1985 MEETING SCHEDULE

Date	Location	Host	<u>Event</u>
January 24	Farmington Hills	J. Cubera	Lunch/Guest Speaker
February 21	Ann Arbor	Ken Feldt	Lunch/Tech. Session
March 22	Lansing	G. Etelamaki	Lunch/Tech. Session
April 25	Kalamazoo	Jon Start	Dinner/Guest Speaker
May 16	Southfield	Northrup	Vendor's Day
Spring	Detroit	Jerry Carrier	Couples Night
June	Detroit Area	-	Golf Outing/Dinner
July 26, 27	Mt. Pleasant	Tim DeWitt	Family Weekend
August 18-22	New Orleans	National ITE	Annual ITE Meeting
September 12	Saskatoon	Grand Rapids	Golf Outing/Dinner
October 21	Detroit	R. Beaubien	District III Meeting
November 7	Flint	Don Berry	Dinner Meeting
December	Detroit Area	?	Annual Meeting



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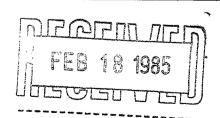
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MICHIGANITE



WINTER, 1985

VOLUME XIX. NUMBER 4

OFFICIAL PUBLICATION OF THE MICHIGAN SECTION OF THE INSTITUTE OF TRANSPORTATION ENGINEERS

JOHN LODGE FREEWAY TO BE CLOSED DURING SUMMER 1985



PRESIDENT'S COLUMN

FROM THE DESK OF ...

by Tom Krycinski

The year 1984 saw a brand new type of Detroit Tiger team. In one way this team was similar to the 1968 Detroit Tigers, i.e. they scored a lot of runs and provided a lot of offense. However, the 1984 Detroit Tigers scored earlier, almost in blitzkrieg style during the first, second and third innings. This was the direct opposite of the 1968 Tigers who came back in late innings to win ball games. Another more essential difference was that 1984 saw Sparky Anderson use all of his ball players, almost to perfection. There seemed to be a new hero who came forward every day. When someone was hurt, another player took up the slack. It was truly a team effort and the world series cup belonged to all.

Now, just what does all of this have to do with ITE?

Since this is my final column as president of your section, I want to make a plea to all of you to be a member of our team. Like the 1984 championship Tigers, our state section would be the winner. By the time you read this column you will have a new board and new leadership. This, I can guarantee you. The ballot had only good choices on it for 1985 - key players that will make key plays for you and your section, truly a good management

Thus, I ask each and every one of you to examine what role you played in 1984 for your Michigan Section of ITE. Then, I would ask that you consider what role you might play in 1985. Any organization like ours is only as good as its players. We have an advantage over the 1985 Tigers. We have 300 players on our team. Now wouldn't it be a beautiful sight to behold, if all 300 carried their weight and we went on a total offense?

I'll be a past president in 1985; but I'll be carrying my weight. Will you?

COST OF DRIVING GOING UP

On the average, it costs a little over 30 cents per mile to own and operate an automobile 10,000 miles per year, according to the American Automobile Association's annual publication "Your Driving Costs." In 1950 when AAA started these calculations, total cost per mile was 9

The Michigan Department of Transportation is committed to a comprehensive plan for reconstructing, in the next decade, the freeway network in the Metropolitan Detroit Area. Comprehensive studies are underway to identify the needs, strategies for minimizing traffic disruption, and alternative design analysis which will lead to a cost-effective program. A major criterion in all these reconstruction projects is the enhancement of highway

The Detroit Metropolitan Area freeway system has been developed over a 40-year period. Much of the system is antiquated and deteriorated resulting in capacity and safety deficiencies. There are 135 miles of freeway within the metropolitan area excluding I-696 and I-275. The Edsel Ford Freeway (I-94) and John Lodge Freeway (US-10) are the two oldest freeways. Subsequently, they are the two freeways most in need of repairs and safety upgrading.

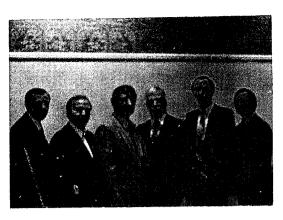
The first stage of I-94 reconstruction started the summer of 1984. It includes resurfacing and/or joint and patch repair to temporarily improve the riding surface. Major reconstruction is planned in three to five years after a comprehensive study of traffic needs, drainage, environmental impacts, and right-of-way requirements have

The John C. Lodge reconstruction is scheduled for 1985. The recycling from I-75 north to Wyoming will cost approximately \$25 million. Construction activities will include replacing the existing pavement, construction of 12-foot paved shoulders, extension of acceleration and deceleration lanes, upgrading the Wyoming, Davison, and Livernois interchanges, and eliminating, modifying, or protecting roadside appurtenances to reduce the number of fixed-object accidents.

From 1980 through 1982, 3,266 accidents were reported on the Lodge Freeway and interchanges. The rate of 360 accidents per 100 million vehicle miles is higher than comparable freeway segments except on I-94. Accidents occurring during wet pavement conditions accounted for 37.3 percent of the total reported accidents, well above the district average of 25 percent. The new pavement surface will have improved friction qualities which should reduce the percentage of wet related accidents to the district average. This alone would provide an estimated \$900,000 per year benefit from accident reduction. The fixed-object accident rate is also the highest for comparable freeway segments in Detroit with the exception of I-94. All fixed-objects will be eliminated, modified, or protected according to current standards.

Ramp metering will be installed on the Lodge and will provide a smooth flow during peak traffic periods permitting the freeway to operate at maximum efficiency without breakdowns. Ramp metering controls rush-hour traffic entering the freeway, thereby eliminating surges of traffic that create unstable flow and limit the traffic carrying ability of the freeway. Studies have also shown that accident reductions approaching 50 percent on the freeway have been achieved after ramp metering.

The reconstruction of the Detroit Metropolitan freeway system will provide the motoring public a smoother, safer, and more efficient transportation system. by Don Wiertella



New Board:L to R.--R.Lariviere,R.Cunard, D.Wiertella,D.Bacon,J.Marson,T.Krycinski

ANNUAL MEETING/TECH SESSION

The Michigan Section Annual Meeting - Technical Session was held on December 10, 1984, at Roma's of Bloomfield Hills. The afternoon Technical Session was followed by the annual meeting, a delicious buffet supper, and a trip to the Silverdome to watch the Detroit Lion-Los Angeles Raider

football game.

Seven speakers provided a very informative technical program beginning with Karen Gulliver who is the Executive Director of the Michigan Office of Highway Safety Planning. Ms. Gulliver presented her outlook on highway safety over the next several years. She identified the two key problems in the area of highway safety as a low level of safety belt usage and the high percentage of traffic crashes in which one of the drivers had been drinking alcoholic beverages. To impact on these problems she hosted the first Michigan Life Savers Conference at Boyne Mountain, which concentrated on safety belt and alcohol-related highway safety issues. One important outcome from the Life Savers Conference was a resolution supporting the passage of a mandatory safety belt use law. Ms. Gulliver indicated that, due to the overwhelming support of the first Life Savers Conference, there would be a second one held, probably in the spring of 1986. She hopes to see better participation by engineers in the second conference and suggested that a workshop be developed which would be devoted to engineering principles and techniques as they relate to the two main topics of the conference. Ms. Gulliver asked for membership support of the mandatory safety belt use law which will be introduced in the first session of our 1985 legis-

Ms. Gulliver was followed by Tim DeWitt of 3M who discussed the impact on motorists of traffic control devices in construction zones. Tim's slide presentation included night pictures which showed the reflective properties of control devices under various lighting conditions. He also discussed how the age of the motorist relates to the effec-

tiveness of traffic control devices at night.

After Tim's presentation Dick Beaubien from the city of Troy reported on National Programs on public relations. Dick covered the various programs available and how to obtain them. He specifically addressed the video tape on public relations which was recorded during the national meeting in San Francisco and now is available through the

national office.

The future of permissive-protected left turns in Michigan was discussed by a panel composed of Bill Savage from MDOT, John Gray from the MaComb County Road Commission, and Dave Allyn from the Oakland County Road Commission. John Gray began the discussion with a history of the permissive-protected left-turn issue specifically high-lighting Michigan's attempts to have our application adopted nationally. Dave Allyn discussed how the present permissive-protected left-turn phasing was developed. He said it began as an alternate to the lagging protected

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MICHIGAN SECTION ITE, TREASURER'S REPORT

Receipts: Dues and Interest Michiganite Ads Meetings	\$ 2247.01 1510.00 3783.50 \$ 7540.51
Expenses: Meetings Michiganite Printing Postage	\$ 3951.97 3110.70 740.58 \$ 7803.25
Balance: Nov. 30, 1984 Treasurer, Rich Cunard, P.E.	\$ 456.00

MICHIGANITE is published quarterly by the Michigan Section of the Institute of Transportation Engineers. It is distributed to more than 300 ITE members and over 100 cities and counties in Michigan. Address communications regarding the Michiganite to the Editor, Weldon Borton 1014 B Montevideo, Lansing, Michigan 48917



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SECRETARY DOLE'S INITIATIVE ON PAVEMENT MARKING

In another effort to improve highway safety, U.S. Secretary of Transportation Elizabeth Dole established an initiative on highway safety delineation and marking. The initiative aims to improve visibility and to increase the alertness and comprehension of drivers through state-of-the-art technology.

Studies have indicated that it is eight times more dangerous to drive on a rural road at night than on an urban street in day time. Installation of reflectorized pavement markings has proven to be especially cost effective on these roadways where severe accidents most frequently occur.

For the first time, federal-aid funding is available for replacement of pavement markings. Congressional 3R/4R legislation stressed the need to protect federal investment in the highway infrastructure. Because reflectorized pavement markings are a critical element of this infrastructure, they are eligible for replacement funding at the end of their service life. Eligibility criteria includes a classification of the work as construction rather than maintenance. Isolated spot striping is not allowed. The pavement markings must be clearly warranted and installed on the federal-aid system under normal CFR635 contract procedures.

Pavement markings and delineation projects are available for 100% federal funding under 23USC 120 (d).

Many states have already responded to the Secretary's initiative - some examples:

Main DOT's entire restriping program is now funded with 100% federal funds.

 Ohio is using 100% federal funding for replacement striping projects.

Ninety percent of Michigan's striping program is funded with 100% federal money.

City, county or local officials should contact the state section responsible for administering state and federal highway funds to local government to obtain program and funding information. Any questions about federal policy can be addressed directly to the FHWA division office in individual states.

Reprinted from ITE Journal.

GET IT DO TOGETHER

CHILD RESTRAINTS

The National Highway Traffic Safety Administration has issued a final rule allowing child restraints certified for use in automobiles to be simultaneously certified for use in airplanes.

The only additional requirement for aircraft use is that the child restraint be able to meet an inversion test to protect children from sudden air turbulance. Last year, the Department of Transportation proposed the adoption of a single standard for child restraint use in both aircraft and motor vehicles.

Reprinted from Status Report

ENGLAND'S MANDATORY SEAT BELT LAW

England's mandatory use law is very successful. Britain's seat belt use law has resulted in use rates more than doubling during the first year of the law. According to the Great Britain's Department of Transport, the "savings in life and serious injury have been on the order of 20-25%." British drivers and passengers increased their seat belt wearing rates from 40% before the law to 95% after the law. The impact on fatalities and injuries during the 11 months after the law was a reduction of 23% for fatals and a reduction of 26% for injuries. These reductions were compared to the same months of the prior year.

CONT. PAGE 4

INTERPRETATION OF PLASTIC DRUM DIMENSIONS

There has been quite a bit of controversy recently about the interpretation of Section 6C-6 of the MUTCD which requires that drums "shall be approximately 36" in height and a minimum of 18" in diameter."

Since many of the commercially manufactured plastic drums either have a flat side or an elongated shape, they do not seem to meet the 18" minimum diameter requirement, at least in one dimension. Following a request by ATSA, FHWA, 0TO issued an interpretation that any drum (metal or plastic) must be a minimum of 18" from one side to the other. FHWA did, however, grant approval to a couple of particular manufacturers whose drums are less than 18" in one configuration.

At the June meeting of the National committee on Uniform Traffic Control Devices (NUCTCD) in Santa Fe, the Technical Committee on Construction and Maintenance interpreted the MUTCD language as saying that drums shall have a minimum diameter of 18" regardless of its orientation over the entire height of the drum. At the same time, the Committee appointed a task force to study the issue and make recommendations for possible changes in the MUTCD. They suggested that FHWA should continue the interim approval of existing drums until the task force reported.

That task force, chaired by ATSA Executive Director Bob Garrett, has been working diligently on this matter conducting very extensive day and nighttime evaluations of all existing drums. Other members of the task force are Tom Hicks, Maryland State Traffic Engineer; Jerry Donaldson, Center for Auto Safety; and Russell M. Lewis, Consulting Engineer.

The task force will be presenting their recommendations to the ATSA Technical Committee on Channelizing Devices next month in St. Louis and to the NCUTCD and FHWA in January.

Reprinted from ATSA.

Timothy D. DeWitt

Highway Construction Products Representative

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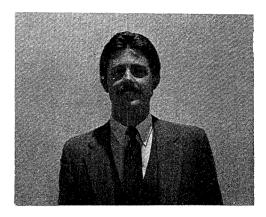
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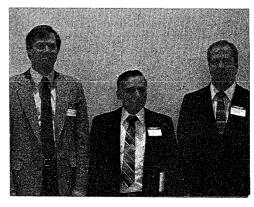
Karen Gulliver, OHSP



Tim DeWitt, 3M



Richard Beaubien, City of Troy



David Allyn,OCRC; John Gray, MCRC; William Savage, MDOT

ANNUAL MEETING Cont.

left-turn phase because motorists were making left turns on the solid red when gaps were available and not waiting for the protected phase. The configuration used was developed because of the reluctance on the part of the Oakland County Road Commission Traffic Engineers to use four or five section signals due to the additional height and weight. The first installation of the present permissive-protected left-turn phasing was at Ten Mile Road and Southfield Road in Oakland County. Bill Savage presented for the groups consideration various configurations to replace the existing protected-permissive left-turn phasing. He also encouraged others to submit their own schemes to the MDOT for consideration.

After the break David Bacon of Carrier & Gable, Inc. gave a short talk on the complexity of programming the new solid state controller. In the past, we as engineers were able to just give the phasing and the basic timing of an intersection to the shop personnel and our job was done. Now we are required to give detailed timing and controller commands, so that the EPROM's (Eraseable Programmable Read Only Memory) can be programmed on a computer. We must determine the correct signal circuits to use and what each of these circuits will be doing in each of the intervals in our sequence. If pre-emption is to be used, it must be decided what is to happen in every interval of the normal sequence to each of the signal circuits. The need for an Engineering School on Solid State Controllers was clearly brought to light.

Jerry Poston, Assistant Administrator for the Federal Highway Administration followed Dave with a synopsis of the new Highway Capacity Manual (HCM) which is scheduled for publication in May of 1985. It will contain 15 chapters, grouped into the four major categories of (1) Principles, (2) Freeways, (3) Rural Highways and (4) Urban Streets. Six chapters are in final form and have been published in Transportation Research Circulars No. 281 and No. 284. Pedestrians and bicycles are new chapters. The remaining chapters address the same topics as the old HCM but the material is updated. In some cases a completely new analysis procedure is introduced. Significant changes are:

1. Freeways and Multilane Highways - Truck factors have been updated, passenger car equivalents for recreational vehicles have been introduced, and vehicle density, rather than volume, is now the most important quality criterion.

 Two-Lane Rural Highways - Capacity has been raised from 2,000 pcph to 2,800 pcph and level of service is related to percent of time spent in avenues awaiting to pass a slower vehicle.

3. Signalized Intersections - Procedures based on critical movements analysis and level of service is related to delay rather than load factor.

The last speaker was Gary Clough, an engineer with Morrison-Knudsen Company, Inc., who spoke on precasting for the Detroit People Mover. His slide presentation, which was the basis for the cover article in the November 1984 Concrete International published by the American Concrete

Institute, described the steps that are involved in the production of the trapozodial box guideway beams. Some of the complexity in creating the Detroit Downtown People Mover was demonstrated in the activites surrounding the precasting of 173 beams for the 2.9-mile elevated guideway that will carry the automatic linear induction powered transit cars.

The Section Annual Meeting was conducted after the Technical Session by President Tom Krycinski. The secretary and treasurer reports were given along with the election results for next year's board and the dues increase. The dues increase from \$8 to \$12 was approved by the membership and will begin in 1985. The second Past President's Award was presented to Howard Cox for dedicated service to the Michigan Section during his career in transportation. In addition, awards were presented to Jerry Carrier and Herb Henry for their many hours of tireless work as cochairman of the Hospitality Fund. Next years president, Bob Lariviere, presented Tom Krycinski with a plaque commemorating his years of service to the Executive Board.



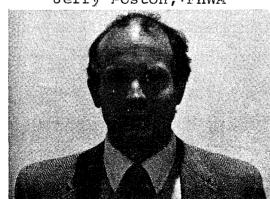
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David Bacon, Carrier & Gable Inc.



Jerry Poston, FHWA



Gary Clough, Morrison-Kundsen Company, Inc.

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DEWITT JOINS CARRIER & GABLE, INC.

Tim DeWitt, formerly with Traffic Control Materials Division of 3M, has joined the Carrier & Gable sales staff.

Previous to his position with 3M, Tim was employed as a General Manager for Ready Mix Concrete Company of Grand Ledge, Michigan.



ANNUAL MEETING Cont.

Special thanks should be given to Rich Cunard for the excellent meeting arrangements (Rich is not responsible in any way for the outcome of the football game) and to all the speakers who contributed their time and expertise. Without these individuals the Annual Meeting could not have been the success that it was.

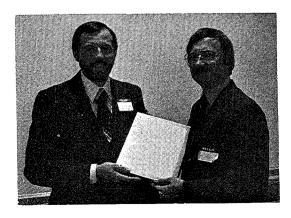
By Bob Lariviere.



Howard Cox receives Past President's Award from Past President William Lebel



Gerald Carrier receives plaque for work as CoChairman of Hospitality from Bob Lariviere



Tom Krycinski receives award as the outgoing president from the new president Bob Lariviere

75th ANNIVERSARY

July 4, 1984, marked the 75th anniversary of an important milestone in transportation, the opening in Michigan of the world's first mile of rural concrete highway.

Crowds gathered along Woodward Avenue just north of the Detroit city limits on July 4, 1909, to watch a stream of automobiles chug along a stretch of roadway built of concrete.

It was the first mile of rural concrete highway in the world and, appropriately, it had been built in the state that was becoming the hub of the burgeoning automobile industry.

Work on the 17-foot, eight-inch-wide marvel started on April 20, 1909, and was finished in time for the Fourth of Juloy opening. The cost was \$13,537.59.

Four years earlier, when the Michigan State Highway Department came into being, there were about 68,000 miles of roads in the state. Of that, only 7,700 were gravel and 245 were macadam (layers of compacted small stone, often containing an asphalt binder). The rest were clay, sand or swamp roads.

The Wayne County Road Commission decided to build a concrete roadway between Six Mile Road and Seven Mile Road on Woodward Avenue, the main highway connecting Detroit with Pontiac. They hoped the concrete would require little maintenance, provide traction for vehicles and produce a sanitary, dustless road.

produce a sanitary, dustless road.

Encouraging the commission was Horatio Earle,
Michigan's first state highway commissioner, whose zeal in
promoting road improvements won him the nickname "Good
Roads Earle." He promised the commission \$1,000 from a
state road reward fund if they would proceed with the
construction.

They did, and he did, and 75 years ago the first automobilists (as they were then called) moved onto the new highway.

The response ranged from those who pronounced it the finest highway ever build in Michigan to others, including some engineers, who predicted it would break up within a year. It drew generally favorable reaction from the press as well as delegates from other states and countries who came to inspect the world's first mile of concrete road.

The skeptics were proven wrong. The roadway carried more than 35 million vehicles before it was replaced with a new and wider highway in 1922.

Today, Woodward Avenue is State Highway M-1, extending from downtown Detroit to Pontiac. And construction of highways built of concrete is now worldwide.

Reprinted from MDOT News Letter

NHTSA SEEKS BIDS TO EQUIP 10,000 CARS WITH DAYTIME RUNNING LIGHTS

The National Highway Traffic Safety Administration (NHTSA) is seeking bids for a 10,000 vehicle fleet study of the effects of daytime running lights on crash incidence.

Based on research conducted by the Insurance Institute for Highway Safety, NHTSA said it expects the daytime running lights to lower multiple vehicle crashes by about 20 percent. (See Status Report, Vol. 19, No. 12, July 14, 1984.)

The test fleet will be equipped with an electrical relay system that will automatically turn on the front parking lights and rear taillights when the engine is started. Two lighting intensities will be tested in the year-long study in order to provide data for setting possible performance requirements, NHTSA said in its solicitation for bids.

Canada's transport ministry is considering a rule to require daytime running lights for all new vehicles. Transport Canada has estimated the rule could save some 200 lives, 2,500 injuries, and about \$200 milion in reduced crash costs each year.

General Motors has informed Canadian officials that the company would require three years lead time to meet such a requirement. The auto manufacturer said the most practical solution would be to install a lower-intensity upper beam for head lamps for daytime use. Reprinted from Status Report.

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