

Wisconsin Freight Advisory Committee (FAC) Meeting 17

Meeting Minutes from Wednesday, May 8, 2024

9:30 a.m. to 3:30 p.m., Held in-person in Madison, Wisconsin

FAC Member Organization Representatives: Sarah Azar, David Bizot, Mark Brehmer, Dr. Mei Cao, Maria Cartier, Kim Conradt, Jason Culotta, Tim Fiocchi, Glenn Fulkerson, Steve Griffith, Kari Heinrich, Chad Hoffman, Debby Jackson, Ethan Johnson, Larry Krueger, Sean Parker, Richard Pingel, Dean Prestegaard, Jason Serck, Carl Suhr, Mike Sullivan, Aileen Switzer, Evan Umpir, Don Vruwink.

Additional FAC Member Organization Proxies Present: Mary Forlenza.

Wisconsin Department of Transportation (WisDOT) Members Present: Secretary Craig Thompson, Angela Adams, Stephanie Arduini, Brad Basten, Lt. Bill Berger, Nathan Bett, Ehren Bittorf, Brian Elliott, John Etzler, Jennifer Fedie, David Hubbard, Romy Jost, Jeremy Kloss, Dave Leucinger, Alex McMurtry, Todd Merchant, Merrill Mechler-Hickson, Jennifer Murray, Briant Novinska-Lois, Matthew Schreiber, Justin Shell, Sarah Simonson, Kamden Stark, Lisa Stern, Matt Sudac, Matt Umhoefer, Todd Van Fossen, Kaleb Vander Wiele, Chuck Wade.

Panelists/Guests Present: Senator Joan Ballweg, Tanner Blair, Jeremy Hock, Leah Kelm.

Welcome (9:30 a.m.)

Chuck Wade, Division of Transportation Investment Management (DTIM)

Mr. Wade welcomed attendees and reviewed the agenda and contents of the meeting folders.

Opening Remarks (9:35 a.m.)

Craig Thompson, WisDOT Secretary

Secretary Thompson welcomed the FAC members and guests, noting the importance of the transportation system in allowing movement of goods and services. He recalled that in the previous week, members of the FAC participated in a freight panel and shared their insights during the AASHTO spring meeting in Madison. Truck parking challenges, the need for uniform truck weight limits and cross-border connectivity, and challenges to the supply chain across modes and borders were among the topics discussed. As president of AASHTO, Secretary Thompson expressed gratitude for these members taking time from their schedules to sit on the panel and make those presentations.

Next, Secretary Thompson mentioned two projects that had received grants as part of the Bipartisan Infrastructure law (BIL). First, the Blatnik Bridge replacement in Superior will serve that important area for industry and trade. Second, an INFRA Grant will be used to rebuild and expand the Sparta rest area, allowing more trucks to park safely. There were many members of the FAC who wrote letters of support for one or both grant applications; those who did were recognized on a slide during the presentation and thanked by Secretary Thompson.

The Secretary also noted that since 2019, 7,424 miles of road and 1,780 bridges have been improved. He thanked the state legislature, including Senator Ballweg who was in attendance, for approving increased

funding. Greater funding has also allowed the state to move forward on Interstate Highway projects to reduce congestion and improve safety. WisDOT is also close to announcing the first round of awards in the Agricultural Road Improvement Program (ARIP), which received \$150 million in support from the state legislature to improve the movement of our state's agricultural products. He also noted the opening of the State Patrol's upgraded Hudson Safety and Weight Enforcement Facility and the planned replacement of a similar facility near Wrightstown.

Secretary Thompson added that other modes have also benefitted from WisDOT investments, including \$10 million in grants for eight projects through the Harbor Assistance Program. Through the Transportation Economic Assistance Program, Fincantieri Marine in Marinette will soon receive funding to improve traffic flow around its shipbuilding operations. He said the Freight Railroad Infrastructure Improvement Program awarded \$3.3 million for two grants – Riffey Transload in Reedsburg for a new facility serving the food products industry; and the Village of Wrightstown for a rail spur to help serve the lumber shipping industry.

The Secretary noted that the 2019 Intermodal Report received vital contributions from the FAC, and that the report would be updated with new data and information, which would be covered in a presentation later in the meeting. WisDOT will also be rolling out grants associated with the Wisconsin Electric Vehicle Infrastructure Program to help build more charging stations for EVs, and Secretary Thompson noted that discussion of freight electrification on key corridors will be featured on a panel session.

He concluded by noting that it is an exciting time for transportation, and that the FAC has provided key guidance and support for moving forward. He said he looked forward to that collaboration continuing during the meeting and in the future.

FAC Membership Update and Recap of the 16th FAC Meeting (9:50 a.m.)

Justin Shell, DTIM Administrator

Mr. Shell began by welcoming the three new members of the FAC – Kari Heinrich, representing the Public Service Commission; Dean Prestegard, representing the Wisconsin Economic Development Association; and Jason Serck, representing the Wisconsin Commercial Ports Association.

He then gave a brief recap of and observations on the 16th FAC Meeting, held on October 26, 2023. Mr. Shell noted that the themes of that meeting included connections and continuation of efforts to build relationships. He highlighted the ARIP program and how it will provide \$150 million to address needs for moving agricultural products. He also noted Steve Griffith's presentation on electrification, and how the day's agenda would be a continuation of that theme. Mr. Shell also remarked on Neil Kedzie's presentation at the AASHTO spring conference, noting that even though the Marquette Interchange was still a bottleneck, its national ranking fell from 14th to 95th after the reconstruction. Mr. Shell further observed the importance and broad range of the presenters on the Young Professionals panel.

For a full summary of that meeting, please reference the Meeting 16 minutes.

Voices of Wisconsin's Freight-Related Industries (10:05 a.m.)

Mary Forlenza, Federal Highways Administration - Wisconsin

Next, the meeting turned to the Voices of Industry segment. Mary Forlenza from FHWA provided additional details on the Biden Administration's National Freight Initiative, announced in April of 2024. This initiative establishes a new national goal to move to zero emissions in the freight sector. The

strategy incorporates all the modes, and all levels of key agencies – including the Department of Energy, the Department of Transportation, Environmental Protection Agency, and Housing and Urban Development. She noted that there will be forthcoming action plans for each freight segment. Ms. Forlenza also noted that multiple new funding sources are in place to support this strategy, including \$1 billion from the EPA to replace diesel-powered Class 6 and 7 vehicles with electric models. There are also programs to further address truck emissions at ports, such as \$72 million for a truck charging program that will accelerate charging infrastructure and help standardize charging equipment at truck depots. These efforts involve multiple partners, coupled with vision and mobilization. WisDOT and the FHWA will help keep our partners posted on developments.

Larry Krueger, Lake States Lumber Association

Mr. Krueger said the last two years have been tough for the lumber sector, but it is starting to improve. Wisconsin remains uncompetitive for its high shipping costs – it is the most-costly state in the eastern half of the United States from which to export, with Chippewa Falls being the only public access intermodal terminal in Wisconsin. To get containers from eastern Wisconsin to Chicago terminals, the drayage costs \$1,600. From the terminal back to China, the combined rail and vessel costs are \$1,100.

He said that when Wisconsin Central operated, the intermodal yard in Green Bay handled 100 containers per day. He contacted CPKC to see if they were interested in reopening a yard in eastern Wisconsin; they said they were not. He then said that he told the CPKC person of this previous volume; upon which the railroad person said, “I’ll call you back,” implying CPKC is willing to discuss intermodal opportunities. The importers will be most important, because they typically pay three times the cost of container movement that the exporters do.

Mr. Krueger said he is trying to organize a meeting with the railroad and importers to make the case for an eastern Wisconsin terminal. He said that to him, the obvious location should be Oshkosh. WSOR provides the service; the route can handle double-stacked containers, and it connects with CPKC, CN, and other lines. Watco, which runs terminals as a third party, could run the terminal. The key would be having quick turn arounds for the containers – three days or less. With two containers per rail car, the margins for shipping become a \$3,200 difference with drayage. But the “carrot” to attract rail interests needs to be the importers.

David Bizot, Wisconsin Department of Natural Resources

Following Mr. Krueger, David Bizot of the Wisconsin DNR spoke about trends in mobile source emissions and how they factor into air quality. Mobile sources are the largest contributors to ground level ozone. Due to pollution reduction efforts, air quality readings are the best ever measured – although there are still higher pollutant levels along Lake Michigan from Kenosha to Sheboygan. The challenge is that while the pollution compounds have fallen over time, the share of mobile sources in contributing to overall pollution is higher. Railroads, vessels, and especially trucks are the top contributors – these sources account for double the level of pollution from industries and utilities combined. Another challenge is that given the longer life of freight vehicles, it takes time for these sources to change over to lower-polluting equipment.

Mr. Bizot noted there are federal programs, including those funded by the Environmental Protection Agency (EPA), to help accelerate that change – including initiatives at ports to install shore power hookups to power vessels, in support of zero emission initiatives. Wisconsin’s DNR is providing input to the EPA, requesting dedicated funding for ports that aren’t on the ocean shores, to consider inland ports and offer carve-outs for small ports, inland ports, and non-attainment areas. As Mary Forlenza noted,

there is a major initiative for clean heavy-duty trucking – Class 6 and 7 vehicles such as school buses, dump trucks, delivery vans, and box trucks. He said the DNR is excited about electrification opportunities; the agency is working with the EPA and providing feedback. The DNR wants to know if the program isn't working for the freight sector – Mr. Bizot asked members to contact him with concerns.

Sarah Azar, M.E. Dey

Following Mr. Bizot, Sarah Azar spoke, representing M.E. Dey. She first asked Larry Krueger to contact her and M.E. Dey; an Oshkosh terminal would work well for the importers her firm works with.

Ms. Azar said the landscape for international freight has changed over the past five months. Rates had been lowering and flows were more efficient. Now, it's a new market with geopolitical concerns over the Red Sea and vessels avoiding the Suez Canal – which requires longer routes and travel times. The bridge crash in Baltimore has required diversion of all the project cargo that had been moved via that port. The Panama Canal has also reduced the number of vessels due to drought. She noted that there is an additional "wild card" with a looming strike in Canada. [ed. note: as of early May 2024, this could have referred to the threatened Canadian Customs strike, or the threatened strike of Canadian railway workers.] This would impact the cargo entering the U.S. and put more stress into Chicago. The routes from coastal ports into Chicago could take more time.

Ms. Azar added that there has also been a change to be closer to manufacturing sites – moving from China to Mexico. This opens options for freight movement to bridge the gap between Mexico and the Midwest. But it also means challenges to doing business by requiring the setting up of different supply chains. There's always something moving, she added.

WAVE – Wisconsin Automated Vehicle External Advisory Group – Freight Focus (10:15 a.m.)

Brad Basten, WisDOT

Mr. Basten briefly summarized the WAVE meeting held the previous day (May 7), which focused on the automation of freight vehicles. He recalled presentations from Schneider, noting how safety systems (such as automatic crash avoidance braking) have moved from automobiles to trucks. At Schneider, this has reduced the crashes involving emergency braking by 68 percent; the Schneider presenter noted he makes sure his own children have cars with that feature. The value of these systems is documented by cost-benefit analysis. Mr. Basten also highlighted a presentation on State Highway 150 in Texas, where fully automated trucks will be allowed to operate for the first time. At the start, two companies with a total of 20 trucks without drivers will be deployed; there will be testing and monitoring to ensure the operations are safe and are perceived to be safe. The point is also to get the information to the public and to local governments. Sarah Simonson added that the public needs to be educated to understand the context and to realize that human error causes more problems.

Agricultural Roads Improvement Program (10:20 a.m.)

Merrill Mechler-Hickson, WisDOT

Merrill Mechler-Hickson spoke on the status of the first round of Agricultural Roads Improvement Program (ARIP) grants.

Mr. Mechler-Hickson said that the legislature authorized a one-time \$150 million program for the 2023-

25 biennium from the Segregated Fund. Eligible roads identified include Class B and other weight-restricted roads in rural areas that are critical for the movement of agricultural freight. Award recipients are eligible to receive up to 90 percent of their costs covered by the state share. Recipients would need to sign contracts within three years of being awarded the grant, and projects would need to be completed within five years. He noted additional eligibility criteria was available at the department's ARIP web page.

Mr. Mechler-Hickson said the initial round of applications closed on April 5, with \$50 million available. 160 applications were received, with \$260 million in projects proposed (applying 90% cost share, seeking \$233 million). Applications came from around the state – 56 of the state's 72 counties. By WisDOT region, 30 came from North Central, 41 from Northeast, 44 from Northwest, 10 from Southeast, and 35 from Southwest. 130 of the applications came from towns, so the goal of addressing small/rural community needs was being heard. The project requirements are that they align with the program emphasis on key rural transportation corridors. Applications were under review by the selection committee; the project selection process will prioritize those with the greatest positive economic impact. The committee will rely on information provided by the ARIP applicants.

In conclusion, Mr. Mechler-Hickson noted the timeline would have review of applications through the end of May, with selection in early June and awards announced in July. The first round will award \$50 million; another \$100 million will be awarded later in 2024 during round two. For those who unsuccessfully applied in round one, the process to resubmit for round two will be easy.

Ethan Johnson asked if the list of applicants and their submitted projects was available. Mr. Mechler-Hickson replied that it would be made public after the first round of awards was announced.

Federal Discretionary Grants Update (10:30 a.m.)

Casey Newman, WisDOT

Next, Casey Newman updated the FAC members on WisDOT's efforts to obtain federal discretionary grants. He noted the department has a dedicated website that provides a great resource for tracking these efforts [wisconsindot.gov/BIL]. As of the FAC meeting, \$2.01 billion had been awarded to the state; the web page uses GIS to identify the locations, project description, project and award amounts, and federal agency funding the project. The web page allows interested parties to explore existing state programs and discretionary federal grant opportunities. He noted the website links to a Summary Guide of grants available for transportation projects. It's comprehensive in that it pools eligible programs from across federal agencies.

Mr. Newman then gave a brief summary of how to apply for a discretionary grant. Among his insights was to watch for federal Notices of Funding Opportunity (NOFOs), and plan ahead to be ready with eligible projects when the notices are announced. He noted that WEDC (Office of Rural Prosperity), the US DOT (ROUTES), and other agencies have resources available to help applicants on technical questions regarding application preparation and submittal. He also noted that a letter of support could be requested from WisDOT for US DOT grants. He noted that letters of support are important for applicants and can help bring a successful outcome.

One FAC member said that as a trade association, his group isn't eligible for any of these awards – but what would be the best approach to get awards that benefit his association's members? Mr. Newman replied that the first step is to determine what type of project is desired – and determine whether it's on

a local road or a state facility. Then, see what programs the project would be eligible to receive grant funding for. Also critical is to identify who will be in charge of managing the project. WisDOT partners with local governments on these projects.

Dean Prestegaard asked about management support for local governments after the grants are awarded. Mr. Newman replied that if the grant is via a state program, WisDOT will have a role. WisDOT's resources are limited, though, as there aren't enough staff members. Regions will work with local governments on local implementation and local projects.

Break (10:40 a.m.)

Intermodal Report Update – Presentation (10:55 a.m.)

Sarah Simonson, WisDOT

Dave Leucinger, WisDOT

After a break, the first in-depth presentation of the day focused on the department's update of the 2019 Intermodal Freight Report. Dave Leucinger began by giving an overview of the presentation. He started with a brief recap of the 2019 report process. That report was informed by a subcommittee of the FAC, which met several times. There was also a survey of businesses that was facilitated by Wisconsin Manufacturers & Commerce. The report itself featured an extensive narrative that identified critical terminals and volumes, discussed the metrics used to measure the sector's performance, and outlined the factors that determine the viability of a facility. Those include:

- Investment doesn't happen without sufficient and sustainable demand (and since 2019 there hasn't been a demonstration of that demand by the business community that WisDOT is aware of);
- International and domestic intermodal are different operations (the equipment interlocks for rail transport, but domestic containers can't be loaded for overseas shipping);
- Imports drive exports (inbound receivers pay most of the total container movement costs and generate the empty containers for potential exports);
- Global liner services control the flow of international containers (including supply, prioritization, and inland movement);
- Trade lanes require balance (for both international and domestic intermodal), and those lanes also determine railroad partners (CPKC, CN, UP, and BNSF are the four lines that can carry containers from coastal ports to Wisconsin without a line interchange);
- Anchor businesses are critical to facility location and viability (in Wisconsin, Ashley Furniture in Arcadia and Menards in Chippewa Falls are the anchors);
- Wisconsin has enough product to fill export containers (grains and distiller's dried grains with solubles, hardwoods, food and beverages, manufactured components); and
- Multiple models exist for intermodal facility operations, size, and rail service.

Mr. Leucinger acknowledged members of the FAC who have raised concerns over the costs of intermodal service following the 2012 closing of the Milwaukee terminal. Eastern Wisconsin exporters must dray their containers to Chicago, if there are even empty containers available. There are also challenges with terminal wait times, chassis availability, tolls, highway congestion, and hours-of-service limits for drivers that make some moves two-day rather than one-day trips. He noted, however, that Wisconsin's ability to move the private sector is very limited. Intermodal freight is international; liner services and container ownership is foreign-held; major railroads in Wisconsin (CPKC and CN) are also

multi-national. The marketplace responds to demand, Mr. Leucinger added, but to date no Eastern Wisconsin anchor importer or group of importers have stepped forward to generate sufficient volumes for a terminal. Further, he noted that freight markets are driven by efficiency. The Precision Scheduled Railroading practice maximizes velocity and equipment use while lowering dwell times. Liner services, especially during the pandemic, applied similar practices by requiring maritime containers to be returned empty without allowing them to be moved inland. Overall, the supply chains have had a tumultuous past five years.

Mr. Leucinger noted that WisDOT has an established policy for supporting private sector efforts to develop intermodal facilities, including education of interested parties on the influence of global markets, assistance to local governments and private industry with data analysis, participation in meetings with interested parties, and support for federal loan and grant applications. These policies were reaffirmed in the 2023 Wisconsin State Freight Plan.

Sarah Simonson continued the presentation, discussing the 2024 Update. She said the goals for the Update are to refresh the 2019 report with new data and analysis, along with content from two regional intermodal studies. The outline identifies changes to Wisconsin's terminal inventory and volumes, identifies cargo volumes, origins, destinations, and trade lanes for both domestic and international intermodal, quantifies container pricing, and outlines the global activities impacting the state – all to provide an outlook for the future of intermodal freight in Wisconsin. Data will be pulled from several sources, including the U.S. Census' Import/Export Data, Transearch, the regional intermodal studies, trade journals such as Journal of Commerce, the Intermodal Association of North America, and other scholarly reports and articles. Ms. Simonson noted the timeline for the 2024 Update is to conduct data analysis through the summer of 2024, then provide an update with content to the FAC at the fall meeting before finalizing and publishing the update in early 2025.

Intermodal Report Update – Room Discussion (11:25 a.m.)

This information has been collected in a separate document.

Lunch Break (12:00 p.m.)

Public Meetings and Open Records Training (1:00 p.m.)

Sarah Simonson, WisDOT

After lunch, Sarah Simonson updated the FAC on the requirements for open records, as they apply to the FAC. Under the Public Meetings Law, meetings must be announced to the public in advance, and business must be conducted in an open session. The FAC hasn't taken votes in recent years, she noted, but meeting information is subject to Wisconsin's statutes. Other information produced within the context of the FAC may be covered under Open Records Laws. These records have rules for handling and retention, and how requests for such information are managed. She urged members to contact WisDOT for all questions about either public meetings or open public records.

Preparing for Freight Transportation Electrification - Panel Presentation and Discussion (1:10 p.m.)

- Moderator: Chuck Wade, WisDOT
- Panel Members:
 - Steve Griffith, National Electrical Manufacturers Association (NEMA)
 - Tanner Blair, Wisconsin Public Service Commission
 - Kaleb Vander Wiele, WisDOT
 - Jeremy Hock, Schneider
 - Dick Pingel, Owner-Operator Independent Drivers Association (OOIDA)

Chuck Wade introduced the panel, noting they each brought an important perspective on freight electrification.

Steve Griffith, NEMA

Mr. Griffith's presentation focused on strategic efforts for the electrical manufacturing sector to meet the emerging demands of freight electrification. He reiterated NEMA's strategic goal of developing an entire electrification ecosystem that would support vehicle electrification. He noted that while the pace of EV sales is slowing down, there will still be almost 20 million electric vehicles on the roads by 2024.

California is the state with the greatest vehicle electrification; Texas, Florida, and New York are among the strongest of the remaining states. Mr. Griffith noted the importance of standards, and NEMA's role in developing and promoting those standards. Traction motors are an area of rapid development, including use in heavy- and medium-duty vehicles.

He also discussed the opportunities to increase electrification for freight and passenger rail operations, stating there is a coalition behind this effort. He noted the opportunities of co-location of transmission lines with rail corridors, citing the example of bringing power from Quebec's hydroelectric facilities to New York City. He also noted the importance of impacts to the grid, maintaining system flexibility during peak demand, and developing a strategy for substations and transfer stations. The efforts underway comply with the Buy/Build America provisions that support domestic manufacturing. Key to their application is the phasing in of requirements, allowances for substantial transformation to be counted towards domestic production, and recognizing the complexity of supply chains. Mr. Griffith noted the J3400 connectors becoming the standard for recharging, and also noted NEVI standards as positive incentives. He added that states can use their regulatory authority to further ensure fair and phased-in equipment standards and regulations.

Tanner Blair, WI PSC

Mr. Blair's presentation discussed the legislation, regulation, and deployment of electrical infrastructure for transportation in Wisconsin. Senate Bill 791 / Act 121 exempted EV charging stations from regulation as utilities; Senate Bill 791 / Act 122 created a new EV program for WisDOT, allowing for the agency to administer \$78 million in NEVI funds. Those bills were signed into law on March 20, 2024. Battery energy storage systems are a current area of focus; the PSC has approved 1,100 MW to date. These use lithium ion technology, although other systems are possible. The PSC expects another 650 MW of applications for addition battery storage systems, with almost half being stand-alone systems. Geographically, these locations are dispersed across much of southern, central, and western Wisconsin.

Mr. Blair then discussed the long-range plans for the Midcontinent Independent System Operator network, which extends across 15 states. These plans include four tranches for expanded transmission line projects. The first tranche was approved in 2022, and includes \$10.3 billion in projects. For Wisconsin, this first tranche covers corridors in central and west-central parts of the state.

Mr. Blair also noted federal incentives for renewable energy, and how they will impact the capacity planning efforts at the PSC. Will more capacity be needed, and if so, what investment level will be required? The primary incentive tools are under the Investment Tax Credit, which will transition into the Clean Electricity Tax Credit in 2025. These allow federal tax deductions for businesses for a portion of the cost of renewable energy systems. The IJA also supported the supply chain with \$7 billion towards the battery supply chain. Other equipment, including transformers and meters, is also incentivized.

Kaleb Vander Wiele, WisDOT

Mr. Vander Wiele's presentation focused on how WisDOT's efforts under the state-level WEVI align with and complement the federal NEVI, and how those can dovetail into a larger conversation on electrification of heavier vehicles. Under NEVI, the total appropriation was \$5 billion; Wisconsin's share will be \$78.7 million over five years. Wisconsin was a bit behind other states that had functional electrification plans for vehicles; Wisconsin did not. But NEVI was a template for Wisconsin to establish a strategy for passenger and light-duty EVs. The foundation was stakeholder engagement; there has been hesitancy in purchasing EVs due to lack of charging facilities.

As of the FAC meeting, Mr. Vander Wiele said, the state has 393 publicly available charging station locations; 210 of these are along alternative fuel corridors. But only four are NEVI-compliant with 4 ports each at 150 MW charging capacity. WEVI identifies 800 additional miles of electric vehicle corridors (over NEVI); this adds corridors such as US 2, US 8, US 51, I-41, US 151, and WI 29. WEVI will encourage the placement of charging stations at locations that have supporting businesses, as the stations will be hosted by private businesses; they will be responsible for maintenance and operations. WEVI projects can only be funded in locations where grid capacity exists.

Mr. Vander Wiele then briefly touched on the NEVI standards and requirements and the WEVI RFP documents. For NEVI, two clear requirements are that all stations along alternative fuel corridors must be able to simultaneously charge at least four EVs simultaneously, and that they be available 24/7/365. The initial stations are likely to focus on passenger vehicles, but future HDEV facilities can be informed by these deployments. The WEVI RFP timeline and submission process was briefly discussed; grants for the first round of recipients were announced just prior to the FAC meeting.

Jeremy Hock, Schneider

Mr. Hock's presentation gave a thorough overview of Schneider's construction of a facility in California, which exclusively uses an electrified fleet of trucks for intermodal drayage in the Los Angeles area. Overall, the company's daily operation amasses 10 million freight miles per day, with 10,600 tractors, more than 47,000 trailers, and more than 27,000 intermodal containers. Within those numbers, Schneider's electric truck fleet in South El Monte, CA has 92 trucks that have run 3.25 million miles with zero emissions. The company has declared its commitment to reduce fleet emissions. Its first goal – to reduce CO₂ emissions by 7.5 percent by 2025 has almost been achieved at present (7 percent). By 2030, Schneider plans to double its intermodal fleet, lowering CO₂ output by 700 million pounds per year. By 2035, the goal is a 60 percent reduction in CO₂ emissions per mile, and to reach carbon neutrality in company-owned facilities.

Mr. Hock then discussed the specifics of Schneider's new facility in South El Monte, California. The project took three years – from initial review in January 2020 to the first battery-electric truck being received in January 2023. The last of the 92 E-Cascade trucks was delivered in December 2023. The project was guided under the South Coast Air Quality Management District, but many California partners

were involved, since nothing was low-cost. A special charging management software needed to be developed, aided by a \$13.2 million grant from the Joint Electric Truck Scaling Initiative. Support was also provided for charging infrastructure and charging ports.

Now in full operation, Mr. Hock noted the South El Monte fleet is providing 24/7/365 local intermodal drayage. The trucks average 177 miles per shift, working 2 shifts per day on average. The 16 charging units at the terminal allow vehicles to be charged to 80 percent in 90 minutes. The next phase of improvements is underway, a two-year process to upgrade the grid to support an additional 4.8 MW (the equivalent demand of 2,000 homes). This will allow 32 trucks to be charged at once. The early returns have been very positive. With zero-emission trucks, more than 400,000 gallons of diesel fuel was saved, eliminating more than 10 million pounds of CO₂ emissions. Drivers also find the trucks to be easier to operate; one likened the change to going from a “college wrestler” to a “ballet dancer.”

Dick Pingel, OOIDA

Mr. Pingel spoke to the perspectives of HDEV adoption by owner-operators. His organization represents 150,000 operators. 85 percent of current truck fleets are six or fewer vehicles; these fleets are challenged by three factors: costs, infrastructure, and range. For costs, he noted the price of used diesel-powered trucks – those typically used by his organization’s members – is around \$160,000. For electric trucks, that price is \$457,000 – almost three times more expensive. At present, there isn’t an inventory of used HDEV trucks. The second challenge is infrastructure for charging. Currently, there are more than 62,000 Class 7 and Class 8 trucks registered in Wisconsin, and almost 158,000 Class 3-6 trucks. There are only four charging stations in two public locations in that can charge Class 6-8 trucks, and 23 charging stations in nine locations that can serve Class 3-5 vehicles. To have enough chargers for the state’s truck fleet by 2032 will require 1.4 million chargers – meaning 15,000 per month would need to be deployed. Mr. Pingel added that each truck charge draws seven times more electricity than a home, and one depot would draw as much electrical demand as a small city. To accommodate these demands would cost utilities \$370 billion, he said; truckers would be required to pay \$620 billion. For range, he noted the vast difference between electric commercial vehicles (170 miles) and diesel trucks (1,000 or more miles).

Question and Answer Session

In the Question-and-answer session, Tim Fiocchi asked a question relative to electric grid capacity: given that there are both efforts to move to zero emissions from vehicles and the push to make residential and commercial buildings fully electrified, how long is the industry away from having the capacity to power current / emerging / replacement energy demand and a zero-emission vehicle fleet? Steve Griffith replied there are studies underway to look at grid flexibility; his group has members making the equipment needed for these transitions. Currently, load growth is increasing 15 percent per year. It will also be important to look at demand regionally; those studies are also underway now. Tanner Blair added that utilities are required to forecast load demand and submit the projects they will need to meet those capacity needs. While EV loads forecasts are somewhat uncertain, there is a lot of complex modeling that goes into the forecasts.

Next a question was raised on the impact in trucking being different for corporate fleets from owner-operators, and that the transition will not happen evenly. The response by Jeremy Hock was that grants will continue to be important, especially for capital costs. All trucking companies need to be competitive and to also maintain goals for sustainability. He noted Schneider is a feeder for the secondary truck market. He said for smaller fleets, grants will be needed; the challenge is that most don’t have access to skilled grant writers. He said that efforts need to be continued to bring the commercial electric vehicle market to scale and to be able to furnish equipment to truckers in the secondary market. A second

follow-up response stressed the need to have infrastructure in place. Ports and the carriers serving them are forced into electrification; and for short haul operations, it's great. But they have had that infrastructure put in. But for the long haul, having to stop every 200 miles to recharge on a 2,400-mile trip eats away at hours-of-service. The respondent believed other options would emerge, such as hydrogen; he noted hydrogen stations in California.

A question was raised about the possibility of generating electricity for operations from solar panels on top of semi trailers; the questioner stated the potential of 8KW generated. The response was that the surface area can't provide enough generating capacity for truck movement. Companies make the panels but the return on investment is small. An operating HDEV needs 400 to 600 KWH of power. Refrigerated units aren't an option, either, per the response. Each truck using battery power has an 8,000-pound load disadvantage due to the weight of the batteries. The idea is certainly aspirational, but reality is limiting.

One attendee asked about how the limited infrastructure would be addressed as the technology for charging rapidly changes. He noted the move from CCS to NACS chargers, then also noted the announcement by Tesla that it was laying off its entire charging network unit. Steve Griffith replied that yes, there are different technologies in play currently; the efforts of NEMA are to help level the playing field and establish a baseline for operability, then let the markets determine which systems work best. Battery technology is improving, although costs remain high. Research continues and is ready to share key findings. Kaleb Vander Wiele added that initially, Federal dollars required CCS1 charging systems; now, NACS connectors are also eligible. WisDOT is seeing some projects and has an RFI to study where the industry is going. Change is happening quickly.

Tom Bressner asked about the implications of losses to the fuel tax. If the fleets go all-electric, is there a mechanism for recovering costs? Mr. Vander Wiele replied this question comes up often. There is some alignment to address this; first, there is now a \$175 registration surcharge for electric vehicles and a \$75 surcharge for hybrid vehicles. There is also potential for taxing \$0.03 per KW at charging stations.

Chuck Wade asked for an update on BUILD America provisions, and how they are shaping the building of battery plants. Are those plants building batteries just for passenger vehicles, or also for freight? The response was that there are two plants building batteries for buses and other heavy duty fleet vehicles. Members are going through the BUILD America provisions, but an FHWA waiver was requested to allow a ramping up of manufacturing batteries for freight operations. A question was raised on Milwaukee's Bus Rapid Transit; if that plan was approved through the PSC. The response was: not to this point, and that PSC involvement depends on the size and capacity of a project. The threshold is usually 100 MW or larger, or if there is an ownership stake by a utility company. The Milwaukee scenario would not require the PSC.

A question was asked about opportunities to streamline approvals to allow distribution centers to be built adjacent to electric generation sites, allowing fleets to be serviced – has that ever been brought to the PSC? Mr. Blair replied he wasn't sure if it had been raised at the Commission; however, distribution centers have big electrical draws; the needed facilities would be complex. But for any interconnecting electrical infrastructure, analysis and engineering would be required – the same process as now. Another panelist said bringing distribution centers and generation sites together would be a lengthy process; it's more efficient to develop them along existing railroads and highways.

Lastly, a question was raised about the electrical capacity needed for generation – the questioner said there is a fallacy that heavier-duty charging equipment is needed for light-duty vehicles (40- to 50-amp

chargers aren't necessary, he stated). Is there a risk that heavy-duty truck charging systems will also be overbuilt? One response said that the vast majority of over-the-road vehicles don't need the capacity standards for 30-minute charging. The important factor is that each specific operation needs an engineering analysis of how its use will draw from the electric grid. That will take into account the drivers, the charging equipment, and the trucks to be used. Also, the rates per KW can differ widely depending on the time of day that equipment is charged. Companies need to minimize peak demand charges.

Break (2:25 p.m.)

Preparing for Freight Transportation Electrification – Tabletop/Breakout Discussions (2:35 p.m.)

This information has been collected in a separate document.

Closing Remarks (3:25 p.m.)

Kristina Boardman, WisDOT Deputy Secretary

In her closing remarks, Ms. Boardman thanked attendees and panelists for sharing their time and information with WisDOT, noting the importance of the FAC in informing the agency on current and emerging issues.