



Michiganite

WINTER 1986 *85?*

VOLUME XX, NUMBER 4

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

Annual Meeting and Technical Session



PRESIDENT'S COLUMN

FROM THE DESK OF . . .

BOB LARIVIERE

STATE OF THE SECTION

It does not seem possible but it has been four years since I was first elected to the Executive Board. During that time I have had the honor of meeting and working with a large number of talented transportation professionals. Some of these individuals have worked with me on the Executive Board while others I have gotten to know through attendance at meetings in Michigan and in other states. I am quite pleased with the advancement of our Section during my time on the Executive Board. I would like to address two areas which I think have shown the most improvement.

Michiganite - The Michiganite appearance has improved along with the quantity and quality of its articles during the last five years. The Michiganite has expanded until we are now at a point where the focus is not on size and appearance but on quality. We will be attempting to increase the percentage of original articles done by our membership resulting in less reliance on reprinted articles. As you can see from this issue we have given the Michiganite a face lift which I hope you like. Remember the Michiganite is your publication and will only be as good as your contributions. Please contact Glen Etelamaki, our newly elected Director, with your articles for publication.

Meetings - Our Technical Sessions along with the Michiganite form the one-two punch of our Section. The communication among transportation professionals created by these activities is the very essence of why we are an organization. Much has been done over the last few years to improve the quality of our meetings and to meet the demands of a dynamic membership. We spent a couple of years meeting nearly once a month in different geographical areas to give everyone a chance to attend a meeting close to home. This year due to a membership questionnaire, we have reduced the number of meetings and have expanded each of them to include a wide variety of technical topics. Any comments or suggestions you have to improve our meetings or if you would like to contribute to the technical program please contact Don Wiertella, our Vice President or Tom Maleck, our Technical Chairman.

See **PRESIDENT . . . page 2**

The Sheraton Oaks in Novi was the site of the Michigan Section Annual Meeting held on Thursday, December 5, 1986. The meeting was successful because of the good turnout, the presence of our International President, Mr. John Edwards, and the excellent speakers and topics.

The morning session began with Richard Beaubien, District III Director, explaining the purpose of the National Technical Council and providing an overview of the many projects of the Council. Dick reviewed many research and technical activities which resulted in publications that many of us use in our everyday work. He mentioned that the Technical Council is always looking for good people to be on the various committees; so if you are interested, find out more by consulting your membership directory or calling Dick at (313) 524-3379.



John Edwards, President ITE

Mr. Edwards then gave his comments on the National Conference on Urban Traffic Congestion which was held earlier this year in Williamsburg, Virginia. The purpose of the conference was to bring together transportation professionals and urban political leaders to discuss and develop recommendations for a program to reduce traffic congestion and delay in urban areas. Participating were delegates from 17 associations representing all levels of government, regional planning agencies, consulting firms, industry, land developers, and universities. The conference produced the following conclusions: (1) urban traffic congestion is a national problem; (2) additional funding is needed on urban systems; (3) funding needs to be more flexible; (4) additional training of traffic personnel is needed; and (5) more research funds are needed to improve efficiency and operations. The conference has resulted

See **ANNUAL . . . page 6**

The 1986 Executive Board has already begun to serve the membership of the Section as you read this column. They cannot, however, function in a vacuum. They do need the input and assistance of the membership to develop a quality program. One of the more difficult tasks of past Executive Boards was obtaining input from the general membership. Please contact your Board members or Committee Chairmen with your ideas, suggestions, criticism, and praise. Your input will help our Section maintain its fine nationwide reputation for excellence and will be appreciated by your Executive Board.

I would like to take this opportunity to thank my fellow board members and other Section members who made my job easier the last four years. It has been a very rewarding experience.

NOVEMBER TECHNICAL SESSION

Don Berry, of the city of Flint, was the host of the November 7, 1985, ITE Meeting held at Bosley's in Flint, Michigan. Over 80 members attended this meeting which marked the return of ITE in the Flint area after several years of absence. Of special interest at this meeting was the presentations by several Michigan State graduate students. These reports included Nikiforos Stamatiadis who discussed "Accidents and Speeds on 2-lane Roads"; Aris Drakopoulos on his evaluation of "Upgrading Traffic Control Devices"; Matthew DeLong on "Vehicle and Geometric Variables Related to Accidents in Rural No-Passing Zones"; Dale Lightizer and his "Proposed Evaluation of SCANDI"; and Joseph Hummer, who reported on "HYSIM—a Highway Simulation Model". Overall, it was quite evident that the students had spent a lot of time and effort in their proposals and the reports were enlightening and very interesting to the audience.

In addition to the MSU graduate students, Dennis Randolph, City Engineer of Lansing discussed "Lansing's Automated Pavement Management System", and William Savage of MDOT reported on the "New Traffic Signal Warrants". The meeting closed with Tom Maleck, Associate Professor at Michigan State University, presenting a demonstration on "Accident Data Base for Micro Computers". Finally, special thanks should go to Roger Walther, our Technical Chairman, for putting together such a fine program and Don Berry for the first class arrangements.

By: James Cubera, P.E.

MICHIGAN SECTION ITE - TREASURER'S REPORT

Balance: August 31, 1985	\$ 2,921.04
Receipts:	
Dues and Interest	\$ 126.30
Meetings	1,259.50
	<u>\$ 1,385.80</u>
Expenses:	
Meetings	\$ 1,142.62
Michiganite	608.60
Postage	253.18
Supplies	12.37
Placques/Awards	92.55
Miscellaneous	44.50
	<u>\$ 2,153.82</u>
Balance: November 30, 1985	<u>\$ 2,153.02</u>

Treasurer: Don Wiertella

MICHIGANITE

Official Publication of the
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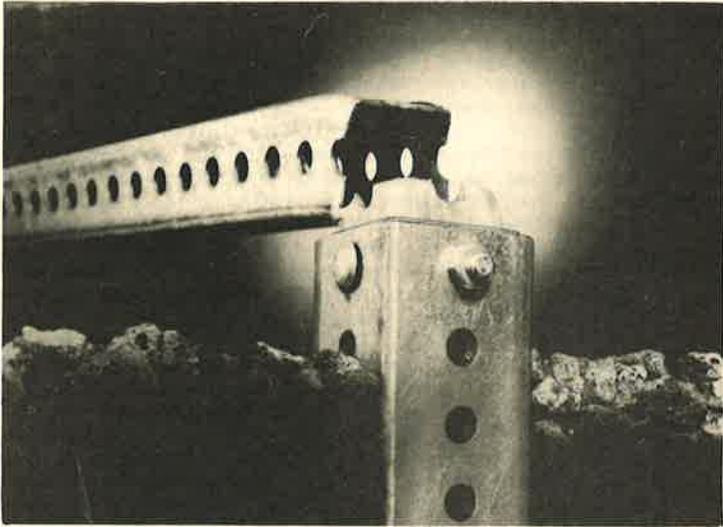
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MICHIGANITE is published quarterly by the Michigan Section of the Institute of Transportation Engineers. It is distributed to more than 300 ITE members and over 100 cities and counties in Michigan. Address communications regarding the Michiganite to the Editor, Weldon Borton, 1014-B Montevideo, Lansing, Michigan, 48917 (Telephone (517) 321-5457).



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UNISTRUT

FATAL ROLLOVERS LINKED TO INADEQUATE BANKING ON GRADES AND CURVES

Fatal rollover crashes in Georgia and New Mexico have been linked to inadequate banking on grades and curves, researchers for the Insurance Institute for Highway Safety have reported.

Over 40 percent of single vehicle crashes on non-freeway roads occur on curves or grades. The Institute study concludes that inadequate banking - the vertical cross slope or superelevation on curves - presents a risk to drivers that should be eliminated from the road system.

The study analyzes data on road curvature, grade, and cross slope at fatal rollover crash sites and compares them with sites one mile upstream from each crash site. The crash sites were also compared with randomly selected sites in Georgia and New Mexico.

The researchers found that sites where fatal crashes had occurred had less banking than comparison sites, even though they had the same curvature. The paper, presented to the Transportation Research Board, is the first detailed examination of the influence of banking on crashes.

As a car travels along a curve, friction tends to hold it on course. However, as the car's speed increases and the degree of the curve increases, additional measures are required to prevent the car from sliding outward.

Highway engineers raise the outside edge of the pavement and lower the inside edge to neutralize that force, depending on the design speed of the road.

The researchers also found in their study of more than 280 fatal crash sites, that compared with roads with similar flat curves, the banking was deficient on curves with grades, especially on downhill grades. They added, "the prevalence of reduced superelevation at such locations is clearly dangerous." They noted that the American Association of State Highway and Transportation Officials partially endorses the use of increased banking on downhill curves to allow for higher rates of speed.

For a copy of the paper, "Superelevation and Roadway Geometry: Deficiency at Crash Sites and on Grades," by Paul L. Zador, Howard Stein, Jerome Hall and Paul Wright, write Publications, Insurance Institute for Highway Safety, Watergate 600, Washington, D.C. 20037.



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SEMCOG ACCIDENT ANALYSIS SYSTEM

SEMCOG has developed an Accident Analysis System (SAAS) using traffic accident data from the Michigan State Police MALI (Michigan Accident Location Index) system. SAAS will assist in increasing traffic safety in the SEMCOG region through analysis of traffic accidents, traffic volume, and roadway characteristics. The following discussion will provide a brief description of SAAS and its capabilities.

SEMCOG decided to develop SAAS for three reasons:

1. To include traffic volumes in analyzing accident locations. MALI data, as it exists now, concentrates on accident locations without any regard to traffic volume. Concentrating on the number of accidents alone could lead to inefficient allocation of resources. It is likely that greater public good would result from investigating and improving those locations exhibiting a statistically significant deviation from the population mean in any of several categories of analysis.
2. To carry out regional accident studies that shed some light on several characteristics of the driver and the roadway that he/she travels on. On many occasions traffic engineers and planners do not have a readily available means of finding out how particular locations of interest stack up when compared to similar locations or subareas.
3. To provide local traffic engineering assistance to local units of government within the region.

Although total accidents and injuries have not increased significantly over the last few years, the number of negligence litigation cases against some road agencies have increased by more than 100 percent. As many agencies are discovering, they do not need to be the primary cause of the accident, only a potential contributor. The SEMCOG Accident Analysis System will assist local traffic engineers by identifying potentially hazardous locations and indicate which locations have significant problems.

Currently, SAAS can rank accident locations for both the total number of accidents and accidents per million vehicles entering the intersection, for all SEMCOG Highway Monitoring File nodes. SAAS can also provide a log of accidents for use by the local engineer or police official in performing his/her duties. An accident log would include data items desired by the requestor; a request may use any of the data items in the UD-10 form, in any order. The SAAS has no restrictions on what data may be used, or on how it may be stratified. The SAAS has a direct tie-in between the Ranking of Accidents report and the SEMCOG collision plotting program, thereby eliminating re-entry of accident data to produce a collision diagram.

Recently, SEMCOG completed an analysis of the accidents that occurred in the region between 1981-1983. It is a profile of the regional accident trends concentrating on drinking related accidents, traffic accidents by age of the driver, and the impact of seat belts. It also aggregates accident data by time of day as shown on the table. This table illustrates the advantages of including traffic volume when analyzing accidents. This table contains the percentage of traffic volume and accidents by time of day for all the counties in the region. It also shows a three-year Accident Probability Index (API). The API by time of day is the ratio of the percent of accidents to the traffic volume. This is one way of comparing accident rates for different time periods.

The accompanying graph shows the relationship between traffic volume, total, and accidents and alcohol related accidents. The API for the region indicates that a driver in Southeast Michigan is five times more likely to be involved in an accident between midnight and 3:00 a.m. than between the hours of 6:00 a.m. to 9:00 a.m. The same driver's chances of being involved in an accident where alcohol is a factor is 14 times higher for the same time period. The table suggests, therefore, that occurrences of accidents may vary between time periods and also that this variation may not correspond necessarily with variations in traffic volume by time of day.

By Adele Nwankwo

ACCIDENT & TRAFFIC VOLUME BY THE TIME OF DAY FOR THE SEMCOG REGION 1981-1983

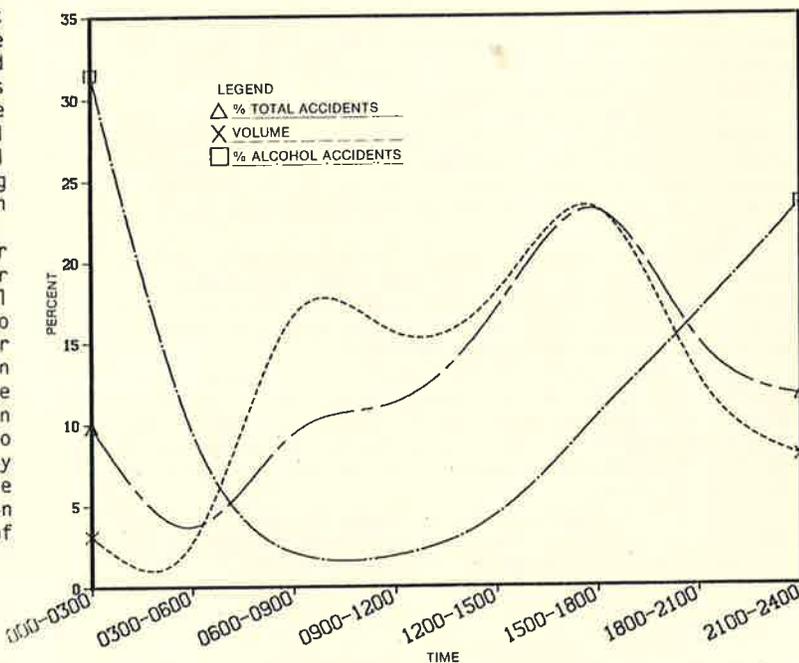


TABLE 1

DISTRIBUTION OF ACCIDENTS AND TRAFFIC VOLUMES BY TIME OF DAY FOR THE SEMCOG REGION 1981 - 1983

Time	Hourly Travel Vol. Pct. ("K" Factors)	Regional		Wayne		Oakland		Macomb		Washtenaw		Monroe		St. Clair		Livingston	
		% of Acc.	API	% of Acc.	API												
12 a.m.-3 a.m.	3.14	9.8	3.12	9.50	3.03	9.20	2.93	11.10	3.54	9.30	2.96	12.00	3.82	10.80	3.44	11.90	3.80
3 a.m.-6 a.m.	2.74	3.7	1.35	3.60	1.31	3.20	1.17	3.60	1.31	3.90	1.42	5.00	1.82	4.00	1.46	5.20	1.90
6 a.m.-9 a.m.	16.63	9.4	0.57	9.10	0.55	10.10	0.61	8.90	0.54	10.80	0.65	10.00	0.60	8.00	0.48	9.80	0.59
9 a.m.-12 p.m.	15.59	11.3	0.72	11.40	0.73	11.90	0.76	10.20	0.65	12.30	0.79	10.80	0.69	11.50	0.74	10.30	0.66
12 p.m.-3 p.m.	18.03	17.0	0.94	17.10	0.95	17.40	0.97	16.50	0.92	16.20	0.90	15.30	0.85	17.30	0.96	14.10	0.78
3 p.m.-6 p.m.	23.19	23.1	1.00	23.00	0.99	24.50	1.06	22.90	0.99	22.70	0.98	20.70	0.89	21.00	0.91	19.20	0.83
6 p.m.-9 p.m.	12.77	15.0	1.17	15.10	1.18	14.40	1.13	15.30	1.20	14.30	1.12	14.40	1.13	15.00	1.17	16.60	1.30
9 p.m.-12 a.m.	7.90	11.6	1.47	11.70	1.48	10.40	1.32	12.10	1.53	11.10	1.41	12.60	1.59	13.00	1.65	13.80	1.75

API = Accident Probability Index

READER'S COMMENT . . .

THE NEW TRANSPORTATION PROFESSIONALS

In meanderings through the nation's transportation community, one could easily get the impression that the many institutions that "transportation careerists" evolve from are not measuring up to today's needs. Academia is not attracting as prominent, or usual numbers of, educators or students as in the old days. And the business community, along with government organizations, hire far fewer transportation educated individuals than before. The message is clear; the days of the transportation professional - someone who is given a well-rounded education in, and makes a career of, transportation - is on the wane. Time and events are making the transportation professional a thing of the past.

Disturbing signs are appearing, and if carried to the extreme, could mean the demise of the transportation profession as we know it today. When one looks deeper into the matter, it is easy to see that what we are facing is not an absolute degenerative downward curve, but more of a regenerative phenomenon occurring all over the field of transportation.

Yes, the number of "transportation students" is declining and the professional cadre of transportation educators is diminishing when criteria of old is applied. Also, funds for transportation research and development appear to be at an all time low. Yet, it is that way with all R. & D. Business demand for transportation professionals - engineers, logistic managers, researchers, etc. - has likewise decreased by an appreciable number. But, this was due mostly to the economic downturn. At first glance, the picture is anything but rosy.

Below the surface, however, a far less discouraging picture emerges. While there are serious problems, there are also many promising signs of a new and better era about to unfold.

The key is understanding the evolutionary process presently underway. Transportation as a function of

society (that is, equipment, management tools and techniques, systems, energy sources, educational training, infrastructure, government policy, societal concerns, and so forth) has undergone such rapid and substantive changes in the last 20 years that the book has had to be rewritten almost continuously in just about all areas. Staying abreast of all these changes - let alone adjusting the necessary factors to accommodate them - has been a herculean task. But the time has come when bolder efforts - if not heroic - are being called upon to bring order to this situation. Fortunately for us, the best of minds are right now gearing up to get that process underway.

Organizations such as the Council of University Transportation Centers are monitoring and adjusting the direction and quality of education and the research needed to support these Centers. The Transportation Research Board and its parent organization the National Research Council, National Academy of Engineering have several substantive efforts underway, probing the manpower problems and preparing responses. The Office of Technology Assessment of the U.S. Congress is conducting a study of the matter. And the National Science Foundation is conducting its own review of the engineering aspects of the transportation profession. Clearly, meaningful action is underway to lay the groundwork for a new era of transportation professionals.

All of this activity by no means assures finding the pot of gold at the end of the rainbow. But it does help dramatize the scope and depth of attention on this subject. And, if all this effort results in the right combination of positive forces, we should be poised and prepared for what one expert terms the "coming threshold of tremendous opportunities for transportation professionals." "We better be prepared," he adds, "or this profession will have to get in the queue behind other more aggressive professions."

The gauntlet has been dropped. . . the struggle is underway. A most interesting and challenging era is before us.

By Roland A. Ouellette

Writing Off Your Personal Computer

Each year, it becomes more difficult to write off a personal computer. As micros become more prevalent - and their uses harder to determine - the Internal Revenue Service has cracked down. It is nearly impossible to write off a computer used at home as a business expense.

The Tax Reform Act of 1984 took particular aim at the personal computer. The provision affecting micros became effective June 18.

If you bought your computer hardware, software, or peripherals before then, you are subject to the same tax laws that applied to 1983, which forbid you to write-off your computer if you use it for non-business applications such as games or term papers.

Under the 1983 laws, you can claim investment tax credits and depreciation that allow you to deduct the cost of the computer over five years if you use your computer for your main livelihood, as does a consultant, an at-home programmer, or a free-lance writer. Or you can deduct the machine completely in 1984.

The problem for most users is that they use a home computer for a little business and a little pleasure. Under the 1983 laws, you can deduct whatever percentage you use the machine for business as a business expense. For example, you can deduct 25 percent of the machine's cost for 1984 (or depreciate the 25 percent over five years) if you used the machine for business 25 percent of the time. Included in that percentage can be work done at home that you could not finish at the office.

If you bought your computer on or after June 18, things get even tougher. First and most important is that office work done at home does not count as business use unless you have a note from your employer saying the computer is required in your job. Even with this note, you would probably be in trouble in an audit, because the IRS would ask why your employer does not provide the computer if it is a job requirement.

Even if you can prove you must use your home computer for work, you must still use it for business more than 50 percent of the time to get any of the write-offs you could have gotten under the 1983 laws.

You can still deduct 100 percent of the computer's cost this year or depreciate it over five years if you bought the machine after June 18. To do so, you must use the computer for your main livelihood or solely for a business venture separate from your job.

The IRS may shock anyone who tries to circumvent the latter requirement by claiming he moonlights as an independent consultant.

"The IRS now requires contemporaneous records to write-off your computer," says Joe Caleraro, technical coordinator for the IRS in San Francisco. "You have to keep a log of computer use."

Meeting that requirement in an audit would mean having to produce for the IRS a detailed - and convincing - log, proving that you use the computer for your own separate venture.

Reprinted from InfoWorld, February 4, 1985

in tentative plans for several regional congestion conferences in Orlando, Seattle, and Washington, D.C. The Section appreciates the contributions John made to the agenda as a last minute substitute for a speaker who was forced to cancel due to other commitments.

Our Legislative Committee Chairman, Kurt Kunde, then provided us with a look at Transportation related bills currently before the Legislature. These included legislation for safety belt use on school buses, repeal of the motorcycle helmet law and deletion of motorcycle safety education for those under 18 years of age, and drunk driving improvements such as prompt suspension mandatory sentence for a second offense and videotaping of suspected drunk drivers. Kurt also reviewed the increase in seat belt usage and the decrease in fatalities since the passage of Michigan's Safety Belt Law.



Left to Right: Richard Beaubien, Kurt Kunde, and Dr. Floyd Smith

The last speaker on the agenda before lunch was Dr. Floyd Smith from the Oakland Intermediate School District who discussed the use of safety belts on school buses. Dr. Smith presented a film which demonstrated the results of Canadian tests which were made to determine the advantages/disadvantages of their use. To most everyone's surprise, safety belts caused more severe injuries to the test dummies when they were belted than when they were unbelted.

Lunch was served in the atrium of the Sheraton Oaks, which was a very enjoyable setting. . . our compliments to the chef.

After lunch, International President John Edwards presented an overview of ITE activities at the national level. John discussed future directions of the institute, new councils, public relations, membership, and the 1986 Annual Meeting in Indianapolis.

Following Mr. Edwards' discussion, the Annual Meeting was conducted by Section President Bob Lariviere. The treasurer's report was given by Don Wiertella and the results of the election for next year's executive board were announced by the nominating committee chairman, Tom Krycinski. The results of the election were:

- President: Richard Cunard
- Vice President: Donald Wiertella
- Treasurer: David Bacon
- Secretary: Joseph Marson
- Director: Glen Etelamaki
- Affiliate Director: Jim Cubera

Rich Cunard presented a plaque to Bob Lariviere extending our thanks for the outstanding work he did for the Michigan Section (mention should be made of the award for "Nobody of the Year" which Rich also presented Bob, in jest I think). Congratulations to the new Executive Board.

continued on page 7

LEADERSHIP FOR 1986



International President John Edwards flanked by District 3 Executive Director Richard Beaubien and Michigan Section Past President Bob Lariviere.



Past President Bob Lariviere receives recognition for his contributions to the Executive Board from new President Rich Cunard.



1986 Executive Board: L. to R. - R. Lariviere, R. Cunard, D. Wiertella, D. Bacon, J. Marson, J. Cubera. Not Pictured: G. Etelamaki.

AFTERNOON TECHNICAL SESSION

A new approach for the afternoon technical session was used by dividing it into two concurrent sessions to provide a choice of topics. In Session A, Kevin Curran of the 3M Company informed the members of the proposed Federal Standards for Minimum Traffic Control Device retroreflectivity. These proposed standards are the result of a petition by the Center of Auto Safety. The proposed standards are a concern to agencies as there is no simple, inexpensive method to obtain the data. If you would like further information or would like to voice your opinion, please contact the FHWA. Session A continued with Brian Bowman from Goodell-Grivas, Inc., providing research findings on 3 FHWA sponsored studies on railroad grade crossing safety. One study of mandatory stops found that a greater incidence of accidents occurred with vehicles that were required to stop at crossings with active warning devices (hazardous material transporters, school buses, etc.) than with the general truck population. The second study established which of the three active advance warning devices were most effective for use on the R.R. approaches with site restrictions. The third study discussed the use and reasons for non-use of constant warning time devices.



Left to Right: Kevin Curran, Brian Bowman, and Ken Tsuchiyama

Following Brian's talk Ken Tsuchiyama, from the City of Battle Creek discussed the results of a recent FHWA sponsored study of reversible lane control. He showed slides of various operations throughout the country which showed a diverse use of signals and signs for reversible lane control. The study reviewed the safety aspects of the different systems, how effective the systems were in conveying the information to the drivers, and proposed uniform signing and signals.

William Hartwick from Michigan Department of Transportation followed with a discussion of the Oakland Technological Park. Bill discussed the current and proposed land use for the area. He also reviewed the road system which currently provides access to the park and some of the proposed changes to this system. Bill's presentation was impromptu since he volunteered to speak when he discovered one of the speakers was absent due to a family death. Bill did an excellent job and we appreciate his extra effort.

Following Bill, Thomas Wessel and William Erben from MDOT described the changes in the new Highway Capacity Manual. Some of the major changes are a new format, a chapter by chapter update of the manual, new organization based on highway type, a heavy reliance on field data for analysis, work sheets to assist with the analysis, and new information on mass transit and pedestrians. Also computer programs are now available for each of the analyses from NCHRP for a nominal fee.



*Left: William Hartwick
Right: Tom Wessel and William Erben*

Session B of the technical program began with James Cathcart from the Eltec Corporation who discussed wireless interconnect systems using coded messages transmitted over existing voice communication radio systems. He presented an example of a school zone control system presently in use in the Dallas, Texas area. The system includes over 600 receivers installed at various school crossings. Additionally, this type of system could be utilized for actuating ramp meter controls or park lighting systems.

Michael Goryl, of Goodell-Grivas, Inc., presented the results of a survey of child restraint usage. The study's purpose was to determine to what extent various child restraints were being used properly, to what extent they were misused, and to recommend countermeasures for improvement. Out of over 1,000 instances of safety seat use reviewed 65 percent involved misuse of the device. Of the cases of misuse, 40 percent of the children were not harnessed and 33 percent did not secure the seat with a safety belt. The study also showed that 85 percent of the child restraints which required tethers were not tethered.

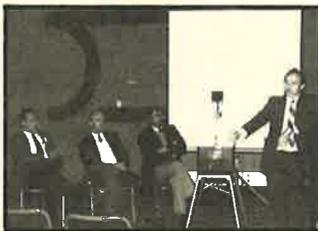
Robert Carroll from Kalamazoo County discussed street name sign uniformity and placement and his activities related to being chairman of ITE Committee 4A-26 Street Name Signs. The Committee examined current practices involving street name signs and submitted a report to Technical Council. The report concluded that street name signing has a low priority in most cities and counties. The report recommended that a national street name sign standard be developed. The Technical Council requested that a larger sample be obtained so the Committee is currently designing a questionnaire which will be sent around the country during the next year.

Following Bob Carroll was David Bacon from Carrier and Gable to enlighten use on the IMSA's schools for engineers and technicians. Dave discussed the past course content, where the schools were taught and who attended. In order to plan for future schools he passed out a form and requested topics for future schools and any comments on those previously conducted.



*Above: Robert Carroll
Top left: Michael Goryl
Left: David Bacon*

Session B ended with a panel discussion of microprocessor based traffic speed, counting and classification systems. The panel consisted of Richard Cunard (Oakland County Traffic Improvement Association), Gary Schrefler (Ash Instrumentation), and Gene Beezley (Streeter-Richardson). The panel discussion focused on how the new microprocessor based technology has changed how traffic engineers obtain traffic volumes, vehicle speeds, or vehicle classification information. In the past traffic engineers had to spend many hours in manual data collection and analysis to obtain this information. With the new microprocessor based equipment now readily available, a counter placed at the edge of the road supported by tubes placed across the road can obtain the volumes, vehicle speeds, or vehicle classifications in a form which can be directly summarized and printed on a line printer or read into a microcomputer for additional processing. A hands-on display of various products was available to those who attended.



Panel discussion on microprocessor based technology

Special thanks for an excellent meeting go to Michael Labadie for the excellent arrangements and to Roger Walther for all his effort in preparing the technical session. We wish to thank all the speakers for the time and expertise which they contributed to make the meeting interesting, informative, and successful.

By Joseph Marson

SEVERITY COST FACTORS
NATIONAL SAFETY COUNCIL COST ESTIMATES

Year	Property Damage Accident	Injury Accident	Fatal Accident
1971	\$ 440	\$3,100	\$ 52,000
1972	480	3,400	82,000
1973	500	3,700	90,000
1974	530	4,000	97,000
1975	570	4,200	110,000
1976	670	4,700	125,000
1977	800	5,500	135,000
1978	850	5,800	150,000
1979	870	6,200	160,000
1980	980	6,700	170,000
1981	1,020	7,200	190,000
1982	1,090	8,000	200,000
1983	1,150	8,600	210,000
1984	1,190	9,300	220,000

Note: NSC recommends Injury and Fatal figure be used per person killed or injured. Highway Department practice has been to use these factors per Fatal or Injury accidents.

*NSC Report Bulletin Issued Yearly

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CHILD RESTRAINT GUIDELINES

The National Transportation Safety Board is working on guidelines for a national drive to increase the proper use of child safety seats.

"Child safety seat laws are now on the books in 49 states and the District of Columbia, but the actual fact is that less than 40 percent of all Americans use safety seats for their children and 70 percent of those seats are not being used correctly," Patricia Goldman, vice chairman of the safety board, told participants in a one-day meeting on the issue.

The safety board hopes to learn why parents don't use safety seats and develop strategies for increasing their use. The unit also intends to find out which types of incorrect child restraint usage are most hazardous.

MISUSE OF CHILD SAFETY BELTS

According to a report recently completed by Goodell-Grivas, Inc., misuse was found in over 64 percent of the safety seats in use.

The Goodell-Grivas report presents the findings of their study for NHTSA on the misuse of child safety seats. Data was collected in 10 cities across the country at fast food restaurants. The data which was collected involved observation of seat use and determination of factors associated with specific types of misuse.

Misuse of safety seats was 64.6 percent for the 1,006 safety seats observed. Data was collected on toddler, infant, and booster seats. For the 734 toddler seats observed, 40 percent of the children were not harnessed, 33 percent did not have the seat properly secured with the vehicle belt, and 85 percent of the tether type seats were not tethered.

Of the children not harnessed, almost all of those responsible (95 percent) were aware of this fact. The most common reason given was that the child slips out or takes off the harness. Nearly 80 percent of those not using the tether strap (when required) stated that they knew that the tether was required and indicated a strong resistance to the installation of a tether anchor. Approximately 75 percent of those incorrectly belting the seat to the vehicle did not realize the belt routing was incorrect. While a small number of safety seats were not belted, (7 percent), 75 percent of those with this misuse were aware of it. In addition, 71 percent of those facing infant seats forward, knew that the seat was supposed to face the rear of the vehicle.

The findings indicate that safety seats which are more comfortable for the child, easier to use, and have fewer opportunities of misuse, are more often used correctly.

SEAT BELT INSURANCE CLAIMS

General Motors Corporation has paid 199 claims (almost \$2-million) since 1984 to the estates of those killed while wearing safety belts in a GM car or light truck. At first glance, that may seem like a lot of people getting killed wearing belts. But those 199 claims come from 6,000,000 vehicles covered (a payout rate of only 0.0003316%). The program is designed to encourage safety belt use, and GM is very satisfied with the results. Michigan topped all claims with 18...California was next with 17 payouts.

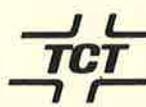
Reprinted from Straight Talk, Issue #102,

Ed Swanson

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QUICKCHANGE MOVEABLE BARRIER

The QUICKCHANGE Barrier, comprised of hinged sections of concrete "Jersey Barrier," has been developed to prevent cross-over accidents on sections of highways, bridges, and tunnels which use a changeable lane system to accommodate heavy commute traffic, and for worker protection in construction zones. In the past, portable markers such as cones or pylons or changeable lights have been used to achieve traffic separation in these areas. Although these systems provide clear visual separation, they are unable to prevent cross-over, head-on accidents which are all too often fatal.

With the new QUICKCHANGE Barrier System, traffic can be separated by a solid concrete barrier and head-ons in reverse flow lanes and penetration accidents in work zones can be prevented.

Transfer from lane to lane is accomplished by engaging the trailer mounted conveyor with the lead module of the barrier and driving forward. The modules are lifted clear of the pavement surface on urethane conveyor wheels, conveyed through an elongated "S" and repositioned on the new lane line at approximately 7 miles per hour. Urethane bottom pads make secure contact with the pavement in wet or dry weather.

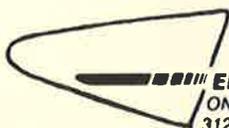
Recent engineering evaluation testing of the systems near Sydney, Australia was very successful. Seventeen crash tests were conducted using 3000 pound mid-size Australian cars. Speeds ranged from 25 to 55 mph, and impact angles were 7 1/2° and 15°. On several tests the cars were ballasted to 4400 pounds. In all the tests the car stayed close to the barrier and did not ricochet off of it, and no car vaulted or penetrated the barrier or rolled over. . . and there was no damage of any type to the barrier sections.

The first commercial use of the product has just been completed (August 1984) near Paris, France. A 1.3 km section of barrier was used on a freeway construction site as work-zone protection. When no work was being performed, it was moved to the right shoulder, thus allowing full use of all freeway lanes. During the work periods it was moved and placed one lane to the left, thereby providing excellent positive protection. It is reported that the entire job was completed substantially ahead of schedule due in great part to the use of the barrier system.

Barrier Systems, Inc. has been granted an exclusive manufacturing and sales license for the United States and Canada, and is actively working on the development of the system. For more information, please contact us at our Sausalito, California location. A representative will be happy to review the system and can furnish a short film and/or additional photographs and details.

By Barrier Systems, Inc.

DAVID A. REESE, III
Regional Manager



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PEOPLE in the news

RECEIVES OUTSTANDING ENGINEER IN GOVERNMENT AWARD FOR 1985



Richard F. Beaubien

City of Troy Transportation Engineer, Richard F. Beaubien received the Outstanding Engineer in Government Award for 1985 at a ceremony at Greenfield Village in Dearborn, Michigan. The Michigan Society of Professional Engineers award is intended to recognize engineering accomplishments and service to the profession. The criteria for the award include education and collegiate achievements, professional activities, community involvement, and engineering achievements.

Beaubien has been active in several engineering societies. He is Past-President of the Michigan Section, Institute of Transportation Engineers, and currently serves on the Institute's International Board of Direction. He is also Past-President of the Southeast Michigan Branch, American Society of Civil Engineers. In addition, he has been appointed to two advisory committees for the National Academy of Sciences - one on citizen participation in transportation and one on pavement markings. He has authored several articles for engineering journals.

NEW ORLEANS MEETING DRAWS ENTHUSIASTIC CONTINGENT FROM MICHIGAN



This smiling-happy group represents Michigan's attendance at the recent Annual Meeting in New Orleans. We invite all Michigan Section members to join us in Indianapolis, September 7-11, 1986. See you there for some old fashioned Hoosier Hospitality!

HISTORICAL MATERIAL WANTED

The Bentley Historical Library at the University of Michigan is a depository for Michigan Section historical material. If anyone has any old Michiganites, membership information, Section accomplishments, awards won, or any other memorabilia please send the material to Don Wiertella or Bob Lariviere.

TELEVISION HAS ITS REDEEMING FEATURES

It is in the interest of complete reporting that we give you the following: Brain-numbing it may be, but watching television cuts exposure to a serious brain disease, mosquito-borne encephalitis. Reviewing historical data, medical researchers here in California have found that counties with the most TV sets have had the lowest encephalitis rates, because people stay indoors more.

(Next summer if your wife asks you to forget the baseball game on the telly and trim the *&##@* hedge, respond quite calmly: "My dear, would you have me subject myself to serious risk of contracting encephalitis merely to trim the hedge?")

Reprinted from Digest, February 1, 1985

MICHIGAN LIFE SAVERS '86 TRAFFIC SAFETY CONFERENCE

Plan now to attend Michigan's only statewide conference on traffic safety. Mark your calendar for May 14-16, 1986. This three-day event will be held at beautiful Boyne Mountain resort in Michigan's northland, and will bring together hundreds of traffic safety workers and volunteers from across the state. For information contact:

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1986 MEETING SCHEDULE

<u>Date</u>	<u>Location</u>	<u>Host</u>	<u>Event</u>
February 13	Farmington Hills	Cubera	Lunch/Technical Session
March 21	Lansing	Etelamaki	Lunch/Technical Session
May 15	Southfield	Savage/Northrup	Vendor's Day
May 29	Grayling	Slater	8-hour Technical Session for Local Governments
Spring	S. E. Michigan	Carrier/Henry	Couples Night
June 12	Warren Valley	Nustad	Golf/Dinner
July 25/26	Mt. Pleasant	DeWitt	Family Weekend
September 4	Saskatoon ●	Meredith	Golf/Dinner
September 7-10	Indianapolis	Bacon	National Meeting (9-8-85 Mich. Section Breakfast)
October 16	Ann Arbor	Feldt	Lunch/Technical Session
December	Metro Area	???	Annual Meeting/Technical Session

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