Michiganite

FALL/WINTER 1997 VOLUME XXVII, NUMBER 12

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

Section Activities Award - Our Chance to Shine

By Victoria J. Holland, P.E.
1997 Section President

Every Section President looks for a way to leave a mark that says that the Section has moved forward, even in some small way, and is somehow recognized for their progress. As our Section continues to grow in number, the current Board has tried to have activities that encourage involvement. Did you know that we are being judged on our efforts?

At the Annual Meeting, ITE International presents the *Section Activities Award* to the section that did the best job in the previous year promoting involvement in activities that meet the objectives of the Institute. Section member and Past President Dave Merchant, who is also the District 3 Award Coordinator, submitted the Michigan Section as a candidate for this award in 1997. He recently told me that he received a letter from the Institute saying that the Michigan submittal was good . . . but the Georgia Section won. As attendees of the Annual Meeting know, the Georgia Section received it's award this past August in Boston. (Michigan received this award in 1992.)

So where did the Michigan Section fall short in the competition? That is something that the 1997 Section Board has been thinking about, even prior to the competition. We, as a group, looked at our list of activities and considered what could be added to enhance our Section. Readers may remember in my first column I mentioned my desire to have a Section Technical Project. Such a project is fast becoming reality and will be completed by the end of 1997. I hope this project is the feather in the Michigan Section's cap that is needed to win the 1998 Section Activities Award.

What other information is considered by the Institute when judging the submittals? Let me summarize: a list of current officers and coordinators, membership types (regular, technical affiliate or student) and the number of each type, dues structure, financial information, technical meeting quantity and quality, awards and other activities. This sounds like a long list and it is! Just ask 1997 Section Secretary Mark Bott because he was charged with the responsibility of submitting all this information.

I think our Section has a lot to brag about when it comes to activities. Our Educational Fund is proving to be the standard that the other District 3 sections are aiming toward. And did you know that even with the *foulest* of weather, this year's golf outing could be termed a success because we raised $9000. Also, Michigan Section student members took both first and second place in the District 3 Student Paper Competition this year.

Our technical sessions have covered a wide range of topics, thanks to the efforts of Art Slabosky, Technical Coordinator. Each year, the attendance at each of our five sessions continues to increase.

Socially, we found out that this group certainly likes to golf. However baseball, even as a spectator sport in the best weather, is a function that needs more careful consideration by the Board.

So, members, keep up the participation. We are being judged on it. I hope the small mark I made this year will allow the Section to receive acknowledgment nest year in Toronto.

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MICHIGANITE
Official Publication of the
MICHIGAN SECTION
Institute of Transportation Engineers

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Dr. Christina Johnson Addresses TIA Gathering

by Lee Liston

On October 2, Dr. Christina Johnson, Director of ITS programs at FHWA addressed a breakfast meeting of the Southeast Michigan Traffic Safety Community on the future of intelligent transportation systems. The breakfast, held at Meadowbrook Hall was sponsored by Oakland County's Traffic Improvement Association and Ameritech. Following is a synopsis of her remarks:

The emphasis of FDOT and FHWA is turning to safety improvements. Dr. Johnson described a two prong approach to how traffic safety will be improved by implementing ITS technologies, infrastructure and vehicle related technologies. It is estimated that full implementations of ITS can bring about capacity improvements equivalent to road building at one third the cost.

ITS infrastructure investments can be expected to return benefit to cost ratios of 8:1 as opposed to the 4:1 ratio expected in traditional projects. Half of this benefit is expected to from accident reduction. ITS will bring a reduction in crashes and improved response to crashes.

Technologies expected to reduce crashes include:

- Ramp metering, which not only smooths weaving but improves flow for up to a half mile downstream from a ramp.

- Vehicle weight and speed detection to slow trucks approaching geometry which may cause tip over crashes

- Video enforcement at RR grade crossings

Vehicle ITS technologies should improve driver performance and occupant safety. Many feel that there are few cost effective vehicle improvements that can be made to protect occupants. The emphasis is therefore on crash prevention and improved emergency response. An example is automatic crash notification which combines GPS with a cell phone to call for help any time an air bag is deployed. FHWA is proposing a program of 26 services to enhance driver capability.These will be bundled into market groups and tested to evaluate driver response.

Michigan Section ITE Treasurer's Report
Executive Board Meeting
East Lansing, MI - Sept. 25, 1997

Section Fund Balance		$ 8,761.86
Section Regular Fund Balance	$ 7,667.42	
Education Fund Balance	-----	
Incident Mgt. Fund Balance	1,084.44	
Education Fund at National Balance		$33,452.01
ACTIVITIES JULY 9, 1997 THOUGH SEPT. 24, 1997		
Income - Section		$ 2,069.39
Dues	$ 531.00	
Interest	69.39	
East Lansing Meeting	1,336.00	
Transfer from Ed. Fund	133.00	
Expense - Section		$ 1,759.32
Postage	$ 185.00	
Meetings (July Tech.)	1,574.32	
Income - Education		$ 0.00
Expenses - Education		$8,827.59
Transfer to Regular (July Session)	$ 133.00	
Student Paper Competition Awards	300.00	
Student Paper Competition Plaque	62.00	
MSU Student Chapter 1998 TRB Triip	500.00	
Transfer Balance to International	7,832.59	
Income - Education Fund Balance at National		$10,417.64
Transfer from Section Education Fund	$ 7,832.59	
Interest (3/97 - 8/97)	206.18	
Market Value Adjustment (3/97 - 8/97)	2,378.87	
Expenses - Education Fund Balance at National		$ 0.00

ITE MICHIGAN SECTION ANNUAL MEETING

December 11, 1997

Farmington Hills, MI

Host: Kevin McCarthy
(248) 473-9590

TIA'S 30-YEAR OVERNIGHT SUCCESS STORY!

By: Frank P. Cardimen, Jr. President - TIA

The community's outrage in 1965 about the spiraling traffic death toll of 206 citizens led to the birth of the Traffic Improvement Association of Oakland County (TIA) in 1967. Since the beginning, TIA has been Oakland County's information broker providing traffic crash data, engineering support and analyses, training, coordination, public support, advocacy, education and public information about traffic safety issues. TIA's professional traffic engineer and staff continue to provide needed services to all 62 communities with traffic crash data reports, leadership support with local traffic safety committees, traffic counts, and many other local engineering needs.

During these past three decades, TIA received state, national and international accolades and has been labeled by leading authorities as the traffic safety model for the nation. This 30-year overnight success story is a direct result of the long-term financial and human commitment to traffic safety from local communities, law enforcement agencies, the education community, businesses, citizens, the Road Commission and government of Oakland County.

Through the many programs developed over these years, human suffering and lives saved have been the hallmark of TIA's quest. In 1996, TIA can report that 89 traffic fatalities occurred in Oakland County....down from 112 in 1995. Traffic fatalities per 100 million vehicle miles traveled is 0.7. **This traffic fatality rate is the best in Michigan, U.S.A., and the world!** Oakland County also has one of the highest safety belt usage rates in Michigan - 74%. Twenty-five alcohol-related fatalities were reported in 1996 - the lowest number on record along with the lowest percent of fatalities caused by alcohol - 28.4%.

These successes are a tribute to TIA's agency members, traffic safety partners, volunteers, and community leaders who have invested human and financial resources to reduce Oakland County's traffic safety problems in spite of an increase of 850,000 residents, an increase of 9 billion road miles traveled and over 500,000 new jobs created in our county since 1966.

"In spite of these accomplishments, there is still much to do," said Frank Cardimen, TIA's current president. "TIA will continue its role as information broker to reach our goal of zero fatalities from drinking and driving and lack of safety belt usage," Cardimen continued.

TIA is committed to continuing its leadership into the 21st century.... ***and so the legacy of this 30 year overnight success story continues!***

New Members

ITE membership applications have been approved for the following people:

Stephen Matheny
Eric Polvi
Jeff Bassil
David J. Paul
Edwards Veczíedins
Sami Khaldi
James Vanek
Balam Reddy Sudheer Reddy
Yi Wang
Nakmoon Sung
Huey-Yi Sung
Main Krunz

ITE Michigan Section Technical Session Notes - July

by Shirley Wollner

A big "Thank You" to Jay Gailitis and Janice Brander for their assistance in compiling the notes for the July Technical Session.

Dr. Tom Malack hosted the Michigan Section at the University Club of Michigan State University in Lansing. The first speaker, Richard F. Beaubien, transportation director of Hubble, Roth & Clark, addressed the topic, "*Michigan Makes it Happen in ITS*". His video, "Today; Reality: ITS America" gave an overview of ITS in America, including the marriage between transportation and technology. Mobility Manager-Path Master System covered applications of vehicle tracking systems, accident warning systems, and truck weight monitoring. A second video covered ITS in Michigan including; Adaptive Traffic Controls - signals that change as traffic changes, changeable message signs, ramp metering, University of Michigan Smart Bus, and "Strategic Alliances" - partnerships between universities, manufacturers, government, and the public. The traffic engineering portion is the last 10% that makes the alliance work.

Dick then reviewed the Detroit project and defined ITS as the application of computer and communications. He described the information hub and all of its components. Expansion of the Detroit system will increase the instrumented system from 32 to 180 miles, increase the number of changeable message signs, and add a radio advisory system. He also presented the MDOT communications network of loop detection towers, microwave dishes, and cameras.

The next speaker, Donna Snover of ODETICS, addressed the topic, "*Incident Management of Arterial Streets.*" She went through the FAST-TRAC system and how business, SCATS, media, transit authorities, and police interrelate with the traffic operations center. "ER/net" on the web records incidents that occurred. This can be accessed only by authorized users. Emergency personal can easily input records, and traffic engineers can easily access these to recommend action. This system can also be used for post-evaluation purposes. Fifty CCTV cameras can eventually be added. "SCATS" (Sydney Coordinated Adaptive Traffic System) detects current congestion and compares it to historical/typical conditions, then adjusts the signals appropriately and coordinates traffic between arterial roads and freeway systems. A step-by-step demonstration took a scenario from incident to traffic engineer.

"*The Latest News in Paint Striping and Retroreflectivity of State Roads*" was the next presentation given by Brian Zimmerman of the MDOT Signs Unit. Regular dry paint will be discontinued as it does not meet standards, and leaves no alternatives for cold weather. A federal proposal states that by 1999, a year-round retroreflective material must be devised that lasts through the winter."Mobile Technology" is available that can evaluate corridors of 300 miles in a day rather then the current spot measurements. One reflectrometer costs $200,000. There has to be enough paint to hold the beads, and enough beads to meet retroreflectivity minimums. Contractors now have to meet these minimums after 60 days, and are concerned.

Tom Kryzinski made the Student Paper Award presentations. All three winners were from Michigan State University. Mousa F. Abbassi won 1st place in the District, and 2nd place in the mathematics section for his paper, "*Intermodal Freight Transportation*". He illustrated the movement of freight across the United States in dollars and quantity, named the current technologies and went through the governments roll and showed how IFT optimizes the system and listed the pros and cons.

Jung-Taek Lee won 1st place in the Michigan section. His paper was entitled "*Incident Detection Algorithm for Arterial Streets.*" Issues included dependency on data, transferability,adaptability,and availability, goals, and requirements. He went through the Kalman Filtering Application to incident detection and showed how a field test on this model matched model predictions.The model is more simple and less data dependent.

Following lunch, the topic "*(Almost) Everything you Always Wanted to Know about Parking Design and Driveway Access*" was addressed by Willard A. Alroth, a traffic engineering consultant with Paul C. Box and Associates, Inc. He presented the relationship between design and operations from the view of the driver and the pedestrian, and went over the parameters including aisle width, stall and depth. He named design guidelines for both large and compact vehicles, and illustrated a mix of parking stall sizes on one site to optimize size and shape of the parking lot.

Alroth gave the advantages and disadvantages of the one-size-fits-all layout. The Paul Box firm concluded that the double-lined stall with the same stall width does not reduce encroachments. This reduces encroachments, according to Paul Box, but studies show that this is not true. The disadvantages of wheelstops were itemized, as were the items that need to be considered in parking lot layout: handicapped ramps, lighting, drainage, ramp/driveway areas, speed bumps, yellow/white markings, left turns, and sight obstructions.

Alroth then presented "*Preemption of Traffic Signals at or near Railroad Grade Crossings.*"This preemption should take place when there are lines across the tracks, when the tracks are too close to an intersection, or when trucks are across tracks. He then listed design elements to consider, signal sequences and program modes and emphasized the importance of cooperation between participating parties.

Tony Milo, of the Michigan Road Builders' Association, and Kevin W. Korpi, of the Michigan Chamber of Commerce, completed the day with "*Implications of the Governor's New Road Revenue Plans OR Is This What Michigan's Road Systems Were Cracked up to be?.*" The **"Fix Our Roads Coalition"** was formed because the state highways have been underfunded for the last decade. Michigan is last in the country to invest in highways and 2/3 of the bridges are functionally obsolete. The governor has since proposed and the senate passed a 4% gas tax to correct these problems.

The floor was then opened for discussion.

THE ITE DISTRICT III MEETING,
Hosted by the Michigan Section
Sept 25-26 East Lansing, MI

by Lee Liston

The Michigan Section was proud to host this year's District III Meeting at the Marriott Hotel in East Lansing. The event was attended by approximately 70 transportation professionals from Indiana, Michigan, Ohio and West Virginia. The 8 technical sessions covered a wide range of topics and was highlighted by a session conducted by Nazir Lalani from San Buenaventura, California. We were also privileged to have Mr. Jim Hanks, International President ITE as the keynote speaker on Thursday evening. Following is a condensed version of the technical sessions and Mr. Hanks remarks:

Sessions on Thursday, September 25

The first session on Thursday was a vendor's panel of Video Detection Systems, featuring Odetics Systems, Autoscope and the Peek Video Trak System. Each system was given a chance to make their pitch followed by a round table discussion of audience questions.

Odetics is a newcomer from Anaheim Ca., which is adapting video recording and storage technologies developed for NASA for traffic analysis. Their system uses high resolution image analysis to detect vehicle presence and passage. The system also collects enough infrared to be used in no visibility conditions such as fog. Autoscope is the video detection system employed by in Oakland County's SCATS project. The latest Autoscope 2004 camera claims a failure rate of just 4-5% of installed cameras each year. The Peek Video Trak System is based on military target tracking system technology. This is what allows a moving helicopter to fire guided missiles at moving targets. It also can be used for speed monitoring and other violation data collection . The system 'tunes" out background clutter to follow only moving vehicles.

All of the systems claim to be superior to detection loops. Cost per intersection range from $20k to $530k, not including processing equipment. These systems do not work well for pedestrian detection but do pick up bicycle traffic.

The second session featured the presentation of the Student Papers Award winners, who were our own Mousa F. Abassi and Darcin Akin from Michigan State. Mr Abassi work on Intermodal Freight Transportation: Opportunities and Challenges and Mr. Akins's analysis of the Highway Capacity Manual Delay Formula have been presented at Section Meetings. Both students received Scholarship checks from ITE. Congratulations!

The third session was on "Development and Implantation of Near Campus Neighborhood Permit Parking in East Lansing by James Bebermeyer, former Transportation Commissioner, E. Lansing. Mr Bebermeyer detailed the effort of the residential areas around MSU to defend their on street parking from spill over from the university. Although the streets may be open to public travel the U.S. Supreme Court has upheld preference parking rights for property owners. The City of East Lansing has set up an ordinance which allows street permit parking if the neighborhood submits a suitable plan. Each building is issued permits for residents and guests. The streets are then posted for permit parking only and it is enforced by the City. Just the approval of a majority of the residents is enough to implement a plan. This has been very successful in controlling parking in three areas right close to campus.

Jim Hanks, ITE international President was so kind as to substitute for Steve Fehribach. Mr. Hanks discussed transit priority at intersections. Since time is money for transit companies, the faster units can complete a run, the less units they need and therefore costs are lower. A municipality could realize a substantial savings by coordinating an actuated signal system to move buses through intersections. Communication is through transponders on the buses. Chicago hopes to save $60 million in capital costs by a $2 million invest in equipment for buses. Of course you have to have 1) a computer coordinated signal system and 2) a transit system first.

The final speaker Thursday was David Younger from the City of Columbus, Ohio speaking on that city's success with requiring traffic impact studies and requiring developer road improvements. The city has an ordinance which requires a Traffic Impact Study using the City manual for any development which generates 200+ peak, hour trips based on the ITE Trip Generation Guide. The study must cover to the next major intersection in all directions, cover 10 years or until buildout and detail improvements to keep the traffic LOS from deteriorating. This is not an impact fee, you just can't get your project approved unless improvements are made.

District III Dinner

The dinner Thursday evening included a brief District III business meeting. A district dues increased was passed. Ballots are no longer needed for unopposed elections. The next District III meeting will be April 22, 23, 24 1998, in Indianapolis. This earlier date will allow the International Vice President candidates to address the membership prior to the 1998 election. April 22 will be devoted to ITS.

The main speaker was once again ITE President Jim Hanks. Mr. Hanks remarked that America's superior mobility from the time of the colonies has got us to where we are today. We the members of ITE are guardians of this national treasure our transportation system. ITE now has 15,000 members in 80 countries around the world.

ITE's 1997 goals are to:

1. Address hot issues such as traffic calming
2. Improve the ITE Journal
3. Promote growth in membership
4. Strengthen ties between International and the local subunits
5. Develop and implement an international business plan.

These will help transportation professionals to continue to make a difference by making transportation safer and less expensive.

The evening was capped by a visit to a local brew pub.

Sessions on Friday, September 26

Friday's technical sessions started with a presentation by Barbara Arens and Lynda Powell of Parsons Brinkerhoff Detroit office on "Comparison of FHWA Simulation TRAF Programs and the HCM on Surface Streets and Highways". Ms. Arens provided the comparison for surface streets. The Highway Capacity Software version 2.1d was compared to traffic simulation programs such as Netsim and CorFlo Fresim and FreFlo. Traffic data was gathered from streets in downtown Kalamazoo. A large difference was noted in calculated delay. HCS calculated delay as much as 5 seconds lower than the network simulations. It was concluded that HCS is all right for stand alone intersections or crude analysis but for fine tuning signal system operations, a network model is needed. The need for good data and validation of the network model was stressed if the results are to be meaningful.

Lynda Powell looked at freeway operations analysis using I-94 in Detroit. HCS is limited to 5 total lanes and does not handle left side ramps. Auxiliary lanes are limited to 2300 feet. FreFlo does not differentiate between left and right ramps. Once again HCS was found to good for quick and easy analysis.

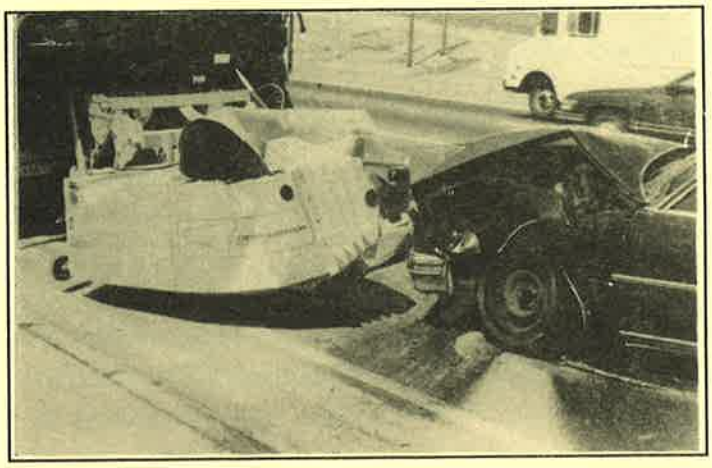
Dennis Eyler of SRF Consulting of St Paul, Minnesota talked on "Assessing Neighborhood Traffic Demands- When drivers avoid your street Where DO They Go? Mr. Eyler looked at several case studies from the Minneapolis area where drivers were short cutting through residential areas. Short cutting leads to problems with speeding , pedestrian safety, and crime potential. Mr. Eyler focuses on not only improving capacity on major streets but also on changes to the neighborhood which make it appear to be undesirable as a short cut.

We next heard from John Laplante of T.Y. Lin and Mike Hartigan of Chicago on suggestions for change in the MUTCD warrants for signals and stop control. Their suggestions come from their experience while working for the City of Chicago. In order to avoid the excesses in stop sign use seen there thy propose that different warrants need to be used for urban low volume, low speed streets. The urban neighborhood has a different set of problems than those covered in the Manual, relating to poor sight distance at intersections and on street parking rather than volume and accidents.

Suggestions were made for area warrants for accident reduction rather than individual intersections. The need to have an overall plan was stressed to avoid piecemeal traffic controls being forced on engineers by political demands.

The final speaker was ITE International VP elect Nazir Lalani of the City of San Buenaventura, who spoke on Traffic Calming in Australia and Innovative Programs in San Buenaventura. Mr. Lalani, in preparing a policy for San Buenaventura, studied what is being done in Australia which has very aggressive neighborhood traffic calming programs. The Australians strew their subdivisions with all manner of obstacles and geometric devices such as chokers,round a bouts, speed humps narrow streets and impellers to keep speeds down. (I think its a lawyer's dream come true!). Australia also makes extensive use of camera violation enforcement.

San Buenaventura has adopted a tiered approach to implementing traffic calming on residential streets. There are 4 levels of mitigation. Streets are not considered unless the ADT exceeds 800 vpd. Tiers 1 and 2 do not involve physical changes to the streets. Counter measures such as more speed limit signs and enforcement are tried first. Tiers 3 and 4 involves construction of countermeasures which is paid for by the neighborhood. These are only considered if the measures have 67% support from residents. Tier 3 tries channelizations and chokers. Level 4 implements traffic diverters. This looks to require a severe, localized problem before the support levels can be reached. Having a plan prevents the imposition of politically inspired solutions on a piecemeal basis. With the popularity of traffic calming as a device to get citizens off the backs of municipalities , having a plan is the traffic engineer's protection against useless programs.



It was a beautiful day when maintenance crews from Wayne County were stopped in a construction zone on I-96. This motorist was probably thinking the same thing, not paying attention and hit and stationary TMA. The unit was a 45 MPH design from Energy Absorption and, although it was travelling at highway speeds, the driver was unhurt. This was evidenced by the fact that the police classified it a 'hit and run' because the driver crawled out and ran away! The driver of the Wayne County truck reported that she hardly felt the impact.

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