

17th meeting of the
IOWA FREIGHT ADVISORY COUNCIL

March 3, 2017
 10:00 AM to 2:00 PM
 Ramada Tropics Resort & Conference Center
 5000 Merle Hay Road, Des Moines

Members

	Col. Craig Baumgartner		Calean Kokjohn
x	Reilly Vaughn for Joel Brinkmeyer		Ron Lang
x	Andy Cernin for Kevin Burke	x	Don McDowell
x	Tom Determann	x	Delia Moon-Meier
x	Greg Dickinson	x	Joe Parsons
	Randy Draper	x	Scott Bannister for Dan Sabin
	Sarod Dhuru	x	Scott Stabbe
x	Don Egli		Mike Steenhoek
x	Kevin Ekstrand	x	Kris Vander Kamp
	Bill Horan	x	Ron White
x	Greg Jenkins	x	Tim Woods

Ex-Officio Members

	Todd Ashby		Paul Ovrom
x	Karen Bobo		Robert Palmer
x	Mike Hadley		Joseph Rude
x	Sean Litteral	x	Brett Tjebes
x	Shirley McGuire		Cecil Wright
x	Mike Norris	x	Jennifer Wright

Iowa DOT

x	Stu Anderson	x	Craig Markley
x	Phou Baccam		Scott Marler
x	Kyle Barichello	x	Amanda Martin
	Mikel Derby	x	Diane McCauley
x	Tina Hargis	x	Phil Meraz
x	Sam Hiscocks	x	Phil Mescher
	Laura Hutzell	x	Tammy Nicholson
x	Sandra Larson	x	Garrett Pedersen
x	David Lorenzen	x	Charlie Purcell
	Mark Lowe		

Guests

x	Dan McGehee (University of Iowa)	x	Chris Hill (Iowa State University)
x	Mark Williamson (Iowa State University)	x	Eric Smith (Iowa State University)
x	Bob Rafferty (Truck Stop Association of Iowa)	x	Bill Rhodes (Iowa Northern Railroad)

10:00 AM Safety Briefing

Amanda Martin
Iowa DOT

Welcome and Introductions

Council ice-breaker: *What critical or emerging issues are you experiencing in your industry? Is there anything we should consider for the next agenda or for the next meeting?*

Tom Determann, Chair

Amanda Martin provided an opening safety briefing. Tom Determann, Chair, welcomed the members of the Freight Advisory Council. The Council members introduced themselves and were asked the questions, “What critical or emerging issues are you experiencing in your industry?” Is there anything we should consider for the next agenda or for the next meeting? Responses included:

- Uncertainty of coal for railroads (different ways to replace that business and traffic)
- New Presidential Administration’s position on mandates for ethanol
- New Presidential Administration’s new infrastructure package
- Larger industries asking about business opportunities in Southeast Iowa (intermodal, freight, etc.)
- Secondary roads and bridges
- Deadline for electronic logging devices on trucks
- Global shipping is increasing at an unsustainable rate – there are a lot of acquisitions and alliances between carriers taking place (could have impact on trade and container availability)
- Consideration of onboard cameras
- How to implement electric charging for vehicles
- Changes in grain market place
- Regulation requiring positive train control
- How to finance renovation, rehabilitation, and upgrading infrastructure
- Lock and dam infrastructure
- Concerns with trade changes (new administration, NAFTA, trade war with China)
- Regulations and mandates going forward
- Understanding regulations in agriculture
- Maintaining infrastructure to move agriculture products (bridges, lock and dam system)
- Would like to see technology being used in electronic logging integrated into other technologies to improve the efficiency of freight movement
- Autonomous vehicles and how that’s going to change things
- 3-D Printing

10:20 AM Legislative Update

A general update on current Federal and State Legislative activities related to Iowa DOT and freight movement.

Stu Anderson
Iowa DOT

Stu Anderson provided an update on recent Federal and State Legislative activities, including:

- The Iowa State Legislature is considering infrastructure-related bills: Federal aid swap, modal appropriations and DOT budget (addressed at end of session), platooning (waives the minimum following distance required between automated motor trucks), “Quick Clearance” Bill (if you’re in a crash, you should remove cars from roadway immediately), and other motor vehicle legislation.
- The State of Iowa submitted infrastructure priorities to the Trump Transition Team: Lock and dam system, I-80/I-380 interchange reconstruction, Des Moines International Airport terminal, Lewis and Clark Regional Water System, and Cedar Rapids Flood Mitigation
- Due to the terms of a settlement with Volkswagen (VW), each state is allocated funds for projects that decrease diesel admissions. Iowa DOT is coordinating with other state agencies to develop a plan for how to use these funds.
- New Iowa Transportation Commissioners - Tom Reilly (Oskaloosa) and Nancy Maher (Shenandoah)

10:35 AM Iowa DOT Items

Overview and updates of current activities.

- Linking Iowa’s Freight Transportation System (LIFTS)
- Critical Urban and Critical Rural Freight Corridors
- Cedar Rapids Logistics Park
- Woodbury County Truck Permitting Pilot Program
- State Long Range Transportation Plan Comment Period

**Craig Markley
Iowa DOT**

Craig Markley provided an update on current Iowa DOT freight-related activities. These included:

- *Linking Iowa’s Freight Transportation System (LIFTS)*: The Fixing America’s Surface Transportation (FAST) Act produced the National Highway Freight Program which created a formula program that provides freight funding for each state. Each fiscal year, a State may obligate no more than 10 percent of the total apportionment to the State for freight intermodal or freight trail projects. The Iowa DOT has chosen to allocate these flexible funds through a competitive grant program known as LIFTS, an updated version of the original LIFTS pilot program carried out in 2015-2016. LIFTS allows stakeholders outside of the Iowa DOT to apply for the flexible funding for use on freight projects. The specific evaluation criteria, application process, timeline, etc. is still being developed internally.
- *Critical Urban and Critical Rural Freight Corridors*: Freight formula funding made available through the National Highway Freight Program (created under the FAST Act) must be spent on the National Highway Freight Network. This network is made up of four parts: Primary Highway Freight System (identified at the Federal Level), Critical Urban Freight Corridors (identified at the State level), Critical Rural Freight Corridors (identified at the State level), and portions of the Interstate System not designated as part of the Primary Highway Freight System. Iowa DOT is currently in the process of designating Critical Urban and Rural Freight Corridors. This has involved reaching out to Metropolitan Planning Organizations for recommendations and reviewing truck traffic figures to identify the corridors most important to freight movement in the state.
- *Cedar Rapids Logistics Park*: Iowa DOT was awarded a FASTLANE grant from the Federal government to assist with building a logistics park, that includes facilities for intermodal container handling, transloading, and cross-docking, in Cedar Rapids, Iowa. This project is still under development as

public and private stakeholders continue to meet to work out the design, construction, marketing, and business aspects of the logistics park.

- *Woodbury County Truck Permitting Pilot Program:* Iowa DOT assisted with a pilot program on County Route D12 in Woodbury County, Iowa. The goal was to test an automated truck permitting system for locals, much like the system already in place for State routes at Iowa DOT. The pilot identified multiple areas that will still need to be vetted before an application of this type would be available for local agencies. Any real world implementation would require overhauling the payment processing and fund distribution methods. Currently, all revenue goes to the Primary Road Fund, but would need to separate the fees for the locals and issue payment to them.
- *State Long Range Transportation Plan Comment Period:* Iowa DOT has been developing the State Long Range Transportation Plan and recently released the DRAFT version for public comment. A 45-day comment period is being held from February 22 to April 7 and a public input meeting will be held from 4:30 to 6:30 p.m. Tuesday, March 21 at the Ankeny Public Services Building.

**11:00 AM Emerging Technologies: Autonomous Vehicles –
Introduction to Autonomous and Connected Vehicles (AV/CV)**
An introduction and overview of AV/CV technology.

**Dan McGehee
University of Iowa**

Dan McGehee from the University of Iowa gave a presentation on autonomous vehicle technology and the potential impacts this will have on the movement of people and goods. Mr. McGehee provided an overview of the forces driving autonomous vehicles (safety and fuel economy), as well as the past technological advances, such as cruise control, lane-keeping technologies, blind spot detection, and self-parking cars, that have led up to this point.

Most of these technologies will be standard in the near future on all new vehicles. These include: cross traffic alert, surround view, blind spot detection, rear collision warning, park assistance, adaptive cruise control, emergency braking, and pedestrian detection. These, along with HD mapping (which is critical in telling a car exactly where it is), are all part of meeting the vision for autonomous vehicles.

Mr. McGehee then touched on the potential this impact can have on freight movement, specifically trucking. These technologies allow for truck platooning which occurs when trucks link/sync up with other trucks to travel closely together providing fuel savings for each involved. Another expectation is that truck movements will be automated for the first mile/last mile steps of each trip and then manually driven in between the origin and destination points.

**11:30 AM Emerging Technologies: Autonomous Vehicles –
Current Status of AV/CV Activities**
Presentation on HERE data, mapping, and overall efforts in Iowa and around the country related to AV/CV technology.

**Sandra Larson
Iowa DOT**

Following the introduction to autonomous vehicles by Dan McGehee, Sandra Larson with the Iowa DOT gave an overview of current activities taking place in Iowa and around the country. Ms. Larson began by identifying

the reasons Iowa DOT and other agencies are getting involved with autonomous vehicles, the primary being safety and mobility. Increased safety and mobility result in economic benefits, vitality, and opportunity. In addition, Iowa DOT is focusing on truck traffic as this is where the potential economic impact is.

The State of Iowa wants to be a leader in autonomous vehicle technology. Current activities in the state involve partnering to develop strategies for research, development, testing, operation, and implementation of autonomous vehicles in Iowa. Iowa DOT is working with HERE, University of Iowa, and Iowa State University to generate and test data for drivers and vehicles, as well as complete high definition mapping. This effort will ultimately lead to a pilot test anticipated for late 2017. Ms. Larson also provided an overview of activities in other states (Arizona, California, Colorado, Michigan, Nevada, Ohio, Pennsylvania, and Texas).

12:00 PM Lunch

12:30 PM Emerging Technologies: 3-D Printing

Joint presentation by Iowa State University's Engineering and Logistics Programs on 3-D printing and the potential impact this will have on freight movement.

**Chris Hill & Eric Smith
Iowa State University**

Chris Hill, Mark Williamson, and Eric Smith with Iowa State University gave a presentation on 3-D printing and the potential impact this could have on freight movement in the future. Mr. Hill and Mr. Williamson with the Center for Industrial Research and Service (CIRAS) lab at Iowa State began the presentation by educating the group on what 3-D printing is and how it works. 3-D printing, also known as additive manufacturing, uses CAD to create 3-D models that are ultimately sent to a 3-D printer to be created. Material categories include plastics, metal (powder bed, powder feed, or wire extrusion), ceramics, food, stem cells, and others. Iowa State has a metal powder bed printing system.

The CIRAS lab is doing a lot of experimenting with this technology but noted that companies in the aerospace, defense, and health care industries are already utilizing it. Benefits of 3-D printing include design freedom, it allows for quick changes to designs and printing, the ability to scan and replicate things, it is easier to customize products for customers, helps with predictability, reduces/eliminates capital, and it minimizes material and energy usage.

Closing thoughts from Mr. Hill and Mr. Williamson included:

- This technology is complex and ever-evolving.
- The complexity is "free" (allows for freedom of design).
- It allows you to use iterative cycles – fail fast, fail early.
- It WILL be a tool used by Iowa Manufacturing going forward.
- Companies should find a partner to help as starting out with 3-D printing can be confusing.
- Many educational industries are getting the technology to train students/future workforce.
- Don't get caught up in transitioning to 3D printing – make sure to look at the design and functional requirements of the part to make sure there's no waste, or maybe there's ways to improve the part with the ability of the new technologies.

Following this presentation, Eric Smith with the Iowa State Supply Chain Management program took over to discuss the potential implications for freight and commodity movement. Mr. Smith stressed the fact that before one can look at the impact to entire supply chains, the impact to retail must be understood. At this point, a statement was presented to the group (“In our future, everything in retail will be printed”) and attendees were asked to refute it. The following items were identified as hindrances to 3-D printing everything in retail, followed by a rebuttal by Mr. Smith:

- Consumer taste – These trends do change and will likely evolve around 3-D printing.
- Food – This is already being printed today (can use molecular breakdowns).
- Labor unions – Eventually, cost effectiveness wins out in the marketplace.
- Loss of mom and pop shops that can’t afford printers – This is where competition wins out and it simply changes where things will be printed.
- Time to print – The overall time of 3-D printing will only get faster as the technology improves.
- What about printing the 3D printer – You can do that by printing certain parts at a time and assembling. The first 3-D printer will have to be built manually but after that, all can be 3-D printed.

Following the discussion, Mr. Smith spoke on other significant points and implications relating to this technology. This included statements such as printing with almost all material types will potentially be possible in the future; Amazon will figure out how to distribute those things that won’t be able to be 3-D printed; although clothing cannot currently be printed, trends do change and people may be wearing different materials in the future; and the service industry is changing as more people go to online shopping as opposed to face-to-face. The presentation concluded with Mr. Smith identifying a few final questions related to the impact to supply chains: These included:

- If EVERYTHING is printed locally – either at a retail location or at home – where will raw materials be put into cartridges?
- What happens to the touches between raw materials and finished goods?
- What will happen to warehousing and waste? How about recycling?
- Next, what will happen to shipment volumes? What will the affect be on the logistics infrastructure?
- Will all of this really happen?

2:00 PM Adjourn