fergus Falls mayor.



A fleet of antique autos carried the Fergus Falls luncheon guests to the dedication program on I.R. 94. In the leading vehicle, a 1904 two-cylinder Reo driven by George Shervey of Elbow Lake, were Governor Andersen, left, and Commissioner Marshall in the rear seat, and W. W. Fryhofer, Bureau of Public Roads.

Commissioner Marshall's remarks on MHD accomplishments drew close attention at the Fergus Falls I.R. 94 dedication program. Shown on the platform, L to R, are: front row, C. B. Ayres, Chamber of Commerce president; Queen Snowflake (Lorene Hanson), Governor Andersen, Commissioner Marshall, and W. W. Fryhofer, Bureau of Public Roads; rear row, State Representatives Roy Dunn and George Karvonen, Otter Tail County; Frank Pawlak, MHD Detroit Lakes district engineer; Eddie Dahl, project engineer; and Gene Shaffer, Chamber highway chairman.



Pasch Is New Chorus President

Heading for the first fall rehearsal of the Highway Chorus were, L to R: Top row, Ed Pasch, president; George Flynn, Jr., vice president; bottom, Sylvia Gross, accompanist; Bob Blanck, director; Mary Jane McGraw, secretary; and Mary Holmberg, treasurer.

A group of 30 MHD employees who sing together for the enjoyment of themselves and others is looking for more singers and more listeners.

The Highway Department chorus will welcome additional qualified voices, particularly men's, according to Bob Blanck of Road Design, the director.

At the same time, the chorus is "available" for additional evening and weekend engagements for the coming season, he said.

A major step in starting the new 1962 season was the recent election of the following chorus officers for the coming year: Ed Pasch of Traffic Engineering, president; George Flynn, Jr., Right of Way, vice president; Mary Jane McGraw, Drivers License, secretary; and Mary Holmberg, Construction, treasurer. Walter Johnson of Bridge, was the retiring president.

The chorus, which is sponsored by the Hiwayan Club, practices for a half-hour each Tuesday afternoon.

Besides singing in the State Highway Building at Christmas time and for other special occasions, the chorus is invited for outside engagements, such as the Minnesota State Fair, Governor's inaugural receptions, and other special programs in the capitol area, Arbor Day, lighting of the capitol grounds Christmas tree, and Centennial Building Christmas party.

In addition, the chorus has sung in recent years at Our Lady of Good Counsel Cancer Home, St. Paul's Lutheran Church, St. Luke's Hospital, and the Festival of Nations, and has been invited to sing in the near future at Bethesda Hospital, all in St. Paul.

The music committee is comprised of Johnson, Blanck, and Mrs. Sylvia Gross, the accompanist; with Duane Zwiers and Marylee Lekich as the robes committee. Darrell Gray is publicity chairman.

Road Openings

(cont'd. from page 4)

ence of some 1,500 people that Minnesota has excellent highway engineers and highway contractors who cooperate well in the construction program. He expressed appreciation for the Fergus Falls area's public interest in highway improvement, as witnessed in the size of the crowd at the dedication program.

Governor Andersen pointed out that the state now has its first printed three-year program of projected trunk highway improvements to give the public definite information on future plans. He stressed the importance of improvement of "farm to market" roads for all-year use without spring weight restrictions.

The Governor noted that a recent nation-wide television program, the David Brinkley Report, listed Minnesota as one of a small group of states performing an outstanding highway job.

Fryhofer described the Interstate System of National and Defense Highways, mentioning that approximately 9,000 of the 41,000-mile system is now opened to traffic.

Climaxing the celebration, Governor Andersen cut the ceremonial ribbon to formally open the highway, assisted by Fergus Falls' Queen Snowflake (Lorene Hanson).

The dedication scheduled for Sandstone November 1 is for the formal opening of approximately 14 miles of I.R. 35 between Hinckley and Sandstone.

Second to Russia?

We hear nowadays of how we are losing the race to Russia in the production of one item or another. Of course, we must remain alert to any unfriendly power concerning the future, but let's not forget the facts.

We are NOT in second place!

In order to be equal to Russia today, we in the United States would have to:

Abandon three-fifths of our steel capacity;

Abandon two-thirds of our petroleum industry;

Scrap two out of every three of our hydroelectric plants;

Forget over 90 per cent of our natural gas;

Eliminate 95 per cent of our electric motor output;

Rip up 14 of every 15 miles of our paved roads;

Destroy two of every three miles of our railroads;

Sink eight of every nine of our ocean-going ships;

Junk 19 out of every 20 of our cars and trucks;

Slash all paychecks by three-fourths;

Transfer 60 million Americans back to the farms;

Destroy 40 million TV sets; rip out nine of every 10 telephones, and tear down seven of every 10 houses.

We're in 1st place and we're going to stay there!!

----Great Northern Goat

Just for Laughs

A pessimist is a woman who thinks she'll be unable to fit her car into a certain space.

An optimist is a man who thinks she won't try.---E. I. Bulletin, Iowa State Highway Commission.

Axle Greaser

Many a fellow who talks like a big wheel is merely a spokesman.

---American Legion Magazine

One good thing about the short, short skirts----they make men look better.

Don't ever worry about our government ever being overthrown. There's entirely too much of it.----Wall Street Journal.

As I warily wend up the freeway,
In the sea of cars flowing to town,
When the lady ahead puts her arm out,
All I know is her window is down.

Even a mosquito doesn't get a slap on the back until he starts work.---AAMVA Bulletin.

More Funds Available

Interstate Program Is Speeded

The Minnesota Highway Department has added more than $35 million in Interstate highway projects to the state's 1963-65 construction program.

This brings the state's programmed outlay for Interstate Construction for the three-year fiscal period which began last July 1 to more than $187 million. This sum is nearly one-fifth of the estimated $1 billion it will cost for Minnesota's 898 miles of Interstate highways.

At a special news conference in Minneapolis, attended by newspaper and radio and television editors from throughout the state, Governor Andersen said that the accelerated Interstate program was made possible by the recent release of $53 million of previously frozen funds by the U. S. Bureau of Public Roads.

The governor reported that another $33 million is being programmed for purchase of right of way to clear the path for further construction. Also, it may be possible to add other projects when "the new three-year construction program is published next spring," he said.

The federal government pays 90 per cent of the cost of Interstate highways, the state, 10 per cent.

To Cut Restrictions

Andersen repeated at the news conference his proposal for legislative authority to borrow $60 million by bond issue to speed up the improvement of Minnesota's regular state trunk highways -- the "bread and butter" roads. He issued a list of projects recommended for construction if the bond proposal is approved by the 1963 legislature.

For the 1963-65 period, $96 million of state and federal funds on a 50-50 basis already have been programmed for the improvement of 1,140 miles of regular state trunk highways, including many miles which are subject to axle load restrictions during the spring thaw.

The additional $60 million of bond issue funds proposed by Andersen would improve 728 more miles.

Minnesota, on July 1, was running second only to Texas among states in the completion of Primary, Secondary and Urban (ABC) roads since July 1, 1956.

However, the program has a long way to go, Andersen said. With $60 million additional state bond funds, road restrictions will be eliminated from slightly more than 10 per cent of the presently restricted places.

During the spring of 1962, 446 municipalities and non-incorporated communities were handicapped by load restrictions. The 1963-65 program will provide year-around, all weather roads for 32 of these communities and the proposed bond program for 23 more, Andersen said. Under the bond proposal, Minnesota could pay 100 per cent costs of the new projects on the premise that the state would be reimbursed 50 per cent in later allotments of federal funds for ABC roads.

Minnesota's federal apportionment for the current fiscal year is $89,285,000 -- $67,062,000 for interstate and $22,223,000 for ABC, of which at least $3.8 million must be allocated to the counties. The total is $6 million more than the $83 million allocated for both Interstate and ABC for the last fiscal year.

The three-year schedule was set up July 1 on the basis of regular allotments. In mid-August the Bureau of Public Roads announced it was releasing $1.9 billion of federal funds because some other states had not been able to use their full allotments. Minnesota was allocated $53 million of the "unfrozen" funds for Interstate and $2.8 million for the county secondary aid road program.

This did not mean that Minnesota will get more than its share of Interstate funds apportioned by the Congress for the 16-year program. The state is getting it sooner because it has been utilizing regular allotments as soon as they are available.

The Bureau of Public Roads rated Minnesota third -- behind Maine and Colorado -- in the prompt use of available funds.

The released Interstate money will be obligated promptly for projects recommended by the Highway Department's district engineers as "ready" for advancement. Projects now added include more than 40 miles of grading, 11 miles of surfacing and numerous bridges and connections. Besides projects added, several other previously scheduled items were advanced from three months to one year on the program.

For the current fiscal year, the revised Interstate Program will be $66,730,000; for fiscal 1964, $53,841,000 and fiscal 1965, $66,604,000.

Ebert Is Adjutant

Heading the list of 1962-63 appointive officers for Hiway Post, American Legion, is Bill Ebert, as adjutant. He heads the Road Inventory Group in the MHD Planning and Programming Division.

The others appointed by Commander Leo M. Smith are Ted Keeler, service officer; Guy Chilson, chaplain; and the following chairmen: Harold Cook, Americanism; Tom Rauen, athletics; Donald Tomsche, child welfare; A.L.W. Anderson, civil defense; John T. Anderson, membership; and Darrell Gray, employment.

Besides Smith, the elective officers, an announced last May, are John T. Anderson and John P. Eggleston, vice commanders; Walter Petrowski, finance officer; Goodwin Kolstad, sergeant at arms; and Stan Paulson, historian.

The elective and appointive officers were installed at the post's September meeting.

In its 1962-63 membership campaign, now under way, the post is shooting for a total of 275 members by November 11 to give it a new all-time record, John Anderson said. The post has set a new membership record in each of the past six years.

MHD United Fund At $14,000 Level

The total of MHD contributions to the St. Paul U. F. went over the $15,000 goal October 16.

By October 4, St. Paul area employees of the Highway Department were booming down the home stretch in their race toward their assigned quota of $15,000 in the Greater St. Paul United Fund campaign.

On that date, they had contributed approximately $14,000, leaving a balance of only about $1,000 to achieve their minimum goal.

Mrs. Ruth Woodworth, MHD co-chairman for the drive, said that reports received by October 4 put 12 sections or other contributing units "over the top" in achieving their "fair share" minimum goals. The 12 groups, their contributions to October 4, and their totals of contributors: (not necessarily in order of proportionate achievement):

Road Design Section, $3,068---222; Planning and Programming Division, $1,323---159; Bridge Section, $1,673---113; Office of the Commissioner, including top executives and Public Information Section, $688---23; Personnel Section, $245---17; Drivers License Section, $720---192; Data Processing Section, $365---46; Management Services Section, $222---14; Financial Services Section, $587---66; Administrative Liaison Unit, $151---34; Safety Promotion Section, $288---33; and Legal Section secretaries, $24---8.

Stewart Promoted

Harry Stewart

With an accompanying classification change from CE III to IV, Harry Stewart has been advanced from administrative engineer of the Pre-Acquisition Unit in the Right of Way Division to head the division's new Program and Funds Section.

After two years in construction, he entered Right of Way in 1929, where he has occupied a variety of positions. He became a CE III in 1956.

Rumble Panels

(cont'd. from page 10)

Near Le Roy, on T.H. 56 at its junction with T.H. 63.

At Rushford, on T.H. 16 at its junction with T.H. 43.

The fourth test location will be on T.H. 13 where it forms the stem of a T shaped intersection with T.H. 101 at 13's new location west of Shakopee. Installation of coarse aggregate rumble panels here will be a part of the bituminous surfacing of the 10 miles of the new 13 location extending southward from the intersection to Prior Lake. The surfacing is scheduled for next spring. The Minnesota Valley Improvement Co. of Granite Falls is the contractor.

The 25-foot panels will begin 1,100 feet from the intersection. The intervals between them will be 100 feet for most of the distance, and 50 feet close to the intersection.

Trunk Highway 13's immediate approach to the intersection is downward on a fairly steep slope, to a stop sign. Several cars failing to stop before entering 101 have collided with vehicles on the latter highway or have continued across the highway into the ditch on the north side of 101. A truck driver was killed at the intersection a few weeks ago.

Besides determining warning efficiency of the rumble panels, the test is expected to indicate whether the sudden noise from the panels may startle a driver sufficiently to commit some driving error, how the seal coating or aggregate withstands ice and snow removal operations, and whether the panels may reduce or increase skidding hazards.

Highway department engineers and safety workers will observe with interest the study of rumble panels as a device to warn drivers of impending fixed traffic hazards.

Former Patrol Member Dies

After suffering for several years from a heart ailment, retired Patrol Officer Archie Northup, 49, of Detroit Lakes, died September 15 at the Fargo, N.D., Veterans Administration Hospital. A native of Wadena and boyhood resident of Hawley, Mr. Northup was a Highway Patrol officer from 1936 to 1957, when he retired on sick leave. He was stationed at Detroit Lakes.

Pallbearers at the funeral services there were patrol members, Tom Scanlon, Clyde Ostlund, Robert Granger, Leonard Vierzba, Lauren Marxen, and Robert Knochke.

Interstate Progress

Approximately 12,500 miles of the U.S.'s planned 41,000-mile system of interstate highways was open to traffic by August. Construction is underway on an additional 4,800 miles. In the 12 months ending June 30, 1,675 miles of the system were completed to final standards, with 202 of these miles representing the total mileage completed during the second quarter of 1962.

Newman Is Honored

Bob Newman

Major Bob Newman, assistant chief of the Highway Patrol for the past 16 months, will retire November 7 after 31 years in the Patrol. He has been on sick leave since May because of a heart condition.

To bid him farewell from the patrol and honor his long service, some three score of his patrol associates gave him a dinner party October 11 at Weber's Supper Club in North St. Paul. Mrs. Newman also was an honored guest.

Sergeant Conrad Erickson of the St. Paul patrol station, presided. Among the scheduled speakers were Assistant Highway Commissioner Clayton Swanson, patrol Chief Leo M. Smith, Acting Assistant Chief Horace Henry, and several present and former patrol members who graduated with Newman from the 1931 officer candidate school.

Newman was promoted from officer to sergeant in 1951, to captain the next year, and inspector for operations in 1960. During his eight years as captain, he commanded the Marshall patrol district.

Ceylonese Visitor

(cont'd. from page 9)

More than half of the people of Ceylon are Sinhalese, descendants of people from northern India who invaded the island in 543 B.C. Until gaining independence in 1948, Ceylon had been for about 450 years under the successive domination of the Portugese, Dutch, and English.

Though the island has little industry, Colombo, the capital city, has a population of nearly a million people.

Three Strikes and In

It was happy fishing for Highway Patrol Officer Hank Zasada of St. Paul, on the St. Croix River near Prescott, Wis. He landed three out-sizers, a 24-pound, 9-ounce northern pike, a 15-pound, 5-ounce northern, and a 9-pound, 9-ounce walleye.

Accident Review Board Cases

Leaving Parked Position

Statement of driver: "State unit (No. 1) a Chev pickup was parked at the curb. I entered the truck cab, started the motor, switched on my left turning signal and looked back, sticking my head out of the window. I saw a light colored car approaching from the rear in the adjoining lane of traffic. I waited until it passed, then attempted to pull out into the adjoining lane of traffic. I did not see car No. 2 that was behind the light colored car. I had proceeded five or 10 feet in a diagonal direction from the curb when the left side of my front bumper dented the right front fender of Car No. 2. The pavement was dry, a clear sunny day."

This accident was determined to be preventable by the Accident Review Board. Rule 73 (a) states that "No person shall start a vehicle which is stopped, standing or parked unless and until such movement can be made with safety." The movement of this vehicle was the responsibility of our driver and he did not make sure he could enter the traffic lane safely.

Following Too Close for Condition Of Roadway

Statement of driver: "I was taking samples to St. Paul when accident occurred. Vehicle 2 (other car) was just entering intersection when traffic light changed from green to yellow. Vehicle 2 was from out of state and was traveling about 15 miles per hour. It had been raining but intersection was almost dry giving Vehicle 2 a chance to stop for the traffic light. Vehicle 1 (state unit) was going 20 miles per hour and, when I tried to stop, skidded and ran into the rear of Vehicle 2. The pavement was wetter than at the intersection."

The Review Board determined that the accident could have been avoided by our employee and called the accident preventable. Due to the wet condition of the pavement the driver of the state unit was traveling too fast. The condition of the roadway should have been taken into consideration and our driver was following too close to the other vehicle.

New R/W Office Manager

The Right of Way Division has a new office manager, Francis B. Dunnigan, formerly reviewing officer in the Driver Improvement Unit of the Drivers License Section. Dunnigan, who was promoted to an Executive II rating for his new post, succeeds Walter Hoover, advanced in August to be a right of way agent II. Dunnigan has been in the Drivers License Section 13 years.

Simultaneously with Dunnigan's departure from the Drivers License Section, Seymour Olson, a driver license examiner in the Duluth examiner district for the past five years, was promoted to driver improvement interviewer in the Central Offices.

14-Mile Link Opened on I. R. 35

Three Pine County communities, Hinckley, Sandstone, and Askov, joined forces November 1 in a progressive celebration of the opening for traffic of approximately 14 miles of newly completed four-lane highway on I.R. 35. The segment extends from Hinckley past Sandstone to a point two miles west of Askov.

Three successive ribbon cutting ceremonies took place at Hinckley and near Sandstone and Askov. Large crowds were present.

Principal state officials participating were Governor Andersen and Highway Commissioner Marshall, with former Governor Hjalmar Petersen of Askov, taking part in the Askov celebration.

Governor Andersen and Commissioner Marshall spoke at all three locations and Governor Andersen cut the ribbons at Hinckley and Sandstone to signify the opening of the highway. Former Governor Petersen spoke and cut the ribbon at the Askov meeting.

Governor Andersen and Commissioner Marshall pointed out the benefits provided by the new Interstate construction not only to through traffic, but to the entire Pine County area. They expressed their appreciation for the active co-operation of the people in the area in the location and construction of the new highway.

Lester Schmidt, Hinckley Chamber of Commerce president, extended greetings to the assembled guests at Hinckley. The local American Legion and Veterans of Foreign Wars posts conducted the presentation of the colors and the Hinckley High School Band played the national anthem.

The Sandstone ceremony, an hour later, was at the junction of I.R. 35 and T.H. 61, near Sandstone. Greetings were by Arthur H. Larson, Sandstone Chamber of Commerce president, with the Sandstone Legion post and the Sandstone High School Band presenting the colors and playing the national anthem.

In the Askov ceremony, special guests and the audience were welcomed by Roy Sebald, president of the Askov Commercial Club. Presentation of the colors and the playing of the national anthem were by Askov Explorer Boy Scouts and the Askov High School Band.

Left to right at the Hinckley dedication on I. R. 35 were Mayor Max Lehman of Hinckley; Robert Morris, secretary, and Percy Pascoe, president of the Duluth Chamber of Commerce; and Governor Andersen. The Duluth men are seen presenting to the Governor and mayor with a jug of water drawn from Lake Superior and the Gulf of Mexico, symbolizing the termini of I. R. 35 at Duluth and Laredo, Texas.

The fellow who thinks he knows it all is especially annoying to those of us who do.

On the road, dim unto others as you would have them dim unto you.

---AAMVA Bulletin

Project Engineers Assigned to R/W

The Highway Department took a leaf from its early history this month with the assignment of 11 project engineers to the Right of Way Division for the winter months.

In the department's earlier years, it was a general practice to transfer many of the project engineers and other field personnel to non-construction activities such as right of way and design during the winter months.

Accustomed to supervising highway construction operations, the 11 engineers will, for about five or six months, assist in a speed-up of right of way acquisition. They will work mostly with members of the state attorney general's staff in acquisitions by exercise of eminent domain, Right of Way Engineer Bob Towne reported.

Acceleration of right of way acquisition is an important part of a general speeding of Interstate and state trunk highway construction necessitated by the recent increase in federal aid available in Minnesota.

Selection of the 11 engineers was as follows:

At Towne's request, eight of the department's nine district engineers designated one project engineer for Right of Way duty, with the Twin Cities Metropolitan District supplying two. A verified list of those designated and assigned was not immediately available.

The eleventh assignment is that of S. F. Branby, formerly county highway engineer of Freeborn County, who transferred November 1 to the state Highway Department as a project engineer. He held the Freeborn post for nine years and previously was in the MHD for 11 years, as an engineering aid.

The other 10 project engineers will work mostly in their home districts, Towne said. All 11 are registered professional engineers.

Towne said that his first association with the Right of Way Division was as a project engineer assigned there for winter duty.

S. F. Branby
New Project Engineer

On Interstate Routes

13,000 Miles Open for Use

Over 13,000 miles of the 41,000-mile National System of Interstate and Defense Highways are now open to traffic and construction is underway on another 4,900 miles, Federal Highway Administrator Rex M. Whitton announced last month.

Information as of September 30, compiled by the U.S. Bureau of Public Roads, showed that 1,893 miles of the Interstate System were completed to final standards during the preceding 12 months, of which 648 miles were completed during the quarter ending September 30.

"The actual mileage in use by passenger and commercial vehicles rose from 11,252 a year ago and from 12,550 as of June 30, 1962, the date of the last survey, to 13,129 as of September 30," Whitton said. "Thirty-two percent of the Interstate System is now open to traffic."

The Interstate System will carry about 20 percent of the total traffic. The Federal-Aid Highway Act of 1956 required the system to be designed to accommodate the traffic needs of 1975 and completion of the system is scheduled for 1972.

Of the 13,129 miles of the Interstate System now in use by motorists, 7,873 miles were completed to standards adequate for 1975 traffic and 2,954 miles were improved to full capability for handling current traffic but will need additional improvement to bring them up to the standards for 1975. Toll roads, bridges, and tunnels incorporated in the system, as permitted by law, totaled 2,302 miles.

More than half of the mileage open to traffic, 8,607 miles, has been built or improved under the Federal-Aid Interstate program, most of it on the 90-percent state sharing program launched in 1956. Work on the remaining, 2,220 miles (other than toll facilities) was financed by the states and localities, mostly before 1956, under other programs--in many cases with federal aid.

In addition to the sections open to traffic, 4,894 miles were under construction with Interstate funds as of September 30, and engineering or right-of-way acquisition was in progress on another 10,785 miles. Thus, some form of work was underway or completed on 28,808 miles of the 41,000-mile system--about 71 percent of the total.

Almost $14 billion has been put to work on the Federal-aid Interstate program since the accelerated program began in 1956. Work completed since July 1, 1956, has cost $7.1 billion, of which $5.93 billion was for construction and $1.17 billion for engineering and right-of-way acquisition. As of September 30, work estimated to cost $6.89 billion was underway or authorized, including $4.09 billion of construction and $2.8 billion of engineering and right-of-way acquisition.

ABC Accomplishment

The continuing program of federal assistance for improvement of the federal-aid primary and secondary highway systems and their urban extensions (the ABC program) has also shown remarkable accomplishment, with $13.5 billion worth of work involving 166,648 miles of construction contracts completed or underway.

Construction contracts involving 142,887 miles in the ABC program have been completed since July 1, 1956, at a cost of $9.43 billion; and contracts involving 23,761 miles at a cost of $2.9 billion were underway on September 30. In addition, $649 million of engineering and right-of-way acquisition work had been completed and $513 million worth of such work was underway. The ABC program is financed by the federal government and the states on an equal-share basis.

The Highway Trust Fund, source of federal funds for the Federal-Aid highway program, received $900 million of tax revenue income during the three months ended September 30, about 75 percent of it from the taxes on motor fuel. Disbursements for highways during the period amounted to nearly $835 million.

462 Miles Under Way in Minnesota

As of September 30, Minnesota had 462.8 miles of work under way on its 898.1-mile share of the Interstate Highway System. Of this total, 131.4 miles was under construction, and 331.4 miles was in the engineering and land acquisition stage. These figures are from the Bureau of Public Roads' quarterly report for the period ending September 30. The report further listed the following for Minnesota: Work not yet in progress, 324.7 miles; improved to standards adequate for present traffic, 53.2 miles; completed to full or acceptable standards, 57.4 miles; total open to traffic, 110.6 miles.

Since September 30, an additional 25 miles of Minnesota-Interstate highway have been opened, bringing to 135 miles the total of Interstate highways now in use in the state. The newly opened segments are 11 miles of I.R. 94 bypassing Fergus Falls, and approximately 14 miles of I.R. 35 northward from Hinckley.

Tomsche Transfers

L to R: Frank D. Marzitelli, Don Tomsche, and Dean Lund at farewell dinner for Tomsche.

A brief case and money were presented to Don Tomsche of the Management Services Section at a dinner November 14 marking his transfer from the Highway Department to the Department of Corrections. The dinner was at the Golden Steer Restaurant in South St. Paul with about 40 persons attending.

Dean Lund, Management Services chief, made the presentation and former Deputy Commissioner Frank D. Marzitelli spoke.

After six years in the Personnel and Management Services Sections, Tomsche moved from his administrative analyst post to Corrections with a promotion. He is now executive assistant at the new Youth Treatment Center at Lino Lakes.

John W. Jackson Elected

Recognition of the high standing of the Minnesota state Civil Service Department was expressed last month in the election of John W. Jackson, state civil service director, to the presidency of the Public Personnel Association, international organization of personnel executives. The action was at the association's national conference in Miami, Fla.

'Our' Country, Not 'This' Country

"Now, what this country needs. . ."

How many times have you heard it said? How many times have you said it?

What this country really needs is for us to stop calling it "this country"--for us to begin holding it in our hearts and speaking fondly of it as "our country."

It is not just any country. It is a very special country...

It is our country--ours, to love and to cherish; ours, to seek in every way to better--ours, to defend and to strengthen.

It is not just anybody's country. It is every American's country--our very own, and ours alone.

What it needs is for us to stop referring to it so slightingly as this country. It is our country!

---Arkansas Highways

Help Save Station Monuments, Says Marvin

For the past three years, the Highway Department has been engaged in a program of establishing second-order monumented horizontal control traverses along the new Interstate trunk highway routes for the control of highway surveys.

In laymen's terms, these markers, set at established points provide a reference station for survey operations in the vicinity of the markers.

To date, more than 280 traverse stations, consisting of five concrete monumented markers at each traverse station site, have been constructed and placed along some 530 miles of the Interstate System.

All these markers, together with the huge integrated complex of monumented first-order horizontal control markers, as established by the U.S. Coast and Geodetic Survey, present a big problem of maintenance and preservation which run into money.

To illustrate some of the more common problems encountered in the preservation of these survey markers, an announcement issued by the Coast and Geodetic Survey, entitled "Introducing Marvin Marker", follows:

* * *

My name is Marvin Marker. I belong to an extremely large family of bronze station markers which are property of the U.S. Coast and Geodetic Survey. Because of my 150-year longevity, I was chosen to solicit your help in a serious family problem.

Our problem is the same as that faced by people throughout the world today -- SURVIVAL. Yet our concern, apart from man's, is not because of the present world situation. Our chances of survival are slim regardless of the world's condition! And they are getting slimmer all the time! That's why I am appealing to you.

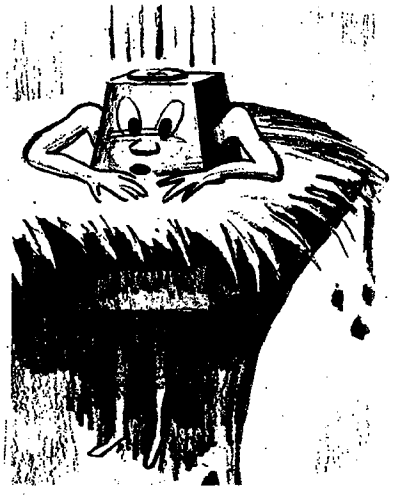
Lately our lineage has suffered terrifically because of premature deaths. Last year, thousands of Markers met with ill-fated deaths. Hundreds were mistreated, abused, uprooted and thrown away. Some were even brutally murdered. Few, I am sorry to say, ever die comfortably of old age.

Although I am emotionally involved as a member of the family, I can't help but think that people, too, would become a bit emotional if they knew the terrific expense involved in replacing us. Someone told me that the Government spends thousands of dollars each year just replacing

unfortunate Markers. (Boy! That sounds like an awful lot of the people's money, since they're always complaining about not having enough!!) And yet I'm sure that if people were made aware of a few things about us, 95 per cent of these losses could be prevented.

From time to time we suffer through maliciousness. Halloween, without fail, finds pranksters attempting in various ways to pry us up. Souvenir hunters, too, frequently steal us for use as paperweights, bookends, or just for the thrill of an unusual memento. The laugh will be on them if they are ever caught, though! Imprisonment or a $250 fine hardly seems worth the thrill they receive from such frolicking.

Our biggest enemy, however, is the man behind the bulldozer or grader. Brother! On more than one occasion in my lifetime I have had to do some fast praying for fear that I would follow some of my relatives to the grave -- an unfortunate victim of a crushed disk! I thank my lucky stars that the present owner of the property on which I live knows all about me, and my value to surveyors and engineers. He takes special precautions to see that I stay healthy, that no man or machine damages me.



It's because of these well informed, thoughtful people who are careful to watch for us and for our distress signs, that many Markers live long, useful lives. Actually, we are supposed to be immortal. But, some of the family have died of old age, erosion or sedimentation because the services of a professional engineer were not engaged soon enough to save them.

Please, won't you perform a valuable service to your country and community by helping Markers live a normal life span? Engineers, businessmen, housewives, students, -- Just about every citizen can help!

Remember these facts!

(1) Never remove a survey marker. Once this is done, the value of it is lost entirely, and replacement is costly.

(2) If there is construction going on in your area and you notice a survey mark which appears to be in your way, call it to the attention of the surveyor in charge to insure that he is aware of it.

(3) If you see a survey mark which appears to be susceptible to damage of any kind, or which seems to be undergoing erosion or other "old-age ailments," flag it by driving stakes nearby and marking them with red ribbon, cloth, or plastic.

(4) In all cases, submit a report of your findings to The Director, Coast and Geodetic Survey, U.S. Department of Commerce, Washington 25, D.C.

When you respond to this appeal, you will be performing a tremendous service for your Government. And as for me and the Marker Family, you will be helping to achieve longer and better lives for Markers all over the World.

Thanks from the entire family!

* * *

Regarding Fact No. 4 in the announcement, the MHD requests that any of the conditions listed be reported to the Photogrammetric Engineer, Minnesota Department of Highways, St. Paul 1, rather than directly to the U.S. Coast and Geodetic Survey in Washington. This procedure is essential since all records pertaining to control stations located within Minnesota are on file in the Photogrammetric Engineer's office. He will forward the report of findings, together with any additional pertinent information to the U.S. Coast and Geodetic Survey in Washington.

For Minnesota Highways

Biggest Construction Years Are at Hand

To mark National Highway Week, May 26-June 1, the following article outlines recent progress and long-range plans for Minnesota's interstate and regular trunk highway construction.

By PAUL STAFFELD
Deputy Commissioner, MHD

For the past few years we have seen the amount of interstate trunk highway construction gradually increase. This has been true even though since the fall of 1959 the amount of federal aid interstate funds available for construction has been strictly controlled. Originally we had an Interstate construction program for fiscal 1963, the current fiscal year, totaling $45 million.

Last August when the federal government greatly relaxed federal aid controls, our interstate program was expanded to a total of $66,730,000, an increase of nearly 50 percent. Optimistically, we expected to put this amount of work under contract before July 1. At the present time there is some doubt as to whether we will meet this total, but, even if we fall short by a few million dollars I think we must agree that we have done a creditable job in expanding our activities during the past year.

$70 Million Yearly for Interstate

During the coming years we expect to hold the level of interstate contracts at close to $70 million per year. This level must be maintained through fiscal 1971 if the interstate routes in Minnesota are to be completed by 1972. It is evident then that we will have to step up our program somewhat from what it has been this year and then maintain that level in the future.

At the close of our construction season last fall we had 89 miles of interstate trunk highways completed or nearly complete and open to traffic. There remains something over 800 miles which must be built and open to traffic by the fall of 1972. This means that we will have to average approximately 80 miles of completed interstate trunk highway each construction season for the next 10 years.

Interstate construction in the Twin Cities metropolitan area will continue in successive stages of construction so as to minimize the distruptive effect on our internal traffic movements and because on this type of construction the various activities must be properly phased in order to minimize the cost. It will be interesting for all of us to watch the phase-by-phase construction taking place in the Capitol Approach area in St. Paul, and the central interchange near the Minneapolis Auditorium, and the Lyndale-Hennepin bottleneck in Minneapolis. It is anticipated that in each one of these locations four or five or more construction seasons will be required to complete the various phases of the project.

Progress will be continued on the construction of interstate T.Hs. 494 and 694 which form the circumferential route around the Twin Cities area. In the immediate future work will be initiated on the westerly and northerly portions, as well as on the easterly section, with the closure of the circumferential in the northeast corner in 1967 or 1968.

We have substantial mileages completed or under construction in the out-state areas on all three of our interstate routes.* Interstate T.H. 94 will be extended southeasterly toward the Twin Cities and northwesterly toward Moorhead, while at the same time it will be extended northwesterly from the Twin Cities area with a probable closure southeast of St. Cloud. We look for a closure of interstate T.H. 35 between Albert Lea and the Twin Cities within four or five years.

Work will continue progressively on interstate T.H. 35 northerly from Pine County towards Duluth. In a few more seasons interstate T.H. 35 will be extending north from the Twin Cities towards a closure at T.H. 70 south of Pine City by 1968 or so. We expect to let successive contracts on interstate T.H. 90 easterly from Rock County and then westerly from the Austin-Albert Lea area with a closure in Martin or Faribault County in the final years of the program.

The big project on interstate T.H. 90 where it overlays T.H. 61 in the Dakota-Dresbach area is the first of several successive contracts which will be let extending interstate T.H. 90 westerly towards Rochester.

Over the past year or more, our Highway Needs Unit, with the assistance of the district engineers, has made the first comprehensive trunk highway needs study since the one which was made by the Automotive Safety Foundation in 1953-54. Because we now have the electronic computor which was not available 10 years ago, our current needs study is being stored on magnetic tape. By this means it will be possible to delete needs from the tape as improvements are made and to add to the needs as they are foreseen in future years. Thus our trunk highway needs will always be up to date and it will be possible to make a cut-off at the end of a fiscal year or calendar year with a complete anlaysis of our needs by trunk highway route, number, district, county, federal aid system, type of needed improvement, etc.

* * *

** Interstate trunk highways in Minnesota: No. 35 extending from Iowa border near Albert Lea northeastward through Twin Cities to Duluth. No. 90, from South Dakota boundary at Manley, eastward to Wisconsin boundary near LaCrescent. No. 94, from North Dakota border at Moorhead, eastward through Twin Cities to Wisconsin border at Hudson, Wis. Nos. 494 and 694, Twin Cities circumferential, and No. 535 from No. 35 at Duluth, to Superior, Wis.*

Regular Trunk Highway Needs

This study showed that our regular trunk highway needs over the next 20 years amount to $1.2 billion and thus will require an expenditure for construction improvements of $60 million per year over the next 20 years if the needs are to be eliminated. Over the past few years we have been making improvements on the regular trunk highways at the rate of approximately $30 million per year, or half of what we should be investing to achieve the needed improvements.

Generally speaking, our regular trunk highway needs fall into two categories. One is those trunk highways which are deficient in traffic carrying capacity, especially from the standpoint of safe operation. The second is the more than 7,000 miles of trunk highways on which we are required to place axle load restrictions each spring. The restrictions are necessary to protect the investment we have in bases and surfaces and avoid large expenditure of funds for rehabilitating these roads if they are severely damaged because of being required to carry heavy axle loads during the spring. When the frost is leaving the ground, the load-bearing capacity of the roads is seriously impaired.

In the first category are approximately 1,500 miles of 18 and 20-foot wide concrete pavement which is 30 to 40 years old. Much of this pavement has the very hazardous concrete lip curb and drain basins and some of these highways have serious curvature and restricted sight distances.

In general, we are making two types of improvements on these routes. Where the future traffic estimates warrant it we are rebuilding to four-lane divided expressways. In other cases, where the traffic does not warrant this type of construction, we are reconstructing these highways to high-capacity, single roadway facilities which we feel will be adequate for many years to come. The problem of upgrading low carrying capacity highways sometimes only involves the addition of base and surfacing with shoulder widening. In other instances, some grading is required in addition to the base and surfacing. Many miles, of course, will have to be completely reconstructed which always means a moderate amount of relocation.

With the expenditures which we have been able to make over the past few years, we have achieved a steady program of improvements---a gradual reduction in the mileage of our old, narrow, paved highways as well as a very gradual elimination of the mileage that has springtime load restrictions.

Firm Programming Adopted

During the past two years we have instituted a policy of firm construction programming, with the annual publication of three-year construction programs for

(Cont'd. on page 8)

Four Major Deaths in a Single Week

In the span of a single week last month, death came to four veteran employees of the Highway Department, all quite widely known among their fellow workers----W. K. Stutsman, Robert C. Newman, Bernard Mullen, and E. J. Rowland.

W. K. Stutsman

Bernard Mullen

R. C. Newman

E. J. Rowland

W. K. Stutsman

Three days after suffering a cerebral hemorrhage, Warren K. (Stuts) Stutsman, 62, stores keeper in the State Highway Building, died April 11 in Minneapolis' Northwestern Hospital.

A 40-year veteran of the department, Mr. Stutsman had been stores keeper since 1952. Previously he had been a clerk and accountant in Administration. At the time of his death, he was chief warden for the Highway Building in the Capitol Area Survival Plan. He was a veteran of World War I.

EITS Organize Club

For mutual professional improvement and sociability, 30 MHD engineers in training I initiated organization of an EIT I club at a dinner meeting April 22 in the Arden Hills Training Center. Elected as temporary officers pending permanent organization were Douglas Differt of the Traffic Engineering Section, as chairman, and Merritt Linzie, also Traffic Engineering, as secretary.

As principal guest speaker at the dinner, MHD Chief Engineer John Swanberg described young engineers' vacational opportunities in the Highway Department and the benefits of professional organizations.

Engineers in training I interested in joining the projected club are invited to contact Differt or Linzie, phone extension 3141.

In heavy traffic, take your time making a left turn. It well may give you more time on this good earth than if you try to save 10 seconds.

R. C. Newman

Following an extended heart ailment, Robert C. (Bob) Newman, 55, retired assistant chief of the Highway Patrol, died April 15 at Little Falls where he had lived in recent months. He retired last November 11, after being on disability leave for about seven months. Mr. Newman entered the patrol in June, 1931, became a sergeant in 1951 and served as a captain and inspector before his appointment in May, 1961, as assistant chief. He died suddenly in the evening as he and Mrs. Newman were preparing to make a trip to Tennessee.

Bernard Mullen

Bernard (Ben) Mullen, 67, right of way agent III assigned as research agent, died of cancer April 16 in Northwestern Hospital, Minneapolis. He had been on sick leave since last November. In the Highway Department for three decades. Mr. Mullen was a clerk and accountant in the Administrative Division before his transfer to Lands and Right of Way where he became a right of way agent I in 1957.

He was a charter member of the Tri-State Chapter of the American Right of Way Association, serving as a director in 1961, and executive secretary in 1962. He was active in arrangements for the national organization's seminar in Minneapolis last year. He was a World War I veteran.

Retired Foreman Dies

Adolph S. Gunderson, 79, of St. Paul, who retired 10 years ago from the MHD as a bridge maintenance foreman, died April 6. During his 19 years in the department, he worked in bridge maintenance, as a painter, bridge worker, and bridge foreman.

E. J. Rowland

E. J. Rowland, 68, who served as right of way engineer for nine years until his retirement in October, 1960, died April 17 in St. Paul. In the Highway Department 39 years, he was first in Construction as an instrument man, level man, resident engineer, and administrative engineer. Transferring to Lands and Right of Way in 1929, he was assistant right of way engineer until his promotion to right of way engineer in 1951. Mr. Rowland was a World War I veteran.

Big Biggest Years at Hand

(Cont'd. from page 3)

both interstate and regular trunk highways. Those of us who are engaged in the many activities connected with the preparation of projects for contract letting have come to realize the value of having firm construction goals towards which we can work. With the prospect of a total program, both regular and interstate, of nearly $100 million per year, it should be evident to all of us that construction program stability is absolutely essential if we are to achieve our annual program goals.

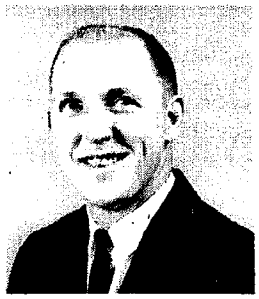
At this writing, we are gratified that the present session of the Legislature, through adoption of the increased gasoline tax, has provided sufficient additional revenue to the Trunk Highway Fund to enable us to maintain an annual regular trunk highway program of $30 million and perhaps increase it to some extent so that substantial progress can be made in future years in making needed improvements on the trunk highway system.

Today is the day you worried about yesterday.

Presenting Newly Registered Engineers

Eugene Isakson

Russell Palmer



Herbert Seline

Presenting here three of MHD dozen employees who recently attained their Minnesota state registration as professional civil engineers. Qualification was based on their showings in 16 hours of written examinations and oral interviews on the candidates' engineering knowledge. Such professional registration of MHD engineering employees is encouraged by the department for promotion of improved engineering service and for the registrants' professional benefit. Each of the three presented this month now is in the civil engineer II classification.

Eugene Isakson, graduate of the University of Minnesota Institute of Technology, has been with the district design group in the Mankato District for the past 4½ years. He is pictured receiving his certificate of registration at a meeting of the Traverse Des Sioux Chapter of the Minnesota Society of Professional Engineers. Isakson has been an engineering aid, graduate engineer, and engineer in training I and II.

Russell Palmer, formerly of near Aberdeen, S. D., is a graduate of the South Dakota School of Mines and Technology at Rapid City. He has been in the MHD's Bridge Section since 1958, employed as an engineer in training II, in bridge designing.

Herbert Seline of Sauk Centre transferred from the Brainerd District to the Traffic Engineering Section central office last July to work on signing for Interstate highways. He entered the MHD in 1951 at Mora, as a laborer. He was subsequently advanced to engineering aid I and II, and civil engineer I and II. He attended Gustavus Adolphus College for two years and is a graduate of the International Correspondence Schools' highway engineer course.

Congress Amends Federal Aid Law

The Congress last month passed the Federal Aid Highway Amendments Act of 1963, changing the Interstate System's design criteria and revising other legislation affecting the highway program.

Composed of amendments to the 1956 Federal Aid Highway Act, the bill provides for the following:

** Eliminates the 1975 Interstate System "design date" and substitutes a flexible date that is 20 years from the date of approval by the Secretary of Commerce of the plans, specifications, and estimates for actual construction of a project.

** Extends to July 1, 1965, the cutoff date prior to which a state may enter into agreements with the Secretary of Commerce to qualify for the one-half of one per cent bonus for controlling outdoor advertising along the right-of-way of the Interstate System.

** Changes dates when the Secretary of Commerce is to submit to Congress the new cost estimates for completion of the Interstate System. Under present law, three more such estimates must be presented. The new amendment establishes January, 1965, as the date for submission of the estimate for apportionment of funds for fiscal years 1967, 1968 and 1969; January, 1968 for 1970; and 1969 for 1971.

** Permits reimbursement of states for "development" as well as "research" projects in connection with highway planning, construction, etc., conducted by states under their own initiative; as well as under federal initiative.

** Increases from 10 to 15 per cent the limitation on payments for "construction engineering" costs on ABC projects. This provision applies only to the federal share of payments.

Our Better Scribes

Selected this month by Commissioner Marshall as writers of superior letters and reports were:

Frank Pawlak, district engineer at Detroit Lakes.

Reuben Glewwe, stock supervisor, Maintenance Section.

Bob Clark, area maintenance engineer at St. Paul Park.

Margaret McCauley, secretary to the Commissioner.

Tom Fahey, pre-design liaison engineer.

EIT's Organize

David Hansing

Kenn Kopitzke

Merritt Linzie

Tom Campbell

New among employee organizations in the Highway Department is the MHD Society of Engineers in Training, comprised to date of some 45 EIT's I in the Central Offices and the St. Paul, Golden Valley, and Duluth Districts. About 85 per cent of Central Offices EIT's I are enrolled.

Elected as the first permanent officers at a recent organizational meeting were: David Hansing of the Data Processing Section, president; Kenn Kopitzke, Planning and Programming, vice president; Merritt Linzie, Bridge, secretary; and Tom Campbell, Materials and Research, treasurer. Also on the board are Doug Differt, who was temporary chairman in the organizational period; and Marv Teig and Ray Brandt, both of Road Design.

The society has extended an invitation for all engineers in training I in state employment to join.

Objectives of the organization, as reported by the president, are to:

Make the EIT's I better acquainted with each other....promote discussion of subjects pertaining to employment in the Highway Department....present speakers from within the department and from industrial and educational fields, on topics of engineering development and activity.... and otherwise assist members in their professional development through group activity.

Monthly evening meetings are planned. There is no cost for membership other than the price of dinners at the dinner meetings. Officers will be glad to answer inquiries about the society.

At meetings conducted during the organizational period, speakers have included MHD Chief Engineer John Swanberg, Lynn Carlson, program engineer; C. K. Preus, materials and research engineer; and C. T. Mockenhaupt, personnel officer.

Right of Way Is Big Real Estate Operator

Buildings Custody Makes Many Problems

By TOM BUXTON

One of the biggest, if not the biggest, real estate operator in Minnesota at the present time is the Minnesota Highway Department—the department's Right of Way Division, that is.

It has most of the problems of any landlord, but on a wholesale basis.

For the extensive state highway construction program, it not only buys land, together with buildings and other improvements on the land, but it must see to the disposal of the buildings and other improvements in an economical manner. It must see that urban right of way premises are kept safe and clean until they are cleared for construction. It must protect the property in such manner that it will not be damaged. It must take all steps required to protect visitors or trespassers, especially children, against chance of injury or death.

In addition, the Right of Way Division must see that owners vacate the property in time not to delay clearing of the premises for construction.

The magnitude of the total task is evident in the fact that the Highway Department presently owns about 1,000 parcels of land awaiting start of highway construction, of which approximately 95 per cent are in the Twin Cities and Duluth urban areas. On most of these parcels of land are residences, apartment buildings, or commercial or industrial buildings. Much of the right of way land in the Twin Cities and Duluth is for Interstate routes or state trunk highway four-lane construction. For such major construction, the right of way generally is about the width of an average city block, and including two rows of buildings.

There are two methods by which the Highway Department may dispose of buildings on land required for highway right of way----sale for removal to another location, or demolition, done by a commercial wrecking company under contract.

R. L. Towne, MHD right of way engineer, reported that most single or double residences on right of way property are sold for removal to another site. There are several hundred residences now available for purchase, he said.

Most apartment buildings and commercial and industrial buildings are too large to be practicable for moving. They must be wrecked, by licensed wreckers, taking into account salvagable equipment and furnishings in estimating their bids.

Sale of residences and other buildings is handled by the Highway Department under authority of the state Department of Administration, and is for cash, only, on the basis of sealed bids. Smaller commercial buildings often are sold, simply for the recoverable equipment and furnishings they contain.

Revenue from building sales goes to the Highway Department to help bear the cost of the state's trunk highway system. Also, wrecking costs are eliminated for such buildings, increasing the financial benefit.

In the interval between property being vacated by the former owner and the start of grading for construction, varying from six months to a year, the care and protection of that property is the constant responsibility of Right of Way's Property Management Unit, of which H. A. (Hank) Durdin is the chief, and the Maintenance Section, whose men perform the varied maintenance duties.

Durdin and his unit are responsible to James Deegan, as R/W administrative engineer. The Maintenance Section foremen in charge of maintenance operations in the three urban areas are Bob Bobletter, Minneapolis; Larry Kowalski, St. Paul; and Ralph Stewart, Duluth.

The care and safe maintenance of hundreds of houses, stores, apartments, and office buildings can be as great or a greater headache than their original acquisition or eventual disposal, Durdin believes.

In fact, Hank could well be considered the "headache" boy of the entire Right of Way Division. His worrying assistants are the maintenance foremen assigned to the right of way property in the Twin Cities and Duluth areas.

For Hank and for Bob Bobletter, maintenance foreman in charge of care of Interstate right of way property in Minneapolis, the disappearance of two little girls last summer who were found murdered near Anoka many days later, was a giant headache. The girls lived near the Interstate 35W right of way and there was the possibility, despite the maintenance operations, that they had gotten into one of the buildings and become trapped there, or suffered injuries which prevented their escape. MHD right of way and maintenance personnel joined federal and local officers in twice searching several hundred buildings in the area of the girls' homes. Police Chief Walling complimented the Highway Department on the efficiency with which the many vacant buildings, garages and sheds were secured.

Protective maintenance operations include removal of doors from all closets and refrigerators, closing up of stair wells and clothes chutes, removal of all medicines and other items which might be harmful, boarding up of all windows and doors, and removal of broken glass. Even with buildings tightly closed, there always is the chance small children or pranksters will get in and be injured, or even killed. Doors and scrap lumber are used for boarding up operations.

An example of the amount of this type of protective activity was the removal of 92 interior doors from one apartment building.

For protection of the buildings and premises against theft or vandalism, the Highway Department engages private protective agencies which make regular patrols of the grounds. This procedure has cut vandalism and looting to a minimum, Durdin reported. Highway employees also make almost daily inspections.

But there is more to the protection problem. The Right of Way Division, with cooperation of the maintenance crews, must see that water pipes are drained, public utilities services terminated and equipment removed.

Yards must be trimmed, sidewalks must be kept in safe repair and clear of snow and other steps taken to keep the buildings and their premises from becoming eyesores to neighbors and passersby.

The Property Management Unit also cooperates with water, health, and fire departments in efforts to guard against water leaks, and health and fire hazards on right of way property.

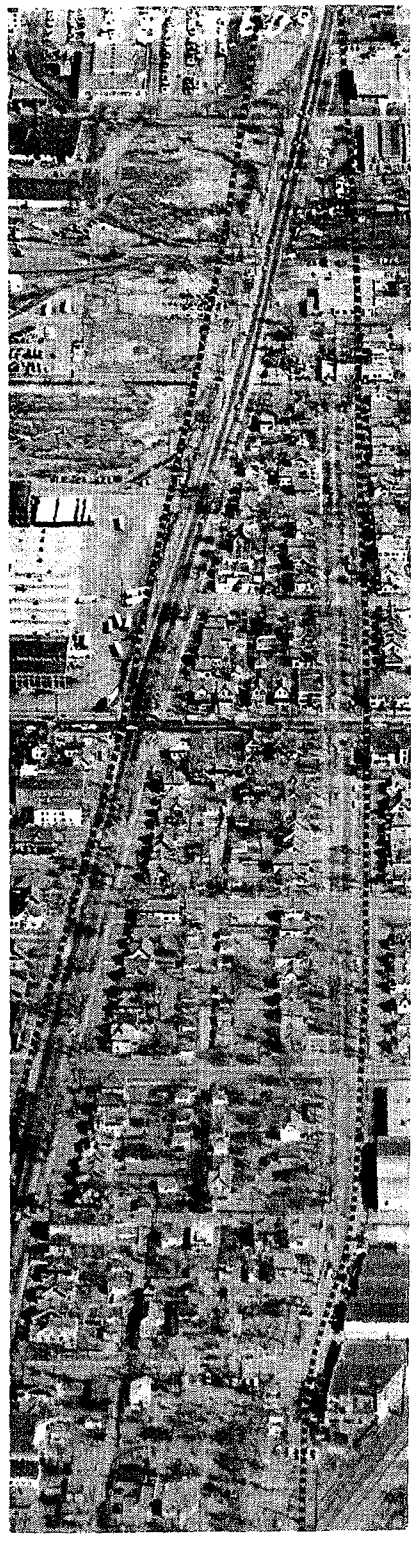
As stated at the start of this article, the Highway Department has about all the responsibilities of a landlord and property owner except the usual financial worries of collecting rents and purchase installments.

Income from the cash sale of buildings is not small change. In 1962, the purchases totaled $370,500, and in 1961, a banner year, $880,000.

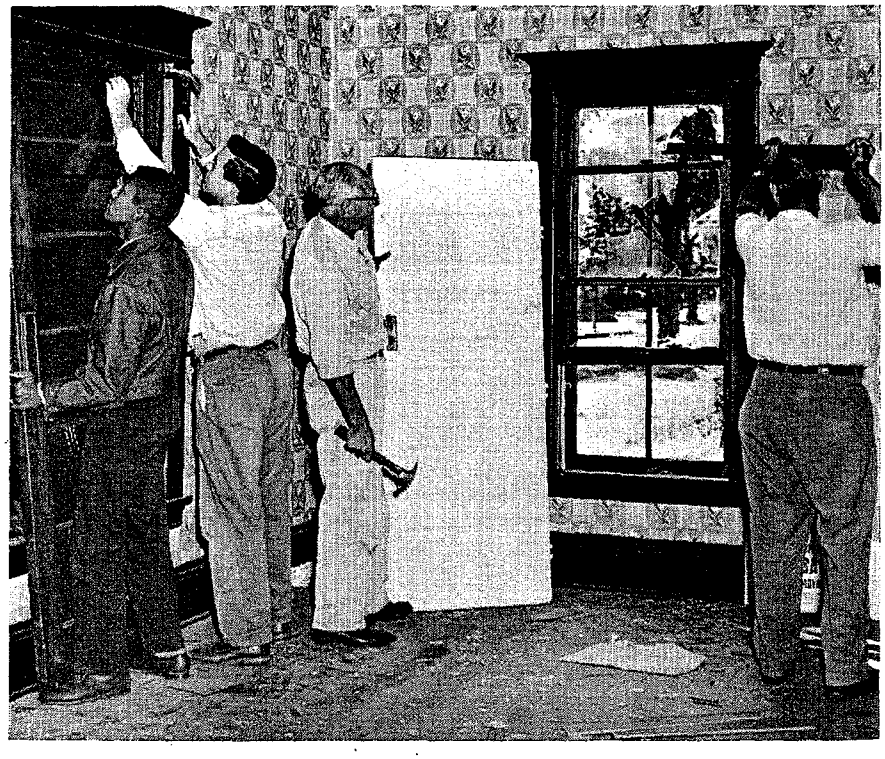
For families moving from a residence on right of way property, the Highway Department is empowered to pay up to $200 of their moving costs, up to $3,000 toward moving of farms or commercial firms.

Though many people are unhappy about being forced to move from long established homes, and their neighbors may view the highway invasion of their neighborhoods with resentment, the public reaction to the Highway Department's procedures for protection and maintenance of vacant buildings and premises has been very good, Durdin said. People appreciate the Highway Department's effort to protect the people and the property in every way possible and to maintain the best possible appearance of the right of way areas during the transition from occupancy to construction of modern highways, Durdin said.

This segment of right of way in St. Paul, for Interstate 94, between dotted lines, indicates the great number of buildings within even a limited area which become the responsibility of the Highway Department as it gains title to land required for freeway construction. The streets bordering the section shown are St. Anthony, left, and Roblyn, looking eastward.



Newly acquired houses are posted for sale, as here on Interstate 35W in Minneapolis. After buildings are vacated, MHD maintenance men keep lawns and walks in satisfactory condition until clearing begins.



Windows of vacated buildings are boarded up by MHD maintenance crews to prevent trespassing and possible injury to children. Where windows are broken, remaining shards are removed so that children may not be cut. For economy, old doors, etc., are used for boarding.

WHO?

See page 11

New Retirements

Hilda A. Huseby, St. Paul, clerk steno II, Right of Way central office...Adolph T. Johnson, Lanesboro, HMM II, Owatonna Maintenance Area...Gertrude B. O'Malley, Austin, clerk II, Drivers License Section... Victor E. Lindberg, North Branch, laborer I, St. Paul Park Maintenance Area... Gardner E. Bjoin, Crookston, HMM II, Crookston Maintenance Area...George Rader, Mapleton, HMM I, Windom...Estelle Mousky, St. Paul, clerk II, Highway Patrol headquarters.

Recent Deaths

Harold R. Remhof, Marshall, radio dispatcher, Highway Patrol....Arnold G. Helander, Minneapolis, highway technician II, Road Design central office.

COVER PICTURE

Record Crowd at Bidding

An estimated 500 contractors and contractors' representatives attended the opening of bids on 25 state trunk highway construction projects March 20, the largest such group to attend an MHD contracts letting in the department's history. A portion of the crowd is shown in the Highway Cafeteria listening to the calling of the bids. The total of the apparent low bids submitted was $14.1 million, also a record for a single day's lettings.

Interstate Cost Study Under Way

For the third time since the Interstate Highway system came into being in 1956, MHD engineers are estimating what it will cost to complete the system in Minnesota.

Headed by program engineer Lynn Carlson, highway needs engineer Ralph Kipp is in charge of the operation. Aiding Kipp in coordinating the data is Al Hultine, Road Design.

Unlike the study made in 1960, most of the personnel are working in their own offices rather than in one group. The main core, or cost estimate group, consists of 12 people, nine full-time and three on a part-time basis. This group is working overtime in order to meet the July 1 deadline for submission of the estimate to the BPR.

In addition to the above-mentioned group, varying numbers of people in Right of Way, Utilities, Estimates, Mapping, Maintenance, Bridge, and other sections and units are compiling information.

The purpose of the study, which began in January, is to furnish the U.S. Bureau of Public Roads with a realistic up-to-date estimate of how much it will cost to complete the system. These periodic studies are then used as a basis for the apportionment of funds to the states.

Additional studies will be prepared in 1968 and again in 1969.

Vogland Promoted

Assigned as the new accounting control analyst in the Financial Services Section is Harold Vogland, who was promoted from his previous post as budget and statistics analyst. He succeeds Myrt Charney, who resigned to become finance director of the Alaska Department of Highways. In his new post, Vogland will survey the Highway Department's accounting systems and procedures to assure maximum efficiency.

One of the products of the streamlining of MHD accounting procedures, as developed during Charney's tenure, is the concurrent audit, still in process of introduction. The concurrent audit helps expedite contract payments by the department immediately upon satisfactory completion of highway construction projects.

Band Seeks More Members

With two or three concerts in prospect, the State Employees Band is seeking new members in all sections, but particularly drummers and base horn and trumpet players. That's the word from G. A. Hatfield, MHD drivers license director, who directs the band. New members will be welcome at rehearsals on Mondays at 4:45 p.m. in room 818 of the State Highway Building.

Hamnes Wedding

Now at home at 1524 Portland Ave., in St. Paul, are Gary Hamness and his bride, the former Carolyn Ouren of Hannaford, N. D. Gary has been a technician in the State Aid Division for the past 1½ years. Gary and Caroline were married February 29 in Faith Lutheran Church in Hannaford.

New Map Published

The 1964 issue of the Highway Department's most popular publication, the Minnesota 1964 Official Highway Map began coming off the presses April 1. The total press run for the 32-x 38-inch four color map, with related information, will be 600,000 copies. Bulk distribution was started at once to the state Business Development and Conservation Departments, chambers of commerce, tourist promotion centers, hotels and motels and MHD central and field offices where they will be available to the public.

Individual copies are available from the MHD Public Information Section, Room 513, State Highway Building, St. Paul 1.

The 1964 map was produced under direction of Vince Bovitz, MHD public information chief, and with cartography in charge of Bob Amundson, head of the MHD mapping group. The printing was by the Harrison & Smith Co. of Minneapolis.

Only major changes in the 1964 map are those to up-date the status of trunk highway improvements from last year's map, new illustrations of Minnesota scenic and recreation photos, and lightening of the shading of state park and forest areas for greater legibility of text printing in those spaces. Several of the color photos were submitted by Highway employees.

The front cover picture is of the segment of T.H. 169 which goes through the Pillsbury open pit iron mine between Hibbing and Chisholm.

Guiana Engineer Studies MHD

Philip Alsopp

For the past month and for the next two or three months, administrative policies and operations of the Minnesota Highway Department have been and will be under close study by a visitor from the Carribean.

He's Philip Alsopp, chief highway engineer of British Guiana on the northeastern coast of South America. He seeks knowledge which he can apply in operation of the highway organization he heads. He also will spent two weeks at Rapid City, S.D., studying traffic engineering activities of the South Dakota Highway Department.

Two important reasons which brought him to Minnesota, Alsopp said, were these:

The U.S. Bureau of Public Roads suggested the Minnesota Highway Department as having an excellent administrative organization and personnel.

Minnesota has almost the same area as British Guiana, some 84,000 square miles for Minnesota; 83,000 for Guiana.

But, compared to Minnesota's 124,700 miles of improved state and county highways, British Guiana, according to Alsopp, has only 3,000 miles of roads and highways including everything except primitive trails.

"There's highway work to be done in British Guiana," said Alsopp. "We must expand our highway construction as rapidly as possible."

Principal products of British Guiana are sugar, rice, boxite, manganese, gold, and diamonds, and the roads are mainly for transportation to market, he said.

An 18-year veteran in the British Guiana Highway Department, Alsopp has been chief engineer the past two years. Under a leave of absence in his earlier years in the department, Alsopp earned his bachelor's and master's degrees in civil engineering from the University of London.

Alsopp said British Guiana has three counties for administrative purposes, but that all highways and roads are under direct administration of the federal highway department.

Though British Guiana is under protection of Great Britain, the country is internally self-governing, with Great Britain restricting its activity generally to foreign policy.

Alsopp's visit to the United States was arranged by the British Guiana and United States governments, with assistance of the U.S. Agency for International Development and Bureau of Public Roads. Guide for his Minnesota studies is Gunnar Pederson, MHD training officer.

Interstate Advance

Nearly 16,700 miles of the 41,000-mile National System of Interstate and Defense Highways are now open to traffic and construction is underway on another 5,500 miles, the U.S. Department of Commerce announced today.

Information as of March 31, compiled by the Department's Bureau of Public Roads showed that 2,121 miles of the System were completed to final standards during the past 12 months, of which 126 miles were completed during the quarter ending March 31. This quarter, of course, is the off-season for construction in many areas.

The total mileage in use by passenger and commercial vehicles rose from 14,543 a year ago and from 16,554 as of December 31, 1963, the date of the last survey, to 16,668 as of March 31. Forty-one percent of the Interstate System is now open to traffic.

By the time of the March 31 report, Minnesota had 175.2 miles of its new Interstate highways open to traffic, of which 113.9 miles were completed to full or acceptable standards and 61.3 miles were "improved to standards adequate for present traffic." Minnesota had 132.4 miles of its Interstate segments in the preliminary status or not yet in progress, 477 miles in the engineering or right of way stage, and 118.1 miles under construction. The state's total of Interstate highways is 902.7 miles.

HERE'S WHO

Visualize the hair as no longer so luxuriant and dark and the skin more weathered, and, sure enough, the WHO? man on page 2 is easily recognizable as E. S. (Ev) Vevea, assistant district engineer of the Golden Valley District. Since his entry into the MHD in 1931, he's been a chainman, inspector, rodman, statistical clerk, CE I, and project engineer. He was on leave from the MHD 1951-57 to serve as Anoka County highway engineer.

W. E. Brown Stricken

William E. Brown, 71, who was Sherburne County highway engineer for 32 years until his resignation in 1957, died May 12 in Anoka, his home town in recent years. From 1920 to 1922, he was in the Minnesota Highway Department, on a survey crew and as materials inspector. He worked three years in the Sherburne engineer's office before his appointment as county engineer in 1925, and was with The Bituminous Surface Treating Co. of Inver Grove after leaving his Sherburne County post.

Water Safety

(Cont'd. from page 8)

swimming ability or endurance is an invitation to trouble.

Always swim with another person in a safe and familiar place, preferably where a lifeguard is near. Check the water depth and for hidden rocks and stumps before diving. In case of trouble, try to stay calm. Assume a face-up floating position, keeping your hands under water and moving your feet and hands slowly. Learn and know how to use proper methods of removing a person from the water. Also, know how to use rescue breathing, or mouth-to-mouth resuscitation techniques, in case of emergency.

With boat traffic becoming heavier each year in Minnesota, it is essential that boaters understand and practice safe methods of participating in water sports, including pulling water skiers. This boom in boating has increased the potential hazard from drownings associated with boats. A majority of boating accidents involve faulty operation, negligence, and poor judgment. In 1963, there were 34 water deaths involving boats in Minnesota.

Check the condition of all equipment of motor powered boats before leaving shore. Essential safety equipment includes: anchor, fire extinguisher, oars, horn, light, mirror, first aid kit, and tool kit. A life preserver should be provided for each person aboard; non-swimmers should wear them at all times. Refrain from smoking while refueling.

Know how to operate your boat, and learn to operate according to nautical rules. Take only the number of passengers the boat will handle safely. Overpowering a boat with a motor too large can cause the boat to upset. Reduce speed in high waves and enter them at a slight angle.

Horseplay on the part of the pilot or passengers can cause injury and death. Keep away from swimmers, boats, skiers, and other objects. Have at least two persons in the boat when pulling water skiers--one to act as observer. Stay ashore in bad or threatening weather. Remain with your boat or canoe if capsized, since most small craft will float, even when filled with water or overturned.

Two prerequisites for the water skier are: to know how to swim, and good physical condition. Practice basic manuevers before adding new or advanced skills, and always wear a life jacket or belt. In case or a fall, stay with the skis, which will float, and signal the observer in the boat that you are all right. Ski only during the daytime, never at night or when over tired.

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Highways

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WHO?

See page 12.

COVER PICTURE

Construction this month is in full swing on Minnesota highways.

Looking eastward from Snelling Ave., the cover picture gives a view of grading and paving operations on Interstate Trunk Highway 94's depressed route through St. Paul, showing the many bridges required for free traffic flow.

From front to rear, the bridges are: Snelling Ave. interchange, with Twin City Motor Bus garage to left; Pascal St. grade separation; bridge for railroad spur serving Montgomery Ward store to left, and other industries; Hamline Ave. grade separation; Griggs St. pedestrian bridge; Lexington Parkway interchange (at head of paving); Chatsworth St. pedestrian bridge; Victoria St. separation; Grotto St. pedestrian bridge; and Dale St. interchange. Beyond, but not clearly visible, are Mackubin St. pedestrian bridge, and Western Ave. grade separation. The frontage road to left of 94 is St. Anthony Ave.; to the right, Rondo St. This segment of 94 is scheduled to be open for traffic this coming fall.

For additional photos of current highway construction, turn to page 3.

Commissioner's Comments

People Have Priority

Any enterprise, if it is to be successful, needs certain things before it can function properly. It needs a clearly stated purpose for existence, such as the goal of constructing and maintaining a modern road system. It needs an organizational structure that will ensure a concentrated effort to achieve the goals of the organization. It needs machines, buildings, and equipment that will enable its employees to accomplish their work in an efficient and economical manner. It needs people who are well-trained, efficient, and dedicated to accomplishing the purposes of the organization. While all of these needs are important, the single most important asset of any organization is its people.

Sometimes, in our concern with proper organization, modern buildings, modern equipment, and other tools necessary for getting the job done, we lose sight of the fact that these assets are very much less important to a successful enterprise than are loyal, hard-working employees with a sense of urgency about accomplishing the mission. Without people to make good use of buildings, equipment, and tools, no enterprise, regardless of how well it is organized or how well it is supplied with automated equipment, can function successfully.

In our efforts to achieve the best Highway Department possible, the single most important move we can make is to give priority to people and their problems. We must keep constantly in mind that the objectives and aims of the Highway Department and the reasons for which its people work and produce are not necessarily in conflict. Indeed, happy, productive employees with the highest morale are those who know and appreciate the aims and objectives of the department, are in agreement with them and feel that they are making a significant contribution toward their achievement.

Years ago, many business organizations operated upon the theory that work was irksome to employees and, therefore, that employees must be compelled to work. In more recent years, a theory has been emerging that people do not have a natural distaste for work but, under the proper conditions, actually find it enjoyable. If we accept this more recent theory, and I think we should, then it is up to us in the Highway Department to create a working climate or atmosphere in which employees have a feeling of self-respect, a feeling that their jobs are worthwhile, and a feeling that they will have an opportunity to grow and develop in accordance with their ability to produce.

If we can create an atmosphere in which it becomes self-evident that people and their problems are considered to have the highest priority in the Highway Department, then we may also find that we have taken giant strides forward in achieving our departmental objectives as well.

J. C. M.

Transit Plan Contest

For new insights and fresh approaches to determine the "Best Proposal for a Mass Transportation Plan for the Twin City Metropolitan Area," the Minnesota Federation of Engineering Societies has announced a Transit Contest, open to engineers and the public. Helge Olsen, Hennepin County buildings and grounds superintendent, is contest coordinator.

Sizeable prizes and other arrangements will be announced in the Minnesota Engineer, the federation's monthly magazine. Entries may be submitted, beginning immediately, to the Transit Contest, Minnesota Federation of Engineering Societies, 1821 University Ave., Room 250, St. Paul, 55104.

Damsels to Concert

The Damsels, MHD women's social organization, set July 17 as the date for attendance of its members at a St. Paul Pop concert in the city auditorium. The visit to the combined musical and ice skating show was to follow a dinner at a location not to be revealed until the time to go there.

ITH 90 Dedication

Dedication of the longest section of Minnesota Interstate highway ever included in a single formal opening is set for July 21 at the Rochester airport, adjoining ITH 90. The 45-mile segment of 90 covered by the dedication begins at its junction with T.H. 63 just south of Rochester, extending southwesterly to Austin and thence westward to Petran. The dedication is sponsored by the Rochester and Austin Chambers of Commerce, with the Highway Department assisting.

Governor Rolvaag, Commissioner Marshall, local officials and civic leaders have been invited to participate.

New Retirements

Otto R. Anderson, Milaca, HMM I, St. Cloud Maintenance Area....Claude R. Gallaher, Remer, HMM I, Brainerd Maintenance Area....Pearl M. Pederson, Minneapolis bookkeeping machine clerk II, Finance central office....Stanley Hagen, Lakeville, laborer I, St. Paul Park Maintenance Area.

Progress Is Good on Interstate Routes

How goes Minnesota's progress in Interstate highways construction?

As 1964 draws to a close, it is going very well.

More than 170 miles of the state's 905 miles of Interstate routes have been completed and opened for traffic. Approximately 200 miles are under contract, but not yet completed. In addition, more than 470 miles are scheduled to be placed under contract by June 30, 1968.

Present indications are that Minnesota's full share of the 41,000-mile Interstate System of National and Defense Highways will be built and in use by 1972, the nation-wide target date for completion of the system, comprising the biggest single construction project in world history.

Of Minnesota's Interstate segments already completed and open for traffic, approximately 80 miles, the largest amount, is on Interstate 35, while 51 miles is on Route 90; 18 miles on Route 94; 21 miles on Route 494; five miles on Route 694, and nearly a mile comprising Route 535.

In Minnesota, Interstate 35 extends from Duluth southward to the Iowa border, south of Albert Lea; Interstate 90 east to west across southern Minnesota from LaCrescent to Luverne; and Interstate 94, northwesterly across the state from Hudson, Wis., to Moorhead; Routes 494 and 694 are in the Twin Cities circumferential; and Route 535 connects Superior, Wis., with Route 35.

Newly approved by the Bureau of Public Roads is Interstate 335, a two-mile "North Ring" segment which will connect Interstates 94 and 35W in the vicinity of Plymouth Ave. in north Minneapolis and Johnson St. in east Minneapolis. The newly added link will facilitate transfer of traffic between 94 and 35W.

The map of Interstate routes on the facing page shows that Interstate construction has been in separated locations over the state. Many people have wondered why construction has not been progressive in connected segments. There also has been a question as to why a comparatively large amount of construction was begun early in the program in the Twin Cities metropolitan area.

As explained by Lynn Carlson, MHD program engineer, projects have been scattered along Interstate routes to:

Avoid concentrating sizeable engineering forces in one area of the state for a short period of time and then being required to move them quite frequently,

Get construction started as soon as possible where right of way is most quickly available in order to complete the total Interstate mileage by the 1972 target date.

Improve travel opportunity in centers of heavier population.

As to comparatively extensive early construction in the Twin Cities area early in the program, Carlson pointed out the following:

"Because of the much more complicated problem of right of way, design, and construction in this area of heavy population and many buildings, much more time is required for highway projects than in the open, prairie country. Many segments elsewhere in the state which are not yet started will be built and in use considerably before the Twin Cities complex of Interstate routes is completed.

"Urban construction by successive stages avoids the necessity of closing off large segments of heavily traveled streets at the same time, and thereby forcing extensive detouring of traffic during the construction period.

"Problems of traffic congestion are much more acute in the Twin Cities area than elsewhere in the state, calling for relief as quickly as possible. Even with the early start, we must keep right on schedule to complete the metropolitan construction abreast of the out-state accomplishment.

"With extensive re-development, covering many city blocks, under way in downtown Minneapolis and St. Paul, it is advantageous to coordinate highway planning and construction with the redevelopment and relocation plans, to provide highways of greatest service at least cost."

For the motorist who craves to travel on Interstate routes now or who is simply curious as to where completed construction is located, here is an outline, as of December 1:

On Interstate 35's 80 miles of completed construction, its longest segment is 30½ miles extending from Sandstone through Hinckley and Pine City to Rock Creek. The next longest completed segment on 35 is 23 miles extending northward from Faribault. This stretch, incidentally, includes the first continuous reinforced concrete slab pavement on any Minnesota highway—a five-mile stretch with no cross joints.

Interstate 35 also has the first completed section of Interstate highway in the state---the eight-mile stretch extending northward from Owatonna, opened for traffic August 21, 1958.

Completed segments on Route 35W are 8.3 miles through Richfield and Bloomington southward to Junction TH 13 and 6.8 miles (essentially completed) in St. Anthony and New Brighton. Completed on 35E is 3.7 miles in St. Paul between Maryland Ave. and the junction with Interstate 694. Routes 35W and 35E are a division of Interstate 35 to carry it through both Minneapolis and St. Paul.

The longest completed section of Interstate highway in the state is 42.7 miles extending from Petran to Stewartville on Interstate 90. This highway also has 3½ miles completed west of Luverne, extending from the junction with TH 16 at Beaver Creek to the South Dakota border and 4½ miles (essentially completed) near Dresbach.

On Interstate 94's 18.1 miles of highway completed and in use is 11½ miles in a segment extending northwest and southeast from Fergus Falls, bypassing the city on the west. An additional nine miles southeastward is paved, but not yet opened for traffic. Other completed and in use sections on 94, widely scattered, are 2.9 miles extending eastward from the North Dakota border, just south of Moorhead, and intersecting TH 52; a half mile running eastward from Riverside Ave. in Minneapolis for the highway's bridge over the Mississippi River, now open for traffic; 2.7 miles in St. Paul, from Snelling Ave. to Farrington Aves.; and a half-mile in St. Paul for the Sixth St. bridges which overpass railroad tracks.

For the Twin Cities circumferential route, 15½ miles is open for traffic on Interstate 494 south and west of Richfield and Edina; and 5.9 miles in the South St. Paul area, from the west limits of South St. Paul to Lower Afton Rd. Five miles is open for traffic on Route 694 around the north outskirts of St. Paul, from the highway's west junction with TH 10 to its west junction with 35E.

The summary of completed Interstate projects concludes with the eight tenths-mile long Interstate 535, connecting Superior, Wis., with Interstate 35 in Duluth.

The record of completed projects, now in use, includes numerous bridges, large and small over rivers and for interchanges and grade separations, and costing millions of dollars. Notable among the completed bridges are the 1½-mile long Duluth-Superior bridge on Interstate 535; the Dartmouth Ave. bridge in Minneapolis, carrying Interstate 94 across the Mississippi River; the Route 35W bridge over the Minnesota River south of Bloomington; and the Interstate 494 bridge over the Mississippi at South St. Paul.

Many of the bridges were built considerably in advance of related highway construction to handle local traffic during roadway construction.

Some states, particularly those with few or no large cities and with a level terrain, have more mileage completed and open than does Minnesota. But, Carlson pointed out, Minnesota has obligated federal aid for specific BPR approved projects as rapidly as the money has been available, indicating it is advancing its construction program as fast as can be expected.

"Nearly one half of the estimated $980 million total expenditure for the Interstate system in Minnesota (90 per cent of which will be with federal aid) will be made in urban areas," said Carlson. "Notwithstanding, only 14 per cent of Minnesota's Interstate mileage is located in these same urban areas. The large urban expenditures are evidence of the comparatively high cost of right of way and construction in urban areas.

With the increasingly rapid acquirement of right of way and the extensive work now under contract, or programmed for contracting in the next four years, Interstate mileage will go into use at an increasing pace, concluded Carlson, tieing the various segments and routes into the full pattern of super-highways for faster, safer, and more efficient state and interstate travel.

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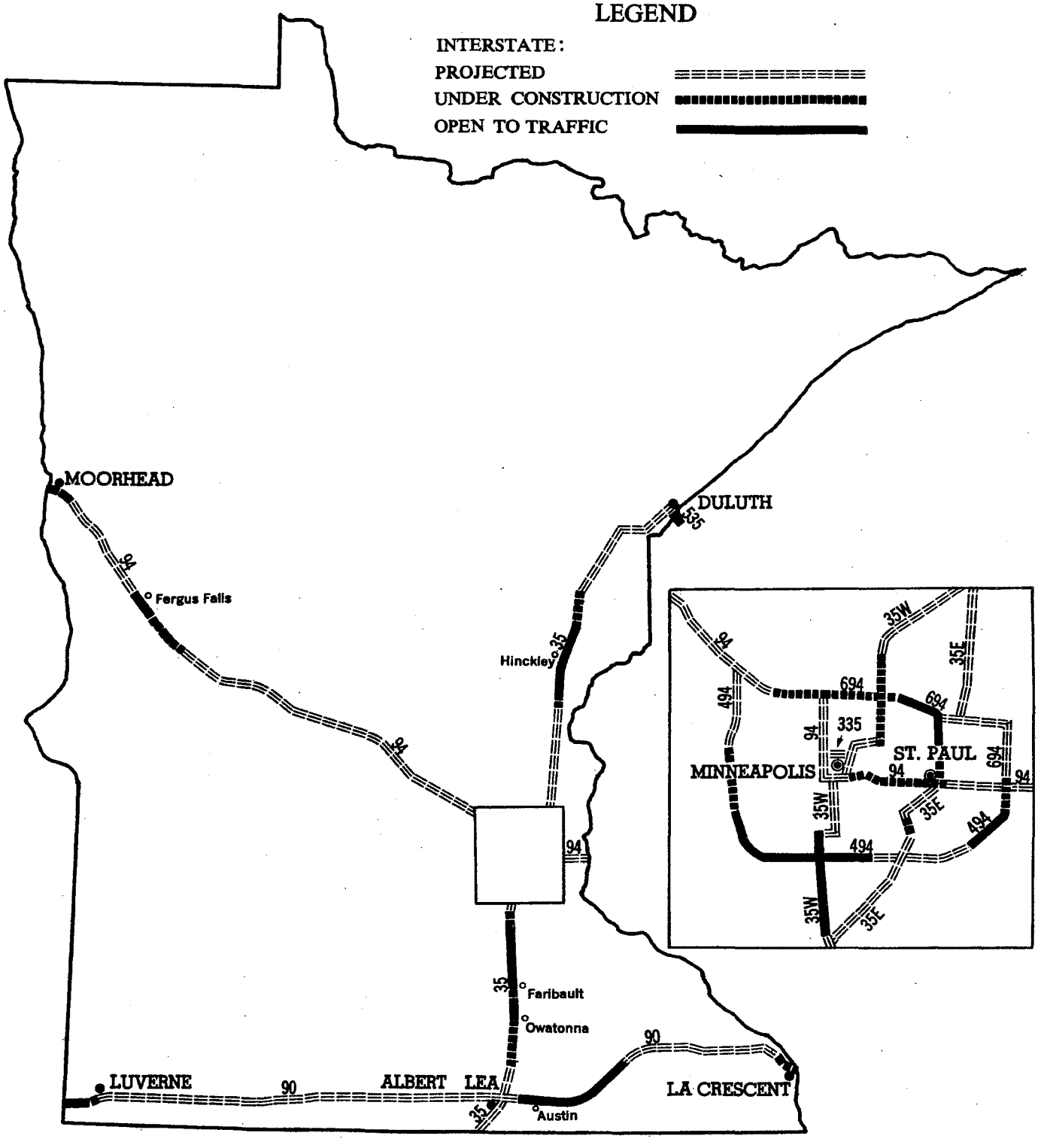
STATUS OF INTERSTATE ROUTES IN MINNESOTA



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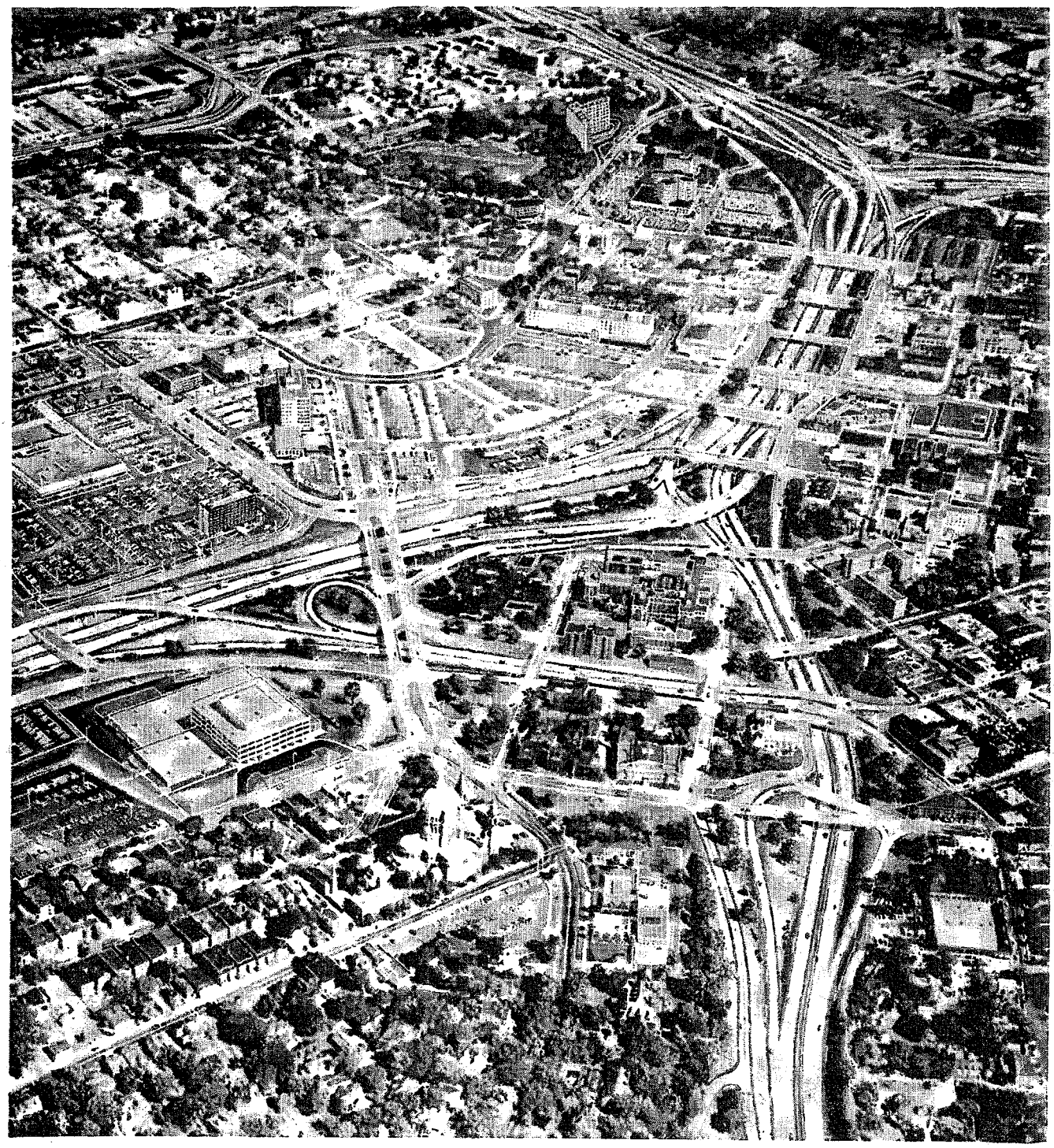
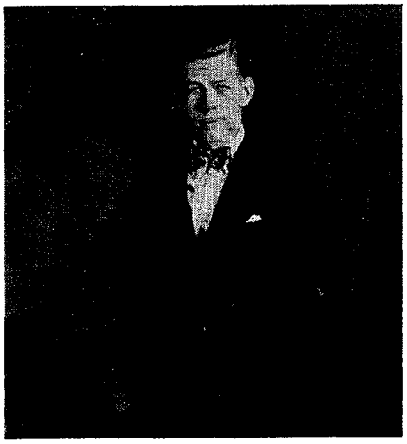


Capitol Approach Area of the Future

SEE PAGE 2

WHO?



See page 12.

COVER PICTURE

Latest showing of how the Capitol Approach area will relate to Interstate Highways 35E and 94 is presented in this "retouched" aerial photo.

Interstate 35E is shown as it will appear upon completion, extending from the top to bottom of the picture, east of the capitol. Coming from the east, Interstate 94 is shown intersecting Interstate 35E in the picture's upper right hand corner, running with it for several blocks near the capitol then separating from 35E in front of the Veterans Service Building to continue westward toward Minneapolis along Rondo St.

To the left of the capitol is seen the State Highway Building, State Office Building, Rice St. as it intersects 35E; the Sears Roebuck store to the far left, and the projected St. Paul Vocational High School in the left foreground.

To the right of the capitol are the State Historical Building, Centennial Office Building, and the new St. Paul Armory close to the combined Interstates 35E and 94. Ancker Hospital is the star shaped building at the upper right. In the center foreground is the St. Paul Catholic Cathedral. Also in the foreground is freeway construction designed to connect Interstate 94 with city streets leading to downtown St. Paul.

Of the some 20 interchange and grade separation bridges shown in the capitol Interstate complex, start of construction is set for the coming spring on the half-dozen or so in the vicinity of the intersection of Interstate 94 and John Ireland Boulevard and Rice St.

COMMISSIONER'S COMMENTS

State and Local Cooperation

Last month a number of our MHD engineers participated as faculty members in the 20th Annual County Highway Engineers Institute, which is always held during December at the University of Minnesota. This was an emphatic reminder to me of the cooperative relationship which has been so successfully developed between our Department and the county and city engineers of this state. Most of our employees know that we do share road user funds with the counties and cities, but very few are familiar with the actual operations or the many improvements that have been completed on important streets and highways, immediately affecting the economy of this state.

The 1957 Legislature adopted laws providing substantial State Aid Funds to the counties and urban municipalities and delegated certain responsibilities to the Commissioner of Highways in selecting and improving a major network of streets and highways. This County and Municipal State Aid operation, combined with the County Federal Aid Secondary program, now involves the annual expenditure of some $50 million.

Some idea of the magnitude of this cooperative program, carried on with 87 counties and 77 urban municipalities, can be gained from the construction work scheduled during the past year. This included 773 miles of grading, 884 miles of base, 604 miles of bituminous surfacing and 12 miles of concrete pavement, at a total cost of some $33 million. All of these projects have been designed to approved standards and built to Department of Highway specifications.

During the past year, we have participated in some 750 projects of this type, ranging from low cost grading and gravel surfacing of lightly traveled rural roads to the million dollar per mile Crosstown Freeway, now under construction by Hennepin County. Local authorities select their own projects which are then designed and built by the city or county engineer, subject to the general supervision and final acceptance of the MHD district engineer. Centralized management and final approval of all plans and operations rests with the Department's State Aid Division.

Our responsibilities and participation in these county and municipal projects requires the services and assistance of practically every division and section of this Department. These services, primarily furnished by Construction, Bridge, Materials and Research, Finance, Hydraulics, Planning Research, Traffic Engineering, and Data Processing, are fully reimbursed either by direct payment from the local authorities or from the State Aid Administrative Fund.

After seven years of close cooperation between the state and local governments we are proud of our part in providing the many miles of modern street and highway improvements which have been cooperatively completed without a serious disagreement or misunderstanding. In fact, we believe that there is now a better working relationship between the state, county and city engineers than existed at any time in the past.

It is recognized that this favorable relationship is one that does not exist in many states. There are a number of reasons for this success, one of which is the fact that we were able to build upon and profit from our long cooperative experience with the counties, dating back to 1921. Perhaps even more important is the fact that our State Aid legislation, adopted after a long and thorough study, provides for the equitable distribution of road user funds under limited state control while still retaining all essential local authority and discretion. Not to be overlooked is the fact that all details of this large engineering program are handled entirely by capable engineers.

Working together we have gradually developed the methods and means of improving the operating procedure. One example is the development of a highly sophisticated inventory of city and county needs, which was a pioneer project in this field. While most states provide FAS funds to the counties, we are the only one that schedules the county FAS lettings at the county seat instead of in our own office. These are just two of many incidental functions accomplished through cooperation. Altogether it has been an interesting and satisfying experience in inter-governmental relations. Best of all Minnesota is rapidly gaining an enviable reputation for its many miles of well-designed and well-constructed city streets and county highways.

C. A. Swanson
Assistant Commissioner

Field Test Planned for Lime

— as Soil Stabilizer

Field testing of lime as a soil stabilizer in road construction is planned for this summer by the MHD Materials and Research Section. The projected field study follows completion of a two-year laboratory study of lime treatment for soil by the M & R Research Unit, in cooperation with the U.S. Bureau of Public Roads and the Minnesota Local Road Research Board.

The entire project is included in the Local Road Research Board's current research program because of the project's special interest to county and municipal engineers as well as to engineers of the Minnesota Highway Department.

According to Paul Jensen, M & R Research Engineer, the Lime Study was undertaken to determine the effect of hydrated lime on the physical strength and properties of typical Minnesota soils and substandard base aggregates.

The MHD Research Unit hopes to run a field test in the coming summer in Norman County, in the Minnesota Red River Valley, where there is a considerable amount of "plastic" clay soil.

The exact location for the proposed field test, according to Jensen, is a 5½-mile segment of County State Aid Highway 19, extending eastward from 19's junction with TH 75 a half-mile north of Halstad.

The 5½-mile segment would be divided into 10 test sections, of which seven would have lime applied in amounts varying from 3 to 7 per cent.

The gravel base would range from 0 to 3 inches in depth in the different sections and some sections would have a 3-inch base and a 3-inch subbase. The non-lime control sections would match the lime sections in varying thicknesses of base and subbase.

The full 5½-mile test span would have a 1½-inch bituminous surface.

In a foreword in the detailed final report on the lime lab study, C. K. Preus, Materials and Research Engineer, said "This laboratory study does show that lime has some possibilities as an effective treatment for certain Minnesota soils."

The laboratory test was conducted in 1961-63 on five fine-grained soils and two low quality aggregates treated with hydrated lime and five secondary additives.

The final laboratory report said, in part:

"The findings of these tests indicate that the addition of 2 to 3 per cent of lime changed the physical property of the soils by generally reducing the apparent clay content, plasticity index, and maximum dry density while increasing the apparent sand content, shrinkage limit, and optimum moisture content.

"Soil strength generally increased as the lime content was increased. The optimum lime content as well as the magnitude and permanence of the increased strength for each soil was dependent on the cure time and subsequent conditioning procedures.

"The major benefit derived by the addition of the secondary chemical additives was increased durability of specimens when subjected to freezing and thawing."

One of the primary benefits to be obtained from lime stabilization, as listed by Preus, "is the change in the physical properties of the soil after treatment." "This, in effect," he said, "changes a very plastic clay to a more friable, lighter textured soil which is generally more desirable as a roadbed soil."

"As a result, the base thickness needed on the lime-treated soil may prove to be less than would be needed on the natural untreated soil," he said.

Another basic change described by Preus, that takes place as a result of lime stabilization, is the cementing, action that eventually develops increased strength.

He pointed out however that "Unlike the changes in physical properties, which appear to be permanent, the increase in strength of the stabilized soil is considerably reduced when lime-treated soil samples are subjected to freeze-thaw action in the laboratory."

Whether the laboratory strength and conditioning tests reflect the field performance that may result will not be known until the experimental field project is completed and evaluated, with regard to correlation between laboratory and field behavior.

Some agencies outside the Highway Department have used lime to upgrade dirty plastic base aggregates. However, the M & R study of the two poor quality base aggregates did not indicate the same degree of success that was found in treating the five fine-grained soils.

For this reason, no field study dealing with lime stabilization of poor quality base aggregate is contemplated until after a project on soil stabilization has been realized, Preus reported.

Lime stabilization is a relatively expensive process, Jensen pointed out. It is estimated that gravel haul would have to exceed 20 miles before this method could economically compete with normal subbase and base construction.

Therefore, Jensen noted, consideration of lime stabilization would appear to be warranted "primarily in those areas of the state having plastic soils and a short supply of suitable gravel."

Jensen also noted that the data from the lab study of lime stabilization was analyzed and the report prepared by R. E. Wolfe, research project engineer, and J. R. Allen, research assistant, in the M & R Research Unit.

For Highway Aid

President Asks Boost in Taxes

From Information Service

National Highway Users Conference

Increasing federal highway user tax payments by $247 million annually, and extending the life of the Highway Trust Fund beyond its current termination date of October 1, 1972, have been recommended to Congress by President Johnson in his budget message.

After citing the recent disclosure that the cost of the National System of Interstate and Defense Highways has risen by $5.8 billion since the 1961 estimate, President Johnson said:

In order to continue the pay-as-you-build policy for financing Federal-aid highways with minimum disruption to the construction schedule, adjustments in the financing pattern will be recommended. These include increased highway user taxes and an extension of such taxes beyond October 1, 1972, the present expiration date. These recommendations will permit orderly completion of the Interstate System with a minimum extension of the construction schedule."

In a press interview, Secretary of the Treasury Douglas Dillon is reported to have said that increased highway user tax proposals would deal chiefly with those affecting commercial users and he specifically ruled out any attempt to raise the federal gasoline tax rate or earmark the current excise tax revenues on automobiles.

Mr. Dillon is reported to have indicated that the recommended extension of the life of the Highway Trust Fund would be from six to nine months.

The Administration also will propose that receipts from the federal tax of two cents a gallon on aviation fuel which now go into the Trust Fund be transferred to general revenues. The net loss to the Trust Fund under this arrangement would amount to about $14 million annually.

President Johnson told Congress that legislation would be proposed requiring that at least one-third of the Federal-aid secondary road funds apportioned to each State be used for "improving access to recreational areas, rerouting of Federal-aid highways and roads for scenic purposes and increasing attention to aesthetic considerations in highway design and improvement."

Moreover, he continued, the existing law which permits up to three per cent of all Federal-aid highway funds to be used without matching for the preservation of natural beauty should be amended so that the Secretary of Commerce could require the use of these funds for this purpose.

The President went on to say that "a mandatory program to control advertising and auto junk yards along new highways will be proposed to replace the voluntary outdoor advertising control law, which expires June 30, 1965. Administrative action will also be taken to increase use of the existing authority to finance roadside and landscape developments from highway funds."

Queen's Romance

In a setting seemingly right out of a romantic novel, Highway Queen Shirley Sweazey received a diamond engagement ring February 11 from a young man she had known since their junior high school days.

It was near midnight on St. Valentine's Eve and there was soft music and candlelight in St. Paul's Venetian Inn when Bob Lundstrom asked Shirley to be his promised bride.

Shirley had been a classmate of Bob's in both junior and senior high school in St. Paul. But her first date with him was only 2½ years ago at, of all things, a Sadie Hawkins Day dance. The significance of Sadie Hawkins Day, however, had nothing to do with the Valentine's Eve development, Shirley said.

Shirley and Bob, still a St. Paul resident and employed by a check printing firm, have no immediate plans for their wedding, indicating she will fulfill her reign as queen (Miss Minnesota Highways). The queen must be a single girl. Shirley's reign ends next August.

COVER PICTURE

"An Irish Blessing" is our cover subject for this month in salute to St. Patrick whose birthday anniversary is March 17, and because it is good reading, bespeaking Irish sentiment and good will at its finest. Engineering graduates of the University of Minnesota and other midwestern colleges honor St. Patrick as the patron saint of engineers. The graduating seniors are dubbed Knights of St. Patrick in a campus ceremony in the spring.

The exact reason for the selection of St. Patrick as patron of the engineers is a bit obscure, but a retired U of M professor who helped found the knightly order, insisted that it was because St. Patrick, by chasing the snakes out of Ireland, invented the worm drive, an important engineering mechanicsm.

The border for an "Irish Blessing," as designed by the ancient monks, carries in its corners the coats of arms of Ireland's four provinces: Leinster, upper left; Munster, upper right; Connacht, lower left; and Ulster, lower right. The identification was by Dr. John McKiernan, of St. Thomas College, St. Paul, an authority on Irish history. Incidentally, he was scheduled to speak March 12 at 6:30 p.m. on station KTCA-TV (channel 2) on "St. Patrick, the Unknown Man of God."

COMMISSIONER'S COMMENTS

Interstate Planning and Construction--Urban vs Rural

The Department is quite often criticized by various individuals - some wanting more emphasis placed on completion of Interstate rural sections and others advocating that urban construction be favored to expedite early relief of traffic congestion in the metropolitan areas.

Shortly after work was started on Minnesota's 1956 Interstate System, a review of preliminary estimates indicated that the cost of the urban sections and the cost of the rural sections would be very nearly the same, even though the mileage of urban Interstate represented only about 16 per cent of the total Interstate mileage approved for the State. To better assure completion of both the urban and rural sections by the target date of 1972, it was decided that planning and construction should be programmed in a manner that would balance expenditures about equally between urban and rural construction. It was apparent that to accomplish this, early concentration on urban sections would be necessary.

The policy adopted in those early days has been proven sound. Many factors had to be considered and evaluated in preliminary phases or urban design that usually are not particular problems in rural areas. Developing preliminary layouts acceptable to the majority of interested parties proved to be a slow and sometimes frustrating task. Many meetings with municipal authorities, citizens neighborhood groups, utility company engineers and interested individuals had to be held to discuss the merits of their desires and recommendations. Frequent layout changes and compromises were necessary before work on final plans could be authorized. Most of the preliminary layout phases of both urban and rural sections of the Interstate System are now complete and the development of final plans have been started on the majority of both urban and rural sections not presently complete or under contract.

It is interesting to note that to date the expenditures for urban and rural areas have been kept closely in balance as intended. Based on the report "1965 ESTIMATE OF THE COST OF COMPLETING THE NATIONAL SYSTEM OF INTERSTATE AND DEFENSE HIGHWAYS IN THE STATE OF MINNESOTA," dated August 1, 1964, the cost for completing urban sections will be $320,677,000 and for the rural sections the cost will be $321,279,000.

D. T. Burns
Deputy Chief Engineer - Engineering

Transportation Engineers to Meet

The big national Transportation Engineering Conference scheduled for May 17-21 in Minneapolis' Leamington Hotel will have five MHD engineers joining others from the state and nation as principal program participants.

"Engineering Tomorrow's Transportation" will be the theme of this five-day meeting for broad consideration of highway, rail, water, and airport problems, under auspices of the American Society of Civil Engineers.

The scheduled speakers from the Minnesota Highway Department will be Deputy Commissioner Paul Staffeld, Deputy Chief Engineer Dwight Burns, J. C. Robbers, special consultant and former Deputy Chief Engineer; T. S. Thompson, Road Design Engineer; and Fred Marshall, Photogrammetric Engineer.

At the opening general technical session Monday afternoon, May 17, Robbers will speak on "A Challenge in Negotiation and Construction." In highways division meetings, Staffeld will discuss "Meeting Land Acquisition Schedules Through the Critical Path Method", and Burns will consider "Details and Design Controls for Freeway Construction." "Relative vs Absolute Position of Surveys" will be the topic for joint consideration by Thompson and Fred Marshall at a session of the Surveying and Mapping Division.

Two former members of the Highway Department also will be heard. Frank D. Marzitelli, former Deputy Commissioner and now Executive Vice President of the St. Paul Port Authority, will talk on "Engineering New Industrial Areas" at a waterways and harbors session, and Gronfield will discuss "Legal Responsibilities in Culvert Design" at a highways meeting.

More than 100 transportation and public works engineers and administrators are scheduled to address the conference. In the highways field are included these top officials, among many others:

Alf E. Johnson, Executive Secretary, American Association of State Highway Officials; T. J. Cambern, partner in Howard, Needles, Tammen and Bergendoff, Kansas City, Mo.; Arthur Carter, Jr., Principal Research Engineer, U.S. Bureau of Public Roads; E. Wilson Campbell, Director, Chicago Area Transportation Study; Dr. Paul E. Irick, Highway Research Board, Washington, D.C.; Glenn Brokke, U.S. Bureau of Public Roads, Washington, D.C.

Guardsmen Head for Winter Training

Good luck and bon voyage was expressed by MHD Safety Promotion Chief Mark Markson, below, to External Public Information Chief Howie Owen, left, and Highway Patrol Captain Paul Martz. Owen and Martz boarded a National Guard troop transport plane February 6 for two weeks' winter weather training in northern Alaska. Markson will leave April 9 for similar duty. Owen, Martz and Markson are majors in the Minnesota Army National Guard.

Council Chairman

The varied 1965 activities of the Hiwayan Club are in charge of the following newly appointed chairmen, President Doug Lungstrom announced:

Blood bank, Carol Charpentier and Eileen Jorissen; Athletics, Dennis McMann; spring party, Dave Narog; Art and Hobby Show, Maurice Dickerson; queen contest, Ed Pasch; Hiway Hilights, Inez Welch; Connie Helget, Lois Krueth; Metropolitan Bowling Tournament, Bruce Burnham; Flower Fund, Byrdie Kraft; Christmas baskets, Len Arth; Fishing contest, Deane Fashant.

Liaison, Hiwayan Club-State Employees, Inc., Gene Schmidt; membership, Ed Pasch; constitution and by-laws, Joyce Montgomery; historian, Dave Cline; publicity, Rene'e Corcoran; nominations, Dick McAtee; elections, Mary Haak; master of ceremonies, Herb Caldwell; luncheons, Irene Furey, Jackie Kelcher, Ed Pasch.

For Shelter Library

Read any good books (paper back) or magazines lately? If so and you are through with them, please bring them to the Highway Civil Defense Unit, Room G-17 in the State Highway Building. Decks of playing cards and similar games no longer required at home also will be gladly received. Anticipating monotony of close confinement in a shelter area, in case that experience becomes necessary, the CD Unit has invited contributions to an entertainment library. The CD staff retains the right to "censor" copies of Playboy magazine, marked cards, etc.

A gift for Della

Della Rauen who sells greeting cards and gift items in the Highway Cafeteria and capitol building, received a special greeting and gift of her own last month. It was a citation and $200 cash award from the Minnesota Association for Crippled Children and Disabled Adults in tribute to her self-sufficiency in life. Della has been severely crippled since childhood by cerebral palsy. Her award and four others made to crippled Minnesotans, were provided by Rose and Jay Phillips of Minneapolis. In a letter of appreciation, Della said: "....I have achieved my present day happiness not as of myself, alone, but through the many hundreds, or perhaps thousands, who have challenged me all my life."

Lady with Money Leaves

The Central Office employees' friend in need, the lady in the Finance Section who is authorized to cash personal checks, is calling it quits in favor of a life of leisure and languor. On March 16, Mrs. Naomi LaFerte is retiring from her post as account clerk. She joined the Drivers License Section in 1943, transferred to Finance in 1958. Mrs. LaFerte served on the Hiwayan Club picnic committee for 10 years, and on other committees. She says she is planning a big spring housecleaning to launch her retirement, to be followed by some travel and much loafing.

LBJ Speaks for Highway Beauty

From NHUC Infomation Service

President Johnson has reemphasized his view that highway development must include extensive roadside and countryside beautification and be utilized to open up scenic and recreational areas for greater public use and enjoyment.

In his "Message On Natural Beauty" which was sent to Congress last month, Mr. Johnson also said that he intended to "institute discussions with industry officials and other interested groups leading to an effective elimination or substantial reduction of pollution from liquid fueled motor vehicles."

A White House Conference on Natural Beauty, which is to be held in mid-May of this year, will also include a "discussion in depth" of the underground installation of utility transmission lines, President Johnson said.

Highways

The text of that part of the President's message which deals specifically with the subject of highways is as follows:

"Our task is two-fold. First, to ensure that roads themselves are not destructive of nature and natural beauty. Second, to make our roads ways to recreation and pleasure.

"I have asked the Secretary of Commerce to take a series of steps designed to meet this objective. This includes *requiring landscaping on all federal interstate primary and urban highways, encouraging the construction of rest and recreation areas along highways, and the preservation of natural beauty adjacent to highway rights-of-way.*

"I will also recommend that a portion of the funds now used for secondary roads be set aside in order to provide access to areas of rest and recreation and scenic beauty along our nation's roads, and for rerouting or construction of highways for scenic or parkway purposes.

"The authority for the existing program of outdoor advertising control expires on June 30, 1965, and its provisions have not been effective in achieving the desired goal. Accordingly, I will recommend legislation to ensure effective control of billboards along our highways.

"In addition, we need urgently to work towards the elimination or screening of unsightly, beauty-destroying junkyards and auto graveyards along our highways. To this end, I will also recommend necessary legislation to achieve effective control, including Federal assistance in appropriate cases where necessary."

Wenger to Lecture at U.

Chief Engineer John Swanberg has approved a request of the University of Minnesota for Deane Wenger, MHD Preliminary Design Engineer, to lecture two days weekly during the 1965 spring quarter in the University of Minnesota's Civil Engineering Department. He will lecture on design. Wenger said the part-time appointment is in connection with the transition of the University's civil engineering course from a five-year to a four-year program.

MINNESOTA HIGHWAYS
Mar 1965

Survey Made of Present Facilities

Interstate Rest Areas Being Developed

It has often been said by out-of-state travelers that Minnesota stands tall in the development and maintenance of fine highways. But it is also said by the same people that our wayside rest areas leave much to be desired -- not only in the number and placement of them, but in the proper development and maintenance of them.

Interstate Areas Planned

Fully realizing the importance of rest areas, if only from a standpoint of safety, the landscape engineering unit of the maintenance section is drawing plans for 28 pairs on the Interstate system. (They will be built in pairs because none will be in the medians -- one will be needed for each direction of traffic.)

Presently one pair is in use on Lake Iverson and one on Lake Hansel southeast of Fergus Falls. Both have been graded and landscaped, but contain no buildings.

Under present legislation this is as far as the MHD can go. All buildings must have the okay of the Legislative Building Commission, and none was approved during the 1965 session.

The Commissioner of Highways did recommend a bill which would give the Commissioner authority to construct rest area and weigh station buildings independently of Legislative Building Commission control, but the bill was lost in Senate committees. So, as matters now stand, none of these buildings can be constructed without approval of this Commission. One of the more unfortunate aspects of the situation is that these rest area buildings could be constructed along with the highway and financed in the same manner -- 90 percent federal and 10 percent state funds.

Meanwhile, the design and landscape engineers are working on locations for future rest areas.

On I-90 pairs of rest areas are being planned for near Adrian in Nobles County, Jackson in Jackson County, Blue Earth in Faribault County, Stewartville in Olmsted County, and Dresbach in Winona County.

On I-35 pairs are being planned for just north of the Iowa border, north of Faribault, near Forest Lake, Pine City, and near Barnum in Carlton County.

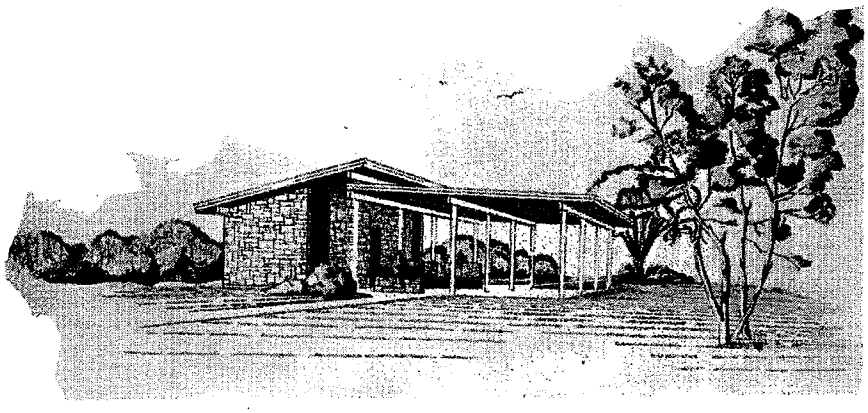
On I-94, in addition to the pair now in use near Fergus Falls, others will be located between St. Paul and the Wisconsin border, near Alexandria, Albany, and between Monticello and Rogers in Wright County.

Large Facilities Planned

Present plans for Interstate rest areas include several acres of land, surfaced driveways and parking areas for automobiles and large tractor and trailers, lighted picnic area, tables, trash barrels and incinerator.

The main feature will be a heated building estimated to cost $25,000, which will include toilets and drinking fountain. A large information board is also planned for outside of the building to direct travelers to nearby towns and service facilities.

But the planning, building and landscaping of these areas is only the first stage. Proper maintenance of the facility will be a continuing responsibility and a costly one. It is estimated that proper maintenance can be accomplished only if one man is assigned full time to each pair of facilities.



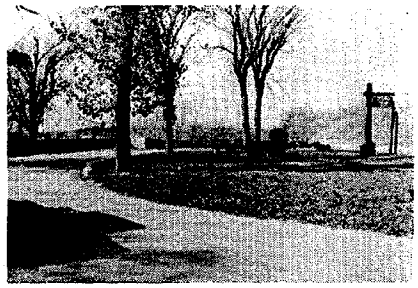
A proposed design for an Interstate rest area building

Landscape architect Dale Wreisner estimates that each maintenance area will need at least four men for such maintenance. This duty would also include a thorough fall cleanup, tree trimming, and pruning of bushes and shrubs. In the dead of winter these crews would be available to supplement highway maintenance forces.

Trunk Highway Areas Surveyed

Present traffic estimates predict that the Interstate routes will carry 20 percent of all highway traffic. This will still leave the highest percentage of traffic on our regular trunk highways.

Many years ago the Roadside Development Division planned and built wayside rest areas on all of the trunk routes throughout the state. In those days these rest areas served the traveler well because a place to stop and eat was the main requirement. Likewise, stops for servicing the automobiles of that day were of necessity much more frequent, and these stops also served to take care of the comfort stops of the passengers.



Scenic overlook on TH 52 at Preston

But today with higher performance engines and large gasoline tanks, the motorist can travel 300 miles without need for automobile servicing. However, this does not apply to the passengers, especially the young ones.

Also, a natural hazard of better automobiles and higher speeds is driver fatigue. To relieve this fatigue and reduce accidents and deaths, safety experts strongly recommend periodic stops where both driver and passengers can get out of the car and relax for a while.

This is where the wayside rest area becomes important.

It is with all of these factors in mind that the landscape unit is presently conducting a comprehensive survey of all wayside rest areas on the trunk highway system. They are being checked for location, scenic values, size and facilities.

(Continued on next page)

New Editor Appointed

Effective September 15 the Minnesota Highways Magazine had a new editor. He is Jim Fish. Mr. Fish has been with the department for 27 months serving in the Right of Way Preaquisition Unit and then in the Utilities Section. In the Utilities Section he wrote relocation contracts with the larger municipalities and prepared a form book of letters and agreements for use by fellow employees.

In order to provide employees with the best possible publication, both topically current and informative to all readers, the new editor requests suggestions for improvements and revisions.

Suggestions for new features, expanded sections, of the elimination of certain items will be warmly received and thoughtfully considered.

New Retirements

Happy retirement days to:

Theodore R. Mahler, Glencoe, Hwy. Patrol Officer, Glencoe.....George C. Ide, Sandstone, HMM II, Duluth.....George A. Byer, Mpls, HT II, central office.....Meta Kiland, Mpls., clerk II, central office..... H. D. VanKrevelen, St. Paul, CE III, St. Paul,.....Walter Sadergaski, Sauk Rapids, HMM I, St. Cloud.

HI-WAY QUIZ

1. How many driver licenses are in force in the United States?

2. What is the estimated return to motorists on each dollar invested in the Interstate Highway System?

3. What is the death rate on regular trunk highways in Minnesota?

4. What is the death rate on Interstate Highways in Minnesota?

5. How many motor vehicles will be registered in the United States by the end of this year?

First Aid Course

The Highway Department's Civil Defense Office offered a course in advanced first aid to their emergency building staff. Because so many responded and because the size of the class was limited, another course will be planned according to C. T. Mockenhaupt, Civil Defense Coordinator.

At the present time 25 employees are attending the 20-hour course in room 818 of the central office every Thursday morning from 10:00 a.m. to 12:00 noon.

The advanced course of first aid, the shelter management course attended by 32 employees and the fire rescue school in which 15 of the emergency building staff were involved, gives the Highway Department the capability of coping with any emergency. Hats off to a conscientious group of employees.

ON OUR COVER

The quiet beauty of the fall pastoral scene, so much a part of our Agrarian heritage, the ducks flying south and the corn in the shock are things very few of us have time to enjoy or take the time to enjoy today. These things have been expressed for us in our cover picture, a water color painting by Maurice Dickerson of the Highway Department's Art and Exhibits Unit. He and Len Nelson and Larry Skar, also of the unit, regularly contribute cover pictures and drawings to Minnesota Highways.

"Only the foolish and the dead never change their opinions."

James Russell Lowell

Editors Words

Seat belts are proven protection for the drivers and passengers of automobiles. All automobiles in Minnesota are required to have seat belts installed within thirty days of purchase.

Seat belts have been proven to prevent ejection, to keep ones head from hitting the windshield and to keep knees from hitting the instrument panel: All causes of serious injury at the time of an accident. Seat belts also provide the driver with additional stability and control which better enable him to avoid accidents.

During my experience with MHD I have had the opportunity to use many different state vehicles, both from the MHD motor pool and from the Central Motor pool. It has been necessary to search for the seat belts in the majority of these vehicles. The belts have been found in various states of disuse, some being crumpled and clinched between the seats and others lying dustily on the floor of the back seat.

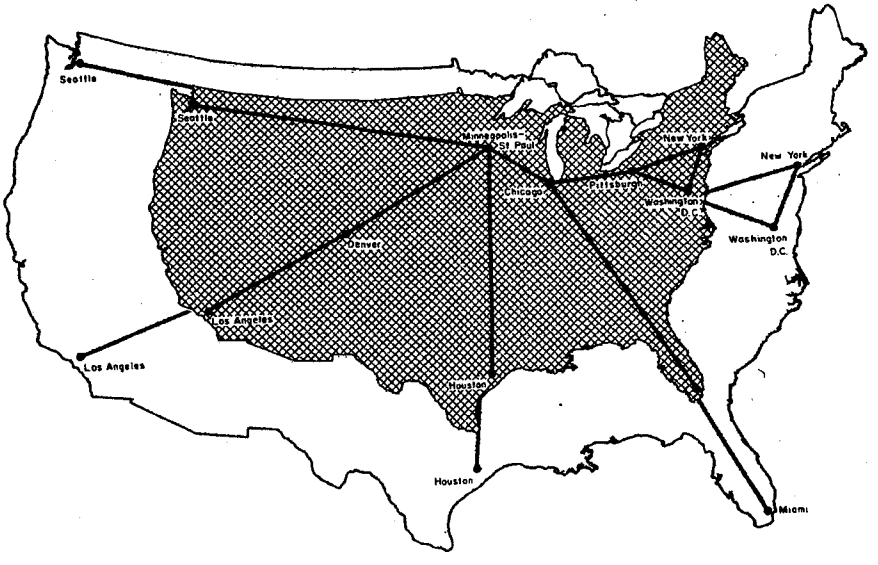
We state employees have been provided with seat belts for our safety. It is our duty to make use of them to protect ourselves and other drivers. J. F.

USE YOUR SEAT BELTS EVERY TIME YOU DRIVE A STATE VEHICLE.

"The care of human life and happiness is the first and only legitimate object of good government."

Thomas Jefferson

Interstate Shrinks Distances



Remember the old days when the airlines used to publish maps showing how the world is shrinking? Highway builders are now stealing their stuff to show how the Interstate system, when completed, shrinks the map of the United States.

Relating present travel times on two-lane highways to the same points in 1972 over the completed system, highway experts predict an average time saving of about 28 percent.

(The Steamship people take a dim view of this map -- it makes their routes longer -- or does it?)

Through Traffic on I-94 Scheduled for Fall, 1967

Interstate Network in Area Progresses

By Howard Owen

Almost daily a new development in the construction of I-94 is started in view of central office personnel. Though everyone knows it will eventually consist of the main route of I-94 plus a junction with I-35E from the south, few can figure just how or when all of this will come out.

To better tell the story, we have keyed important projects and bridges to the map, so you can keep oriented as we go along.

I-94 Mainline Well Underway

A close observation from one of the upper stories of Highway headquarters indicates projects already completed or underway.

Starting from the east end of the area, completed bridges can be seen over the combined centerlines of I-94 and I-35E at Jackson (1), Robert (2), Minnesota (3), and Cedar (4) Streets. Presently under construction are the Wabasha (5) and St. Peter St. (6) bridges.

Grading is also well underway on this stretch down to where St. Peter St. will cross over the freeways.

From that point west to the completed portion of I-94 at Farrington, no other major bridges are underway at this time.

Cedar St. to Pennsylvania Avenue

Another large project underway is the grading and surfacing of I-35E from Cedar St. to Pennsylvania Avenue, and on I-94 from the junction of I-35E to the Sixth St. bridges. Included in this contract are the several bridges needed to accomplish the interchange of I-94 - I-35E traffic where I-35E swings north and I-94 swings east

This contract was started last spring and is due for completion in the fall of 1966.

Rice St. to Cedar St.

A short contract of just .2 mile, but important to the whole complex is the grading and paving now underway just below the cathedral. This includes north and southbound bridges to carry John Ireland Blvd. over the eastbound connection of I-94 to Smith and Sixth (8) streets; ramps to carry E. Twelfth St. to the westbound roadway of I-94 on one fork, and to southbound I-35E (9) on another; relocated St. Peter St. over the freeways; and the Wabasha St. bridge over the combined Interstate routes. Weather permitting, this contract is due for completion sometime next summer.

In this same area a frontage road to carry eastbound I-94 traffic from Farrington St. to Summit, and a connecting link from this frontage road to Marshall (10) is nearing completion and should be open to traffic soon. When this piece is opened, the temporary connections on the south side of the I-94 right of way will be closed off to make room for another project scheduled to be let in January.

Farrington to Cedar

This is the project which will tie the complex together -- the finishing of I-94 from the completed section at Farrington to Cedar St. Included will be the following bridges: Louis St. over I-94 (11); Sixth St. (WB) to I-94 (12); John Ireland Blvd. over I-94 and EB ramp to Tenth and Main Streets (13); ramp from John Ireland Blvd. to EB I-94 (14); and bridge and ramp from EB I-94 to Tenth and Main streets (15).

This project is due to be let in January and should be completed at the end of the 1967 construction season.

A temporary connection to carry Louis St. from St. Anthony to Carroll will be completed before the above project begins.

I-35E Tie-in

All that remains then is the tie-in of I-35E as it comes in to the Capitol area from the south. As shown on the map, it will approach the area along a general line of Pleasant Ave., run between St. Joseph and Miller hospitals, and run on the same line with I-94 until they separate just south of the new City-County hospital. From there I-35E will extend north to its ultimate junction with I-35W near Forest Lake.

The project which brings I-35E to the Capitol area begins at Duke St., and extends for 1.3 miles to the I-94 junction. This project is due to be let toward the end of 1968.

Included will be bridges carrying Kellogg Blvd. over I-35E and ramp (16); Kellogg Blvd. (WB) to ramp over I-35E (17); Sixth St. (WB) over I-35E (18); Sixth St. (EB) over I-35E (connection to Fifth St. (19); Ninth St. over I-35E (20); College Ave. over Sixth St. (21); and Summit Ave. over Sixth St. (22).

I-94 Open in 1967

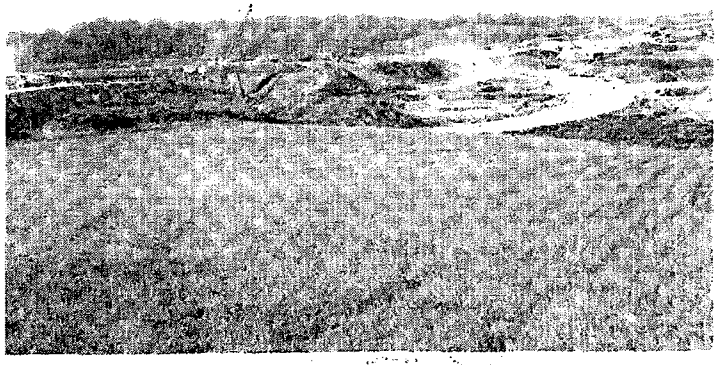
So, with the exception of the I-35E tie-in which will not be let until 1968, the main roadways of I-94 through the Capitol area are scheduled to be open in the fall of 1967.

Now that we have told you what is going to happen and when, it is up to you to figure the best way to get to work and home again.

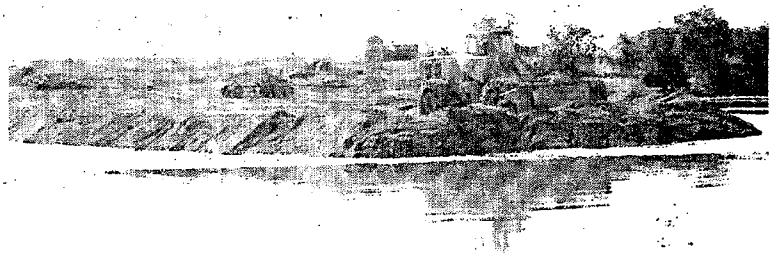
The Capitol Approach looking southwesterly from the MHD roof. Background center is the St. Paul Cathedral. On the right is the new St. Paul Vocational-Technical School scheduled to open in 1966. In the center are the abutments for the John Ireland Bridge over the Sixth Street connection.

Interstate 94 Progresses in Mid-Minnesota

This article was prepared and submitted by District 4 construction personnel for use by the Public Information section. Pictures for the article were also taken and submitted by District 4 employees.

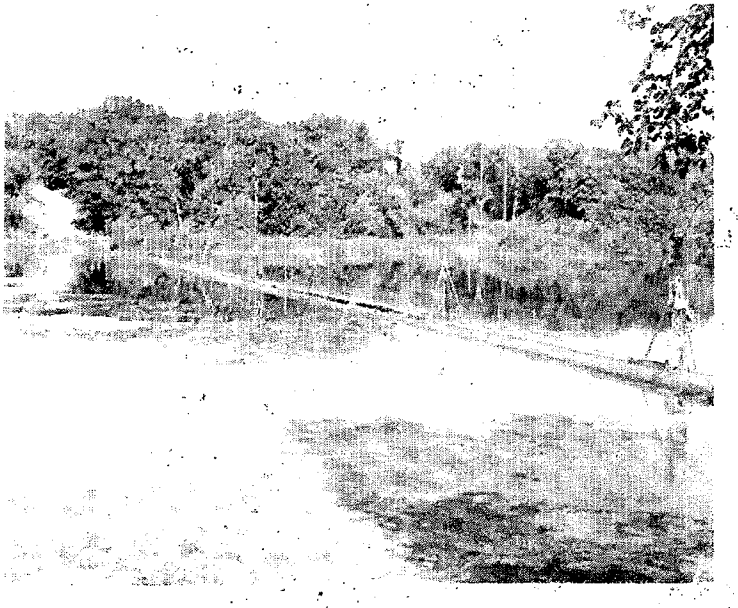


The interchange of I 94 and TH 114 near Lobster Lake. TH 114 alignment required that one corner of the lake be crossed.

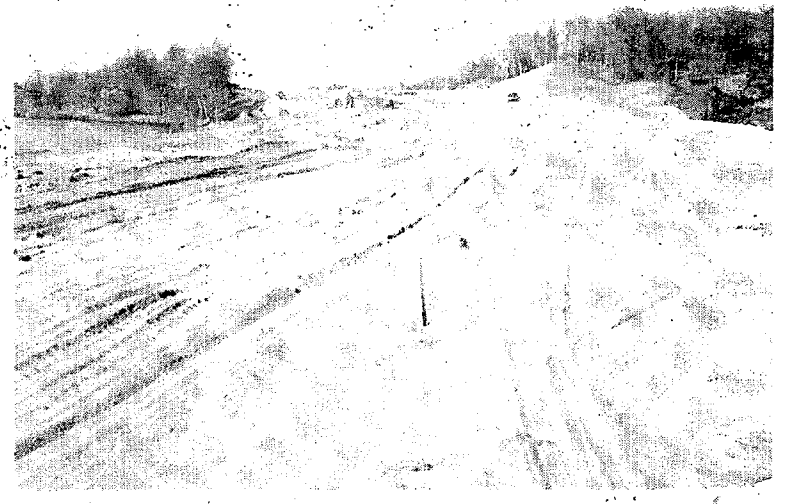


Fill placement for the Lake Lakota crossing. Total fill to across the lake was over 330,000 yards.

The pipeline of American Oil Company was suspended on pontoon floats during the filling across Lake Lakota. This pipeline is about 200 feet from the centerline of the crossing.



The inplace fill across Lake Lakota. Fill was placed across the full width of the crossing to provide uniform settlement. A portion of this fill is now being excavated to provide the bridge.



Volume was the byword for the District 4 Interstate construction program in 1965. Under the direction of district engineer Frank Pawlak and assistant district engineer Roy Larson the dollar volume on I 94 grading and bridge contracts between Evansville and Osakis totals $4,725,804.43. These projects include 32.1 continuous miles of grading together with 19 bridges. The major pay items include various classes of excavation and borrow material in the amount of 9,306,575 cubic yards. Of this amount there is swamp excavation of 1,280,887 cubic yards. Culverts called for in these contracts range up to 88 inches reinforced concrete pipe arches with the total of all sizes of pipes to be furnished and installed at 43,397 linear feet or 8.2 miles of culvert.

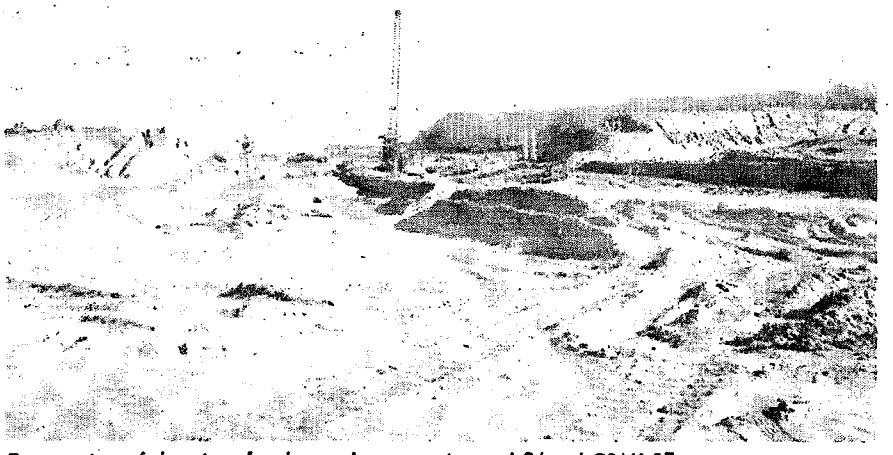
The 32 mile section under construction from Evansville to Osakis will be a continuation of the 32 mile section of I-94 between Fergus Falls to Evansville opened to traffic in October, 1965. The Osakis or east end of the project connects with a 18.8 mile section under construction in District No. 3.

Project engineer in charge of the grading of the 32 mile section is S. J. Wyborny and bridge project engineer is M. L. Backman. Grading contractors for these projects are Berghuis Construction Company of Alexandria; Brown and Leguil, Inc. of Mankato; and G. A. Olson Construction Company of Marshall, Minnesota. Bridge contractors are Otto J. Eickhof and Sons, Inc. of Crookston and Oster and Pederson of Minneapolis, Minnesota.

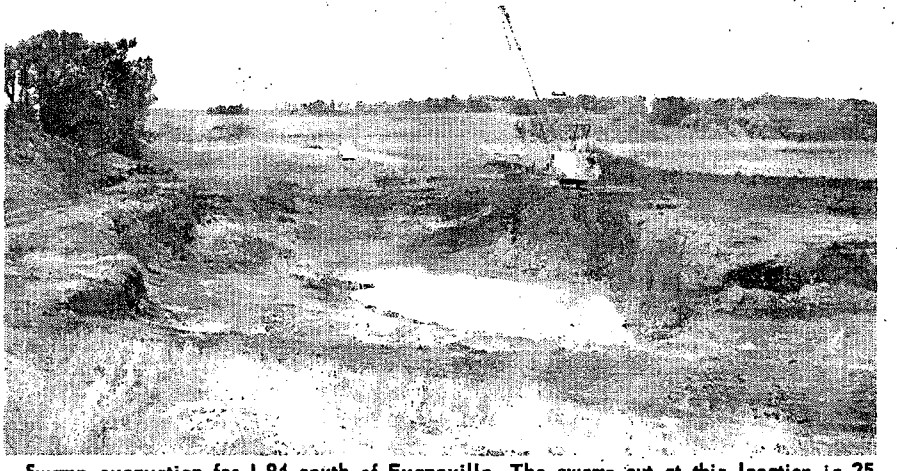
To produce the volume of work under contract in the specified working time requires much equipment of large capacity. The 44 cubic yard Cat 660 scraper which moves material at speeds up to 35 miles per hour is most favored by the contractors with ten of these units working on the projects. Also, used extensively are 38 cubic yard Cat 641 scrapers, Twin Euclids, and some smaller scrapers. Giant Cat #16 patrols, Michigan and Cat rubber-tired dozers are also to be found among the contractor's work-equipment. Berghuis Construction Company removed the swamp excavation on its project by using a four yard dragline with a 120 foot boom and a two and one half yard dragline on a round-the-clock basis, six days a week. The grading equipment utilized two shifts totaling sixteen hours a day. This equipment and volume of work kept the Minnesota Highway Department crew in the Alexandria project office on the move. Grading reports showing 250 density tests a week are in the project file as production of over 50,000 cubic yards a day was often recorded during favorable weather.

When the location of I-94 through this area was firmly established, the focal point of local attention in the area became the "Latoka Crossing". This is where I-94 crosses the 500 foot wide Lake Latoka narrows. The facility installed to handle boat traffic between the separated halves of the lake was a matter of primary concern in the area. Structures considered ranged from a 10 foot by 10 foot concrete box culvert to a 500 foot clear span suspension bridge. The final approved facility for lake and road crossing was twin

(Continued on page 8)

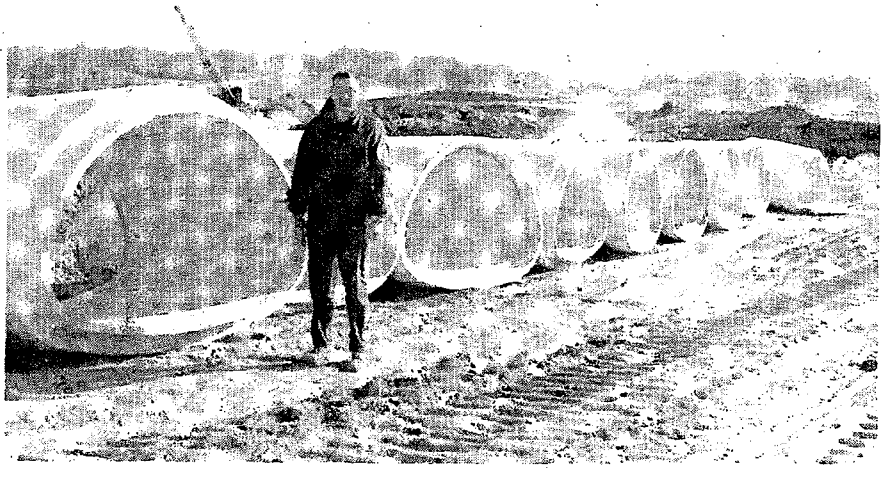


Preparation of the piers for the grade separation at I 94 and CSAH 17.



Swamp excavation for I 94 south of Evansville. The swamp cut at this location is 25 feet in depth and is part of more than one million yards swamp removal on the project.

Project engineer S. J. Wyborny inspects some of the 88 inch reinforced concrete pipe arches on the job site. Total length of culverts to be placed under this series of contracts is 8.2 miles.



Work on Interstate in 10th Year

Progress on Minnesota's 901

Construction of the National System of Interstate and Defense Highways is now in its 10th year in Minnesota; and with another construction season getting under way, a review of the program seems in order.

The first contract on the Interstate was let in 1957, and it called for demolition and removal of buildings on the right of way of I-35E in St. Paul, at a cost of $2,350. Since that first, almost insignificant project officially launched the program in Minnesota the state has obligated a total of approximately $570 million under the 1956 Federal Aid Highway Act. This was applied to engineering, right of way and construction costs.

When completed on or shortly after 1972, the state's 901 miles will have cost over $1 billion, with federal-aid interstate funds providing about 90 percent of the cost.

As of January 1, 1966, Minnesota had completed 224.7 miles of Interstate freeway and had 195.8 miles under construction. Also, the department has programmed the remaining 480.7 miles for letting between 1966 and 1970.

Miles completed to date, without mentioning too many specifics are: 55.3 miles in the Twin Cities area, on portions of Interstates 35E, 35W, 94, 494 and 694, and including 37 miles of the circumferential route.

On I-35: 30.6 miles between south of Pine City and Askov; 12.3 miles at Owatonna; and 18.2 miles north of Faribault.

On I-90 43.4 miles between Stewartville and Albert Lea; 12.7 miles from Luverne to the South Dakota line; and 5.4 miles near Dakota.

On I-94: 23.3 miles in the Fergus Falls Falls area, and 6.7 miles at Moorhead.

The remaining 17 miles completed are in smaller sections in various parts of the state, including Minnesota's one-half of the 1½ mile Duluth-Superior bridge carrying I-535 over St. Louis Bay.

Completion Estimates

Another 89 miles are expected to be open to traffic by the end of this year, which will give Minnesota 314 miles of completed Interstate freeway.

Some major openings later this year would include 18.5 miles of I-35 from Askov to Moose Lake, which added to what is now completed would provide a 49-mile section of northern I-35 freeway; and 23 miles of I-35 south from Owatonna, which, added to the present completed stretch, would provide a section of continuous freeway 35 miles long.

Projected further, the construction program calls for a total of 426 miles of Interstate to be completed by the end of 1967; 554 by the end of 1968; 692 by the end of 1969; 789 by the end of 1970; and 901 miles by about 1972. Much of this, of course, will depend upon when and how much Federal Aid money is available to carry on the program.

Minnesota and Bordering States

At the present time, neighboring states have more miles of rural freeway completed than Minnesota, but this does not mean that Minnesota is not keeping up with the other states. Facts show that Minnesota is ahead of her neighbors costwise in urban accomplishments and in other respects, although this does not belittle the extensive progress other states have made.

Neighboring states have miles open to travel ranging from 306 in Wisconsin to 376 miles in Iowa, but comparison by miles completed alone is not a fair test of progress.

Minnesota currently has two or three more miles under construction than her neighbors and leads by the same margin in right of way acquisition and engineering in progress, according to the last quarterly report by the U. S. Bureau of Public Roads.

To begin with, the Minnesota Highway Department has found it necessary to go about the task of building the Interstate highways in a different way than her neighbors. Minnesota has far more miles of Interstate freeways to build. Iowa will build 708 miles; South Dakota, 679, North Dakota 570; and Wisconsin, 458 -- compared to Minnesota's 901 miles. There is simply more to do in Minnesota, but that is not the whole story.

With the exception of Wisconsin, at Milwaukee, no neighboring state has equal major metropolitan areas to cope with; and Milwaukee's Interstate problem is not on the same complexity level as in the Twin Cities. Construction in rural areas is relatively simple because it requires few special design features and much fewer major bridges and interchanges -- also, there is very little land clearance to contend with in rural areas and land acquisition is not nearly as complex or as expensive as in the highly developed urban areas.

The big difference is that while her neighbors have been concentrating Interstate construction efforts in rural areas, Minnesota has been concentrating on the major urban area of the Twin Cities and continuing each year to step-up work in rural areas. Progress is more difficult, expensive, and considerably slower in a major urban area than in open country.

Urban Vs Rural

The question often has been asked "Why hasn't Minnesota been pushing it in the rural areas so that we have more miles to travel on now, instead of later? Why not let the Twin Cities area wait?"

The magic words here are traffic service and economics. The department has, in effect, been making its major efforts where freeway facilities are needed most.

Take traffic service. Nearly half of the states 3½ million people reside in the 910 square-mile Twin Cities area, and more than half the state's motor vehicles are here. This area is the major trade center of the state and of the Upper Midwest, and it is also the major trucking center for the area.

Traffic has been piling up here, clogging roads and arterial streets and hindering trade and traffic. An accelerated program in the Twin Cities is in keeping with the basic principle that highways must be constructed first where traffic needs are greatest.

While the Interstate network in the Twin Cities will comprise only about 15 percent of the total Interstate mileage in Minnesota, it will be carrying an estimated 49 percent of the total traffic expected on the entire Interstate system in the state. In other words, roughly half of the state's freeway traffic will be concentrated within the 910-square-mile Twin Cities metropolitan area.

Now to the economics of it. Since land values mount higher with each passing

MINNESOTA HIGHWAYS
Apr 1966

year, the highway department early in the program thought it prudent to acquire right of way in the Twin Cities as quickly as available funds would allow *in order to save money*. This meant obligating funds for right of way that could have gone into construction. Then, once right of way has been acquired, it is in the best interests of economy and efficiency to begin construction as soon as possible. Obviously, sometimes the land has to be left cleared and unused until construction can be accomplished within budget limitations.

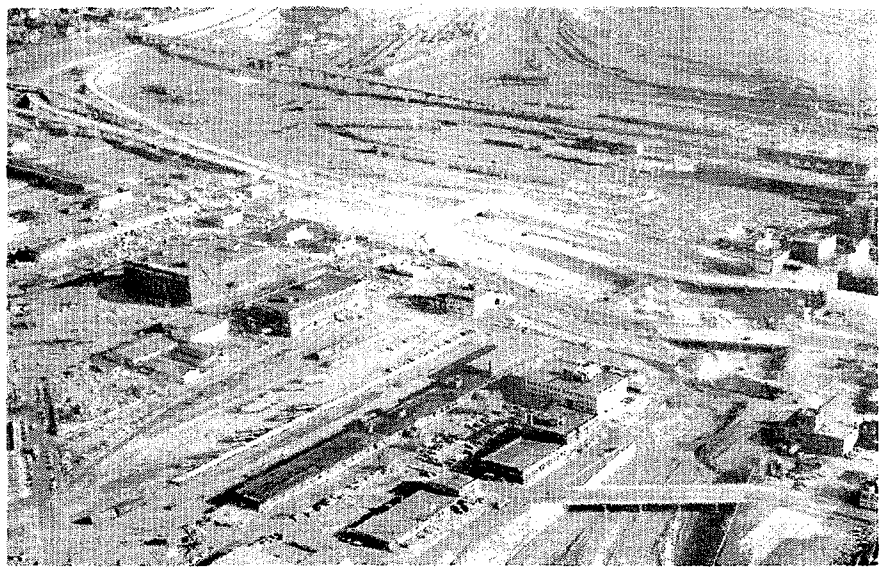
There is one other point that could be considered. By constructing as early as possible in any major urban area, the greatest benefit is given future commercial, industrial and residential development in the area. Early construction insures a minimum of disturbance to this development. This is important not only to the area concerned, but also to the economy of the entire state.

These, then, are some of the reasons Minnesota has been behind in miles of Interstate freeway open to traffic, and also why Minnesota has always been ahead in the total amount of work in progress - engineering, right of way acquisition and construction.

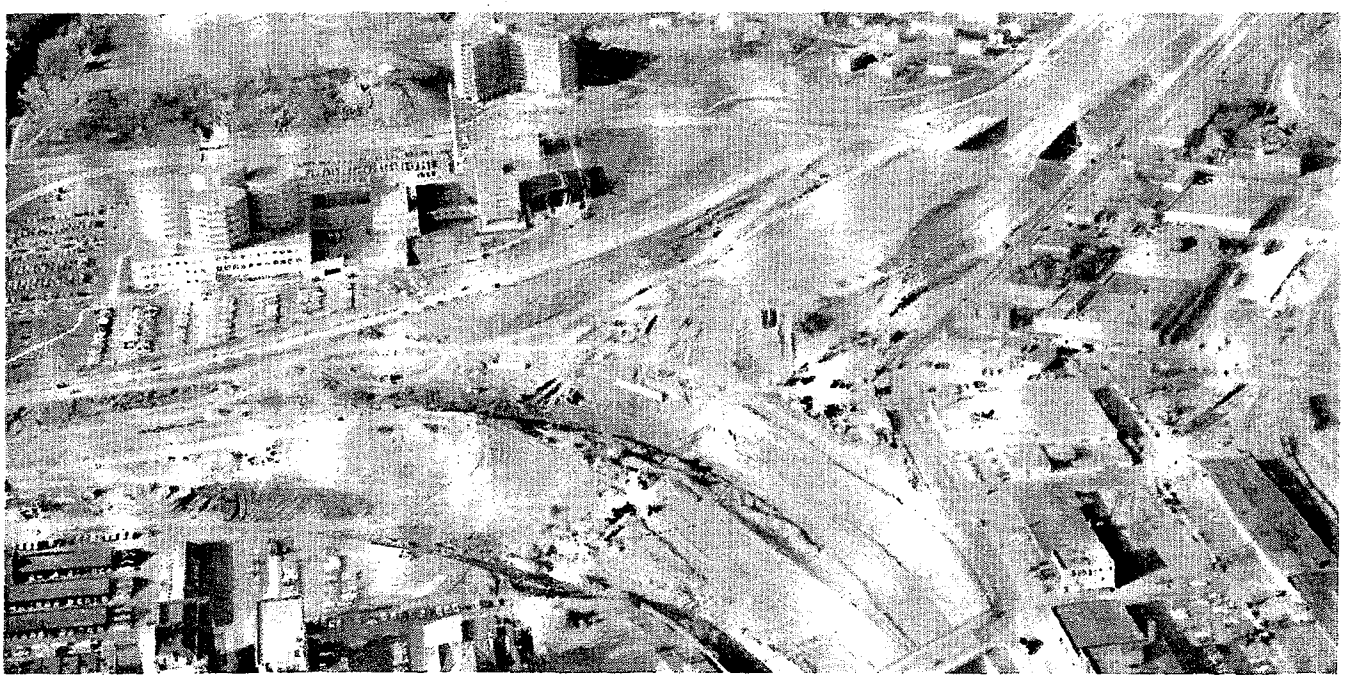
Minnesota has been going about her Interstate task in the manner best suited to its own problems.

Photo below shows an aerial view of I-35E and I-94 at the edge of the loop in downtown St. Paul, looking north. The roadway coming from the bottom-center and swinging to the left is I-94, and the other roadway, towards top of picture, is I-35E. In the upper left corner is the new St. Paul-Ramsey Hospital.

I-35 under construction south of Duluth. To the right of the roadway is the D.M.&I.R. Railway.



A high view of I-94 under construction in St. Paul, with the freeway making its way to the twin Sixth Street bridges. In the background is the Third Street bridge and the Mississippi River.



ON OUR COVER

Gracing this month's cover, along with a new treatment of the format is Minnesota Highways Queen, Mary Mortel. Mary was recently crowned Sovereign of the State Highway Department for 1967, by Paula Miller, Miss Minnesota Highways 1966. Mary was chosen from a field of nine candidates which was eventually narrowed to three finalists by balloting of the Hiwayan Club membership. The Queen was selected by a panel of judges consisting of John McDougal, TV news personality, Delores Olson of the Patricia Stevens Modeling agency and Lois Leppart of Astell Compton Model Schools. Blond, blue eyed Mary had an unfortunate water skiing accident prior to the competition but it didn't seem to cramp her style when the chips were down. Mary's 115 pounds are admirably distributed over her five feet four inches and compliments her water skiing despite the recent accident.

As to the format of the magazine, I believe the change most welcome as the larger type is easily read and the use of two column arrangement more pleasing to the eye. You may note the full page picture with "Minnesota Highways" striped in at the lower right hand corner. The positioning of the title or "Flag" will vary with the cover as the photograph will determine this rather than a fixed title position determining the picture.

As editor, I will appreciate any and all comments regarding the changes. Direct them to my attention, Room 513, Ext. 3581.

Minnesota Highways

Published by the Minnesota Department of Highways as an official administrative medium of information to correlate the work of its many employees throughout the state and to stimulate courteous and efficient public service in the maintenance, construction, administration and safety of the Trunk Highway System.

DICK SNOW .....EDITOR

State Highway Building
St. Paul, Minnesota 55101
Phone: 221-3581

VOL. 15, NO. 11

Recent Retirements

Happy retirement days to:

Joe A. Olerud, Rochester, HMM II, Rochester.....Ann Gillig, St. Paul, Clerk III, central office.....Albert Fredrickson, Fergus Falls, Patrol Officer, Patrol..... Emil Hannaman, Mankato, Auto Mech. Foreman, Mankato .....F. A. Reid, Owatonna, Dist. Clk. I, Owatonna..... Theodore Severson, Windom, Patrol Officer, Patrol..... Henning W. Johnson, Morris, Seasonal Laborer I, Morris .....A. Elleinor Eckert, Minneapolis, Clerk III, central office.....Mabel I. Gibson, Northfield, Executive I, central office.

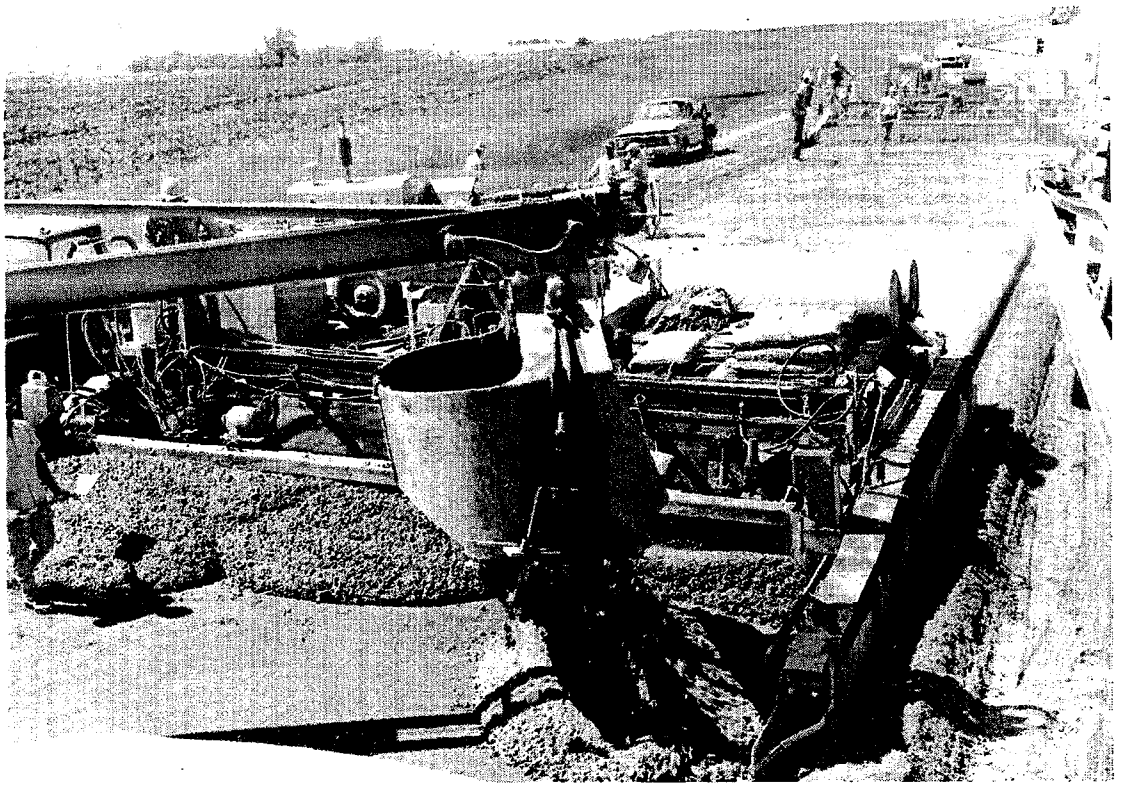
Recent Deaths

Amos K. Campbell, St. Cloud, HMF II, St. Cloud..... Wilho Maki, Virginia, HMM II, Virginia.

Slip Form Paving Started

A most unusual and interesting construction project is now taking place on Interstate highway 94 near Brandon, Minnesota. Huge and curious machines which might interest archeologists due to their dinosaurian appearance move slowly over the road bed leaving a wide reinforced path of concrete in their wakes. Preceeding the pavers are dual drum mixers fed by trucks dumping dry concrete into their gaping maws. The mixers are linked to water trucks by a large pulsating umbilicle and combine both concrete and water into the proper slump (consistancy) and dump concrete on the graded and smoothed dirt bed. Following this is the first of two slip form pavers which gathers the "mud" in front of its apparatus and smooths the concrete into the prescribed width. Several men following the first paver place steel mesh mats over the first layer of concrete and a second slip paver moves over the first mat. This paver, like the first is preceeded by the dual drum mixers pouring concrete from both sides of the road, but the second paver lays a swath of concrete 24 feet wide over the first swath and the concrete mesh. The second paver trowels and forms the concrete with trailing steel forms which slip along the edges of the concrete - (hence the name slip form). This gives the concrete its flat rectangular shape and enables the contractor to avoid the time consuming wood forms which must be placed on conventional paving jobs.

The somewhat heavier slump of the concrete used in slip paving allows the concrete to hold its rigidity without the forms and cuts down on time and work necessary with the conventional style of paving.



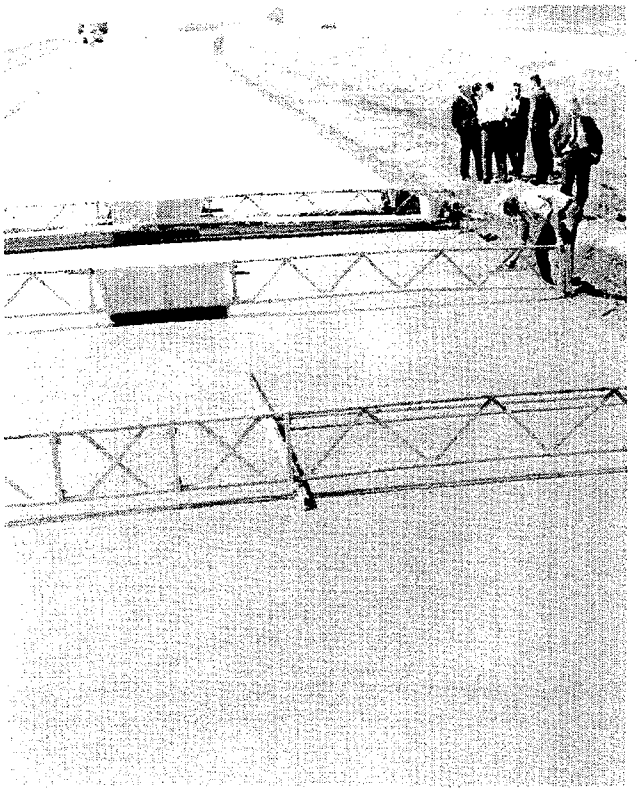
The first of two dual drum mixers pours a load of concrete into the path of the first slip form paver. The second can be seen following with steel mesh already placed over the first mat.

Preceeding the dual drum mixers and the pavers is a planer which digs up the road bed and levels it to the prescribed grade tolerance before the pavement is laid. The entire operation results in a reduction in cost for the paving due to fewer machines, and men required for the work. This saving is of course passed on to the taxpayer, giving him more for his gas tax dollar.

This particular project is unique, as it is the first time slip form paving has been used on an Interstate highway in Minnesota. So far the work has been going smoothly not only in operations, but with regard to the surface as well. The contractor's foreman of Central States Construction Co., Willmar, voiced the opinion that he had never seen a project go along so well with with the surface so smooth and uniform.

Saw cuts are made in the "green" or partially dried concrete shortly after it has been laid and covered with the polyethelene cover. Usually the cuts or the control joints are made with a wood form but in this case a carborundum saw is used and the joints are filled with a neoprine sealer on the cross cuts and with a rubber asphalt sealer on the longitudinal cut running the length of the entire segment. These joints are necessary to allow for expansion and contraction in extreme temperature variation common to the Minnesota climate. The saw cuts are made 2 inches deep on the width and 2¾ inches deep on the longitudinal cuts.

The project is scheduled to be 12.2 miles in length between a point south of Evansville to Garfield, and will maintain a concrete thickness of 9 inches. The contract award was in the amount of approximately $ 2½ million with work to be completed within 110 working days.



Note the smooth, even surface left by the pavers even before final troweling and finishing by the follow-up crews.

DRIVER EXAMINER SCHOOL

Driver examiners from four neighboring states attended Minnesota's eleventh annual Driver Examiner in-service training school at the Arden Hills training center in late January and early February. The Driver License office annually invites examiners from other states as a means of exchanging views and experiences and working toward uniform driver license examining standards. Here, seated, from the left are Gordon K. McDermid, Burnsville, area representative of the American Association of Motor Vehicle Administrators; Milo Hodgson, Madison, Wis.; Maynard Schutt, Sheldon, Ia.; Wayne Green, Burwell, Neb.; Wayne Brodland, Menno, S.D.; Jim Fuerst, Rapid City, S.D.; Keith Fink, Omaha, Neb.; and Al Chrystal, Des Moines, Ia. Standing are Chief Examiner L. C. Hotaling, Driver License Director G. A. Hatfield, and Assistant Director R. L. Baseman.

Interstate mileage

The most recent figures on completed Minnesota Interstate compiled by the office of Programming total some 279½ miles. In addition to the completed sections, there are 208.7 miles under construction and another 415.1 miles slated for construction. If the state is to realize completed construction of the Interstate system, the recent Federal cutbacks must be offset by state monies. The proposals have been submitted to the governor and the legislature and now it is up to them to adopt the proposal or a portion of it so more needed funds can be provided for construction.

Late last year a slide and sound presentation was created by the Public Information section dealing with our highway needs and how to meet them. This presentation has been used throughout the state and has re-

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ceived favorable reactions from the groups who viewed it.

A summary of Interstate status under the headings of "Miles Completed", "Miles Under Construction", "Miles Slated for Construction" and "Total Mileage" by each Interstate highway follows:

Interstate Mileage as of Dec. 31, 1966

(Route Totals Based on Mile Posts Study)*

T.H.	Miles Completed	Miles Under Constr.	Miles Slated for Constr.	*Total
35	97.1	48.8	73.3	219.2
35E	7.4	14.9	16.9	39.2
35W	22.3	16.1	7.2	41.7
90	67.4	31.5	176.6	275.5
94	47.0	88.2	123.4	258.6
494	26.8	6.4	9.5	42.7
694	11.0	6.1	4.7	21.8
335	-	-	2.9	2.9
535	0.5	0.6	0.6	1.7
TOTAL	279.5	208.7	415.1	903.3

The locations of the highways listed above, or the completed segments are shown in the following table:

INTERSTATE TRUNK HIGHWAYS - OPEN TO TRAFFIC FALL 1966

Route	Termini	Mileage
35	TH 218 So. of Owatonna to TH 65 So. of Faribault	15.6
35 & 35W	TH 21 No. of Faribault to E. Jct. 62nd St. X-Town in Mpls.	44.4
35W	TH 36 in Roseville to N. of Jct. TH 10, Arden Hills	6.8
35E	TH 110 in Mendota Hts. to TH 5 (W. 7th St.) in St. Paul	2.8
35E & 694 & 94	Pennsylvania Ave. in St. Paul to TH 52 in Crystal	20.2
35	TH 70 So. of Pine City to TH 311 at Moose Lake	48.9
35	TH 210 W. of Carlton to TH 61 So. of Scanlon	3.7
535	Interstate Bridge in Duluth	0.5
90	W. State Line to CSAH 3 at Magnolia	18.4
90	TH 16 at Petran to TH 63 at Stewartville	43.1
90	N. Jct. TH 61 (Dakota) to S. Jct. TH 61 (Dresbach)	5.9
94	W. State Line at Moorhead to CSAH 11	6.0
94	TH 52 No. of Fergus Falls to TH 79 at Evansville	31.8
94	Dartmouth Bridge and Approaches in Mpls.	0.6
94	Snelling Ave. (TH 51) to Farrington St. in St. Paul	3.0
94	W. End 6th St. Br. to Plum St. in St. Paul	1.0
494	TH 55 in Plymouth to TH 5 at Ft. Snelling	21.1
494	W. Lim. So. St. Paul (TH 110) to Upper Afton Rd.	5.7
	TOTAL OPEN	275.5

Met Freeway Segment Opened

Mayor Al Illies of Minnetonka and Mayor Loring M. Staples of Plymouth cut the ribbon as Commissioner John R. Jamieson looks on.

Ceremonies including the Mayors of Plymouth and Minnetonka, Commissioner John R. Jamieson and the news media were conducted in recognition of the recently completed 6.2 mile segment of Interstate highway.

The cost of the project totaled some $5.3 million with construction initiated in October 1963. The segment includes 14 bridges and is located between THs 7 and 55. According to Project Engineer, Ray Hartzberg there remains only the lighting contract to be completed on the segment which has been let for bids.

The predicted traffic on this section will be in excess of 30,000 vehicles per day by 1985. The section, lying within Minnetonka and Plymouth villages, will link I-494 with the section to the north connecting eventually with I-94 at trunk highway 52. The grading and bridge work was done by Johnson Brothers Highway and Heavy Constructors Inc., of Litchfield, and the base, concrete pavement, shouldering, traffic signs and fencing by Woodrich Construction Co., Hopkins. The road itself is four lane divided highway consisting of 9-inch thick reinforced concrete.

Ribbon cutting ceremonies were conducted December 9 followed by a motorcade officially opening the road.

The Road Report .... BY ARBA

Accidents occur one-half to one-third as often on Interstate Highways.

According to Commerce Secretary Connor accidents occurred on Interstate Roads 2.8 deaths per 100 million miles—compared to 9.7 deaths on the older roads.

AMERICAN ROAD BUILDERS' ASSOCIATION

Know How to Fight

by MARK MARKSON

Do we know how to fight accidents? I believe we do. It is simply a matter of applying the knowledge we already have in a manner that will assure us of reaching our objectives. We know that accidents are caused by unsafe conditions which exist on our jobs or by unsafe acts which are performed in the course of our work. Rarely do we have an accident without one or both of these factors. Our task, then, is to control the conditions under which our people work and control the manner in which they work if we want to prevent accidents.

To control conditions on a job, we must establish standards to serve as guidelines. We must observe any conditions which fall below established standards, and immediately correct it. This is the function of management, generally assigned to superintendents and foremen.

To control behavior and eliminate unsafe acts we must also establish standards--standards of behavior. We must determine the safest possible method of doing our work. We must train our people in this method until it becomes the normal working procedure for them.

We must continually be active in a search for better and safer ways of doing the job. Eventually, every job we are doing today will be done more effectively and safely as time goes on.

I believe we know how to fight accidents. We can win only if we fight as well as we know how.

◆ ◆ ◆ ◆ ◆ ◆ ◆ ◆ ◆

An irate parishioner sent Henry Ward Beecher, the New England preacher, a letter with the single word "fool" on it. Next Sunday Beecher told the congregation about the note. He said he had heard of a man writing a letter and forgetting to sign his name but he had never heard of a man signing his name and forgetting to write the letter.

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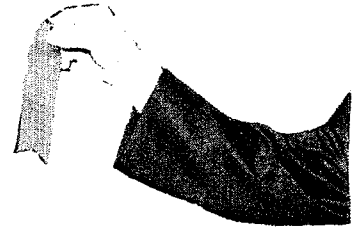


PUBLIC NOTICE

Hello once again fun seekers. The time is drawing near to enter the products of your creative talents in the 9th Annual Art and Hobby Show. For all those who are proficient with the needle (not on your husband), for the bashful sculptress who has created a beautiful bust, for the aspiring artist who has translated his thoughts into pigment and canvas, for the numismatologist who has greedily hoarded his coins like Silas Marner, for the lapidary expert, the taxidermist, the photographer, the model builder, or for that matter, any hobby which can be displayed, the show is the place to air your wares.

The main problem with the show in the past has been the reluctance of the feminine gender to bring forth the fruits of their latent artistic and domestic talents for exhibition at the exposition - or to quote Maurice Dickerson, director and otherwise all around entrepreneur of the show "I want to see what the girls have to offer". Ed's note: "Hmmmm".

This year the Hiwayan Club has made allowances for a separate classification relating to sewing and knitting with equal monetary consideration, but not in competition with the hobby division.

And he led a merry Chase....

by FRED GRAM

Ed's note: The following article is not an example of an extremely unusual event in the work of our patrol officers. These men perform numerous peace officer functions in the course of their work, and should be given recognition for their consistent outstanding efforts.

Minnesota Highway Patrol Officer Myron "Mike" Lofgren was doing patrol duty about 10:30 on the night of Monday, April 24 on State Trunk Highway 95 east of Princeton when he met a car that was apparently exceeding the speed limit.

He followed the car into Princeton, intending to stop it when they got out of town to give the driver a warning about his speed. Instead, he found himself following the car on State Trunk Highway 169 at breakneck speeds toward Milaca.

Lofgren radioed for a roadblock at Milaca. At the speed they were traveling the Milaca officers would have about six to seven minutes to set it up. Highway Patrol Officer Ledell B. Sandberg, cruising in the north end of Milaca, got the message and at once headed for a spot southeast of the city suitable for blocking. As he started out he met Milaca City Policeman Dennis Johnson and signaled him to follow. Johnson raised Mille Lacs County Deputy Sheriff Maurice Rosenthal on his radio and enlisted his help.

The standard Highway Patrol road block -- two cars facing each other with barely room for another car to go between them -- was in operation within six minutes -- seconds before the chase was due there.

The driver of the fleeing car spotted the blockade and turned off on an old county road, with Lofgren in pursuit. Later they left the road and tore across fields, through woods and fences, over drainage ditches and furrows, into a swamp.

By this time all concerned assumed that they had something important and dangerous. The three officers at the roadblock moved around to flank the fugitive and assist their fellow officer. The chase was also observed by another interested person, farmer Lloyd M. Olson, who was wondering what was going on in his woods and meadows.

Up to the swampy area, the cross-country chase had been at speeds of 70. "However", comments the laconic Lofgren, "the drainage ditches, dead furrows and fence had a tendency to slow us down."

The final phase of the chase was in mire in which a walking man would sink ankle deep, but the cars made tracks only about an inch deep until their final slow-down.

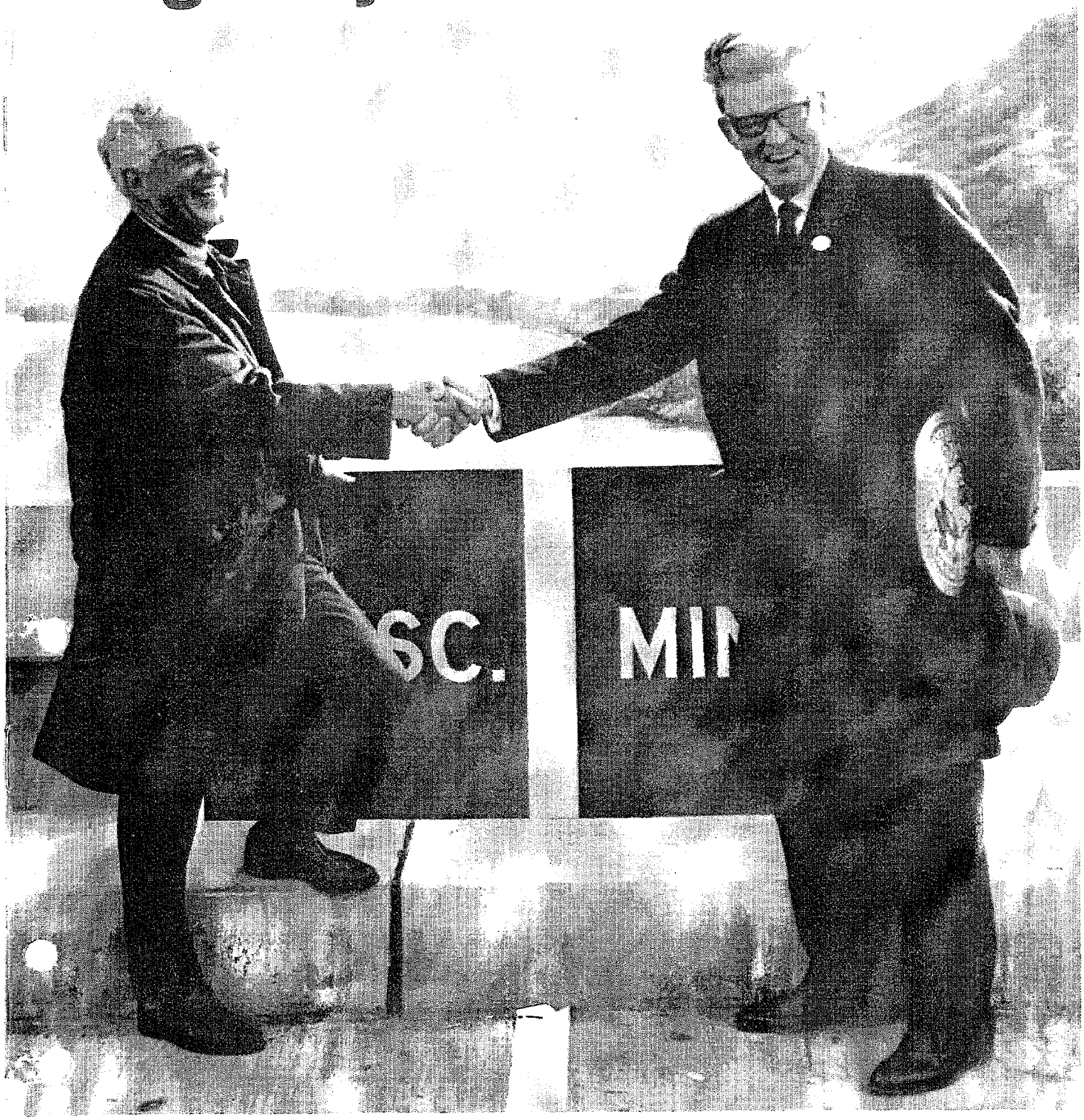
The fleeing driver was 18-year-old James Windorski, who had broken out of the Willow River detention facility, been captured by the Isanti County sheriff's force, and broken out of the Isanti jail. The car had been stolen.

The two cars stopped in the mire less than five feet apart. Windorski jumped out and ran toward the patrol car. Lofgren, out of the patrol car, waited for him with drawn gun, Windorski surrendered.

Farmer Lloyd Olson got his tractor and pulled the two cars out of the swamp. There was remarkably little damage -- none to the patrol car and superficial damage to the other.

The instant cooperation of three police agencies, with just seconds of time margin, was one of the remarkable aspects of the incident. Their quick, sure measures turned a dangerous chase off the highway and resulted in the capture of a fugitive. Lofgren sums it up in another understatement: "Were it not for the excellent co-operation, this case could have turned out quite differently."

Minnesota Highways



Nov 1967

ON OUR COVER

Governors Warren Knowles, Wisconsin and Harold LeVander, Minnesota shake hands signaling the opening of the Interstate 90 bridge at Dresbach. The project linking the two states heralds an important connection in Interstate progress in the Midwest area.

This project was one of many this year which has been opened to Interstate traffic within Minnesota and will facilitate safe and convenient vehicle movement between the two states.

New Retirements

Happy retirement days to:

Earl W. Bentley, Auto. Mech., Brainerd.....**Ray Gould,** Hwy. Dist. Foreman, Detroit Lakes.....**John A. Berg,** Pelican Rapids, Hwy. Mt. Man, Detroit Lakes.....**Ernest O. Anderson,** Hawley, Hwy. Mt. Man, Detroit Lakes.

Recent Deaths

Donald L. Ness, Executive I, Brainerd.....**Rodney Minet,** Hwy. Technician, Willmar.

Minnesota Highways

NOVEMBER, 1967

Published by the Minnesota Department of Highways as an official administrative medium of information to correlate the work of its many employees throughout the state and to stimulate courteous and efficient public service in the maintenance, construction, administration and safety of the Trunk Highway System.

DICK SNOW.....EDITOR

State Highway Building
St. Paul, Minnesota 55101
Phone: 221-3581

VOL. 16, NO. 12

Highway Safety-- A Moral Problem

Evangelist Billy Graham has come up with a thought that the problem with highway safety is primarily moral and spiritual in nature. Knowing current concerns with safety features of highways and vehicles, Dr. Graham nevertheless stated emphatically, "Nearly all experts agree that it is mainly the driver who is responsible for accidents. I am convinced that highway safety is a spiritual problem, and that we, as Christians, have a definite obligation to drive carefully and safely on the highways.

The basic problem has its roots deep in the hearts and minds of people. And if there is to be an answer, it must be found in a moral and spiritual realm."

The paramount issue, he contends, is widespread failure to observe the Golden Rule.

Evangelist Graham believes "wrong attitudes" cause accidents. "One of the attitudes which contributes to death on the highway is selfishness. We are all acquainted with the road hog, the driver who selfishly takes his half in the center of the road. Stop selfishness, and you have done away with a large percentage of highway hazards."

Another such attitude, he feels is "the urge to show off." Said Graham, "Studies show that youthful drivers get into fatal accidents at a rate double that of older motorists. Teenage exhibitionism, which is really a display of immaturity, has sent thousands of young people to the cemetery before their time."

Another wrong attitude, he said, is anger. "Many a husband, not man enough to control his own situation, has tried to prove his manhood by overcontrolling his automobile, thus becoming a traffic hazard. Others become enraged over some trifle, some slight infraction of the rules by another driver, and they fly off the handle, taking their spite out on everybody on the road. Hotheads and overheated motors just don't go together."

To the list, Dr. Graham added "carelessness", observing, "Driving an automobile is a full-time job, in which you are responsible for all the occupants of your car. We must learn that we cannot visit and drive, sightsee and drive, make love and drive, or read and drive."

Finally, he had this to say about the alcoholic driver. "Many people after an accident excuse a man because he was drunk. I want to warn you that God permits no excuses. He makes no allowances. He holds you guilty."
(Ed's note: Guilty or not, or Christian or not, you're still just as dead.)

Q. What sits on a 15 foot pole and costs 8¢ to get into?
(Ans. next month)

Federal Highway Act 1968

A Capsule Summary

by DICK SNOW

EDITOR'S NOTE: The new act states that the sense of the Congress is that no funds authorized for the federal aid system "shall be impounded or withheld from obligation". In addition, the act says only expenses of the Federal Highway administration attributable to Federal-Aid highways can be paid from the Highway Trust Fund. This would indicate no more cutbacks allowed. However, it has not held true, so apparently the language is subject to more than one interpretation.

A general breakdown of the act by categories follows:

INTERSTATE

Completion of the Interstate system has been projected from 1972 to 1974. A total Interstate appropriation of $4 billion annually for fiscal 1970 through 1973 was passed plus $2.2 billion for fiscal '74. This is an increase of $8.34 billion over the previous cost to complete figures. Up to 1,500 additional Interstate miles can be added to the system. This feature is aimed at urban areas.

ABC SYSTEM

$1.1 billion is provided for Primary-Secondary systems and extensions within urban areas for fiscal 1970-71. This figure was raised from $1 billion. TOPICS (Traffic Operations Program to Increase Capacity and Safety) program within cities was authorized $200 million each fiscal '70 and '71. This money is to be used on Primary-Secondary system extensions inside cities.

FEDERAL ROADS

$547.5 million has been appropriated for all Federal Roads; forest highways, park roads, Indian reservation roads, public land roads and bridges.

HIGHWAY BEAUTIFICATION

This section continues a 10% penalty for non-compliance of billboard and junkyard control. It also authorizes $25 million out of the U.S. Treasury general fund for fiscal 1970 including $2 million for billboard control, $3 million for junkyard control and $20 million for landscaping and scenic enhancement. There is an additional $1.2 million earmarked for administration.

HIGHWAY SAFETY PROGRAM

The safety program continues support of safety programs begun under the Highway Safety Act of 1966 by authorizing $75 million for fiscal 1970 and $100 million for fiscal 1971. The penalty of 10% for non-compliance was extended from a deadline of December 31, 1968 to December 31, 1969.

HIGHWAY RELOCATION ASSISTANCE

Up to $5,000 can be paid over fair market value for homes, and $5,000 over fair market value for businesses in the path of Federal Aid Highways for relocating. Tenants will receive up to $1,500 to rent or lease comparable accommodations elsewhere.

OTHER PROVISIONS

Financing within 5% of ABC authorizations for fringe parking facilities in urban areas...aimed at existing or planned mass transportation facilities.

Establishment of a revolving fund in U.S. Treasury of $100 million annually for advance right-of-way acquisition...construction must follow within 7 years.

Prevailing wage rate clause of Davis-Bacon Act, which now covers only Interstate, expands to ABC construction and urban extensions.

State and local governments will undertake statewide highway classification studies...to report to Congress by January, 1970.

Can no longer use public parkland, recreational areas, wildlife refuges or historical sites for roads...unless there is no other alternative.

No toll roads can be constructed on Interstate system... does not include toll bridges or toll tunnels.

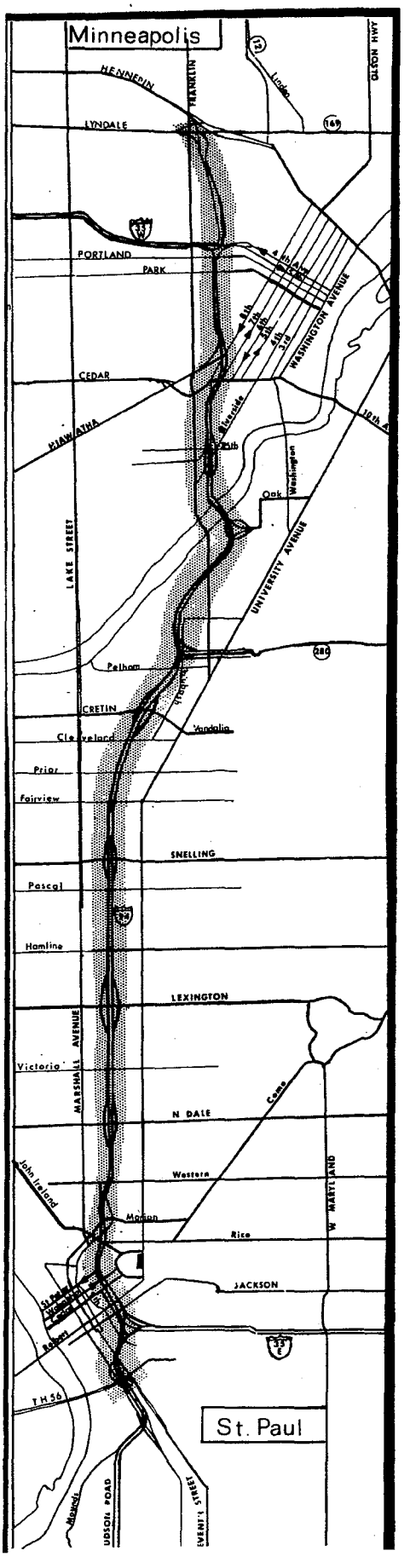
Equal employment opportunity.

Bridge inspection.

Emergency highway relief.

Construction by States in advance of apportionment.

Consideration of urban impact of highways by State highway departments.



Tieing the Twins

by DICK SNOW

Interstate 94 (the Metro Freeway) between Minneapolis and St. Paul was opened to traffic Monday, December 9. The opening was accompanied with a gala ceremony including speakers Governor Harold LeVander and Commissioner N. T. Waldor. The opening jointly sponsored by the Chambers of Commerce of the Twin Cities took place on I-94 by the Frank Lloyd Wright house between Minneapolis and St. Paul.

The chilly day did not cool the spirits of those in attendance however, and State and local politicians made the most of the occasion by spreading good will before local television cameras.

Two television stations paid tribute to the occasion by airing special shows dealing with the opening and its meaning to the twin towns. It is now possible to travel the 11.2 mile segment between Hennepin Avenue in Minneapolis to the Capitol interchange in St. Paul in less than 15 minutes. In addition, traffic will be relieved on heavily traveled University Avenue (TH 47).

A total of 88 bridges, two tunnels and a price tag of $80 million including the engineering and right of way costs went into the culmination of this all important project.

The vertical map in the left hand column illustrates the freeway with major intersections and connections.

Peterson Named District 6 State Aid Engineer

by DICK SNOW

Karl Peterson, LeCenter, LeSueur County Engineer, was appointed District State Aid Engineer in District 6 effective July 3. He recently moved to Rochester where he is headquartered.

Peterson was born and raised in Minneapolis and is a graduate of West high school. He received his degree in aeronautical engineering from the University in 1933. In 1934, Peterson joined the Minnesota Highway Department in the maintenance division and was employed in Hopkins and Golden Valley until 1958. He was in the U.S. Navy during World War II from 1943 to 1946.

Peterson and his wife, Murilyn, have two daughters, one married and one living in Minneapolis. His hobby is golf.

Freeway Ramp Identification System Tested

The Minnesota Highway Department is presently experimenting in a test study of freeway ramp identification. This identification system was created to determine exact location terminology for use by department personnel, emergency services and the motoring public in case of emergency. This study is taking place in the Capitol interchange complex of Interstates 94 and 35E. Close scrutiny of the system will provide information for any needed changes, and general success will allow the system to be extended to all freeway interchanges within the state.

The basic intention of the system is to assign a logical number and letter designation to each freeway ramp in the state as a shorthand method of indicating location.

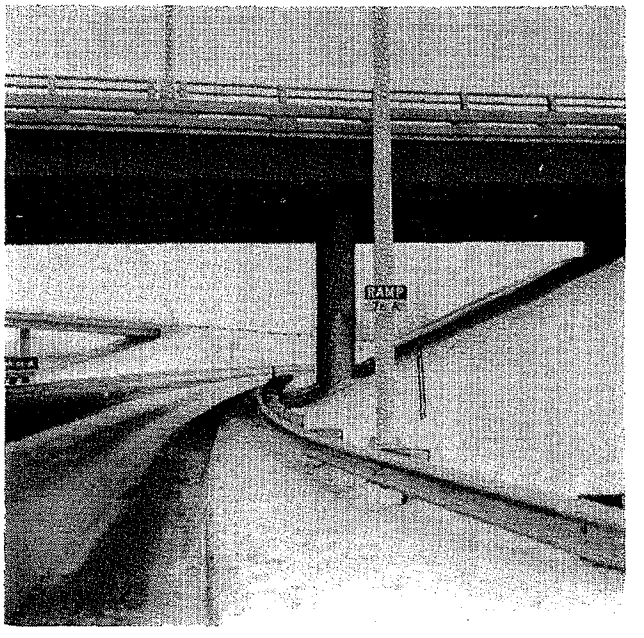
The system features the use of a distinctive 18" x 12" green and white sign to identify ramp segments of a freeway. The top half of the sign identifies a roadway as a RAMP, a LOOP, or a LEG, depending upon the geometrics of the interchange. The bottom half shows an interchange number (freeway interchanges in Minnesota are numbered consecutively from west to east and from south to north) and a letter to specify the interchange segment.

The letters A, B, X, and Y are most commonly used, with A and B paired on the eastbound or northbound roadways of a freeway and X and Y paired on the westbound and southbound roadways. For the more complex interchanges, other letters would be used. Where directional signing includes a cardinal letter designation (N for north, E for east, etc.), the cardinal letter is used for ramp identification.

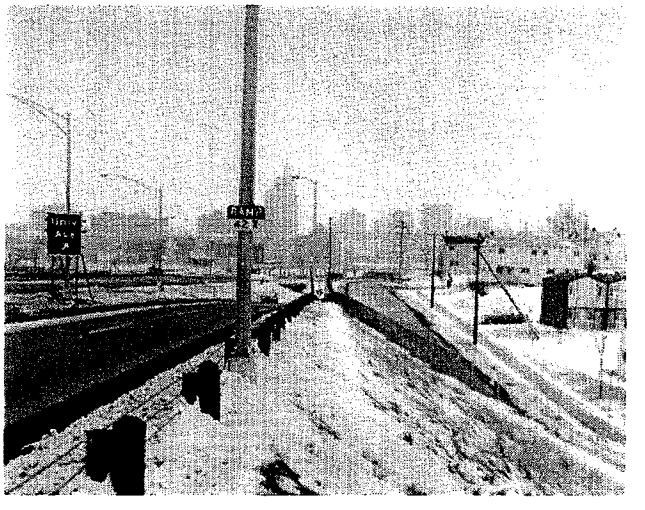
The system being studied is the joint creative effort of Minnesota Highway Department maintenance engineers P. L. Chandler and B. F. Himmelman, Major Bert Johnson and Captain Stanley Rotegard of the Minnesota Highway Patrol, and J. W. Anderson, Traffic Research Engineer. Several systems were evaluated in the discussion stage, including a grid system. The most common fault of the rejected systems was that mobile equipment operators using them would have to rely on too many maps and charts. The system being studied minimizes the need for maps and charts and is easily memorized by persons using it.

The study area was opened to traffic on November 22, 1967. Soon thereafter meetings were held to explain the ramp identification system to representatives of local police and fire authorities, ambulance services, tow truck services, and the news media. Maintenance personnel are being trained to use only the ramp identification number in normal conversation about a location.

The anticipated benefits of the system are numerous. For example, it has helped highway department operating personnel in establishing travel routes for plowing snow, for salting and sanding, and for location of road repairs, pavement markings, sign maintenance, and a host of other maintenance tasks. In accident situations, perhaps complicated by traffic jams, it should help drivers of ambulances, fire and rescue equipment, and auto wreckers to make their way quickly and efficiently to the site.



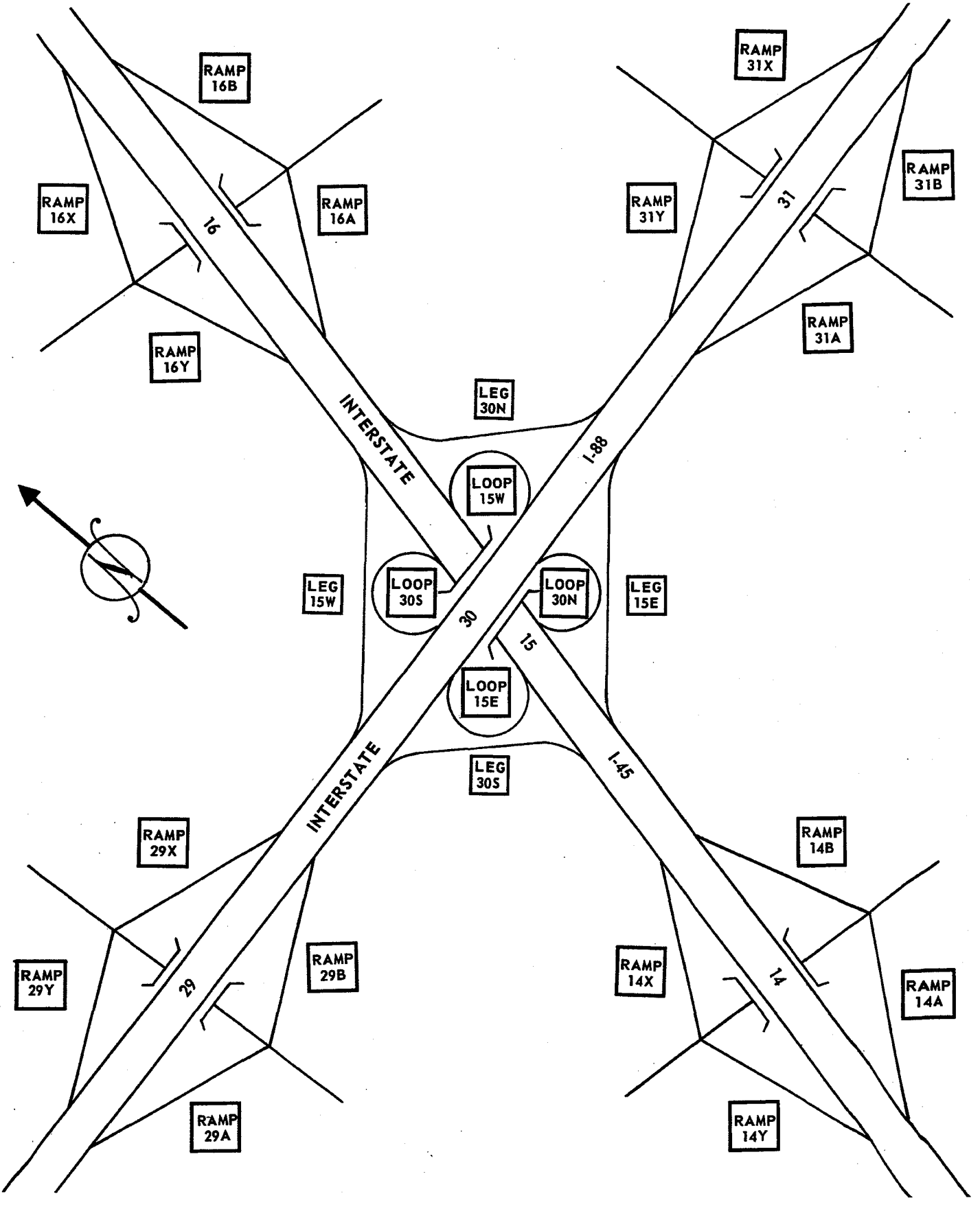
Ramp 76A is an egress ramp off eastbound I-94 to 10th Street in St. Paul.



42X is an off ramp from southbound 35E to University Avenue (TH 47).

Results of the system to date have been favorable, but evaluation of the experiment is continuing and department officials feel it is too early to say whether the system will be extended throughout the state.

The diagram on the following page illustrates how the system would work on two intersecting freeways.


RAMP 16B
RAMP 16X
RAMP 16A
16
RAMP 16Y
INTERSTATE
LEG 30N
LOOP 15W
LEG 15W
LOOP 30S
30
LOOP 30N
LEG 15E
15
LOOP 15E
LEG 30S
INTERSTATE
RAMP 29X
RAMP 29Y
29
RAMP 29B
RAMP 29A
RAMP 31X
RAMP 31Y
31
RAMP 31B
RAMP 31A
I-88
I-45
RAMP 14B
RAMP 14X
14
RAMP 14A
RAMP 14Y

FEDERAL AID HIGHWAY PROGRAMS

Since the first Federal Highway Act of 1916, federal aid has been an important factor in the construction and improvement of the nation's primary and secondary systems of highways. From 1916 to 1956, revenues from all federal excise taxes on motor fuels, motor vehicles and associated products were placed in the general fund of the U. S. treasury, and apportionments for federal aid to the states for highway improvements were made from this fund.

However, the Federal Aid Highway and Revenue Acts of 1956 created a highway trust fund for which most of the highway related excise taxes were earmarked. The Trust Fund was made the sole source of money for ABC and Interstate highway programs from 1957 to 1972. Thus the Federal Aid Highway Program was put on a wholly highway-user-supported, pay-as-we-build basis.

The "use" taxes are collected on both the state and federal levels on motor fuels, motor vehicles and associated products and are so-called because motor vehicle owners pay the taxes in proportion to their use of the highways. The Department of Transportation estimates that the average motorist spends 11 cents per mile in car expenses but only 1.2 cents goes for taxes to build the highways.

The state must also collect use taxes since the state must pay 10 percent of the cost of the Interstate System and 50 percent of the cost of construction on primary and secondary highways.

Basis for Federal Apportionments

Federal money allocated to the states for the ABC - or regular trunk highway - program is based on three sets of conditions. For primary roads, amounts are determined by three factors: one-third based on the area of the state in direct ratio to the area of all states; one-third based on the population of the state in direct ratio to the total population of all states; and one-third based on the mileage of RFD mail routes or Star mail routes. Combinations of these three factors determine the amount the state will be allocated for primary roads.

Federal money for secondary roads is based on the same set of factors, except that the population figures apply only to the rural population of the state in direct ratio to the rural population of all states.

Federal money for urban roads is based on the population of urban areas in Minnesota which contain 5000 or more people in direct ratio to the total urban areas of this size in the country.

Federal aid for the Interstate systems is apportioned as follows: Surveys were conducted in each state to show the total estimated cost to complete the system in that state. These figures are reviewed by the Bureau of Public Roads, submitted to Congress, and the money is apportioned according to these needs, based on the estimated cost for the state in direct ratio to the estimated cost for the entire United States.

ADDITIONAL FEDERAL AID HIGHWAY PROGRAMS

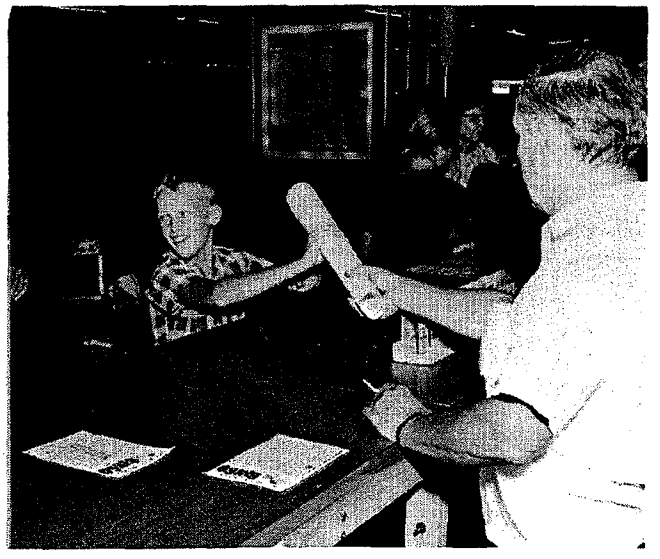
National Forest Highways have been established in seven of the counties in the northern part of the state. Trunk Highways and County State Aid Highways can be designated on the same location and qualify for improvement using Forest Highway Funds. The allocation of such funds amounts to about $450,000 per year and is released by agreement on the basis of 90 percent Federal and 10 percent local funds for improvements on the Forest Highways. The location of the projects is determined by a committee made up of representatives of the Federal Forest Supervisor, Bureau of Public Roads and the Commissioner of Highways.

Access Defense Projects cover improvements of roads leading to installations of a military or defense activity. Upon request of the military, the county engineer makes the survey, prepares the plan and submits it to the State Aid Division for processing. The total cost of these improvements is generally paid for from Access Defense Funds.

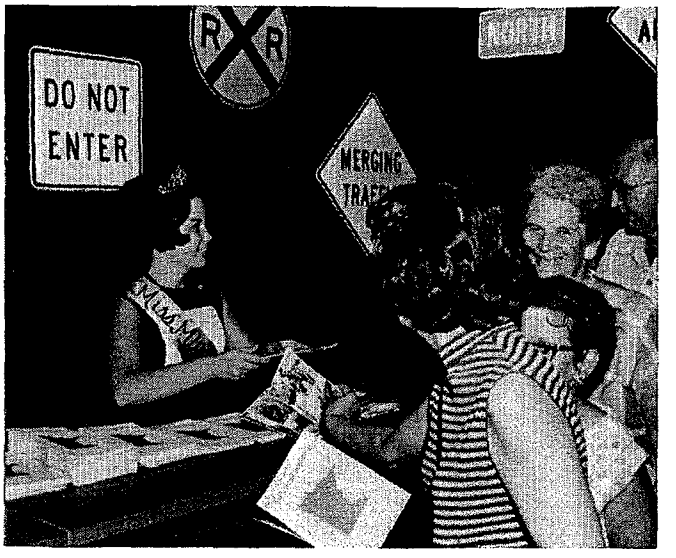
Emergency Relief Funds are those funds approved for use on Federal-Aid Highways on declaration of a disaster by State and Federal officials. On Federal-Aid Secondary Highways, the county engineer submits programming and estimate information and upon approval by the Bureau of Public Roads, Federal funds are available. Emergency Relief Funds are available for use on a 50-50 basis.

All of the Federal-Aid Programs that are Federal-Aid Secondary projects are reviewed and handled in the State Aid Division.

Highway Department Displays and Activities At State Fair



Jim Jackson of Arts and Exhibits awards 1849 Territorial Map to an obviously delighted bingo winner.



"Miss Minnesota Highways", LeAnn Bobleter, distributes maps to Fair visitors.

BINGO

Highway bingo was a popular event with visitors at the State Exhibits Building with the winning player being awarded a replica of an 1849 territorial map. In lieu of numbers, various traffic sign emblems were inscribed on the bingo cards with the operators of the game describing the meaning of them. Often the caller would refer to the emblems as "the signs of life". It was instructional as well as fun for the players.

The "bingo" innovation was the "brainchild" of Gene Luebker and Jim Jackson of the Arts and Exhibits unit of the Public Information department. Callers for the game were Gene Farrell of the Safety division and Maurie Dickerson of Arts and Exhibits. Karl Kester, also of Arts and Exhibits, ran the projector which flashed the emblems on a screen for the players.

Over 700 winners of bingo games received replicas of the 1849 Explorers Map of the Minnesota Territory.

MAPS AND MANUALS

The Drivers License division gave free vision tests, distributed drivers' manuals to those who requested them and disseminated information pertinent to licensing. Thousands of highway and freeway maps of the state were given away to visitors with much help supplied by girls whose superiors allowed them to assist. A hearty thanks to these people. Information about highways was given to visitors who requested it. LeAnn Bobleter, "Miss Minnesota Highways", from the Golden Valley District office assisted with the latter operation on two different days.

MODELS

There were four models exhibited of the Capitol area, the Hennepin-Lyndale bottleneck area in Minneapolis, the tunnel under construction at the same place, and of the Capitol Approach area in St. Paul. The bottleneck area received the most attention.

SAFETY RULES FOR FREEWAY DRIVING

An exhibit giving ten rules to follow when driving on a freeway were as follows: (1) Accelerate to freeway speed before entering from the acceleration lane. (2) Choose the lane that is travelling at your rate of speed and stay there. (3) Observe minimum as well as maximum speed limits. Drive in harmony with other traffic. (4) Avoid tailgating. A safe gap is one car-length for each ten miles of speed. (5) Avoid sudden maneuvers. Signal all maneuvers well in advance. (6) Watch out for trouble ahead. Be prepared to slow down, change lanes or take to the shoulder and stop. (7) If you have car trouble, move as quickly as you prudently can onto the shoulder and stop. Wait for the Highway Patrol. Don't leave your vehicle. (8) Read directional signs. Move into proper lane for exit well in advance of intersection. (9) Maintain your speed until you enter the exit lane. Then decelerate to posted ramp speed. (10) At all times, drive to avoid accidents—those that might be your fault and those that the other driver may cause. Drive defensively.

INTERSTATE OF MINNESOTA

Shown was, when completed by the target date of 1975, Minnesota's 914 miles of interstate and defense highways will be the "main line" of a vast network of state and county highways serving every section of the state. The

program was started in 1956. A total of $755 million in state and federal funds had been expended through June 30, 1968 on interstate construction. Estimates were that an additional $525 million would be needed to complete the interstate system.

SEAT BELTS

On display was information pertaining to seat belts.

Belts can be installed by any competent garage man who will obtain the instructions prepared by the manufacturer of your vehicle. Insist that he follow these instructions.

There are three reasons why you need a seat belt: (a) A seat belt keeps you inside the vehicle. Some persons have freakishly survived accidents by being thrown out of their vehicles but statistics show that you are five times more likely to be killed if you are thrown out. (b) A seat belt keeps you in place in the vehicle. It prevents you from being violently thrown against the dashboard, windshield, steering wheel or other occupants. (c) A seat belt keeps you in control of the vehicle. It allows you to stay in position where you can control directions or apply the brakes. It prevents you from sliding across the seat.

Each year vehicles lead 55,000 persons to death and another 2,000,000 to disabling injury. About one-third of the deaths could be prevented and injuries could be reduced by approximately the same amount if everyone used seat belts.

Stopping within ten feet at 40 miles per hour means that there is a strength equal to five times the body weight needed to keep you from hurtling forward. You can't stop yourself by yourself, hence seat belts.

Cornell University research has found that only two out of every 1,000 cars burn after accidents and even if the car should burn Connecticut State Police tests show it takes only one second longer to get out of the car if you are wearing a seat belt.

A crash research scientist has eight children and each of them, except the baby, wears a seat belt. Any child of four or over should easily be able to open a seat belt in an emergency.

Rear seat belts are needed if people regularly occupy your rear seat. In a bad head-on crash, the rear seat passenger lands harder.

Seat belts are not uncomfortable, on the contrary they provide peace of mind, keep you more alert and add to comfort when the vehicle makes a turn.

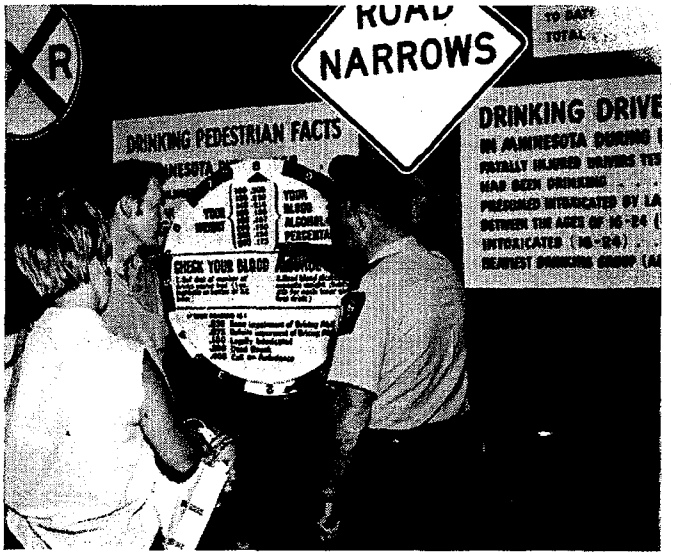
A seat belt can almost never injure you, itself, if it is kept snug and worn properly.

Motor vehicle accidents cost $5,900,000,000 a year.

MOVIES

Free safety films were shown daily in the theater, all in color. Film titles were Paced to Live, Step Lightly, Mystery Crash, Whiplash, The Day the Bikes Disappeared, Defensive Driving, Verdict at 1:32, Safely Walk to School, Auto Tire Hydroplaning, Shade of Difference and The Choice Is Ours.

FACTS ABOUT ALCOHOL



Highway Patrol Officer demonstrates wheel operation to Fair folk.

The Minnesota Highway Department had on display an attractive wooden wheel which could be turned and this showed the amount of liquor consumption that it would take for a person of a given weight to have some driving impairment or degree of intoxication. The legal intoxication index in Minnesota is .10 per cent in the blood.

For example, based on the drinking of a number of bottles of 3.2 beer or a number of one-ounce highballs, persons would be considered legally intoxicated according to the following: A person weighing 100 lbs. with three drinks, those weighing 120 to 140 lbs. with four, 160 to 180 lbs. with five, 200 to 220 with six and 240 with seven.

To be considered dead drunk a 140-pounder would have imbibed eight drinks, a 160-pounder nine drinks and a 180-pounder, ten. One would be deemed drunk with a blood alcohol content of .20 per cent. The decision that an ambulance should be called is when the content hits .40 per cent.

There is some impairment in driving ability when the blood alcohol content reaches .05 and there is definite impairment when it is .075.

One may subtract .015 per cent of blood alcohol content for each hour following the consumption of the first drink.

RAMP METERING SUCCESSFUL

Preliminary results on the ramp metering study conducted recently on I-35E by the Minnesota Highway Department are now available. The report being prepared will contain the following information with only slight possible variations:

The study area was on Interstate 35E inbound during morning peak hour traffic between County Road B and the downtown area of St. Paul. Traffic volumes and travel times were recorded on the freeway itself and on three alternate routes - Rice Street, Jackson Street, and the Mississippi Street corridor. Before and during the ramp metering, various techniques were employed including moving car travel times and aerial photographs taken from one of the Highway Department's patrol planes. Early in the study, visual observations gave the impression that during metering the freeway traffic moved more smoothly than it had without metering. The incidence of brake light activity was reduced, particularly with respect to the vehicles entering from the ramps. Preliminary analysis of the data confirms this original observation – that the quality of traffic flow had been improved during the metering operation.

It was found that through traffic will cooperate with a single car merging from the ramp, but has a tendency to be hostile to platoons of cars entering from the ramp. An entering platoon temporarily chokes traffic and causes shock waves, evidenced by brake lights and temporary stoppages, whereas single car merges are accommodated smoothly without the shock waves. The metering device (the traffic signal which metered the ramp), prevented surges of traffic from entering by spacing them out one at a time at the five-second intervals.

The increase in the quality of the traffic flow trimmed approximately five percent off travel times from County Road B to downtown. In this sort of a study a value of $2.82 per vehicle hour is used as the value of time to the motorist and passengers. Although only a small increment of time per vehicle is involved, the 5,000 vehicles per hour would save approximately $14,000 a year if the metering were continued, not to mention the savings on the wear and tear of the vehicle and the savings on accident costs that would accompany a higher quality flow. Another factor to which a cost value cannot be attributed would be the wear and tear on drivers' nerves.

During the course of the metering there was little or no diversion to the alternate routes, indicating successful satisfaction of the demand of the ramp traffic which did not change travel patterns. Analysis of the individual ramps indicates that there is no substantial justification for continued metering at the Roselawn entrance ramp since volumes on the ramp and on the freeway at this point are sufficiently below capacity to provide good operations. At both the Wheelock Avenue and the Maryland Avenue entrance ramps metering helped traffic to move ahead smoothly and safely, as evidenced by the absence of brake light activity in the merging areas.

The data indicates an unusual amount of weaving traffic downstream from the Maryland ramp, apparently due to vehicles maneuvering to get into place for their respective exits. This weaving activity is normal and can be expected to cause some congestion from time to time, depending on travel patterns and time of day.

The study showed that the commuter driver quickly comprehended the metering operation, and that if similar installations proved to be necessary in the Twin City area there should be no problem of driver adaptation. It was noted that in the week following the completion of the metering study there was no carry-over effect and the original conditions were restored.

Although metering of the Wheelock Parkway and Maryland Avenue ramps would improve the traffic flow, present plans do not call for installation of permanent meters as some relief is anticipated upon completion of the northeast segment of I-694. Study results confirm the benefits of metering, and the Department envisions installation when and where it will improve the quality of traffic flow. Studies of a similar nature will be made at other locations in the Metropolitan area to determine the extent of the problem and to establish warrants and priorities for installation.

Jack Anderson, traffic research engineer, was the highway department employee who devised the project and provided results for further study.

Department Receives Right Of Way Funds

Participating in the check presentation are left to right, Assistant Commissioner, Design and Right of Way Division, Leo A. Korth; Commissioner of Highways, N. T. Waldor; W. W. Fryhofer, Division Engineer, of the Federal Highway Administration; and R. G. Brennan, Director of Right of Way Operations.

The Minnesota Department of Highways received a check in the amount of five million dollars from the Federal Highway Administration representing a partial payment towards the state's future total allotment of appropriated and highway user trust funds, to be earmarked for highway right of way acquisition.

The check was presented to Commissioner N. T. Waldor by W. W. Fryhofer, division engineer of the Federal Highway Administration. Also on hand to note the receipt of the check, as representatives of the Department of Highways, were Leo A. Korth, assistant commissioner, and R. G. Brennan, director of Right of Way Operations.

This money was made available to the state from a special revolving fund created by Congress in 1968 which permits the several states to borrow money for this purpose on a non-interest bearing basis.

Although actual construction is not presently scheduled until 1974, this money has been designated for the acquisition of properties to be utilized in the construction of I-335 (north ring) and the bridge which will cross the Mississippi River.

This roadway will serve as a connector between I-35W in northeast Minneapolis and I-94 in the north area of the city. By the selection of this routing the cost of bridging the river is considerably reduced due to a shorter span and it also avoids encroaching upon Nicollet Island.

It is advantageous to the state and owners to acquire properties at this time and thereby realize a twofold accomplishment: the properties would be purchased at their current value in a rising real estate market, and those who are to be relocated will have a reasonable period of time in which to consider future plans through possible lease back arrangements with the state. This will permit affected parties to continue occupancy at their present location until the property is needed for road construction. Under the provisions of state law, 30 per cent of the monies received by the state from a lease for this purpose will be paid to the county in lieu of taxes.

SAVINGS SAVANTS

Three department employees have qualified for merit awards from the State Employee's Merit Award Board. This brings the number of persons, from our department, winning awards, this fiscal year, to 23.

Robert J. Barry, formerly of our department, earned a certificate of award and a $67 check for his suggestion which concerned the mailing of license plates by Motor Vehicle. He noted that seasonal help was employed to weigh each license plate that was mailed because the tolerance in the steel used resulted in the plates weighing different amounts. His original suggestion to punch slots instead of round holes for the license plate bolts, in an effort to decrease the weight, was not adopted. Instead, as a result of his suggestion, a different solution was found for the problem. The officials at the State Reformatory, where the plates are manufactured, found the manufacturers of the steel were changing tolerances so that it would be possible to produce plates of standard weight. As a result of this idea, the reformatory became knowledgeable about the change in advance of the distribution of plates. Savings to the state will amount to $2,000 yearly in salary and postage costs.

Henry Helgeson, monthly laborer, Maintenance Area 1A, Duluth, questioned the purchase of five ton hydraulic jacks with new trucks since they were not being used. These jacks have been eliminated from the specifications. Yearly savings to the Highway Department amount to $795 and Helgeson received a certificate and $40 for his idea.

The installation of windows in the fire doors at 1246 University Avenue was suggested by Bruce Hall, senior highway technician, District Nine, St. Paul. He noted that employees were being hit when they walked by the doors as they were opened. His idea should prevent serious possible injury to employees. He received a certificate and $10 for his suggestion.

Recent Deaths

Arlo Jakobson, Albert Lea, Heavy Equipment Operator.....Gaylord D. Parker, South International Falls, Landscape Maintenance Man.

INTERSTATE OPENINGS

Stretches of Interstate highways, approximating 63 miles, were opened to public use in Minnesota during the past month. These were a 32-mile segment on I-94 between Moorhead and Rothsay, (October 28); a 12 mile section on I-90 between Petran and TH 13, in the Albert Lea area, (November 4), and two connecting sections in St. Paul's north suburbs comprised of 14½ miles of I-35E between the I-694 junction in Little Canada and the I-35W junction south of Forest Lake, and 4½ miles of I-694 between the TH 36 intersection in Oakdale eastward to the I-35E junction in Little Canada, (November 16).

Sue Highberg (Miss Minnesota Highways) is pictured at the Rothsay Interchange with an I-94 insignia constructed of materials ordinarily used in making a parade float.

I-94

Shown near Moorhead are (from left to right) Highway Commissioner N. T. Waldor, Representative Douglas H. Sillers, Moorhead Mayor R. M. Stordahl, Senator William B. Dosland, Miss Minnesota Highways (Sue Highberg) and Governor Harold LeVander. (Note the ribbon falling away as it was cut.) Standing on the platform is Richard E. Perry, President of the Moorhead Chamber of Commerce.

Governor Harold LeVander, Commissioner N. T. Waldor and Miss Minnesota Highways, Sue Highberg, participated in the Moorhead - Barnesville - Rothsay dedications of I-94. State Senator William Dosland and Representative Douglas Sillers, both of Moorhead, and Representative Arlan Stangeland of Barnesville and John Kemp, regional federal highway administrator, Kansas City, Mo., with local public officials and civic leaders shared roles in the dedication ceremonies.

It was noted by Governor LeVander that users of Interstate highways have a traffic fatality rate of half that on conventional roads.

Tom Sandhei, teacher, brought about 40 fifth and sixth graders from the Sabin elementary school to the dedication ceremonies held near the interchange of Clay County Road 11, four miles east of Moorhead. Governor LeVander signed autographs for the students and he and Princess Sue used the big scissors to cut the ribbon at this point. Similar ceremonies were held at Barnesville and Rothsay.

Grouped around a giant imitation potato at the Barnesville Interchange are (left to right) Ruth Thompson, Miss Barnesville; Connie Peterson, Rothsay Homecoming Queen, and Sue Highberg, Miss Minnesota Highways.

The Moorhead, Rothsay and Barnesville high school bands played at ceremonies at their respective locations. Color guards, made up of veterans' organizations, were on hand too.

Following on-the-road festivities, a luncheon program was held at the Galaxie Supper Club, east of Barnesville. At the program Commissioner Waldor, in emphasizing the need for modern roads, said, "Highways are the backbone of our economic system. They are essential for industrial and agricultural production and marketing, for tourist trade and for commercial and social contacts."

I-94 is now complete, in Minnesota, from the Red River of the North at Moorhead to Albany in central Minnesota.

I-90

A 12-mile stretch of I-90 between Petran and TH 13 near Albert Lea was opened to traffic without a formal dedication on November 4. The total cost of the project was $8,290,000. Resident engineer for the job was Louis C. Anderson with Herbert Seline being the project engineer.

I-35E AND I-694

A cake on which the Interstate highway system in Minnesota was outlined in the frosting was served at the reception in Forest Lake, climaxing the dedication program November 16 in opening sections of I-694 and I-35E. Pictured with Governor LeVander as he cut the cake are, left to right, Miss St. Paul (Cynthia Stillwell), Miss Minnesota Highways (Sue Highberg) and Miss Forest Lake (Judy Pfingsten).

Two connecting freeway sections in St. Paul's north suburbs, Interstate Highway 35E and Interstate Highway 694, totaling 19 route miles, were opened to traffic on November 16 following dedication ceremonies.

The 14½-mile section of I-35E runs from the junction with I-694 in Little Canada north to its convergence with I-35W just south of Forest Lake. The 4½-mile segment of I-694 extends from the Trunk Highway 36 interchange in Oakdale eastward to its junction with I-35E in Little Canada. This link completes I-694 as a designated freeway from its southern terminus at I-94, east of St. Paul, to its western terminus at I-94, north of Minneapolis.

Governor Harold LeVander was assisted by Miss Forest Lake (Judy Pfingsten) and Miss Minnesota Highways (Sue Highberg) at the ribbon cutting November 16 marking the formal opening of I-694 and the northerly section of I-35E, two segments of the Interstate Highway system in the area north of St. Paul.

Governor Harold LeVander and Commissioner of Highways N. T. Waldor joined public officials and civic leaders of the area in ribbon-cutting ceremonies. Site of the dedication was in the eastbound lane of I-694 and Edgerton Street, Vadnais Heights.

The Chambers of Commerce of Forest Lake, North St. Paul, St. Paul and White Bear Lake sponsored the civic celebration marking the opening of the freeway sections, key links of the Interstate highway system.

Construction of the 19 miles of I-694 and I-35E, including grading, paving, fencing, signing, lighting installations and the building of 28 bridges approximated $16.6 million, with 90 percent from Federal Highway Trust Funds.

FORMS WORKSHOP HELD HERE

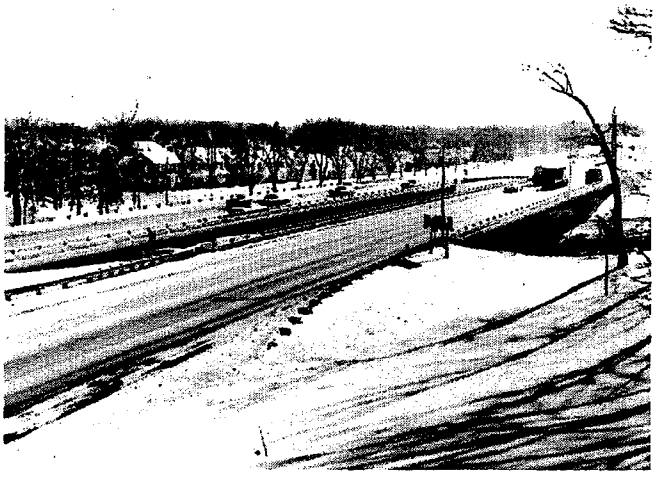
The Minnesota Highway Department acted as host to the Minnesota Forms Control Workshop on November 10. David Hodgins, administrative analyst II in Management Services, who is vice president of the organization, was our host representative. The Minnesota Forms Control Workshop has representation from both governmental agencies and private enterprises. The once a month meetings are of an informational-technical nature concerning forms management problems.

Speakers at the gathering (approximately 45 persons were in attendance) were Hyman H. Cohen, state printer, and Lester Francis, representative of Holden Business Forms of Minneapolis.

and 50 per cent state funds. For construction of the new Interstate system, the ratio is 90 per cent of federal funds matched by 10 per cent state funds.

Of course, all highways which are built with federal funds are subject to federal specifications and restrictions.

THE INTERSTATE SYSTEM



Present day scene on I-35W at Minnehaha Creek in south Minneapolis.

The Interstate system was born in the Federal-Aid Highway Act of 1944, but because of World War II, no definite steps were taken until 1954. The Federal-Aid Highway Act of 1956 actually activated the program and authorized apportionments for its construction.

The Interstate system is a network of super highways connecting every large community in the United States. It is being built as a defense measure as well as for the necessity of handling the ever-increasing highway traffic based on estimates of our needs up to 1975. This network was laid out on a national basis and submitted to the states for approval and recommendations. In total, it will comprise over 42,500 miles of multi-lane divided freeways, of which Minnesota will build 914 miles. The expected completion date of the program is 1977 at a national cost of more than 50 billion dollars.

When completed, this system will allow travel between all major centers of the country over multi-lane, high-speed highways with no grade intersections. Also, because of a controlled access feature (traffic will not be allowed to enter or leave except at interchanges) traffic can move in an uninterrupted flow from coast to coast.

The Minnesota State Highway Department does not actually build highways. Projects are planned, surveyed, designed, and supervised by the department, but actual construction is accomplished by private road-building contractors who are given the projects on the basis of the lowest bid.

When a segment of highway is to be built, the department publishes the necessary information, and contractors submit sealed bids which show how much they will charge to do the work. At a specified time, all bids are opened and the contractor submitting the lowest bid is awarded the job. The time and place of the letting (when the opening of bids takes place) is published, and all interested parties are invited to attend.

Ordinary maintenance of Minnesota highways is handled by crews employed by the Highway Department. These crews are divided into 16 districts (maintenance areas) throughout the state, and handle all work within them.

Construction and maintenance of bridges is handled in the same manner.

SUMMARY

The planning, construction and maintenance of highways and bridges in Minnesota is a continuous job. There is always a demand for new facilities, either to replace old ones or to establish new routes. The day will never come when there will not be a great need for highway and bridge work in the country. The demands become greater each year, with the increase of automobiles, trucks and other vehicles on the highways, the curtailment of railroad lines in many areas, and the unlimited horizons of today as compared with those at the turn of the century.

PERCEPTIVE PEOPLE

The State Employees Merit Award Board has announced that Highway Department employees earned 60 of the 166 awards presented by the board in 1970. Savings of $34,428.33 to the state resulted from the adoption of the ideas.

Six more of our employees have recently earned awards.

Sandra Thomas, highway technician, Duluth, suggested that plastic covers be purchased to cover the field diaries to prevent the necessity of cleaning them and, at times, the redoing and Leroy lettering of them. She received a certificate of award and $10 check for the suggestion.

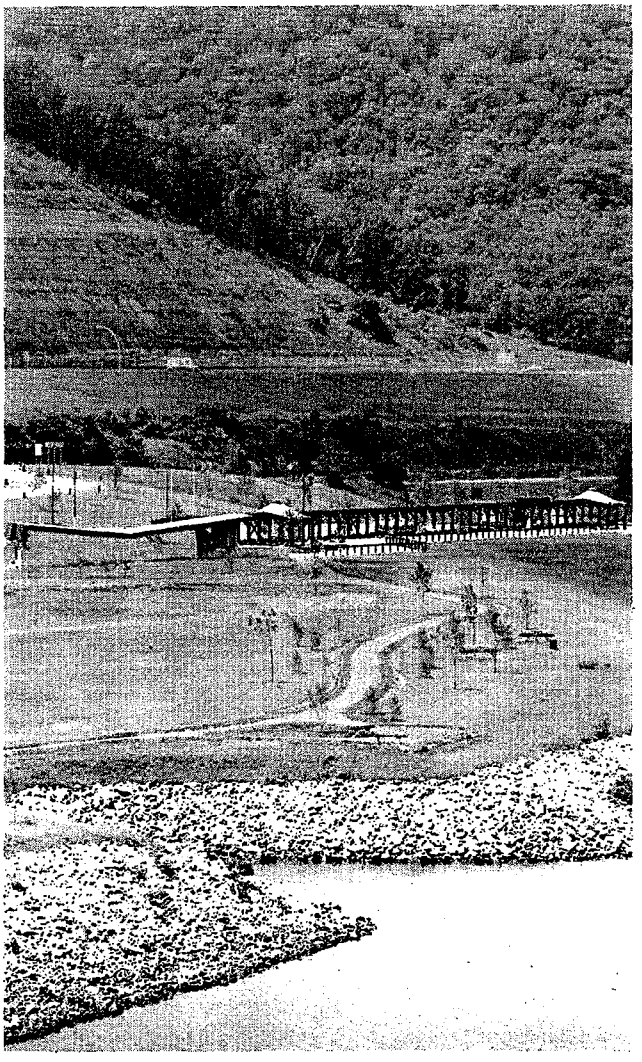
His idea to change the strength requirement in wire ties for chain link fencing resulted in Bruce Kastner, highway technician, District Nine (St. Paul), receiving a certificate and a check for $10. Valid usage of his idea is limited but some maintenance expense will be saved.

Jim Maas, highway maintenance supervisor, and Fred Haas, office manager, both of Golden Valley, made the joint suggestion that the small tools be color-coded to help in internal control. They each received a certificate of award. Fred has been doing "right well" in the number of suggestions made by him that have been adopted.

LeRoy Mullerleile, senior systems analyst, Data Processing Section, Central Office, suggested that the phone numbers be typed in the office memorandums. "Oz" received a certificate and $5 for his idea.

A certificate of award was received by Andrea Kortan, intermediate clerk steno, Brainerd, and District Three correspondent in this publication, for her suggestion for a change in the form letter 2128A so that there was a sixth copy.

DRESBACH CENTER DEDICATED



The scenic Dresbach Rest Area and Information Center.

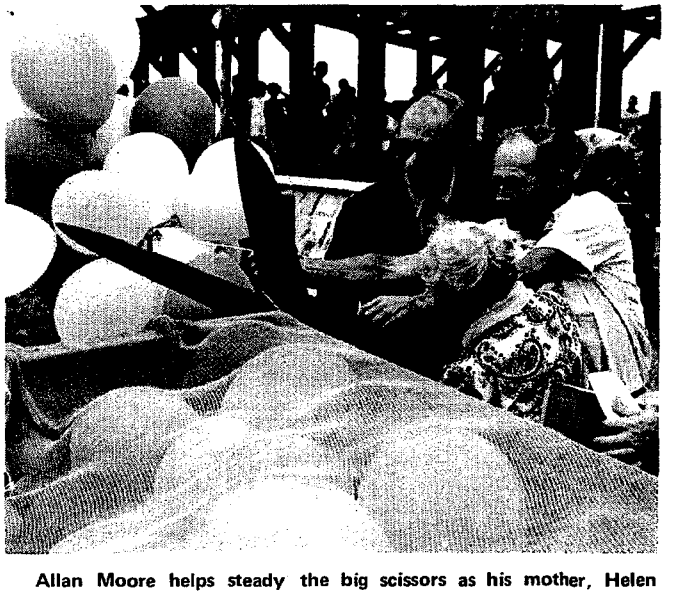
Commissioner Ray Lappegaard (center) signs the guest book at Dresbach as Aaron Husmann, manager of the center, looks over his shoulder while Dorothy Voshart, clerk at the center, smiles pleasantly.

The Dresbach facility is situated on a 26-acre site, the main building housing the information center and restrooms. Off the north side of the structure is a pergola set on a terraced overlook of the river valley. As an aid to the disabled, ramps over curbs and to the main building and wide closets in the washrooms are provided for the movement of wheelchairs. Lookout points and picnic tables are reached by pathways.

Minnesota's newest state information center and rest area was dedicated and formally opened with civic ceremonies on June 24. It is the Dresbach center off the westbound lanes of I-90 on the banks of the Mississippi River, about one and a half miles north of LaCrescent.

State Highway Commissioner Ray Lappegaard joined officials and civic leaders of the area as a principal in the program sponsored by Hiawathaland Inc., regional tourism organization. Commissioner Lappegaard said, "It is a significant event marking the completion of a facility which will benefit thousands of people each year for many years to come."

As a "gateway" to Minnesota, the Dresbach Information Center and Rest Area is strategically located to accommodate travelers from the east via I-90 and motorists using the Great River Road of the Mississippi Parkway system. The facility has been in service on a limited basis since early March.



Allan Moore helps steady the big scissors as his mother, Helen Moore, and Commissioner Lappegaard prepare to release some balloons at the Dresbach dedication.

MINNESOTA HIGHWAYS
Aug 1971

The information center is currently open from 7 a.m. to 10 p.m. with Aaron Husmann of our department as manager. Comfort facilities are open 24 hours a day. Husmann reported that about 19,000 visitors from all 50 states and 24 foreign countries had stopped at Dresbach since March.

The Dresbach installation is one of six combination information centers and rest areas on the Interstate highway system in Minnesota now in service, being built or planned. The center on I-94, eastbound lane, near Moorhead, was opened in July, 1969. Under construction by the Minnesota Highway Department are facilities on I-35, Duluth; near Albert Lea where I-90 and I-35 intersect; and on I-90, near the South Dakota line, west of Luverne. Proposed is a roadside "gateway" accommodation on I-94 in the Lakeland area near the St. Croix River.

James E. Gove (regional director of the Division of Tourism of the Minnesota Department of Economic Development) addresses the gathering at the Dresbach dedication. Standing (left to right) are: Allan Moore, Helen Moore, Judy Ganrude (Miss LaCrescent), and Sue Highberg (Miss Minnesota Highways). Seated (right) is Mayor John Kolb of Dakota.

David W. Dresbach had been invited to attend the Dresbach dedication but was unable to be present. He resides in Sebastopol, Calif. He wrote a letter to Doyle Sorenson, executive secretary of Hiawathaland, which is reproduced in part.

"Your letter came as a pleasant surprise, informing me that the Dresbach Interstate Rest Area and Information Center has been established in the township that was founded by my grandfather in 1857. When George Betts Dresbach and Mary Nichols Dresbach crossed the wide Father of Waters in the spring of 1857 to make their home where the village of Dresbach still exists, Minnesota was still a year away from being admitted as a state.

"My father, George B. Jr., was born that spring of 1857, and in October of 1858 the first daughter was born in the village. Her name was 'Minnesota' in honor of Minnesota's statehood. She was always known to me as 'Aunt Minnie' and she lived almost until the celebration of Minnesota's Centennial.

"In 1960, I visited the village as a guest of Mrs. George (Helen) Moore and her son, Allan, with whom I still regularly correspond. I was last there in the summer of 1967 and witnessed the Great River Road which had been built along the beautiful bluffs and hardwood-forested coves of the Hiawatha Valley."

Air Pollution From Autos Drops

The Minnesota Highway Department received confirmation from the pollution control agency that motor vehicles account for only 39 per cent of air pollution.

In addition, auto emissions of hydrocarbons and carbon dioxide have reached their peaks.

In a news release published by the Automobile Manufacturers Association, Peter Griskivich, AMA's Director of Information, reminded that the frequent statement that motor vehicles cause 60 per cent of all air pollution stems from a federal government estimate of total annual air pollution by weight made six years ago.

Continued Griskivich: "Based on the federal government's current test procedures, the hydrocarbon emission from 1971 vehicles has been lowered by about 80 per cent and carbon monoxide by about 65 per cent compared with cars having no emission controls. Considerable progress also has been made in lowering automotive emissions of oxides of nitrogen and of lead particulate matter. And we are confident that even further reductions will be possible in subsequent years."

Bridge On I-35E To Be Raised

Commissioner of Highways Ray Lappegaard announced that the bridge carrying I-35E over Pennsylvania Avenue in St. Paul near the State Capitol will be raised because of settlement.

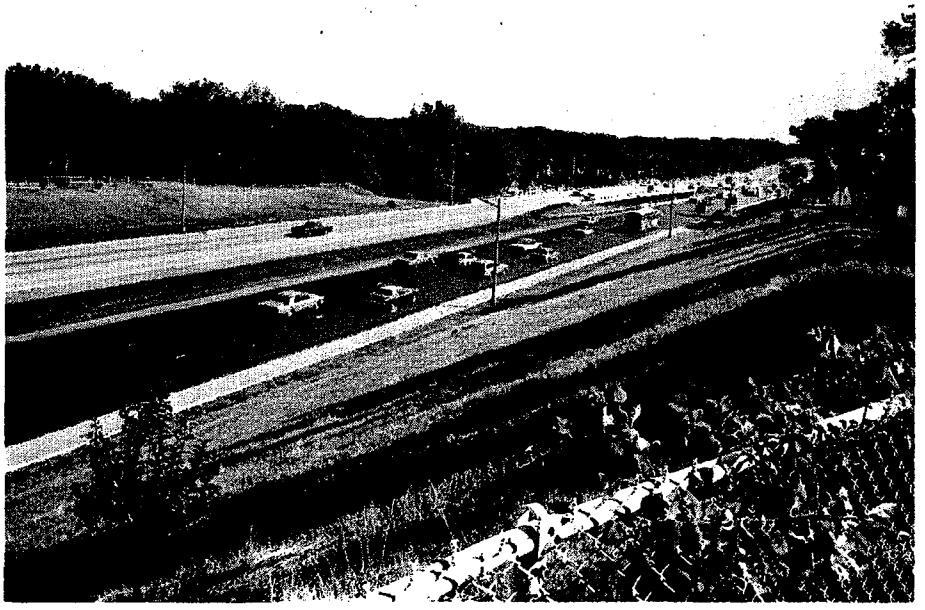
Fifteen beams at the south abutment will be raised by varying amounts from 4 to 15 inches to bring the bridge up to grade and provide a smoother riding road. As part of the project, a bituminous overlay will be placed adjacent to the bridge so there will be no "bump." Work will progress on one lane at a time, necessitating closure of that lane to traffic.

Although the bridge is supported by steel piling reaching down 150 feet, the southern abutment has been settling due to compression of a layer of peat 100 feet beneath the surface. As the fill settles it adheres to the piling thereby pulling it down.

When the bridge was constructed in 1965 test borings revealed the presence of this peat layer. Since this could produce settlement, the determination was made that the pilings should extend down to bedrock. During the construction of the bridge, however, difficulty was encountered in driving the pilings. When the "practical refusal" position was reached, determined by pile driving pressures of 200 tons, the judgment was made that to try to drive to bedrock would either be economically impractical or that damage would occur to the pilings, hence the decision to resort to future maintenance if the bridge settled.

Resident Engineer Tom Glasow anticipates completion of the project by October 1.

NOISE ABATEMENT ON I-35W IN MINNEAPOLIS



Noise abatement program shown in operation between Minnehaha Creek and Diamond Lake Road on I-35W in Minneapolis. Note that the southbound lane was covered with a bituminous overlay to smooth out the pavement surface while the northbound lane had not yet been resurfaced. We noticed a decrease in noise volume when standing on the overlay side of the freeway as opposed to the noise volume when standing on the side that had not been subjected to the overlay process.

Dealing with the problem of excessive noise on our urban highways constitutes a complex one to the Minnesota Highway Department.

A case in point is a section, approximately one-half mile in length, of I-35W between Minnehaha Creek and Diamond Lake Road in Minneapolis. When this section was constructed, some of it was depressed which tended to reduce traffic noise but other parts of the stretch are at grade and above grade. The problem is compounded by twin bridges over Minnehaha Creek and the Parkway.

A bituminous overlay project, recently completed, in this area has smoothed out the pavement which should bring about a small decrease in the traffic noise level.

If a 15 to 26-foot high wall were built along the roadway in this area, it is possible that traffic noise could be cut in half (a reduction of ten decibels) according to a report prepared by our department. The intensity of loudness, as discerned by the human ear, is reduced by half for every 10 decibel decrease.

While a wall would, in all probability, be effective in reducing noise from automobiles and the whine of tires, it might not be very effective in lessening the engine and exhaust noise of diesel trucks. The low frequency rumbles produced by trucks are more apt to bend over the wall barrier.

Generally speaking, if the wall were constructed, there would be a lessening of the overall traffic noise level but noise peaks from passing trucks could prove to be more disturbing to nearby residents.

Designing a suitable wall next to the bridges over Minnehaha Creek would present a special problem, both from structural and aesthetic standpoints. Some residents might not be pleased by the erection of high barriers in front of homes, and motorists might feel hemmed-in by walls.

The problem of aesthetically designing a 15 to 26-foot high wall without overpowering adjacent scenery is virtually an insurmountable challenge.

F. W. Thorstenson, assistant commissioner, Research and Standards, entertains some doubts about the effectiveness of a high wall – both in terms of satisfactory performance and cost.

It would cost an estimated $784,500 to construct a bare, straight high-density wall and $1,163,100 to erect a landscaped, curved wall on both sides of I-35W on the half-mile stretch.

According to Assistant Commissioner Thorstenson, our department would lean toward an aesthetic approach if the wall were to be built and our department does not plan to proceed with construction in the immediate forseeable future.

We are, though, gathering data from similar-type noise reduction experiments from other states and Canada before proceeding further with any plans.

BJOSTAD BOWS OUT

by LINDA BROWN

LBB and Clerk Typist Bonnie White are pictured as LBB prepares to cut the cake.

L. B. Bjostad, AME, Duluth, retired on October 5. Bjostad had been in highway work for about 40 years in both state and county service. He retired after spending the last 12 years here in Duluth. He and his wife, Ruth, left for a three-week trip through the western part of the U.S. They planned on returning about the end of October. Sometime shortly after the first of the year they are going to spend about six weeks near LBB's son in El Paso, Tex. Next summer they plan to move to the Twin Cities area for their retirement years.

Bjostad was honored at a retirement party at the Highland Supper Club on the day of his retirement. Cake and coffee were served in the office on the same afternoon.

HOW THE GENERAL ANDREWS REST AREA GOT ITS NAME

Gen. Andrews

The General Andrews Safety Rest Area, located about eight miles south of Moose Lake serving southbound traffic on I-35, was named after Christopher C. Andrews – a man who is well-known for forest restoration and preservation in Minnesota.

Andrews was born in New Hampshire in 1829 and came to Minnesota, settling in St. Cloud, in 1856. He scarcely had time to establish his home there when the Civil War broke out. He joined the army and rose through the ranks from private to general.

In 1869 he was appointed minister to Sweden and Norway. While there, the problems of restoration and preservation of forests interested him. As a result he was able to study and observe a forest conservation program in action.

After eight years of serving in that capacity, he came to St. Paul and practiced law until 1881. He was then appointed consul-general to Brazil, returning to St. Paul in 1885.

In 1905, he acquired the title of forestry commissioner but had been active in the field of forest conservation for years before.

The creation of the General C. C. Andrews Nursery in Pine County by the Minnesota Department of Conservation (now the Department of Natural Resources) in 1940 was in commemoration of his achievements in forest preservation. In 1943, the Minnesota legislature designated an area in Pine County as the General C. C. Andrews State Forest. This includes the nursery.

Federal Highway Chief Lauds Interstate Safety Features

Federal Highway Administrator F. C. Turner, in an address before the annual highway safety conference of the National Association of Women Highway Safety Leaders, stressed the inclusion of safety features in the new Interstate system. Said Turner:

"At the outset, let me state unequivocally to you that there is no greater priority in the Federal Highway Administration's program than saving lives on the highways. Safety has been a primary factor in the Federal-aid highway program ever since the first Federal-Aid Highway Act was passed 55 years ago, back in 1916.

"As you know, there are three general factors that can be involved singly or in combination in highway accidents – the driver, the vehicle, and the road. The third area – the road – is obviously the responsibility of the Federal Highway Administration.

"The inherently greater safety provided by Interstate freeways is pointed up graphically by comparative fatality rates. On the Interstate, the rate is 2.9, while on all other roads it is 5.6 deaths per 100 million miles of driving.

"One of the most obvious things that has been done in the highway program to provide greater built-in safety is the construction of the Interstate System of freeways. Already some 32,000 miles of the ultimate 42,500-mile system are in operation, and they are paying tremendous dividends. These are the best engineered and safest roads the world has ever known. Entirely divided highways, with a minimum of four lanes; with no intersections at grades; no stoplights; completely controlled access; with no sharp curves or steep grades, these freeways contain the ultimate that modern technology can provide.

"Thoreau said, 'It is not enough to be busy; so are the ants. The question is: what are we busy about?'

"I think there is no better cause that we can busy ourselves in than this vital cause of highway safety."

TEN YEARS AGO

To succeed Stan Ekern as MHD construction engineer, Commissioner Marshall has appointed Ed Heinen, who, since June, 1960, had been assistant maintenance engineer. Ekern's promotion to deputy chief engineer for operations was reported in the November Minnesota Highways.

A big step in Austin area highway improvement was celebrated November 9 when Governor Andersen cut a ceremonial ribbon to open to traffic the newly completed 4½ miles long, east-west beltline freeway (I-90) around the northern section of the city.

In its annual election the Hiwayan Club elevated Myrton Charney of Finance Services from vice president to president. He succeeds Vince Bovitz. Gene Schmidt of Road Design was elected vice president; Darlene Johnson of District Nine, secretary; and Jack St. Martin, Safety, treasurer.

Clyde C. Colwell, recently retired MHD assistant chief engineer, is only the ninth person to receive the Associated General Contractors of Minnesota distinguished service award in that group's 42-year history.

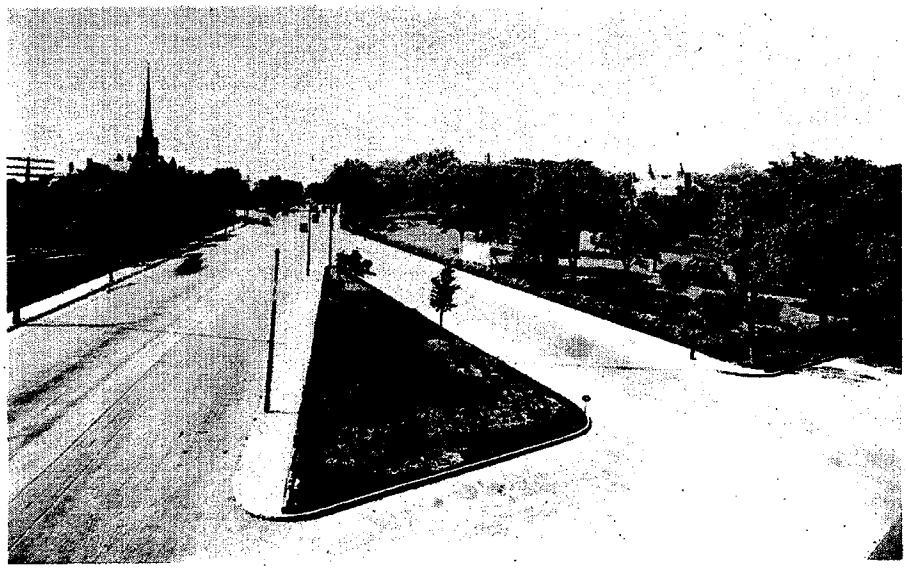
WE WIN AWARDS

The Minnesota Highway Department recently received certificates of commendation from the Greater Duluth Area Council on Employment of the Handicapped for the barrier-free architectural construction of the buildings at the General Andrews and Kettle River Rest areas on I-35.

The awards were made primarily for the installation of inclined wheelchair ramps and wide doors enabling disabled persons easy access to the facilities.

The awards, presented by William Bischoff, chairman of the Greater Duluth Area Council on Employment of the Handicapped, were received by Erling Jonassen, District One traffic engineer.

HENNEPIN-LYNDALE TUNNEL ON I-94 OPENED



Hennepin-Lyndale area in Minneapolis in 1918

On December 7, the Hennepin-Lyndale area on I-94 in Minneapolis, including the Lowry Hill tunnel which is over a quarter-mile long, was opened to traffic. It took about three and a half years to build and cost approximately $8,000,000. The six-lane tunnel – the longest in the state – has an underground building adjacent to it to house four gigantic fans which provide ventilation.

The need for a tunnel became clear early in the alignment studies of Interstate Highway 94, which started in 1956. Proper laning was essential to carry traffic through a slot about 250 feet wide bordered by the Walker Art Center, and office building, and two large churches with Loring Park and The Parade recreational facilities in the proximity. Critical was the need for alleviating traffic congestion at the confluence of Hennepin and Lyndale avenues. The preservation of the cultural neighborhood also was a major consideration. With construction of the tunnel to carry the through-traffic of I-94, the vertical separation of vehicle movement is made.

THE TUNNEL

The freeway approaches Lowry Hill from the southeast in a depressed alignment and cuts through the hill on a descending slope, emerging at a portal just north of Vineland Place. I-94, on the national system, runs from Port Huron, Mich., to Billings, Mont., a total of 1,607 miles, routed through Minnesota from near Hudson, Wis., via the Twin Cities metropolitan area northwestward to Moorhead.

The overall length of the tunnel is 1,492 feet. Vertical clearance is 15 feet, six inches. A center wall separates the two roadways, each made up of three 12-foot lanes, a six-foot shoulder on one side, a two-foot shoulder on the other and safety walks. About half of the tunnel is on a horizontal curve. A driver entering the tunnel from the north will leave it on a left-hand curve. At an average speed of 30 mph (the speed limit is 35mph), he will be in the tunnel for less than 35 seconds.

Oster & Pederson, Inc., Minneapolis, and Foley Brothers, Inc., St. Paul, prime contractors, began construction of the Lowry Hill tunnel in May, 1958. In the operation, they developed an overhead truss system to support "soldier piling" in providing a clear opening in which to work. Using a nylon reinforced vinyl covering, a heated bubble was erected over the site during cold weather construction. Among the problems encountered in the tunnel construction was that of high water content soils as the cut for the structure approached a nearby church. To prevent any possible damage to the building's foundation, steps were taken to freeze the subterranean section. Using a patented process, freeze tubes circulated brine at 5 degrees below zero underground. The 50-foot deep ice along a 120-foot section actually served as a retaining wall.

The tunnel is built of reinforced concrete in sections designed as rigid frames with transverse expansion joints spaced a maximum of 90 feet. The interior walls were surfaced with tiling. With a tile veneer, there is reduced maintenance, improved illumination and a surface that is easily cleaned.

VENTILATION

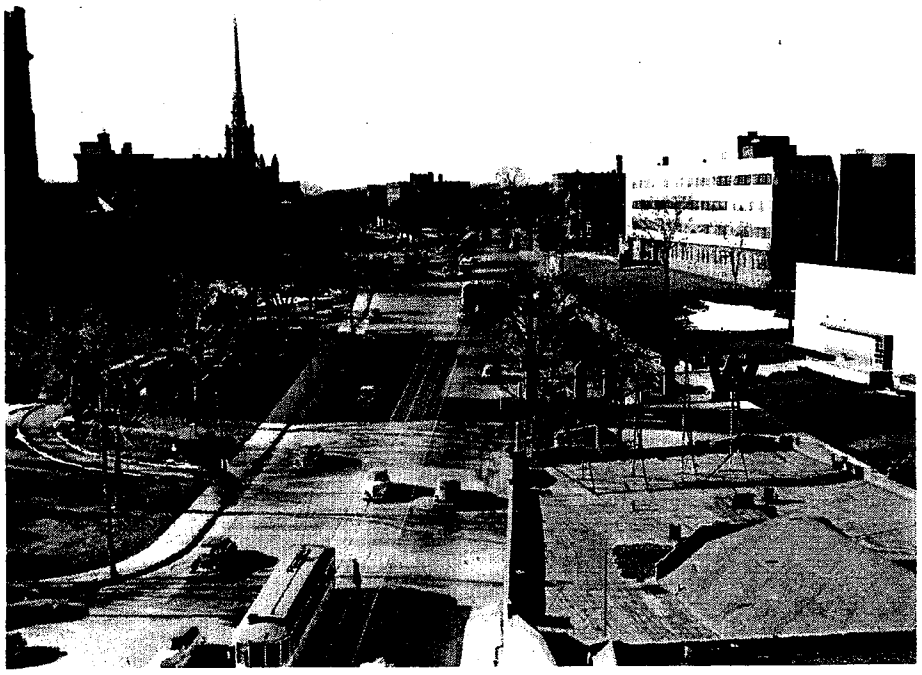
Four 150-horsepower vane-axial fans, each having a capacity of 268,000 cubic feet per minute, activate the ventilation system. Fresh air, at four volume levels (depending on traffic conditions), is blown into the plenum chamber above the tunnel ceiling through a series of ducts, for discharge into the tunnel space. In diluting the tunnel atmosphere, the ventilation system is designed to keep carbon monoxide content below .5 parts in 10,000 parts of air. The tunnel air is sampled from three points in each roadway and analyzed automatically. Each of the six analyzers has an automatic recording graph to maintain records of carbon monoxide concentrations. The huge fans, their sound attenuators and electrical control equipment, are housed in a three-and-half story building constructed below ground and adjacent to the tunnel.

LIGHTING

Lighting consists of continuous rows of slim-line fluorescent lamps in glass waterproof jackets mounted on both sides of each tunnel roadway. The system utilizes multiple wiring for "day-night" and zone levels of intensity. When it was found that the threshold lighting at the North Portal was not up to the safety level desired, sets of a new high-intensity metal-halide vapor lamps were installed.

OTHER SAFETY MEASURES

Vehicles carrying cargoes of hazardous materials are prohibited from using the Lowry Hill tunnel. The restrictions, given in a directive by State Highway Commissioner Ray Lappegaard, are in line with regulations of the U.S. Department of



Hennepin-Lyndale area in Minneapolis in 1949

Transportation. While the commissioner's order applies specifically to vehicles over 9,000 lbs. gross weight, any motor vehicle carrying quantities of materials defined by federal regulations as dangerous also is banned as to tunnel use.

Camper vehicles with propane tanks of more than 45 pounds would be in violation of tunnel restrictions.

As on all Interstate highways, all non-motorized traffic such as pedestrians, bicycles and animal-drawn vehicles, is prohibited from the tunnel.

Safety features of the tunnel include instruments for monitoring by radio transmitter to a receiver at the highway department's District Five office in Golden Valley. Relayed is the condition of the many functions of the tunnel apparatus including the carbon monoxide analyzers, temperatures of the fan motors, lighting system and the fire detectors. Fire hydrants are located at the four portals with a dry-line system extending through the sub-ceiling of the tunnel structure. Steel doors located in the center dividing wall of the tunnel provide rapid access to the roadways in case of emergencies.

The 16 telephones in the tunnel, for use in case of emergencies, provide a direct line to the dispatcher of the State Highway Patrol.

COMPUTERIZED TRAFFIC CONTROL

A highly refined traffic control system is built into the Interstate 94 - tunnel complex. A wire antenna set in the pavement (loop detector) functions when the magnetic field is broken by the passage of vehicles. The system will operate as a traffic counter, detect stoppage in each lane of the roadway and indicate traffic speed. With the installation of the basic system, provision has been made for television surveillance equipment in the future. Planned is monitoring by computer of traffic on Interstate routes in an enlarged area within the Twin Cities.

DATES SET FOR ANNUAL EMPLOYEE MEETINGS

The 41st series of annual employee meetings for the field offices has been set for an 11-week period early in 1972. Evolving from early safety meetings, the 1972 sessions will cover a variety of subjects to keep the highway employees informed about current programs, developments, plans and operations.

Highlighting the 22 day-long sessions will be the individual and district awards to be presented in recognition of accident-free work during 1971. Nearly 4,000 employees are included in the program where safe worker or safe driver awards are given to those who complete the calendar year without a preventable accident.

During the day, employees will have the opportunity to visit with representatives of the state's insurance carriers, the Hiway Credit Union, and Central Office personnel in attendance.

Carrying out the informative programs, subjects to be included cover latest personnel policies, department construction and maintenance planning and other subjects of current interest to employees.

The Office of Personnel coordinates the agenda with the cooperation of the district and area engineers and safety committees.

The schedule is: Central Shop, February 23, Training Center; St. Paul (District Nine), February 24, Training Center; Bemidji, March 7, Highway Building; Crookston, March 8, Eagles Hall; Detroit Lakes, March 9, Highway Building; Morris, March 10, VFW Club; Windom, March 21, Highway Building; Mankato, March 22, VFW Club; Rochester, District Six, March 24, Elks Club; Golden Valley, District Five, March 30, Training Center; Virginia, April 4, Highway Building; Duluth, April 5, Duluth Arena; Brainerd, April 6, Highway Building; St. Cloud, April 7, Moose Lodge; Willmar, April 11, Armory; Marshall, April 12, Armory; Rochester, 6A, April 13, Elks Club; Owatonna, 6B, April 14, Highway Building; Golden Valley, 5A, May 2 and 3, Training Center; and St. Paul Park, 9A, May 4 and 5, Training Center.

Kathleen Ferber Is Second Runner-up In Miss St. Paul Contest

Miss Minnesota Highways Kathleen Ferber was chosen second runner-up in the Miss St. Paul competition on November 20. In the talent event she performed an interpretive dance.

Thank you, Kathy, for representing us and congratulations on your selection.

Linda Hagen of Hastings, a co-ed at the University of Minnesota, was chosen to reign as Miss St. Paul.

SEGMENT OF TH 280 OPENS

Pictured in the foreground at the ribbon cutting ceremony at the TH 280 (from I-94 to Kasota Avenue in St. Paul) opening on October 19 are from left to right: Miss Roseville (Joyce Anderson), Miss Minnesota Highways Kathleen Ferber, St. Paul Mayor Charles McCarty, Miss St. Paul (Debbie Olson) and F. C. Marshall, assistant commissioner, Government and Community Relations.

Interstate Openings

The 23 miles of I-90 between the communities of Stewartville and St. Charles in southeastern Minnesota were opened to traffic on December 13.

The new segment will provide freeway travel on I-90 from St. Charles westward via Austin to the junction with T.H. 13, northwest of Albert Lea, a distance of 78 miles.

The longest freeway section opened in the state this year, the 23-mile link will bring the total of Interstate system routes in Minnesota in use by motorists to 612 miles. This is 67 per cent of Minnesota's 914-mile proposed Interstate system.

Opened in the past six weeks were I-35 in the western area of Duluth and I-535, a spur to the John A. Blatnik bridge, which connects Duluth and Superior; an 8.1-mile segment of I-35 between Clarks Grove and Albert Lea, and a 1.3-mile extension of I-94, including the Lowry Hill Tunnel, in Minneapolis.

Work on the St. Charles-Stewartville portion of I-90 to be completed next spring will involve shoulder surfacing, sodding for erosion control and plantings.

Besides the 612 open-to-traffic miles on the state's Interstate routes, 159 miles currently are under construction. Not under construction are the remaining 143 miles or 15.6 percent. Planning and right-of-way acquisition are well along for most of that, according to the department.

When the Interstate system was authorized by Congress in 1956, a target year of 1972 was set for its completion. But inflation, additional mileage, Federal-aid cutbacks, higher standards for safety and aesthetics have led to increased costs and the full system is not likely to be finished before the late 1970s. It is being financed with 90 per cent Federal and 10 per cent state (road user) funds for construction.

The following is the status of through-routes in Minnesota on the Interstate system:

Interstate 35, to extend 261 miles from Duluth via the Twin Cities to the Iowa line, south of Albert Lea, 231 miles in use; 21 miles (including I-35E and I-35W sections) under construction.

Interstate 90, Minnesota's longest Interstate highway, stretching 276 miles across southern Minnesota from the Mississippi River near Dresbach to the South Dakota line, west of Beaver Creek, 129 miles in service; 92 miles under construction.

Interstate 94, a 259-mile artery from Lakeland on the St. Croix river opposite Hudson, Wisc., through the Twin Cities area and northwesterly to the North Dakota border at Moorhead, 171 miles completed; 44 miles under construction.

Aeronautics Official To Retire

by EDDIE HENDRICKSON

Aeronautics

A retirement dinner party is to be held at the Thunderbird Motel for M. C. Solberg, former Highway Department employee, on January 19. Joining us in 1929, he served in the field, became a project engineer and transferred to Right of Way.

In 1946 Solberg began work for Aeronautics and became chief engineer. He has been involved in the development of every public airport in the state.

Solberg plans to take a month to get his feet on the ground. Then he and his wife are heading for warmer climes.

McCANN SLAIN

Donald J. McCann, 56, highway project technician, in the Utilities Section of the Right of Way Division, Central Office, died under mysterious circumstances as the result of bullet wounds on December 1. McCann of 925 Laurel Avenue, St. Paul, apparently had his wallet when he went outside. This was missing when his body was found. His death was the third, recently, under similar circumstances in the same general area.

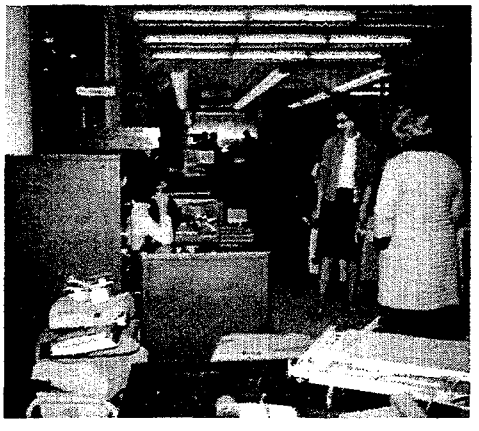
He is survived by his wife, Thelma; a son, Clifford; three daughters: Mrs. Harold (Christine) Bentfield of Pontiac, Mich.; and Nancy and Laura, at home; his mother, Mrs. Emily Dubee of Boston; and four grandchildren.

Recent Deaths

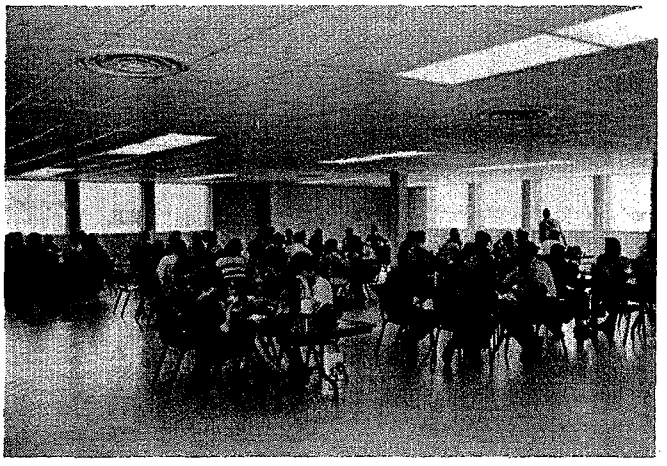
Donald J. McCann, St. Paul, Project Highway Technician.....Waldo J. Plinske, Marshall, Highway Technician.....Donald A. Stene, Albert Lea, Senior Highway Technician.

Jan 1972

District Engineer W. C. "Bill" Merritt and Secretary Darlene Lazer are emptying the moving boxes and making things nice and neat for Bill's second day in his office.



Rosemary Porwoll, office manager, looks on as two co-workers unpack material needed to resume the district's work interrupted by the move.



Diners eat their first meal in the lunchroom at the new District Nine Headquarters building. Seated at the table nearest the camera are Marilyn Liebsch, Joyce Brennhofer, Naomi Anderson and Hildur Ryan.

B. J. PINSONNEAULT TO RETIRE

Wabasha County Engineer Bert J. Pinsonneault will be retiring on May 1. He was county engineer for Red Lake County from 1937 until going to Wabasha County in 1946.

He is a past president of both the Minnesota County Highway Engineers Association and the Minnesota Surveyors and Engineers Society and, in addition, is a member of several local organizations. Pinsonneault and his wife plan to continue on living in Wabasha.

VALENTINE'S DAY CANDY SALE

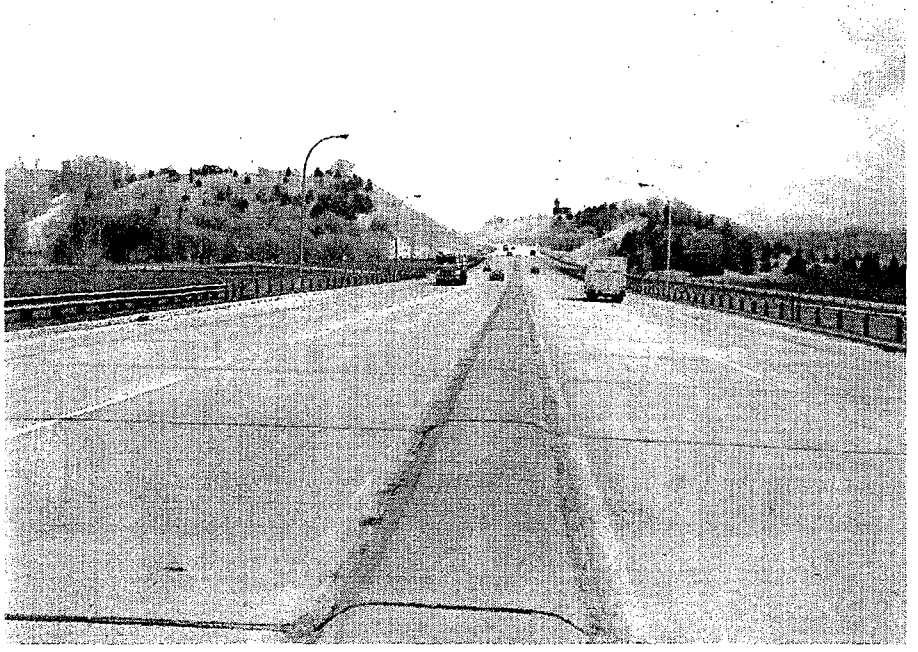
John Horsch, senior highway technician, Right of Way, and Miss Minnesota Highways Kathleen Ferber are shown selling a box of candy to Elinor Hester, secretary, Collection Agency Division, Department of Labor and Industry, on February 9. The goodies were sold by the Hiwayan Club at a public sale in front of the cafeteria in the State Highway Building. The Hiwayan Club Easter Candy Sale will take place on March 23 and 24 at the same location. Highway employees will have the opportunity of ordering candy direct from their Hiwayan Club councilman.

When completed, the National System of Interstate and Defense Highways will carry 20 per cent of all traffic although it will include only about one per cent of the Nation's total road and street mileage.

MYTH: Highways bulldoze people out of their homes and businesses with callous disregard for the consequences.

FACT: Highway departments are required by law to relocate families and businesses in equal or better quarters and to pay homeowners up to $15,000 above fair market value for their homes, as well as provide other social services.

DO YOU RECOGNIZE THIS?



See next month's issue for identification

SAFETY UPPERMOST IN I-94 WORK

Asked why construction has to tie up traffic on I-94 between the Twin Cities for the better part of the summer, Assistant District Nine Engineer Charles Siggerud explained "We're trying to clean up all the work that needs to be done at one time, so we won't have to come back and tie up traffic again, year after year."

The $3.6 million job on I-94 is actually a combination of several projects, any one of which could tie up freeway traffic for a considerable time, he said. By doing them all at the same time, the Highway Department hopes to reduce inconvenience to motorists to the minimum.

Safety aspects of the work are held to be of prime importance. The stretch of freeway under improvement is Minnesota's most heavily traveled road, whose average daily traffic count reached a record 105,000 vehicles in June of last year.

During 1972 there were approximately 980 accidents on that eight-mile stretch. Two were fatal crashes, 200 resulted in personal injuries, and the remainder in property damage running into thousands of dollars.

A major feature of the work is replacement of 36,000 feet of chain-link median barrier fence, presently separating opposing lanes of high-speed traffic, with a "New Jersey" type concrete median barrier. The latter, held to be more effective under high volume traffic conditions, also occasions fewer traffic tie-ups for maintenance.

Every time the chain-link median barrier "netted" a vehicle straying across the center line, freeway traffic had to be tied up while the barrier was repaired. Last year 10,600 feet of chain-link median barrier between Cedar Avenue in Minneapolis and John Ireland Boulevard in St. Paul had to be replaced at a cost to the state in excess of $63,000.

Similarly, 76 of the 320 lighting standards situated on the highway's shoulders were hit by vehicles in the last three years. Every mishap of this kind cost the state between $300 and $400 to repair, and resulted in traffic tie-ups while repairs were being made.

The 142 new high-pressure sodium-type luminaires soon to replace them will be mounted atop the concrete median barrier, where they will be less likely to be destroyed. In addition, the new lamps will provide a comparable illumination with an energy savings of 36 per cent.

Both the old light standards and the chain-link median barrier fence are being salvaged by the Highway Department for use elsewhere.

"Last year the U.S. Department of Transportation cited Minnesota's Interstates as the nation's safest, and attributed it to our readiness to incorporate the latest safety features into them," Siggerud said. "We aim to keep them the safest."

Other safety features being incorporated into the highway at this time are 17,000 feet of "glare screen" mounted on the median barrier to reduce the glare of headlights, grooving of the pavement in certain locations to prevent skidding in wet weather, and a new skid-resistant bauxite surfacing to be bonded to the decks of nine bridges with epoxy cement.

The new zinc-rich paint being applied to 18 bridges on this stretch, intended to preclude maintenance of this kind for some time, is said to last 30 years.

SOMETHING HARD HEADED YOUR WAY?

by MARK MARKSON

You'd have to be pretty hard-headed not to wear a hard hat on the job.

Consider: If a worker dropped a 12-ounce crescent wrench from the top of a silo, it would take him half a second to realize the mistake and yell, "Headache!" A man below would hear the warning and begin to react about three-quarters of a second later. Even then he would not know which way to dodge until he looked up. That would take another half second. By that time, the wrench would be approximately six feet from his head and traveling at 60 mph with a striking force of 120 foot-pounds.

If your head is hard enough to take that kind of punishment, go ahead – remove your hard hat, but keep a king-size bottle of aspirin handy!

Recent Retirement

Happy retirement days to: Hokan Sonnee, St. Paul, Storage Garage Supervisor.

Aug 1973

COMMISSIONER'S COMMENTS

One of the questions I hear a lot, and I suspect that you do too, is "What are you doing in that Highway Department? What's going on? How come you never get the road fixed up?" Well, there is an answer. There is a lot going on.

Ordinarily, we don't use this space to put in a lot of figures about the work we are doing, but perhaps it is appropriate to do so from time to time. Here is some information that may be of interest to someone who asks you, "What are you doing in that Highway Department?" The work under way, all over the State at the middle of 1973, is as follows:

Lappegaard

INTERSTATE TRUNK HIGHWAYS

Interstate projects under contract total $109,100,078. The work includes 111 miles of grading, 124 miles of surfacing, 98 bridges, and other related work—such as fencing, signing, lighting, and miscellaneous safety improvements. We are hopeful that 78 miles of interstate roads will be completed and open to traffic by the end of 1973. Our hopes could change due to weather conditions.

REGULAR TRUNK HIGHWAYS

Trunk highway projects under way at the present time total $82,616,579. This work includes 217 miles of grading, 368 miles of surfacing, and 49 bridges.

MAINTENANCE RESURFACING

There are 496 miles of resurfacing under contract, costing $10,500,914. These projects are designed to maintain the roadway in a good, serviceable condition. All of these projects to be completed by the end of 1973.

SAFETY IMPROVEMENT

At the present time we have 42 projects, costing $3,659,829. These projects consist of installation or upgrading of signs, lighting, signals, turn lanes or other related work. All of these projects should be completed by the end of 1973.

BRIDGE REPAIR

There are 24 bridges in the State that are under contract for repair, such as painting, new decks, etc. The cost of these improvements is $2,626,100. They are scheduled to be completed by the end of 1973.

The summary of work under way then is as follows:

(Includes Through June 22, 1973 Letting)

Major Interstate Projects	$109,100,078
Major Regular Projects	82,616,579
Maintenance Resurfacing Projects	10,500,914
Safety Improvement Projects	3,659,829
Bridge Repair Projects	2,626,100
TOTAL UNDERWAY	$208,503,500
Total Miles Grading Underway (Interstate)	111
Total Miles Grading Underway (Regular)	217
TOTAL BOTH PROGRAMS	328
Total Miles Surfacing Underway (Interstate)	124
Total Miles Surfacing Underway (Regular)	368
TOTAL BOTH PROGRAMS	492
Total New Bridges (Interstate)	98
Total New Bridges (Regular)	49
TOTAL BOTH PROGRAMS	147
TOTAL NUMBER OF BRIDGES BEING REPAIRED	24
TOTAL MILES IN RESURFACING PROGRAM	496
TOTAL PROJECTS - SAFETY IMPROVEMENT PROGRAM	42

So, obviously, something is going on. Much good work, much desired work, much needed work is being performed even though we recognize all too clearly that more work is requested of us than we are able to do. Nevertheless, we are making some progress.

Roy Lappegaard

VIETNAM BONUS

Vietnam veterans' bonus application forms have been available in the Highway Department Personnel office since August 15. Trained personnel are available to assist in preparing these applications and to assist in screening the applications for proper documentation. Vietnam veterans are requested to bring their DD214 discharge form or a legible copy.

NEW GROOVED PAVEMENT SAFER

A new form of grooved pavement that will help motorists maintain directional control in driving under wet pavement conditions and which contributes to safer stopping is a feature of Minnesota's newest Interstate system freeway section. It is a coarse texture built into the outside lanes of a segment of Interstate Highway 94 in Maple Grove. A 12-mile section of I-94 northwest of the Twin Cities was opened to traffic last December 21.

"The grooved pattern is a part of the Highway Department's continuing effort to improve Minnesota's highways for the safety of the motoring public," Commissioner Ray Lappegaard said. "The grooves in the concrete surface also help to prevent hydroplaning."

Hydroplaning is a condition that occurs on a wet pavement when the tires of a car are riding on a layer of water rather than on the surface of the highway. Grooving helps prevent hydroplaning by allowing water to drain from beneath the tires.

Unlike the symmetrical grooves cut into curves on the highway by diamond-tipped circular saws, the new-type grooves are relatively shallow and are formed when the concrete is still in a plastic state. In the pavement finishing process, large spikes fastened across the edge of a burlap drag indent the wet surface. A variation of the "spike technique" involves the use of 10-inch-long welding rods spaced an inch apart on a horizontal bar that moves above the finished concrete surface.

Various techniques are being evaluated by the Department's Materials Office, Division of Materials, Research and Standards. Grooving by the drag method does not add greatly to construction costs since contractors must apply a finish of some type on all highways, it was explained. The process is considerably less costly than that of a grooving machine equipped with diamond-tipped saws.

The spike or rod drag method will be used on construction this summer on a section of I-90 in the Lakefield area in southern Minnesota.

In evaluating the surface textures, periodic tests are made as to skid resistance and rideability of the pavements.

On the Maple Grove area freeway, bumpometer readings proved satisfactory, highway engineers found. The comment of one was "the motorist is not aware of anything new or different in the pavement as he rolls along. The grooving or new-type texture on I-94 would not be noticed unless it was pointed out to the individual."

Interstate 99 Per Cent Complete Nationally

Nationally, work has either been completed or is under way on 99 per cent of the 42,500-mile system of Interstate and Defense Highways. Only 472 miles of the system have not yet advanced to the public hearings stage, according to U.S. Transportation Secretary Claude Brinegar.

In Minnesota, work has either been completed or is under way on 76 per cent of the designated 914-mile system. Only 1 per cent, or 9.17 miles, remains in a preliminary status, Brinegar said.

Of the 696 miles open to traffic in Minnesota, 576 miles have been completed to full or acceptable Interstate standards, while 120 miles have been improved to standards adequate to present traffic. There are 102 miles under construction at present, and 107 miles in the engineering or right-of-way acquisition stages, Brinegar reported.

In 43 per cent of the states, portions of the Interstate system are toll roads. In New York 37 per cent of the state Interstate network consists of toll roads; in Massachusetts, 28 per cent; and in Pennsylvania and Kansas, 23 per cent. The entire Interstate system in Minnesota is toll-free.

HIGH WATER MARKS

This sign, showing spring high water marks due to flooding by the Minnesota river, was recently reinstalled on TH 169 near Shakopee.

Management Committee Chairman Stanley J. Olander (left), Woodbury, presents I-94 Report to State Highway Commissioner Frank D. Marzitelli. Observing the presentation are Vice Chairman Francis J. Pott (far left), Lake Elmo, and Project Manager Dave Ekern (far right), State Highway Department.

Study Of Location And Design Of I-94

A 22-month cooperative study of the location and design of I-94 in Washington County is documented in a report received by Commissioner Frank D. Marzitelli. The 200-page report, prepared for the Commissioner by an 18-member Management Committee, summarizes the Committee's findings and recommends that I-94 be located approximately one-half mile north of and parallel to existing TH 12.

Committee Chairman Stanley Olander, in presenting the report, said, "We are indebted to the many agencies, groups, communities, citizens, and members of your Department who have been a part of this effort over the many months."

In receiving the report Marzitelli told the Committee that he would "give careful consideration and significant weight to the findings and recommendations."

He went on to say, "The study has been a learning experience for this Department and the citizens who served on the Committee. It has received national attention as an innovative attempt to solicit public input in the evaluation of the environmentally related effects of a highway project. There is no question in my mind that this cooperative study effort has been extremely valuable to the Minnesota Highway Department – both in its substantive findings and recommendations, and in the experience we have gained for future public involvement."

As part of its environmental and public involvement program, our department invited representatives from six area communities, Washington County, the Metropolitan Council, the Metropolitan Transit Commission, and the Federal Highway Administration to study and make recommendations regarding the 10-mile uncompleted Interstate between the St. Croix River and the I-494/I-694 beltline. The Committee began its work in July 1973 after former Commissioner Ray Lappegaard halted construction of the roadway in response to the concerns of local citizens.

The two-phase study effort began with an extensive review of the project area. Included were 42 presentations from 33 organizations and agencies. This information allowed the Committee to define two alternative routes for further study. Detailed impacts of the two alternates were examined in the second phase of the study. Fifteen technical reports supplemented by a variety of oral presentations provided the basis for the examinations and resulted in the present report.

In addition to the basic location recommendation, the Committee also recommended:

– that interchanges be constructed at TH 12, County Road 19/19B, and TH 95, and that provision be made for construction of an interchange at County Road 80 in the future;

– that a rest area/information center be located along the bluff of the St. Croix River, and a truck weighing station be sited near County Road 21;

– that a bicycle trail be included in the design and construction of I-94; and

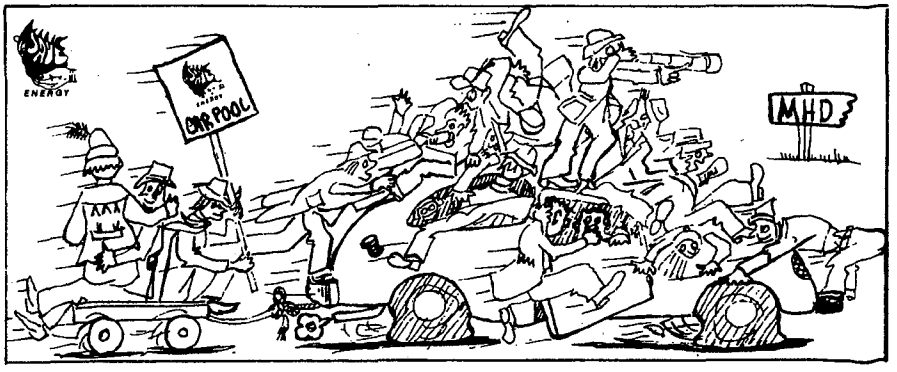
–that the Department study a minor alignment revision on the eastern portion of the project.

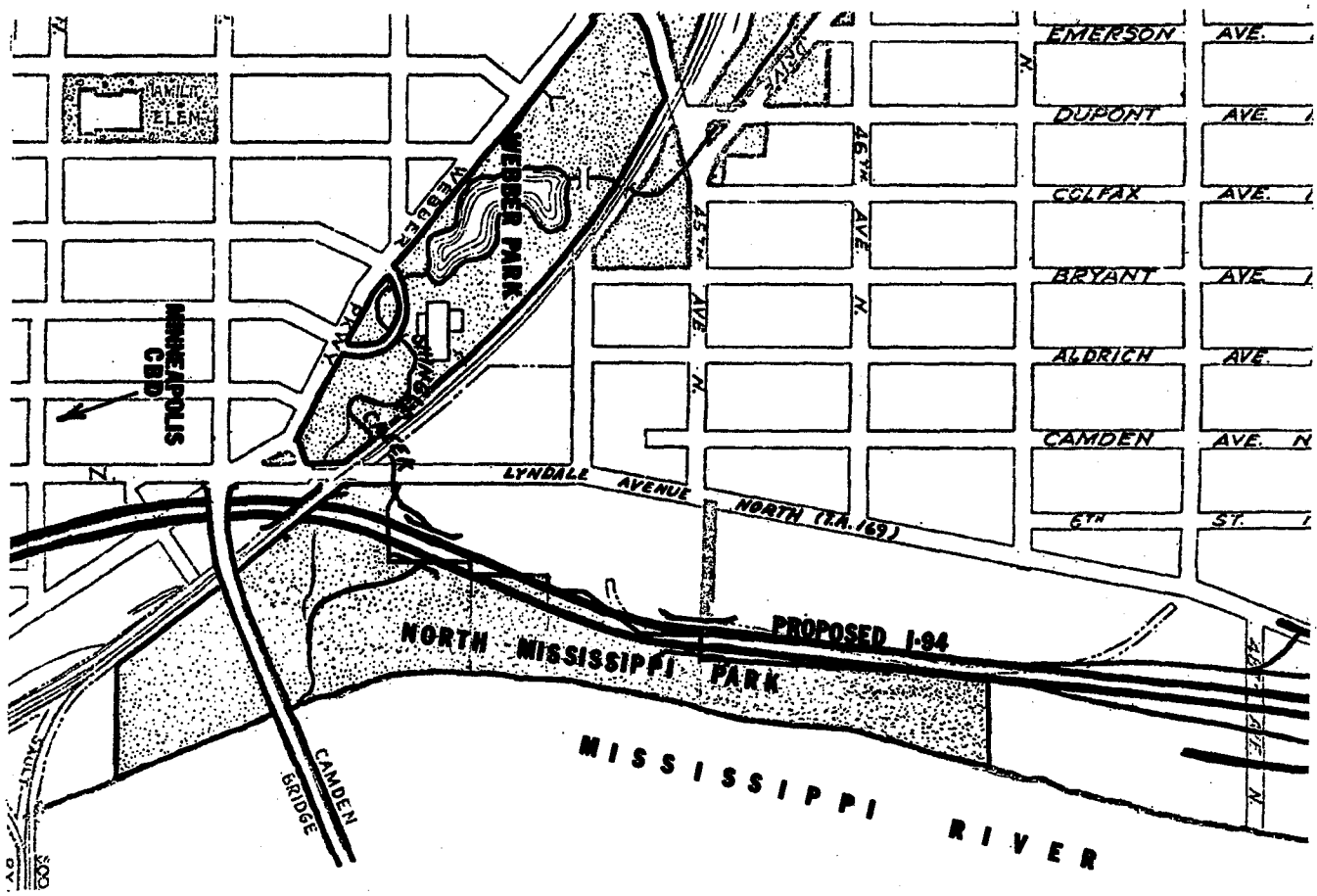
The Committee's recommendations will be included in the draft Environmental Impact Statement which our Commissioner expects to circulate for public review in January.

◆ ◆ ◆ ◆ ◆ ◆ ◆ ◆ ◆

TOUCH AND GO . .

Had too many ups and downs? Maybe you're sitting beside the aisle in the theater of life.





Agreement Reached For I-94 Design

By Pat Dolentz

District Five Environmental Writer

It has taken years of planning, dozens of meetings, and a lot of hard work by many people, but agreement has been reached on a design for I-94 in the vicinity of North Mississippi Park in the City of Minneapolis.

Part of the Minneapolis parks system, North Mississippi Park is located along the west bank of the Mississippi River from 41st to 47th Avenues North. The park is a 40-arce, wooded, relatively-undisturbed area in the midst of a busy metropolis. A variety of birds and small animals, including beaver and a great-horned owl have been seen in the park. The Minneapolis Park Board wants to maintain the undeveloped nature of the park to preserve it as a contrast to the surrounding commercial, industrial and residential areas.

Alignment studies made in the early 1960s had routed I-94 directly through the park. As MHD's social consciousness was raised, this route was recognized as inappropriate. There were problems, though, in routing I-94 anywhere else. To the east of the park is the Mississippi River; to the west, the Camden neighborhood commercial and industrial areas. In addition, because the route was once approved by both the city and the Federal Highway Administration, much of the needed right-of-way was already purchased both north and south of the park.

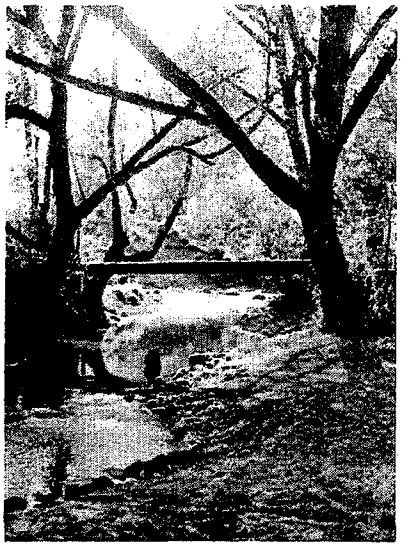
In a few years, this lime-filled lagoon will be turned into usable parklands.

After numerous studies by MHD, a consultant, and the Minneapolis Parks and Recreation Board, a compromise alignment was worked out which takes some land from the park and some from the commercial-industrial area to the west. I-94, by separating the parkland from the businesses to the west, will help to define the park limits and will keep the businesses from encroaching onto the parklands.

Once an alignment was agreed upon, the next step was to design an eight-lane interstate highway to enhance - or at least - not detract from -

the remaining park property. This has been done by depressing the highway past most of the park, making the road less visible and reducing the level of highway noise reaching the park.

Right-of-way needed from the park has been kept to slightly over eight acres by keeping the north and southbound roadways close together and by extensive use of retaining walls. To enhance the remaining parklands, a combination of walls and mounds will be used for noise abatement. The park side of the walls will be landscaped to blend into the rest of the park. Landscaping materials are being chosen to provide nesting cover and food for the types of birds and animals inhabiting the park.



Careful planning of I-94 will preserve scenes like this for future park users.

One of the important scenic resources of North Mississippi Park is Shingle Creek, which runs through the park before outletting into the Mississippi River. I-94 will have to cross the creek. Here, a potential problem area will be turned into a means of enhancing the park. Rather than just running the creek in a culvert under I-94, rerouting of the creek is planned. Changing the channel will make it possible to build a walkway and bicycle path alongside the relocated creek, helping to connect North Mississippi Park with a chain of parks located along Shingle Creek.

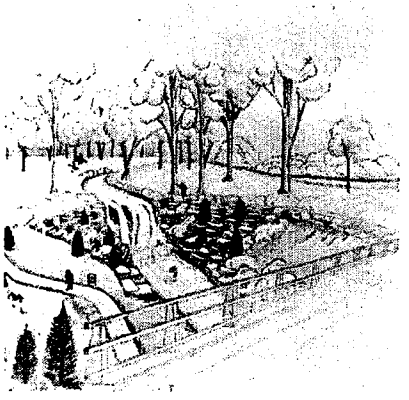
Another benefit of the creek relocation is that a 13-foot waterfall will be built at the upstream end of the channel change. Not only will this waterfall be visually attractive, it will also serve as a fish barrier to keep rough fish from the Mississippi River from spawning in the chain of lakes through which Shingle Creek passes.

During one of many field walks in the park, a community resident and local-history-expert pointed out that what appeared to be an old culvert in the path of the proposed channel change was in reality a flume from the flour mill which used the creek for power from 1859 until 1890. The proposed channel alignment was altered to miss this area, thus avoiding destruction of the flume and what is left of the foundation of the mill. While these items are important to the local community, they are not listed in any registers of historic sites and may have been unwittingly destroyed if it were not for early contact with local residents.

To compensate the public for the parklands to be used for I-94, approximately 13 acres of replacement land will be added to North Mississippi Park. One of the parcels to be used for replacement land has a lagoon filled with slaked lime. Although the rest of the parcel is wooded and in keeping with the natural character of North Mississippi Park, it was obvious that something would have to be done to the lagoon to make it fit in with the rest of the park. Details have not been completely worked out, but it appears that there are several possibilities for the lagoon once the MHD removes the lime. It can be filled in with earth and planted with trees, or it can be left to fill with water to form an area for waterfowl breeding and for canoeing The final choice of treatment is up to the Minneapolis Park Board.

Another major area of parkland enhancement is better access to the park for pedestrians and bicyclists. At present, access is limited to one point near the south end of the park, and this access road is shared by cars and trucks, pedestrians, and bicyclists. As a part of the I-94 project, additional access will be provided along Shingle Creek at the north end of the park and at a point near the center of the park.

So far, all the planning is still only on paper, but the first construction contracts on I-94 are scheduled for letting in late 1976. Work on the park



Artist's concept of planned waterfall.

area itself is tentatively scheduled for letting in 1978. By 1981, the extra effort should begin to pay off in a highway that benefits not only those who use it, but those who have to live with it and play near it.

Suedbeck Appointed To Aid Post

Harvey P. Suedbeck, Brown County highway engineer at New Ulm has been appointed to state aid engineer for District Seven.

Suedbeck is a graduate of Slayton high school. He served in the Army Air Force during World War II after which he began his career in 1948 as an instrumentman in Murray County.

In 1959, he became a registered professional engineer and worked as Murray County engineer and Brown County engineer before being appointed to his present post.

In his new position, Suedbeck will act as liaison between MHD and local units of government in cities of over 5,000 population and the counties in District Seven. He will also be responsible for seeing that proper maintenance is performed on federal and state-aid routes in the district.

Suedbeck will replace Stanley A. Rasmussen who will be retiring on February 3, after a lengthy career with the department.

Transportation. What's Ahead?

Part II. *Excerpts from a speech delivered by Federal Highway Administrator Norbert T. Tiemann on May 18.*

Finally, let me move on to the theme of this conference: "What's Ahead?" Assuming we solve the serious problems I enumerated earlier – and, of course, we must solve them if this Nation is to continue to progress – what does the future hold for transportation?

Let's take a time frame of 25 years of the year 2001 – because I think that, as a practical consideration, it is impossible for anyone to look farther down the road than that.

Actually, trying to predict what might happen a quarter century into the future is pretty risky, at best.

For example, who, in the World War II year of 1944, would have had the temerity to predict that the United States would land men on the moon 25 years later, in 1969? For most of us, certainly, that thought was as remote as the moon then was from the planet Earth.

On the other hand, change often does not come as rapidly as we sometimes foresee. In 1950, for instance, there were some who believed that by now we all would be riding on automated highways. That has not yet come to pass.

However, who in 1950 envisioned that this Nation was on the brink of embarking on the greatest roadbuilding program the world has ever known? Yet just 6 years later, Congress enacted the legislation that launched the 42,500-mile Interstate System. And in 1950, who would have had the prescience to foretell the incredible collapse of the American railroads?

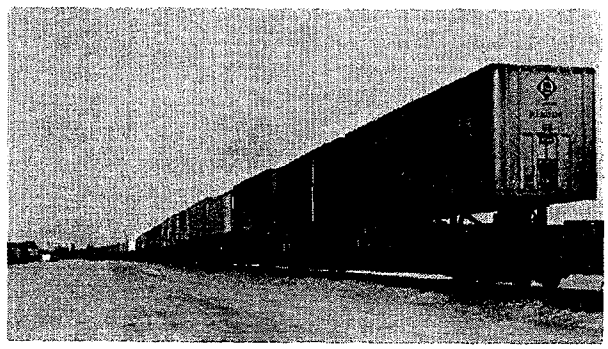
Obviously, then, prophecy is an inexact science, to put it in the most favorable light.

However, with considerable trepidation, and with the hope that no one will hold me to them, I submit the following thoughts about transportation in the year 2001:

– The automobile, in some form, will continue to be the predominant form of transportation in this Nation. However, it will be much more energy-efficient and will come in great variety. Passenger vehicles will range from very high mpg mopeds to multi-passenger van-buses, and recreational vehicles with a high proportion of diesel and some Sterling cycle engines. Low powered electric and other two- or three-seat vehicles capable of practical maximum speed of 30 mph for use in neighborhoods and urban areas; carefully streamlined high speed intercity vehicles in two- and five-seat models, and very light utility vehicles serving the pick-up and van role will be available.

– Motor fuels will include gasoline blended with 20 to 30 percent methanol, diesel fuel, nonpetroleum fuels from coal, gasahol (made from corn), cellulose products and wastes and electricity. Great progress will have been made in developing and producing synthetic fuels.

– Fuel, in terms of 1976 dollars, will cost about $2 per gallon, including taxes, but expenditures per passenger-mile will have increased less than 100 percent, perhaps only 25 percent, for the conservation-conscious family.



Piggyback railroad car

– Trucks will be operating in designated lanes on selected intercity routes as trains of 3 to 12 semitrailer units behind a single tractor truck, with tandem axle loads of 40,000 pounds.

– Carpooling will be an established way of life. During rush hours in urban areas, more than 75 percent of the automobiles used for commuting will carry more than one person.

– Control technology will have been developed and be in use which will permit vehicles to travel at much closer headways more safely.

– Exclusive bus lanes will be in use in all large urban areas.

– There will be much more emphasis on para-transit facilities. Buses will continue to play a major role in the urban mass transit picture; large buses will be used during rush hours while smaller, more energy-efficient vehicles will be used in off hours. Unless there are major technological breakthroughs which greatly reduce the capital investment, few new subway systems will be in use. There will be increased use of "light" fixed rail facilities (an updated version of the old trolley cars), and monorail may play a very limited role in certain areas.

– All major cities will have several ARZ's – automobile restricted zones.

– Some new Interstate System-type freeways will have been constructed, but the focal point of the Federal-State highway program will be on expanding the capacity of existing Interstates and dramatically upgrading the existing

BEST OF SHOW WINNER HERB NAEGELI, senior highway maintenance worker, and his winning painting, "Sign Shop Special."

presently teaching art in one of the community school programs. Her work has been recognized throughout the area. She is presently associated with the Northland Arts & Crafts Guild and the Market Street program of the Minneapolis Society of Fine Arts.

Pat Murto is a member of the Northland Arts & Crafts Guild. She also teaches macrame and other crafts in the surrounding area.

Virginia Ringsred is one of the owners of the Spinning Wheel, a needlecraft shop in Duluth. Virginia has displayed her own work in area shows.

Winners chosen by the judges are as follows:

BEST OF SHOW: Herb Naegeli, Art.

ART: 1. Herb Naegeli; 2. Bruce Rosand; 3. Dean Laiti; Honorable Mention, Bill Anderson; Honorable Mention, Terri Swan.

HOBBY: 1. Nancy Sugiyama; 2. Dean Laiti; 3. Maxine Gjerdahl; Honorable Mention, Barbara Ziemski; Honorable Mention; Jerry Arnold.

NEEDLECRAFT: 1. Sandra Kendall; 2. LeeAnn Negard; 3. Linda Dzuck; Honorable Mention, Kris Kauzlaric, Honorable Mention, Barbara Ziemski.

SCULPTURE: 1. Al Hanson; 2. Dean Laiti; 3. Karen Thomas.

WOODWORK: 1. Al Hanson; 2. Dean Laiti.

SPECIAL CLASS: 1. Deems Thomas.

Duluth Holds First Show

by SANDRA R. KENDALL

The first Art & Hobby Show in District One was held May 20-21. We had a total of 30 entries. I personally thank everyone who made our first show such a great success. I know that next year's show will be even bigger and better.

The judges were Virginia Svercl, Pat Murto and Virginia Ringsred.

Virginia Svercl studied fine art at the College of St. Scholastica and is

Commissioner of Highways Frank D. Marzitelli (right front) has just presented 30-year service awards to these Central Office employees: (Back row, left to right) Charles Burrill, Regional Assistant Commissioner; Clarence Thomsen, Materials and Research; Harry A. Toren, Right of Way; Robert G. Blomberg, Planning and Programming; and A. James Hansen, Right of Way: (Front row, left to right) Wallace Swanson, Right of Way; Kenneth Rivard, Planning and Programming; Walter Jiracek, Road Design; and Herman Anderson, Road Design.

Transportation. What's Ahead? (continued)

Primary and Secondary System roads (by then known by other names).

– Federal highway funds will be available for use by the States for rehabilitation of existing roads.

The primary function of the railroads will be the long haul of freight, with piggybacking being used on a much larger scale than at present. Passenger service will exist only in relatively short, high-density corridors (such as Washington-New York), but there it will thrive.

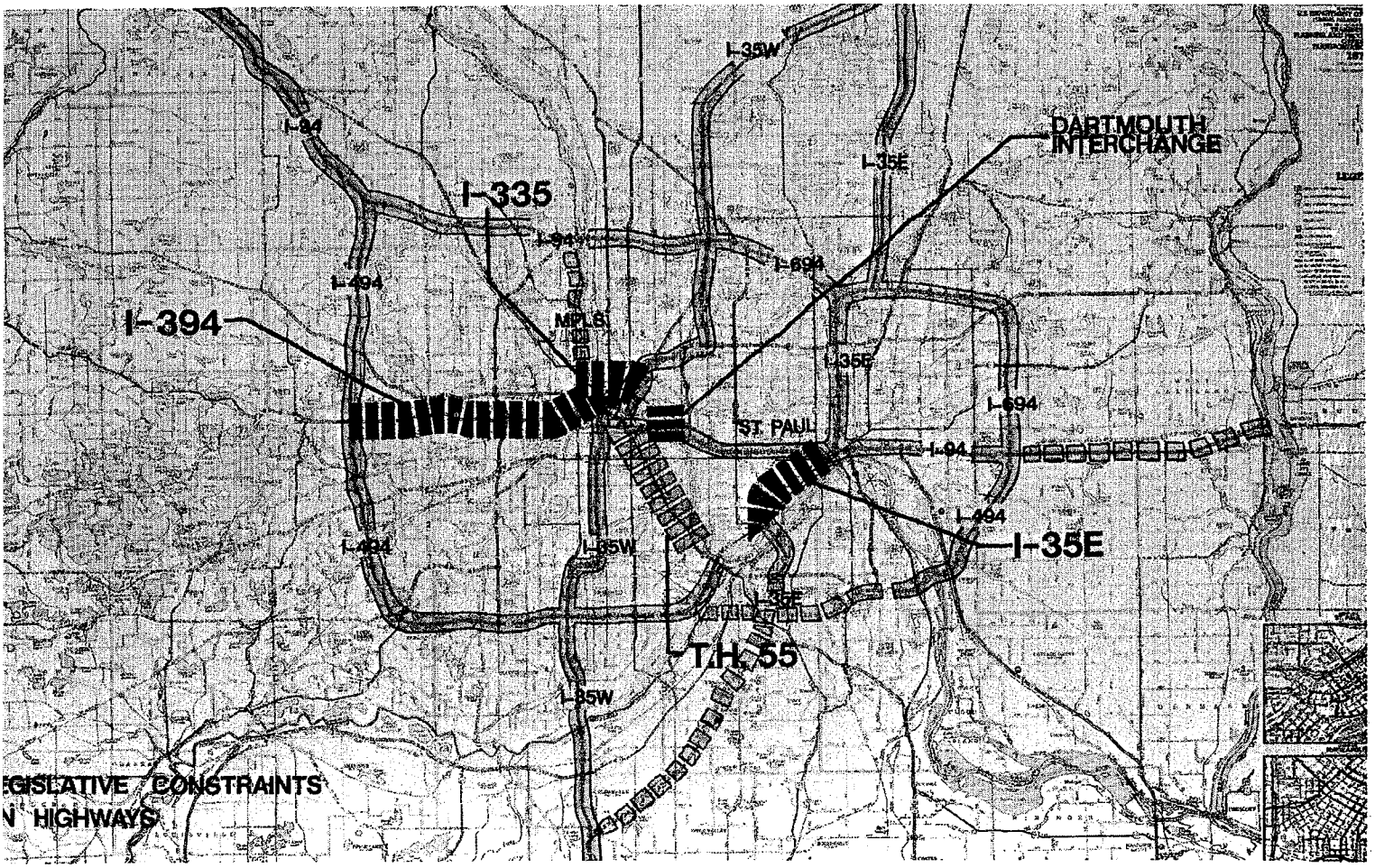
– There will be widespread use of various wastes as materials for highway pavements.

– The Federal interest in all forms of surface transportation will be expressed through a Surface Transportation Administration, which will include highways, rails, mass transit, and perhaps the waterways.

– Highway travel will be much safer; vehicles will have many more safety features and our engineering technology will have advanced to the point that the roads constructed in 2001 will make those we know now look out of date.

Well, that about covers it. I am sure that everyone here can make predictions of his own concerning our transportation system 25 years down the road. But let's all keep in mind that, at this point, we're only guessing!

DOT SCENE



Freeway Moratorium Means 'Constraints'

"The so-called 'freeway moratorium' is having no effect on Mn/DOT's planning and construction capability," Commissioner Harrington said February 15 before the Senate Transportation Committee.

Calling "moratorium" a misnomer, Harrington explained that the legislation, passed in 1975 and amended in 1976, only imposes "constraints" upon what Mn/DOT can do in five transportation corridors in the Twin Cities metropolitan area.

The projects covered by the legislative constraints are:

I-35E in St. Paul from West Seventh Street to I-94;

I-394 from I-494 to the Hawthorne Interchange in Minneapolis;

TH 55 (Hiawatha Avenue) from the south limits of Minneapolis to I-94;

Dartmouth Interchange, a proposed connection between Washington or University Avenues and I-94; and

I-335 from I-35W to I-94 in Minneapolis.

In addition to raising the motor fuel tax and addressing a number of other highway-related areas, the 1975 legislation prohibited the Department from causing any construction or acquiring any land for these projects, except as follows:

construction of four-lane parkway with limited access for I-35E in Pleasant Avenue corridor of St. Paul, provided such parkway will not connect with I-94;

construction of not more than six lanes for I-394 from I-494 to Hawthorne Interchange, provided no additional land is acquired except what would be necessary for construction of six lanes;

increasing number of lanes up to but not exceeding six and upgrading Hiawatha Avenue along its present corridor;

no extension or connector of Dartmouth Interchange of I-94; and

construction of parkway facility of not more than four lanes for I-335.

When the legislation was first passed in 1975, the Department's ability to work in these corridors was severely hindered. The Attorney General's Office advised that the 1975 legislation did not allow the Department even to work on planning and environmental reports for the controversial projects.

Amendments, effective April 1976, allow the Department to

Continued

prepare environmental impact statements, recreational and other land-use reports, and other elements of the planning process required by federal and state law.

An analysis by Mn/DOT staff indicates there is no need for legislative change in the freeway constraints during the 1977 session. The Department is trying to resolve each of the transportation issues addressed by the constraints.

"It is likely that the issues can be resolved within the constraints," Harrington said. "If that is not the case, the Department may request modification of the legislative constraints in order to reach workable solutions."

With the City of St. Paul and St. Paul area legislators, Mn/DOT is studying the possibility of connecting I-35E from West Seventh Street to the Shortline Road. Parties to the 1972 federal court suit would have to agree also.

The final environmental impact statement on I-394 from I-494 to Hawthorne Interchange is expected this year, with construction to begin in 1981 at the earliest.

Design of TH 55 (Hiawatha Avenue) within legislative limits is under consideration by the City of Minneapolis, but requires environmental study.

Two projects within the metropolitan area are currently not being considered by Mn/DOT. The Dartmouth Interchange proposal originated with the City of Minneapolis and is not being studied by Mn/DOT. Earlier approval for I-335 by Minneapolis has been withdrawn and other proposals are being studied for alternate use of the funds previously earmarked for the project.

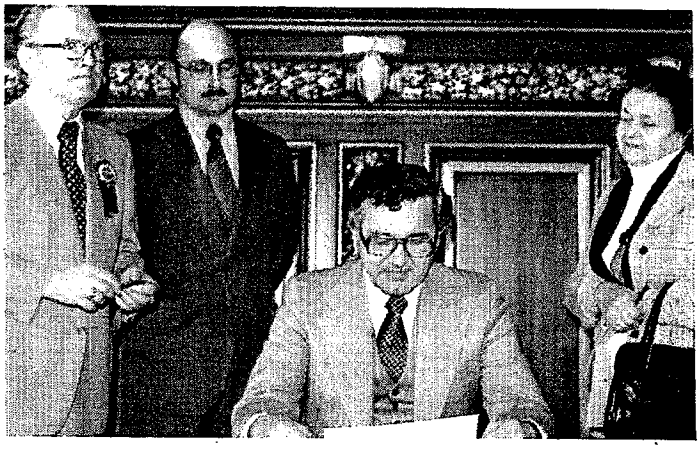
Other transportation projects in the metropolitan area are not affected by the legislative constraints. Of these projects, Harrington referred specifically to I-94 in Washington County for which the final environmental impact statement has been submitted for approval to the Federal Highway Administration; I-94 in north Minneapolis where construction is expected to begin this summer; I-35E in Dakota County for which a final environmental impact statement is expected within the next two or three months; and I-494 in Dakota County for which a draft environmental impact statement is expected within the next two or three months.

Retirees To Meet

The next luncheon meeting of the Retirees Club will be held in the Saxony Room at McGuire's Restaurant on West County Road E in Arden Hills at 12:30 p.m., Tuesday, April 12.

Recent retirees are invited to attend. Please make your reservations by calling Marshall A. Peterson (561-3057) in Minneapolis or Frank Povolny (644-8194) in St. Paul.

Airport Manager Honored



Gordon Newstrom (left), Mn/DOT Commissioner Jim Harrington and Newstrom's wife, Sylvia, listen as Governor Rudy Perpich reads the proclamation enumerating Newstrom's achievements and contributions in the field of aviation. It was the first proclamation presentation made to an individual by Rudy Perpich since he took office.

Gordon Newstrom, manager of the Grand Rapids Airport, was honored by a proclamation, presented by Governor Rudy Perpich, in the Governor's Office at the State Capitol on February 10. The proclamation listed Newstrom's achievements in aviation.

Among these achievements are that he is held in high esteem as a veteran pilot and airport operator, he founded Mesaba Aviation on the range in 1947, he is recognized as an international authority on seaplane operation. Almost every airline in the nation lists a crew member who learned to fly at Grand Rapids under Gordon Newstrom. During World War II many men in the Civilian Pilot Training Program learned to fly under his able instruction.

Mn/DOT employees helped Gordon Newstrom and the Grand Rapids - Itasca County community make the Grand Rapids Airport the progressive installation that it is today. Our Aeronautics Division (formerly Aeronautics Department) contributed expertise and money (through the dedicated State Airport Fund) toward land acquisition, runway extension building and microwave landing system at the Grand Rapids Airport. Grand Rapids is now involved in planning further land acquisition and runway extension with Mn/DOT help.

I-94 extension: one step closer

By Bill Krause, staff writer

It's been 20 years since the first hearings were held and it will be about five more before work is completed, but on the morning of August 12 the long-awaited and often controversial extension of I-94 in North Minneapolis came one step closer to reality.

Ground breaking ceremonies commemorating the beginning of work on three bridges over the proposed roadway were held on Friday, August 12 at 10:30 a.m. at 26th Avenue North and I-94.

Minnesota Congressmen Don Fraser and Bill Frenzel were on hand for the occasion as principle speakers.

Wielding the shovels for the ground breaking were Minneapolis City Council President Lou DeMars, John Derus, chairman of the Hennepin County Commissioners, Minneapolis Aldermen Richard Miller and Alice Rainville, and Sam Sivanich of the Hennepin County Commission, along with Mn/DOT Commissioner Jim Harrington.

Work on the structures and approaches at 26th Avenue North, Lowry Avenue North and Dowling Avenue North has already begun. Work on the bridges is expected to be completed before Christmas.

Grading and surfacing bids for the proposed I-94 roadway from the Hawthorne Interchange to 40th Avenue North are tentatively scheduled to be received next April 28.

The furthermost extension of proposed I-94 from 59th Avenue North to 40th Avenue North, on what is presently US 169, is scheduled for bid letting on October 27, 1978.

Back in 1957-58, the first public hearings were held to determine the location of proposed I-94. Design hearings were held in 1972 and 1975.

The final environmental impact statement was adopted by the Minnesota Environmental Quality Council in December 1976 and by the Federal Highway Administration in April 1977.

It is expected that I-94 construction will be completed in 1982 at a cost of about $100 million.

Resolving controversial issues has become almost routine for Mn/DOT in the matter of Interstate 94. Behind the ground breaking ceremonies and news releases lies a history of controversy and compromise dating back to the early 1960s.

Work is finally progressing on long-awaited I-94 northern extension.

Early studies had routed I-94 directly through North Mississippi Park, a part of the Minneapolis Park System. But the Park Board wanted to maintain the undeveloped nature of the park, to preserve it as a contrast to the surrounding commercial, industrial and residential areas.

North Mississippi Park is located along the west bank of the Mississippi River from 41st to 47th Avenue North. To the east of the park is the Mississippi River, and to the west is the Camden neighborhood commercial and industrial area.

When the park routing problem was faced, and alternate routings seemed equally inappropriate, or impossible, a compromise alignment was eventually worked out. The present routing takes some land from the park and some from the commercial industrial area.

Interstate 94, by separating the parkland from the business to the west, will help define park limits.

Preservation of aesthetic values were taken into consideration by designing a depressed roadway past most of the park, making the road less visible and reducing the level of highway noise reaching the park.

Right-of-way needed from the park has been held to slightly over eight acres by keeping the north and southbound roadways close together and by extensive use of retaining walls.

To enhance the remaining parklands, a combination of walls and earth mounds will be used for noise abatement. The park side of the walls will be landscaped to blend into the rest of the park.

Shingle Creek runs through the park and rerouting of the creek bed is planned. This will make it possible to build a walkway and bicycle path alongside the relocated creek and will help connect North Mississippi Park with a chain of parks located along Shingle Creek.

Another benefit of creek relocation is that a 13-foot waterfall will be built at the upstream end of the channel change. This waterfall will be visually attractive and serve as a fish barrier to keep rough fish from the Mississippi River from spawning in the chain of lakes through which Shingle Creek passes.

At present, access to the park is limited to one point near the south end. This access road is shared by cars, trucks, pedestrians and bicyclists.

As a part of the I-94 project, additional access will be provided along Shingle Creek at the north end of the park and at a point near its center.

Aug 1977

Mn/DOT needs right-of-way to construct I-94

Golden Valley relocation advisors have their work cut out for them if Tom Skalberg's calculations hold steady.

The acquisition of right of way for construction of Interstate 94 between the Hawthorne Interchange in Minneapolis and 61st Avenue North in Brooklyn Center has tagged 73 buildings for state purchase, said Skalberg, who is the District 5 relocation supervisor.

He pointed out that those buildings house 130 families and include 21 commercial structures containing 29 businesses. Nine other commercial buildings have been acquired, Skalberg said, and those have been leased to businesses on a short-term basis.

Skalberg's relocation crew consists of Dave Pearson, Bud Ronning, Kurt Hartner and Dave Brewer. Together they implement the many steps taken in a relocation effort.

In the I-94 situation, for instance, "concept relocation studies," involving social and economic considerations, are the first step. They are followed by public hearings at which private citizens, governmental agencies and public interest groups can voice their opinions and desires about the location and design as well as other factors involving the road plan.

Skalberg explained that once the route is determined, more relocation studies are conducted so that the persons who will be displaced by the project have an opportunity to voice their special needs.

After the actual acquisition of the property, which is the next step, a counselor is assigned to work with each family until it is satisfactorily relocated. These relocation advisors assist in preparing a family's claims for aid and also participate in the location of new housing and resettlement.

The housing and relocation situations which a relocation advisor must unwind vary tremendously. In many he acts not only as the state's representative in the acquisition process but as an advocate on behalf of his client. He shows them how to get what they need and eases the anxiety of relocation. In some cases, the relocatees come out ahead of the game.

When Mn/DOT purchased a house for $26,000 from an older couple the District 5 relocation advisors were able to obtain a new home for $28,900 with a supplement of $2,900 plus closing costs, interest differential and moving costs.

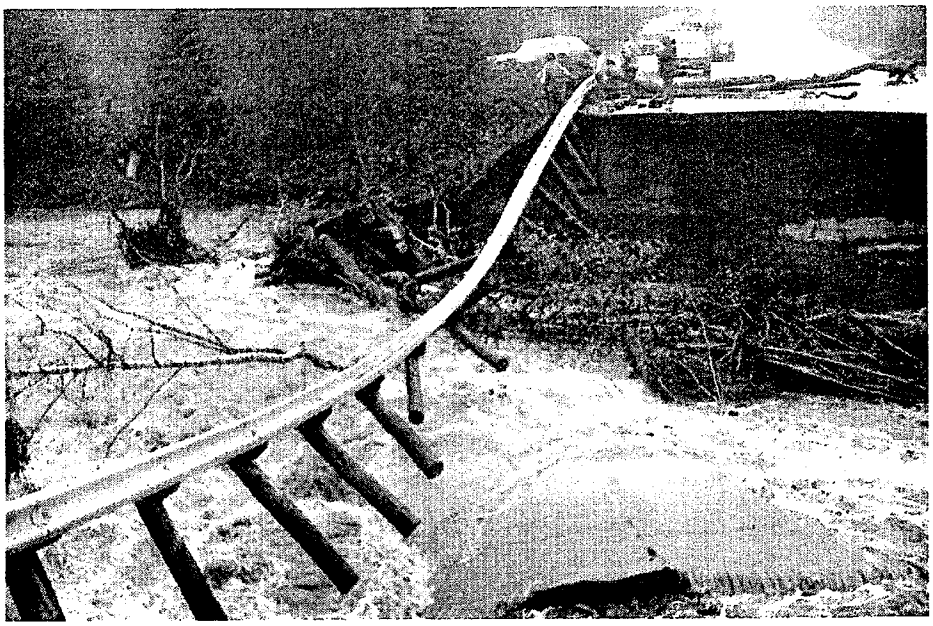
In another case, a widow received $22,000 from the state for her home and was shown how to use her displacement priority to move into senior citizen housing. She was allowed $425 in moving costs and now pays $95 a month for an apartment, including utilities.

In all relocation cases, strict federal and state legislation detail procedures that help Mn/DOT help the people it needs to move. Currently, the majority of relocations under Mn/DOT's program are handled by the District Five Relocation Office in Golden Valley, primarily because of the number of major highway projects underway in the five-county area served by the district.

The north Minneapolis segment of I-94 is expected to open to traffic late in 1982, but it's a sure bet that Skalberg and his relocation crew will be able to tabulate their successes long before then.

Tom Skalberg, District Five relocation supervisor, chats with Lucille Frank who was displaced by the I-94 project.

Year-long repairs slated for flood-damaged I-61



Temporary repairs to flood-damaged US 61 along Lake Superior have been completed since the washouts in late September, but Duluth District Area Maintenance Engineer John Allen says it will be nearly a year before permanent restoration is completed. At Caribou River, above, more than 125 feet of roadway was washed out when debris jammed a culvert. (photo courtesy of Duluth District Office)

The aviation business is booming. New airports are springing up throughout the state, runways are being extended, terminals built. A large part of the financing is through the airport user fund administered by the Division of Aeronautics. Among the airport dedications during recent months was that in Pelican Rapids (above). (Mn/DOT photo)

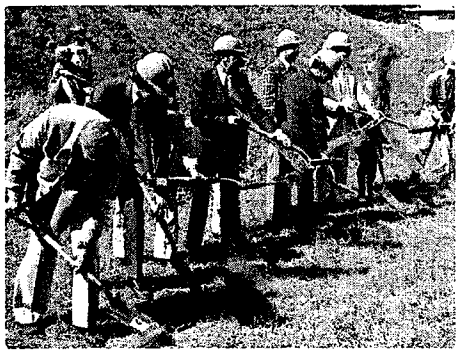
Mn/DOT makes some significant changes in the face of the land

Ceremonies highlight special events

The ribbon cutting was unique — celebrating completion of the first phase of the new Concord Street project and grand opening of the St. Paul Union Stockyards building, St. Paul. A small herd of cattle cut the ribbon for the $1.8 million highway project. (Photo by Ron Germundson)

T-Thursday (Transit Thursday) in the Twin Cities was October 20, sponsored by Mn/DOT, the Energy Agency and Metropolitan Transit Council. Ceremonies were held in downtown St. Paul. Participating were (from left) Dick Brown, Mn/DOT transit director, Sen. Schaaf, and Dick Braun, deputy commissioner for operations. (Photo by Ron Germundson)

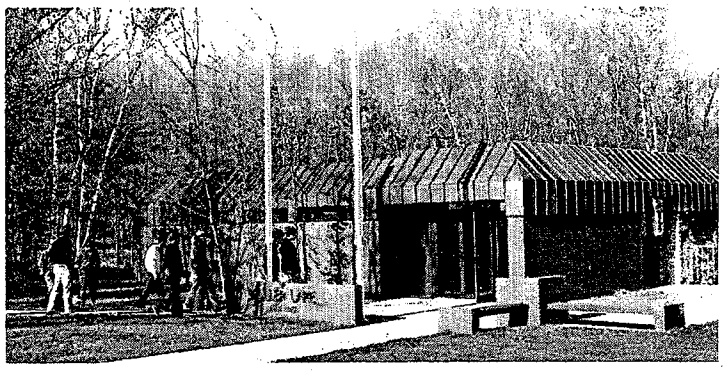
Nov 1977



August groundbreaking ceremonies marked the beginning of construction on the north Minneapolis link of I-94. By the time the project is completed, it will have taken a quarter of a century from start to finish. Dignitaries were escorted to the event by van to call attention to efforts to reduce the number of vehicles on the road by increasing passenger loads. (Photos by Neil Kveberg)

District Director Bob Wolfe shows off a drawing of the Red Lake Indian Reservation south entrance sign. (Bemidji District photo)

In the twilight of late afternoon a worker unloads sod from a trailer, putting finishing touches to a section of I-94 near St. Cloud.



THE FULLER LAKE Safety Rest Area, 50 miles northwest of Minneapolis on I-94 westbound is now open to the public. The 35-acre wooded site on Fuller Lake is the 21st rest area to open in the state. It was built under the supervision of Brainerd District Director Darryl Durgin and Assistant Director Warren Jones. In charge of the project was Resident Engineer Mark Woell. (Photos by Neil Kveberg)

Dedication opens I-94

Brainerd District Director Darryl Durgin and Dave Smilonich, district information officer, exchanged wry grins over the heads of the dignitaries who wielded the scissors at the I-94 ribbon cutting November 14 at St. Augusta.

Proud though they were of the opening of 28 new miles of the interstate, their eyes acknowledged the long, arduous process of building a highway.

Hailed as the last major continuous rural stretch of Interstate 94 from Detroit to Billings, the road ribboned into the distance.

There was a second ribbon cutting at the Albany interchange and the dedication luncheon. Earlier in the day, Governor Perpich, Mn/DOT Commissioner Jim Harrington and other officials had held a news conference in St. Cloud to describe the project and its impact. A caravan of buses had transported the participants from St. Cloud to St. Augusta and then to Albany.

The 28 miles between Albany and St. Augusta proved to be the last section of I-94 to be completed in Minnesota outside the Twin Cities.

"The dry weather last year, was nearly perfect for highway construction," Smilonich said. We had phenomenal production — so good, in fact, that the surfacing contracts scheduled for 1978 advanced to 1977."

Fast progress continued through this year's construction season and made it possible to open the section to traffic on November 14, a year ahead of schedule, but unfortunately missing Mn/DOT's first "anniversary" by six days.

Nov 1977

I-94 western link opens one year early

Story and Photos
by
Sue Roethele

Governor Perpich and Representative Al Patton cut the ribbon spanning the westbound lane of I-94 at St. Augusta.

Wielding hedge-clippers, Governor Rudy Perpich, Mn/DOT Commissioner Jim Harrington and other officials November 14 cut a ribbon spanning the westbound lanes of the St. Augusta I-94 interchange in celebration of the completion of the last major, rural continuous stretch of the highway.

More than 200 people attended the ribbon cutting at St. Augusta which followed an earlier news conference at the Holiday Inn in St. Cloud.

Two buses of officials and local dignitaries and Mn/DOT employees involved in the design and construction of the 28-mile segment from St. Augusta to Albany formed a caravan to the St. Joseph and Albany interchanges for more ribbon cuttings and a dedication luncheon.

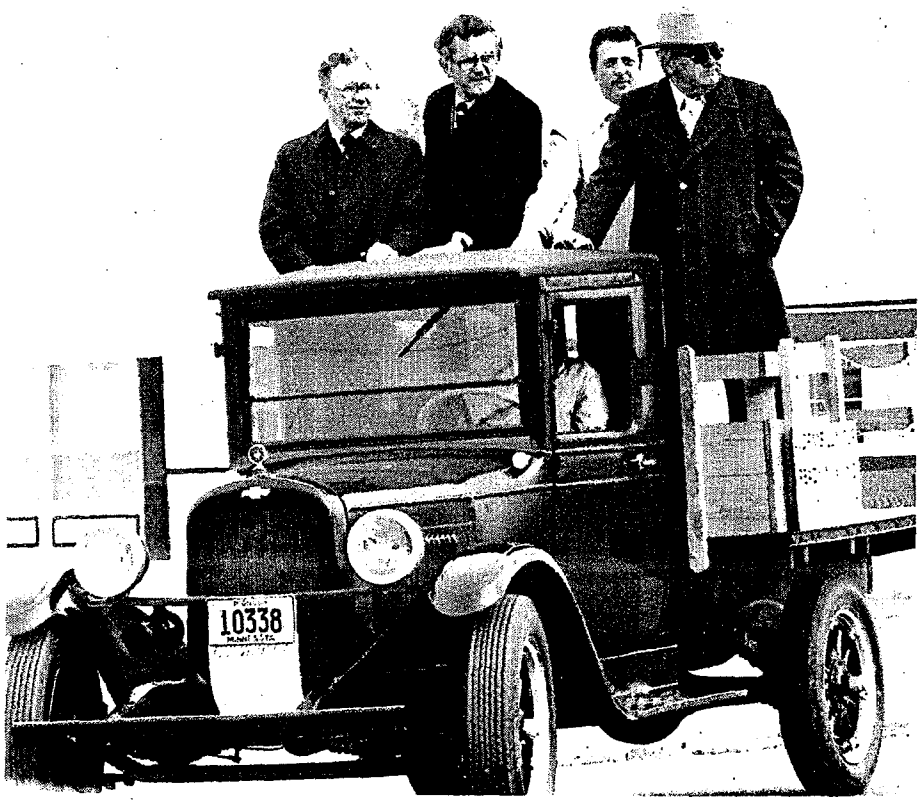
The caravan was expanded by area Chamber of Commerce members and community residents in car and van pools and nearly a dozen antique cars, trucks and other vehicles. Onlookers cheered the caravan from bridges across the interstate and in many instances, farm families gathered along fencelines to wave the convoy on.

Joking about traffic congestion in St. Cloud, now alleviated by the interstate bypass, Governor Perpich commented that he figured he had spent about three weeks on Division Street while traveling through the state.

At the morning news conference attended by nearly 200 persons, Commissioner Harrington commended the cooperation of the Brainerd and Detroit Lakes districts' personnel in helping complete the project a year ahead of schedule.

Harrington also noted that the Environmental Impact Statement for the project, written by Dave Smilonich, Brainerd design engineer, was the first ever approved for a highway project in Minnesota.

Also at the news conference Darryl Durgin, Brainerd district director, discussed future highway improvements slated for St. Cloud and said about six maintenance workers will be added to help maintain the new stretch of I-94 that has been opened.



Governor Perpich and friends hitch a ride to lunch after the ribbon cutting ceremonies.

Dec 1977

A news conference at the St. Cloud Holiday Inn opened the I-94 celebration. Fielding questions from television, radio and newspaper reporters were, from left, Dean Carlson, division administrator, FHWA; Commissioner Jim Harrington and Brainerd District Director Darryl Durgin.

The unveiling of these signs erected just before the opening of I-94 was rigged by Dave Smilonich, Brainerd District design engineer.

Hundreds of area residents including schoolchildren, Legionnaires, women's groups and farm families, joined Mn/DOT employees and local officials in a caravan that traveled the length of the new 28-mile I-94 segment between St. Augusta and Albany during ribbon-cutting ceremonies Nov. 14.

Dec 1977

Situated at ghost town

Enterprise rest area opens

by Michael Stirens, staff writer

Named for the ghost town it overlooks, the Enterprise Safety Rest Area has been opened to the public on I-90 about 17 miles southwest of Winona.

The 22nd of Mn/DOT's safety rest areas on the interstate system is situated on a bluff above the ghost town of Enterprise along the Rush Creek Valley.

The spot will be of special interest to history buffs. Founded in 1853, the town of Enterprise flourished for a few years with several factories, the original Whittier Inn, and as an important stage coach and freight wagon stop on the Winona-Mankato territorial road.

Traffic was diverted through nearby Lewiston with the coming of the railroad in 1865, bypassing Enterprise. Today only a few buildings remain on the opposite side of I-90 as vestiges of its role in the settling and development of Minnesota. Rush Creek Valley, formed by melting glaciers, yields significant geological and archaeological history dating back several million years.

The 64-acre Enterprise Rest Area complex was constructed under the supervision of Roy Larson, director of the Rochester District and Louis Anderson, assistant district director. In charge of the project was Resident Engineer Bernard Brisk. Site design and coordination of development was directed by Dennis Adams, project landscape architect.

The rest area building has hot and cold running water, drinking fountains, public telephones and a bulletin board information display. There are three picnic shelters and 22 picnic tables. Footpaths wind along the edge of the bluff through birch, oak, and white pine leading to the picnic shelters and an overlook giving a panoramic view of the old town site and Rush Creek Valley.

Parking areas and walkways are lighted. There is parking for 35 cars and 14 trucks (or cars with trailers).

Friends say "thanks" for jobs well done

Although the bulk of the complimentary mail about Mn/DOT employees and their work goes to the office of Commissioner Jim Harrington, he thinks it's good to share the praise with those who earned it. The following letters are just a few among many.

Dear Mr. Harrington:

In the course of my business travels in Central Illionis last week, I had the opportunity to compare how another state (Illinois) compares with Minnesota when it comes to clearing snow and ice from State and Interstate Highways.

As with many things in life, we don't appreciate what we have until we don't have it anymore. That certainly is true when it comes to highway maintenance. The snowfall in Central Illinois last week was only 6-7 inches (which isn't much by Minnesota standards) but everything came to a complete halt. I tried to drive from Champaign to Peoria three days after the storm and I had to turn back because the roads were so bad.

Needless to say, I have gained a greater appreciation of the prompt and efficient manner in which your highway maintenance crews do their job. I am proud to live in a state where public services are handled as well as your department handles its responsibilities — and I want you to know how I feel about it.

Yours sincerely,
/s/John R. DuBois
Communications Consulting Engineer
Minneapolis, MN

Dear Jim:

Living in Burnsville and working in St. Paul, Minnesota Highway 13 is generally not very pleasant to drive on even in good weather during the morning hours.

This morning, after having shoveled an accumulated depth of approximately one foot of snow from my driveway, I drove onto Highway 13 to come to work. As I was driving along the highway, I noted that your crews had the highway plowed, including the shoulders, and obviously had been up throughout the night to get the highway in extremely good driving condition, especially given the amount of snowfall we had over night.

I got to thinking that so many times people probably write to you demeaning your crews and complaining but that you probably never get a letter thanking your crews for their very fine efforts in our conditions.

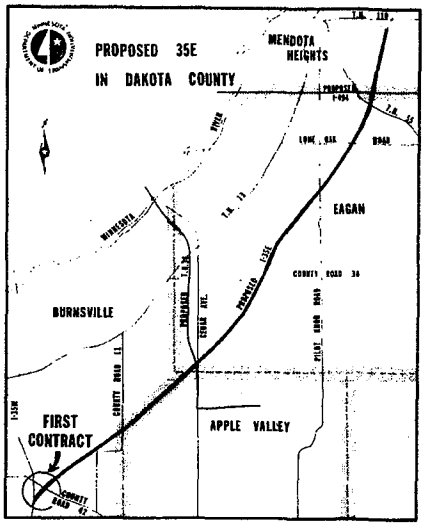
Please pass along the thanks of at least one citizen of the state of Minnesota who appreciates the work that your highway maintenance crews do.

Yours very truly,
/s/ Duane R. Harves
Chief Hearing Examiner
State of Minnesota
Office of Hearing Examiners

Feb 1978

I-35E southern link to I-35W begins

Story by Sue Roethele, staff writer
Photo by Rob Sheppard, staff photographer



Groundbreaking ceremonies to mark the beginning of work on Interstate 35E in Dakota County were held May 2 at a site a few hundred feet east of Interstate 35W near Dakota County Road 42.

Mn/DOT Commissioner Jim Harrington said the beginning of construction on the segment of I-35E from I-35W to County Road 42 is the first of a series of projects that will eventually link I-35W to TH 110.

Governor Rudy Perpich participated in the groundbreaking, along with Mn/DOT Deputy Commissioner Dick Braun, other Mn/DOT officials and local dignitaries. Federal and state legislators also attended.

The Burnsville Chamber of Commerce sponsored a luncheon for the participants, following the ceremonies.

The I-35E project in Dakota County is divided into two portions, with 35E between I-35W and Cedar Avenue expected to open in 1981; and the second, 35E between Cedar Avenue and TH 110, to open in 1983. The entire project is about 10 miles long and estimated to cost approximately $50 million.

The first segment of the 35E project is 0.8 mile long and is being constructed at a cost of $2,626,000. Completion of the project, which covers grading, construction of two bridges over County Road 42 and reconstruction of that road from I-35W to just east of I-35E, is expected in July, 1979.

Surfacing of the segment will be completed during the next phase of the work, which includes grading from County Road 42 to County Road 11.

Governor Perpich and Representative Bob Jensen get instructions in running a bulldozer during the groundbreaking ceremonies for Interstate 35E in Dakota County.

May 1978

Walnut Lake wildlife management area vs. I-90

Story and photos by Rob Sheppard

What happens when a major highway, I-90, must cut through a major wildlife refuge, Walnut Lake? It could have been disaster, but cooperation between Mn/DOT and state and federal wildlife people kept disturbance to a minimum.

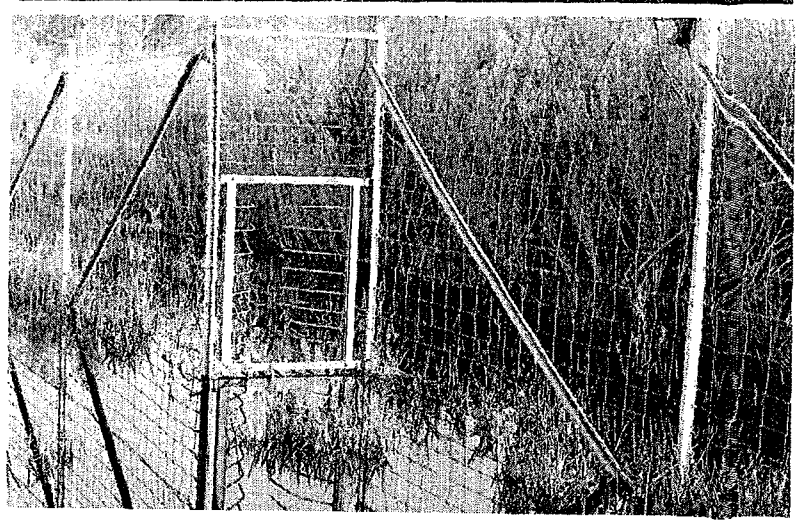
Walnut Lake Wildlife Management Area, a low, marshy place, is about 15 miles west of Albert Lea. Many species of waterbirds and mammals are attracted to it.

According to Rich Staffon, Mn/DOT wildlife biologist, some of these animals will be displaced and some land lost to I-90. But special work will make up for this.

"For example, we expect some deer to get over the fences by the roadway," Staffon said, "so we built one-way exits in the fence for the deer." The fence allows deer to find their way out but not walk back in.

To improve the marsh, a dike is being built by Mn/DOT. Staffon said that much of the area is too closed-in for waterfowl so the dike will impound more shallow, open water for the refuge. It will include a trail for better access as well.

Walnut Lake refuge and I-90 — proof that nature and highways can exist together when the right people and agencies cooperate.



Jun 1978

In Blue Earth County

Wetlands and forest preserved though highway cuts through

Story and photos by Rob Sheppard

Imagine this — a quiet river meanders through a low valley surrounded by low wooded hills. Beaver live in the river and deer come to the river's edge to drink. Wildflowers are everywhere in the woods above the stream, adding pinks, blues, whites, and yellows to the carpet of green under the tall trees.

All this happens to be a place where I-90 cuts through just north

Jun 1978

of Blue Earth, and a place where Mn/DOT decided to build a rest area. Now everyone knows highways and nature cannot exist together — or can they?

Maurice Schwen, previous owner of this spot called Schwen Woods, didn't think so. And he had the support of much of the local community. Schwen had made the woods into quite an attraction. School children came on field trips, scouts planted trees and made trails, nature lovers found the plant and animal life unique.

Schwen thought that all this would be destroyed. Didn't highways mean ripped-up land later replaced by concrete?

Not according to Dennis Adams, Mn/DOT landscape architect. A beautiful spot like this could enhance the highway system. A pleasant rest area with native plants and animals could show off the state and give the traveler a taste of the natural Minnesota.

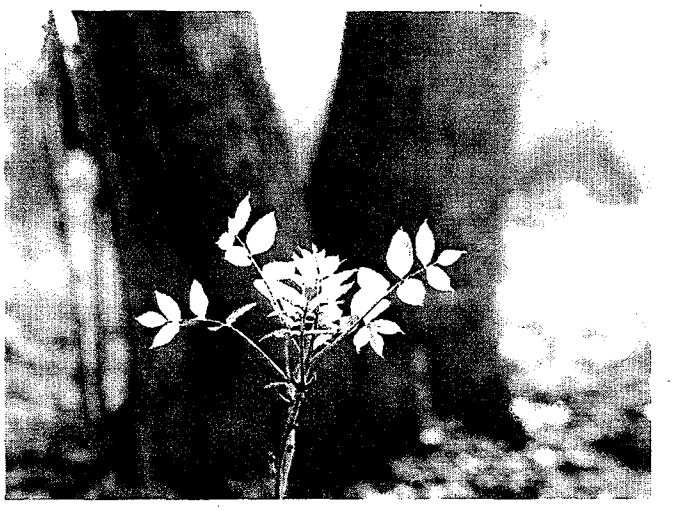
Schwen and the community had great doubts. Adams and many Mankato District employees had to answer question after question at hearings in and around Blue Earth. Lloyd Nelson, district director, and Schwen became arch enemies.

Today, Nelson and Schwen are friends. The Blue Earth Rest Area does include the Schwen Woods and a section of the Blue Earth River. Blue Earth citizens are beginning to like the idea of the rest area.

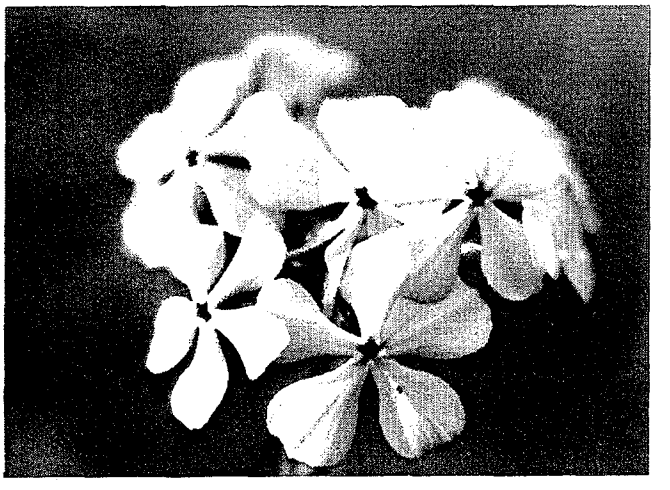
The change occurred because Mn/DOT is committed to preserving the woods. The rest area will actually enhance them. Adams worked hard on a design that would be a real attraction to weary travelers and to Blue Earth residents.

The rest area is split into two building locations north and south of I-90. Trails will connect the two sites. The roadbed splits here to take advantage of the site. According to Adams, Mn/DOT's bridge section employees did a superb job in designing attractive bridges for the site.

The parking lots and buildings will be built in old fields next to the woods and river. Very few trees have been damaged in early work, and very little of the natural areas on the site will be harmed. Picnic tables will be carefully placed to



A variety of trees make up the forest in the rest area. The small tree is a hickory, behind it a large basswood.

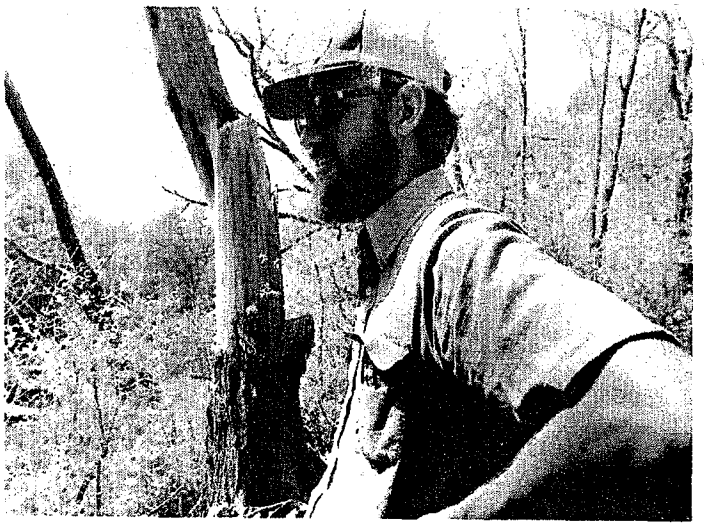


Blue phlox, one of the many wildflowers that bloom here at Blue Earth.

Art Bluhm, Mankato assistant district director, and Howard Korman, Blue Earth maintenance foreman, read one of the many signs Maurice Schwen put in his woods — "The earth is the Lord's; And all that therein is; All have been loaned to us; Man did not create riches; Wise stewardship is our responsibility. Protect and preserve."

Jun 1978

Sandpipers are just one of the many kinds of animals that find a home in the Blue Earth Rest Area.



Dennis Adams, landscape architect, believes this rest area will give travelers a taste of southern Minnesota.

provide travelers with a natural setting for their meals.

Schwen had made nature trails throughout his woods. These will be preserved so people can get out and see some of the beauty that high speed travel makes them miss.

Of course, some disruption to the land must occur whenever any construction takes place. For example, fill dirt must be removed for grades and for around the buildings. Here again, with help from Mn/DOT wildlife biologist Rich Staffon, the damage is small. The fill dirt is being removed from low, open areas so small ponds for waterfowl have been made.

Next to these ponds, an old field is being specially planted for wildlife. Corn, sorghum, and millet will provide food for a variety of animals, and especially the deer that live here. Instead of discouraging wildlife, the rest area is actually becoming more attractive to it.

So, in spite of a bad reputation from the past, it appears that highways and nature can coexist and even enhance each other. Highways can be beneficial to the environment.

Schwen Woods is literally covered with wildflowers. The heart-shaped leaves of wild ginger give a pleasant texture to the forest floor.

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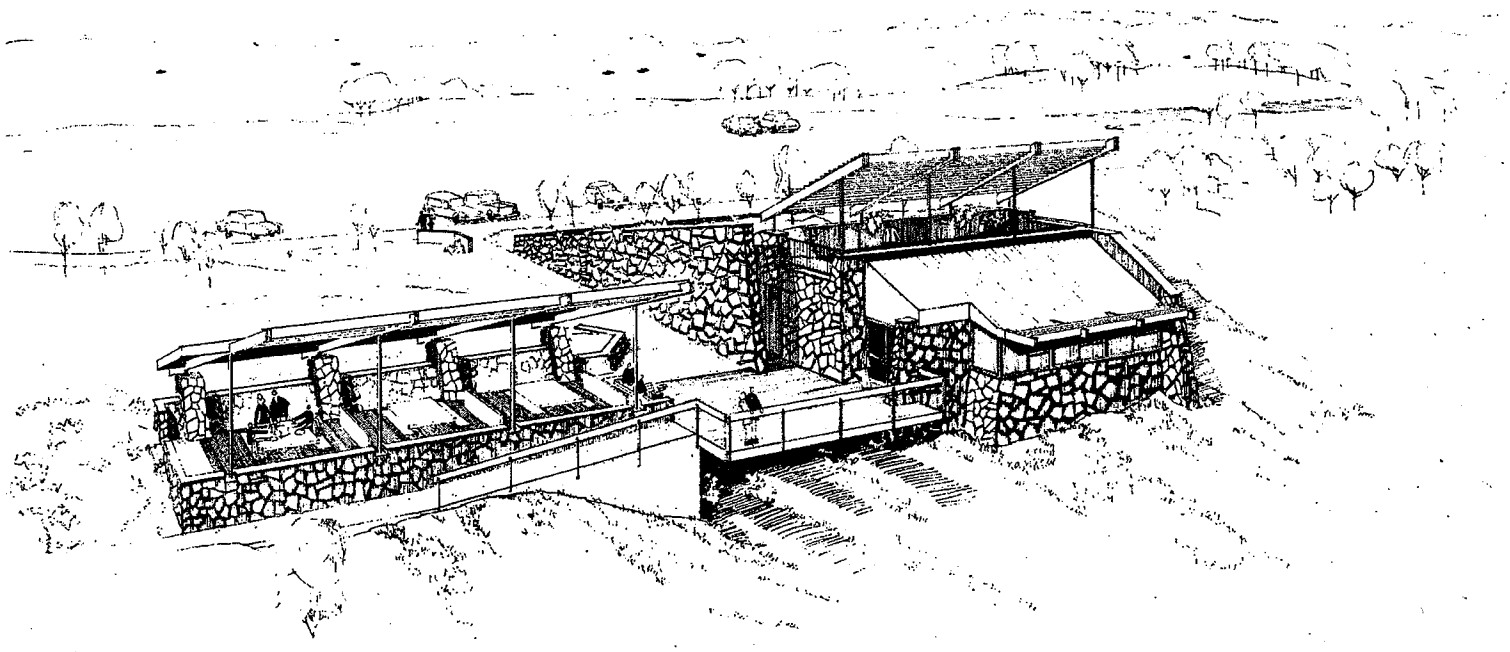


Designer's philosophy

Rest stops should enhance travelers' view of state

by Dennis Adams

Giving a positive image of southern Minnesota was the reason for our selection of the Blue Earth Rest Area site shown on these pages. This area represents a marked change from the flat farmland travelers perceive along I-90. Majestic hardwoods, beautiful views of the Blue Earth River valley, and a variety of wildlife gave us a unique opportunity to develop a rest area that could leave travelers with a special memory.

We hope that the building designed for this site will leave a good impression. A view terrace will face toward the river valley and will compliment the other features of the area. To conserve energy, the building will have the access lobby, toilet rooms, and mechanical room buried.

How is a rest area developed? First, we try to select a unique, interesting site with strong natural features such as Blue Earth offers. That is the most important single element in creating a successful rest area.

The purpose of a rest area is to provide a convenient, safe place for travelers to remove themselves from the rigors of interstate travel. We want the travelers to return to the highway in a safe, relaxed condition.

In addition, however, we are keenly aware of the image our rest areas present. We want to leave travelers with a positive impression of our state which will encourage them to return. With this in mind, we try to take advantage of the unique features or special natural resources of each site so the traveler is left with that special memory of Minnesota.

Minnesota's interstate rest area system is one of which we can all be proud. Once complete, the system will contain 36 rest areas from border to border, six of which will be special information centers.

The rest area design program is handled by a group of four landscape architects in the site and development unit of the office of design services — Jim Reierson, Dennis Adams, Dan Engstrand, and Tom Thorson. We all have the unique opportunity to follow these projects from site selection to completion of the buildings and landscaping.

Jun 1978

Negotiations 'delicate' on I-35 project at Duluth

Story and photos by Rob Sheppard

If Don Olson should ever leave Mn/DOT, he might become an international negotiator. John Pawlak would probably join him and they might work for the State Department.

These two Duluth District employees, a project manager and district director respectively, have had to delicately balance the multiple concerns of railroad executives, city residents, history buffs, environmentalists and downtown business leaders just to complete the northernmost section of proposed I-35.

Twenty years into the project, most of the kinks have been ironed out. However, negotiations are still in a critical stage because the remaining problems are big ones. When they are resolved, the Duluth District will be well on its way to providing a highway design that will strengthen the community's economic structure as well as solving major transportation concerns.

Duluth business interests have wanted I-35 to be routed near the downtown area since the road was first conceived in the late 1950s. However, traffic congestion along the lake through the downtown area has been heavy, especially during the tourist season, and keeping traffic flowing smoothly has been a problem.

Additionally, the district knew the potential location of I-35 was limited because of the steep hills to the north, Lake Superior to the south, the confines of a narrow business district and railroad yards in between.

The district dug into the details of planning in the sixties and obtained the required approvals from federal agencies, began buying right of way and handling the tedious routines of pre-construction. Nothing unusual for the skills and experience of Pawlak and Olson to handle.

In the seventies the public's increasing awareness of the environment and Mn/DOT's growing commitment to preserve and enhance that environment prompted the department to take another look at the I-35 plan.

The early plans for the interstate called for the road to be elevated over Lake Avenue, between the downtown business district and the lakeshore. That alignment also cut across a corner of the lake and the resulting response was negative in many corners.

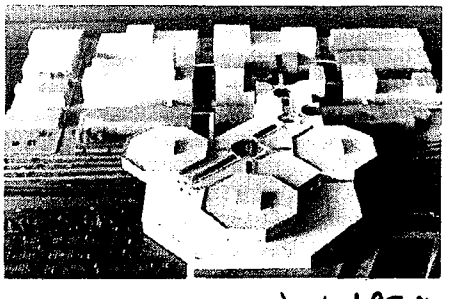
A group called Citizens for Integrated Highways and the Environment was formed in 1970 and opposed the high profile of the roadway adjacent to the lake and its intrusion into the corner of the lake at 1st Avenue East.

As a result, the mayor of Duluth set up a citizens' committee to work with the consultant to study the problem and Pawlak and Olson spent a great deal of time at meetings throughout the city. Their negotiations with residents began in earnest.

A consultant's new design tucked the freeway against the downtown area buildings and put it at ground level, opening the view to Lake

Don Olson looks over the proposed location of I-35 and Harbor Square.

Harbor Square shopping mall is proposed to straddle I-35.



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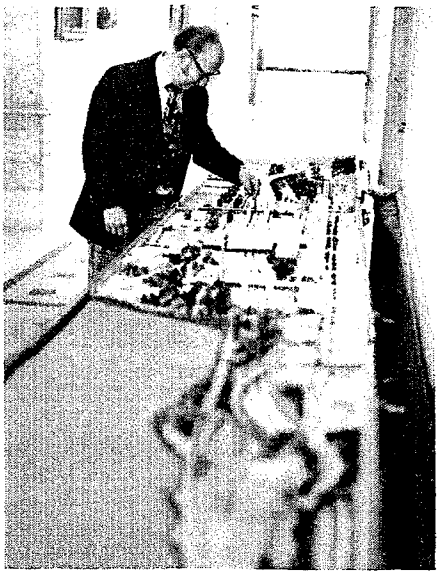
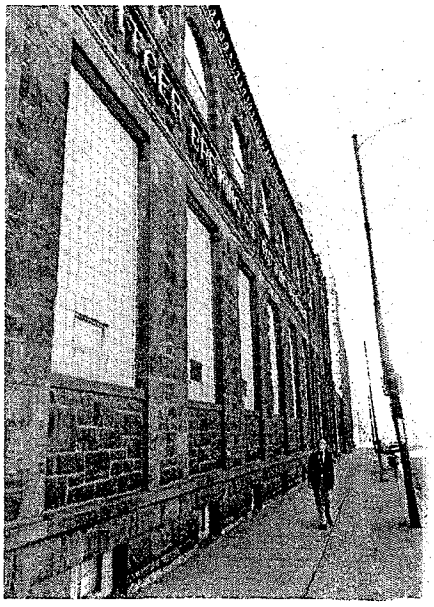
At top, Robert Morris, intermediate highway tech, George Mausolf, senior highway tech, Olson, and Bill Anderson, intermediate highway tech, look over the compromise plans for I-35.
Middle, Olson examines the model Mn/DOT displays in Duluth's city hall.
Bottom, Fitger's brewery will be saved by the compromise I-35 plan.





Superior. However, the new alignment cut through a historic area of the city and would have destroyed several notable buildings. Negotiations moved into a new round as district personnel and history buffs examined the problem and its potential solutions.

Another group opposing the interstate plan had been formed by 1973 and the Duluth mayor established a new citizens' committee of pro and con members to find a compromise. Additional meetings were set up and Pawlak and Olson again spent many evenings working with citizens at interstate-related meetings, some of which produced heated arguments.

A compromise design at last was reached and most pre-construction work has been completed. Not everyone is satisfied, Olson commented, but he pointed out several exciting elements in the new plan that are particularly attractive for the entire Duluth community.

For one thing, most of the roadway under the new plan would remain at ground level and thus preserve the lake view and would also be close to downtown, thus providing easy access to stores and businesses there.

Secondly, although the 108-year-old Branch Hall, a noted historic site, would be lost, the new plan saves Fitger's Brewery, which dates from 1886; the 65-year-old Kitchi Gammi Club, a men's club selected for the National Registry of Historic Sites; the Hartley Building and the October House, built in 1865 in the original platt of Portland which later became Duluth.

One of the major features of the design, however, is the incorporation of three plazas constructed over the interstate. While two of the plazas will have park-like features, a third will enable the development of Harbor Square, a new shopping mall that will tie the downtown business district to the harbor and help to revitalize that area.

One of the plazas will provide access to the historic area and parking facilities while another would benefit the lakeshore directly.

That plaza would be built atop a sea wall to protect the roadway and adjacent railroad line from flooding and icy spray and, in satisfying environmental concerns, would prevent the intrusion of the roadway into the lake. The design places the road in an area prone to occasional flooding because of lake storms, but Olson believes the sea wall and plaza will not only provide the necessary protection for the road but offer a superb view of Lake Superior as well.

The resolution of these problems doesn't mean the negotiations are completed, however. One major problem yet to be solved is caused by the railroad yards that are in the proposed roadbed for I-35. The yards are important to taconite shipping from the north to the harbor and other points south of downtown Duluth. Any element that affects shipping also affects Duluth's economy. Yet, Duluth business leaders also feel a great need for I-35 to be completed.

Pawlak and Olson are confident that continued negotiations and compromises will solve the railroad problem, even though several railroads, Duluth residents and Wisconsin authorities are involved.

There are also water and noise pollution problems to be tackled by the city as well as by Mn/DOT. However, the basic work is nearly completed and construction may begin in the fall of 1980.

Jul 1978

Last segment of I-90 in Minnesota opens

Story by Sue Roethele, staff photos by Rob Sheppard

That was some show the Mankato District took part in September 23 when 14 miles of I-90, the last segment of the superhighway in Minnesota, was opened.

District Director Lloyd Nelson, Information Officer Pinky Yess and Traffic Engineer Jerry Miller are old hands at handling crowds at information meetings and ceremonies. This crowd of 2,500 people, however, included Secretary of Transportation Brock Adams, Governor Perpich, state and federal legislators and transportation officials, Chris Sagstetter (Miss Transportation) and the recently crowned Miss America, Kylene Barker.

It was nearly a Fourth of July atmosphere as VIP's and guests gathered for a luncheon under a tent at the dedication site, the Blue Earth Rest Area, viewed a Minnesota National Guard military display, enjoyed the Guard's band and string ensemble and were nearly bowled over by low-flying planes roaring a salute before the ribbon cutting.

And, if that wasn't enough, the Jolly Green Giant hung around the whole time. Julie Kramer, of the district office, had helped get special moving permits for the 45-foot statue. The ho-ho man was to be installed by the Green Giant Company at the county fairgrounds in honor of its Blue Earth processing plant. When the statue's pedestal wasn't completed, the giant wound up hanging by a cable from a crane parked near the I-90 tent.

The only shadow on the day was the death September 22 of the mayor of Blue Earth, Ed Leland. Leland was commended for his efforts and leadership as president of the I-90 Corporation, which had been instrumental in promoting the development of I-90 and the celebration of its completion.

"The local people really deserve the credit for this shebang, especially Ed, Paul Hedberg and Marty Eckert of the Blue Earth Chamber of Commerce who worked with the I-90 Corporation and us to pull the event together," Nelson said.

Among the other Mankato District personnel involved in the construction of this segment of I-90 were: M. E. Sheldrup, assistant district director; David Trooien, resident engineer; Bill Croke, resident bridge engineer; Ronald Jensen, project engineer; Bernie Thomsen, project supervisor; Ambrose Barten, project supervisor; Jerry Kopacek, project engineer; John Benson, paving inspector; Dale Himmelman, Ed Borchert and Dale St. John, grading inspectors; and John Westman, plant inspector.

Nelson said only a little seeding, signing and sodding are left to complete on the segment, and that the rest area will be opened to the public next summer.

In the meantime, Nelson, Yess and Miller will be brewing up a couple of more ceremonies this winter, albeit less spectacular ones — the completion of the TH 60 bypass at St. James and the wrap-up of work on the US 14 bypass at Mankato.

A parade of antique cars, including this 1937 Chevrolet, crosses the "gold stripe" of I-90 to symbolize the completion of the superhighway in Minnesota. The cars are owned by Flatlanders Antique Auto Club members.

Spectators were grabbing for souvenir pieces of ribbon after ceremonies by, left to right, Martin County Commissioner George Cavers; Loren Lein, mayor pro tem of Blue Earth; Senator Wendell Anderson; Secretary of Transportation Brock Adams, Kylene Barker, Miss America; and Susan Erickson, Miss Minnesota.

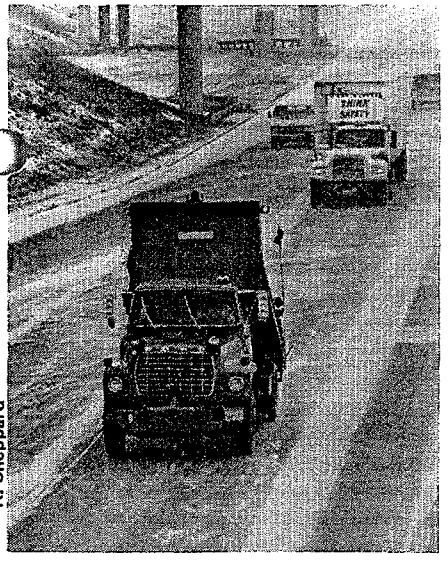
Oct 1978

the need for repeated chemical application. This will mean less chemicals on the roadway and roadside vegetation.

The liquid calcium chloride method will be tried in Mn/DOT's Rochester and Virginia maintenance areas. Both experiment areas had tried the method last year with promising but inconclusive results due to the mild winter and infrequent severe snow conditions.

Salt usage on Minnesota's state highways is already on the decline. Mn/DOT has been training its maintenance crews to calibrate and use equipment that spreads the salt at a known rate, reducing the possibility of dumping excessive salt where it is not needed.

Mn/DOT engineers are in a bind,



R. Sheppard

Slippery conditions demand sand and salt for safety. Mn/DOT is trying new methods.

Commissioner Braun said. They want to replace rock salt because it corrodes automobiles, damages bridge decks, concrete pavements and roadside vegetation. But, he said, ample evidence shows that not using salt increases the potential for accidents and greatly inhibits the mobility of travelers.

Most attempts to replace salt have been disappointing. A study done in Illinois last winter found that using plain sand did not reduce the need for salt. And alternate chemicals such as urea, ethylene glycol and propylene glycol have proven to be less effective than salt and are much more expensive. Other chemicals which have been proposed are either not commercially available or also have adverse side effects, the study found.

Pavement management

Mn/DOT participated in the only "single state" pavement management school Dec. 1-4 sponsored by the National Highway Institute. Paul Diethelm, Research, school coordinator and an early booster of improved pavement management systems, was able to get this region-based school to come to Minnesota.

"We're trying to knock down walls," Diethelm said. "We tend to be isolated in our areas of expertise. This school will help us tie individual technologies together by cutting across traditional disciplinary lines.

"We have the tools for pavement management but haven't integrated them," he said. "With less and less money, we have to better manage our roads.

"Pavement management will help us get the best value possible from public funds to provide roads that give the users maximum benefits."

According to Diethelm, this new systematic approach includes interrelating activities from planning to design to construction to maintenance. The school gave students basic information on creating a Minnesota program. "A good pavement management system is unique to each locale — there are no absolutes," he said.

Attending the school were 35 representatives from Research, Materials, Standards, District Offices, Planning, Administration, Aeronautics and the Federal Highway Administration. The school was conducted by the Texas consulting firm, Austin Research Engineers.

I-394 controversy

Because of the failure to reach a mutually satisfactory agreement on the design of Interstate 394, Commissioner Richard Braun asked the Metropolitan Council to resolve the continuing controversy over the proposed freeway. Design plans proposed by affected cities and the specially appointed task forces conflict with those of Mn/DOT.

Braun said he is taking the action in accordance with state law which requires that the Metropolitan Council resolve disputes over highway planning in the seven-county Twin Cities Metropolitan Area.

The six-lane freeway was first proposed in 1965 to relieve severe rush-hour congestion on US 12 between Minneapolis and its western suburbs.

"The controversey started in 1970 and is no nearer a solution today," Braun said.

Basic disagreements over design concept and location for the proposed freeway exist between the cities of Minneapolis, St. Louis Park, Golden Valley, Minnetonka, Plymouth and Wayzata.

The communities have generally agreed on the need for upgrading US 12 to freeway status, but have disagreed over design features such as location of entrance and exit ramps, construction of exclusive lanes for high occupancy vehicles such as vanpools and buses, and provision for light rail transit facilities.

"The tragedy is that if we don't act soon we could lose as much as $270 million in federal funds alloted to our metropolitan area," he said. "We can't afford this at a time when transportation funding is so critical. If I-394 is not to be built, other projects, such as US 212 in Eden Prairie and TH 610, the Northtown Crosstown in Coon Rapids and Brooklyn Park, could be constructed with this money."

I-94 completion dates? —A guessing game

What's the score on I-94? It depends on what section of the freeway you're talking about.

Its completion status ranges from opening a section of the freeway from US 12 to Dowling Avenue in north Minneapolis this fall to completion of the final leg of the project from the US 12/Interstate 694 interchange to the Wisconsin border in 1985.

In addition, reconstruction of I-94 from the Lowry Hill tunnel in Minneapolis to Snelling Avenue in St. Paul is scheduled to be let for bids in 1983, depending on the amount of funding available to complete the project.

When completed, the projects will provide motorists with an easier, quicker and safer passage through the Minneapolis-St. Paul Metropolitan Area and direct connection between I-94 on the east and west.

On the western side, work is proceeding on schedule to build I-94 in north Minneapolis, said Jerry Kreutzer, project manager from the Golden Valley district.

Kreutzer said the total project involves the completion of I-94 along its route parallel to Lyndale Avenue; reconstruction of the I-94/I-694 section between TH 152 and TH 252 (Lyndale Avenue) to handle increased traffic, and construction of the Third Avenue Connector to provide improved access from I-94 to downtown Minneapolis.

At the eastern end of the project, initial work began this spring to ready traffic bypasses at the junction of US 12 and TH 95 to carry traffic diverted during further construction work. The 10-mile section of I-94 to be built from the I-94/I-694 interchange east of St. Paul will be constructed on the existing alignment of US 12, requiring that it be built under traffic conditions, according to Gary Orlich, project manager from the Oakdale district.

Subsequent stages of the project will include building six new bridges in 1982 and 1983 and grading and paving the mainline in 1983 and 1984. Final completion of the project, including construction of a rest area on the westbound lanes, is scheduled for 1985.

Until reconstruction work begins, the existing section of I-94 between the Lowry tunnel and Snelling Avenue will continue to receive intensive maintenance work to keep the badly deteriorated roadway serviceable.

Reconstruction work for I-94 is tentatively set to be let for bids in 1983, with completion expected in 1985. Because I-94 is the major east-west route through the metropolitan area, the work will be done in two stages.

During the first stage, work will be done on the eastbound lanes while both east- and westbound traffic will be carried on the westbound lanes. During the second stage, the procedure will be reversed.

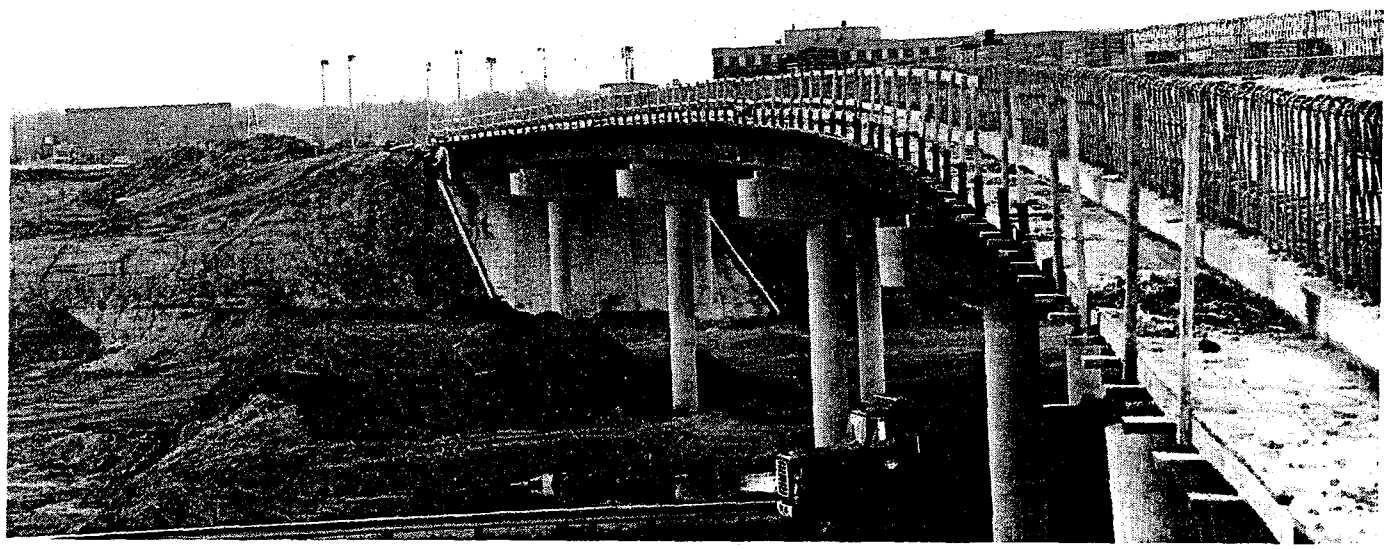
Joel Katz, preliminary design engineer, Golden Valley, said the project will include reconstruction of the roadbed, redesigning the interchange with TH 280 in St. Paul and increasing the Mississippi River bridge and the Hiawatha Avenue interchange in Minneapolis to three through lanes.

Katz said adding the additional through lanes at the bridge and at Hiawatha Avenue as well as at other locations will end problems associated with troublesome "lane drops" that plague freeway drivers.

Eliminating the "lane drops," Katz said, will greatly improve lane continuity through the six-mile section between Minneapolis and St. Paul.

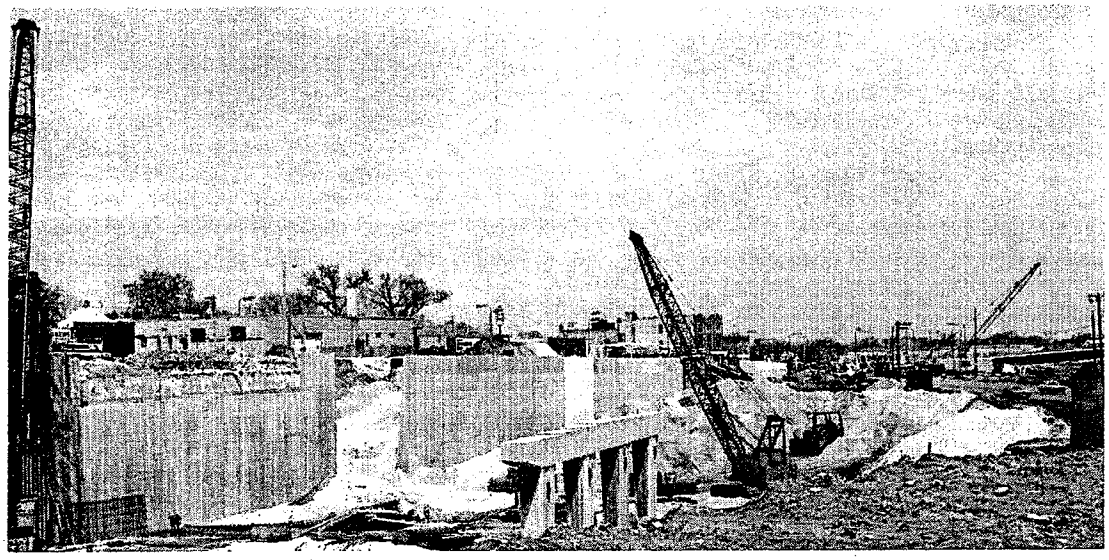
Improved lane continuity and the addition of traffic control measures such as traffic surveillance and ramp metering are expected to greatly improve safety and traffic flow on the busy freeway.

Craig Wilkins



I-94 moves toward completion in north Minneapolis. Retaining walls are in position at 41st Avenue N. North of the Camden Avenue Bridge a path is being cleared for the highway between Lyndale Avenue N. and the Mississippi River.

Construction of the bridge which will carry southbound traffic on Humboldt Avenue over I-94/I-694 in Brooklyn Center. It's part of the reconstruction scheduled for 1983 completion.



C. Wilkins (6)

Potholes on the Hennepin Avenue ramp of I-94 in Minneapolis are repaired by maintenance workers from the Golden Valley district. The freeway will continue to require constant maintenance until its reconstruction is completed.

News briefs

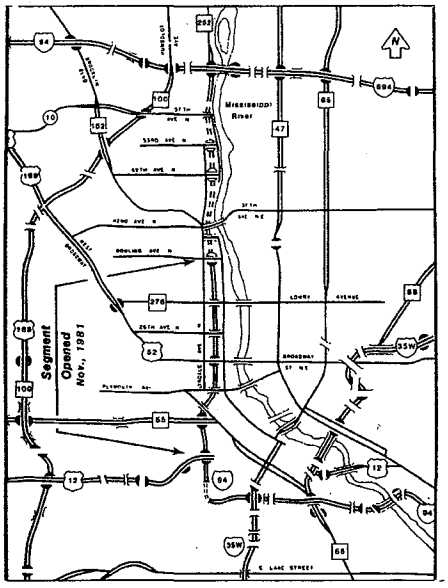
New section of I-94 opened

The 3.5-mile section of Interstate 94 from the Lowry Hill Tunnel to Dowling Avenue North was opened Nov. 4 by Mn/DOT.

Commissioner Braun said the newest section of I-94 will greatly reduce traffic congestion in north Minneapolis, provide direct access from I-94 to westbound US 12, and improve truck and commuter access to northside commercial areas and to downtown Minneapolis.

The new section and the two-mile section from Dowling Avenue to Interstate 94 in Brooklyn Center scheduled to be completed in the fall of 1983 will provide a direct freeway route through the western side of the Minneapolis-St. Paul Metropolitan Area, he said.

The route of the new freeway section was chosen to minimize its effect on residences and businesses, Braun said, and runs for most of its length below street level to reduce noise and visual impact. Depressing the freeway also enables local streets to be carried over it, retaining local traffic patterns.



"Data Processing Effectiveness — Getting the Job Done" was the subject addressed at a recent interagency problem-solving session. Representing Mn/DOT was Finance & Administration Division Assistant Commissioner Judith A. Pinke, seated with Ron Larson of the Information Services Bureau, Dept. of Administration. At the far left is Norb Bohn, also of ISB. In the background is Bruce Briese, formerly of Mn/DOT and now with the Dept. of Employee Relations.

Our voice on the telephone for November is Carol McDougall, clerk-stenographer and receptionist at the Detroit Lakes District Office. To nominate employees known by their voices, send names to the editor.

Recent retirees

Raymond J. Bredeck *St. Cloud*	19 years
Ralph W. Budke *Detroit Lakes*	24 years
Waldon R. Dahlgren *Oakdale*	15 years
Irvin H. Davidson *Bemidji*	34 years
Barbara L. Egyhazi *Surveying & Mapping*	16 years
Walter E. Erickson *Morris*	20 years
Anthony T. Sobosski *Oakdale*	18 years
Clifford H. Strom *Rochester*	19 years

Marusenko named traffic engineer

Walter Marusenko has been named traffic geometrics engineer, Traffic Engineering.

He will direct and establish policy on geometric design features which affect the traffic operational characteristics and critique preliminary layouts and construction plans to assure proper use of traffic, operational and safety features.

With Mn/DOT 23 years, Marusenko started as a laborer and worked his way through the technician ranks. He had been assistant hydraulics engineer since February 1975.

Happy 5th birthday Mn/DOT

Mn/DOT has passed the 5-year milestone! What a change in five short years! Each of us can easily reflect on the many things that have changed our method of operation internally during that period. However, I think the greatest changes have been the external forces that directly affect our operation. These include reduced fuel consumption, reduced general fund budgets, greater emphasis on transit, increased importance of railroad rehabilitation, wholly inadequate highway funding, just to mention a few. It is obvious that transportation is as vital as ever but is undergoing vast changes in methods of funding and emphasis on productivity and energy savings. I want to thank each of you for your past efforts and assure you that Mn/DOT management is prepared for the challenges of the future.

Commissioner Braun

News briefs

I-35E Opened to Cedar Ave.

A hot air balloon overhead marked the spot where dedication ceremonies took place Nov. 17, opening a 4.5-mile segment of I-35E in Dakota County. High school bands sent sounds into the air too as Governor Al Quie cut the ribbon opening the freeway to traffic.

Commissioner Richard P. Braun said the new section of I-35E will reduce congestion and delay problems on I-35W and, with its connection with the Cedar Avenue Freeway, will also provide additional freeway access to Minneapolis and the International Airport.

The next section of I-35E scheduled to be opened is the 2.5-mile section from TH 110 to Dakota County Road 26, set for 1984. The section from TH 77 north to County Road 26 is scheduled for completion in 1985.

Left, Governor Quie cuts the ribbon held by Transportation Queen Sandie Delsing and Transportation Princess Betty Moore, officially opening a 4.5-mile I-35E segment. Right, Commissioner Braun addresses civic and business representatives attending the I-35E dedication ceremonies.

Reierson, Adams commended

Reierson

Adams

Environmental Services Chief Jim Reierson and Project Landscape Architect Dennis Adams have been commended by the Federal Highway Administration Regional Director, William Lake, for the effort they put into preparing a manual on "Safety Rest Area Planning, Location and Design" and for producing a slide show for FHWA promotion of rest areas.

The pair have also prepared and teach courses on the subject for the FHWA National Highway Institute.

Don Goracke, Morris Maintenance Area office manager, is our voice on the telephone for December. To nominate employees known by their voices, send names to the editor.

Retirees

Mel Amundson *Golden Valley*	34 years
Neil Erickson *Willmar*	30 years
Eleanor C. Kremkoski *Bridges & Structures*	20 years

Hiwayan Club holiday activities serve needy employees

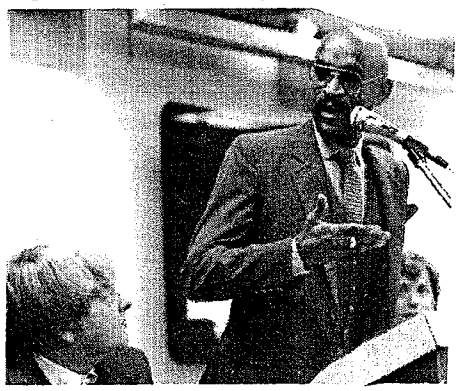
Once again the Hiwayan Club is sending holiday greetings to many employees in several helpful ways.

For children there was the traditional coloring contest and Christmas party, this year featuring Ronald McDonald, along with Santa Claus and his elves.

A Christmas craft sale was held at the Central Office, as was the annual holiday candy sale fundraiser, which helps provide a Christmas tree for the Transportation building lobby, among other things.

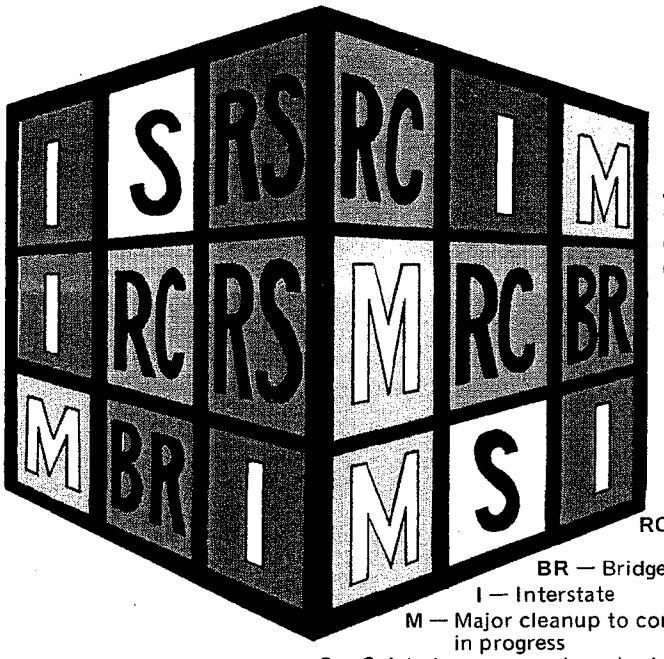
James Loveland, president, said the heart of the Club's holiday activities is the distribution of money and food for needy Mn/DOT employees, retirees, and their families within the Twin Cities metro area. Last year's employee collection netted over $1,200, enabling the club to assist about 40 families.

Dave Scott, food drive chairman since 1972, said the gifts are "for our own people, many of whom are working yet are in need of help, with very large families or experiencing an emergency."



Neil Murray, KSTP-TV "On Your Behalf" consumer advocate, makes a point with Dick Murray, Mn/DOT Program Planning, who emceed the Hiwayan Club's fall luncheon at the Holiday Inn, and Karen Ehrisman.

Federal highway cutbacks pose Rubik's Cube challenge



P. Gustafson

RS — Resurfacing
RC — Reconditioning and reconstruction
BR — Bridge repair and replacement
I — Interstate
M — Major cleanup to complete projects already in progress
S — Safety improvements and miscellaneous projects

Mn/DOT is trying to solve the Rubik's Cube too.

Or so it would seem if you happened to witness how Mn/DOT's Program Development staff in the Planning Division began looking at the effects of federal cutbacks on our highway programs.

With the passage of the 1981 federal-aid highway act in December, Mn/DOT will be forced to shift highway projects by category.

"It's like working with a Rubik's Cube," said Bruce Warzala, director, Program Development Section.

Why a Rubik's Cube?

"Because it offers the challenge of matching the categories in order to solve the programming problem," Warzala explains.

"For Mn/DOT, that means maximizing our use of all available federal aid. To do that, we sometimes must move the highway projects among these categories, especially when the amount of funds is reduced," he said.

In general, the 1981 act reduced Minnesota's share for federal-aid highway programs during fiscal year 1982 by 16 percent, or $30 million, to total $161 million. The federal fiscal year runs through Sept. 30.

Federal-aid interstate construction also was reduced substantially while interstate reconstruction was added to the "3R" repair program of resurfacing, restoration and rehabilitation, making it the "4R" program. More importantly, Congress included the interstate amenities such as rest areas, landscaping, and additional lanes in the new "4R" program.

Although the funding level of $15 million is three times that of the old "3R" program, the addition of the construction requirement reduces the amount of money available for the old repair activities. "In short," Warzala said, "all of these projects must compete for the same dollars."

The act also separates interstate completion from interstate repair and reconstruction, thereby adding another category to the already difficult program management process, he said. "That action ends the original federal philosophy of justifying interstate additions as part of a total funding package to complete the interstate system."

The federal cutbacks affect Mn/DOT primarily in the interstate program. About $25 million will be deferred from the state fiscal year 1982 to 1983 and it is likely that an additional $88 million will be deferred from fiscal year 1983.

"With these cutbacks, it is extremely doubtful whether Mn/DOT can have all the remaining sections of the interstate under construction by the federal deadline of 1986," Warzala said. He explained that although state funding sources are important to funding the state's highway programs, federal aid is currently the most significant factor.

"The 1981 act is really a stopgap measure that will tide us over until the greater transportation issues can be addressed by Congress later this year," he said.

Current federal legislation provides funding authority for the regular highway and interstate completion programs only through September 1982 and for the interstate "4R" repair program through September 1983.

Although our Rubik's Cube poses a challenge to managing our highway program, there are techniques for working this puzzle and resolving Mn/DOT's highway program just as there are for the cube.

For us, the techniques are:

- Management guidance from the Highway Program Coordinating Committee.
- Input from the recently completed district quarterly project reviews.

With the federal cutbacks and these techniques, Mn/DOT will announce in mid-February its revised 1982-83 highway program.

Michael Stirens

Interstates still keep Right of Way agents busy

The era of interstate highway construction is coming to a close. But property acquisition is still active in the Duluth and Oakdale districts because Mn/DOT is preparing for Interstate 35 extension in Duluth and for I-35E and I-494 construction in Dakota County.

Ron Running, Intermediate Right of Way Agent

"When I became a relocation coordinator in 1970 and started to deal extensively with the public my life and outlook on it changed considerably," said Ron Running.

During his first 20 years with Mn/DOT Running worked as an instrumentman, inspector, officeman and soils tester.

"Now I get a great deal of satisfaction out of working closely with people," he said.

Running advises people whose businesses and homes are being acquired by the state about their rights and benefits under the 1970 Federal Uniform Relocation Act.

He's also been involved in relocation work for airports and for the Minnesota Department of Natural Resources.

"At this time, I'm mostly working with business owners whose property is being acquired for I-35 in downtown Duluth. I assist them in new business location searches, provide location availability lists and, inform them of benefits available for moving-related costs.

Homeowner benefits, which differ a bit from those for businesses, include supplemental housing payments, moving costs for personal property, mortgage interest cost differential, closing costs and appraisal fees.

"There are renter's benefits too," he said, "including personal property moving costs and sometimes rental supplements."

Running is involved in leasing acquired buildings and gathering information for Mn/DOT's Property Management Unit. He also processes benefit claims, sending them to Central Office Right of Way for review and payment.

"I'm responsible to Mn/DOT, but I give those being relocated every legal benefit," he said.

M. Sobolewski

Ron Running

Dave Erickson, Intermediate Right of Way Agent

"The part of my job I like most is county courthouse research when conducting a property field title investigation," Dave Erickson says.

"It's the property history that fascinates me. Frequently I come across the name of Henry Hastings Sibley as a former owner of many parcels of land in Dakota County."

Erickson also is involved in appraisal work including homes and industrial and commercial establishments.

Erickson makes on-site-inspections and often questions property owners to gain information. He also photographs the premises.

Most homes taken for highway right of way are sold by Property Management, Central Office Right of Way.

"People living in a home have first priority to buy and move the dwelling," he said, "otherwise, it goes up for public bids."

When conducting a field title investigation, Erickson obtains a map of the property and a copy of the certificate of title. He searches records at a county courthouse for title and tax information and gathers copies of documents mentioned on the back of the title certificate. Any variation in the legal description is reported.

"I also check for items not recorded — like a sale of a part of the land," he said.

Bill Krause

S. Howes

Dave Erickson

Federal Transportation Act affects Mn/DOT

Time is on our side and help is on the way.

That's the twin message offered in the January 10 issue of *Time* magazine.

Before the end of 1982, Congress passed a $5.5 billion bill to help check the deterioration of our transportation system and to help create jobs for up to 320,000 Americans.

Minnesota's role in time was played by our very own Commissioner, Richard Braun, in an article entitled "The Repairing of America."

In the *Time* article, Braun says, "At present spending levels, the state will not be able to rebuild its 12,000 miles of trunk highways until the year 2354, at least three centuries too late."

"One 17-mile stretch of Highway 15," he notes, "between New Ulm and Winthrop so angered a group of Minnesota motorists that they hired a hearse and jostled over the pitted surface with a sign declaring THIS HIGHWAY IS DEAD AND BURIED."

Braun's comments sum up why we need increased transportation funding now, but the *Time* article also points out that although the dollar total in the new federal legislation sounds impressive, "it actually amounts to little more than a federal finger in the fragile dike holding back a tide of decay that threatens to overwhelm the country's neglected network of roads, bridges...."

And Minnesota's need for increased highway funding continues because of inflation, more road use and less gasoline consumption. The Minnesota Highway User Tax Distribution Fund is continually falling behind in meeting Minnesota's transportation needs.

In the *Time* article, Braun says, "At present spending levels, the state will not be able to rebuild its 12,000 miles of trunk highways until the year 2354, at least three centuries too late."

To help seek adequate and stable transportation funding, Mn/DOT set up an Internal Legislative Action Committee (I-LAC) chaired by Assistant Commissioner of Program Management Doug Differt.

Action groups, both internal and external, have been effective in the past in creating a forum for discussing the status of important legislation affecting state transportation systems.

A cross section of Mn/DOT management and staff (representing all modes of transportation and the central office as well as the districts) serves on I-LAC.

Mn/DOT will also be working with an external core group of individuals to foster similar objectives outside the organization.

Highways

Minnesota may receive a smaller share of federal highway user fees. Since 1958 Minnesotans have received about $1.20 for every dollar paid in federal tax. The new act appears to offer only a dollar for a dollar. The state's share of any federal discretionary funds could, of course, change that ratio, explains Merritt Linzie, director, Highway Programs.

The major highway provisions of the act are discussed below.

Even though federal funding to complete the interstate highway system was not substantially increased, funding for preservation of the system was increased from $15-million to $45 million during the four-year appropriation period.

During federal fiscal year 1983, ending September 30, Minnesota's apportionment for highways would be increased by $37.4 million to total $199.4 million.

That means up to an additional 1,570 jobs. Every million spent on highway construction creates approximately 42 jobs directly and indirectly.

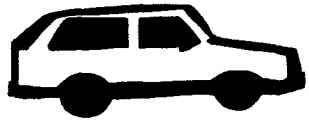
And it means an additional $29.4-million for trunk highways, $5 million for local roads and $3 million for trunk highway engineering and design services and contingencies.

Federal aid for trunk highways will be used to fund $23 million of scheduled but previously unfunded projects and $6.4 million will be used to convert 100 percent state-funded projects into federal-aid projects.

Based on this highway apportionment, Minnesota would receive $213 million in federal aid for 1984, $226 million for 1985 and $237 million for 1986.

Nationwide an additional $1.02 billion would be available annually in funds that could be distributed at the discretion of the U.S. Department of Transportation. More than $750 million of these monies would be available for interstate, bridge or interstate completion projects.

Previously an act of Congress was needed to distribute the discretionary funds. This feature of the 1982 act along with its being a four-year appropriation adds stability to highway planning and scheduling. During the last few years, the states were dependent on yearly con-



gressional action to carry out their highway programs.

Motor carrier interstate transportation benefits of the act include setting maximum weight limits on the interstate at 80,000 pounds. Previously this was left up to the discretion of the individual states. Minnesota already permits 80,000-pound truck loads on its 10-ton routes. Allowable truck widths and lengths were also increased through uniform standards.

Revenue to make this additional federal money available to the states comes from a new federal highway user tax structure which includes increasing motor fuel taxes by 5 cents to total 9 cents beginning April 1 (1 cent of this is dedicated for transit purposes).

A graduated tax on tires eliminates the tax previously paid for normal passenger cars. Taxes on lubricating oil, inner tubes, truck parts and accessories were also eliminated.

Although the dollar total in the new federal legislation sounds impressive, "it actually amounts to little more than a federal finger in the fragile dike holding back a tide of decay that threatens to overwhelm the country's neglected network of roads, bridges . . . ."

Taxes were increased on heavier trucks. Low mileage vehicles such as some logging trucks and heavy farm trucks were exempted from the new heavy vehicle use tax.

Rail

It's a "downward" trend as far as federal funding for railroad programs, says Chuck Sanft, acting director, Rail Planning and Program Development section.

For federal fiscal year (FFY) 1983, there is $1 million funding for Minnesota rail rehabilitation programs. This is a drop from the $1.67 million allocated the previous year.

However, the railroad track inspection program is continued at the same level of 50 percent funding.

The federal situation is "very cloudy," Sanft says, and we are uncertain about the level of funding for FFY 1984, because the Reagan administration opposes continuing the federal programs for rail rehabilitation.

Transit

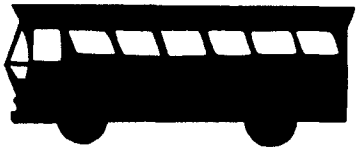
Federal funding for transit operating assistance will be about the same in calendar year 1983 as in 1982, says Bob Benke, acting director, Transit Planning and Evaluation section.

The smaller transit systems will receive about $1.5 million for operations in 1983 which is 100 percent of the 1982 level. The larger urban systems serving Duluth, Moorhead, Rochester and St. Cloud will receive about $1.3 million or 95 percent of the 1982 federal funding level.

The largest system, the Metropolitan Transit Commission (MTC) operating in the greater Twin Cities Metropolitan Area, will receive $8.5-million or about 80 percent of 1982 funding for operations.

Part of the recently passed 5-cent federal gas tax increase will be used for transit. Minnesota expects to receive $500,000 during 1983 for small transit systems for capital improvements. The MTC and the larger systems will receive some funding, but the amount is unknown at this time, he says.

With this level of federal funding, Benke says, program cutbacks can be avoided while maintaining about the same number of full- and part-time jobs for transit service providers as last year if the Legislature is able to meet existing commitments by providing an additional $5 million above 1982-83 appropriations.



Air

Mn/DOT expects Minnesota will receive approximately $11 million of a $600-million federal appropriation for airport development for federal fiscal year 1983.

During federal fiscal year 1983, ending September 30, Minnesota's apportionment for highways would be increased by $37.4 million to total $199.4 million. That means up to an additional 1,570 jobs. Every million spent on highway construction creates approximately 42 jobs directly and indirectly.

These funds will be distributed in the form of grants to Minnesota public airports.

In addition, Minnesota and other states could share in $475 million in supplementary funds for airport development for three years if Congress appropriates and the Office of Management and Budget agrees to release the monies.

Duane Haukebo, director, Mn/DOT's Office of Airport Development and Assistance, says the funds are broken down as follows: $200 million for both FFY 1983 and 1984 and $75 million for 1985.

The Federal Aviation Administration has requested descriptions of potential airport development projects if funds are available, he says.

We can assume, Haukebo adds, that Minnesota airports will receive some monies when available. However, there is "tough competion" from other states that don't have state funds to supplement these local projects. Our airport development program, he says, is in a better position than nearly all other states.

Michael Stirens with
Donnie Carr

Long-awaited "4R program" dollars geared to restore aging interstates

Additional help for restoring the interstate highway system is coming just in time for Minnesota. It's coming from the Federal Highway Administration.

Although some segments of the interstate system are yet to start or are still under construction, parts of Minnesota's interstate system are more than 20 years old and showing the effects of heavy traffic and the region's punishing climate.

The help is coming in the form of a $200 million allocation to be added to the $15 million dollars Mn/DOT received last year from the 1981 Highway Act for its interstate "4R" Program.

The monies — an average of about $50 million for each fiscal year — from the 1982 Highway Act are to be used by Mn/DOT through fiscal year 1987.

The "4R" Program includes resurfacing, restoration, rehabilitation, and reconstruction — terms used to describe gradually increasing levels of activity to rejuvenate existing interstate highways.

Without the federal "4R" allocations Mn/DOT would have to take badly needed funds allocated for the 12,000 mile trunk highway system to use on the interstate.

Initially, the federal government did not provide funds for interstate highway repair, said Bruce Warzala, director of highway programs.

The FHWA first provided funds for states to maintain the interstates in 1978. Mn/DOT received $3 million that year and in following years until the $15 million allocation provided in 1982.

Resurfacing in the "4R" Program provides funds for bituminous overlays and work such as milling away deteriorated road surfaces and replacing them with new or recycled surfacing material.

One example of a "4R" resurfacing project is the work done on I-94 between Albany and Sauk Centre last year, said Ken Kopitzke, Highway Programs.

Restoration and **rehabilitation** both enable Mn/DOT to restore pavement structure to its original condition. The two funding categories provide monies for work such as concrete joint replacement and repair, replacing base material, repairing shoulders and providing drainage in limited areas.

Restoration and rehabilitation allow substantial latitude in highway work ranging from, for example, a joint repair project on I-94 near Fergus Falls completed in 1981 to replacement of surface and base materials on a 5.2 mile section of I-90 now underway near Austin.

A future major rehabilitation project will be replacement of pavement on heavily traveled I-94 between Snelling Avenue in St. Paul and the Lowry Hill Tunnel in Minneapolis. Estimated cost of that project is about $32 million.

Reconstruction, the fourth "R", was recently added to the program with passage of the 1982 version of the highway act. It allows rebuilding badly deteriorated highways plus adding design changes such as new or revamped interchanges and adding traffic lanes. It also provides funding for amenities including noise walls, landscaping, traffic control systems, safety improvements and rest areas.

Mn/DOT's plan for use of reconstruction funds for major projects includes rebuilding the interchange connecting I-94 and the Sixth Street Bridge east of downtown St. Paul and adding lanes on Interstate 35W from Trunk Highway 13 north to the Crosstown Highway (Hennepin County Road 62) in Minneapolis. The I-35W project will also include rebuilding the common section of I-35W and County Road 62 to improve safety and traffic capacity. The plans also include extending the traffic control system now operating on I-35W and I-94 to I-694. Another project made possible with the new reconstruction funds is a new travel information center near the St. Croix River in connection with completion of I-94, east of St. Paul.

These projects will go a long way toward restoring structural strength of the interstate system, increasing traffic carrying capacity and, most importantly, improving safety for motorists on Minnesota's 900 miles of interstate highways.

Craig Wilkins

Persistence pays — railyards moved to make way for I-35 in Duluth

L Arias

Don Olson, Duluth (left) and LeRoy Vague, Rail Administration.

They said it couldn't be done but Mn/DOT employees have met the challenge — one of the biggest ever to face the Duluth district and the Office of Railroads and Waterways.

The challenge is shepherding the extension of Interstate 35 through downtown Duluth. This means the relocation of railroad facilities involving six railroads from Duluth to Superior, Wis. The project includes removing 42 miles of track, upgrading and relaying the same amount of track and constructing four buildings.

When the work is complete, the railroads will retain their same "competitive edge" as before the relocation, says Bob Swanson, director, Rail Administration.

Before the move many approvals were necessary, including six railroads' agreement as well as those from federal and Minnesota and Wisconsin state agencies.

The task's magnitude caused Federal Highway Administration (FHWA), Washington, D.C., officials to comment, "It's impossible."

The impossible mission is under way. The $148 million construction project includes $51 million for the railroad portion that began this fall. The railroad relocation is expected to be completed by early 1985, says Don Olson, Duluth project manager.

Key elements of the 1.5-mile long I-35 extension from Mesaba Avenue to 10th Avenue East are under contract. They are the Lake Avenue Bridge and the East Historic Tunnel. I-35 is expected to open for travel in 1988, he adds.

The I-35 extension beyond Mesaba Avenue required the acquisition of Burlington Northern (BN) and Chicago and North Western (C&NW) Bridge Yard facilities. Alternative rail trackage rights for the Duluth Winnipeg and Pacific (DW&P) were also required. In addition, alternative interchange facilities were necessary for DW&P's traffic with BN, C&NW, Soo Line and Milwaukee Road.

But providing for the I-35 roadbed meant removal of the Duluth Bridge Yard to south Superior where the BN and C&NW have facilities.

Resolution of rail traffic congestion in downtown Duluth and making way for the I-35 extension were believed more important to Duluth in the long run than relocation of the railroad yards to Superior, Swanson says. The move only affects freight trains and not Amtrak's passenger depot in Duluth, he adds.

Yes, Superior will benefit because the relocation will reduce the rail grade crossings that "cut up" much of the community.

The relocation plan also involves moving DW&P's West Duluth Yard to Pokegama, near Superior.

The complex move also requires construction of the following:

- Connection between DW&P and Duluth Missabe and Iron Range Railway (DM&IR) tracks at Nevada.
- Upgrading of the DM&IR track facilities from Nevada to South Itasca.
- Replacement for DW&P's West Duluth Yard to Pokegama.
- Improved connection of Burlington Northern (BN) and Soo facilities at Saunders.
- Connection of BN and Soo facilities south of Superior.
- Bridge yard replacement facilities at BN's 28th Street Yard and C&NW's South Itasca Yard.
- Replacement tracks for the Soo's West Duluth Yard at its Stinson Yard.

This move is the "largest railroad relocation that the state ever was involved in and the largest individual project involving federal money for

one location," explains Swanson.

Many years of negotiations were necessary before the move. Talks began in 1976 when a Railroad Relocation Committee was formed to consider the effects upon Duluth. Mn/DOT, Duluth and all six railroads were represented.

From September 1976 until now there have been meetings almost every week on this project, recalls Gordon Boldt, then director of Rail Administration. He and Olson along with John Pawlak, Duluth district engineer, were involved in most of these meetings.

During one meeting, a Federal Railway Administration official commented, "We had the greatest urban rail consolidation project in the country," relates Boldt, director, Motor Carrier Safety and Compliance.

Accomplishing this with six railroads involved and the the constant turnover in negotiators frustrated Boldt so he felt it was "nigh to impossible" for agreement.

But agreement was reached, Boldt says because, "If we ever were to build a freeway, we had to to it."

Despite the frustration, he says, the meetings were "really exciting with the main element to devise a plan that didn't require government involvement in ongoing railroad operations. Wisconsin had no financial reason, according to Boldt, to participate since it was a federally financed Mn/DOT project.

From these meetings, the committee recommended and an independent consultant concurred that the DW&P's West Duluth Yard be relocated at DM&IR's West Duluth Yard at Steelton.

However, the site was opposed by the community because of its proximity to a school and increased rail traffic. From this evolved the plan to move to Pokegama.

Nearly everyone liked the new plan which found support from Duluth and Superior City Councils, business, development and planning groups.

Approval came in January 1981 from the Wisconsin Transportation Commission and after public hearings from Minnesota officials on June 26, 1981.

How many work hours were tallied for the railroad project by Rail Administration staff aren't readily available, but LeRoy Vague, project manager, recorded 15,000 hours as of August. He estimates project managers Dennis Oberg and George Thibault equal his hours.

Of the years and hours involved, Vague says it has been the most complex project with new problems almost every day. "Nothing is routine," he adds.

With the project since the beginning in 1958, Olson says it has been a long road. He and Pawlak planned, negotiated and "walked a tightrope" to find acceptable solutions to concerns of environmentalists, downtown business leaders, history buffs and Duluth citizens as well as the railroads.

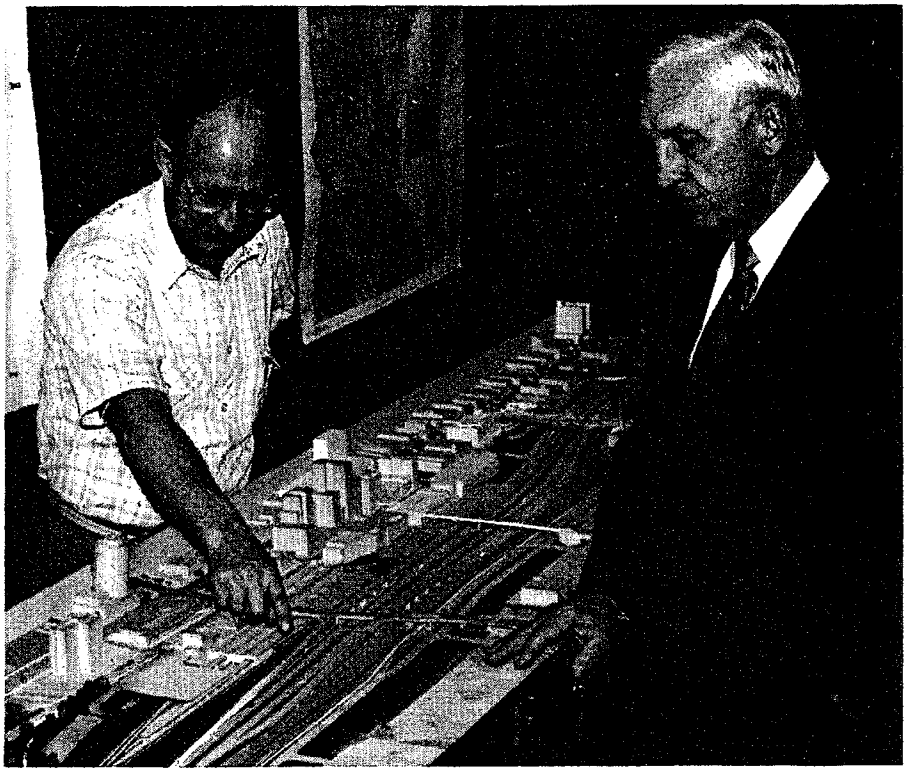
Just when one plan appeared acceptable, one group or another would object because of economic or environmental reasons, Olson says.

There even was a stalemate between business and environmentalists that continued until late 1975. The debate concerned I-35 location because there were steep hills on the north, Lake Superior on the south with the long, narrow business district and the railroad yards between.

Two different citizens groups were formed by two Duluth mayors over the years. From these suggestions and from others, a plan evolved to resolve most everyone's concerns. Preservation of the view of the lake and easy access to the downtown district were achieved. In addition, several historic buildings were saved including the Hartley Building and October House constructed in 1865 in the original plat of Portland which is now Duluth.

With 33 years of Mn/DOT service, Olson probably sums up the feelings of many employees involved with the I-35 project with, "I feel as if I spent most of my working life on I-35."

Donnie Carr



D. Bonin

Don Olson, (left) and John Pawlak, Duluth district engineer, view model of the railroad yard relocation.

Oakdale design squad meets tight deadline to complete I-94 plans

Tom O'Ryan's final design squad at Oakdale had more than just the new year to celebrate at the end of 1983. Final design plans to complete the last link of Interstate 94 from St. Paul to the Wisconsin border were delivered on Dec. 30 to the Central Office after months of intensive effort to finish the project for a spring letting.

The work required production of 715 plan sheets weighing a total of 75 pounds.

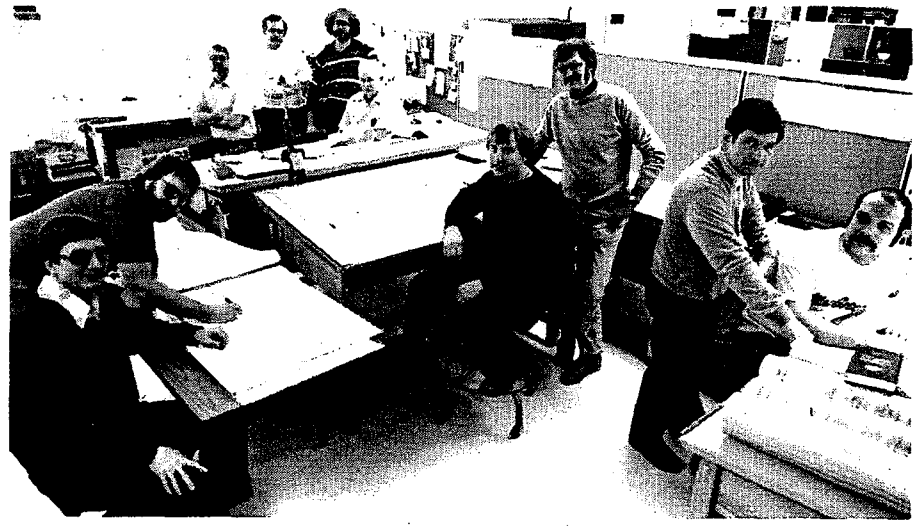
Since Labor Day, the squad members have spent 20 to 30 hours of overtime a week — nights, Saturdays and Sundays — in addition to their regular work hours to finish design work on the largest single project (exclusive of bridges) in Mn/DOT's history. Construction work is valued at about $30 million. The project will be let for bids in March or April.

When it is completed, the 9.5-mile segment of I-94 from the I-494/694 junction east of St. Paul to Wisconsin will close the last remaining gap in the freeway which extends about 1,400 miles from Billings, Mont. to Port Huron, Mich. by the end of 1985.

Closing the gap between preliminary design work and the project's final design was paramount for Oakdale and O'Ryan's four-member squad and seven members of other design squads who joined it on a full-time basis in the latter stages of the project.

O'Ryan, a principal engineering specialist, said the design work was complicated by the project's having to be constructed in stages. The work will be done in stages because traffic will be carried on US 12 while construction of I-94 proceeds in the US 12 corridor.

Designing the new highway in stages made the squad's assignment even more of a challenge because of the difficulty in collecting soil and drainage data and planning movement of utilities such as gas, water and electric lines in the heavily urbanized area.



L. Arias

Left to right, Squad leader Tom O'Ryan, Rich Kutz, Jerry Zeis, Larry Taft, Jon Anderson, Burt Welander, Michael Kangas, Tom Weller, Bob Andreas, and Bob Rabine, highway technicians.

Indicators of the magnitude of the I-94 project include plans to:

- Acquire 165 parcels of right of way including 28 homes, 10 commercial buildings and 9 other buildings.
- Install 76,000 feet of drainage pipe and 95,000 feet of chain link fencing.
- Excavate more than 6 million cubic yards of earth and subgrade material.
- Seed 392 acres of land for landscaping.
- Use 176,000 cubic yards of concrete for paving.

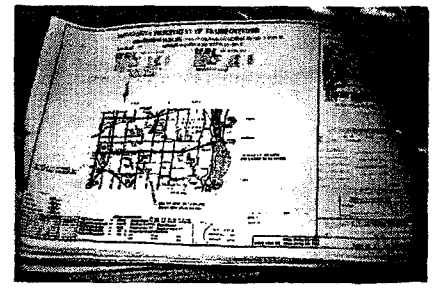
With their task done except for minor "clean up" work, members of the design squad now have time to breathe much more easily and even to discuss vacation plans.

A visitor now may hear such future destinations as Hawaii, Puerto Vallarta and Acapulco mentioned frequently by squad members instead of the din which arose when the work was at its peak.

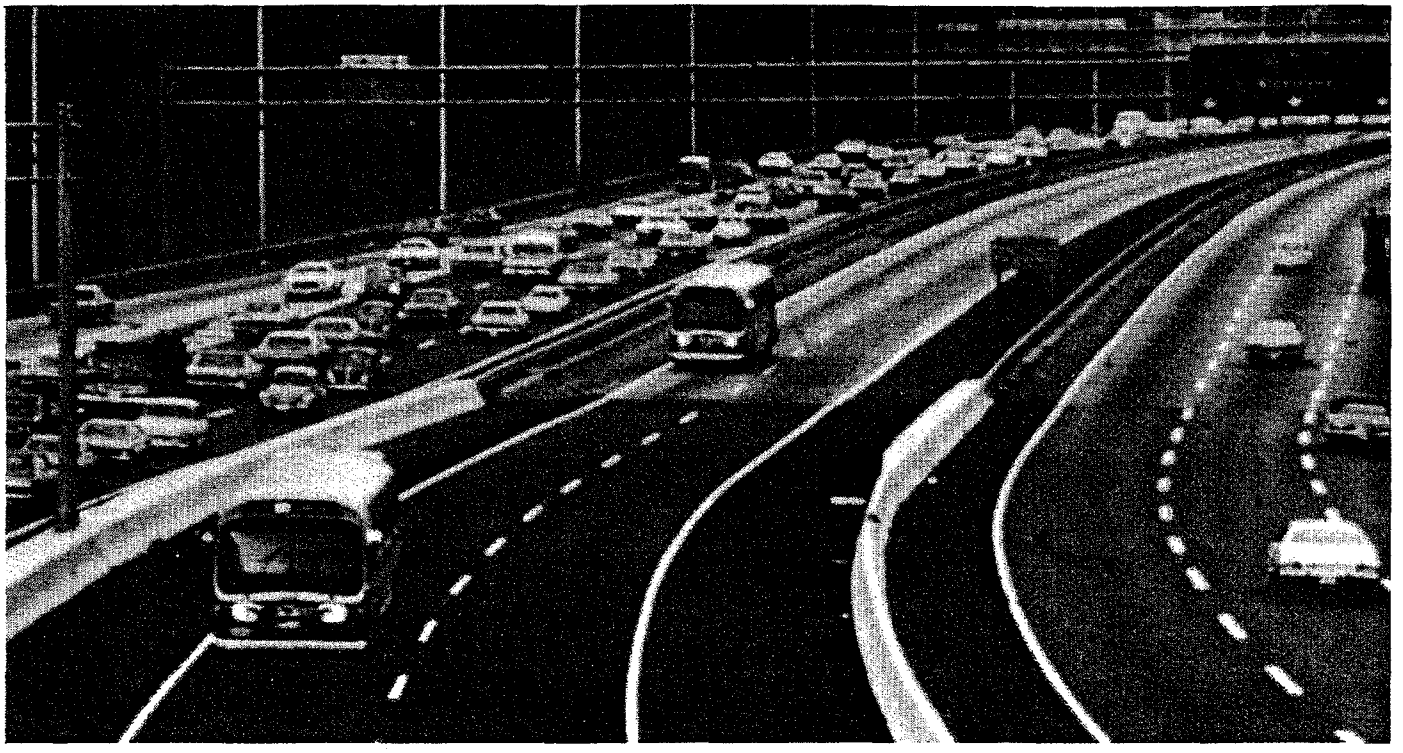
O'Ryan is heading for a few weeks in Hawaii, but not until the final work is finished and the 11 people who completed the project have a party to celebrate their accomplishment.

"They did a super job," O'Ryan said of his squad and the others who worked on the project. "People really put out to meet this deadline."

Bob Vockrodt/Craig Wilkins

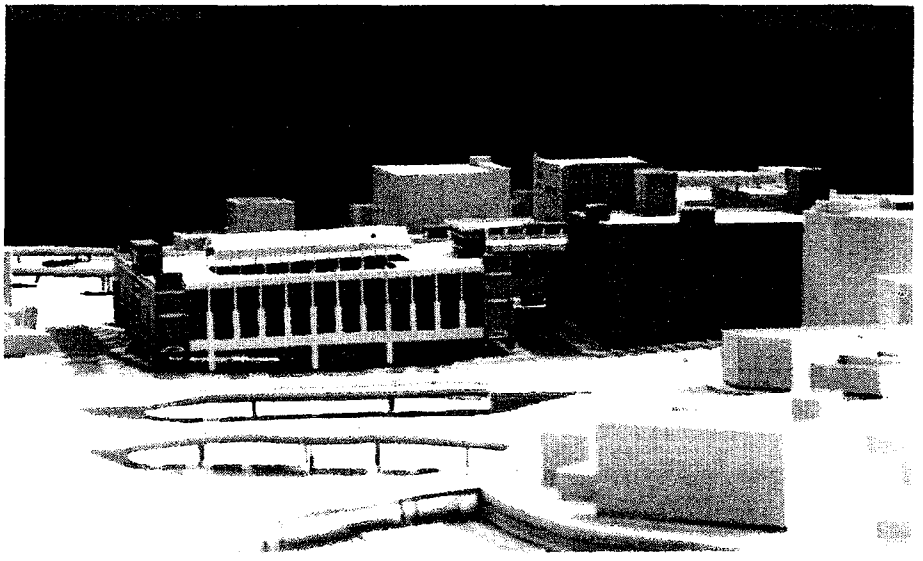


S. Howes



Buses, carpools and vanpools will travel freely in uncongested HOV lanes on I-394 similar to this section of urban freeway in Washington, D. C.

I-394 design promotes moving people, not cars



Parking garages similar to those shown in the model above will be built in downtown Minneapolis and provide access to commuters' destinations by skyway.

Share the road, share the ride. These six little words will have a big impact upon commuters traveling Interstate 394 which will replace Trunk Highway 12 between Wayzata and Minneapolis.

The first of a kind in Minnesota, I-394 provides for a 11-mile stretch of six lanes with the two inner lanes reserved for buses, carpools and vanpools.

These are high occupancy vehicle (HOV) lanes. From Highway 100 to downtown they are reversible, running eastbound in the morning and westbound in the afternoon. West of Highway 100, the two HOV lanes aren't reversible. Located in the center of the freeway, the HOV lanes will be separated by concrete barriers from the others.

The first contracts for the estimated $300 million project are expected to be awarded in November, says Dick Borson, Golden Valley district's project coordinator. Completion is expected by 1989 or early 1990.

The freeway design, deliberately planned to accommodate fewer vehicles than forecast, was a "foreign idea" to many people

here, says Borson. "The emphasis is on moving people, not vehicles."

This concept was vital, explains William Crawford, district engineer, because our goal was to preserve as much residential and park area as possible while still moving people. One of the major reasons for adopting this plan was regardless of the number of lanes, they would eventually merge into the narrower three-lane Lowry Hill Tunnel in Minneapolis.

This traffic is coming through Wayzata, Minnetonka, St. Louis Park, Golden Valley and into Minneapolis.

Providing the two HOV lanes is one thing, but convincing the commuter to rideshare is the challenge, says Borson.

"This is the key in our transportation system management plan," he states. Mn/DOT is working with the Metropolitan Council, Metropolitan Transit Commission, all the affected cities, Hennepin County and the Federal Highway Administration to get the commuter's acceptance of ridesharing.

Because TH 12 has one of the lowest vehicle occupancy rates in the metropolitan area, says Borson, we have selected two persons in a vehicle to qualify for HOV lane use in contrast to many other areas where it is three or more.

"We still have to conduct persuasive as well as educational campaigns to make ridesharing a household word," he says.

One dramatic demonstration of HOV lane use benefits will be lanes operating during construction. As bumper-to-bumper traffic crawls along during the rush hour, HOV commuters will move freely in uncongested lanes.

Other incentives will be special ramps onto the freeway and reserved places in three free or very low cost garages. The garages, owned by Mn/DOT and leased to Minneapolis, will handle traffic funneled off the freeway by the Third Avenue distributor. Garages are planned at Seventh, Fifth and Fourth Streets North.

Once inside the garage, ridesharers will have reserved parking convenient to entrances to the skyway system. Persons heading for offices or shops not connected to the skyway will be able to hop a minibus at the garage door and ride anywhere in the downtown area for 10 cents.

Other cost and time savings in commuting are estimated at about 25 minutes one way plus eliminating from $30 to $35 in monthly parking fees.

Being able to travel at 55 mph during peak hours with the average daily traffic count estimated at 110,000 should be another strong incentive to use the HOV lanes, he says. Projections also indicate 60 45-passenger buses will be traveling during peak hours.

The estimated five-year construction schedule with traffic moving freely in the HOV lanes during this period should dramatically convince enough commuters to share the road and share the ride and reap savings in time and money.

Donnie Carr

Dick Borson, Golden Valley district, project manager for I-394, overlooks TH 12 from the Theodore Wirth Parkway overpass in Minneapolis.

L. Arias

Portable pine trees give scenic welcome to motorists

Motorists coming into Minnesota on I-94 from Wisconsin when the last section of the freeway is completed will find attractive stands of spruce and cedar trees to greet them, not the barren landscape often associated with highway construction.

The environmental impact statement for the new section of I-94 between St. Paul and the Wisconsin border calls for "significant coniferous plantings" at the I-94/TH 95 interchange.

And that's what motorists will see, as the result of efforts by Paul Walvatne, Environmental Services, and Paul Juckel, Oakdale, I-94 project supervisor.

While the beauty of the trees will be apparent to people driving by at 55 miles an hour, the special effort that went into their placement is not so visible.

The spruce trees, from 15 to 20 feet high, were taken from land cleared to build the new St. Croix Travel Information Center along I-94 and then transplanted between the ends of the twin bridges over TH 95.

However, because the soil at the bridge site is very sandy and not suitable to support the large trees, Juckel proposed adding two to three feet of heavy topsoil to the site. With addition of the heavier topsoil, the trees were transplanted in May 1984.

Paul Juckel (standing) and Paul Walvatne examine a transplanted spruce in the I-94 construction area.

Juckel said the extra work and expense involved in adding topsoil and the tree transplants are justified by the recommendations of the impact statement and his own commitment to the environment.

"I wanted to do this to show our concern and to create an esthetic environment," Juckel said. "Its foolish to whack trees down with a chain saw when they can be saved."

Altogether, about 150 trees have been salvaged from the I-94 project. Some were transplanted to other locations along I-94, and some replanted at Oakdale facilities including the new maintenance station and construction office in Mendota Heights. Others were transplanted to grace roadsides in the Oakdale district.

Altering the location of a frontage road in Lakeland saved an impressive stand of 100-year-old oak trees next to a park. And a similar effort saved a towering, spreading silver maple adjacent to the eastbound lanes of the freeway.

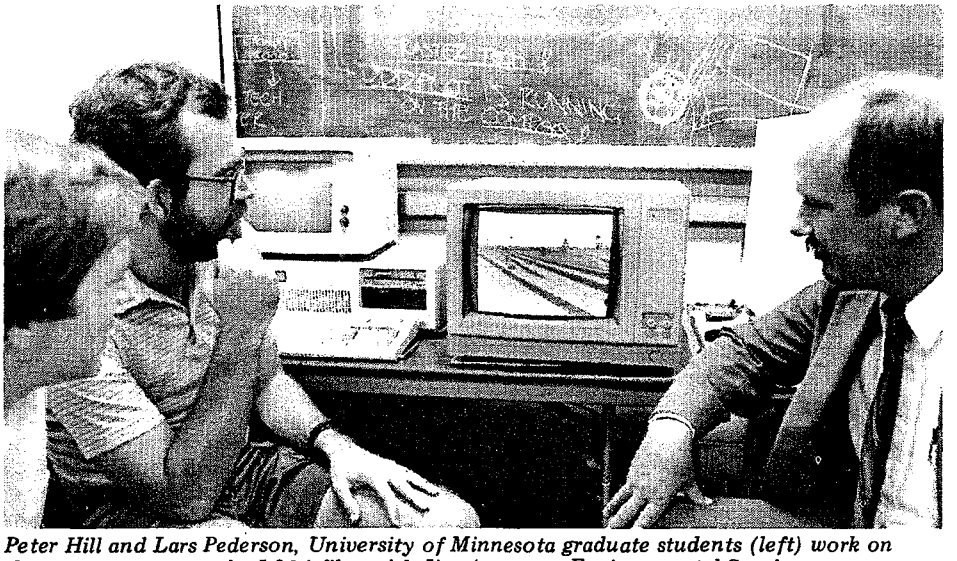
Walvatne said he uses an equation which includes esthetics, public perception, tree value and an assesment of the tree's chances of survival after being transplanted.

Walvatne and Juckel agree that tree transplants, landscaping and other efforts to improve the roadside environment pay off in both more attractive roadsides and improved public perception of Mn/DOT.

Speaking specifically of the landscaping on I-94, Juckel said, "It looks good — and welcomes people to Minnesota."

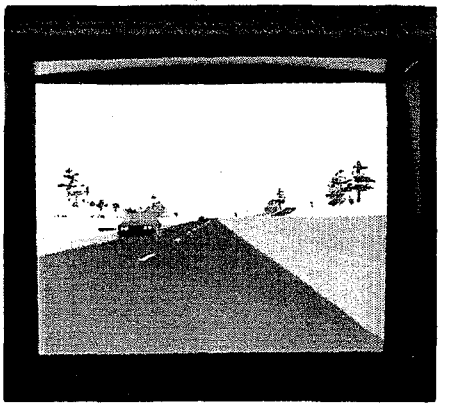
Craig Wilkins

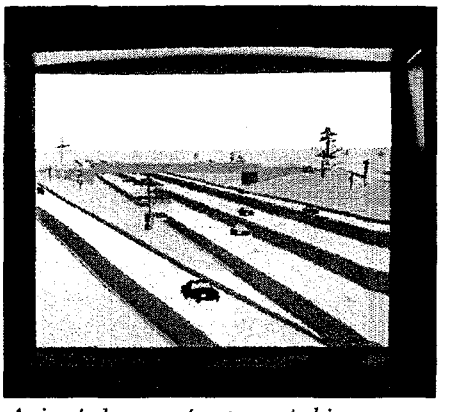
Drive-thru movie previews I-394



T. Shatek (3)

Peter Hill and Lars Pederson, University of Minnesota graduate students (left) work on the system to create the I-394 film with Jim Aswegan, Environmental Services.





Animated computer-generated images are first displayed on the computer screen. The images are photographed and then transferred to film or videotape for showing.

Hold the popcorn, forget the coke, this new movie is all business. Viewers will find no plot, no characters.

In fact, the film's only action is a simulated ride through the future I-394 corridor between downtown Minneapolis and Minnetonka, 11 miles to the west.

The film is animated and in color but not for enhancing its entertainment value. Its purpose is to provide the public with a preview of how the I-394 freeway will look and work when it's completed in 1990.

"We're looking at the movie as a public relations tool," said Jim Aswegan, Environmental Services and Mn/DOT's coordinator of the project. "Instead of showing plans and inanimate drawings at public meetings, audience members can be taken for a simulated ride on the future roadway. This realism should give the public a better understanding of what will happen," he said.

The movie is being made by providing a computer with data describing the entire corridor — roadway elevations, buildings, trees, shrubbery, bridges, interchanges, signs, etc. A program developed by the staff of the School of Architecture at the University of Minnesota translates the data via animation into a single film frame illustrating a particular point in the freeway corridor. The frames are then filmed from the computer screen to create a moving image of a trip on the roadway.

Or, Aswegan notes, the angle of view can be changed to show the freeway from the porch of a nearby house, the front door of a business or from a point high above the roadway.

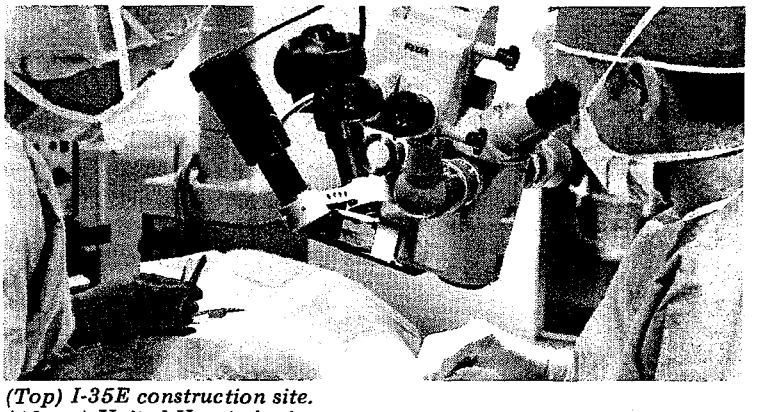
The frame interval can also be varied to provide greater detail for a specific area. One such area will be the I-394/TH 100 interchange because it will be considerably different than the existing US 12/TH 100 interchange.

The film is now in production by Mn/DOT and university staff members. Aswegan said future plans include adapting the process to Mn/DOT's computer systems and exploring additional uses for computer animation.

"We're looking at an airport application of this type of animated movie project," he said, "and other highways also are being considered for the same treatment as this pilot project."

"We're also picking up on advertising techniques used in animation with the view of using them to sell the public an understanding of state transportation facilities," he said.

Bill Krause/Craig Wilkins



Schedule keeps construction, surgery on time

(Top) I-35E construction site.
(Above) United Hospital microsurgery.

After years of delay, the din of road construction for the I-35E project near downtown St. Paul is music to Mn/DOT's ears, but not to nearby residents or to neighboring United Hospital.

However, through negotiation and compromise, most problems associated with the controversial project have been resolved or at least smoothed over for the current construction season.

One particularly difficult problem, a crust of limestone rock 12 feet deep extended a half mile through the I-35E route and less than a quarter of a mile from the hospital, caused a thorny problem this summer.

Dynamite blasts required to break up the layers of limestone were prohibited during hours when microsurgery was performed at the hospital.

The increased number of microsurgeries being performed daily often prevented even one blast from being set off during a working day. Evening blasting and construction disturbed and angered residents of the historic Summit Hill area near the site.

With construction behind schedule, representatives from the hospital, Mn/DOT and Johnson Brothers Construction Co., the contractor, met to re-evaluate the blasting guidelines to work out a schedule to satisfy all those concerned.

An agreement was reached. The new schedule set specific blasting times carefully timed and calculated to the minute.

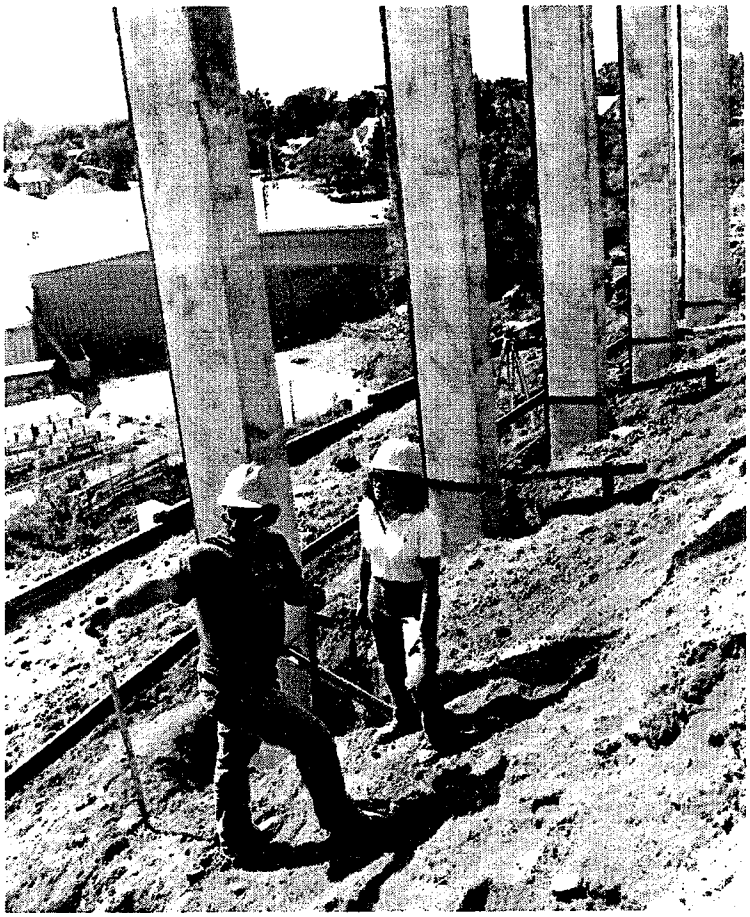
Each morning on her way to work at the site, Joan Wood, an employee with Johnson Brothers, stopped at United Hospital to synchronize her watch with the hospital's clock.

Meanwhile at the construction site, workers prepare for the first blast of the day. At 7:55 a.m., the five-minute warning sounds. Four minutes later, another warning signals the blast will go off in one minute. Having returned to the site, Wood would give the final okay to proceed with the blast.

Moments before the blast, surgeons cease operating. At precisely 8 a.m. the knobs are turned and the

"We have nothing but praise for Mn/DOT and its handling of this project."

Thomas Rockers, president of United Hospital



L Arias (4)

(Above) Kerry Sizemore, laborer, talks with Mary Agnew, project inspector, about noise wall construction.
(Top Left) Marvin Johnston, chief grading inspector; Art Larson, chief bridge inspector, and Terry Zoller, project engineer, walk away from the construction site following dynamite blast.
(Left) Joan Wood, Johnson Brothers Construction, watches to give the one-minute warning signal.

ynamite charges explode. The xplosions cause a rumble under- round; the connection is made, ingling vibrations can be felt nderfoot. A small puff of smoke, ke the one emitted from a car's xhaust on a cold winter morning, ises above a blanket of meshed ope, tires and boulders which ontains the blast and noise.

here was no Fourth of July ex- losion. No firecrackers popping, o flying debris, no sparks. The xplosion actually was a series of mall blasts simultaneously etonated six to 12 feet inside he limestone layer.

he rock crumbles, the all clear orn sounds and then backhoes and arthmovers lumber in to scoop out he blasted pieces of rock. At the hospital, surgeons return to their work.

With the new blasting schedule, the I-35E project should be completed by its target date of October 1987.

As the music continues for Mn/DOT, people living and working nearby continue to hear only the jackhammers and the relentless roar of diesel engines. Mn/DOT is not callous to the disturbance and inconvenience caused by highway construction, but there is little that can be done to eliminate them.

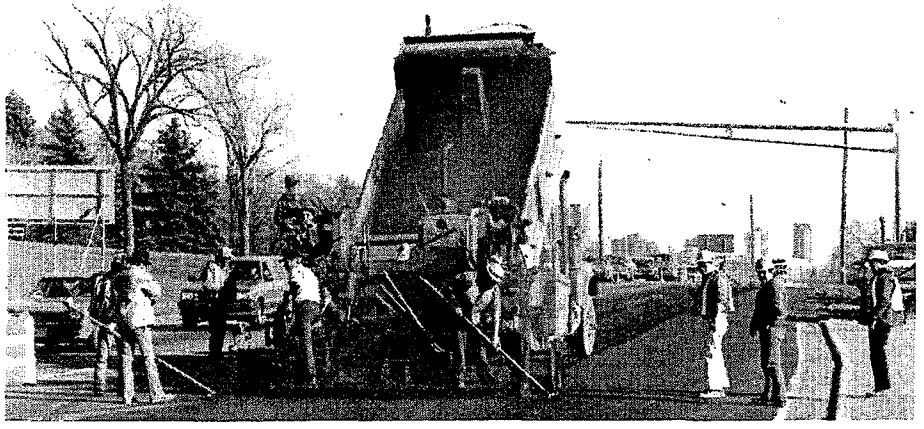
Although many workers and residents think Mn/DOT is insensitive to the intruding situation, Thomas Rockers, president of United Hospital, recently commended the department in an editorial column of a community newspaper.

"We have nothing but praise for Mn/DOT and its handling of this project," he wrote.

When the I-35E project is completed, those inconvenienced by its construction will eventually benefit from the improved access to I-94 and downtown St. Paul and from completion of the I-35 system which extends from Laredo, Texas to Duluth.

Laurie Arias

Reversible 'sane lane' paves way for completi



T. Shatek (2)

A fresh layer of bituminous is leveled off at the HOV lane entrance just east of Highway 100 on US 12.

Interstate 394, the freeway which will connect Minneapolis with its western suburbs, entered its first state of completion Nov. 19 with opening of the reversible "sane lane" along the route of existing US 12.

The special high occupancy vehicle (HOV) lane carries only buses, vanpools and carpools having at least two people. It is the first such lane to be built in Minnesota.

The express lane concept was chosen to move the maximum number of commuters with the fewest number of vehicles.

The lane, which will eventually be replaced by two HOV lanes when I-394 is completed, will help reduce traffic congestion in the 11-mile US 12/I-394 corridor from Minnetonka to Minneapolis while the freeway is under construction. Users can expect to cut about five minutes driving time and the stress of driving on the extremely busy highway. Completion is expected by late 1990.

The HOV lane built in the median of US 12 carries eastbound rush hour traffic from 6 a.m. until 9 a.m. and westbound evening rush hour traffic from 3 p.m. until 7 p.m. The Minnesota State Patrol monitors the lane to ensure compliance. The lane is closed the remainder of the day for safety and to allow its use by contractors building I-394.

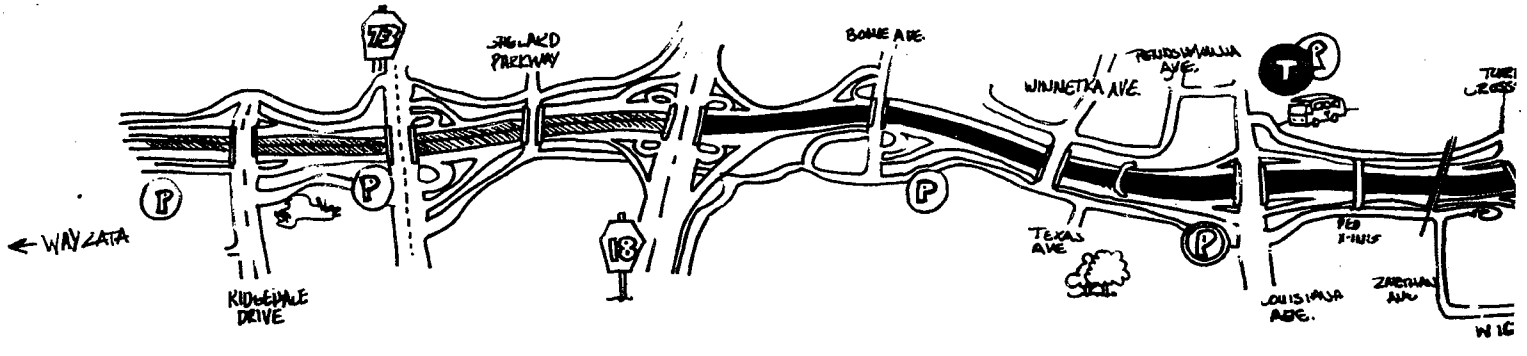
The lane runs from Essex Road to Ridgedale Drive and from Winnetka Avenue to Wirth Parkway.

Cooperation from commuters to ride the bus or carpool is crucial for both the temporary "sane lane" and the final design of I-394 with its two HOV lanes to reduce congestion and to move the thousands of commuters who use the route daily.

Poolers will be able to use a new, 250-space parking lot at 10th Street and Glenwood Avenue and four other lots downtown without cost.

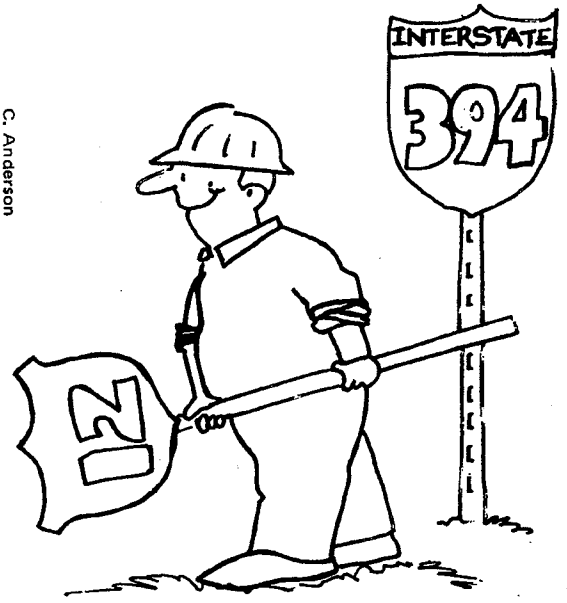
"The entire concept of I-394 is unique because it's designed to move people, not vehicles," said Dick Borson, Golden Valley, I-394 project manager.

When completed, I-394 will offer commuters a number of options to get to work. In addition to express lanes for buses and pools, there will be transit transfer stations,



n of I-394

C. Anderson



(Left) Workers install an entrance sign for the HOV "sane lane" on US 12. (Above) Gary Thompson (left), project engineer, and Fred Moritz, construction inspector, check out the newly paved HOV lane.

park-and-ride lots and three parking garages built as part of the I-394 project in downtown Minneapolis for carpools and vanpools.

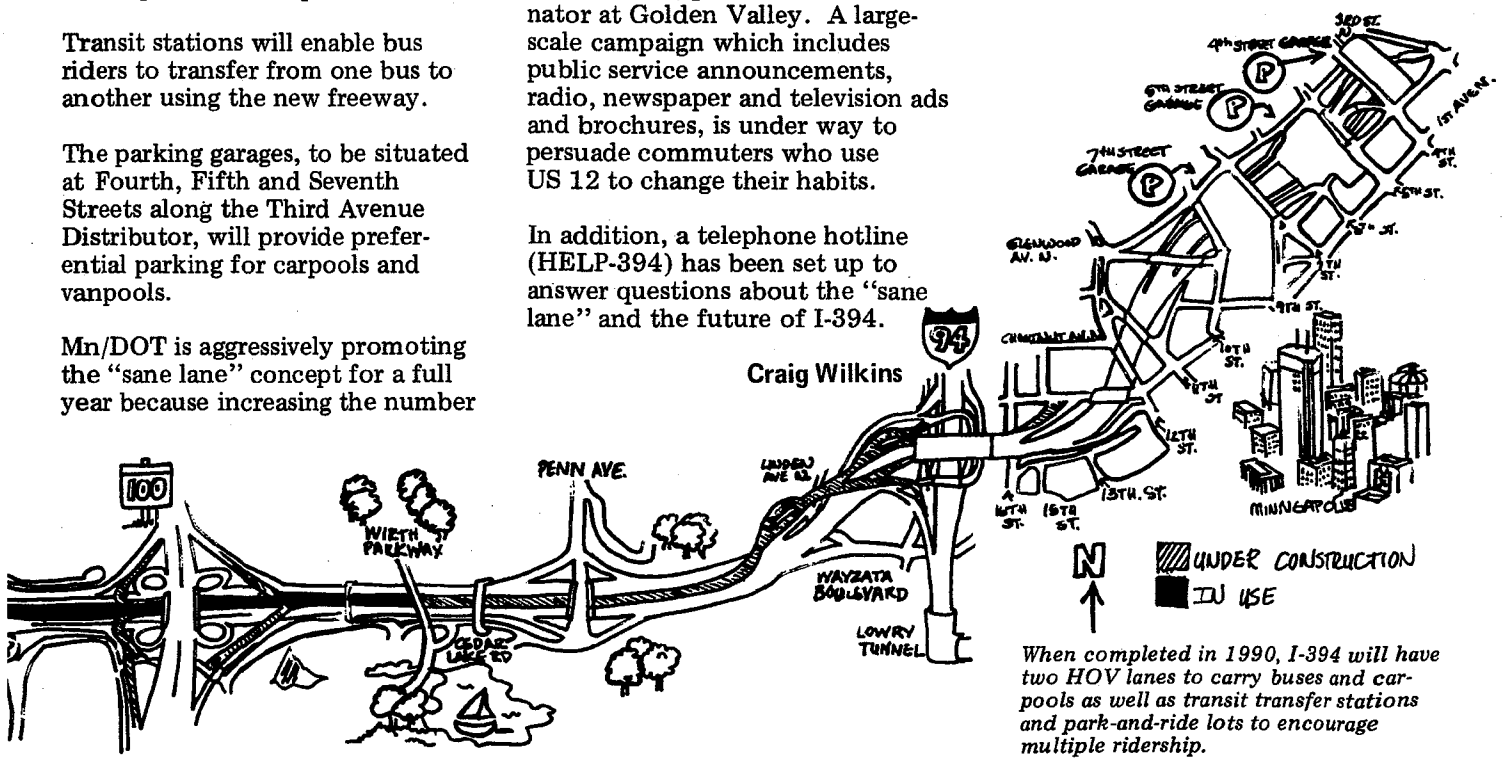
Transit stations will enable bus riders to transfer from one bus to another using the new freeway.

The parking garages, to be situated at Fourth, Fifth and Seventh Streets along the Third Avenue Distributor, will provide preferential parking for carpools and vanpools.

Mn/DOT is aggressively promoting the "sane lane" concept for a full year because increasing the number of commuters who use the bus or join a pool is essential to its success and that of I-394, said Don Stevens, public affairs coordinator at Golden Valley. A large-scale campaign which includes public service announcements, radio, newspaper and television ads and brochures, is under way to persuade commuters who use US 12 to change their habits.

In addition, a telephone hotline (HELP-394) has been set up to answer questions about the "sane lane" and the future of I-394.

Craig Wilkins



When completed in 1990, I-394 will have two HOV lanes to carry buses and carpools as well as transit transfer stations and park-and-ride lots to encourage multiple ridership.

Completed I-494/694 beltline ties Twin Cities metro area together

The golden stripe opening the final link of the I-494/I-694 beltline has been laid after 30 years of work to tie the Twin Cities metro area together. The recently completed 3.5-mile, six-lane segment of I-494 completes a 76-mile loop that cuts through five counties.

The continuous ring of asphalt and concrete will provide faster and safer commuting and result in less truck traffic along two-lane state highways such as TH 110. A high accident rate on TH 110 as the result of heavy traffic traveling at 55 mph or higher, should be lessened as the completed beltline relieves the pressure.

An encompassing freeway system should help the Twin Cities overcome geographic boundaries like rivers that kept it somewhat disjointed. Residents may now feel they belong to one community.

Because of the completed freeway system, it's now possible for residents from eastern and northeastern suburbs to drive to Bloomington or the Minneapolis-St. Paul International Airport without encountering a stop light. If traffic conditions are good, a trek from South St. Paul or Woodbury to the Twin Cities International Airport can be made in 10 to 15 minutes.

The last segment of I-494 from TH 3 to Delaware Avenue was begun in 1984 at a projected cost of $27 million. The segment was opened to traffic late in the fall of 1986.

"The segment is not completely finished," said Doug McArthur, resident engineer, Oakdale. "There is still some work on the shoulders to be done and some final surfacing left."

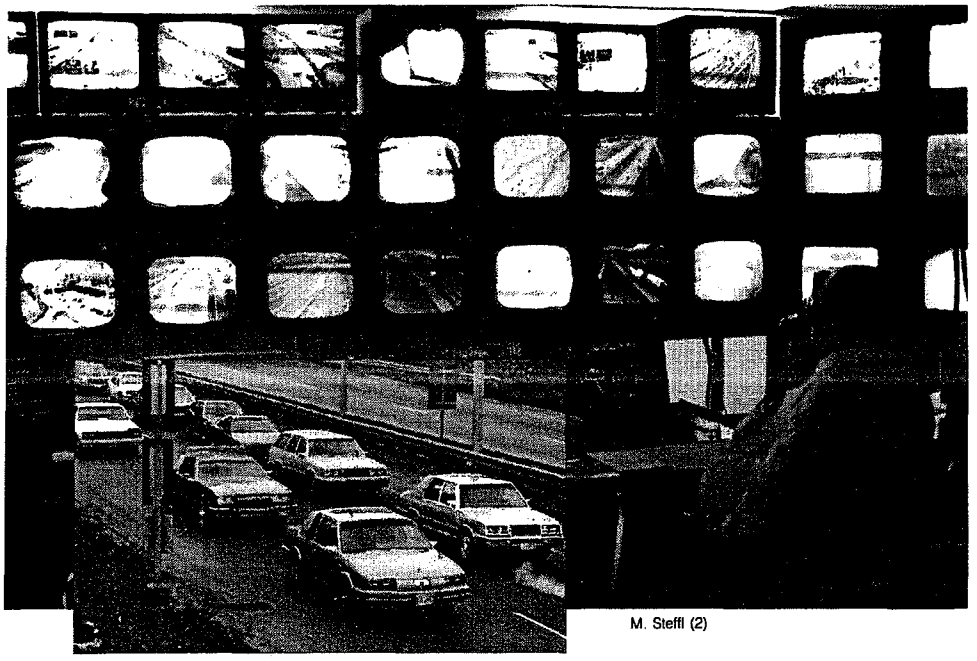
The entire section of I-494 from Bloomington to Concord Street in South St. Paul, begun in 1980, involved the construction of 38 bridges and cost $135 million.

Developers think the newly completed "strip" has the potential to spawn businesses as the Bloomington I-494 strip did when it opened in 1959. The reasoning behind these beliefs comes from the fact that it is also easily accessible from the airport, and there's lots of developable land in Inver Grove Heights, Eagan and Mendota Heights.

Perhaps the *Minneapolis Star and Tribune* editorialized best what the freeway ring completion means.

"By giving the region's scattered population better access to all its scattered parts, the I-494/I-694 ring is indeed a tie that binds. And its completion, three decades after the plans were first drawn, is indeed cause for celebration."

Bob Vockrodt
Oakdale Public Affairs Coordinator



M. Steffl (2)

David Strege, operations engineer, Traffic Engineering, watches for potential traffic problems. The various monitors make it possible to view traffic remotely from the Traffic Management Center in downtown Minneapolis. (Insert: Afternoon rush hour begins as cars wait to enter I-35W southbound near downtown Minneapolis.)

Planners consider new ways to reduce I-35W congestion

Built in the 1950s, I-35W is suffering from old age and from carrying twice the amount of traffic than it was designed for.

The freeway that runs south from downtown Minneapolis to Burnsville has the busiest section of freeway in the state — the one between downtown and 35th Street (just south of Lake Street) in Minneapolis.

Four agencies, two counties, four cities and the motoring public agree that something has to be done to relieve the bumper-to-bumper traffic and the high number of accidents on I-35W, especially in the area where I-35W and the Crosstown Highway (Hennepin County Rd 62) run together.

Something is being done. Mn/DOT initiated a study in 1986 and expects to wrap up the first phase by this spring, said Craig Robinson, Golden Valley's preliminary design engineer and project coordinator.

"It's nice to begin a project where everyone is in agreement that something must be done — and soon," said Robinson.

A project advisory board has been organized with William Crawford, Golden Valley district engineer, as chair.

Members represent the Metropolitan Council, Federal Highway Administration, Regional Transit Board (RTB), Hennepin and Dakota counties, Minneapolis, Richfield, Bloomington and Burnsville.

Most of the communities already have established public involvement programs and held public information meetings.

Citizens' comments at these meetings support the need to take action to save lives and move traffic more effectively on I-35W.

Statistics, too, reinforce the public's and Mn/DOT's concern about traffic and safety. The Lake Street area has the highest concentration of vehicles in the northbound lanes during the morning peak hours.

As many as 7,400 vehicles clog the northbound lanes during the morning rush hours on I-35W near downtown, said Rich Lau, traffic system engineer for Mn/DOT's Traffic Management Center in Minneapolis. The four northbound lanes have a capacity of 2,000 vehicles in each lane per hour.

The Crosstown/I-35W common section has the highest accident rate on I-35W, said Gary Ries, head of research for the Traffic Management Center.

The latest statistics available —1984— show the average state interstate has a 1.7 accident rate per million vehicle miles traveled. But the common section's rate is 3.1, significantly higher, he said.

To improve I-35W's capacity and safety, Robinson said four alternatives are being considered:

1. Maintaining, but not building; that means no additional lanes, but improved signing and minor improvements.

2. Adding one or two more lanes in each direction.

3. Constructing light rail transit.

4. Providing special entrances for buses, vanpools and cars with two or more occupants.

If the second alternative is selected, the lanes could be fixed, reversible ones running north in the morning rush hours and reversed in the afternoon peak times. This would be similar to I-394's Sane Lane, west of downtown Minneapolis. Another option could be reserved lanes for buses, carpools and vanpools.

If alternative number three is recommended, "then we turn the study over to the Metropolitan Council and the RTB," said Robinson. "Highway funds can't be used for light rail transit."

Donnie Carr

L. Arias

Wisconsin and Minnesota officials met in both states on June 17, the day the new 65 mph law became effective in both states. Govs. Tommy Thompson (left) and Rudy Perpich and Commissioner Len Levine mark installation of the new speed signs on I-94 just west of the Wisconsin border.

On rural interstates

'Double nickel' vanishes with approval of 65 mph speed limit

Minnesota bid farewell to the double nickel (55) speed limit on rural interstate highways and raised it to 65 mph in June.

In 1974, the Minnesota Legislature passed the 55 mph maximum speed limit on Minnesota's roads to conserve energy.

This law remained in force until the 65 mph speed limit was ordered into effect by Gov. Rudy Perpich on 708 miles of Minnesota's rural interstate system June 17.

There are 890 miles of interstate highways in Minnesota.

Rural interstates are outside urban areas, which have 50,000 or more population.

The zones where 65 mph speed limits are allowed are:

- I-94 from TH 231 at Moorhead, to the north Maple Grove city limits.
- I-94 from Washington County Road 13 in Woodbury to the Wisconsin border.
- I-90 from the South Dakota border to near the Wisconsin state line.
- I-35 from the Iowa border to the Dakota/Scott county line.
- I-35 from U.S. 2 junction near Duluth, to the I-35E/I-35W junction south of Forest Lake.
- I-35E from the north I-35/I-35W junction TH 96 in White Bear Lake.
- I-35W from the north I-35/I-35E junction to TH 49 in Lino Lakes.

The decision to adopt the maximum 65 mph speed limit for rural interstates was a difficult one that considered speed trends in Minnesota, actions by surrounding states and the inherent safety design of rural freeways, said Bob Kurpius, assistant traffic engineer.

Minnesota speed data for the period from Oct. 1, 1986, to March 31, 1987, showed the average speed on rural interstates was 61.6 mph. This was 3.3 miles faster than the 58.3 mph average speed between Oct. 1, 1985, and Sept. 30, 1986. And 60.3 percent of the drivers exceeded 60 mph as compared with 31.4 percent for 1986. During the first half of 1987, 23 percent drove faster than 65 mph.

And speed is only one of several factors involved in the accident rate. The number of accidents per million vehicle miles is 0.6 on rural interstates and is the lowest of the basic rural roadway types, Kurpius said.

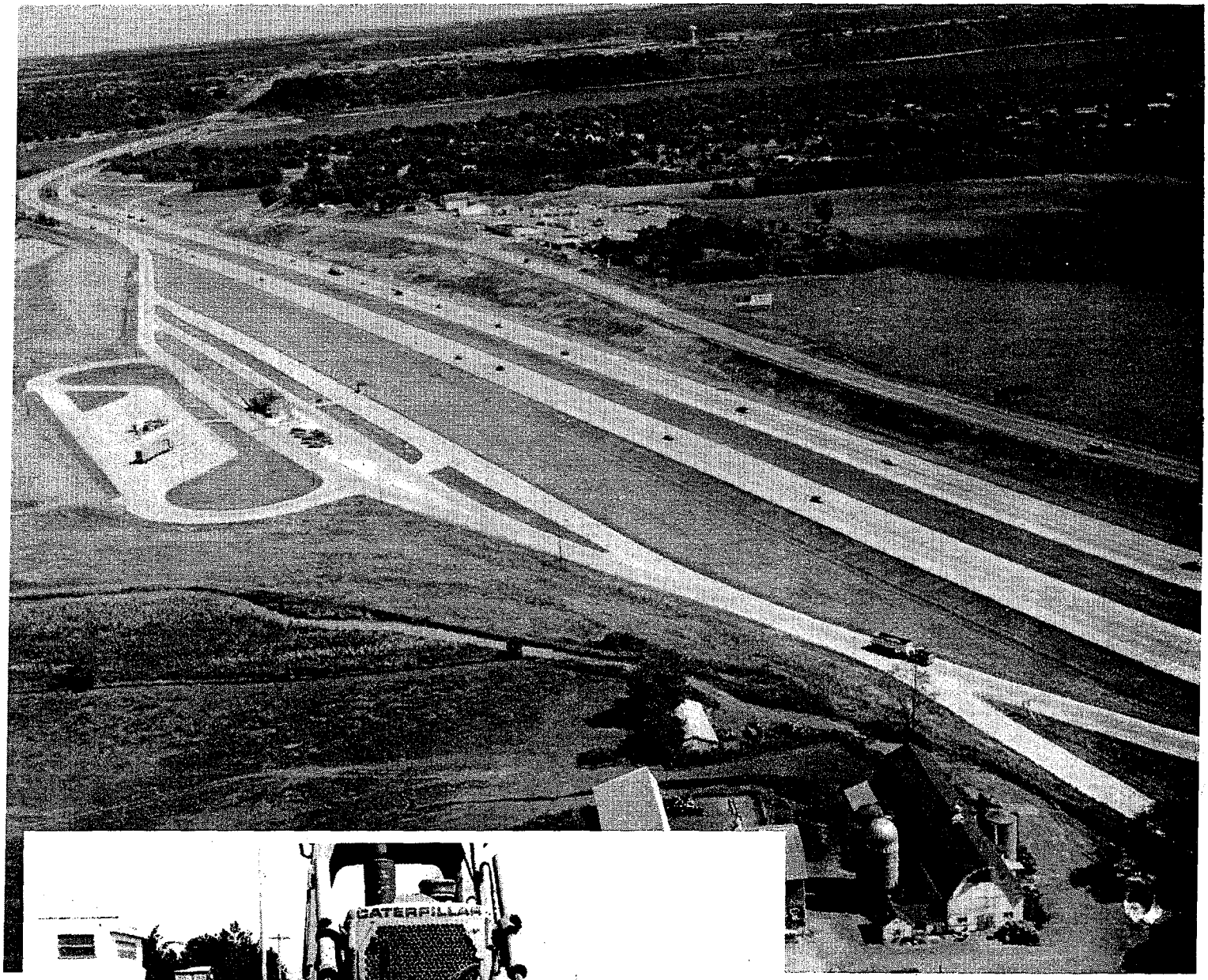
"We do know though," he said, "that the faster or slower a vehicle is traveling in relation to other traffic, the more likely an accident will happen. If more vehicles travel at the same speed — even with the 65 mph limit — the expectation is that fewer accidents will occur."

Other Midwestern states having one to three months' experience with the 65 mph speed limit indicate that there is an average speed increase of 2 to 3 miles an hour. Data collected three and 10 days after posting of the 65 mph speed limit show little change in average speeds on Minnesota interstates, Kurpius said.

Maj. Leo Foley of the Minnesota State Patrol says troopers have been told to enforce the 65 mph speed limit on the state's rural interstates quite rigidly.

They have been advised that — at their discretion — they can allow speeds of up to 4 mph beyond that without making an arrest, but they are expected to issue at least a warning to those driving up to 69 mph. Beyond that, they have been directed to issue speeding tickets.

Bill Krause



N. Kveberg

M. Sieff

Project Supervisor Paul Juckel, left, and Chief Inspector Leroy Jakober can breathe easier now that the I-94 project is complete.

Finished . . .

Final section completes I-94 in state, U.S.

"Not too many people knew we were there. The traffic kept moving through at 55 mph. It was unusual for a project of this size."

This is how Paul Juckel, project supervisor, sums up the completion of the last 10.9-mile segment of I-94 east of St. Paul.

The last leg of I-94 is open to traffic. This completes 259 miles of I-94 in Minnesota and in the United States. Ceremonies marking the event were held Sept. 21.

"It was quite an undertaking," he said, "building the freeway under traffic without shutting down. It's unusual because a complete cloverleaf was reconstructed into a collector distributor interchange.

"The project went very well with no hitches and no traffic mishaps. It was well-designed," Juckel added.

This last section of I-94 in Minnesota runs from the St. Croix River at Lakeland to TH 120 (Century Avenue) in Maplewood and Woodbury in Washington County. I-94 runs 1,496 constructed miles across seven states from Port Huron, Mich., to Billings, Mont.

Work on this last portion began in 1980 when Mn/DOT started on the TH 95 bypasses, said Juckel. Contracts were let to 24 prime contractors with numerous subcontractors. The smallest contract was $4,700 and the largest was $32 million, which was the largest construction contract let up to that time (May 1984). Total cost of the 24 contracts was $58.7 million, he said.

For statistics buffs, Juckel furnishes the following: 10 million cubic yards of dirt were removed, one million cubic yards of gravel base were laid, 429,000 cubic yards of concrete were poured and 731 acres of topsoil were replaced.

The project also includes the St. Croix Travel Information Center on 120 acres at a cost of $2.9 million. It is estimated, Juckel said, that 50,000 to 70,000 vehicles will stop at the center annually.

"A unique feature of this center is it provides access for the Minnesota biking system," said Bill Roen, public affairs coordinator for the Operations Division.

There also is about a one-fourth mile long concrete bicycle path to a scenic overlook with a view of a pond, he said.

Another addition to the newest section of I-94 is the weigh-in-motion truck scale operated by the Department of Public Safety. It is the first of its kind in the nation. Using the latest in automated equipment, the scales weigh trucks as they approach the station. Equipment also measures the length and height of the truck to check for the correct number and spacing of axles, Juckel said. If of legal weight, trucks can proceed through at 30 mph. If the driver tries to avoid the scales, an alarm sounds inside the building. A TV camera at TH 95 "reads" the truck's license plate number and employees call the State Patrol or Bayport officials to arrest the driver, he explained.

The building and equipment cost $3.1 million. The scale runs 24 hours a day, seven days a week. "We estimate 3,200 trucks a day will pass through, but up to 5,000 trucks can be handled," he said.

Kermit McRae, Oakdale district engineer, said the completion of I-94 is the last major freeway in District 9 to be finished (only a one-mile segment of I-35E Parkway is left).

"With its modern design and standards, we anticipate a very improved safety record on I-94," he said. "There should be a major reduction in the number and severity of accidents."

Donnie Carr

I-94 Highlights in Minnesota

- 259 miles long.
- Estimated total cost $740 million.
- First section opened in 1960; one-half mile, the Fargo-Moorhead Bridge over the Red River.
- First section opened in the Twin Cities Metropolitan Area in 1964 (one mile) Riverside Avenue to East River Road in Minneapolis; 2.5 miles, Snelling Avenue to Marion Street in St. Paul.
- Last section opened Sept. 21; 10.9 miles from the St. Croix River at Lakeland to TH 120 (Century Avenue), Maplewood and Woodbury in Washington County.
- 11 rest areas and travel information centers.

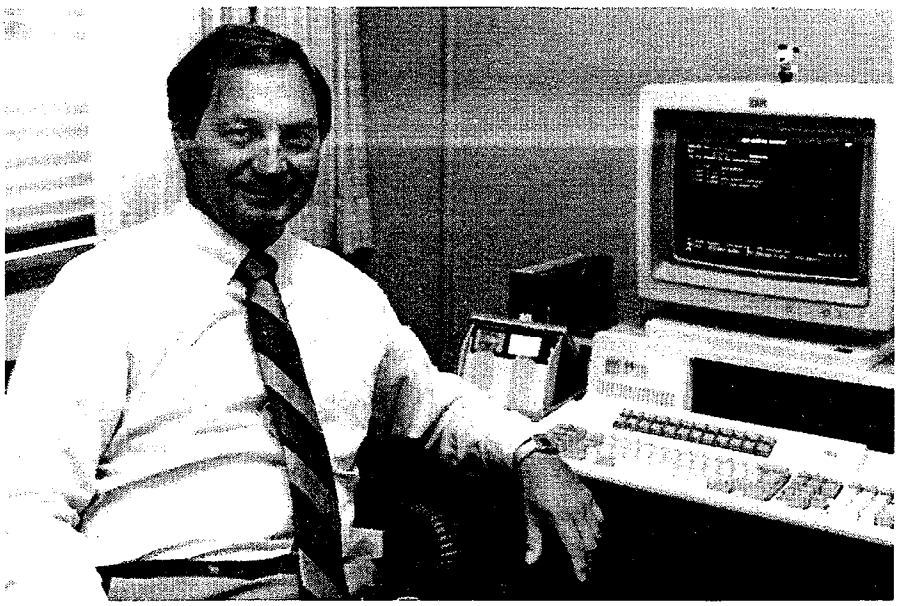
I-94 Facts in the U.S.

I-94 in the United States runs 1,496 constructed miles from Port Huron, Mich., to Billings, Mont. The cost was $2.5 billion.

State	Miles	Completed	Cost (millions)
Michigan	276	1971	$492
Indiana	30	1972	62
Illinois	75	1962	556
Wisconsin	256	1982	334
Minnesota	259	1987	736
North Dakota	352	1969	164
Montana	248	1984	184

(Note: Figures are rounded.)

In Transit



M. Steffl(2)

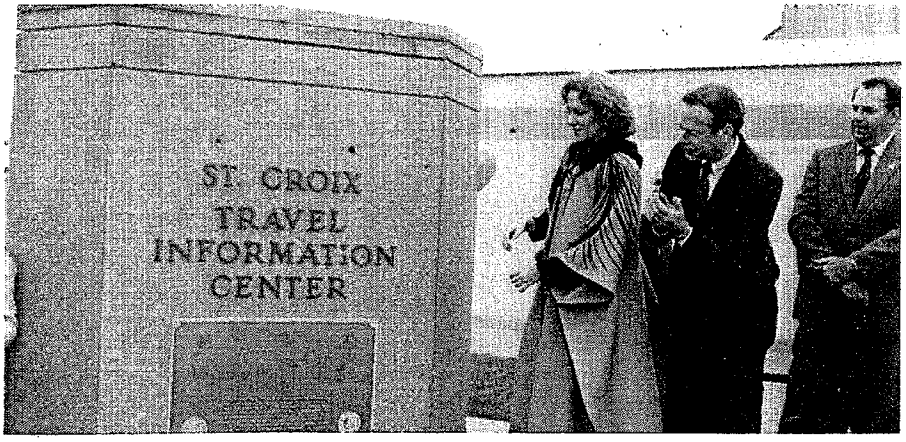
Cohoon named assistant commissioner

Ed Cohoon, former director of the Office of Financial Management, has been promoted to assistant commissioner of the newly organized Finance and Management Systems Division.

Cohoon, who has been in state service for 20 years, came to Mn/DOT 13 years ago as budget director in the Budget Office. In 1979, he was named director of the Office of Financial Management.

As assistant commissioner of the new division, Cohoon will retain his previous responsibilities, as well as manage the automated information systems and direct all administrative and management housekeeping functions.

Cohoon has a bachelor of science degree in business administration from the University of Wisconsin and is a certified public accountant in Minnesota.



Lt. Gov. Marlene Johnson and Commissioner Len Levine applaud the unveiling of the monument at the new St. Croix Travel Information Center on I-94 east of St. Paul. The monument marks the geographic center of I-94 between Port Huron, Mich. and Billings, Mont. Ceremonies marked completion of the final section of I-94 in the U.S., dedication of the new travel center and the Department of Public Safety's new automated weight station.

Hill appointed to direct Office of Technical Support

Roger Hill, former control program director in the Office of Highway Program Implementation, has been named director of the Office of Technical Support. He succeeds Dave Smilonich, who is now the Rochester district engineer.

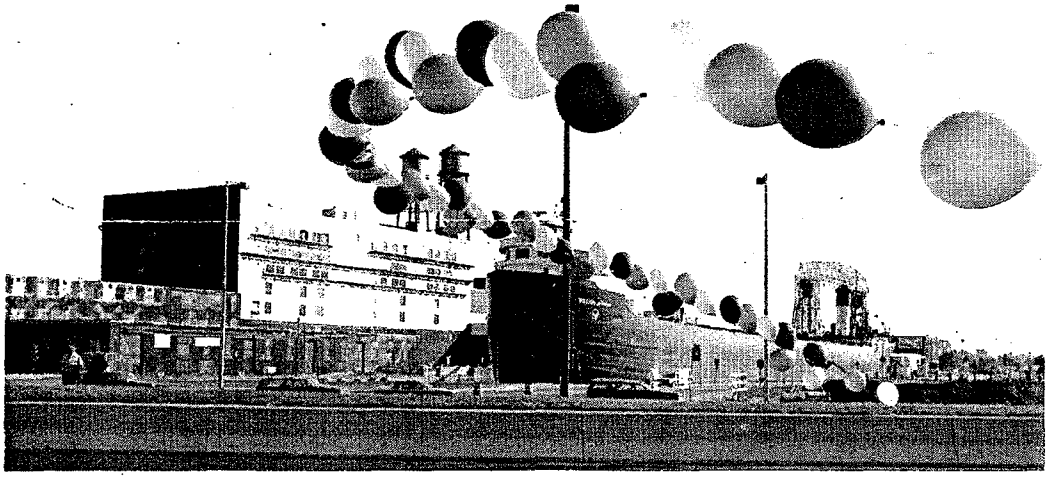
As a Mn/DOT employee for 30 years, Hill has worked in the Duluth District as assistant district design engineer. In 1966 he began work in the Central Office as a senior geometric engineer. For the past 12 years, he has been project manager of information systems in the Office of Highway Program Implementation.

Hill will be responsible for the administration of the Technical Support office functions including road design, computer-aided engineering services, the agreements section and the environmental services section. He is a civil engineering graduate of the University of Minnesota.

Mn/DOT EXPRESS

Duluth celebrates I-35 opening

Right: Commissioner Levine steps into the first state patrol car used in Minnesota. The car was part of a parade dedicating the opening of I-35 through downtown Duluth.
Bottom: Balloons flutter in the breeze from Lake Superior on the new stretch of I-35 in downtown Duluth.



Despite the controversy and delays connected with the new section of Interstate 35 in downtown Duluth, people looked happy to see the roadway finally open to traffic.

At 3 p.m. on October 29, the new 1.4-mile section of I-35 was officially opened to traffic. But earlier that day, under sunny skies and with a crisp wind blowing off Lake Superior, the citizens of Duluth had a party.

Several dignitaries including Commissioner Leonard Levine and Duluth Mayor John Fedo, commended Mn/DOT and the City of Duluth for their efforts in completing the project and making it a "people's highway."

A parade of vintage automobiles including the first state patrol car ever used, the Duluth Central High School marching band, a foot race and an official ribbon cutting ceremony completed the celebration.

The last section of interstate highway serving Duluth opened 16 years ago when I-35 stopped at Mesaba Avenue. Construction on the recently completed section from Mesaba Avenue to Lake Avenue began in 1982 and cost $32.7 million.

Mary Steffl

Perpich, Levine urge new funding sources

Transportation 2020

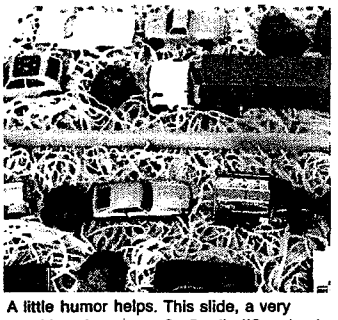
Forum participants examine future needs

MnDOT EXPRESS

Dec 1987

Information campaign paves way for major I-94 reconstruction

J. Krasky



A little humor helps. This slide, a very graphic reference to St. Paul's "Spaghetti Junction" on I-94 was created by Jack Krasky, Oakdale, to lighten the tone of I-94 REMAP presentations.

The flyer's bright yellow "Road Work Ahead" superimposed on the St. Paul skyline says it well: the area will experience intensive road construction this spring, summer and fall.

The flyer is one of many tools used by Mn/DOT I-94 REMAP project managers to inform the public about the four-year, $150 million project. The project, which will be done in stages during the next four years, includes reconstruction of 12 miles of I-94 between Minneapolis and St. Paul and completion of I-35E to connect with I-94 in St. Paul.

The flyers, brochures, mailings, slideshows, neighborhood meetings and personal contacts with business and government leaders are part of the effort to gain public support and understanding of the massive project.

"We are forming a large committee with key people from major institutions and agencies such as the University of Minnesota, the Metropolitan Council, the Civic Center, the Twins, and the Viking to keep them informed about what's happening so they can keep their networks up to date," said Jan Ekern, project communications director.

Mn/DOT also works closely with the City of St. Paul and the St. Paul Downtown Council on issues such as keeping access to the downtown area open during construction.

Bob Benke, Oakdale, I-94 corridor manager, said the work will be done in stages to minimize the impact on the motorists who use the heavily traveled route.

Other efforts being made to minimize traffic disruption include contractors' working extended hours and contract penalty clauses to ensure work is done on time.

He said, for example, that work on the Minneapolis end of the project will not begin until 1989. And when work begins on the freeway's mainline, the eastbound lanes are scheduled to be worked on in 1990, and the westbound lanes in 1991.

When the work on the mainline is done, Benke said, there will be two lanes open to carry traffic. In addition, every other interchange will be left open to carry traffic, a procedure known as "chunking." "We want to minimize motorists' frustrations and problems; we want to get in and get out as soon as possible," Benke said.

If the overall project were delayed for funding reasons, for example — there would be a workable freeway system at the completion of each stage.

When the overall project is completed, it will include the following improvements:

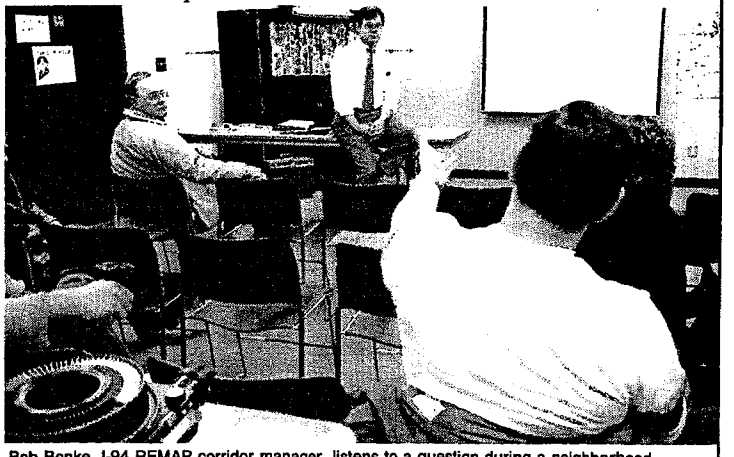
- Three through lanes in each direction on I-94 instead of only one.
- Elimination of "lane drops" at interchanges.
- Replacement of the 35 miles-an-hour" curve on I-94 east of the Capitol and a longer merge area for traffic entering from Marion Street.
- Addition of ramp meters and high occupancy vehicle (HOV) ramps to better manage corridor traffic.
- A direct connection from southbound I-35E to the Lafayette Bridge.
- Replacement of some exits from the left lane to the right lane.
- Replacement or reconstruction of more than 60 bridges.

Bridge improvements will include widening the I-94 river bridge to four lanes in each direction and adding a lane in each direction on the bridges over Hiawatha Avenue in Minneapolis.

When the overall project is done, motorists will have a safer freeway corridor free of its major bottlenecks.

"All of the changes will be done with taking only a minimum amount of right of way," Ekern said.

C. Wilkins



Bob Benke, I-94 REMAP corridor manager, listens to a question during a neighborhood meeting on the project in St. Paul.

Once shipmates in Vietnam, brothers now fight ice and snow at Mahnomen

Nineteen years ago, brothers Dave Soyring and Paul Soyring served together on the frigate U.S.S. Dale during the Vietnam War. Now they are back together again, maintaining roads at the Detroit Lakes District's Mahnomen truck station in northwestern Minnesota.

Dave Soyring has been at Mahnomen since July; Paul Soyring transferred to Mahnomen than working indoors," Paul said. "The Mahnomen job was available and here I am."

Dave spent several years living on the East Coast before returning to Minnesota.

"I like this area because of the hunting and fishing," he said.

They are also both home. They now maintain the same roads they traveled as youngsters. They grew up in the Strawberry Lake service until 1973. He was stationed in Vietnam throughout the U.S. involvement there. He served on aircraft carriers, destroyers and guided missile frigates. When Paul, who is now 38, entered the Navy in 1969, he was granted duty on the same ship as his brother. Another brother, Bernard, was in Vietnam at the same time.

Bernard Soyring is also a Mahnomen truck station is sparseley populated and the towns are often very far apart. Paul's route includes TH 113 from Waubun to Itasca State Park. There are no towns along the 40-mile route.

"It's a beautiful drive, but I'm too busy to enjoy the scenery," he said. Neither Paul nor Dave has had any accidents, but they've had their share of close calls.

Craig Collison has been appointed bridge management engineer, a new position in the Office of Bridges and Structures.

He formerly was assistant foundations engineer in the Office of Materials, Research and Standards. Before joining Mn/DOT four years ago, Collison was with the U.S. Army Corps of Engineers in St. Paul.

Paul Bergman has been promoted to administrative management engineer for Construction.

A 1962 graduate of the University of Minnesota with a degree in civil engineering, Bergman joined Mn/DOT the same year. He worked in bridge design and spent several years in the Oakdale District in road construction before moving to Central Office.

Bill Gordon, senior systems analyst, demonstrates a computer program during an open house held in August in the Computer Resource Center in the Transportation Building.

Research, humor guide I-94 information blitz

Jan Ekern, I-94 communications director, shows one of the successful ads used to inform the public about the huge reconstruction project on I-94.

Research helps Mn/DOT determine the level of acceptance for public information programs including the use of humor for the reconstruction of I-94, says Jan Ekern.

Ekern, I-94 communications director, shared her experience at a National Transportation Public Affairs Workshop in August in San Diego.

Focus groups were used to get opinions on effectiveness of ads and brochures she used this summer.

Most of the audience's questions were about funding and contracts, she says. State funding is used for this summer's work and project monies for the long term.

variety of tests from blood pressure to cholesterol to tips on how to prevent back injuries.

.....

The Highway Helper pro- maintenance superintendent, says workers patroled 164 days and helped 942 motorists.

Oakdale operates one truck a shift, while Golden Valley has two.

Rochester adds management development position

Wendy Shannon is the Rochester District's management development specialist which is a new position.

She will focus on upper level management development and facilitation of key issues.

A former teacher at the secondary and college level, she worked four years for the Department of Education.

Shannon has bachelor degrees in economics and education, a master's degree and is a Ph.D. candidate at the University of Minnesota.

Service Awards

30 Years

Eugene O. Bergstrom Willmar
John E. Carver Mankato
David R. Drake Rochester
Verland D. Erickson Golden Valley
Merlin J. Flatgard Windom
Howard D. Gillman Bemidji
Leroy C. Hamre Crookston
Wayne D. Hillstrom Golden Valley
Frederick Kovall Willmar
Delmer J. Lutterman Willmar
Robert R. McNally Morris
Francis R. O'Donnell Virginia
Frank J. Schloegel Rochester
Delmar W. Szarmach Rochester
Leo B. Talevson Virginia

Retirees

Clarice G. Allison
Systems and Administrative Services 17 years
Walter R. Baker
Motor Carrier Safety and Compliance 19 years
Francis Barnes
Rochester 20 years
Robert E. Barnick
Duluth 21 years
Mary Jean Cutting
Aeronautics 20 years
Lauren P. DuVal
Rochester 39 years
Norman E. Finkelson
Material, Research and Standards 36 years
Henry Fischer
Detroit Lakes 36 years
Richard Fox
Windom 22 years
Harold J. Henslin
Golden Valley 15 years
Loran Johnson
Willmar 39 years
Vernon Liestman
Golden Valley 23 years

Teamwork, long hours pave way to completion of I-394 design project

The huge I-394 design project requires an intense effort to achieve a very worthwhile goal—obtaining $27.3 million in federal discretionary funds.

The project involves designing the two-mile section of I-394 between Boone Avenue and TH 100 just west of Minneapolis. (Mn/DOT was informed Sept. 9 that it will receive the funding.)

Thirty-seven people from Design Services, the Golden Valley District and other units worked more than 100,000 hours to complete the project. Most employees began working 50-hour weeks in January and then stepped up the tempo by putting in 70 to 80 hour weeks including weekends from mid-April to the end of August.

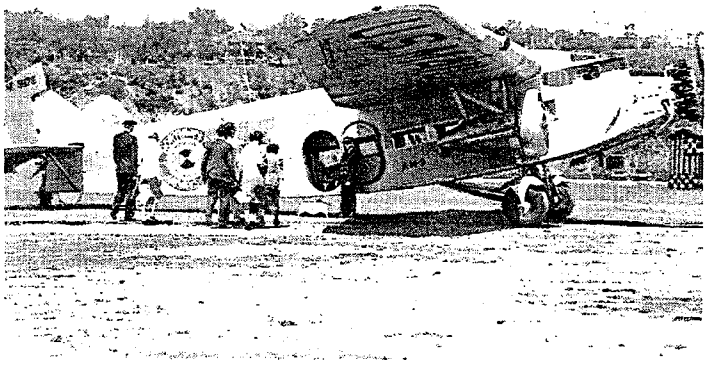
"Working seven days a week has been tough, but you learn to live with it," says Bob Canfield, a Golden Valley highway technician. "People have gotten along real well together."

Jim Loveland, Engineering Design Unit manager and overall supervisor, says the project was completed on time by using a team structure.

"People meshed well and there were no personality conflicts. Many people became friends during the project. The job was a tremendous effort," he says.

Design team workers on the I-394 project in the Central Office include (from left) Burt Mickelson, Technical Support; John Barke and Bob Canfield, both of Golden Valley; Fred Hartfiel, Technical Support, and Jim Loveland, Engineering Design Unit manager.

Golden Valley District employees from Final Design on the I-394 project at Golden Valley are (front row, from left) Linda Moss; Kathy Vesely, coordinator; Andy Schmidt and Ken Hammers (second row, from left) Harvey Scheffert, unit supervisor; Mark Dierling; Randy Iblings; Anita Eue; Bill Herman and Keith Crocker.



Sep 1988

Mn/DOT wins FHWA design awards for rest area, section of I-94

Design excellence in two categories earned Federal Highway Administration (FHWA) awards for two Mn/DOT projects.

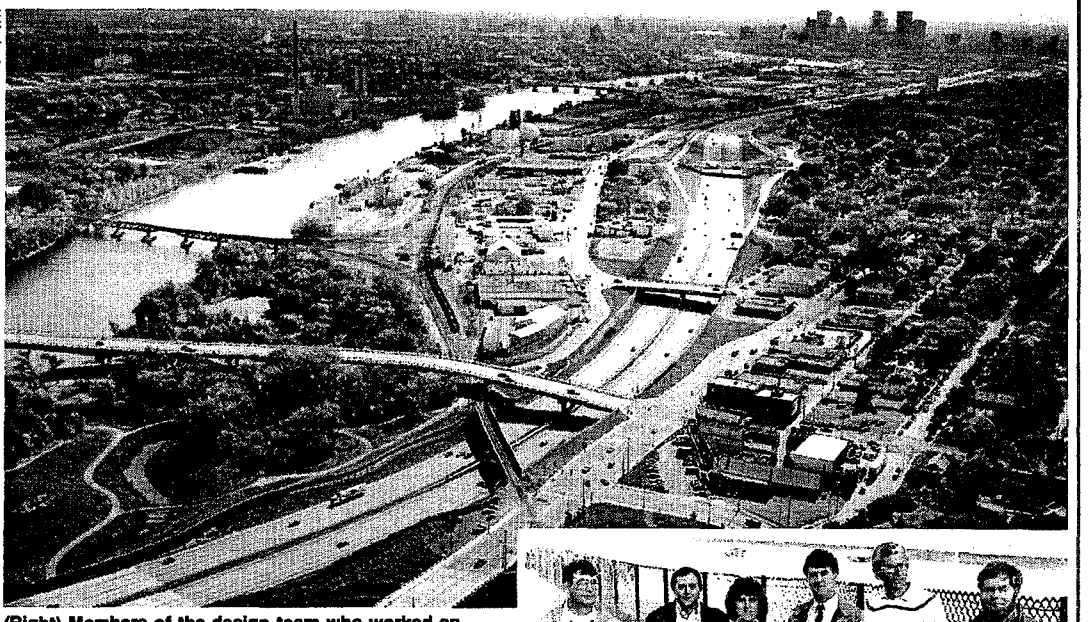
Cited in the highway support facilities category is the Rum River Rest Area on U.S. 169 north of Milaca.

"The design concept was to incorporate a building into natural surroundings," said Brainerd/District 3 Project Engineer Nelrae Succio.

In the urban highway category Mn/DOT was recognized for I-94 between 49th and 40th avenues north in Minneapolis. The department was cited for its skillful use of noise walls, earth mounds and landscaping making a compatible border between industrial and residential areas.

Harvey Scheffert, design squad leader, Golden Valley/District 5, said the project was "unique." It encompassed a park, a creek, walkways, bikeways, the railroad, a bridge, the river, noise walls and the freeway.

N.Kveberg



P. Winters

(Right) Members of the design team who worked on the award winning I-94 project in north Minneapolis are (from left) Luverne Bresnahan, systems manager, Oakdale; Mike Buesing, senior highway technician, Golden Valley; Pat Urquhart, formerly of Golden Valley; Harvey Scheffert, design squad leader, Golden Valley; Bill Schultz, senior highway technician, Golden Valley, and Jim Meyers, senior highway technican, Right of Way and Surveys.

(Below) Cited by the FHWA for the Rum River Rest Area are (from left) Nelrae Succio, Brainerd/District 3 hydraulics and pre-design engineer, and Ralph Roubal, senior highway technician, St. Cloud.

N.Kvebera

C.Wilkins

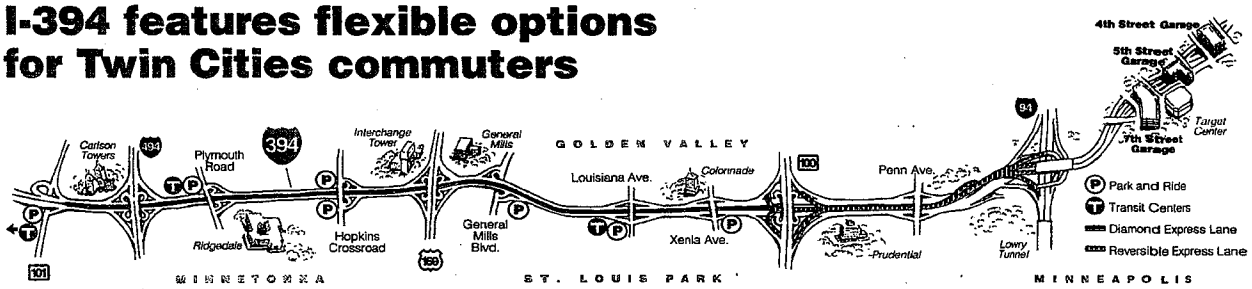
Minnesota Historical Society

The onset of warm weather means the construction season starts in full swing. In 1927, a Minnesota Highway Department crew was swinging shovels and other tools as it worked on building a highway near Waverly in Wright County.

M n / D O T
EXPRESS

October 1992 *Volume 5, Number 9*

I-394 features flexible options for Twin Cities commuters

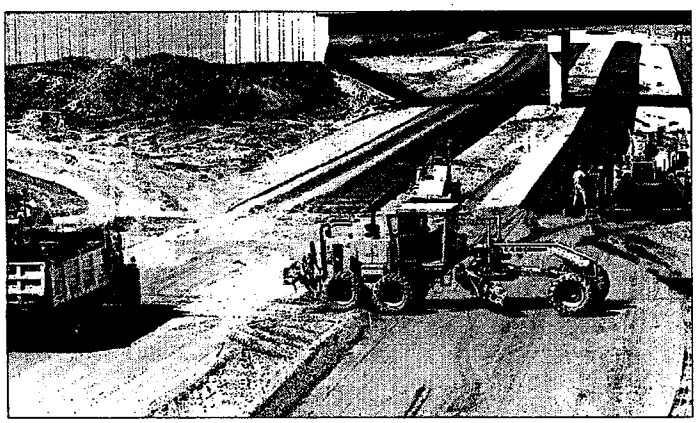


The fastest ride from the western suburbs to downtown Minneapolis on Interstate 394 means leaving the Saab at a park-and-ride lot and taking the bus. Or finding someone to ride with you so your vehicle may use the Express Lane reserved for buses and car pools.

Taking the bus or car pooling fits the design philosophy of the new freeway: moving people instead of vehicles, says Al Pint, I-394 project manager.

Pint notes, for example, that during the peak morning rush hour—7 a.m. to 8 a.m.—40 percent of the eastbound commuters ride in buses or car pools using the Express Lane. That means nearly half the passengers travel in only 20 percent of the vehicles. Pint says those commuters reach their destinations as much as 10 minutes faster than drivers traveling alone.

"Highways such as I-394 are the wave of the future," Pint explains. "We have to go with systems that integrate transit with highway elements; we can't build our way out of congestion."



Construction work on entrance ramps for the Trunk Highway 100/Interstate 394 interchange moves toward completion. Grand opening celebration for the I-394 freeway is set for Oct. 24-26.

I-394 includes three transit centers, seven park-and-ride lots and three parking garages in downtown Minneapolis. Those elements create a truly multimodal freeway system, he adds.

Commuters can bike, drive or use a local bus to reach the transit centers and then take an express bus on I-394. Drivers can use the park-and-ride lots to catch an express bus or form a car pool with other commuters so they can use the Express Lanes. Registered I-394 car poolers arriving in downtown Minneapolis can use the garages that offer low cost ($10 monthly) parking. They can then complete their trips by walking or taking downtown buses that serve the garages.

The garages, Pint emphasizes, were funded by the Federal Highway Administration as part of the I-394 system, one of the many unique aspects of the $420 million project.

Often described as an urban freeway laboratory, I-394 serves as a research vehicle for some high-tech applications to manage the traffic flow and assist commuters. For example, meters control traffic entering the freeway at nearly all ramps. Some ramps give priority to buses and car pools so they may bypass single-occupant vehicles.

Other applications being developed include:

Autoscope uses video cameras to determine types of vehicles, their speed, volume and density to help Mn/DOT's Traffic Management Center control the traffic flow.

Travlink, under development by U S West and Mn/DOT, will enable commuters at transit stations or the downtown parking ramps to know the exact location of buses and when they will arrive. Jim Wright, director of Minnesota Guidestar, reports terminals for personal use will be ready for limited distribution next year.

Trilogy, a radio system, will automatically advise drivers of road conditions even if their radios are tuned to different stations.

Genesis connects drivers via radio link with a network of highway monitors to provide weather, road condition and other data on a selected route to determine travel time and recommended itineraries.

Assessing I-394, Pint says, "I am confident we can meet the increasing travel demand with a six-lane design, but we have to continue to change more people's behavior so they will take a bus or share a ride."

A big hello

D. Gonzalez

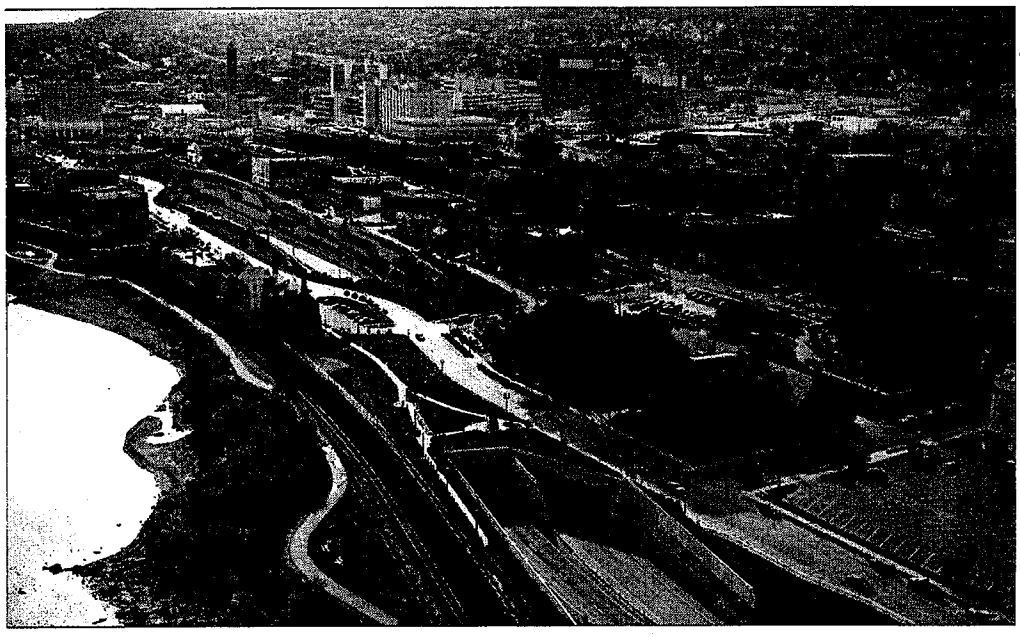
Safety Dot, Mn/DOT's mascot, greets a little visitor to the department's booth at the Minnesota State Fair. Lisa Williams, Office of Human Services currently on a mobility assignment in the Governor's Office, wears the costume. An estimated 120,000 people visited the booth that was staffed by employees from the districts, Central Office and the Metro Division. About 300 employees either worked at the booth or behind the scenes to bring Mn/DOT's message, "Changing to meet your needs," to the public.

D. Gonzalez (2)

Al Pint, Interstate 394 project manager, Metro Division (right), discusses the Fifth and Seventh street parking garages in downtown Minneapolis with Commissioner James N. Denn. When the Fourth Street garage is completed, the three ramps will provide more than 6,000 parking spaces for commuters.

Mn/DOT
EXPRESS

December 1992 *Volume 6, Number 1*



N. Kvaberg

An aerial view of Interstate 35 through downtown Duluth shows why the project captured the Federal Highway Administration's 1992 Biennial Award for Excellence in Highway Design. Mn/DOT's efforts were cited to preserve the Brewery Historic District, "cut and cover tunnels, architectural design treatment and extensive landscaping to integrate the freeway into the surrounding urban environment to create a pleasing driving experience."

Duluth celebrates completion of I-35, U.S. interstate system

For 10 years Dave Davidson, resident engineer, looked forward to the day when the last segment of the $200 million Interstate 35 Extension Project in Duluth would open to travelers.

The community gala event was Oct. 28, a great 38-degree day in the Port City for Davidson and a crowd estimated at 1,000.

The occasion marks two historic events:

- Completing I-35 from Laredo, Texas, at the Mexican border, to 26th Avenue East in downtown Duluth, a distance of 1,593 miles.
- Finishing the 42,500-mile U.S. interstate highway system, which began in 1956.

As the first person to drive I-35 through the Leif Erikson Tunnel, Davidson was honored to lead the parade of vehicles in a 1938 Chevrolet coupé. Patty Bednarz, project engineer, and Don Stanley, project superintendent, rode with Davidson.

This last freeway segment can accommodate more than 45,000 vehicles a day.

"The biggest gratification for me is the amount of teamwork involved with Mn/DOT people and the contractors to get the job done," Davidson explains.

He also acknowledges the 25-year contribution of retiree Don Olson, former I-35 project manager, who coordinated the planning of the 3.2-mile section of the freeway.

The Federal Highway Administration's (FHWA) Excellence in Design Award recognizes the project for creating opportunities for urban development and enhancements in Duluth along with preservation of the city's Superior Street Brewery Historic District.

Duluth/District 1 employees are especially proud of the 1,480-foot Leif Erikson Tunnel, the second longest in Minnesota. It's 12 feet shorter than the 20-year-old Lowry Hill Tunnel on I-94 in Minneapolis.

These are the only two tunnels in the state that are power ventilated.

However, the Erikson Tunnel, according to John Bray, Duluth public affairs director, is "Minnesota's tunnel showpiece." It uses four 110-horsepower fans that change all the air in the tunnel in less than four minutes and many other state-of-the-art safety and health features.

The tunnel ventilation equipment manufacturer also provided the fans for the "chunnel," the tunnel under construction beneath the English Channel connecting England and France.

Summing up the thoughts of the people who worked on the project, Davidson says, "It goes beyond the freeway itself to include all the amenities we built such as the parks, trails and scenic overlooks, which the people enjoy so much. This means a lot to us."

—Donnie Carr

D. Gonzalez

Balloons line the entrance to the Interstate 35 tunnel in downtown Duluth as drivers parade through after grand opening ceremonies.

A recreational delight

J. Reid

Officially opening the Blue Ox Trail, a railroad grade between Bemidji and International Falls, are area residents representing various recreational groups. This event marked National Rails to Trails Day to celebrate a nationwide effort to convert abandoned railroad corridors for recreational use. The Department of Natural Resources with three counties and snowmobile clubs administers the trail. In front (from left) are John Baumgartner, Bemidji Area Cross Country Ski Club; John Tibster, Minnesota Finlandia Ski Marathon; Nick Faymoville, North Country Snowmobile Club; Karen Filardo and John Filardo, the Pounders running club, and unidentified youngsters. In back (from left) are Arlis Frazee and Pam Fankhanel, both of a local area saddle club.