### 1985 Meeting Schedule

<table>
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<th>Host</th>
<th>Event</th>
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<td>J. Cubara</td>
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<td>February 21</td>
<td>Ann Arbor</td>
<td>Ken Field</td>
<td>Lunch/Tech. Session</td>
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<td>Jerry Carrier</td>
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<td>July 26, 27</td>
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<td>August 18-22</td>
<td>Mt. Pleasant</td>
<td>National ITE</td>
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<td>Grand Rapids</td>
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<td>Don Berry</td>
<td>Dinner Meeting</td>
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<tr>
<td>December</td>
<td>Detroit Area</td>
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<td>Annual Meeting</td>
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PH: (313) 477-8700

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### JOHN LODGE FREEWAY TO BE CLOSED DURING SUMMER 1985

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. This plan is based on identifying needs, strategies for minimal traffic disruption, and alternative design analysis which will lead to a cost-effective program. A major criterion in all these reconstruction projects is the improvement of highway safety.

The Detroit Metropolitan Area freeway system has been developed over a 40-year period. Much of the system is outdated and deteriorated resulting in capacity and safety deficiencies. There are 135 miles of freeway within the metropolitan area excluding I-96 and I-75. The Edsel Ford Freeway (I-96) and John Lodge Freeway (I-10) are the two oldest freeways. Subsequently, they are the ones most in need of repairs and safety upgrading.

The first stage of a 96 construction began the summer of 1985. 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 been determined.

The John C. Lodge reconstruction is scheduled for 1985. The recycling from 1-75 north to 1-96 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 crossing, drainage, and pavement interchanges, and eliminating, modifying, or protecting roadside appurtenances to reduce the number of fixed-object accidents.

From 1980 through 1982, 148 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 for 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 will lower maintenance costs qualities of our roadway, and provide an advantage over the 1984 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 want 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 operate and maintain a vehicle. The average cost increased by 10 percent this 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 cents.

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### MICHIGANITE
Official Publication of the Michigan Section of the Institute of Transportation Engineers

VOLUME XIX, NUMBER 4

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### FROM THE DESK OF...

by Tom Kryszczak

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### PRESIDENT'S COLUMN
MICHIGANITE
Official Publication of the
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Institute of Transportation Engineers
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MICHIGAN SECTION ITE, TREASURER’S REPORT

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Meetings 1783.50
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Expenses:
Meetings 1995.97
Michiganian Printing 3110.70
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SECRETARY DOE’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 increase visibility and reduce the number of drivers through state-of-the-art technology.

Studies have indicated that it is more dangerous to drive on a rural road at night than in the afternoon or daytime. Installation of reflectorized pavement markings has proven to be especially effective on these roadways where severe accidents most frequently occur.

For the first time, federal-aid funding is available for installation of pavement markings. Congressional approval of $300 million legislation provided for the installation of markings on federal-aid highways. Because reflectorized pavement markings are critical elements of this infrastructure, they are eligible for replacement funding at the stage of their service life. Eligibility criteria includes a classification of the road as construction rather than maintenance. Isolated spot striping is not allowed.

The pavement markings must be clearly visible and installed on the federal-aid system under normal CF655 contract procedures. Payment markings and delineation projects are available for local funding under 239B (120) Federal funding. A very large number of states have been reported.

Requests for Federal funds can be addressed directly to the FHWA division office in the state of Michigan. Published reports on “Getting it 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 approval test to protect children from sudden air turbulence. This test was conducted by the Department of Transportation and the adoption of the test results is the basis of the single standard for child restraint use in both aircraft and motor vehicles.

Reprinted from ITE Journal

ENGEL’S MANDATORY SEAT BELT LAW

England’s mandatory seat belt law is very successful. Britain’s seat belt use law has resulted in a reduction of 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 in the order of 20%. British drivers and passengers increase their seat belt wearing rates from 40% before the law to 95% after the enactment of the law. The Department of Transport also engaged in a study of fatalities and injuries during the 11 months after the law was introduced. The reduction of £2% for motorcyclists and 26% for drivers was observed. These reductions were compared to the same months of the prior year.

TRAFFIC & TRANSPORTATION ENGINEERING SERVICES

MICHIGANITE is published quarterly by the Michigan Section of the Institute of Transportation Engineers. It is distributed to members, 300 ITE members and over 100
1014 N. Monticello, Lansing, Michigan 48917

TRAFFIC & TRANSPORTATION ENGINEERING SERVICES

CONT. PAGE 4
INTERPRETATION OF PLASTIC DRUM DIMENSIONS

There has been quite a bit of controversy recently about the interpretation of Section 4C-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, GTO 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 manufacturers whose drums are less than 18" in one configuration.

At the June meeting of the National Committee on Uniform Traffic Control Devices (NUTCOD) 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 Barrett, 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 MUTCD and FHWA in January.

Reprinted from ATSA.

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left-turn phase because motorists were making left turns on the solid red when gaps were available and not waiting for the protected phase. This configuration 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 MTO 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 (Erasable 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 symposium of the new Highway Capacity Manual (HCM) which is scheduled for publication in May of 1985. It will contain 13 chapters, grouped into the four major categories of (1) Principles, (2) Pavements, (3) Urban Highways and (4) Rural Streets. Six chapters are in final form and have been published in Transportation Research Circulars No. 291 and No. 244. 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.

2. 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 queues waiting 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 based 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 trussoidal box girder beams. Some of the complexity in creating the Detroit Downtown People Mover was demonstrated in the activities surrounding the precasting of 173 beams for the 2.5-mile elevated guideway that will carry the automated 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 year president, Bob Lavin, introduced Tom Krycinski with a plaque commemorating his years of service to the Executive Board.

**DEWITT JOINS CARRIER & GABLE, INC.**

Tim DeFitt, 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.

**GARY CLOUGH, MORRISON-KNUDSEN COMPANY, INC.**

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**GET IT TOGETHER**

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75th ANNIVERSARY

July 4, 1984, marked the 75th anniversary of an important milestone in transportation, the opening of Michigan'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 July 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.

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 million 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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