



Michiganite

SPRING 1987

VOLUME XXII, NUMBER 1

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

So, You're Going to be a Witness



PRESIDENT'S COLUMN

FROM THE DESK OF . . .

DONALD WIETELLA

It is an honor for me to be writing this, my first column, as President of our Michigan Section. The section has a solid footing for the future due to the leadership of our past-President, Rich Cunard. My work as President will be easier thanks to the able and energetic board members and chairpersons backing me.

Our work, as your board, will be made easier and more productive with greater involvement by you, the section members. We need ideas and speakers for future technical programs, original articles for the Michiganite and comments, constructive or otherwise, on the condition and future direction of our section.

Quality and timely technical programs are the main objective of the board. Technical programs are the means by which we improve and promote transportation engineering. The board determined that more effort and discussion must go into the selection of technical program topics and speakers. We have developed general meeting themes and added technical program development, as a board meeting agenda item, to accomplish our objectives.

The Michiganite represents our section to our membership and selected non-members across the state as well as the nation. The quality of the layout and printing has improved with each issue thanks to "watchdogs" like Bob DeCorte, Bob Lariviere and Weldon Borton. But the number of original articles, authored by our section members, has declined. With the number of members and your vast professional backgrounds, we should have an overflow of articles. I urge you to prepare articles for the Michiganite.

See *PRESIDENT . . . page 3*

In today's society the number of lawsuits filed each year is mushrooming. The governmental units are seen as "deep pocket" defendants and, therefore, the rate of lawsuits against government is increasing even faster. In Michigan, public roads are "fair game" for plaintiff's attorneys. Therefore, you should expect that you and your agency will be sued. In the lawsuit you may be asked to give expert testimony or lay testimony.

As an expert witness (Michigan Rules of Evidence 702), you may be asked questions as to your opinions of causation, acceptable practice or just about anything else. As a lay witness (Michigan Rules of Evidence 601), you will be asked to testify to things you did, saw, read, heard and the like. In either event, how well you prepare for the presentation of testimony will contribute to the winning or losing of the case.

Your presentation to testify should begin no later than the date of the "tragic accident." A death or serious injury is almost certainly going to result in a lawsuit regardless of liability. If the accident occurred on a public road or highway, the entity having jurisdiction of that road or highway is going to be named as a defendant as well as the department head and engineer. Therefore, the engineer should, soon after the accident, review the scene to "fix in his mind" the physical characteristics, measurements, etc. of the scene. Generally, the police department, risk manager, or other investigating agency will also review the scene, but not with the eye of an engineer. The engineer should make notes to allow him to testify with a high degree of accuracy as to the scene. Photos, of course, will be helpful. The photos should be dated and initialed.

Thereafter, the records concerning the activities of the engineering group should be gathered and placed in a secure location. The current statute of limitations for personal injury accidents in Michigan is three years, plus 180 days to serve the subpoena. The contribution law may extend that time limit in which the agency may incur liability. Therefore,

See *WITNESS . . . page 6*

MICHIGANITE

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MICHIGAN SECTION - I.T.E.
TREASURER'S REPORT

BALANCE: December 3, 1986	\$ 3,552.80
RECEIPTS:	
Dues	2,182.00
Interest	82.55
Meetings	2,068.00
Michiganite Ads	1,680.00
Other	89.85
	<u>\$ 6,102.40</u>
EXPENSES:	
Meetings	\$ 1,995.01
Michiganite	625.00
Postage	362.48
Plaques/Awards	138.00
Supplies	12.75
National Donation	30.00
	<u>\$(3,163.24)</u>
BALANCE: March 16, 1987	\$ <u>6,491.96</u>

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EDITORS NOTE: This issue of the Michiganite is approximately a month late. One of the reasons for the delay involved using a P.C. to produce all the articles in columns, ready to use by the printer. This eliminated reducing the typed articles and using the xerox machine. The printer will be working with originals which should improve the quality of the print. We are continually trying to improve the quality of the Michiganite and we encourage your suggestions and comments. ■



**57TH ANNUAL
MEETING**

**INSTITUTE OF
TRANSPORTATION
ENGINEERS**

AUGUST 16-20, 1987

1987 MEETING SCHEDULE

<u>Date</u>	<u>Location</u>	<u>Host</u>	<u>Event</u>
June 11	Warren Valley	Nustad	Golf/Dinner
July 24/25	Mt. Pleasant	DeWitt	Technical Session/ Family Weekend
August 16-20	New York	Wiertella	National Meeting
September 10	Saskatoon	Meredith	Golf/Dinner
October 8-9	Toledo, OH	Ohio Sect.	District III
October 15	Battle Creek	K. Tsuchiyama	Lunch/Technical Session
December 3	Metro Area	Kobran	Annual Mtg./Technical Session

PRESIDENT . . . continued from page 1

Comments on the present condition of the section and our future direction are always welcome. We do listen. Based on several recent comments by section members, the board has adopted several changes to provide expanded services to our members and the profession.

First, a study was conducted to determine the amount of funds that must be kept in reserve to cover the transition from one year to the next. This study gave the board a benchmark figure to use this year and will allow future boards the ability to adjust this amount to reflect changing conditions.

Based on this study, the section will be looking for ways to maintain the low cost of technical programs, expand our involvement in student chapter activities, and develop special programs.

We will make every effort to keep the cost of each technical session as low as possible. The annual meeting, in particular, is targeted to reflect our efforts to reduce the cost to you, the member. The board will become more involved in student chapter activities. A section student paper competition, including a monetary award for first and second place, has been approved and will be conducted this year.

Second, the board will become involved with issues concerning transportation in Michigan. This involvement will include contact with our Legislature as well as the media and private citizens.

One major issue is the recommended Institute guidelines used to identify which highway segments could have the 55 mph national speed limit removed. We, as a section, must use every means to promote and support these guidelines. Additionally, we must promote realistic speed zoning using 85th percentile speeds. We are faced with increased pressure from uninformed citizens and elected officials who incorrectly feel that a lower speed limit in their city or village means greater safety. We must educate these people to the fact that existing

nationally recognized methods used by transportation professionals will produce the most realistic and safest speed zones.

In addition, we have been requested by the Michigan Office of Highway Safety Planning, to develop guidelines that will be used to review and recommend future projects and funding direction in the engineering area. These guidelines will promote the use of transportation engineering principles and techniques and should raise the OHSP emphasis on transportation engineering to the levels of education and enforcement.

Last, we have honored a man who epitomized professionalism and was a long time member of the Institute of Transportation Engineers. The past-Presidents award has been renamed the Arthur C. Gibson Award for Outstanding Service. We, as individual section members working together, can look forward to an active and successful year. ■

SIGN VANDALISM

One out of every ten traffic signs is vandalized each year. This is costly to taxpayers and is a contributing cause in a number of serious traffic accidents. Countermeasures can be successful in reducing specific types of vandalism. A Federal Highway Administration publication, **Manual on Countermeasures for Sign Vandalism**, describes available countermeasures and their effectiveness. The manual is intended to provide a guide for state and local personnel to systematically plan, implement, and evaluate a program to reduce sign vandalism within their respective jurisdictions. The significance of sign vandalism for highway budgets is considerable—estimates of annual expenditures for maintenance costs due to sign vandalism range from \$50 million to \$2 billion. ■

NATIONAL CONFERENCE ON STRATEGIES TO ALLEVIATE TRAFFIC CONGESTION

March 8-11, 1987
San Diego, California

Several from the State of Michigan were fortunate to be among the 400 to attend this conference, because it was excellent. In attendance were: Dick Beaubien, City of Troy; John Grubba and Richard Vogt, Oakland County Road Commission; Bruce Madsen, Traffic Improvement Association; Bob Newhouser, SEMCOG; John Simon, Taubman Co.; Ken Tsuchiyama and Greg Zanotti, City of Battle Creek; and Paul Hershkowitz and myself from the Michigan Department of Transportation.

Since there were three concurrent sessions, it was not possible to attend all of the following programs:

1. Reducing Freeway Traffic Congestion
2. Improving Traffic Flow on Arterial and Local Roads
3. Managing Site Development Transportation Impacts
4. Financing Transportation Improvements and Programs
5. Applying Transit, Ridesharing, and Other Demand Strategies

6. Traffic Signals--Timing, Systems, and Maintenance

7. Building Support for Transportation Programs

Due to the scheduling I was able to attend only sessions 1 and 6. If you are interested in information on any of the remaining portions of the program, the others in attendance can fill you in on those sessions. The following is a brief outline of the sessions I attended:

REDUCING FREEWAY TRAFFIC CONGESTION

Los Angeles

Los Angeles estimates that 50 percent of congestion is incident related, and half of that is caused by major incidents. A small reduction in clearing of the blockage can produce great benefits to the motorists.

Control Center—It is staffed by two Caltrans employees and one Highway Patrolman each weekday from 5 a.m. to 8 p.m., and during special events.

Changeable Message Signs—There are now over 100 changeable message signs in L.A., and 115 will be added in the near future. These are generally two line signs and are used only for traffic related messages. In addition, they have six trucks equipped with lamp matrix signs to help manage incidents and they also use folding fabric signs to sign emergency detours.

Ramp Metering—Their use of ramp metering is more extensive than anywhere else. However, their freeway traffic problems are also more severe. If gridlock is to occur, it is likely that the L.A. area may be the place, since both freeways and arterials are highly congested.

Motorist Aid Systems—There are motorist aid phones about every 1/2 mile. This is an old system and in need of replacement. The phones are free standing with no acoustical housing. The noise levels are tolerable, however, the system requires much maintenance. There is no call locating on the monitor which requires the caller to give their location. Since there are no mile markers (surprisingly) the caller and monitor frequently have difficulty in determining the location of the incident.

San Diego

San Diego perhaps has the most interesting of all control strategies. They believe that it is extremely important to keep the freeways flowing at 2200 vehicles per lane per hour.

Ramp Metering—All but the very minor ramps are metered. In an effort to keep the critical sections flowing, they meter four (4) freeway to freeway ramps, AND EVEN METER THE MAIN LINE OF AN ENTERING FREEWAY. I had an opportunity to tour the freeway

See NATIONAL CONFERENCE . . . page 5

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continued from page 4

metering and found it to be effective, accepted and very well engineered.

Chicago

Chicago estimates that ramp metering reduces congestion by 60 percent. It is one of the older systems, but has stayed up with technology. Chicago allows any radio or T.V. station to monitor the detector outputs so that they can report on incidents and congestion. A very good feature is that they require a permit for all freeway closures, even for the Department of Transportation. Chicago appears to have firm control on the operation of the freeway system.

TRAFFIC SIGNAL TIMING

Florida

Florida has been satisfied with TRANSYT 7F. Before and after car time runs have verified the TRANSYT results.

California

In California over 5000 signals have been re-timed in the past five years. Only signals that were interconnected have been included for optimization. The results have been verified almost exactly by time runs. Delays have been reduced by 15 percent, fuel use by 18 percent, and 6000 gallons of fuel have been saved per intersection per year. The cost-benefit ratio for this optimization is 50:1. My personal observations were that the signals are very well timed and in good condition in both the San Diego and Los Angeles areas.

TRAFFIC MANAGEMENT TEAMS

Texas

In Texas traffic management teams are used most extensively. These teams have been established in 12 cities with populations from as small as 15,000 to as large as 3,000,000. The purpose of the teams is to improve the overall traffic operation and safety on the urban corridors by coordinating state and local activities. The teams are effective in:

1. Work zone safety
2. Route improvements
3. Normal operations
4. Emergency planning
5. Special event traffic handling

Florida

Florida has hired a consultant to help set up Traffic Management teams in several cities. It has been successful to date and should produce good working relations and improved traffic operations in the years to come.

Traffic Management teams provide good communications between state and local agencies. As more information is available on these teams, it is hopeful that they can be organized in many of the cities in Michigan. All that it takes is an interest in improving traffic operations and a little organization.

By: Bill Savage

TRAFFIC DEATHS INCREASE IN 1986

State Police reports as of March 1987, indicate that 56 more people lost their lives on Michigan roads in 1986 than in 1985. Statistics show that 1,569 persons were killed in traffic crashes in 1985 compared with 1,625 in 1986 which represents a 3.6 percent increase. Fatal accidents also increased in 1986 from 1,411 in 1985 to 1,461 last year. So far in 1987, the situation is improving as fatalities for the first 3 months in 1987 are down 17 percent from the same three month period last year. ■

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records saved because of potential litigation should be kept for an extraordinarily long period of time, in excess of six years. Once the lawsuit is filed, the engineer should consult with the agency's attorney to gain full understanding of the theory of the lawsuit and the theory of the defense. With this knowledge, additional records may be gathered and saved and witnesses identified. Literally, the engineer must understand what the attorney is trying to prove.

During the course of the lawsuit, the agency will be served with a pleading referred to as a production of documents. Unless the attorney on behalf of the agency is able to quash the production of documents, those documents will have to be provided for the plaintiff's attorney. Now, in retrospect, the engineer will wish that the reports, letters, and memoranda in the files have been written for the "world to read" rather than a casual note to the boss, with postscript inquiring about his bowling scores.

An additional pleading that the engineer will confront is the interrogatory. Interrogatories are written questions that must be answered under oath. The interrogatories should be carefully and thoughtfully answered. They absolutely must be reviewed by your attorney before formal answers are filed with the court and returned to plaintiff's attorney. You should remember that interrogatories may be used to impeach your testimony at trial, if the answers differ. Consequently, your answers to interrogatories must be reviewed prior to trial. When preparing for this testimony, remember the main goal to be achieved is believability. Believability is achieved by the reputation of your agency and by the image that you project.

You should prepare by visualization and video tape. Visualization is the technique of imagining the questions that will be asked and the answers that you will give. That technique has worked well for athletes and sales persons. In addition, with the

low cost of video tape equipment today, the testimony to be presented should be recorded to allow critique by the witness and attorney. Video technique may be as simple as the witness himself asking questions sitting at a mock witness chair and answering the anticipated questions. Or, a mock trial can be set up, a judge, defense and plaintiff's attorney, and a jury all observing the dynamics of the testimony. A courtroom might be utilized after normal business hours.

As a prerequisite for the mock testimony, and certainly as prerequisite for the depositions, drawings and anything else that will refresh your recollection as to what occurred at the time of the accident should be collected. This will take time and effort but is worth every minute spent.

In order to have these documents they should have been secured at the time of the accident. In addition to the documents, if possible save and secure the cars, the guard rail, sign post, photos, etc. Juries are persuaded by physical evidence.

After the deposition, the engineer should acquaint himself with the trial procedures and technicalities. The easiest way to do this is by visiting the court in which the trial is scheduled. There you will see the layout of the court; where the jury and judge sits and the witness chair. In addition, during your visit to court you discover the temperament of the judge. Remember that people are afraid of the unknown. To avoid the fear of testifying, one must prepare.

A cardinal rule is to avoid volunteering. During the deposition or at trial the witness should listen to the question, pause for a moment, consider the question, and answer only that which is asked of him. While you hesitate, your attorney has an opportunity to object if appropriate. To volunteer gives the opposition additional ideas or material by which the witness may be impeached and made unbelievable.

The witness should consider his appearance. What is acceptable is the image of the "common man." That might be equated to the college professor with the grey flannel slacks and the herringbone sport coat. The witness should not overdress for court, that is, wear a tuxedo, or underdress, that is, bermuda shorts and tank tops. Gum chewing, tobacco, etc. is inappropriate for court or deposition.

In addition, the witness should consider his demeanor in and out of court. Stand, don't sit or don't walk when the oath is administered. Maintain eye contact with the trier of facts, either the jury or the judge (if it is a non-jury trial). Don't look at the attorney who is asking you questions. This may take a little practice.

Your demeanor in and out of court may be observed by the jury or the judge. Something as simple as jaywalking may destroy your credibility in the eyes of a juror. Conversations in the elevator overheard

See WITNESS . . . page 7



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■ TRAFFIC & TRANSPORTATION ENGINEERING SERVICES ■

WITNESS . . . continued from page 6

by a juror may also diminish the credibility of the witness. Laughter and guffaws in the halls while awaiting testimony is to be avoided.

Once in court and comfortably in the witness chair, speak up so that the jury can hear your testimony. You as the witness should not duel with plaintiff's counsel. Project an image of maturity and professionalism, do not get riled, do not get angry, and do not become upset. Answer the questions in an objective, truthful and straightforward manner. Use ordinary terms. If you must use a technical term, explain in layman's language. If plaintiff's attorney abuses you as a witness, that may very well work to your benefit. Let your attorney object or allow the judge to admonish plaintiff's attorney. You may even get some sympathy from the jury to enhance your credibility.

In conclusion, although the attorney is in charge of presenting your case in court, do not abdicate your responsibility for preparation of the case. Assist him by giving him information that you may think may be helpful, pointing out inconsistencies by the expert witnesses, and defects in the plaintiff's case. And finally, remember if you do the things that you should do and don't do the things that you

should not do, you will be the one witness that every attorney will identify as the "witness who won my case."

By: Peter A. Letzmann, City Attorney, Troy Michigan

MOUSE ATTACK BLAMED IN CRASH

A man driving on an interstate highway was attacked by a mouse that apparently had been sleeping in the heater vent of his car and got too hot.

As a result, Walter Miller's car ended up in a ditch near Billings and the mouse ended up dead, according to a Montana Highway Patrol report.

Patrolman Dallas Adkins said Miller, 59, of Silesia, was driving home on Interstate-90 when the mouse sprang from the dashboard, landed on his shirt and scampered up inside his coat. That caused Miller to grab for the mouse, Adkins said, and he skidded off the road into the snow.

Miller was not hurt, but the patrolman estimated there was \$500 damage to the car and four highway reflector posts.

The confrontation proved fatal to the mouse when Miller grabbed it and squeezed it to death.

No citations were issued.

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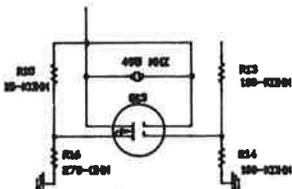
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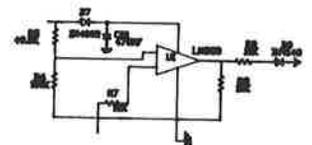
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MARCH LUNCH / TECHNICAL SESSION

On Friday, March 20, 1987, the Michigan Section held a lunch/technical session at the Midway Motor Lodge in Lansing, Michigan. In addition to providing an excellent location, the Midway Motor Lodge provided an attractive package for those who wished to stay overnight and enjoy the facilities.



Glen Etelamaki and Wayne Wentworth handle registration for March Tech Session

The technical session began with a presentation by Ms. Karen Tarrant, Executive Director of the Office of Highway Safety Planning on "Trends in Highway Safety." Ms. Tarrant explained all of the programs that are being funded by the OHSP and then gave a brief description of these programs.

After Ms. Tarrant's presentation, David Cole of the University of Michigan, Office for the Study of Automotive Transportation discussed "Future Trends in the Automotive Industry." Dave indicated that a radical change is occurring in the industry. There will be more focus on people and team goals. Overall goals are to reduce costs by 30%. The customer will eventually be able to dictate to the auto industry rather than taking what the industry is producing now.



Karen Tarrant

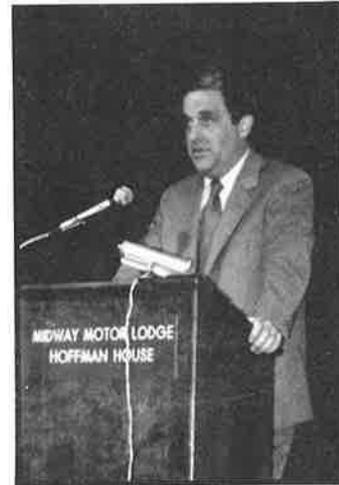


David Cole

The final speaker of the morning session was Matt DeLong of the Senate Republican Office who gave a brief review of pending legislation affecting transportation. At the federal level, legislation pending included the new Highway Bill and the proposed 65 mph speed limit change. At the state level, Matt indicated several bills were introduced that affect traffic operations including, big foot trucks, senior citizen (70 years old) drivers, increased truck violation fines, truck safety committee, Zilwaukee Bridge safety committee, 65 mph speed limit change (rural freeways) and the seat belt law as a primary offense. Matt said that a bill was introduced that would allow local agencies to levee a .05 cent tax for transportation projects.



Matt DeLong



James Pitz

At noon a buffet luncheon was held in the Skylight Pool Garden Room which provided a relaxing atmosphere. After the luncheon, Mr. James Pitz, Director of the Michigan Department of Transportation talked about "Truck Safety." Mr. Pitz indicated that the trucking industry is very important to the states economy with some freeways having over 40% commercial traffic, however, large truck accidents are increasing.

Statistics show that since 1982 there has been a 65% increase in accidents while only a 15% growth in truck traffic. A new strategy has been developed that leads to the formation of an interagency committee to identify problems and possible solutions. The group includes members from the MDOT, the Michigan State Police, the Secretary of State's office, the Department of Treasury and the Public Service Commission. Mr. Pitz discussed the numerous concerns identified by this group and the first recommendation which was for an improved data gathering system. He indicated that a "Safety Vehicle Act" has been introduced into the legislation that would have a positive effect on the large truck problem.

See MARCH SESSION . . . page 9

Our next speaker was Mr. G. Robert Adams, Deputy Director of the Bureau of Transportation Planning, Michigan Department of Transportation, who discussed the "Transportation Funding Task Force Report." Mr. Adams indicated that the present funding breakdown from the gas tax is 39.1% to the state, 39.1% to the counties and 21.8% to the cities, however, the urban counties want to change this formula to increase their portion of the funding. A task force made an analysis of the state's fiscal needs and identified the following suggestions for further consideration: allow local agencies to raise taxes, use a local fuel tax, increase the sales tax, remove the tax cap of 15 cents, don't renew gasohol exemption, and provide an economic development fund. Mr. Adams mentioned that there is a need to use impact fees for commercial development. Finally, he also suggested that the department has to develop better justification for increased funding.



G. Robert Adams



Brent Bair

Our last speaker was Brent Bair of the Oakland County Road Commission, who discussed the "Urban County Road Association Funding Proposals." Brent indicated that the urban counties support two main proposals: maintenance and operation, and economic development. Concerning maintenance and operation he suggested that the counties would want to remove the revenue cap and not change the external formula. In the economic development area counties wanted a 1 cent increase in 1988 and 2 cents more in 1989. In addition, Brent indicated that the OCRC wanted a local option user fee (raise taxes), a local option impact fee (based on assets) and a county wide millage based on assets. Brent agreed with Mr. Adams that the state and counties need to share more money rather than shift it around.

We would like to thank all the speakers who took time to share their individual expertise with our membership, especially Mr. Jim Pitz and Ms. Karen

Tarrant for taking time from their busy schedules. Special thanks should be given to the host, Glen Etelamaki, for the excellent meeting arrangements, and David Bacon and Michelle Barnes for arranging an excellent technical program.

By Joe Meszaros, Michigan Department of Transportation.

THIRTEENTH INTERNATIONAL FORUM ON TRAFFIC RECORDS SYSTEMS

Traffic Records: Key to Resource Allocation

Conducted by the National Safety Council in Cooperation With: FHWA - NHTSA - NAGHSR - TRB - IACP - AAMVA - AASHTO - ITE - ATA - Highway Users Federation - MMA - AAAM

WHY: Because these problems - budget crunch - rising insurance costs - government "downsizing" - losses through tort litigation - shifting legislative priorities - are invading the highway and traffic safety fields, YOU need to know more about how TRAFFIC RECORDS can guide the allocation of resources.

Because nearly every highway project and traffic safety program requires TRAFFIC RECORDS for problem identification, project planning, and program evaluation. Special sessions will deal with traffic records support of critical program areas such as TRUCK SAFETY, OCCUPANT RESTRAINTS, AND DUI.

WHO: Highway and traffic safety managers and staff: administrators, engineers, law officers, data analysts, researchers, program planners, evaluators, and data processing staff.

WHEN: July 20 - 23, 1987

WHERE: Williamsburg Hilton National Conference Center
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Can you afford not to have a state-of-the-art traffic records system, or access to one?

This conference combines the latest management strategies with the newest technological advances to offer you the ultimate in traffic records systems development.

Whether you deal with city, state, or federal records systems, whatever the scope of your needs or size of your budget, valuable information is available here.

JOIN US! Plan now to attend the Traffic Records Forum next July in Williamsburg, where you will hear four days of presentations and workshops, meet hundreds of traffic safety professionals, and circulate through the TRAFFIC RECORDS SHOWCASE and exhibit area.

FOR MORE INFORMATION CONTACT: Ted E. Dudzik, Traffic Safety Specialist, National Safety Council, 444 N. Michigan Avenue, Chicago, IL 60611. ■

MAKE YOUR PLANS NOW FOR THE ITE/IMSA FAMILY WEEKEND

Close your eyes and imagine for a moment...you are relaxing in a comfortable lounge while the sun is baking your body to a golden tan. The heat of the sun is tempered by the ice cold beverage you are pressing against your brow. As you feel the cool drops from the glass slide down the side of your face, a friend challenges you to an exciting competitive game. Your choices are golf, tennis, or racquetball. Finishing your beverage, you accept the challenge with vigor.

While relaxing in the hot tub afterwards, you relate to your opponent the winning strategy just to let him know he never had a chance. After more good humored barbs are exchanged you plan the fine food you'll be savoring later that evening. First however, you meet at the "hospitality" room to relate the agony and ecstasy of your mortal combat earlier that day. You both know the evening will be filled with merriment and camaraderie.

Following a rather short night of sleep, 10,000 vocal feathered friends will awaken you with their chorus. You can be sure that hot coffee, juice, rolls, fruit, and other delights will be waiting for you just moments from your door in the hospitality room. Alas, another day of fun is now underway!

Sound too good to be true? It's not...it's for couples, singles, and families! The SEVENTH ANNUAL ITE/IMSA weekend is going to happen again at the Mt.

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Dates: July 24, 25, 26, 1987

Business Agenda: Technical Program, Friday,
July 24, 1:00-4:00 p.m.
Board Meeting, Saturday, July
25, 1:00-4:00 p.m.

Optional Activities: Golf, tennis, swimming,
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By: Tim DeWitt



*Wow! Has ITE membership really changed!
See you at the Family Weekend*

APPLICATION AND COMPARISON OF MICROCOMPUTER TRAFFIC SIMULATION MODELS

Simulation models are becoming more popular as a means of evaluating traffic handling strategies, such as signal timing plans.

Simulation models fall into two basic categories. Microscopic models simulate every vehicle in a network while macroscopic models simulate platoons of vehicles. Some simulation models have the capability to evaluate several simulation runs and choose the best one on the basis of internal or user-specified measures of effectiveness; these are called optimization models.



Dan Hardy



Abdul-Rahman Hamad

At Michigan State University, CE841 is a graduate-level class which examines traffic simulation models. In the fall of 1986, the class used four models: PASSER-II a macroscopic arterial optimization model; SIGOP-II and TRANSYT-7F, macroscopic network optimization models; and NETSIM, a microscopic simulation (only) model. The optimization models optimize signal phase splits and offsets. The class project was to determine the effects of preoptimizing; that is, optimizing certain arterials isolated from the network, then optimizing the remainder of the network with the preoptimized intersections unchanged. The arterial preoptimization was to be done with all three optimization models, the remaining optimization was to be done with TRANSYT-7F only, and the resulting timing plans were to be simulated with NETSIM for comparison purposes.

A network of sixteen streets in downtown Lansing was chosen for the project. The CE841 students took to the streets to collect traffic volumes and turning counts; geometric data was supplied by the Lansing City Planning office.

It was desired, of course, for all four models to share the same network information; but differences in data reduction among the models made this difficult. Among these differences are the way each model handles volume distribution, mid-block source or sink flows, and trucks. Only signalized intersections were included in the model networks due

to a capacity constraint in TRANSYT-7F and modelling limitations in PASSER-II and SIGOP-III.

The results of the project show that preoptimizing is not an advisable path to take. The higher the number of nodes preoptimized, the worse the measures of effectiveness for the entire network as optimized by TRANSYT. Simulation runs with NETSIM verified this trend, as well as defining another trend that NETSIM is the most conservative or pessimistic of the four models.

By Abdul-Rahman Hamad & Dan Hardy, MSU Students.

BRIDGE PROGRAM GIVEN OK

A major two-year program to replace 183 critically deficient bridges on the state's county roads, city streets and state highways has been approved by State Transportation Director James P. Pitz.

Pitz said the projects will be paid for with funds from the Federal Highway Bridge Replacement and Rehabilitation Program and the Michigan Critical Bridge Program.

"Last year we were able to reduce the number of structurally deficient or obsolete bridges by 140," said Pitz. "With our two-year program we hope to make even more headway by repairing or replacing 78 bridges in 1987 and 105 bridges in 1988."

The bridges, one on the state highway system and the rest on county roads and city streets were recommended for replacement by a nine-member committee set up under the Michigan Critical Bridge Program.

The committee, representing the Michigan Department of Transportation (MDOT), the 83 county road commissions and the municipal street agencies establishes priority for bridge replacements. Their decisions are based on the condition of the bridge, its importance to the street or road network, and the local agency's ability to finance its share of construction. On most of the bridges, federal funds pay 80% of the cost, and the state and local agency 10% each. Each year, the state allocates \$5 million for the Critical Bridge Program.

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FEBRUARY LUNCH / TECHNICAL SESSION

The February 12, 1987, Technical Session was held at Bosley's Restaurant in Flushing. The accommodations and buffet were superb. We would like to thank Don Berry for his efforts, and all the speakers for taking their time to share their expertise with our Section.

The Technical Session was informative and the presentations were excellent. We began with Bob Cullen, Manager of Safety and Traffic for AAA of Michigan. Bob discussed a recent publication released by AAA titled, "CARS AND TRUCKS, Sharing the Road Safely." This publication examines the problems that arise when cars of steadily shrinking size and trucks which keep getting longer, wider and heavier try to share our roadways.

Bob talked about deregulation of the trucking industry, the increase in injuries and fatalities involving auto-truck accidents, as well as possible causes, i.e. truck maintenance, overweight trucks, speeding, fatigued drivers and motorists who fail to appreciate and compensate for the inherent problems of trucks.

For additional information regarding this subject, write the Public Relations Area, AAA of Michigan, One Auto Club Drive, Dearborn, Michigan 48126.

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Following Bob, Ph.D. candidate Abdul Hamad and Masters candidate Dan Hardy, from Michigan State University, presented the comparative results of four Micro Computer Optimization and Traffic Simulation Models. The models compared were TRANSYT-7F, NETSIM, PASSER II and SIGOP III. The models were tested on a network located in the Lansing downtown area. Abdul and Dan discussed the objective of each model, data input requirements, computer memory requirements and running times, maximum network size of each model, outputs, accuracy, and advantages and disadvantages of each model. Additional information may be found in a related article in this issue of the Michiganite or by contacting either Abdul or Dan at Michigan State University, Engineering Department, East Lansing, Michigan.

After a superb lunch, the program continued with David Morena from the Federal Highway Administration, presenting a technological update for the design of Guardrail and Guardrail End Treatments. Dave talked about the problems of designing a guardrail system which must be very strong and weak at the same time, and accommodate a vehicle fleet between 1,800 and 5,000 lbs. Dave ended his presentation with a film showing crash tests of four experimental guardrail endings, The Eccentric Loader, The Sentri, The Turndown and The Shredder !!! (I guess you had to be there). For further information, contact David Morena, Federal Highway Administration, P.O. Box 10147, Lansing, Michigan 48901.

Our last presentation was by Peter A. Letzmann, City Attorney for Troy, Michigan. Mr. Letsmann discussed the new legislation on Highway Liability and gave some helpful hints on preparing for interrogatories, depositions and testifying. Mr. Letsmann's presentation has been reproduced for your information in this issue of the Michiganite.

By Gary Endres.

Did you know that . . .

Many ice- and snow-related motor vehicle accidents occur between the time pavement temperatures fall below freezing and the first application of deicing chemicals by road crews. A proprietary product, Verglimit, which prevents ice and snow buildup on road surfaces was tested at two sites in New York state. Ice- and snow-related accident rates were significantly reduced. More information about test results is available in the report entitled: **Performance of Two Ice-Retardant Overlays**. The report can be obtained free from the Engineering Research and Development Bureau of the New York State Department of Transportation, Building 7A, State Campus, Albany, New York 12232, or by telephoning Bob Pyskadlo at (518) 457-5826.

CENTERLINE MARKINGS ON RURAL ROADS

The effectiveness of centerline markings on low-volume rural roads has been a continuing question. The Federal Highway Administration has compiled information from six states on accident statistics and centerline pavement markings that clarifies some of the issues involved. The results show that:

1. The widespread application of centerline pavement markings to all paved roads with no existing markings is not likely to produce accident reduction benefits.
2. Centerline markings added on roads which have 500 vehicles per day or less appear to produce increased accident rates.
3. Centerline markings added on roads with lanes less than ten feet wide and traffic less than 1,000 vehicles per day appear to increase accident rates.
4. Accident reduction benefits may be generally associated with wider roads and higher average daily traffic.

The report, in **Transportation Research Record 1027**, "Accident Effects of Centerline Markings on Low-Volume Rural Roads," by J. C. Glennon, pp. 7-13, 1985, was published by the Transportation Research Board, Washington, DC. ■

ITE TECHNICAL COMMITTEES

As you are probably aware, the Institute has recently distributed a "Volunteer for a Committee" form to the entire ITE membership. The purpose of the distribution is to give ITE members the opportunity to volunteer to serve on any of the 17 new committees now being formed by the Technical Council.

In addition to this, Technical Council would also like to make a special effort to solicit the participation of individuals with a reputation for knowledge and experience in the subject areas being addressed by the new committees. Your help in identifying such individuals would be greatly appreciated.

Technical Council will consider each of the individuals identified, and will contact those selected concerning their willingness to participate on the indicated committee. Please note that the membership on ITE technical committees is not limited to ITE members. If you identify anyone who is not a member of the Institute, please be sure to include their mailing address and phone number.

All contacts should be made to: Mark R. Norman, Institute of Transportation Engineers, 525 School Street, SW., Suite 410, Washington, DC 20024.
By Don Wiertella.

TRAFFIC COUNTER PROBLEMS

The OHSP recently was given information on a problem with rechargeable batteries used in traffic counters/classifiers. The agencies purchased Sarasota VC-1900 traffic counters with battery packs. The problem arose when attempts were made to recharge the batteries after usage in a count situation. Several batteries were destroyed and had to be replaced. The problem was the level to which the batteries were discharged. Batteries should not be discharged below five volts, otherwise they cannot be recharged.

To avoid letting the batteries get below five volts, agencies have instituted a program of charging the batteries within a set time span. This will assure the batteries are charged properly. Also they are exploring methods to mount a meter on the counters to monitor the battery life and are exploring the feasibility of installing an on-off switch to turn off power to the counters. The counters have no on-off switch, so once the batteries are connected, the counters are constantly on. For further information, contact Robert Moody of the OHSP.

Reprinted from "The Report"

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ITE BOARD TACKLES TRAFFIC CONGESTION PROBLEM

At the Institute of Transportation Engineers International Board of Direction Meeting, held April 26 and 27, 1987 in Phoenix, Arizona, a majority of the meeting time was set aside for an indepth discussion of the urban traffic congestion problem. The International Board spent six of the ten hours of meeting time developing a program to address the traffic congestion problem. The program developed at this meeting will cover the following areas:

1. Education
2. Increased supply of Traffic Engineers
3. Improving the image of transportation engineering professionals
4. Public relations on congestion consequences
5. Development of funding strategies
6. Political influence and communications.

International Directors were assigned to work out the details of each program element, and some of the existing ITE Committees will be called upon to address particular program areas.

The first quarter of 1987 was a positive one for the Institute. Total membership is up approximately 6% over the similar time period of last year to a total of more than 8,200. Publication sales are ahead of the pace originally anticipated for 1987. The best selling publications for 1987 have been:

1. Capacity Analysis - Techniques for Signalized Intersections
2. Trip Generation, Third Edition
3. Driveway Location and Design
4. Parking Generation
5. Guidelines for Urban Major Street Design, Revised
6. 1985 Highway Capacity Manual
7. Transportation and Traffic Engineering Handbook
8. Manual of Traffic Signal Design
9. Urban Traffic Congestion: What Does the Future Hold?
10. Manual of Traffic Engineering Studies

Several new publications are expected to be available later in 1987. They include the Transportation and Land Development Manual, the Traffic Signal Installation and Maintenance Manual, Residential Street Design and Traffic Control, Parking Generation Second Edition, and Trip Generation Fourth Edition.

The Institute sponsored a very successful Traffic Congestion Conference in San Diego, California in March, 1987. The technical program generally received very favorable ratings and the attendance far exceeded expectations. The congestion conference was a financial as well as a technical success. This success as well as increased income from publication sales and advertising increases the likelihood of a positive year for Institute finances.

One of the major items of discussion at the April 1987 Board Meeting was a petition by the Florida Section to become a separate district. Florida is currently part of District 5, which now also includes the Southern Section and the Virginia Section. Florida has approximately 6% of the Institute's total membership, so it is similar in size to the new District 9 (Texas) and the existing District 3 (Michigan, Ohio, Indiana, and West Virginia). District 3 and District 9 each have approximately 6% of the Institute's total membership. Because the Board wanted more time to reflect on the impact of additional districts on the size of the International Board of Direction, Florida's petition to become a district was tabled until the August 1987 meeting.

By Richard F. Beaubien, P.E., ITE District 3 Director

DOLE APPROVES DAYTIME RUNNING LIGHT PETITION

In response to a petition filed by the Insurance Institute for Highway Safety, Transportation Secretary Elizabeth Dole is proposing to permit manufacturers to install daytime running lights in new cars.

"Permitting the use of daytime running lights may provide to be an effective, yet inexpensive way to help the public become more aware of other traffic on the road during daylight hours and, hopefully, reduce the potential for dangerous situations," Dole says.

The rule sets minimum standards for such lights with a proposed effective date of Sept. 1, 1988. The National Highway Traffic Safety Administration (NHTSA) says the standard for the options is designed to be compatible with systems soon to be required in Canada.

Early last year, the Institute asked NHTSA to allow vehicles to be equipped with daytime running lights. By issuing a rule, NHTSA would preempt an existing patchwork of state lighting rules that effectively prohibit any manufacturer from voluntarily offering them. (See Status Report, Vol. 21, No. 1, Feb. 1, 1986).

NHTSA said it is proposing to make the lights optional in order to gain more fleet experience and provide more time for experimentation by vehicle manufacturers. On Sept. 1, 1988, Canada will require any new vehicles built with daytime running lights to meet certain standards, and by Dec. 1, 1989, lights will be required on all new cars sold in that country.

Reprinted from Status Report.

PEOPLE in the news

BEAUBIEN A NATIONAL CANDIDATE

Richard F. Beaubien, City of Troy Transportation Engineer and a highly regarded member of our Michigan Section, has accepted the nomination as a Vice-Presidential candidate for ITE International. President of our Michigan Section in 1983, Beaubien is currently District III Director, serves on the International Board of Direction, and is Board Coordinator for Institutional Development.

In addition to ITE, Beaubien is a past President of the Southeast Michigan Branch of the American Society of Civil Engineers, has served on two advisory committees for the National Academy of Sciences, has authored several articles for engineering journals, and received the 1985 Outstanding Engineer in Government Award from the Michigan Society of Professional Engineers.



Richard F. Beaubien

A registered Professional Engineer in Michigan, Illinois and California, Beaubien earned a Bachelor of Science in Civil Engineering, Bachelor of Arts and Master of Science in Civil Engineering from the University of Michigan. He has been with the City of Troy since 1975, was Chief Engineer for Reid, Cool & Michalski Consultants of Southfield, Michigan from 1973 to 1975, and was a Highway Engineer for the FHWA in various assignments nationwide from 1968-1973.

The Michigan Section of ITE supports Dick's nomination. Please take advantage of your opportunity to support Dick by voting in the forthcoming national election. ■

MICHIGAN STATE POLICE DIRECTOR COLONEL GERALD L. HOUGH RETIRES

Colonel Gerald L. Hough retired from his position as director of the Michigan State Police at the end of April. Colonel Hough, age 52, joined the department as a trooper at the Wayland post in 1957. He was appointed director in 1977 by former Governor William Milliken. Colonel Hough was an outstanding leader and administrator who was dedicated to a high level of law enforcement. ■

RITCHIE DAVIS BECOMES DIRECTOR OF THE MICHIGAN STATE POLICE

Ritchie Davis, a 24 year veteran with the Michigan State Police, was appointed by Governor James Blanchard, as State Police Director. Mr. Davis had been deputy director in charge of the departments 360 member Technical Unit. He was a patrolman with the Ann Arbor Police Department and the Michigan State University Department of Public Safety before joining the state police in 1963. Mr. Davis holds a Masters degree in Public Administration from Western Michigan University and a Bachelor's degree in Criminal and Social Science from Michigan State University. ■

MICHIGAN SECTION -- NEW MEMBERS

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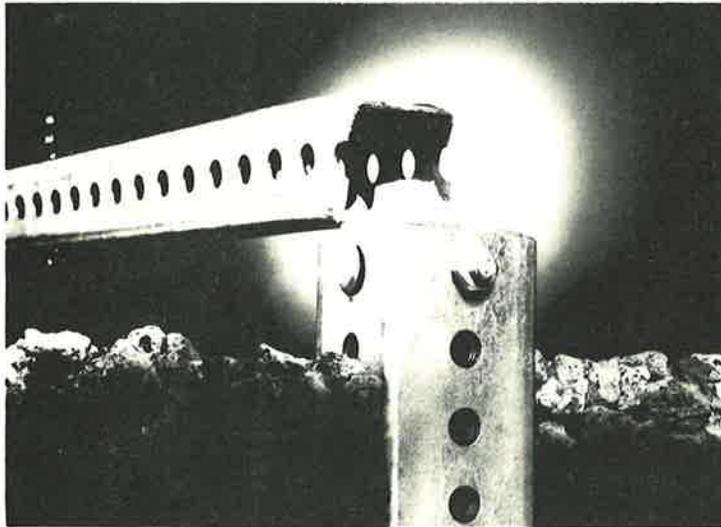
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