

Farm equipment study weighs impact on roads



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AGRICULTURAL EQUIPMENT traveling on town and county roads in Wisconsin is getting bigger and heavier. Understanding the impact of these loads on local roads and public policies that regulate weight limits on roads statewide is the focus of a task force established in 2012 by the Wisconsin Department of Transportation.

The *Implements of Husbandry Study Group* emerged from awareness of the conflict between the increasing size and weight of agricultural equipment and the ability of the existing road system to handle the impact, says Rory Rhinesmith. Deputy Administrator of the WisDOT Division of Transportation System Development and a study leader, Rhinesmith notes, “It became apparent that current road and bridge designs, and existing statutes are out of date with development of agricultural equipment, so there was a strong

impetus to learn more so we could recommend and promote necessary changes in public policy.”

Richard Stadelman, Executive Director of the Wisconsin Towns Association, is an active member of the study group, which enlists a diverse cross-section of individuals representing the farming industry, equipment manufacturers, law enforcement, transportation research, public policy, state transportation programs and others who speak for local government. Stadelman says the effort is both critical and timely as local road agencies in Wisconsin struggle to maintain the roads they manage and deal fairly with the expectations of all road users.

“This issue heated up over the past few years because of the size increase but also the incidence of some intense hauling of commodities like manure in certain places and at certain times of the year,”

Stadelman notes. He says that Wisconsin is “ahead of the curve in the Midwest” by examining the equipment side of the issue and looking for solutions.

Explore issues, find balance

WisDOT prepared the group for its work by introducing members to the issue from all viewpoints represented on the panel. They explored where their interests intersect and discussed how Wisconsin can balance the needs of an important industry with the limitations of existing statutes and the transportation infrastructure.

Rhinesmith says they set out to address several closely linked key issues:

- meet the demands of a competitive agricultural industry that must conform to weight restrictions
- keep roadways safe for the traveling public
- protect public transportation infrastructure from premature deterioration or catastrophic failure
- modernize state statutes
- apply weight-restriction laws fairly and consistently

Recommendations

Chief among preliminary findings reported to the Secretary of WisDOT in January 2013 was the need to create or amend definitions for all classes of implements of husbandry, or IoH. The purpose is to identify if a vehicle, piece of equipment or trailer is designed for agricultural purposes and used exclusively for that purpose. The study singled out four categories of equipment for expanded or new definitions:

- 1) farm tractors
- 2) self-propelled implements
- 3) converted motor vehicles/CMVs
- 4) components towed, trailered or pulled in a vehicle train



MINNESOTA ROAD RESEARCH FACILITY

Equipment like the sprayers pictured above and tractor tanker combination below are examples of the implements of husbandry sharing Wisconsin roads with other vehicles. A WisDOT study recommends redefining agricultural equipment categories to establish consistent and enforceable limits related to size, weight and use.

The last of these is the largest and heaviest, Rhinesmith says, so identifying which are allowable and which are not is important.

A second recommendation would establish an identification and fee system for vehicles defined as self-propelled CMVs used only in farm operations. Law enforcement could use the system to identify both compliant and non-compliant vehicles. Any fees the system generates could help fund improvement projects through state-administered programs.

The study group also outlined the need to establish a range of maximum widths and maximum allowable length and height limits for various implements operated on public roadways as defined under the four categories in recommendation one.

Other proposals called for statutory changes that allow broader authorization of alternatives like pipelines for liquid manure and the creation of a "standing forum" to continue the conversation about transportation needs related to agriculture.

Observations

The challenge of managing large agricultural loads on roads goes beyond Wisconsin. It is an issue in other agricultural states and in countries across the globe, from Canada to China. Michael Weber represents the Association of Equipment Manufacturers (AEM) on the IoH study group and notes that members of his association serve farm businesses in all those markets. Manager for Technical and Safety Services with AEM, Weber says he and others from the industry found the IoH discussions a good opportunity to hear other concerns and weigh in on the recommendations.

Weber reports on the discussions and results to an internal AEM committee he created on the topic of agricultural equipment and roads. He notes the Wisconsin study is of interest to many and he hears from people in other markets who want to adopt similar categories and rules.



Consequences of bigger, heavier, wider ag equipment traveling on local roads include tangling with utility poles and wires, damage to pavements and causing a bridge collapse. Local governments try to intercept potential problems through a range of best practices that serve the public and meet the needs of commerce.

Manufacturers are looking for balance and fairness, Weber observes, as the study group identifies and proposes changes to state regulations that fit with how farms operate these days and advances in equipment design.

Equipment makers do not yet see a major shift in product design because local laws have a more-direct impact on the equipment user and, Weber notes, it is the user who decides to take a piece of machinery on the road.

Study group member David Vieth, who is Director of WisDOT's Bureau of Highway Maintenance, agrees that the issue is ultimately local. He works with local governments on road issues and says they often feel uncertain about what is a realistic weight limit posting as they make trade-offs between tight budgets and serving the needs of commerce.

Vieth references a recommendation the study group made about greater use of best practices. "One of those is intercepting a potential problem by having early discussions between farmer and local road officials to resolve a problem or find temporary solutions," he says, suggesting alternatives already in evidence around the state, like setting seasonal limits, establishing temporary one-way roads or securing a performance bond from a farm operation or hauler.

Reasonable and scientific

Vieth, Stadelman and Weber all say the give-and-take between participants gave them a broader view of the ag equipment issue as the study group reviewed available research and developed their recommendations.

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"I'm optimistic because through this process, I've seen all sides engage with the question of how to reduce the impact of heavy loads on roadways," Veith says. There was a sense, he adds, that public and private interests can strike a balance so farmers get a fair return on their investment in equipment and local governments have the tools to protect the taxpayer's investment in good roads.

Discussions in Phase II of the project will concentrate broadly on issues specific to weight limits, responsible permitting and highway safety. Three work groups will focus on equipment definitions, examining the special impact of manure hauling operations and developing materials to communicate study results. A second and final report is due out at the end of July 2013.

The loH Phase I report is available at <http://www.topslab.wisc.edu/workgroups/waiioh.html> along with information on the full study group membership and background material provided to the work group panels.

"Our approach brings together a knowledgeable group of people who are committed to taking a reasonable and scientific look at how public policy can respond effectively to the impact of modern agricultural equipment on our roads," Rhinesmith says. "This includes weighing changes that, applied in the right measure, we hope will produce long-lasting solutions." ■

Supervisory and management training a practical resource

PEOPLE WHO MOVE UP through the ranks in public works and highway departments in Wisconsin have a valuable resource in two supervisory and management training programs offered by the Wisconsin Transportation Information Center (TIC) in cooperation with the American Public Works Association (APWA) Wisconsin Chapter. The 15 courses in two programs teach practical skills to individuals who supervise people and manage projects, or aspire to take on more responsibility in their agency.

In local government, most public works supervisors and engineers earn promotion because of their technical skills and strong work ethic, but few have the opportunity to consider how best to fulfill their leadership role within a public organization. The *Public Works Supervisory Academy* (PWSA) and *Public Works Management Institute* (PWMI) programs give them the chance to focus on those roles and responsibilities. They learn from a seasoned instructor and alongside others who are on the same journey in a collegial and problem-solving environment.

A closer look at the programs and impressions from participants illustrate the value of professional development in fostering effective local government operations, no matter the size or scope of the agency or the program.

From the basics to advanced

The training programs use lecture, case studies and discussion to cover a range of relevant topics. These include employee supervision, leadership skills, work-place safety, purchasing and inventory control, local government organization and personnel systems, ethics and communication skills. PWSA grounds lead workers, first- and second-line supervisors, and new managers in the funda-

mentals through nine one-day courses. Public works managers and seasoned supervisors can apply for or follow up with PWMI, a five-class advanced program.



Wisconsin TIC Director Steve Pudloski congratulates Jenny Schultz, City of Columbus Public Works, on completing the PWSA certificate.

One of the required PWMI courses is a two-day course offered by UW-Madison. *Municipal Engineering for Non-Engineers* gives supervisors and managers working in public agencies a better understanding of the concepts, methods and vocabulary of municipal engineering so they can make informed decisions related to alternatives guided by good engineering practice. It explores the basics of how streets, water, sewer and utilities work together, budgeting for projected capacity and use, and other operational issues.

Jerry Benzschawel, Field Supervisor in the City of Sheboygan Falls Department of Public Works, describes the *Municipal Engineering* seminar as a real benefit to him and his agency. Benzschawel supervises work for the streets department, the water utility and wastewater services.

Having served in every capacity during his 13 years with the department, he says he brings a "well-rounded view" of operations to his supervisor role. What can someone with Benzschawel's years of experience gain from these

