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

PRESIDENT'S COLUMN

FROM THE DESK OF

Michael Labadie



LETTER TO THE MICHIGAN SECTION PRESIDENT

The following letter was recently received in response to the President's column in the Spring 1992 Issue of the Michiganite entitled "Ensuring the Character of our Profession"

Mr. Mike Labadie, President
Michigan Chapter ITE

STATUS QUO SEEMS TO BE THE ORDER OF THE DAY

In my previous two columns I discussed some credibility issues and suggested some areas of potential improvement. Additionally, in my last column, feedback regarding these issues and proposed areas of improvement was solicited. To date, out of over 330 members, one member has responded in reference to my columns. Clearly, this topic is not the issue to the membership that I (and Brad Strader) think it is.

Brad's letter is published in its entirety in this newsletter. Once the membership had read Brad's letter, perhaps additional comments will be received.

Other matters

On page 2 of this issue is a list of the 1992 Committee Chairpersons. If you are interested in being a Committee Chairperson and/or would like to be on one of these committees in 1993, please contact Sam Lawson.

Another way to get involved is to host/co-host one of the meetings in 1993. Again, contact Sam Lawson or Joe Meszaros. It is important that more members become involved in section activities. Recent meetings have been attended by a number of new people but it is the same small group that is leading the section activities.

I recently read your article... regarding qualifications for preparing various types of transportation studies. I understand your concern about individuals in allied professions preparing studies that you believe only traffic engineers are qualified to prepare. I respect your opinion, and believe you have raised important issues. I thought I would share my views on the subject and ask that you consider them.

Regarding impact studies, I believe that individuals experienced and educated/trained (emphasis in the original) in proper procedures, software, manual, etc. can prepare most types of traffic impact studies, whether they are a registered traffic engineer, a transportation planner or a civil engineer. The quality of impact studies tends to vary significantly. In some cases I have found the impact studies prepared by experienced planners are more comprehensive than those prepared by less experienced traffic engineers. The key factor seems to be the individual or firm and the level of effort (i.e. cost). I believe most traffic impact studies can be prepared or reviewed adequately by transportation planners or civil engineers with knowledge and experience in the transportation field. Detailed analysis of signal timing, geometrics and similar engineering items should probably be addressed by a traffic engineer.

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MICHIGANITE
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TREASURER'S REPORT

1. INCOME (since June 30, 1992)

Dues	\$ 411.00
Interest	96.90
July Meeting	448.00
Sept. Golf Outing	793.00
Total Income	\$ 1,748.90

2. EXPENSES (since June 30, 1992)

July Meeting	\$ 496.31
Sept. Golf Outing	607.20
Postage	329.00
Michiganite	700.00
Plaques, Awards, Prizes	77.00
Total Expenses	\$ 2,210.21

Section Fund Balance as of June 30, 1992	\$ 4,444.63
Net deficit for period	- 461.31

Section Fund Balance as of October 30, 1992 **\$ 3,983.32**

EDUCATION FUND

Balance as of June 30, 1992	\$ 4,889.58
Postage	- 223.25
Contributions	\$ 149.00

Balance as of Oct. 30, 1992 **\$ 4,815.33**

Incident Management Fund Balance (from Nov. Conf)	\$ 2,182.65
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Respectfully Submitted,

Joseph Meszaros, Treasurer Michigan Section, ITE

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, Michael F. Kobran, 1312 Kings Coach Circle, Grand Blanc, Michigan 48439; 313/695-8942. Send change of address to: Joe Marson, Barton-Aschman Associates, 26261 Evergreen, Suite 480, Southfield, Michigan 48076-4480.

Michigan Section - Institute of Transportation Engineers 1992 Meeting Schedule

DATE	LOCATION	HOST	COMMENTS
Dec. 10	Metro Detroit	Marson McCarthy	Lunch/Technical Session and Section Annual Meeting

Michigan Section - International Municipal Signal Association

DATE	LOCATION	HOST	COMMENTS
Dec. 3	Ann Arbor	Art Cuendet Gary Fitzgerald Herb Henry	Annual Meeting

ISTEA IS NOT ALL THAT COOL

*By John C. Niehaus
District 3 International Director*

By now you've heard a lot about ISTEA, the Intermodal Surface Transportation Efficiency Act signed by the President in December of 1991 which authorized increased funds to improve our transportation system in many, diverse and wonderful ways. Well, don't believe everything you've heard, because the money "ain't there yet."

Less than a year ago, Congress with much fanfare passed ISTEA declaring it landmark legislation and a serious effort to eliminate congestion, accidents, air pollution, etc., on our transportation system. The President signed the bill extolling the fact that it would provide many jobs in a suffering economy.

Well, that same Congress is playing games again with the Trust Fund. Many people don't realize that the authorization act doesn't provide a cent until Congress follows it up with an appropriations act. The appropriations for the (1992) fiscal year fell short of the authorized amounts. The appropriations act for fiscal year 1993 is now being discussed in Congress and there is a possibility that the transportation field could receive even less funds from ISTEA than it would have from the previous legislation.

Why? Because Congress is playing games with us. For some years now, Congress has been appropriating less than what has been going into the Trust Fund from user fees. As a result, there has been an ever increasing balance in the Trust Fund. Congress has been using this ploy in order to create the illusion that our national debt is not really as bad as it actually is. In other words, let's add the mammoth deficit in the General Fund with the surplus in the Trust Fund and the deficit doesn't look as bad. However, the Trust Fund is a closed-loop funding mechanism where the funds in it from us who use the facilities can be used only for transportation programs and projects. Part of the money we put in the Trust Fund every time we buy gasoline and other products and materials remains in the Trust Fund and is not being used to provide the transportation improvements from which we are paying. Therefore we're not receiving the benefits that we're paying for.

Continued on page 5

ATMS FOR OAKLAND COUNTY

by Richard Beaubien, P.E. and David Allyn, P.E.

Combining Real Time, Adaptive Traffic Control and Machine Vision Vehicle Detection for Advanced Traffic Management Systems

In June, 1992, the Road Commission for Oakland County, Michigan completed the first phase of a project to install an Advanced Traffic Management system which incorporates the SCATS Traffic Management System and the Autoscope Machine Vision Vehicle Detection System. This is the first application of the SCATS Traffic Control System in the western hemisphere. This is also the first widespread application of the Autoscope Machine Vision Vehicle Detection System to an arterial street system.

Oakland County, Michigan, located in the Detroit Metropolitan Area, has witnessed a rapid growth in employment and housing during the last decade. Urban mobility has become an important issue in Oakland County over the past few years. Community officials throughout the County have identified over \$1 billion dollars in road construction needs for the next decade. Almost 70% of these needs are in the realm of improving mobility in congested areas. Because of inadequate resources to meet these road construction needs, the Road Commission for Oakland County has taken the lead in using IVHS technologies to address traffic congestion and traffic safety concerns. By employing systems that maximize the efficiency of the existing roadway network, Oakland County may be able to defer some of its projected road construction expenses.

The paper describes Oakland County's investigation of real-time adaptive traffic control systems and its reasons for selecting SCATS. The paper also describes Oakland County's rationale for selecting the Autoscope Machine Vision System for vehicle detection instead of using more traditional inductive loop detectors. An evaluation of the SCATS System for real time adaptive traffic control and the Autoscope System for vehicle detection for the first six months of operation will be included.

The comparative evaluation of traffic control systems included responses to the following question:

1. Does the system work in real time?
2. Does the system respond to changes in traffic flow patterns?
3. Does the system include area-wide surveillance in traffic detection?
4. Does the system contain diagnostic functions?
5. How does the system manage information and communications?

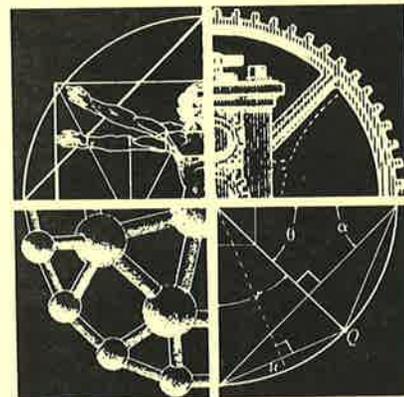
6. Does the system provide visual monitoring capabilities?
7. What are the administrative requirements for the system?

SCATS was selected for installation because it operates dynamically in real time according to traffic conditions. It provides traffic detection at the intersection rather than upstream. It has a distributed traffic control philosophy. Most of the "work" is performed at the local traffic controller level. Fall-back timing plans are programmed into the local controllers. SCATS does not require a significant flow of information up to a regional computer.

Oakland County selected the Autoscope Video Image and Processing System for Vehicle Detection because the Road Commission was experiencing considerable difficulty in maintaining inductive loop detectors. The Oakland County analysis indicated that the maintenance requirements on the Autoscope detection system would be considerably less than that required for inductive loop detectors. Autoscope had proven to be a viable technology field test in Minnesota. It has developed to a point where it was now ready for a large scale, operational test for intersection traffic control. The Oakland County System provided the opportunity for that large scale operational test.

The Michigan Society of Professional Engineers recently selected Hubbell, Roth & Clark, consulting engineers, as the winner of their 1992 Engineering Achievement in Government Award for the installation of an Advanced Traffic Management System for the Road Commission of Oakland County.

ENGINEERS



TURNING IDEAS
INTO REALITY

SPEED STUDIES IN ALLEGAN COUNTY SUPPORT USE OF 85TH PERCENTILE

*by Burl J. Gastin, Safety and Traffic Director, Allegan
County Road Commission*

So what are we going to do about it? Well, ITE is an organization that has been working with the Administration and the legislative leaders from some time to try to overcome this problem. However, if anything is going to happen, each of us as individuals also needs to communicate with those from whom we vote. In other words, call or write your Representative and/or Senator to convey your feelings about being shorted on the transportation improvements that you're paying for. It is also important that you spread the word to others about what is happening so they can also join in. Unfortunately, the average citizen does not realize how the process works and, amazingly, either the media doesn't understand it either or doesn't care since very little has been in the press.

Congress and the Administration provided ISTEA in 1991 for the improvement of our transportation system. However, before we as transportation professionals can implement these improvements and we as users of the system can enjoy them, we must first remind that same Congress that nothing can be improved if they don't provide the money to go with the act.

Amendment to original article

P.S. - On Oct. 21, I talked to Mark Norman and learned that Congress did pass an appropriations bill in the closing hours and the amounts appropriated are much less than those in ISTEA. Interestingly, the press has been very silent about it.

In the transit area, ISTEA authorized \$5.2 billion for FY 1993 but Congress appropriated only \$3.8 billion. In highways, ISTEA authorized \$20+ billion but Congress appropriated only \$18 billion. And even worse, \$2.8 billion of that is for demonstration projects, leaving only \$15.2 billion for everything else.

One of the more difficult tasks in the traffic safety field is explaining and defending the use of the 85th percentile as a criterion for setting speed limits. The most stated argument is that "motorists will always travel 5 m.p.h. over the posted limit." The point of the argument being that speed limits should be set lower than the 85th percentile.

A recent speed study renewed my faith in using the 85th percentile as a means to identify the maximum safe speed limit. In 1980, I was employed a traffic services sergeant with the Michigan State Police. The Allegan County Road Commission made a request for the establishment of a reduced speed limit on a road leading into Allegan.

Using a hand-held radar, I took a speed sample for 104 vehicles. The 85th percentile speed obtained was 50.5 miles per hour. The average speed was 43.4 m.p.h.. Inasmuch as the road section being studied abutted a 35 m.p.h. zone, a new 45 m.p.h. zone was approved, 5 m.p.h. below the 85th percentile.

In 1989, I retired from the Michigan State Police and began employment with the Allegan County Road Commission as Safety & Traffic Director. Recently I received a request to review the 45 m.p.h. limit set in 1980. The Michigan State Police assisted me in setting up a speed counter that the Road Commission had purchased last year. The counter was left in place for 24 hours and obtained speeds for 1716 vehicles.

The 85th percentile speed was 50.8 m.p.h. and the average speed was 42.7 m.p.h.. Advocates of the 85th percentile speed argue that motorists will drive what they feel is a maximum safe speed regardless of a posted speed limit. The results of my two speed studies certainly support this theory. In 1980, the motorists in my initial study had an 85th percentile speed of 50.5 m.p.h. without any posted speed limit. In 1992, after 12 years of driving in a posted 45 m.p.h. zone, the 85th percentile speed was virtually unchanged.

The case is clear that the 85th percentile speed remains a most valid criterion in setting a proper speed limit. The studies certainly renewed my faith in the "Old 85th."



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NEW MEMBERS: Michigan Section I.T.E.

by Michael F. Kobran

Three new regular members and seven student members were approved at the September and November, 1992 Michigan Section I.T.E. Board meetings following a review of their applications. Some information about the new members is listed below as an introduction to the rest of the membership:

Charles Dulle is a graduate of Purdue University with a BSCE and MSCE. He is the engineer in charge for HNTB in Okemos and lives in East Lansing.

Leroy Liston is the Traffic Services Engineer for the Road Commission for Oakland County. Leroy is a graduate of Michigan Technological University and lives in Novi. He has his P.E. in Michigan.

Roslyn Van Guilder graduated from Michigan State University, and is a temporary transportation technician for the Tri-County Regional Planning Commission in Lansing. She also lives there.

The following students from Michigan State University were approved as student members:

John Chown from Sterling Heights

Paul Dorothy from Lansing

Deborah Hornbeck from Holt

Martin Kane from East Lansing

Robert Rayl from Concord

Leon Solowjow from Livonia

Matthew Thorton from East Lansing

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SECTION BOARD TAKES ACTIONS

The Board took two actions of note in their September and November meetings. The first was to approve the recommendation of the Education Committee to present a \$500 scholarship to Martin Kane of East Lansing who is pursuing his PhD at Michigan State. Martin is no stranger to the Michigan Section, having won the 1992 Student Paper Award at the July meeting. (A summary of that paper is elsewhere in this issue).

The second was to approve a donation of \$300 to send MSU students to the Transportation Research Board Annual Meeting in January, 1993. Both of these donations were made from the Section Education Fund which is funded by voluntary donations from members and the proceeds from the biennial Vendors' Day and Benefit Golf Tournament.

1993 MICHIGANITE ADVERTISING RATES ANNOUNCED

The Board of Directors of the Michigan Section of ITE has approved a new schedule of advertising rates for the 1993 Michiganite. The rate schedule is as follows:

Business card	\$125
Quarter page	\$220
3/8 page	\$275
1/2 page	\$350

To place an advertisement, contact Treasurer Joe Meszaros at (517) 373-3340 or send payment to him at 11310 Flintrock Drive, Grand Ledge, MI 48837.

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STUDENT PAPERS: 1992 SECTION WINNERS

By Michael Kobran

Two winners in the 1992 Michigan Section I.T.E. Student Paper Competition were announced at the July 9, 1992 technical session in East Lansing. All nine papers judged were submitted by Michigan State students. The first prize winner received a plaque and \$100, and the second place winner received \$50. Bill Savage and Dave Merchant conducted the judging. Below are the summaries of the two student papers that won the 1992 Section competition:

First Prize Winner *Collisions with Mailboxes*

First Prize went to **Martin Kane of East Lansing** for his work on *Collisions with Mailboxes: How Dangerous?* Martin was the second prize winner in last year's competition. Because of the amount of research and resulting regulations with respect to roadside hazards over the past 20 years, Martin was stimulated to look at roadside mailboxes because of a lack of such research and regulations for this specific roadside installation. The question he asked was whether mailboxes located on the roadside constitute a dangerous and unnecessary hazard to highway users.

He used accident data for calendar years 1988 and 1989 by sorting for accident records where the object hit, if any, was coded for a mailbox. Mr. Kane found that for 1988 there were 4,633 reported accidents involving mailboxes, which was about 1.1% of the total reported accidents for the year. For 1989 there were 5,613 reported mailbox accidents, about 1.3% of the total reported.

Mr. Kane planned to start with using only fatal mailbox accidents, and then, on the next pass, acquire information on those accidents where an incapacitating injury occurred. He hoped that this combination of fatal and severe injury accidents would yield a preliminary indication as to the severity of accidents involving mailboxes. He found that in 1988 there were 27 accidents with 30 deaths and 21 accidents with 23 deaths in 1989. This initial analysis seemed to indicate that it was just as dangerous to hit a mailbox as the end of a guardrail. Either that or there was something in the accident data that analysis could not be accounted for.

Martin then decided to look at copies of the official accident reports (UD-10s) for the fatal accidents involving mailboxes. He found that when the first item struck outside of the roadway was a mailbox, then the object hit was coded as a mailbox, even though in many of the fatal accidents the vehicle also hit other objects such as trees, utility poles, culverts, and other vehicles. It was apparent to him that

many of the fatalities could be directly attributed to striking an object other than the mailbox.

He then decided to read the investigating officer's narrative and sketch of the accident scene to determine where the mailbox entered the vehicle's interior, where striking the mailbox caused a significant change in the vehicle's direction, or where striking the mailbox caused a significant loss of control (vehicles starts to slide, rotate, or roll-over). Also, where it was apparent that striking the mailbox contributed little to the fatality because the vehicle struck a tree or utility pole with little change in direction or where the fatality was a pedestrian, the accidents were disregarded as mailbox fatality accidents.

Using this criteria it was found that there were six fatal accidents in 1988 where the mailbox was a direct or significant contributor to the fatality. All were single fatality accidents. In 1989 there were four fatal accidents where the mailbox played a significant role, one of which involved two fatalities. These fatals worked out to be 0.4% and 0.3% respectively, of the total fatalities for each year.

Based on this detailed analysis of the UD-10s, Mr. Kane came to the conclusion that the box component of the mailbox unit does not contribute significantly to the fatal injuries. He noted, however, that there appears to be a problem with poles in regards to size, anchoring mechanism, and multiple box mounting techniques. Martin went over the U.S. Postal Service mounting procedures and AASHTO guidelines for such installations. He pointed out that accidents involving the striking of well anchored and/or substantially massive mailbox posts was a primary factor in inflicting the fatal injuries noted above as being directly related to striking mailboxes.

Mr. Kane came to several important conclusions and had some recommendations for dealing with the problems that do exist. First, he recognized that the new UD-10s would not have provided him with the details of accidents that had caused an overstatement of mailbox accidents of 500% by simply using the coded data. Second, he recognized that some of the standards espoused by the Postal Service needed rethinking, especially the mounting height of the boxes be 3.5 feet above the road surface, the same as the assumed eye height of the driver of a passenger car. A horizontally mounted plank at this height would be aimed right at a driver's face. Mr. Kane had some excellent slides portraying various mailboxes installations which were obviously hazardous.

Mr. Kane recommended that a pilot program in rural areas involving postal employees and road commissions be started to identify potential hazardous situations and classify them by degree of hazard. Owners of the mailboxes would then be contacted and the benefits of improving such installations explained and some assistance in funding changes could be considered to further the program.

SECOND PRIZE GAP ACCEPTANCE MERGE RAMP CONTROL STUDY

Jungtaek Lee, also of East Lansing was the second prize winner with his paper on *Gap Acceptance Merge Ramp Control Study*. Mr. Lee chose to look at the various ramp control systems currently used and the results of implementing those systems. He also looked at the gap-merge control system in more detail especially in the aspects of sources of error in gap predictions. He ended his paper with a discussion on beneficial operation for the safe and efficient ramp vehicle merge into the freeway mainline by various technologies.

Ramp controls are justified when the total expected traffic delay in a freeway corridor can be reduced by installation of ramp control signals. Freeway speed during the peak hour is the measurement that shows the most improvement after implementing ramp control. Average speed increases of 8% to 256% have been reported. Increased volume, decreased travel time, decreased accident rates and fuel savings are other positive impacts.

Mr. Lee described several types of ramp controls: ramp closure, ramp metering, and gap-acceptance merge control. His paper considered only individual ramp control rather than integrated ramp control. Ramp closures is the most inflexible method and can cause underuse of freeway capacity and overloading of alternate routes. It is applicable where traffic demand immediately upstream is at capacity and an alternative route with adequate capacity is available.

Ramp metering uses rates of 180-240 vph minimum and 750-900 vph maximum and is used for two purposes: congestion and safety. Congestion concerns require adequate capacity in the corridor to accommodate the difference between downstream capacity and upstream and ramp demand and adequate storage for vehicles on the ramp. For purposes of safety, ramp metering is used to break up platoons of vehicles on the ramp. Mr. Lee also describes the two types of ramp metering currently in use: pre-timed (fixed time) and traffic responsive (real time).

Gap-acceptance merge control considers the safe merge between individual ramp vehicles and freeway mainline vehicles rather than metering ramp vehicles. This system does not normally operate with a constant metering rate as do the ramp metering systems. The control procedure requires three steps normally. First is the detection of an acceptable gap on the freeway. Second is the projection of the arrival of the acceptable gap at the margin point of the on-ramp. Third is the release of the ramp vehicle in sufficient time to accelerate and merge into the moving gap.

This system needs a detector to determine the gap/speed of freeway vehicles in addition to the system components for ramp metering. For low speed freeway flow (usually below 25 mph), this type of system will default to a minimum fixed metering rate of 3 to 4 vpm since smaller headways during congested flow translate into large time headways because of the slow speed, and the controller would otherwise release a large number of vehicles during these times.

Jungtaek also discussed the metering models being used which are CORQ, FREQ, INTRAS, MCK, and SCOT. INTRAS is used in the Detroit system to evaluate the potential benefits from various ramp control conditions. INTRAS uses car-following and lane-changing algorithms to simulate the movement of individual vehicles. For simulation of freeway control policies, it can also model the off-freeway environment. The evaluation of 12 strategies in Detroit predicted benefits of a 22% increase in freeway speed, 17% increase of speed in the freeway corridor even though average speed on the surface links decreased from 43 mph to 24 mph.

Mr. Lee also discusses the sources of gap acceptance merge errors which include the variation of freeway traffic speed within the merge area and the gap/speed detectors and lane changes from the inner lane to the outer lane. Since these factors are uncontrollable, it has been difficult to adopt the gap-acceptance emerge control system.

Some solutions are available today. For example, an overhead variable message sign system could be used to send advisory warnings to drivers not to change lanes from lane 2 to lane 1 within a certain distance from the ramp. Mr. Lee, however, believes that future IVHS controls may be applied to mainline traffic to mitigate these problem areas. In the long term, advance driver information systems and advanced vehicle control systems can also be useful (for example) to activate automatic vehicle control systems to decrease (following vehicle) or increase (leading vehicle) speed to maintain a gap equal or greater than the critical gap for a safe merge. Lane controls could also prevent vehicles from switching lanes in these critical merge areas.

Mr. Lee concluded that ramp control has achieved positive results and that gap acceptance merging systems, when the described errors have been overcome by technology, offer a potential for better free flow on the freeway and a safer ramp vehicle merge.



SPEED KILLS?

by Lyle Nustad

Letter... Cont. from page 1

Did the higher 65 mph speed limit actually reduce highway deaths? That is the question a recent study, funded by the AAA Foundation for Traffic Safety and the University of California Transportation Center, attempts to answer.

The study, conducted by Dr. Charles Lave, Chairman of the Economics Department at the University of California, Irvine, suggests that states which had adopted the higher speed limit actually showed greater improvement in their overall statewide fatality rates than those states which maintained the lower maximum speed limit.

Dr. Lave was a member of the TRB Committee for the Study of the Benefits and Costs of the 55 MPH National Maximum Speed Limit. This committee in 1984 produced the Special Report 204, "55: A Decade of Experience" which gave qualified support to maintaining the lower maximum limit on all roads because of projected estimates of lives saved with the 55 mph limit.

Studies conducted since 1987, when states were allowed to increase the speed limit to 65 mph on interstates, looked at interstates fatalities only, and often indicated higher fatality rates on interstates with the higher limit. Dr. Lave's study, however, compares statewide fatality rates in states that raised their speed limit to 65 mph to those that stayed with the 55 mph limit. The study shows approximately a 3.5 percent greater improvement in statewide fatal rate in 65 mph states than in states that kept the 55 mph speed limit.

Reasons stated to explain how the higher speed limit resulted in lower fatality rates are:

- Drivers may have switched to use the higher speed roads which are safer and better designed.
- Police agencies may have shifted resources from freeway speed enforcement to activities with more safety payoffs.
- The speed variance may have declined—on the interstates as law abiding drivers caught up with the speeders and on other highways as their speeders switched to the interstates.

Dr. Lave indicates his statistical evidence supports the first two events but that no evidence is presently available to support or deny the third. Further study is, as usual, recommended.

Copies of the report may be obtained from AAA Foundation for Traffic Safety, 1730 M Street, Suite 401, Washington, D.C. 20036.

I also believe qualified professionals in addition to traffic engineers are qualified to conduct parking studies. There are a number of very capable landscape architects, architects, civil engineers and planners who can prepare such studies depending upon the type of issues involved. There are a number of inter-related issues in parking studies which traffic engineers may not be familiar with; aesthetics, zoning, land use issues, politics, financing and other items. My personal view is that transportation issues are best analyzed by a team including traffic engineers, transportation planners, landscape architects, architects, and/or civil engineers. My transportation projects typically involve several such disciplines. I have found such multi-disciplined efforts produce the most effective solutions.

In summary, I believe some sort of certification process as you suggest may be desirable. However, the certification or requirements for some studies should not be restricted to traffic engineers alone. Individuals or firms with experience in developing various transportation studies may also be qualified.

Regards,

Brad Strater, AICP
Principal Planner
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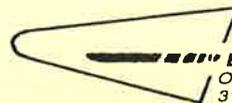
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These are just some of the terms that were used to describe the Intermodal Surface Transportation Efficiency Act (ISTEA) when it was first enacted in late 1991. After the first full year of the ISTEA era, transportation professionals are asking, “Is the potential of ISTEA being realized?” “What does the future hold?” “What effect will all this have on transportation professionals in the United States and around the world?”

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- What levels of funding can really be expected from ISTEA in future years?
- What specific types of transportation improvements have been or can be funded under the various ISTEA funding categories?
- How can agencies obtain ISTEA funding for their projects?
- What are the obstacles to conquering the “business as usual” syndrome, and how can they be overcome?
- What has been the experience with ISTEA “flexibility” to date?
- What will agencies be required to include in the ISTEA mandated “management systems” for congestion, safety, public transportation, intermodal transportation, and traffic monitoring?
- What have we learned from intelligent vehicle-highway systems (IVHS) operational tests to date?
- How are the new ISTEA requirements affecting statewide and metropolitan transportation planning?
- What impacts are the ISTEA limits on projects that increase capacity for single occupancy vehicles having?
- How are agencies using ISTEA funds for implementing and operating traffic control systems?
- How effective have travel demand management efforts been to date, and how can we estimate the impacts of proposed strategies?
- What role will toll roads and congestion pricing play in future transportation policies and programs?
- How is other major legislation—such as the 1990 Clean Air Act Amendments and the American with Disabilities Act—affecting the transportation profession?
- What is being done in other countries to address these issues, and how effective might the approaches in ISTEA be in addressing transportation problems outside the United States?

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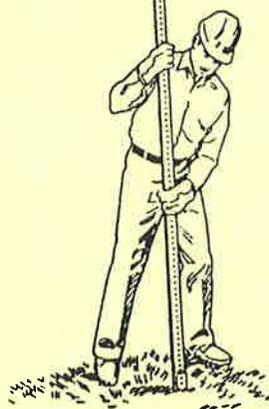
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