Michiganite

SUMMER 1986 VOLUME XXI, NUMBER 2

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

Vendor's Day 9th Annual Product Display

PRESIDENT'S COLUMN

FROM THE DESK OF . . .

RICHARD A. CUNARD

John Naisbitt, author of Megatrends, begins his outlook for 1986 by predicting that "Michigan will go down in history as the comeback state." He cites Michigan's aggressive pursuit of new industry and economic development as the cornerstone of that comeback.

The opportunity offered to Michigan through this economic development also poses a challenge to us, the transportation professionals. Economic development and growth place new demands on the very services that first attract the new businesses. We must expect and deal with the increased traffic congestion which will result as more workers, goods, and services use the road system to reach new industries and businesses.

Traffic congestion which only a few years ago was restricted to the "downtown areas" of our large cities, has now become a major concern for surrounding suburban areas as economic development results in more and more traffic. While established travel routes will continue to carry much of the increased volume, new travel patterns are emerging. Trip origins and destinations are becoming more widely dispersed, as more and more trips begin and end in the suburbs. Corridors in which traffic flowed smoothly only a few short years ago now have bumper to bumper traffic. Stop-and-go traffic that used to occur only during the morning and evening rush hours now continues all day.

It is not unusual for multiple major developments of millions of square feet each to be completed within a suburban community in a span of three to five years. By contrast, a traditional city downtown took several generations to reach their present size and density. Unlike the roads in gradually developing central cities, the suburban road system does not have the time to gradually come to full development.

Many of Michigan's most urgent needs for road improvements are in suburban jurisdictions which do not have a staff of transportation professionals. In order to attain the most efficient use of the existing roadway system, traffic operations must be improved. However, this requires competent professional staffing to conduct the studies and to implement the operational improvements. Often, these jurisdictions must depend on others for this expertise, including the developers.

See PRESIDENT . . . page 2

The 9th Annual Product Display was once again a great success. It was held on Thursday, May 15 in the Southfield Department of Public Service garage; one of the nicest facilities of its kind anywhere.

A record was set this year with 27 displayers paying to show their products and services. Pictures of each displayer are shown on the inside pages of the Michiganite. Attendance this year was good but could be and should be better. People attended from many cities and counties from southern lower Michigan and from as far away as Marquette in the upper peninsula.

Over 1200 brochures were mailed this year to ITE, IMSA and MPA members, all county/road commissions, many city engineers and managers, public works directors and purchasing agents.

Plans are already underway to make next year's show bigger and more enjoyable, with particular emphasis on increasing the attendance. So be prepared.

Special thanks again go to the City of Southfield for letting us use their great facility and to Bob Northrup, Marv Misiak, and Sandy Wedyke for their help in making it all possible.

PROGRAM FOR CONTROLLING SPEEDS ON RESIDENTIAL STREETS

Complaints of speeding on residential streets are a continuing problem for local traffic engineers and police departments. The observations below describe the experiences in Troy, Michigan dealing with this problem over the past ten years.

Because the complaints of speeding in residential areas are often emotional, it is important to put the problem into perspective. By understanding the nature of the problem, we may be able to arrive at better solutions for our citizens.

Speeding on residential streets appears to be a seasonal problem. In Troy, the complaints of speeding on residential streets virtually disappear during the months of November through March. As residents spend less time out of doors the problem or perceived problem seems to disappear.

In 1984, 86 percent of the accidents and 96 percent of the injury accidents in Troy occurred on arterial streets rather than on residential streets. This fact leads us to conclude that transportation professionals should be spending more than 90 percent of their time dealing with the problems of accidents on arterial streets. However, because the speeding problem in residential areas in "close to home", traffic engineers and police departments spend a disproportionate amount of their time addressing problems on local streets which are not relevent to accident experience.

See CONTROLLING SPEEDS . . . page 4

PRESIDENT . . . continued from page 1

Many of the long-range transportation studies for our major urban areas were conducted during the late 1960's and early 1970's when demographic conditions and travel patterns were different. There is a significant cost involved in conducting these studies, and the tight budgets of recent years has hampered the efforts to keep these plans current. In addition, many rapidly growing suburban areas have not conducted their own comprehensive long-range transporation studies to document their own needs for the future.

Although we can expect that there will never be enough money to meet the perceived needs for road improvements, the magnitude of the traffic congestion problem requires that short-term and long-term funding solutions be developed.

For the short-term, the level of funding made available to address the traffic congestion problems needs to be increased at all levels of government. In addition, there has to be a greater participation of the private sector in funding the needed road improvements.

At the state and local levels more emphasis should be placed on innovative techniques for financing the needed road improvements. Current legal barriers to the implementation of many of these techniques, which are otherwise feasible, should be removed. Restrictions on the development of Tax Increment Financing Authorities (TIFA's) is a case in point. With a TIFA, a local jurisdiction could capture the increased property value in a defined area to pay for the necessary improvements to the road system required by the development of that area. Thus, a jurisdiction would be able to get the businesses that are benefitting by the road improvements to fund the improvements without having to tax the citizens. Many communities were considering the establishment of a TIFA in order to pay for the necessary road improvements in high development areas. However, because of opposition from the school systems which did not want to lose that increased revenue and recent Attorney General rulings, most communities have abandoned their TIFA plans.

Restrictions on the county road commissions ability to require off-site road improvements as a prerequisite for driveway permit approval should also be removed. By enabling a road commission to require that the developer fund the needed road improvements necessary to handle the traffic generated by his site's development, will ensure that the improvements will be made to the road system at the time that the development occurs.

See PRESIDENT . . . page 3

MICHIGAN SECTION ITE - TREASURER'S REPORT

Balance: February 28, 1986	$4,446.35
Receipts:	
Dues and Interest	$ 771.43
Michiganite Ads	220.00
Meetings	754.00
	$1,745.43
Expenses:	
Meetings	$ 682.33
Michiganite	478.00
Postage	29.04
Printing	145.98
	$1,335.35
Balance: April 30, 1986	$4,856.43

Treasurer, David C. Bacon

MICHIGANITE

Official Publication of the
Michigan Section
Institute of Transportation Engineers

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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).

1986 MEETING SCHEDULE

Date	Location	Host	Event
July 25/26	Mt. Pleasant	DeWitt	Technical Session/ Family Weekend
September 4	Saskatoon	Meredith	Golf/Dinner
September 7-10	Indianapolis	Bacon	National Meeting (9-8-86 Mich. Section Breakfast)
October 16	Ann Arbor	Barnes	Lunch/Technical Session
December 4	Metro Area	Smiadak	Annual Meeting/Technical Session

PRESIDENT . . . continued from page 2

At the federal level, the percentage of funding available for the Federal-aid Urban System should be increased. The current Federal-aid Urban System carries 22 percent of the vehicle miles traveled in the United States, yet receives only about seven percent of the funds dispersed from the Highway Trust Fund. Highway users in the urban area are in essence subsidizing the rural programs. The Federal-aid Urban System program was the only major highway program which did not receive an increased authorization from the additional five cent gas tax approved in 1982.

In the longer term, with the Interstate System nearing completion during the 1990's, a new major legislative thrust should be considered to lay the ground work for the transportation needs of the future. Our existing highway system will need renovation and with a growing economy and continued growth in most urbanized areas, a plan must be developed to meet the infrastructure needs of the future.

In order to address the many facets of the traffic congestion problem, a cooperative effort of all the players is needed. That is, all levels of government - federal, state, and local must work closely with the private sector to seek solutions to the growing problem. If we do not meet the need for better roads soon, traffic congestion will strangle Michigan's economic resurgence.

ANNUAL COUPLES NIGHT

The Annual Couples Night previously known as Ladies Night or the less sexist Spouse Night, was held April 18, 1986 at the Lansing Sheraton Hotel. Hosted by the Hospitality Committee of Jerry Carrier and Herb Henry, the event was acclaimed a resounding success by the 80 revelers present.

Attendees were treated to complimentary hors d'oeuvres accompanying the cash bar prior to a delicious meal of fancy fish or fancier chicken.

Live music for dancing was provided by the Roger Clark Band, a versatile group that Kurt Kunde, MDOT, found, who delighted the audience with a range of hits from the 40's to the 80's. The band's musical high coupled with the open bar provided mix of social interaction that was aptly capped by the sobering effects of Herb's hotdogs. Those Southeast Michigan folks who did not avail themselves of the overnight accommodations then started the long trek home, with the Lansing group having but a short drive for a change.

Thanks to all who attended for making Couples Night a success and to those who contributed their time with the arrangements, especially Pat Maki who handled the registration.

By Bob Maki (No Fool)

MICHIGAN STAYS IN COMPLIANCE WITH 55 MPH CRITERIA

Driving speeds on state highways have declined in recent months, enabling Michigan to stay in compliance with the national 55-mile-an-hour speed limit. That was the report in November from State Transportation Director James P. Pitz and Col. Gerald L. Hough, State Police Director.

Statewide monitoring by the Michigan Department of Transportation (MDOT) shows that 49.8 percent of all vehicles operating on all highways signed for 55 mph are exceeding the speed limit. Last year, 49.7 percent were going over the limit, up from 48.5 percent in 1983.

If the total exceeds 50 percent, the state could lose up to 10 percent of federal highway funds allocated for work on its primary, secondary, and urban systems highways. Michigan's potential penalty is about $10 million a year, the cost of resurfacing about 100 miles of rural two-lane highway.

MDOT projections based on the first half of the 12-month survey period indicated Michigan would not be in compliance, Pitz said, but the number of speeders declined significantly in the three months ending September 30.

Primary reasons for the decrease, he said, are a stepped-up enforcement effort by State Police and greater public awareness of the enforcement program and the need to ease up on the accelerator.

Hough said State Police activities since early August have ranged from assignment of more personnel to speed enforcement to greater use of aircraft for speed timing, strategic use of unmarked patrol cars and wider application of electronic devices to discourage the use of radar detectors known as "fuzz busters."

Hough, under requirements of federal law, indicated he will certify to the Federal Highway Administration that Michigan is in compliance with the national speed limit adopted during the Arab oil embargo of 1973-74.

The driving speed for Michigan motorists was obtained by averaging data from 973,538 vehicles that passed 44 monitoring sites located throughout the state on all types of highways.

Average driving speeds range from 62.9 miles per hour on rural interstate freeways down to 53.3 mph on other principal rural arterial highways. The average on urban non-interstate freeways is 59.5 mph. The proportion of motorists exceeding the limit ranges from 84.7 percent on rural interstates to 41.7 percent on major rural collector highways.

Reprinted from TSA Newsletter

CONTROLLING SPEEDS . . .

continued from page 1

A majority of the speeding violations issued in residential areas go to residents of that street or to streets in the immediately surrounding area. This fact would lead to the conclusion that residents of the area can address their problem by increasing awareness in the neighborhood.

In Michigan, the lowest speed limit permitted under state law (except in park areas) is 25 mph. A 25 mph speed limit may be unreasonably low in new subdivision areas with adequate street design standards. Naturally, residents insist that the speed limit be as low as possible in their neighborhood, although the design speed on their street may exceed 25 mph. Motorists who travel local streets every day tend to travel closer to the design speed than the speed limit, and this creates observed speeds in excess of the posted speed limit. This condition is viewed with alarm by neighborhood residents, but it may not actually be a traffic safety problem since the design speed may be greater than 25 mph.

The speeding problem on residential streets tends to be related to the problem of "through" traffic in residential areas. This problem area is, in part, a symptom of inadequate capacity on major arterial streets. If adequate capacity were available on the arterial streets, "outsiders" would likely stay on arterial streets rather than seeking alternate paths through residential areas.

Before and after speed studies conducted in the city of Troy indicate that stop signs are not effective in controlling speeds. We have found that compliance with these stop signs is very poor, and over a period of years the compliance degrades to a point where motorists behave as if the sign were not present at all. This degradation as shown in the table below indicates the compliance rates for stop signs installed to control speeds on residential streets in Troy.

STOP SIGN OBSERVANCE

	1975	1985
ANVIL		
Full Stop	25%	13%
Roll Stop	64%	60%
No Stop	11%	27%
NIAGARA		
Full Stop	51%	21%
Roll Stop	34%	74%
No Stop	15%	5%
ROBINWOOD		
Full Stop	26%	16%
Roll Stop	48%	65%
No Stop	26%	19%

A program for identifying the owners of vehicles found to be speeding through license plate number reports has been somewhat successful in controlling speeds. In this program, neighborhood residents report license plate numbers to the police department. The police department locates the vehicle owner, through the Secretary of State's records, and writes to the vehicle owner requesting safer driving practices and compliance with local traffic ordinances. One of the effects of this program has been to convert many of Troy's younger drivers into pedestrians. These younger drivers found that a vehicle was no longer available to them after the vehicle owner learned how it was being used.

By Richard F. Beaubien, P.E.

PORTABLE DISK CHANGEABLE MESSAGE SIGN

Recently, the Michigan Department of Transportation's District 7 office hosted a meeting located at the Kalamazoo County Road Commission to view a "Portable Disc Changeable Message Sign". Through its motion, the Portable Disc Changeable Message Sign attracts and holds the motorist's attention and creates an awareness of changing road conditions in any situation.

The secret to the system is the light reflecting, electro-magnetically controlled "disc" and "seven-segment elements". Reflective "disc elements" are arranged in a 5 inch x 7 inch matrix for full alpha-numeric and graphics capabilities. Covered with fluorescent material on one side and flat black on the other against a black background, these high contrast elements provide wide angle visibility and message clarity.

The reflective elements require only one micro-second pulse of power to rotate and then will retain their settings without any additional power draw which equates to a 95 percent energy savings.

This sign has proven to exhibit greater reliability, less maintenance, greater reflectivity with no nighttime glare and withstands wind speeds of 150 miles per hour. This sign provides the motorist with superior visibility, readibility, and flexibility to meet any conditions found on the roadway today.

By Tim DeWitt

STRIPING MATERIALS VARY IN DURABILITY, UTILITY, COST

Continued from Spring 1986 Issue

Extruded thermoplastic

Hot-applied thermoplastics are thick pavement marking materials consisting of resin binder, reflective glass beads, color agents, and inorganic filler. The extruded thermoplastic was placed at a thickness of 90 mils using a die. A maximum drying time of 15 minutes was specified.

One project involving extruded thermoplastic was completed in the summer of 1982, pavement markings at narrow bridge locations throughout the western portion of the state. Slightly over one million linear feet of centerline and edgeline were placed at a cost of 47 cents per linear foot. The unit price was high due to excessive travel necessary between various bridge locations. A more typical price would be 25 to 35 cents per linear foot. The material was extruded through a die and then beads were sprayed onto the material.

White lines have maintained reflectivity well while yellow lines have suffered a significant loss in reflectivity. In one instance, the surface of the line contains numerous small holes, diminishing reflectivity. The holes may have resulted from placing the material at an excessive temperature, which allowed surface beads to sink into the material.

No significant durability problems have been experienced. All material was placed on bituminous pavements. None was placed on portland cement concrete because of previously reported durability problems.

See STRIPING . . . page 13

MARCH LUNCH/TECHNICAL SESSION

On Friday, March 21, 1986, 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.

The technical session began with a presentation by Mr. Daniel Lee of MSU's Highway Traffic Safety Center on "Reconstruction of the Highway Accident". Dan went through the five levels of investigation which includes the reconstruction process, the at-the-scene investigation, technical preparation, professional reconstruction and cause analysis. He mentioned that through programs developed at Michigan State University, assistance will be provided to the police in addressing accident investigation. A brief description of these programs was provided to those in attendance.

After Dan's presentation, Mr. William Savage of the Michigan Department of Transportation and Mr. David Morena of the FHWA, presented a discussion on "The Impact of the National 55 MPH Speed Limit." Mr. Savage indicated that prior to the oil embargo of 1972, the average highway speed in Michigan was approximately 67 MPH and that although motorists decreased their driving speeds initially to help conserve energy, today's average speed is approximately 63 MPH. Although many studies correlate a decrease in accidents with the lower speed limit, there are other variables which have had a significant impact on the reduction. These included such things as lower traffic volumes, safety programs that removed roadway obstacles and hazards, improved vehicle interior design, improved public awareness on the use of seatbelts and the effects of volunteer safety groups such as MADD and SADD. Bill suggested that there may be some benefits to raising the 55 mph speed, at least on certain roads, and he suggested further study by transportation professionals to determine the merits of this suggestion.

Mr. Morena's viewpoint on the other had, evolved around the question "does speed affect safety?" Dave disagreed with some of the statistics presented by Bill. He also pointed out that in an accident situation, you are safer driving at a lower speed than a higher speed. In addition, there was some discussion regarding the benefits of energy conservation through reduced fuel consumption. The two speakers, presented a good cross section of views on both the pros and cons of the existing 55 MPH speed limit.

The final speaker of the morning session was Don Shelton, of SEMCOG, who gave a brief overview of the closing of the Lodge Freeway for construction. He stressed that improved communication and driver awareness were among the biggest factors in implementing the reconstruction of the Lodge Freeway. He discussed some of the innovvative plans in these areas and highlighted the proposed construction scheduling for the 1986 year.

At noon, a buffet luncheon was held in the skylight pool room which provided a pleasant atmosphere. After the luncheon, Dr. Adrian Koert, Professor Emeritus of Michigan State was presented with a lifetime membership to the Institute. Dr. Koert has been known for his teaching and work within the traffic field for many years.

After this presentation, Mr. Martin Parker, of Martin Parker and Associates, discussed the need for "Automated Data Collection." He discussed several counting systems, including the VC 1900 and the K-Pro 2000 Computer. He also discussed additional uses for the computer and related equipment in traffic data collection.

Our next speaker was Mr. Charles Zeeger of Goodell-Grivas, who discussed the "Effectiveness of Alternate Right Turn on Red Signing Procedures." His discussion included a research paper completed by Goodell-Grivas for the FHWA which evaluated a number of countermeasures relative to right-turn on red. He mentioned that it was difficult to obtain adequate data for the study. This was due to the low number of accidents involving right-turn on red movements and because, it was difficult to identify and tabulate accidents as right-turn on red related. Charlie provided several countermeasures from the report which included sign variations, signal variations and design changes, and pavement marking changes.

Mr. Tom Malek, of Michigan State, followed with a short discussion on the "Accident Differential of Rural Motorists vs. Urban Motorists". Although rural motorists seem to have a lower proprensity for accidents, this may be due, not to the drivers themselves, but to the fact that the difficulty associated with the driving task in an urban area is significantly higher than that encountered in rural situations.

Our last speaker was Tom Krycinski of the Office of Highway Safety Planning, who presented a short synopsis of the State of Michigan's current proposal for the use of sobriety checkpoints. Tom indicated that currently 39 states conduct sobriety checkpoints and that under the Michigan Vehicle Code, the state has the authority to provide this type of enforcement. Furthermore, court guidelines indicate that, in general, checkpoints have been validated as a proper and legal way to enforce traffic violations. Tom answered several typical questions regarding the use of sobriety checkpoints in Michigan and also answered questions from the audience related to this proposal.

We would like to thank all the speakers who took the time to share their individual expertise with our membership. Special thanks should be given to the host, Glen Etelamaki, and the program chairman, Tom Malek, for the excellent meeting arrangements and technical program.

By James Cubera

ITE HEADQUARTERS TO MOVE IN 1986

The ITE Headquarters in Washington, D.C., will move to another office location during the middle of 1986 because of a change in ownership of their current building. At the January, 1986 Board of Direction Meeting, the Executive Committee was empowered to negotiate a settlement for the termination of the current lease and the execution of a new lease for office space in the Washington, D.C. area. It is likely that the new office space for ITE Headquarters will be within two blocks of the U.S. Department of Transportation building.

At the same January meeting, the 1986 Goals and Objectives for the Institute were adopted by the Board of Direction. These goals include:

a. Enhance the ITE Public Relations Program.
b. Implement an expanded Membership Professional Development Program.
c. Strengthen mechanisms for member input to local and national legislative issues.
d. Plan for the implementation of Future Directions for the Institute.
e. Improve communications between the members and the institute. Visits by the International President or other national officers to all Districts and Sections with a membership over 50 will continue in 1986.
f. Continue to expand the Institute's membership base.
g. Increase the pool of professionals trained and educated in traffic operations.
h. Expand the Institute's services for employment and placement.

At the January meeting the following items were discussed: 1) ITE will be sponsoring a National Conference on Site Development and Transportation Impacts in Orlando, Florida, March 23-26, 1986; 2) The ITE Traffic Signal Installation and Maintenance Manual is expected to be published by June of 1986; 3) The Committee on Future Directions of the Institute reported that the 1985 survey indicated that members wished to retain the Institute's current name and also wished to retain the existing membership grades; 4) Milwaukee was selected as the site for the 1991 Annual Convention.

Constitutional amendments to be placed before the membership during 1986 will include giving the Associated Organization Division a vote on the International Board of Direction. Currently only elected national officers and elected District Directors are permitted to vote on the International Board of Direction. The Technical Council Chairman and the Representative of the Associated Organization Division are represented on the Board of Direction but do not have a vote. Another amendment on the ballot for 1986 is a proposal to eliminate the Professional Engineering registration requirement for the Grade of Fellow.

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

POSITION AVAILABLE

ASSISTANT TRAFFIC ENGINEER - LANSING, MICHIGAN - Population 130,000. Salary $26,488-35,624. Excellent fringe benefits. Bachelor's degree in civil or traffic/transportation engineering and 5 years experience in transportation engineering required. Registered professional engineer preferred. Responsibilities include coordination and supervision of traffic operations (signs, signals, and pavement markings); planning, designing, reviewing and implementing traffic studies and analyses; assisting in the administration of the transportation division including budget preparation; and representing the division in meetings with other governmental agencies and the public. Submit resume to City Personnel, City of Lansing, 119 North Washington Square, Lansing, MI 48933 by August 8, 1986. EOE

VENDOR'S DAY PRODUCT DISPLAYS

Paul Carrier, Carrier & Gable, Inc. reviewing STIMSONITE Products with David Morena, Federal Highway Administration.

Paul Vanderhill, Carrier & Gable, Inc., speaking with Bill Andrews, Frank Spica, and George Smith all from MDOT about SIGNFIX materials.

Scott D. Landes, Regional Manager, CARSONITE, points to display with Roland Matte and Rich Cranston both of Wayne County Road Commission.

John Hippel, MAXI-SIGNAL PRODUCTS COMPANY, with Frank Spica and George Smith of MDOT.

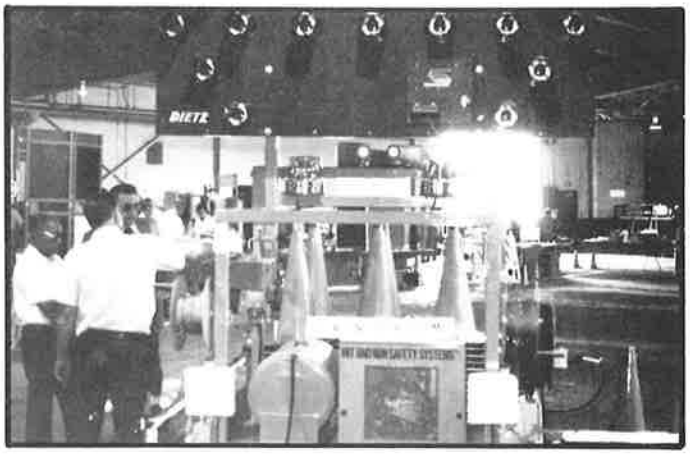
Paul Carrier, Carrier & Gable, Inc. with Ray Bronicki, Berrien County Road Commission looking at a REDLAND PRISMO marking machine.

W. Merv Teague, Account Representative 3M-MARKING explaining marking materials to James Green and Ed Bell from the city of Troy.

VENDOR'S DAY PRODUCT DISPLAYS

Dave Reese, Regional Manager for ENERGY ABSORPTION, talks with Dave Morena, and Tom Fort both of F.H.W.A.

Jim Walker, Sales Representative, Scotty Robertson, President and Sales Engineer, and Tim Miller. Sales Engineer with DIGGER & AERIAL pose with Bill Savage (MDOT), Vendor's Day Chairman.



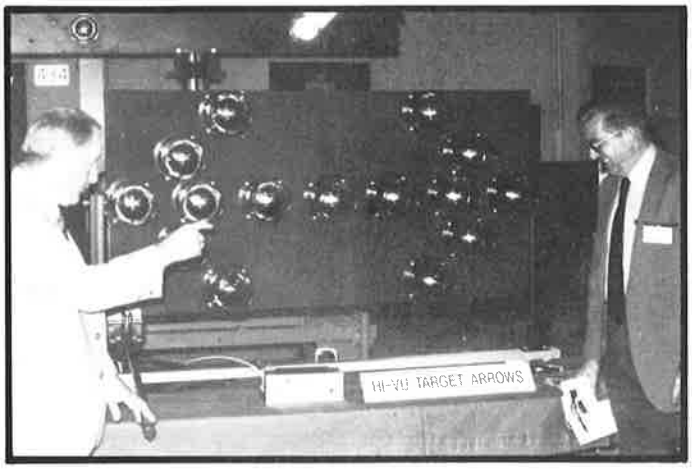
Ken Willson and Tim Willson, of HIT AND RUN SAFETY SYSTEMS, demonstrate their unit to Desi Strakovits and George Carrington of MDOT.

Steven J. Smith, Vice President, Brad Lilienthal, Regional Sales Manager of PAVEMARK CORPORATION, are entertained by Megan Willson.

Steve Greco, Vice President of DAYCO INDUSTRIES, INC., explains his sign fabrication process to Marc Bloom of Southfield.

DUKER-REILLY & ASSOCIATES, INC. representative Ray McPherson along with Stephen P. Powers, Sales Engineer, Pyrontenax Cable, describe display materials to Shelly Vailliencourt and Dennis Campbell of Clarkston.

VENDOR'S DAY PRODUCT DISPLAYS



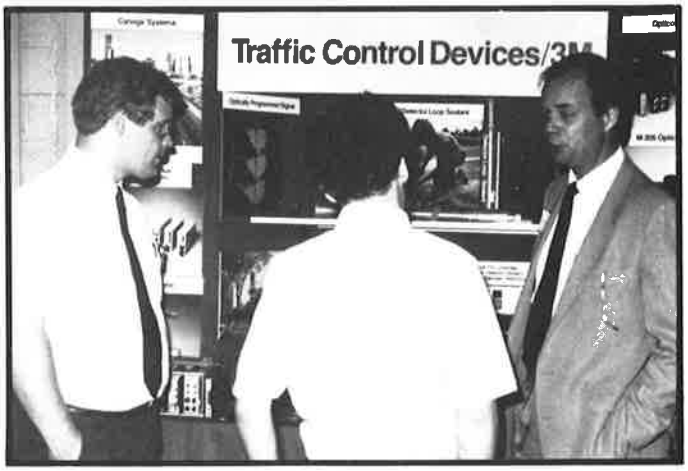
Richard F. Forestal, President of HI-VU, Inc. points to a HI-VU TARGET ARROW with Desi Strakovits, MDOT, looking on.

Robert Richason, Sales Manager, and George Wisman, Sales Representative, of UNISTRUT, with John Saller of MDOT.

Jack R. Wiitala (almost pictured), President of TRAFFIC & SAFETY CONTROL SYSTEMS, INC. explaining a system to Walt Ransom from the city of Lansing.

Cliff Connelly with his wife Fran, explain PATH MASTER, to Steve Makushik from Oakland County.

Richard H. Kremer, Central Region Sales Manager for SURFACE SYSTEMS, INC., displays a program for Richard Gould, of MDOT.



David S. Hawkins, Senior Account Representative from 3M talks with Duane Vosburg from Southfield. Jeff Boehm also with 3M looks on.

VENDOR'S DAY PRODUCT DISPLAYS

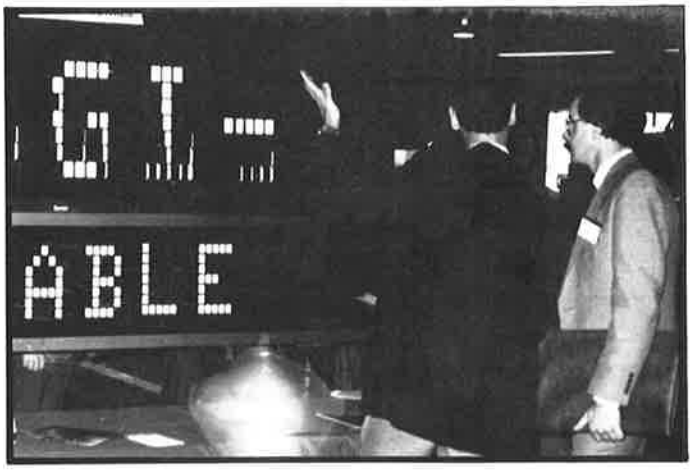
James R. Stemitz, Sales Manager of SARASOTA AUTOMATION watches while Charles Bernheardt from Southfield inspects the equipment.

Ted Morehead, Marketing Manager, INDICATOR CONTROLS CORPORATION, demonstrates a product for Bob Tally of F.H.W.A. Grace Morehead (left) and Tammy Penney also with F.H.W.A. look on.

Dave Bacon, Sales Manager, Carrier & Gable, Inc., and Duane Vosburg, Southfield look over the GENERAL TRAFFIC EQUIPMENT CORPORATION display.

Dave Bacon, Sales Manager, CARRIER & GABLE, INC. discusses traffic controllers with Paul Boulan with the city of Royal Oak.

George Lebbos, SMITH SIGN & SIGNAL, talks with Robert Northrup from the city of Southfield.



Ken Spiegel, Regional Manager, Marketing with TRANS-INDUSTRIES, INC. interests Joe Marson from the city of Dearborn in a changeable message sign.

VENDOR'S DAY PRODUCT DISPLAYS

Dave Snyder of JACK DOHENY SUPPLIES, INC. illustrates a point to Gene Grit of Grandville.

Dennis Noonchester, Sales Representative of HARCO GRAPHIC PRODUCTS, INC. puts his system to work for Dick Hedberg from St. Clair County.

Sandy Haines, MICHIGAN BARRICADING, talks with Michigan Section President, Rich Cunard.

Gary Shrefler, President of ASH INSTRUMENTATION, presents his product to Mike Goryl from Goodell-Grivas, Inc.

Lewis Alspaugh, President; Richard Dykstra, Applications Engineer; and Chris Frances of IDC CORPORATION answers questions from Tom Taylor and Duane Vosburg of Southfield.

Howard Seligson, Sales Manager with Interstate Material Supply Company is ready to explain his WINKOMATIC display.

NOTE: We would like to acknowledge the presence of WALKER BROTHERS. We regret the photograph did not turn out.

STRIPING . . . continued from page 5

Summary: Extruded thermoplastic initial reflectivity was high, but considerable loss in reflectivity was experienced later. No durability or appearance problems were noted. The locations included in the evaluation were low-volume roadways. An upcoming project will involve an alkyd extruded thermoplastic on a high-volume interstate. This material has the potential for use on higher-volume asphalt streets and highways. Unless reflectivity characteristics are improved, its use would be limited to lighted roadways. Price per linear foot for large installations would enhance its use on high-volume roadways.

Preformed tape, high-volume formulation

This tape or retroreflective film consists of plastic material, pigments, and glass beads. Beads are distributed throughout the film and form a layer bonded on the surface. The thickness was 60 mils. Tape was overlaid on existing pavements. According to the manufacturer, this tape is a highly durable, conformable, and a moderately reflective marking designed for use as words and symbols, lane lines, edge lines, and channeling lines on newly resurfaced roads.

PRR measurements show the tape had a very high initial reflectivity, but that level of reflectivity was not maintained over a period of years.

There were no problems with durability or appearance of the tape. After two years of service the lines have remained intact and maintained their color. In one example the stripe provides a good daytime line, but does not provide night delineation.

Summary: While there were no durability or appearance problems, reflectivity decreased dramatically. Its cost and reflectivity would limit its use to high-volume lighted roadways.

Preformed tape, low-volume formulation

This is a preformed tape having a metal-foil backing, a pigmented surface layer, and 1.75 refractive index glass beads. Thickness was about 25 mils. Tape was overlaid on existing pavements. According to the manufacturer, this tape is a highly reflective and moderately durable marking material designed primarily for use on streets having lower traffic volumes and free rolling traffic.

This tape was placed as a lane line along a few blocks of one street in Lexington in September 1982. The street has an ADT of slightly over 20,000. A typical price per linear foot of 4-inch stripe would be in the range of 50 to 60 cents.

PRR measurements indicated this tape had the highest initial reflectivity of any material. After one year, its reflectivity was still high, but it dropped dramatically after the second year to approximately the level of the high-volume tape.

The durability and appearance of this tape was satisfactory. The tape was placed on both concrete and asphalt and exhibited good durability on both.

Summary: This tape had the high initial reflectivity decreased dramatically over two years on a relatively high-volume street. The durability and appearance of this tape is substantially less than the high-volume road formulation tapes and use may be warranted on low-to-moderate volume streets having no lighting.

Epoxy thermoplastic

This is an epoxy thermoplastic material consisting of a binder, pigment, a calcium carbonate filler, and premixed glass beads. The material is sprayed at a temperature not to exceed 450 deg. F and at a thickness of 20 mils, which is also the dry-film thickness. Beads are applied at a rate of about 6 lb. per gallon. No coning is necessary since no-track time is less than five seconds.

Even though no epoxy thermoplastic was placed in Kentucky, the material has been used in several states in the past few years, and it is included herein for information. To evaluate this material, inspections were made of installations in Indiana. In the summer of 1983, Indiana let contracts in three highway districts totaling over one million linear feet at costs ranging from 14 to 17 cents per linear foot.

PRR measurements were obtained in 1983 and then one year later. Reflectivity of this material, especially the yellow, was not as high initially as other materials. Beads were applied at a rate of 7 lb. per gallon, which is lower than that for the solid epoxy and polyester paint but slightly higher than that used in typical traffic paint (usually 4 to 6 lb. per gallon). Measurements after about one year in service showed that the reflectivity had been reduced to low levels.

Significant durability problems were experienced after less than one year in service. One possible explanataion is that pressure-applied beads were used and may have cooled the paint too fast. The appearance or color of the material was retained after one year in service.

Summary: The epoxy thermoplastic installation suffered significant durability problems after less than one year in service. Problems have been experienced in several states and further placement has been delayed until the problems, which appear to be related to the application equipment and material formulation, have been resolved. Further testing may be warranted later.

Solvent epoxy paint

Epoxy paints use two-component epoxy mixed with a reaction-blocking solvent. In the presence of solvent, the mixture remains liquid up to 10 days. When sprayed at 15 mils wet, it dries to about 10 mils. About 6 lb. of pressure-applied beads per gallon of paint are typically used. At a temperature of 75 deg. F, it has a no-track time of 3 to 5 minutes.

This is another type of marking material that has been used in several states, but not in Kentucky. As with epoxy thermoplastic, an inspection was made of an installation in Indiana. In the summer of 1983, three projects involving about 1.7 million linear feet of this material were completed at a cost ranging from 9 to 13 cents per linear foot.

PRR measurements taken a few weeks after placement indicated very low reflectivity. A close visual inspection revealed the beads were originally embedded properly but had been lost. The bead pockets were clearly visible. No additional inspections were conducted because of bead retention failure.

Summary: The installation inspected had a complete loss of beads within a few weeks after placement. This would probably be related to either a problem with application or formulation. This material has been used successfully in other states, but additional testing would be necessary before it could be used in Kentucky.

Chlorinated rubber traffic paint

This typical traffic paint includes the paint binder and solvent as well as pigment and glass beads. The paint is applied at 15 mils wet, which dries to about 8 mils. Pressure-applied beads are applied at a rate of 4 lb. per gallon of paint. Chlorinated-rubber resins were used.

The Kentucky Department of Highways used a chlorinated rubber based traffic paint for the 1982 striping season and that was included in the evaluation. Beads were applied under pressure at a rate of about 4 lb. per gallon. The bead gun was aimed so that paint and the beads hit the pavement surface at about the same time. That procedure was used to obtain proper bead placement.

See STRIPING . . . page 15

PEOPLE in the news . . . .

ART GIBSON

Art Gibson, P.E. past President of the Michigan Section and past District 3 Director of ITE passed away suddenly on May 14, 1986. Art was well known for his active role in traffic engineering for over 40 years.

After receiving his Master's Degree in Civil Engineering from the University of Michigan, he joined the Michigan Department of Highways. He then worked as head traffic engineer for the city of Detroit where he retired after 21 years. He then headed the Safety and Traffic Engineering Department of AAA Michigan until his retirement in 1985.

Art, who held membership number 498 in the National ITE, had been active in ITE since 1948, when the Michigan Section had only 35 members. He was on the national board of directors for ITE from 1976 to 1978, and also was General Chairman of the 1974 National ITE meeting in Detroit.

Art Gibson pictured receiving an award from 1985 President Robert Lariviere.

Art was noted best for his no-nonsense approach to business and his quick wit in the social arena. He was active wherever traffic safety was an issue and one of the prime supporters of Michigan's Child Restraint and Safety Belt Laws.

Art is survived by his wife, Marge; four sons, Pat, Mike, Terry, and Brian; three daughters, Kathy, Nancy, and Deborah; and seven grandchildren. The family has asked that memorials be made to the Art Gibson Child Restraint Rental Memorial Fund, AAA Michigan, Safety and Traffic Area, 17000 Executive Plaza Drive, Dearborn 48126. The funds will be distributed to service agencies to buy child safety seats for low income families - Just the way Art would have wanted it.

The Michigan Section of ITE would like Marge and the family to know that Art was a true professional engineer and that he will be missed by his many friends, but the high standards he set for us will always be remembered.

By Bob DeCorte

RICHARD A. CUNARD

Rich Cunard, Traffic Engineer with Traffic Improvement Association of Oakland County received an award of appreciation at the Michigan Life Savers Traffic Safety Conference held at Boyne Mountain on May 16, 1986. It was presented by Karen Gulliver, Executive Director of O.H.S.P. The award read in part "In recognition of outstanding leadership and exceptional dedication to the promotion of greater safety on the public highways."

CONGRATULATIONS RICH!

MAX PHARES

Max Phares, Traffic Analyst, city of Battle Creek, formerly with Calhoun County, was ordained to the Sacred Order of Deacons in the Catholic Apostolic Church on May 3, 1986. He was ordained by the Rt. Reverend Howard Meeks, Bishop of West Michigan.

CONGRATULATIONS MAX!

RICHARD F. BEAUBIEN

City of Troy Transportation Engineer, Richard F. Beaubien, received the Outstanding Civil Engineer Award from the American Society of Civil Engineers Southeast Michigan Branch at their Annual Meeting in Detroit, Michigan, on April 26. This award is intended to recognize outstanding service to the engineering profession.

Beaubien has been active in several engineering societies. He is Past-President of the Southeast Michigan Branch, American Socity of Civil Engineers. He is also Past-President of the Michigan Section, Institute of Transportation Engineers, and currently serves on the Institute's International Board of Direction. 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. In 1985 he received the Michigan Society of Professional Engineers Outstanding Engineer in Government Award.

Beaubien is the city of Troy's Department Head responsible for traffic engineering and right-of-way acquisition activities. In this position he promotes the safe and efficient movement of people and goods. He is responsible for the planning, design, and operation of transportation systems within the city. He is also responsible for the right-of-way acquisition and relocation activities in the city. This includes acquisitions for highway, drainage, sanitary sewer, and water main projects.

PEOPLE in the news . . . .

BUCKLE UP WEEK

The week of February 10-16 was "We Love You, Buckle Up" in Kalamazoo County. The Kalamazoo County Seat Belt Task Force had numerous activities scheduled from a luncheon where Congressman Howard Wolpe received a "Saved by the Belt" award to a General Motors employee incentive program. One of the most rewarding activities was a poster contest for area grade school students.

Students, through their teachers, of the county's elementary public and private schools were invited to participate in a poster contest for **We Love You, Buckle Up** Week. The contest, divided into grades K-3 and 4-6, promoted seat belt use.

All students who participated received a coupon for a free dish of ice cream at the High Wheeler. They also received a roll of Lifesavers candy.

First place winners.

First place winners received $25.00, second place $15.00, third place $10.00, and fourth place $5.00. Also, the classrooms of first place winners received $50.00. The Michigan Section contributed $25.00 to this project.

The first place winner in grades K-3 was Kerrie Morgan, Kindergarten, St. Joseph School, Kalamazoo, Teacher Mrs. Carylle Hoffman.

The first place winner in grades 4-6 was Kristin Geltz, Grade 4, Angling Road Elementary School, Portage, Teacher Mrs. Sharon Nichols.

MDOT PERSONNEL CHANGES

Glen Etelamaki	- Transfer to District Traffic and Safety Engineer, Jackson
Adrian Sanchez	- Transfer to Materials and Testing Laboratory
Joseph Meszaros	- Promotion to Assistant Unit Head - Reflective Systems Unit
Thomas Rathbun	- Promotion to Assistant Unit Head - Electronic Systems Unit
Daniel Vreibel	- Promotion to Safety Programs Unit
Dave McKervey	- Transfer to District Traffic Technician, Jackson
Karen McDonald	- Promotion in Safety Programs Unit
Bob Briere	- Transfer to District Construction, Kalamazoo

Congratulations and Good Luck to All!

UNISTRUT DETROIT OPENS NEW OFFICE

UNISTRUT DETROIT SERVICE COMPANY announces the opening of their new office in Lansing. The new office offers the following services:

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STRIPING . . . continued from page 13

PRR measurements indicated the initial reflectivity was relatively high but had decreased dramatically after about one year in service. Test sections were restriped after one year in service, so no additional data were available. No durability or appearance problems were experienced during the one-year period.

Summary: This paint is substantially less expensive that the more durable markings. It will provide adequate reflectivity and durability for varying time periods based on traffic volumes. In most rural areas, it will provide a service life of one year. At high-volume locations, it must be restriped at least once per year. Its appearance is very good, having bright white and yellow colors.

Recommendations

Based on current data, expanded use it warranted for: 1) polyester paint on lower-volume asphalt roadways and 2) extruded thermoplastic on higher-volume asphalt roadways with lighting. A very high percentage of state-maintained highways are low volume; therefore, polyester paint could be used. About 80 percent of the total mileage included on the statewide roadway volume file has an ADT under 2,500.

The high cost of tapes precludes widespread use. No further use of the 100 percent solid epoxy thermoplastic or solvent epoxy paint is recommended until such time that additional testing proves problems have been resolved.

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