

Wisconsin Freight Advisory Committee (FAC)
Meeting Minutes from Thursday, November 15, 2018
9:00 a.m. to 3:00 p.m., Hill Farms Office Building, Madison, Wisconsin

FAC Members Present: Dan Bahr, Mark Brehmer, Tom Bressner, Ron Chicka, Jeff Dudzik, Cory Fish, Mary Forlenza, Brady Francois, Mike Halsted, Jack Heinemann, Paula Henney, Chris Hiebert, Debbie Jackson, Danielle Jones, Peter Kammer, Jeff Kitsembel, Mike Koles, Ken Lucht, Mark Oesterle, Jen Pino-Gallagher, Henry Schienebeck, Richard Stewart, Yash Wadhwa, Michael Welsh

FAC-Member Organizations' Proxies Present: Tim Marshall

Wisconsin Department of Transportation (WisDOT) Members Present: Rich Kedzior, Mike Klingenberg, Dave Leucinger, Rose Phetteplace, Dave Ross, Mary Sanchez, Bob Seitz, Justin Shell, Dave Simon, Laura Stella, Aileen Switzer, Matt Umhoefer, Chuck Wade

Guests: Brian Buchanan, Ken Carlson, Brian Ellefson, Peter Hirthe, Larry Lloyd, Libby Ogard, Brad Peot, David Ruehrdanz, Kim Schackmuth, Jason Swanson, Shea Wallace, Dennis Woodward

- **Welcome and Opening Remarks (9:30 a.m.)**
 - Bob Seitz, WisDOT Deputy Secretary

WisDOT Deputy Secretary Bob Seitz welcomed the FAC members, and said he was proud of the accomplishments made to develop the local bridge / bridge strengthening program. He said that 183 replacement bridges had been approved within the previous year, and the policies adopted will be carried forward. He said that the new legislature will need an indication that WisDOT has the ability to accomplish its mission. He said the reforms taken need to lead to hope for changes – and from that, funding should be considered.

- **Recap of the May 2018 (7th) FAC Meeting, New Member, and WisDOT Update (9:35 a.m.)**
 - Aileen Switzer, WisDOT Division of Transportation Investment Management (DTIM) Administrator

Ms. Switzer mentioned she gave a brief overview of the day's agenda before welcoming Scott Suder (from the Wisconsin Paper Council) to the FAC and summarizing the May 30, 2018 FAC meeting, which included sessions on WisDOT's projects in southeast Wisconsin, air freight in Wisconsin, efforts related to local roads and bridges, and the FAC's Intermodal Subcommittee.

- **State of Wisconsin's Freight-Related Economy / Industries (9:45 a.m.)**
 - Brian Buchanan, Canadian National Railway
 - Peter Hirthe, Wisconsin Commercial Ports Association/Port Milwaukee
 - Shea Wallace, JUSDA USA

Continuing the well-received "State of Our Industry" presentations, three attendees offered their assessment of their respective business sectors.

Brian Buchanan of Canadian National Railway (CN) said that railroads were generally healthy. Coal traffic

is in decline, but intermodal traffic is up. There has been a dip in frac sand traffic in the latter part of 2018, but volumes are anticipated to rise again. Crude-by-rail will grow in traffic due to lack of pipeline capacity from oil-producing regions.

CN is the largest rail operator in Wisconsin, Buchanan said. The company's main line extends from Superior to Chicago. CN has 1,700 employees in the state. Buchanan said that by his calculations, CN has crossed the \$1 billion threshold for capital expenditures in Wisconsin since its purchase of Wisconsin Central, Limited in 2001. CN spent \$110 million alone in 2018. Some examples of those projects include \$5 million in Blair for a rail yard to handle additional frac sand traffic; a double-tracking of the hill climbing out of Superior, improving capacity and traffic flow driven by business development; and the re-opening of track between Ladysmith and Tony, allowing relocation of a log loading operation along the main line that sometimes created problems for through trains along the Superior-Chicago main line.

Peter Hirthe spoke next, on behalf of the Wisconsin Commercial Ports Association (WCPA, and Dean Haen, who was unable to attend). Hirthe said the WCPA held its annual meeting in Superior during the summer, and that a new report on the economic impact of Great Lakes ports has been released. Martin & Associates was the firm who authored the report; it covered both U.S. and Canadian ports. The report found that the impacts of the ports in Wisconsin include support of 7,400 jobs, \$1.4 billion in economic activity, and \$180 million in income.

From the perspective of the Port of Milwaukee, it has seen regional benefits develop through the designation of oversize corridors of importance. The state and county worked with the port and a manufacturer to re-establish a route that Allis-Chalmers had established in the 1960's. After Allis-Chalmers closed, the route fell into encroachment, and some of the old route can't be used anymore. The company now using the old facilities, AC Equipment, manufactures 17' kilns. Now, they can get those kilns to the port with the high/wide route re-established and codified.

Milwaukee is also expecting a huge growth in the volume of visits by cruise vessels – it expects a four-fold growth over the next two to three years. On the freight side, the port has become a major terminal for liquid bulk exports – specifically, ethanol. The exports started in 2018 from a refurbished terminal and tanks; 250,000 barrels have already been shipped. Milwaukee has matched the volume of previous years on shipments of Wisconsin grains – mostly corn and soy – and Milwaukee has cautious optimism for 2019.

Shea Wallace from JUSDA USA said that the Foxconn development was fairly early in the process, so instead of discussing its specifics, he talked about drayage and trucking costs. He noted the ELD mandates had compelled shippers and motor carriers to restructure their routing guidance in historic ways. Shorter routes and driver availability led to a premium on rates, as they rose 38 percent in a three-week period. The driver shortages also caused congestion to increase, with Chicago seeing delays of up to 68 hours. That created a huge drayage backlog; late notifications to shippers led to delays in driver dispatching.

As far as where Foxconn is in planning for its transportation needs, carriers that want to get on board can contact JUSDA USA.

- **Critical Rural and Urban Freight Corridors and Room Discussion (10:05pm)**

- o Chuck Wade, WisDOT DTIM

Next, Chuck Wade gave a brief update on the status of designating Critical Urban Freight Corridors (CUFCs) and Critical Rural Freight Corridors (CRFCs). The federal criteria allow Wisconsin to designate up to 75 miles as CUFCs, and 150 miles as CRFCs. The rules also give MPOs with populations over 500,000 the ability to designate their own systems. WisDOT has cooperated with the Southeastern Wisconsin Regional Planning Commission (SEWRPC) on its designation selections; they are seeking to designate about 13 miles as CUFCs, leaving 62 miles to be designated amongst the other MPO areas.

- **Intermodal Subcommittee – Draft Report Presentation (10:15 a.m.)**

- o Brian Buchanan, Canadian National Railway
 - o Peter Hirthe, Port of Milwaukee

The next segment featured a presentation on the Draft Report of the Intermodal Subcommittee of the FAC. Brian Buchanan called it a “fun and interesting exercise.” He mentioned that intermodal freight – the use of standard containers across multiple modes – developed under maritime transporter APL in the late 1970’s. He also noted how the use of rail cars designed to allow containers to be “double stacked” was a catalyst for this service to expand, and for a separate fleet of domestic intermodal containers to be developed in the 1980’s, with 53’ double stacks. For Wisconsin, he said the focus was on the potential for a rail-truck facility, similar to what existed in Milwaukee until 2012.

Peter Hirthe discussed the parameters for a facility. First, the more favorable sites would need to be located along an “intermodal corridor,” where Class I railroads haul trains inland from coastal ports. The second challenge is finding enough land that has zoning conducive to establishing an intermodal facility.

Among the points made by Mr. Buchanan and Mr. Hirthe is that intermodal container traffic is primarily directed to the eastern part of the state, and that lane balance doesn’t exist. Customers are port-specific; the containers need to match the ports. That’s why partnerships are key – they’re how it comes together. Demand is critical. The cornerstones of the partnerships are the import/export shippers themselves, the steamship lines, and the railroads. There needs to be an alignment of interests amongst all of those groups to determine if a potential facility is viable. Encouraging partnerships is one of the important roles that state government can play.

Libby Ogard said that bulk exports were increasing at the Port of Los Angeles, and that 60 percent of the soybeans for export go down the Mississippi River on barges to the Gulf Coast, since barges are cheaper than railroads. She wondered if a sensitivity analysis had been conducted of other modes. She also noted that an exporter in Michigan built loop tracks for unit trains, which gave them a \$.06/bushel advantage for exports. Were unit trains compared with intermodal? Peter Hirthe said that the report’s task was specific to the intermodal study; studying other modes was outside the scope of the report.

Tim Marshall mentioned the Every Day Counts (EDC) initiative from FHWA, now in its fifth cycle. EDC supports efforts that improve the way things can be done; the report may be able to be a catalyst for capturing the value of transportation facilities at a local level. Local initiatives are probably stronger; states don’t have as much influence.

Mark Brehmer said the survey showed the concentration of intermodal activity in the eastern part of the state. He asked if there is a piece of real estate that should be targeted – before there is encroachment

from residential development. Brian Buchanan replied that land acquisition is usually the big “show-stopper” in the development of an intermodal facility. He said that if a “perfect parcel” had been identified, the next step would be going to the business division of the railroad serving that location, and then go forward with initiatives if they are needed. The stakeholders need to be engaged in the development process.

Peter Hirthe said that is how the Port of Milwaukee has engaged the Class I railroads – the port said, “the state needs intermodal service; let’s talk.” Railroads know where the available locations are. The first consideration is at locations where intermodal service had previously been provided, especially if the infrastructure is there. Another potential location would be at decommissioned power plants. The historical locations of service could be considered, whether they were served currently by Class I or short line rail companies. Brian Buchanan said that railroads often hear about customers wanting intermodal service, but they don’t understand the nuances in creating that service. That’s why he was happy to see the Intermodal Subcommittee initiative, and to be part of the engagement that made this “the study to end all studies”.

Mark Brehmer asked what railroads look for in a facility. Brian Buchanan replied that for a small yard, five to ten acres would be needed. The land would need to be next to the railroad’s main line, rather than on a spur line, and that it is located at a point on the railroad that makes sense from an operations standpoint. The land would also have to be level; not be on wetlands, and not be next to residential areas.

• **Transportation Technologies - Panel Presentation (10:50 a.m.)**

o Facilitator: Dave Leucinger, WisDOT Bureau of Planning & Economic Development

o Panel Members:

Mark Oesterle, Federal Motor Carrier Safety Administration

Brian Buchanan, Canadian National Railway

Jason Swanson, SwanLeap

Next, the FAC was given a presentation on transportation technologies. After introducing the panel, Dave Leucinger opened the session with a brief presentation on the Technology Panel held at the October 2016 Governor’s Freight Industry Summit (GFIS). At that Summit, WisDOT’s DeWayne Johnson talked about how GPS was being used to better define construction parameters, and how drones are being used for bridge inspections. He also discussed the high costs for Vehicle-to-Infrastructure (V2I) capabilities at intersections and along corridors. Lieutenant Mike Klingenberg, from the Wisconsin State Patrol, noted in his presentation that weigh-in-motion (WIM) technologies have improved. Accreditation services work with WIM systems to help detect discrepancies. The equipment for motor carrier inspections has also improved, including mobile scales, photologs, and infrared cameras.

Dave Leucinger also reviewed the presentation of Professor Adeel Lari from the October 2016 GFIS. At that time, Lari said that Autonomous Vehicles (AVs) were coming – it was only a matter of when, not if. The compelling reason is the anticipated safety benefit of removing human error from driving. Professor Lari said that some laws may need to be changed, such as defining “drivers” and “safe operating distance” between trucks. He also said the roles for federal and state authority would need to be clarified; likely, the federal government would focus on the safety and standardization of the technologies while states would continue the licensing of vehicles and operators.

Dave Leucinger then reviewed the responses to the tabletop exercises in that panel session, which can be found in the Summary Report of the 2016 GFIS.

Next, Mark Oesterle, Wisconsin Division Administrator for the Federal Motor Carrier Safety Administration (FMCSA), gave an update on technology changes for motor carriers. The mission of the FMCSA is to reduce crashes related to motor carriers. The changes to the Hours-of-Service (HOS) rules and the mandated use of ELDs are part of that, he said. The limits are 11 hours of driving and 14 hours on-duty after a 10-hour off-duty period. Drivers are limited to 70 hours on-duty in 8 consecutive days; resets require a 34-hour period of consecutive off-duty hours. ELDs have been required since December 2017; older Automatic On-Board Recording Devices (AOBRDs) that were grandfathered in need to be replaced with ELDs by December 2019. The ELD gives far more information, providing data that can be used in audits. AOBRDs have less regulatory power and don't monitor speeds. Mr. Oesterle said the ELDs have helped us on a major investigative case, where counterfeit identification plates were created to make engines appear to be from before 2000, thereby exempting them from emissions standards when used in a glider kit (a re-bodying of older tractor units). FMCSA is also working at a high level on AV efforts.

Brian Buchanan's presentation showed how technology has been part of railroading since its inception. Where rail lines cross each other, manually-operated lever systems in interlocking towers have been replaced by computer-based dispatching and control systems dozens or even hundreds of miles away. Locomotives can now be placed in the middle of a train to distribute the power, with remote controls independent of the lead units. Bar coding originated on railroads fifty years ago, although the companies learned that the grime of the railroad environment meant that the system didn't always work well. Crews in the caboose had been the means of detecting train problems, visually. Now, there's a detector at the end of rail cars that electronically detects brake pressure and other metrics, electronically transmitting them to the crew in the locomotive. There are many remote technologies along railroad tracks, detecting overheating wheel bearings and wheels, or dragging equipment; in Wisconsin, CN has this equipment every 12-15 miles along its mainline. When one train is stopped for another, crews will still leave the stopped train to visually inspect the passing train on both sides.

CN, as well as other Class I companies, has track-detection systems of varying sophistication. The most sophisticated equipment, housed in specially-converted rail cars, can detect microscopic cracks within the metal of rail segments, indicating which tracks need to be replaced before they break. Railroads are also implementing mandated Positive Train Control technology to prevent train crashes; systems should be fully operational by 2020. For intermodal, the era of maps and general locations for drayage pickup within yards is giving way to applications that provide precise locations of containers and link credentials and paperwork all together at entry and exit. One example is Norfolk Southern's ExpressNS system.

Dave Leucinger asked Brian Buchanan about the metrics the rail companies use to measure system performance internally. Buchanan replied that the most common metrics are car velocity, train speed, and trip plan compliance – measuring how well the company meets its schedule for each loaded car. For a metric such as velocity, a change of just one MPH in average train velocity makes a difference of 50,000 rail cars needed. Slower movement means more cars are needed.

Jason Swanson then discussed how SwanLeap addresses the needs of shippers through technology. Inc Magazine identified SwanLeap as the fastest-growing business in the nation in 2018. He stated that SwanLeap was able to achieve an average cost savings per client of 26.7 percent. SwanLeap found the companies were not using the most cost-effective carrier combinations or modes. The companies

providing transportation services lack visibility, and often the codes of their computerized operations don't talk to each other. SwanLeap developed a system for mapping patterns, using artificial intelligence (AI). With AI, the company has been able to develop software quickly, and get the information to the customer quickly. It's an investment in new generation technology.

One of the problems SwanLeap identified is auditing the decision-making process for shipping. It's a consistent problem for both large and small users. SwanLeap's system rate-shops and runs simulations; the system can add rules and routings as desired by a customer. Rates can change every day. Even for companies that understand the use of technology to track the market, there's still a surprising amount of manual information entered.

SwanLeap touches all departments – shipping, customer service, and accounting – to look for efficiencies. The software analyzes shipments for the past six months and what is projected for the next six months. There are a lot of companies moving their operations to “the Cloud”, and there are a lot of behind-the-scenes updates and a massive amount of data – a “planetary scale.” With “the Cloud”, there are no more limits on data management or warehousing. Some potential customers have said they hand off the decision-making to third-party logistics providers (3PLs), but 3PLs use a hodgepodge of technology; there are 8 different software packages that are frequently used by these companies. 3PLs are not technical experts. The advantage of SwanLeap is that customers get the power of a 3PL without working as a 3PL.

Performance Management Technology Discussion (1:15pm)

- o Mary Sanchez, WisDOT OMB
- o Laura Stella, WisDOT OMB
- o Justin Shell, WisDOT DTIM

After lunch, the FAC returned for a presentation on how WisDOT applies performance management technology. Mary Sanchez and Laura Stella discussed the existing WisDOT performance measures (PMs) monitored by the department under the Mobility, Accountability, Preservation, Safety, and Service (MAPSS) program structure. These five strategic goal areas have been part of the department's tracking of performance since late 2011. Scorecards track individual PMs, relative to target goals and relative to previous periods. These scorecards also discuss how the PM is tracked. For freight, the five most relevant PMs are:

- State Bridge Condition
- State-Owned Rail Line Condition
- Airport Pavement Condition
- State Highway Pavement Condition (Backbone System)
- State Highway Pavement Condition (Non-Backbone)

For bridges, inspectors have been using tablets to improve data management for the Highway Structures Information System (HSIS). HSIS data is used to build the Wisconsin Structures Asset Management System (WisAMS), used to identify and prioritize work needs for bridges.

For rail PMs, railroad operators submit data on the rail line condition to WisDOT. WisDOT conducts compliance inspections to verify the reports. As it conducts those inspections, WisDOT utilizes Garmin GPS to develop an online, interactive map.

Airport pavement condition is measured in compliance with FAA eligibility requirements for airport development grants. Contractors conduct these inspections on a three-year cycle. Data is entered into a software program developed by the U.S. Army Corps of Engineers that can predict future pavement conditions based on past performance.

Next, Justin Shell explained the two highway-related PMs most relevant to freight. The “Backbone” system of the State Highway System carries 85 percent of the state’s freight traffic; its benchmark is that more than 90 percent of this system has pavement condition rated as fair or better. For the past five years, WisDOT has exceeded this standard. For the non-Backbone system, the benchmark is for 80 percent of the pavement on that system to rate as fair or better. WisDOT did not meet this standard in 2015 or 2016, but exceeded it in 2017 and 2018.

Pavement performance is measured by a tool called the Pavement Condition Index (PCI), which identifies more than 20 different pavement stress types. The PCI was developed in the 1970’s by the Army Corps of Engineers; it is a nationally-accepted standard. Its measurements range from 100 (for a new road) to 0 (for a failed road). WisDOT conducts its pavement data collection using a high-tech van equipped with multiple cameras. The van allows the department to visually represent the condition of all state highways. The data collected and measured feeds into the department’s project development.

Libby Ogard asked if there were performance measures tracked for the commercial ports. Mary Sanchez replied that metrics related to commercial ports aren’t part of MAPSS. Dave Simon said that the department does track the three-year plans from ports. WisDOT has talked about performance measures, such as the number of top priority needs funded, or the percent of requested assistance funded.

- **E-Commerce and Supply Chains (1:40 p.m.)**

- o Facilitator: Jen Pino-Gallagher, Madison International Trade Association

- o Panel Members:

- Ken Carlson, UPS

- Bryan Ellefson, Neesvig’s Inc.

Matt Umhoefer opened this session with a brief re-cap of the background paper on the subject. He noted that Sears Roebuck & Co. was the first major company to prosper from the delivery of ordered goods. At the turn of the last century, 65 percent of the United States lived in rural areas. The U.S. Postal Service, which had a Rural Free Delivery operation, increased the size of free deliveries from four pounds to eleven pounds; this allowed Sears to become the “Amazon of its time”, increasing its orders five-fold.

Jen Pino-Gallagher gave a brief presentation in which she talked about customer expectations, including how soon the order would be delivered, and to where it would be delivered. She noted that on CyberMonday in 2017, digital transactions reached \$6.6 billion in purchases; for the first time, \$2 billion of those purchases were made by smartphones. Therefore, e-tailers need to make sure their websites work with the smartphone platforms. The growth in online purchases is growing globally, especially in China. Alibaba began promoting a “singles day” event on 11/11 of each year; in 2018, the company had \$30.8 billion in sales.

Ken Carlson from UPS discussed the overall global marketplace for online retail purchases. He explained that his role within the organization is focused on the financial end, including insurance, payment

solutions, and finance. He said that UPS had published its own White Paper, “The Pulse of the Online Shopper,” available at the UPS.com/insideretail web page. The paper focuses on business-to-consumer (B2C), but there are similar trends for business-to-business (B2B). He noted Uline as one of Wisconsin’s largest B2B operations. The White Paper identifies four macro trends: 1) Retail is global; 2) Smartphones are gaining ground; 3) Marketplaces make inroads; and 4) Physical stores are still important.

Mr. Carlson said that a survey done for the White Paper found that over the previous year, 20 percent of shoppers purchased one or fewer items online each month; 40 percent made two purchases per month, and another 20 percent averaged seven purchases per month. Those purchases aren’t just from younger shoppers; 90 percent of non-millennials made at least one online purchase. Looking at commerce globally, half of online shoppers made at least one international purchase in the previous year. Key to those purchases was knowing the total costs of the purchase – the item, tariffs and duties, and shipping costs – in the currency of the purchaser. Also important was understanding the return policy.

Mr. Carlson noted the rise of smartphone use by identifying a key inflection point: November 2016, when more people accessed the web via smartphones than by computer. He stated the importance of omnichannel fulfillment in retail – and that the goods are the same whether purchased online, in the store, or by phone. He said 29 percent of all sales include a search on Amazon; 97 percent of online purchases are made through an online marketplace. Stores play an important role in the supply chain as a pickup point for the purchases, and as a return point. Kohl’s has partnered with Amazon to be a return location for the online Amazon purchases.

Mr. Carlson said that delivery schedules are expanding to include more weekend and evening deliveries; UPS, FedEx, and the USPS are now being joined by Uber as a delivery company. There are also alternative delivery locations emerging, including UPS Stores in the Mailboxes Etc. storefronts, and FedEx operations inside of Walgreen’s stores. Reverse logistics is also a critical factor; three of every four online purchasers will return at least one item to the seller. Another growing trend is shipping of oversized items (such as bicycles). He also noted the growth in the perishables market, including cold chain continuity and time sensitivity. Pharmaceuticals are part of that chain, as are home healthcare supplies and laboratory supplies and tests.

Brian Ellefson spoke about the challenges of growth with their meat mail-order operation, and how they worked on several packaging designs to find an optimal solution for long-distance deliveries. Neesvig’s, which is a 105-year old, family-owned company just outside Madison, conducts fulfillment of orders for 60 different on-line and catalog retails, including QVC, Smithfield, Nieman Marcus, Colony Brands, and Elegant Farmer. Their refrigerated warehouse uses top software for order management and for order processing. He noted that in the three years from 2015 to 2018, customer acceptance of online grocery shopping has grown; 39 percent of shoppers in 2018 purchase at least some items online, up from 19 percent in 2015.

Ellefson noted that in 2018, consumers’ greatest concerns with ordering fresh meat or poultry online were a desire to select the meat/poultry themselves and a concern over lack of freshness. Approximately 5 percent of consumers had no concerns about ordering meat or poultry online, up from 3 percent in 2015.

- **Closing Remarks (2:45 p.m.)**
 - o Dave Ross, WisDOT Secretary

Secretary Ross thanked the members of the FAC for their attendance and the staff of WisDOT for their efforts in putting together the content of the meeting.