

MEETING SUMMARY

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## SHRP2 Railroad-DOT Mitigation Strategies (R16) Community of Interest Meeting

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**MEETING DATE:** February 7-8, 2017

**VENUE:** AASHTO, Hall of States Building, Washington, DC

### Purpose

The purpose of this meeting was to gather invited members of the Community of Interest (COI) formed in support of SHRP2's *Railroad-DOT Mitigation Strategies* (R16) product. The goals for the participants were to enable them to share best practices, lessons learned, challenges, and accomplishments; hear from each other about model agreements; learn about potential new processes with railroads and highway agencies; and most importantly, foster a collaborative environment in which to capture the most innovative ideas from all stakeholders for expediting project delivery.

The COI meeting included representatives from 18 state departments of transportation (DOTs), 2 Class 1 railroads and 1 Short Line association representative. A special breakout session enabled the participated to discuss the status of their model agreements, including Master Agreements, Preliminary Engineering Agreements for Special Projects, Flagging Agreements, Grade Crossing Agreements, and Construction and Maintenance Agreements. The agenda is attached. All presentations are available at:

[http://shrp2.transportation.org/Pages/R16\\_CommunityofInterest.aspx](http://shrp2.transportation.org/Pages/R16_CommunityofInterest.aspx).

### Participants (see attached registration record)

- Sayeed Hani, Arizona Department of Transportation
- Steve Weston, Arkansas Department of Highways and Transportation
- Scott Hoftiezer, Colorado Department of Transportation
- John Bernick, Connecticut Department of Transportation
- Robert Perrine, Delaware Department of Transportation
- Ravi Ganvir, District Department of Transportation
- Ed Lee, Florida Department of Transportation
- Allen Rust, Kentucky Transportation Cabinet
- Kristopher Klop, Iowa Department of Transportation
- Jahmal Pullen, North Carolina Department of Transportation
- Richard Shankle, Oregon Department of Transportation (via phone)
- Dan Leonard, Pennsylvania Department of Transportation

- Dave Huft, South Dakota Department of Transportation
- Robert Travis, Texas Department of Transportation
- Alana Spendlove, Utah Department of Transportation
- Greg Huffman, Virginia Department of Transportation
- Ahmer Nizam, Washington Department of Transportation
- Lisa Stern, Wisconsin Department of Transportation
- Troy Creasy, CSX
- Sarod Dhuru, BNSF
- Kamalah Young, BNSF
- Jo Strang, American Short Line and Regional Railroads
- Frank Frey, FRA
- Joseph Taylor, FHWA
- Ken Jacoby, FHWA
- Kate Kurgan, AASHTO
- Pamela Hutton, AASHTO
- Maggie Kasperski, AASHTO
- Shayne Gill, AASHTO
- Katelyn Dwyer, AASHTO
- Sherry Appel, CH2M
- Mike Loehr, CH2M
- Dave Solow, CH2M
- Susannah Kerr-Adler, CH2M
- Jen Smoker, CH2M

#### Invited Speakers

- Moises Marrero, FHWA (panel moderator)
- Chuck Gullakson, CSX (panel member)
- Tom Moritz, Amtrak (panel member)
- Sam Zimbabwe, District of Columbia Department of Transportation (panel member)
- Kelly Morton, FHWA (panel member, via phone)
- James Dahlem, FRA (panel member)
- Dee Chappell, FRA (panel member)

## **Executive Summary**

Overall, the COI met its purpose – numerous discussions and interactions throughout the 1 ½ day event reflected the keen interest in sharing information, learning or hearing about best practices, and making connections with fellow colleagues working within the DOTs and the railroads. Clearly all parties share the vision of providing a safe environment while keeping both traffic moving on highways and freight and passenger service on the rails.

Certain themes repeated over almost all the sessions:

- Collaborate and share information as early in the process as possible.
- Recognize that policies, processes, schedules, constraints, and regulations must be clearly understood by all parties in order to achieve better outcomes. Learn about each other's work environments and share that information with your colleagues.
- Taking projects “in chunks” to “cut” may be a smart way to keep a project on schedule; at the same time, it is helpful to think about an entire segment of rail when making improvements, not just one project here or there.
- Electronic processes bring real benefits to speeding the approvals of projects.

- Master agreements, while challenging (and lengthy) to negotiate, do provide positive benefits for all sides.
- Paying for flaggers may ensure quicker project completion.
- Ensure that your leadership is on board with your efforts and that they understand some of the roadblocks you are trying to reduce.
- Be consistent in how you approach projects; build some type of internal processes (such as manuals) that all districts/divisions can follow to ensure this occurs.
- Make sure your contractors (both DOT and railroad) understand the processes they need to follow.
- Relationships. Relationships. Relationships.

## Overview of Community of Interest Meeting

The two-day meeting began with a panel discussion from leaders at Amtrak, CSX, and DDOT who discussed the importance of partnering and communications between railroads and state DOTs to speed project delivery. Each COI participating agency was then asked to present the agency's current status in developing and implementing model agreements. After lunch, presentations from three state DOTs provided more details on the state's implementation efforts. The afternoon included a lively discussion that divided the participants into four groups to share their experiences with four specific model agreements. The second day began with presentations from the FRA and FHWA on the Section 130 program and FAST Act requirements for state action plans. Following a panel that discussed challenges involving alternative project delivery methods and railroad coordination, the meeting concluded with a moderated discussion on the role of the COI and how it could best benefit the participants.

## Summary of Presentations

### Executive Leadership Panel on Importance of Partnering and Communications in Advancing Railroad-DOT Relationships

- Moises Marrero, Assistance Division Administrator, FHWA Pennsylvania Office, moderator
- Chuck Gullakson, Assistant Vice President, National Gateway, CSX, panelist
- Sam Zimbabwe, District of Columbia Department of Transportation, panelist
- Tom Moritz, Acting Deputy Chief, Infrastructure Planning and Performance, Amtrak, panelist

The panel's focus was to discuss the broader industry mission where railroads and DOT agencies interact. A summary of key discussion points follows. (Note, should you wish more detail on specific panelist comments, we can provide that information.)

#### Providing safe transportation is our common mission.

- Common goals such as public safety, employee safety, and an efficient transportation system require communication among stakeholders.
- Each of us know how to make our own organization successful (threats, risks, opportunities).
- The broader transportation industry mission is where our agencies intersect.
- The public sees us as a seamless provider of transportation – not just rail or highway – we are in this together.
- Every DOT and railroad is different, challenges are unique because traffic is unique around rail corridors.
- For every DOT and municipality there are differences in processes, procedures and available resources.

#### Coordination and partnerships can create a framework for success.

- More project-related communication exists than communication on other levels. This is about revolutionizing your industry and your organization and making it work in a partnering environment.
- The recognition that communication and partnership must come from the highest level; and the message must permeate the whole spectrum within an organization.

- It's important to consider how you approach your partners. When you sit down with your counterparts, do you understand their constraints and their environment? (What keeps them up at night?) Railroads have been surprised at the schedule a state DOT needs within their own processes. The same applies to a DOT on railroad processes.
- Begin a partnership around a specific project important to both. Once you have a process in place, it can be replicated with other projects.
- Railroads are not organized for single point of contact nor are they organized around a project; instead they are organized to operate a system. Whereas DOTs are project-based.
- Engineering tends to be the easy part of the process; the challenges come from the policy side and legal terms. Contract issues sometimes take longer than time to construct.
- Building relationships is a critical part of the process. Too often relationships stop with project managers-to-project managers but lack higher-level conversation between partners.

**Background and some best practices offered during this session. – DOT perspective**

- Some suggestions to improve the process:
  - Have on-going communications with scheduled meetings, agendas, and relationships with the highest-level possible within an organization to avoid crises.
  - Within a DOT, provide information to all participants so they understand that working with railroads is a special case.
  - Preparing, sharing, and using a master spreadsheet for every project for the next three years allows the railroad to balance resources and include highway projects, mainline projects and maintenance, and enables all parties to understand expectations, schedules, and tasks.
  - Early coordination with railroads includes annual meetings with Class 1's.
- We must also maintain good relationships within various departments of our agencies. While the state rail office may have good relationship with railroads, with construction, rail often is the afterthought. This requires education particularly with larger states.
- A state point of contact should also mean a single message – sometimes we know who to talk to for getting the answer we want. We need to make sure the agency is giving the same consistent answer regardless of who is talking.
- Recognize that even with good relationships with staff, a lot is out of their control and railroad corporate-level decisions have the power to quickly undo the policy changes we have made. Some current state regulations can make coordination difficult.
- It is important to know your railroad operating requirements of the region, the division, the area. This includes understanding such railroad operational needs as "who is going to explain it to the public when they are impacted."
- Short Lines are often easier to deal with because answers come fast and issues and agreements can be turned around more quickly.
- Legal reviews are important but in some cases, legal overreach at different organizations can bring challenges. Personality types make a difference too.

**Background and some best practices offered during this session. – Railroad perspective**

- Amtrak has bi-monthly service meetings with the Connecticut DOT; on a quarterly basis, they review every project over a three-year period – rail and highway. By having these conversations, they can recognize projects in a corridor at the same time so they can be sequenced.
- CSX has partnered with DOTs – set up templates, set up basic legal processes so projects can focus on the engineering side. They have a public projects manual, for municipalities a guide to walk through what is involved in projects.
- As soon as a project gets in the state Transportation Improvement Plan, let the impacted railroad know (three-year planning horizon). This helps to reorder project sequences for allocating resources. Project management attitudes can change regarding the schedule – talk sooner to coordinate better.

- Find ways to be consistent in how you (DOT) approach a project; make sure the contractors DOTs use know and understand railroad processes.
- Resource issues:
  - Another challenge is reallocation of resources within the railroad. Railroad HQ staff are very busy. With enough lead time, support can be hired as needed.
  - A year out allows them to rebalance needs, but two weeks out is limiting response.
- Railroads are complex organizations. Every railroad has a different personality.
- Letting DOTs know what we (railroad representative) can and cannot allow or do is very important.
- Some suggestions to enhance the process:
  - To overcome turnover, promotions and other staff shifting, we must have a good relationship with the railroads on multiple levels.
  - Regularly schedule calls with project people as well as supervisors. Higher-up positions tend to remain more stable.
  - Share ideas, think out of the box, and keep an open mind. Find ways to be consistent on how you approach projects, types of agreements, and how well your contractors understand the environment.
  - Project managers talking to each other is great, but dealing with one point of contact in a railroad can also be a roadblock. The person may be overwhelmed and dealing with multiple states. Sometimes they have corporate managers above them limiting them via policy. Sometimes the railroad has to take an issue up the chain on behalf of the states. It's better if they understand the DOT environment to get quicker responses.

### **Looking ahead**

- How might we leverage the new administration to seek new resources? Are we prepared if we get more funding (via a transportation bill)?
- Organizational changes are needed on all sides to deliver better projects. Railroads are moving from preservation to growth.
- Getting community input at the right time will reduce snags as well.
  - Look ahead to allocate resources.
  - Need to communicate with the public – protecting their health, safety and welfare.
  - All the templates without the community input will not help.
  - Faster, better project delivery on the public side.
- Flagging remains an issue.
  - A challenge is seeing changes in industry, flagging, and signal gang mobilizing (6-11 months out for planning is necessary).
  - Have realistic expectations. States and CSX both have limited flagging resources and must work through issues before they happen.
  - In Texas, BNSF and UP turned to flagging vendor but agreements had been based on what was agreed to by the DOT and RR (additional contractors needed special provisions).
  - Now BNSF and UP (or the DOT?) contracts directly with the vendors. Instead of 30-day notice, it can now be 3-4 days out.

### **Participant Exchange (10 minute presentations by all participants regarding the current status of their agreement processes, opportunities, challenges and next steps)**

#### **Arizona DOT – Sayeed Hani**

- Holding quarterly meetings with railroads and as needed for projects.
- Working with UP and BNSF and 10 Short Lines.
- Start early with an agreement; at execution, add the price.
- Finding current processes work for the state. We like to meet with railroads upfront.
- Use 30% 60% 90% plan submittals with UP.

- With BNSF, changing to initial submittal and then final plans submittal.

**Texas DOT – Robert Travis**

- Following up from a predecessor who met with UP in Omaha and traveled to Austin to work on master agreements.
- \$3 - \$5 billion increase in transportation funding; looking at additional projects to alleviate congestion; railroads are expanding with Panamax, cross border training.
- Working in a centralized approach with 3 Class 1s, 80 Short Lines and 25 state districts.
- Developed a manual and templates on intranet site along with detailed directions.
- Working to have the submittals cleared quickly to enable work on more projects.
- Negotiated a Union Pacific Right of Entry agreements; contractor submits rite-of-entry and insurance to the construction office, which reviews it to resolve any issues before it goes to UP. UP said this is resulting in a major savings in time.
- Texas did 300 agreements in 2016, using a centralized data base that allows the DOT to alert railroads sooner about planned projects.
- Flagging vendors have now been approved for all 3 large railroads plus some regionals, so no signed agreement is necessary to pay railroads to pay flaggers. Contractors now contract with flagging vendor – and state is removed from the process.

**Wisconsin DOT – Lisa Stern**

- Streamlining processes – agreements with UP, BNSF (more in her presentation later in the notes)

**Washington DOT – Ahmer Nizam**

- Work with 2 Class 1s, 23 short lines.
- Large increase in transportation funding over next 16 years,
- Important to understand the issues being faced by railroads.
- Educating design teams and construction about railroad and DOT construction requirements. Now contacting railroad liaison a year in advance or as quickly as possible.
- Using boilerplate agreements whenever possible but finding challenge for railroads to adapt to Washington State agreements that are different from other states.
- Struggling with availability of flaggers – pilot project in TX sounds exciting.
- More railroad projects and more unit trains (long trains) going through the cities.
- Focusing on energy routes – port terminal projects for oil and coal from ND and WY. Should see more unit train travel in the future.
- Hosting railroad pre-construction meetings, including a special pre-construction meeting just for the railroad.
- Acknowledging design build is popular in WA although railroads are not keen on this.
- Section 130 is a challenge for the state.
- Working with utilities (AASHTO ROW and Utilities Subcommittees)
- Appreciating this helpful way to regularly bring states together to talk amongst themselves.
- Looking forward to conversation

**Connecticut DOT – John Bernick**

- Using master spreadsheet (2x3 ft plan sheets) that creates a histogram of projects for 3-5 years. This has worked very well.
- Separating capital action and separate funding with MetroNorth to increase training and provide additional resources for project.
- Three years ago, everything was done ad hoc; we want to make the process more programmatic. Needing clear processes.
- Wanting to learn more of other state's experiences.

- Currently in tense negotiations with Amtrak and love-hate relationships with some short lines. Nobody believes ConnDOT controls MetroNorth.

**District of Columbia DOT – Ravi Ganvir**

- Continuing in the organizing phase.
- Looking forward to learning more from other states.
- Appreciating the Innovation Library – on AASHTO site which has many agreements available.

**BNSF – Kami Young**

- Using master agreements, easements, and third party contracting for agreements.
  - Montana master agreement
  - CA, AZ, and OK all have flagging done by third party.
- Looking for opportunities for improvement including: hosting meetings to negotiate master agreements; reconciling funding for fees incurred in estimating master agreement that are not charged but the cost is questionable. Process could be faster with consultants instead of BNSF representative.
- Improving response time with coordinated agreements.

**Virginia DOT – Grey Huffman**

- Juggling 430 active projects that seem to put railroad agreements off to the end.
- Recognizing Richmond-DC Corridor flagging is critical. Construction schedules are being based on flagging availability. Special projects need to work with CSX from the beginning.
- Streamlining Right of Entry for bridge Inspections. About 500 inspected per year and working toward all bridges inspected each year. Currently have 1 right of entry with each Class 1 and all Short Lines provided 3 months ahead. Seems to be working so far but want to move to 6 month basis.
- Spending a large percentage of budget on RPL for insurance. Working with Governor's Office for a self-insurance policy for contractors that could save \$10 - \$11 million a year (equal to two bridge replacements).
- Trying to do things smarter and using current electronic documents while scanning old files for history.
- Currently bridge management systems and FRA mapping are not linked. With GIS, we are trying to integrate the two with vertical/horizontal clearances, mile posts, and rail crossings.

**Iowa DOT – Kris Klop (more detailed presentation notes in Appendix A)**

- Working on completion of specification agreements with railroads. This office administers Section 130, 2 grade crossings, passenger rail, and 2 FRA track inspectors.
- Hosting Rail Advisory Committee meetings held twice a year.
  - Monthly conference calls with managers so everyone knows who to talk to.
  - Benefits include communication, able to respond quickly to problems, advantage of opportunities that arise.
- Financing two Grade Crossing programs - Iowa pays 60%, railroad 20% and highway pays 20%. Have allocated 50% funding to emergency or high need crossings. Seven year backlog with first come, first served; developing a scoring matrix to better identify needed priorities.
- Maintaining primary crossing program for state highways; pay railroads \$400 per liner foot to repair, state takes care of other requirements. Repairs to crossings to last 15-17 years.
- Using Standardized Development Specs with UP, BNSF, and CS.
- Facing challenges including: High railroad turnover, expanded territories, and legal hold ups.

**Pennsylvania DOT – Dan Leonard**

- Participating in the railroad coordination activities as an IAP state for improving the Section 130 program.
- Working with 3 Class 1s, Amtrak, 65+ Short lines, so much coordination is needed.

- Finding some railroads weren't coordinating well (CN and GWI) having promoted people without authority to sign off on agreements as they grow.
- Learning coordination meetings work very well – smaller meetings are better for Short Lines.
- Recognizing high level people do better for Class 1's – state coordinators don't seem to go very far.
- Struggling with Master Agreements going nowhere; indemnification is an issue.
- Using agreements that are standardized or "pre-approved" by Attorney General, General Counsel but finding administrations change and then make significant agreement changes such that the approval process gets longer and longer.
- Would like to go to electronic system and is looking for input on that.
- Trying to improve IT as no systems currently talk to each other.
- Seeing railroads cutting staff, which significantly impacts coordination.
- Centralizing Section 130 four years ago is greater success in utilizing funds and getting projects out.
- Looking to next steps including coordination and communication.
  - NS and CSX coordinated flagging would be fantastic.
  - Closer coordination between FRA and FHWA would be helpful.
- Finding challenges working with Public Utility Commission that has no funding but holds jurisdiction over projects.

**Colorado DOT – Scott Hoftiezer** (more detailed presentation notes in Appendix A)

- Dealing with only two people in this office to deal with all Section 130 issues that affect railroads.
- Working on UP, BNSF master agreements in process – maybe completed by this summer.
- Updating railroad manual and currently gathering input from stakeholders. Once that is updated, we'll embark on training for internal staff including project designers and managers and try to do it in a realistic schedule. Processes take time and internally we need to understand this to do projects.
- Participating as an IAP state with a consultant helping to develop flowcharts.
- The Section 130 solicitation uses a hazard index to assess needs, but it needs review with possible inclusion of traffic volumes.
- The state Public Utility Commission is reviewing their processes and regulations. This is a powerful group that touches everything we work on. If the current head left, we would be in trouble. In the future our good relationship could change.
- Dealing with Design Build issues. Due to contractor/railroad problems, we now have a dedicated person to address railroad issues.
- Wanting to know what states are going to enhance their Section 130 efforts.

**Florida DOT – Ed Lee**

- Endangering long-term relationships because of turn over and retirement.
- Investing \$500M in railroad projects over the past 10 years.
- Making good progress on short lines with flagging, which is a very big issue.
- Biggest flagging issues are because of union agreements for CSX. FDOT wants a high-level agreement that we would pay for 24-7 flagger availability, which would be cost effective but raises issues since they wouldn't be working on FDOT projects all the time.
- Trying to get railroads involved earlier in the process. Need to educate our Districts.
- Indemnification is a big issue – we don't have ability to indemnify the railroad but sometimes they request it.

**Utah DOT – Alana Spendlove**

- Manual and training available and we are sharing our agreements on AASHTO web site.
- Finding our Section 130 Master Agreement is working.
- Meeting regularly with UP liaison out of Colorado.
- Continuing executed partnership with transit authority (took 4 years).

- Coordination, easement agreements
- Escalation clauses, how to work, easements, etc.
- Quarterly meetings
- Working on master agreement with UP since 2013. Have preliminary engineering agreements with them.
- For Design-Build, working on pre-designing to solve some rail issues.
- Challenge for us to Buy America.
- Creating GIS layer that shows at-grade and bridge crossings with ownership but want to add perpetual agreements, so people can see history of the crossing.
- Hoping to build relationships with other states and railroads.

**Kentucky Transportation Cabinet – Allen Rust**

- Working with 3 Class 1's, 3 Short Lines plus others.
- Agency has master agreements with 1 Class 1, and 3 main Short Lines since 2011.
- Finding single point of contact has worked well.
- Hosting regular meetings with railroads has been successful.
- Appreciating Master Agreements – drafted to include everything (including sticky legal issues).
- Wanting to update rail crossing inventory with current info.
- As part of the IAP, updating the railroad crossing inventory and including this and all agreements and administration documents into Kentucky Utility and Rail Tracking System (KURTS). Once it is finalized, will enable railroads to input status and respond to requests online.
- Looking to meet others and get ideas.
- In response to a question from Arkansas, for Sec. 130, KYTC does diagnostics on corridors to identify places to classify crossings.

**Delaware DOT – Robert Perrine**

- Works with 3 Class 1s, 10 short lines.
- Delaware owns every road and bridge so no other partners to coordinate on railroad crossings. As a result, all crossing issues go to DOT for authority, even if it is a private road or track.
- Providing a single source Point of Contact is easy but that person deals with all railroads and all projects.
- Used 30-year-old master agreements with two railroads that were completely inadequate for the current time.
- Started partnering with NS to create a crossing maintenance agreement with a full time flagger. Not successful yet in getting CSX to do this, however.
- DelDOT completed an asset inventory with GIS/GPR; done joint inspections; helped build relationships.
- The Section 130 program is conducted by the traffic safety program.
- Recommending doing the little pieces first and then approach the master agreements.

**Arkansas DOT – Steve Weston**

- Biggest problems are institutional, with various departments (design, bridge) not talking to the railroads.
- Focusing lately on emergencies. Doubled railroad staff at the beginning of 2017 (now two).
- Working to update our master agreements, which were created in the 1970's.
- Finding the Indemnity Clause issue a challenge.
- A Design-Build project across two UP rail yards in Little Rock is a challenge.
- Funding will be increased for Section 130 which is working very well. Hazard rating index is also working well.
- Initiating early involvement is definitely working. Railroads are perfectly willing to work with us – realistically in good time.

**CSX – Troy Creasy**

- Changing how we operate due to decline in coal, anticipating the CSX of tomorrow will include a segmented network between primary and secondary lines such as the CHI-NYC-JAC I-65 Corridor 2.5 mile trains with accompanying infrastructure improvements.
- Handles all Sec. 130 and yard expansions.
- Coordinating with Utility, Metro, State, Private Developer and DDOT on a project that needs weekly calls. Working towards Master Agreement in DC. Frequent communication is key.
- Creating Standard Preapproved Agreements with KYTC including diagnostics for corridors, building siding extensions and working with KYTC to improve warning devices. Partnering with the state to close crossings in municipalities.
- Insurance handling has been an issue due to turn over and recently we have started doing insurance on behalf of third parties.
- Working toward acceptable state contractor's insurance. Legal and insurance groups have to be involved but hope to find a good meeting ground in near future.
- Working with NCDOT and VDOT where Master Agreements for all projects have been successful.
- Realizing all DOTs we work with are familiar with CSX processes and constraints is a success of R16.
- Working with NCDOT who is partially or fully funding capacity improvements in their state that are weighed the same as highway projects. They now identify crossings and bring them to CSX.
- Working to improve Real Estate issues with the goal that easements do not hold up any projects. Easement documents are supposed to be waiting on construction finalized plans.

**South Dakota DOT – Dave Huft**

- DOT is overcoming issues to maintain active directories of local contacts.
- Understanding business processes on both sides (the planning horizon on railroads is much shorter).
- Progressing on Crossing Agreements but need work on others.
- Keeping apprised on projects with four and eight-year STIPs. Regular conversations with railroads.
- Promoting education and training of safety requirements for local and rural agencies to make sure they understand the regulations.
- Finding ourselves in both roles (SD DOT owns some track), which helps us understand both sides of the coin.

**BNSF – Sarod Dhuru**

- Working on the strategy side; agreements are all multi-party, posing a challenge.
- Participates on Freight Advisory Groups
- Safety and growth drives everything BNSF does
- Areas of concern: Chicago to Stockton; Chicago to Seattle; Chicago to Los Angeles; Texas to Louisiana.

**North Carolina DOT – Jahmal Pullen**

- Working with 2 Class 1s and 20 short lines.
- For Design-Build projects, working with the Association of General Contractors and ACEC to develop an information packet to distribute to contractors and consultants so they understand the bidding process; sent to CSX for feedback and will also engage NS.
- Identifying strategic transportation initiatives in all modes.
- Finishing ARRA projects.
- Scheduled structured meetings with NS to keep projects moving.
- New rail station in Raleigh in process.
- Rail coordination is no longer centralized; designs now come from 14 state divisions. Our rail division remains the central point of contact with the railroads.
- Sponsoring webinars with our divisions to help educate them about schedules and need to engage earlier on in the process.

- New state funding is being allocated to freight rail and crossing safety.

**Oregon DOT – Richard Shankle (via phone with Heather Howe and Jack Hunter)**

- Working with 2 Class 1s and 30 Short Lines.
- Has State statutory authority over existing and new public crossings but no specific templates.
- Experienced problems with indemnification clauses in the past – we are working this out but with development of standard agreements.
- Maintaining good relationship between rail and highway but working toward Master Agreements.
- Plan approval times have increased significantly with UP.
- Preconstruction meetings require separate meeting with railroads. Loosely talked about in specifications but want clearer language to require contractor to meet with railroads separately.
- Need to make sure our contractors honor Right of Entry.
- We only receive Sect 130 funding for about four crossings per year (5% of our work) rest of work is establishing design and need for crossings.
- Quiet Zones are also an issue.

**American Short Line Railroad Association – Jo Strang**

- ASLRA is a platform to get messages out to the short lines.
- Can help with State Rail Associations; provide access to newsletters, email blasts.
- Can also showcase efforts in its magazine and at forums and conferences.

**Project Updates of IAP State Implementation Efforts –**

**Presentations available at [http://shrp2.transportation.org/Pages/R16\\_CommunityofInterest.aspx](http://shrp2.transportation.org/Pages/R16_CommunityofInterest.aspx)**

- **Lisa Stern**, Railroad Engineering & Safety Supervisor, Wisconsin DOT
- **Sayeed Hani**, Railroad Liaison, Utility and Railroad Engineering, Arizona DOT
- **John E. Bernick**, Asst. Rail Administrator, Office of Rail, Connecticut Department of Transportation

**Wisconsin – Lisa Stern**

Wisconsin Railroads and Harbors include four Class 1 railroads (CN, BNSF, UP, and Wisconsin Southern; G&W now acts as a Class 1).

Efforts in improving rail coordination include:

- Railroad Coordination Training: The loss of intellectual property due to retirements caused the state to approach the railroad and re-establish how to coordinate and the point of contact designers needed to approach.
  - Who has authority and where?
  - Who is part of escalation process?
- Railroad Project Tracking System: Intended to clear the black hole by providing insight into what schedule means and what expectations on timing are available.
- Scheduling Tool: A robust spreadsheet that has been very helpful for management. They are hoping to turn it into a database.
- Risk Assessment: Establishing clear communication within the department for a coordinated message. We are one division of the DOT, the designers and construction staff are in another division. Administrators meet and complain – so communication is needed between divisions. It allows us to monitor medium and high risk projects for upper management briefs.
- Notifications: The act of letting railroads know of projects in advance. DOT has a six-year program plan so now we are intentionally trying to give them advance information a year ahead, particularly for bigger projects.

- Peer Exchange: Learn from other states.
- Better Agreements: Updating agreements. The state cannot indemnify anyone but it would help tremendously in saving time and effort.
- Dedicated Flaggers: (On Hold) Milwaukee interchange was behind schedule and agreed to do 24-7 construction but could not get 24-7 flaggers for UP due to union issues and other hurdles. UP worked diligently but it was a real challenge. Looking ahead for multi-year project-dedicated flaggers depending on our state budget. Looking to watch progress in Texas as well.
- Regional Rail Coordinators Collaboration: Some coordinators are more proactive than others. Meet quarterly as a state and meet monthly/bi-monthly with railroads to manage questions fairly over all coordinators.

**Arizona – Sayeed Hami**

- Railroads include BNSF, UP and 10 Short Lines with 870 Public Crossings, 400 grade crossings, 170 grade separations.
- Numerous railroad section responsibilities include liaison between ADOT and railroads, managing the Section 130 program, and a statewide railroad crossing inventory database.
- Planning for improved coordination on Design Build projects as part of R16 over the next two years.  
*Bell Road TI at US-60 example: through focused discussions and design changes, was able to move up time from design to construction in one year.*
  - Quarterly meetings with BNSF
  - One-on-one meetings
  - Reduced # of plan submittals
  - Modifications to the Standard Agreement
  - Schedule Sequencing
  - Traffic Control Plan

*An example of benefits of partnership with the railroad - an accident of a bridge girder that fell, but thanks to the close coordination with the railroad we had only 3 weeks of downtime and did not slip schedule.*

**Connecticut – John Bernick**

- Connecticut is part of the NE Corridor with railroads including Metro North, the busiest commuter rail in the country, Amtrak, CSX, CSO (G&W), Branford Steam Railroad (BRFD), Central New England Railroad (CNZR), Housatonic Railroad (HRRC), Naugatuck Railroad (NAUG), New England Central Railroad (NECR), Pan Am Railways through subsidiary Springfield Terminal Railway (ST), and the Providence and Worcester Railroad (PW)
- Metro North Railroad Force Accounts
  - Previous Agreements – none are complete enough – always need extra Force Account agreements.
  - Took extra time, some needed Attorney General Approval.
- Instituted process for Amtrak Master Agreement
  - Agreement included: PE, Construction, RoW
  - Rights of Way had a different process but generally we have right of eminent domain and signed the rights of way over to Amtrak.
  - Processing went from one year or more to one week.
- Hartford Line Project (series of tasks and separate projects within the program)
  - Needed one page Project Authorization Letter.
  - One page could be done in a matter of days under the Master Agreement.
- Statewide Master Agreement
  - Used for other projects within the state.
- Working on Master Agreement for Metro North Statewide Agreement
  - In draft form but similar to Amtrak agreement.

**Questions to Presenters and Participants:**

*Does railroad design on the front end include easements and right of way?*

Yes, real estate and defining what kinds of easements – trying to get railroad issues out up front including real estate. It's been more challenging than getting designers to work up front.

*Have you had push back from railroads regarding “ultimate right of way”?*

Wisconsin takes total slope plus 3 feet. Haven't been able to go further than the current project.

Arizona had to get 20-25 feet on either side of structure.

Connecticut is under PRIAA legislation.

*Have any of you had experience with maintenance people and drainage easements and pipe occupancy?*

Connecticut has a standard license agreement for fiber optics and similar issues. If you get into indemnification problems it could get complicated.

Texas had one contractor who tried a pipe occupancy and UP police carried him off the property. They take their standard utility agreement and it covers most aspects. They either strike the indemnity or add a clause “as doable by law.”

Pennsylvania has pipes written in a part of the agreement with the railroad. VDOT and others are doing it this way.

## **Roundtable Discussions of Processes and Existing or Desired Agreements**

### **Master Agreements Summary of Comments**

- Similar experiences heard among states.
  - Several are working towards master agreements.
  - Master agreements works well with Class 1 and some Short Lines.
- Benefits are clear.
- People seemed satisfied when they were able to enter into Master Agreements.
- Outstanding issues:
  - Indemnification
  - Governor can only sign three-year agreements. (Wisconsin)
  - Billing – lump sum billing doesn't work; need more precise costs.
  - Buy America.
- Progress:
  - Everyone looking for ways to speed up process, take time out of schedule.
- Best Practices:
  - Communication, Monthly Calls; all DOT people who have anything to do with a crossing or other railroad encroachment into DOT designs, construction, maintenance, need to be involved/trained.
  - Get management involved to accelerate the process.

### **Preliminary Engineering and Flagging**

- Variety of experiences shared, especially among Class 1 railroads. (Short Lines not a problem)
- CSX union insists on using their employees, BNSF uses contractors. Buy-in from CSX division engineers varies. CSX has a large number of competing state projects.
- Some states are further along in getting agreements, requiring further consideration.
  - TX – Robert Travis has to personally sign plans – this makes them want to talk sooner.
  - CT – looks at five-year plan and assesses what will discussions with railroads are needed.
  - Some pay directly for flaggers, some require vendors to pay for flaggers, which could pose potential problems, putting the DOT in the middle if the contractor cuts corners.
- BNSF does not charge for estimates in roadway, particularly not in-house design.

- With a preemption project with BNSF, the state authorized them to charge after the fact.
- Outstanding Issues:
  - Lawyers rewrite documents every time they are reviewed, causing delays.
  - Indemnification
- Best practices:
  - CSX allows zones for flagging to overcome some seniority/District issues.
  - Train your people.
  - Use a long-range schedule with ample time; the railroad is not an afterthought.
  - Have contractors hire flaggers directly from railroad or railroad contractor.
  - Use a third party for plan reviews or for construction maintenance (BNSF)

### **Grade Crossing**

- Many used letter agreements with boilerplate templates that can be modified per each location. Unfortunately the approval process through UP real estate is slow.
- Master Agreements for Grade Crossing but others use standard boiler plates with separate scopes attached. Some states have up to 7 different boiler plates.
- Outstanding Issues:
  - UP was frequently mentioned.
  - Need to separate construction from maintenance as both can have different approach.
  - Municipality (local) owned roads are a challenge since agreements can be different from city-to-city.
  - A backlog of crossing projects creates a domino effect and delays upgrading certain locations.
- Best Practices:
  - Streamlining approval processes by face-to-face meetings.
  - Negotiate “lump sum” agreements for grade separations.
  - Develop a “scoring matrix” to reprioritize crossings on a more “safety hazard” ranking.
  - Get programmatic agreements for similar categories of work such as bridge inspections, paving, etc.
  - Enable railroads to bring their trainers to teach state inspectors the proper safety methods for bridge inspections.
  - Involve upper management/leadership when major conflicts arise rather than waiting for long period of time for action at lower levels.
  - Consider a “crossing surface program” that can be funded by motor vehicle revenues.
  - Suggest legislation to clarify roles and funding responsibilities.

### **Construction and Maintenance Agreements – Robert Perrine, DelDOT**

- Most participants did not have experience with these specific agreements.
- DelDOT Maintenance and TXDOT agreements are completely different.
- If you need an avenue for flagging, can be accomplished through a Maintenance Agreement; DelDOT pays two people full time, worked well for any department-related need.
- For routine highway maintenance projects, identify the conditions and type of maintenance and determine who could fund it.
- On the construction site; if the railroad portion (tracks, etc.) can be sectionalized out from a capital project, DelDOT will work with the railroad to do the new crossing, and drainage. Can fund some projects through the Highway Safety Improvement Program. Survey is important.
- Iowa has one program where Iowa does replacement and pays the railroad to redo the track; the second is for local projects – 60%/20%/20% funding with the agreement that Iowa DOT has approval of bids, estimated costs and final estimate.
- NCDOT has master agreements with short lines for flagging
- Outstanding Issues:
  - Indemnification for any of the agreements. (Sovereign Immunity or not)
  - Timeframe – things get stuck in legal offices, resources for the volume of work that comes in and ability to keep things timely.

- BNSF has only two lawyers dealing with all states for crossings. Railroads can be working in silos as much as DOTs.
- CDOT does not own local roads so right of way can be an issue.
- Best Practices:
  - From CSX – try and write letter agreements if Master Agreements aren't possible.
  - Use pre-approved boilerplate so editing can be reduced.
  - The earlier we talk with railroads the better chance we have to be successful.

## Opening Remarks Day 2 – Kate Kurgan, AASHTO

- All DOTs and railroads are different but they share a common goal of safety.
- We have to know each other's constraints, culture and environments.
- Challenges exist to establishing robust relationships and partnerships.
  - These relationships need to be at multiple levels.
  - Not just engineers but also supervisors and others.
- A few reoccurring topics have surfaced:
  - Indemnification
  - An understanding the railroads have to coordinate with multiple states and therefore multiple regulations
- One point of contact can be a roadblock.
  - We need coordination at all levels
- Education and training are necessary at all levels so DOTs and railroads can understand one-another's business needs.
- Communication is critical.
  - A need to understand what communication and partnership means for each party
  - A need for:
    - Bimonthly service meetings
    - Regular reviewing of TIP

## FRA/FHWA Updates on National Policy Issues

### Section 130 Program Overview – Kelly Morton, FHWA Transportation Specialist, Office of Safety, and Jim Dahlem, FRA Transportation Specialist

(To see the presentation, go to: [http://shrp2.transportation.org/documents/R16\\_COI\\_Section\\_130\\_Overview.pdf](http://shrp2.transportation.org/documents/R16_COI_Section_130_Overview.pdf)

Overview of Section 130 program, funding increases related to the FAST ACT, project eligibility requirements, and alternative funding sources were outlined.

Comments and questions from COI members:

- TxDOT: Blocked crossings are the second most common complaint but we can only use Section 130 funding (not HSIP). FHWA: hazard reduction is eligible. (Kelly to send information on specifics to share with the COI.)

### FAST Act State Action Plans 101 for State DOTs – Dee Chappell, coordinator, FRA Grade Crossing Task Force

(To see the presentation, go to:

[http://shrp2.transportation.org/documents/R16\\_COI\\_FAST\\_Act\\_State\\_Action\\_Plans\\_101\\_for\\_State\\_DOTs.pdf](http://shrp2.transportation.org/documents/R16_COI_FAST_Act_State_Action_Plans_101_for_State_DOTs.pdf)

FRA outlines the key provisions of the Rail Safety Improvement Act, requiring the 10 states with the highest grade crossing collisions to develop and action plan by December 2016; and the FAST Act requirements that all other states develop state Action Plans, including identification and strategies to address blocked crossings.

## Lessons Learned from Alternative Project Delivery Methods – Panel Discussion with Dan Leonard, PennDOT; Jahmal Pullen, NCDOT; and Sarod Dhuru, BNSF

General discussion follows:

**PennDOT** – Generally, in Design-Build projects, the contractors and consultants are not dealing with the PennDOT District office and they often don't know what is involved in addressing railroad issues. PennDOT's Rail office becomes the "go-between" to provide guidance and assistance to both parties. Good relationships with our railroads has enabled us to get agreements through the strength of our personal relationships.

**NCDOT** – Jahmal Pullen: The I-85 project between Raleigh and Charlotte was not initially Design-Build; so when it went into the project development phase, there wasn't enough interaction with the railroads at the Kannapolis Bridge. Two issues came up: an at-grade crossing that was not part of the project was redesigned as part for the road to go under the bridge; flagging became an issue so, working with AGC and the Class 1s, we developed an upfront questionnaire that would be sent to the DB team at the beginning of the process; and have a meeting with the railroad and the DB team to identify any scheduling problems or windows of opportunity to do the work. The railroad contractor did grading, which added another new party to the effort.

NCDOT will be doing more DB in the future, so contractors want to learn the process.

**CSX** added that NCDOT invited them into the process early on, which led to more competitive bids. CSX is using this technique in South Carolina so they hope it will work in NC as well.

**TxDOT** – Currently there are 5 or 6 Public/Private Partnerships (P3s) going; we now have policies and a manual on Design-Build to provide to the consultant so they understand the issues.

**BNSF** – State DOTs can use our vendors and we have a dedicated project manager for these projects. We provide them with our agreements so they know at the beginning of the project what is needed and that clear communications is critical.

Regarding scheduling: if the railroad public projects manager knows ahead of time what the construction schedule is, we try and develop a work window and coordinate with our maintenance office. On the Council Bluffs project, we build times into the schedule.

## The COI and You -- Discussion

Generally, there was strong agreement that the COI in-person meeting was a success and many suggested having more of them. In addition, several people wanted to hear more from the railroads and short lines, and to learn more about their issues and challenges. Other suggestions:

- Get the railroads and DOTs together to discuss the road crossing consolidation process and to see where partnering and working with municipalities would speed the process. (TX DOT)
- On bridge inspections, getting the railroad to coordinate with construction and maintenance, pavement marketing, and basic maintenance to go it all in one project to reduce costs and time/delay issues. (WISDOT)
- Cut out the railroad project from the bigger project and get that done first. (DelDOT)
- Look at projects on a corridor basis, not just project by project (BNSF)
- Currently the Section 130 program is managed slightly differently from state to state; try and get more cohesion. (BNSF)
- Hold presentations at national conferences on these issues to improve understanding beyond the COI. (BNSF)

- Advance electronic invoicing and processes.
- Better understand quiet zones and how to achieve them. (WSDOT)
- Address some of these issues in case studies. (Hutton/AASHTO) In a case study you can get both the railroad and DOT perspective.
- Section 130 issues (several):
  - Because of permitting or other processes, funding can't be used for many projects; are there ways to streamline the obligation process? (CNDOT)
  - A lot of candidate projects are eligible for Sec. 130 money but there are usually related issues such as right of way, relocating utilities that cost money and we can't use it for these activities. We should be able to partner with other groups or other DOTs to share funding; the regulations are hurting us. (DelDOT)
  - Need collaborative union with FHWA and FRA. (DelDOT)
  - What about pool fund to support an attorney on retainer? (WSDOT)
  - Develop roster of Section 130 coordinators from every state.
  - Hold regional dialogue sessions for those who can't travel far. (FRA)
- How to bring more railroads to the table (the COI includes active representation from CSX and BNSF).
  - National Rail Safety Conference (held every two years in Texas)
  - Clearly define what topics the railroad would want to address.
  - FRA meets with all Class 1s and Amtrak twice a year; possibly offer some topics for their consideration. (FHWA)

## Evaluations of the Meeting

Following the COI meeting, we gathered 18 evaluation responses, including one later via email (BNSF). In brief, the ratings for the meeting were high, with an average of 8 or better (10 being the highest ranking).

A prominent comment was that the group would like more time for the in-person meeting (three full days instead of 1 ½ days), one person suggested that more in-person meetings might be better than the webinars.

Potential webinar and cost study topics were:

- Most mentioned was Section 130 – processes, targeting, etc.
- Next was electronic processes, transfer of information, recordkeeping
- Training was also mentioned, both as part of the Sec. 130 process and also training in general

During the meeting a few other suggestions were made for possible topics, including working specifically with short lines; handling the process of bridge inspections; and defining the process for the “cut out” used by DelDOT.

## Appendix A – Notes from presenters not available on R16 Webpage

### **Colorado DOT Notes – Scott Hoftiezer**

The following describes the efforts taken by staff at the Colorado Department of Transportation (CDOT) to improve and streamline coordination efforts and processes between CDOT and our state's railroads, utilizing as a result of the FHWA SHRP2 Lead Adopter Incentive Implementation Assistance for Railroad-DOT Mitigation Strategies (R16).

#### **Class I Railroad Tasks/Activities:**

The CDOT-Railroad contracting process with Colorado's Class I Railroads was reviewed, evaluated, and documented. This included:

1. Review of the full process from contract draft development to full execution and distribution
2. Identifying required parties involved
3. Identifying process sequence
4. Evaluating anticipated and historic timelines for each step

#### Union Pacific Railroad (UPRR):

CDOT developed and finalized a Master Agreement with the Union Pacific Railroad (UPRR), which standardized the legal language relevant to certain work, and would allow this work to be performed under the Master Agreement. Works types include:

1. Preliminary Engineering by the Railroad
2. Flagging (during design)
3. Section 130 Funded Projects
4. Force Account Work
  - The CDOT-UPRR Master Agreement was signed in March 2012 for a term of 5 years, and was recently renewed in 2017 for another term of 5 years.
  - CDOT and UPRR developed a process to streamline maintenance work under an existing Construction & Maintenance (C&M) Agreement by creating a Maintenance Consent Letter (MCL) that is requested by CDOT and provided by UPRR to document communication regarding maintenance work.
  - CDOT is continuing to develop agreement templates for new and larger projects that cannot be authorized under the Master Agreement due to their complexity. It is the intent of CDOT to work with UPRR to standardize, as much as possible, agreements specific to certain project types (i.e., new grade separations, roadway widening projects) then provide the project specific in required attachments to the standard template.

#### BNSF Railway (BNSF):

- CDOT and BNSF are currently working on a Master Construction & Maintenance (C&M) Agreement, which will standardize much of the language (i.e., legal, insurance requirements, safety requirements), and will be used for all projects. Project specific information will be attached in required exhibits to the Master C&M.
- The Master C&M was reviewed by staff at CDOT and BNSF in a combined meeting in December 2016, and the final version is in process. The Master C&M between CDOT and BNSF is expected to be signed by both parties by summer 2017.

#### **Railroad and Agency Tasks/Activities:**

- CDOT is currently in the process of developing a Railroad Manual for publication later in 2017. SHRP2

activities being completed to support the Railroad Manual include the following:

- Stakeholder meetings with all railroads and rail agencies in the state to review the draft manual and provide input. These include:
  1. BNSF Railway (BNSF)
  2. Union Pacific Railroad (UPRR)
  3. Great Western Railway of Colorado, LLC (GWR), a division of OmniTRAX
  4. Other Shortline Railroads, as available
  5. Regional Transportation District (RTD) & Denver Transit Operation (DTO)
  6. Colorado Public Utilities Commission (PUC)
- Development of process flowcharts to be included in the manual identifying procedural steps and timelines for permits and authorizations required with the railroads and agencies for projects in Colorado.

Flowcharts completed in draft form currently being reviewed by stakeholders, include:

1. CDOT-BNSF At-Grade Crossings
2. CDOT-UPRR At-Grade Crossings
3. CDOT-Railroad Project Coordination-Agreements
4. CDOT-BNSF-UPRR Grade Separations
5. CDOT Process Flowchart-BNSF Utilities
6. CDOT Process Flowchart-UPRR Utilities
7. UPRR Right-of-Entry (General)
8. BNSF Temporary Occupancy Permit (General)
9. Section 130 Process (General-For Railroad Manual)
10. Section 130 Process (CDOT Internal/Prioritization/Budgeting)
11. At-Grade Crossing Maintenance (UPRR/BNSF/PUC Regulations for division of Maintenance Responsibilities & Cost)
12. PUC Process (New or Improvement Projects that require PUC applications)

Flowcharts currently being discussed and/or developed for stakeholder review in February include:

1. Railroad Quiet Zones
2. At-Grade Crossing/Traffic Signal Interconnection/Preemption Form (Process Only; not intended to explain the form, just when it's needed/who needs to review/PUC involvement)
3. Alternative Delivery Projects with Railroad Coordination (CMGC, DB)
4. Planning/Environmental Projects that involve a Railroad
5. CDOT-Railroad-Local Agency 3-party Agreements
6. CDOT-Railroad-Local Agency 3-party PUC Applications
7. CDOT-RTD Light Rail/Commuter Rail Projects
8. CDOT-Short Line Projects

## Iowa DOT Notes – Kris Klop

- Introduction:
  - Office did not seek grant money for implementation of Best Practices efforts and instead continued to work on the completion of developmental specifications with the other operating railroads in Iowa.
  - So instead I will instead speak about several of our Office's partnerships and programs that have proven successful in the spirit of the SCHRPs goals.
- Iowa has 18 railroads operating in the state with just over 5,000 grade crossings.

- The Iowa DOT has initiated several collaborative efforts with the railroads serving the state.
  - The first is the Rail Advisory Committee (RAC) meetings. The group consisting of railroad executives, government and public affairs representatives, DOT Rail staff, and DOT Iowa state legislative policy staff meets twice a year.
  - Each January and February we hold “Winter Meetings” to share information on construction and signal plans for upcoming construction season with public works engineers, roadmasters, signal technicians, and DOT program managers.
  - We also hold monthly conference calls with individual public works managers concerning ongoing construction issues and other pertinent information sharing.
- There have been many benefits to the partnerships we have fostered with the railroads serving the state. Everyone knows each other and who the players are with the regard to issues they might face. We better understand the perspectives of the other party. Projects are approached more effectively. It ensures we can quickly take advantage of new opportunities that arise and swiftly overcome challenges that arise. The overall goal for the partnerships is to foster a safe, efficient and robust rail system that better meets the transportation needs of Iowans and creates an atmosphere conducive to rail-served economic growth. The key for success is that the relationships have already been established and are already in place before the opportunities and crisis arise.
- The Iowa DOT has two Grade Crossing Surface Repair Programs. One is for local roads and the other is for state highways. The local roads program is referred to as the “60-20-20” Crossing Surface Program. In this program, railroads and local highway authorities submit a project application through the electronic workflow program software Adobe LiveCycle. The entire lifecycle of the program is within this system from application through Certificate of Completion. At each stage the necessary documents are automatically sent to the individual who must complete a task to progress the project.
  - With this program the DOT pays for 60% of the costs associated with the project, the railroad and highway authority each pay 20%. The railroad is responsible for the track work and the highway authority is responsible for the approaches, replacing any existing sidewalks in compliance with ADA standards, and road closures & detours. All billing is done through the railroad. The highway authority bills the railroad and the railroad, in turn bills us for that work and their own associated with the track work.
  - The projects are funded in the order the applications were submitted. The program has a seven year backlog for funding so late last year we changed the Administrative Code to allow for discretionary use of “up to 50%” of the annual program allocation funds. The goal is to repair the most degraded crossings first with these discretionary dollars. We determine which crossings are the most degraded through a developed matrix which takes into account several factors including Traffic Count, Accident Predictability, Semi-truck Traffic and an on-site assessment of crossing degradation.
- The second program is the Primary Crossing Surface Program. In this program, the Iowa DOT acts as the highway authority for the primary road system which includes state highways. In this program the Iowa DOT performs all of the same work of local highway authorities but also assists in removing the ballast and installs an asphalt underlayment, under the track bed which is a key requirement for this program. The asphalt underlayment extends crossing life from 5-7 years to 14-17 years. The Iowa DOT pays the railroad \$400 per linear foot of the crossing width across the roadway to participate in the project. The projects start on a Monday and the roadway reopens on Friday or Saturday. Each summer the Office undertakes 5-10 of these projects.

- Another positive undertaking is our Iowa DOT Railroad Agreements. These are documents created over several years which include agreed upon, standard language for construction and maintenance projects. The documents are part of every letting and provided to all contractors. To date, the Iowa DOT has successfully negotiated these Developmental Standards with UP, CN, CP, and we're finalizing language with BNSF. There are separate provisions and specifications for Construction (large-scale) and Maintenance (routine, small scale) projects.
  - Our Office of Construction monitors noncompliance of field construction issues with contractors and shares that information with our Office of Contracts, controlling bidding eligibility. The railroads also have a roll of monitor/inspection on DOT projects when necessary.
  - Language includes DOT and contractors entering railroad right-of-way, and on bridges over right-of-way and tracks.
  - Railroad notification requirements are included in the language prior to entering the right-of-way, prior to the start of construction – both 30 days; and to secure flagmen within 25 feet of the tracks, also 30 days in advance.