Objective—Local Traffic Safety Involving Engineers, Non Technical Professionals & Elected Officials

Terry McNinch
Director, Michigan LTAP & TDG

MichiganTech
Transportation Institute
Handouts

- FHWA *Public Roads* May/June issue
- Resources on the web
Local Traffic Safety Efforts in Michigan

Training at Multiple Levels

Non Engineers
Engineers
Elected Officials

Direct Assistance (LSI)
Data, Software, Tools
At the Beginning . . .
Who Makes Road Safety Decisions For Local Agencies?

- Police Chief
- City Manager
- DPW Superintendent
- Engineers???

Michigan Cities and Villages....
- 74% don’t have direct access to an engineer
Intersection Safety For Non-Engineers

- Develop non-linear training modules
- Pilot the program in MI, WI and MN
- Turn over program to all LTAP Centers

Funding
- FHWA Technology & Innovation Program
- FHWA Office of Safety
- Michigan LTAP
Project Modules

- Geometry of an Intersection
- Crash Data Analysis
- Sign Warrants
- Pedestrian Issues
- Roundabouts
- Red Light Running
If you build it, they will come!

No Participants!
Why Not?
Why Not?

Quote:
“If it doesn’t say ‘for Law Enforcement’ on the front cover it goes in the trash.”
Quote:

“Intersection Safety for non-engineers. This doesn’t apply to me, I’m not an engineer.”
Couldn’t see the forest for the trees!

Back Up!
Rethink Our Approach
Project Modules

- Geometry of an Intersection
- The Evolution of an Intersection
- Crash Data Analysis
- It's Your Intersection, It's Your Crash Data
- Sign Warrants
- Signs – Do It Right or Pay the Price
- Traffic Signals
- Traffic Signals – They Solve Problems, They Create Problems
- Roundabouts
- Roundabouts – Take a Deep Breath, Don’t Panic
- Red Light Running
- Red Light Running – Is It Your Fault or theirs?
Revised Title and Flyer

- Common Sense Solutions for Intersection Safety Problems
- For Law Enforcement
- For Cities and Villages
- For Townships
Common Sense Solutions For Intersection Safety Problems
Common Sense Solutions for Intersection Safety Problems

- 12 Non Linear Modules
- Module Summaries (Handouts)
  - Main Points
  - References and Resources
- Instructor Guide
  - State- by- State Edits
  - Presentation Approach
Sessions in Michigan

- 05/06 – 19 Sessions
- 450 Participants
- 91% Local Agency
- OHSP Scholarships for non engineers
Lessons Learned

Use safety “Champions” to fill the room

- County Engineers
- State police regional coordinators
- OHSP
- City & Village DPW Staff
Lessons Learned

The MISSING Audience

“I should have had the City Manager here.”

“I should have brought my Commissioners.”

“Could you do this again for my City Council?”
MDOT Local Safety Initiative (LSI)
Engineering Support

- County wide review of crash data
  - Use RoadSoft for Analysis
- Local Engineers—Teach’em to Fish
- Site Reviews
- Make “Suggestions”
- No formal report
- Assist with HRRR application
- 3 yr. Follow Up Studies
- Funding—Low Cost Solutions
Ionia County Road Commission
Before . . .
Ionia County Road Commission
After . . .
LSI Agencies Served

- 51 County Road Commissions Participated
- 13 Waiting in the Queue
On to the Engineer’s Training . . .

Traffic Safety Analysis—
From Finding the Problem to Fixing It
Traffic Safety Engineering
“...akin to a process of medical diagnosis, with perhaps a keener awareness of costs and budgets...”

Ezra Hauer [1996]
Traffic Safety Analysis—From Finding the Problem to Fixing It

- Overview of crash data
- RoadSoft
  - Methods of screening data for high-crash locations
  - Site-level collision analysis
- Geometric factors
- Operational factors
- Human factors
- Evaluating countermeasures
- Before & After studies
GIS Display
- 10 yr. located data
- Crash report

Analysis tools
- Annual updates
- No cost to MI agencies
Roadsoft GIS

- Crash Reports
  - Diagrams
  - Data Correction

- One Click!
Crash Frequency
Crash Rate
EPDO
Rank Index

Type
- Intersection
- Curve
- Segment
Network Screening

- **Methods**
  - Frequency
  - Rate
  - EPDO
  - Rank Index

- **Type**
  - Intersection
  - Curve
  - Segment
Free to MI agencies
Significant Crashes at 2:00 AM to 3:00 AM
“The accessibility of the data and the user-friendliness of the RoadSoft tools make this something that even the smallest transportation agency can grow into as its traffic safety analysis needs dictate.”
Lastly, Elected Officials
Lots of, Lots of, Lots of

- In Michigan  >7,700 elected officials
- Hundreds of other priorities
- Pulled in many different directions
- Trying to be responsive (to their detriment)
- Simply lack Traffic Safety understanding
Elected Officials:
What YOU Need to Know About Traffic Safety
(And What YOUR Constituents Expect YOU to Know!)

December 1, 2008
Gaylord, MI

December 2, 2008
Saginaw, MI

December 3, 2008
Ann Arbor, MI

December 4, 2008
Kalamazoo, MI

Sponsored by:
Most crashes occur on YOUR roads!
   ◦ A profile of crashes in Michigan.

What makes a road safe or unsafe for YOUR constituents?
   ◦ Key factors to weigh before making a decision.

Why can’t I put a stop sign or signal Where I Want It?
   ◦ Safety features of traffic control devices.

YOUR traffic safety concerns for YOUR community’s roads.
Catch their attention . . .

. . . The phone rings

“Traffic is speeding on my street. Can’t you put up a Stop Sign”
“There is no reason why Michigan Street doesn’t have any stop signs.”

-Will Mackey, downtown business owner
Social Aspect Of Traffic Safety

- Politicians are “problem solvers”
- Its Counterintuitive
- Roads viewed as commonplace
- Public stake in roads
National Research Council Study on Engineering

“Engineers can no longer afford the attitude that the public “can’t understand” or “doesn't need to know” about technology.”
Technical People Poor Communicators?

- National Research Council Study
  - Communication skills needed
  - 74% Engineer stereotype true
- Not viewed as part of job
- Not stressed in education
- Excessive use of jargon
Myth of the Technically Compelling Solution

The Solution Is Obvious!
What Is More Safe A Dog or an Alligator?

**Dogs**
- 4.7 million attacks/year
- 800,000 serious attacks/year
- 1979-1996: 304 fatalities

**Alligators**
- 7.8 attacks/year
- 1948-1999: 248 attacks
- 1948-1999: 9 fatalities

Leonard Evans
*Traffic Safety, 2004*
Dogs
- 52 million dogs in U.S.
- 15 attacks/year/1000
- 0.33 fatalities/year/million

Alligators
- 1 million alligators in U.S.
- 0.008 attacks/year/1000
- 0.17 fatalities/year/million

Leonard Evans
*Traffic Safety, 2004*
Gators blamed for some 10 fatalities in 55 years

While Wednesday's fatal attack on a 12-year-old boy in central Florida has thrown a spotlight on alligators, several animals are known to take human lives at a higher rate than those swimming reptiles. Statistics show that dogs lead in attacks on people.
“As an elected official in a small village, I am confronted with making decisions far outside my personal expertise. At the workshop for elected officials, I discovered that everything I thought I knew about traffic safety was incorrect. That was an eye-opener.”

Councilman Carl Hamann
Sanford, MI.
What Local Agencies Need to “DO” Traffic Safety

- **Training**: Engineers, Non Technical, Elected Officials
- **Data**: Located, Usable Format
- **Tools**: Cost Effective, Time Efficient