Implementing High-Speed Rail in Wisconsin
Peer Exchange

Hosted by the Wisconsin Department of Transportation
Division of Transportation Investment Management

June 2–4, 2009

WISCONSIN DOT
Wisconsin Department of Transportation Research & Library Unit

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Final Report by
CTC & Associates LLC

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WisDOT High-Speed Rail Peer Exchange

June 2-4, 2009

Introduction

The Wisconsin Department of Transportation Division of Transportation Investment Management hosted a peer exchange on June 2 -4, 2009 in Milwaukee, Wisconsin. Representatives from four state DOTs and two freight railroads joined representatives from WisDOT, Wisconsin local and state agencies, and federal agencies to share experiences and best practices in the area of implementing high-speed passenger rail. WisDOT Secretary Frank Busalacchi kicked off the exchange with a welcome to participants and comments about the current and future state of rail in Wisconsin. The remainder of the peer exchange consisted of both presentations and roundtable discussions aimed at highlighting best practices and lessons learned.

This report highlights the key observations that came out of the peer exchange discussions and the opportunities identified for WisDOT in implementing high-speed passenger rail in Wisconsin.

Objectives

The theme of this peer exchange was effective approaches to implementing high-speed passenger rail. WisDOT is developing plans to implement a high-speed rail system between major metropolitan areas in Wisconsin and neighboring states. The rail system will be constructed on existing railroad rights of way and one corridor is owned by a Class I railroad, while the other corridor is owned by the State of Wisconsin. The first day included case study presentations on high-speed rail projects, as well as discussions on state contracting and agency coordination. The second day focused on the topics of station development and effective DOT organization. The third day was dedicated to capturing the best practices and lessons learned from the group.

Participants

Visiting team members

- Bill Bronte, Division of Rail, California DOT
- David Foster, Environmental Rail Programs, North Carolina DOT
- Don Heron, Passenger Rail Corporate Planning, Canadian Pacific
- DJ Mitchell, Passenger Operations, BNSF
- Mike Schadauer, Office of Transit, Minnesota DOT
- David Simpson, David P. Simpson Consultants LLC – Facilitator
- Scott Witt, Freight Systems Division, Washington State DOT

Peer exchange planning team

- Ron Adams, Bureau of Transit, Local Roads, Rails and Harbors, Wisconsin DOT
- Jim Bolitho, Bureau of Transit, Local Roads, Rails and Harbors, Wisconsin DOT
- Colleen Bos, CTC & Associates for Wisconsin DOT
- Kim Linsenmayer, CTC & Associates for Wisconsin DOT
- Kirsten Seeber, CTC & Associates for Wisconsin DOT
- Randy Wade, Bureau of Transit, Local Roads, Rails and Harbors, Wisconsin DOT

Other peer exchange participants

- Greg Baer, Bureau of Transit, Local Roads, Rails and Harbors, Wisconsin DOT
- Don Berghammer, Southeast Region, Wisconsin DOT
- Roger Breske, Office of the Commissioner of Railroads, State of Wisconsin
- Donna Brown, Southeast Region, Wisconsin DOT
- Frank Busalacchi, Office of the Secretary, Wisconsin DOT
- Paul Derksen, Southeast Region, Wisconsin DOT
- Crystal DuPont, Southeast Region, Wisconsin DOT
- Dan Ertl, City of Brookfield
- Don Gutkowski, Northwest Region, Wisconsin DOT
- Steven Hewitt, Hewitt Consulting
- Peg Lafky, Bureau of Business Services, Wisconsin DOT
- Ben Meighan, Wisconsin & Southern Railroad Company
- Wendy Messenger, Federal Railroad Administration
- Mark Morrison, Bureau of Transit, Local Roads, Rails and Harbors, Wisconsin DOT
- John Oimoen, Southeast Region, Wisconsin DOT
- Joe Olson, Southwest Region, Wisconsin DOT
- Leo Penne, American Association of State Highway and Transportation Officials
- Arun Rao, Bureau of Planning & Economic Development, Wisconsin DOT
- Carl Rasmussen, North Central Region, Wisconsin DOT
- Dan Scudder, Bureau of Equity & Environmental Services, Wisconsin DOT
- Laura Shadewald, Bureau of Structures, Wisconsin DOT
- Michael Thompson, Wisconsin DNR
- Paul Trombino, Division of Transportation System Development, Wisconsin DOT
- Dave Trowbridge, City of Madison
- Leanna Wall, Southwest Region, Wisconsin DOT
- Gary Whited, Construction and Materials Support Center, UW-Madison
- Doug Wood, Office of the Commissioner of Railroads, State of Wisconsin
- Mark Wolfgram, Division of Transportation Investment Management, Wisconsin DOT
- Daniel Yeh, Bureau of Business Services, Wisconsin DOT

Peer exchange visiting team and planning team

Left to right
Randy Wade, Wisconsin DOT
Mike Schadauer, Minnesota DOT
Ron Adams, Wisconsin DOT
David Foster, North Carolina DOT
DJ Mitchell, BNSF
Jim Bolitho, Wisconsin DOT
Bill Bronte, California Department of Transportation
David Simpson, David P. Simpson Consultants LLC
Scott Witt, Washington State DOT
Don Heron, Canadian Pacific

High-Speed Rail Peer Exchange – Day 1

Background on High-Speed Rail in Wisconsin

- Wisconsin started funding passenger rail service in 1989 and ridership has grown rapidly. Over 750,000 people rode Amtrak's Hiawatha line from Chicago to Milwaukee in 2008, and ridership was up 24% over 2007. Even when the economy is down, people are flocking to the rail, and it serves a definite need in the area.
- The Midwest Regional Rail Initiative, consisting of nine states and Amtrak, was created in 1996 to focus on regional travel. The goals of the group are to provide network efficiencies to each corridor, to increase revenues and eliminate operating subsidies, and to keep associated capital investment within reasonable levels (ideally $2-$4M per track mile).
- Need to improve rail infrastructure and to build good relationships with rail partners.
- Having modern train sets with the latest amenities is important to attract riders. Rail could compete with air travel in terms of cost and convenience.
- Phase 1 Wisconsin plan = Milwaukee to Madison corridor, seeking 6-10 daily round trips with a top speed of up to 110mph. Also seeking to improve the Milwaukee to Chicago corridor with an increase of up to 10 daily round trips. Service start date of 2013.
    - Milwaukee to Watertown to consist of 47 miles of Canadian Pacific track with WisDOT project costs estimated at $108.8M(2008$). CP would complete the construction work in 2012. Three stations will be built by local communities at a cost of $4-$6M each.
    - Watertown to Madison to consist of 45 miles of class six track, 32 of which are owned by WisDOT. Project costs estimated at $192M (2008$). The track design and construction work will be done by the state of Wisconsin with a final completion date of 2012. Dane County will build a Madison station at a cost of $10-$15M.
- Phase 2 Wisconsin plan = Madison to St. Paul.
- Phase 3 Wisconsin plan = Chicago to Milwaukee to Green Bay.
- There is a new political and policy environment for intercity passenger rail with a more long-term view. Factors affecting this new environment include the current economic downturn, new political leadership that supports rail and the need for a national energy policy. The Rail Safety Improvement Act of 2008, the Passenger Rail Investment and Improvement Act of 2008 and the American Recovery and Reinvestment Act of 2009 all provide billions of dollars in funding for intercity passenger rail. The total national funding needs for intercity passenger rail are estimated at $357.2B through 2050.

State Passenger Rail Case Studies

<u>Bill Bronte - California DOT</u>
Bill highlighted two rail projects: LA-Fullerton Triple Track and Kings Park Double Track.

The LA-Fullerton project consisted of the construction of 15 miles of third main track and six grade separations in southeastern LA County. When complete, the new track increased the number of freight and passenger trains from 100 to 160. The area is congested with both people and cars.

- Created a partnership among Caltrans, Burlington Northern Santa Fe Railway (track owner) and the three communities along the lines. Created a stakeholder steering committee early in the process to generate a corridor approach. Approached environmental and design issues on a corridor-wide basis, which allowed projects to proceed as funding became available.
- Encouraged the local communities to take the lead on grade separation projects. Getting the communities involved early helped to work through their issues with the project. Sometimes the local governments need to be gently pushed on these projects to keep the projects moving.
- Focused the public relations approach on the improvements in traffic congestion, air quality and safety. Communicating with the public as much as possible was key to getting them on board.
- Learned that grade separation projects take longer, and cost more than planned.

The Kings Park project consisted of the construction of 4.5 miles of second main track. This is a standard rail project that demonstrates the "California Model."

- Corridor performance goals are contained in a corridor "vision document" or Strategic Plan. The Plan is a fiscally unconstrained document encompassing a 20 to 25 year time horizon.
- The first ten years of unconstrained Strategic Plan and the projects necessary to achieve those performance goals are included in a ten year State Rail Plan which is updated every other year. Projects and performance goals are refined at each update. The first five years of the ten year State Rail Plan tie to the State's Transportation Improvement Plan capital budget.
- Project selection and prioritization are based on quantitative modeling performed by the railroads and funded by the state. The modeling identifies the capital projects necessary to achieve the performance goals. Project design, permitting and engineering activities are funded by the state. Projects have specific, quantifiable outcomes at the end of them.
- Caltrans doesn't own rail infrastructure. Improvements to Class I railroads become the property of the rail company. The rail company is responsible for the construction of the projects. The Caltrans rail project development and contract teams are small because they rely on the railroads for much of the work.
- Caltrans does the outreach with the public concerning rail projects. They work with the communities, both the governments and community groups, and meet with them early about environmental issues and pre-construction activities. They work with their district directors to identify key individuals in local governments and work with them on potential issues. The key is to find out the issues early and talk to the communities right away. If a community doesn't cooperate on a project, it can seriously impact the ability to deliver the project.
- The biggest factor for success in selling a project to a community is to show the benefits and how the rail project will improve the lives of the residents.

Mike Schadauer – Minnesota DOT

- Minnesota is gearing up for passenger rail. The state legislature has required a passenger and freight statewide rail plan, which will be complete at the end of 2009.
- There are both policy and technical advisory committees for the rail plan, and public meetings have been held across the state.
- The most important passenger rail route is to Chicago, with secondary routes to Duluth and/or St. Cloud/Fargo-Moorhead being considered.

- Minnesota will partner with Wisconsin and pursue ARRA funding for the environmental and engineering work on the Milwaukee to Twin Cities corridor.
- Minnesota has learned that creating a rail plan as new funding opportunities become available is difficult because of the decisions on where to invest the funds. They created a Passenger Rail Forum to address both interim and ongoing issues.
- Establishing the DOT's leadership role to both the state legislature and to communities advocating rail projects is crucial to the success of rail in Minnesota.

David Foster - North Carolina DOT

- State-sponsored passenger rail has been running in North Carolina since 1984, with ridership increasing every year.
- In 1999, North Carolina began work on a Tier 1 environmental impact statement for the Washington, DC to Charlotte, NC portion of the Southeast Highspeed Rail Corridor (SEHSR), approximately 468 miles in length. There were nine corridor alternatives and over 1,200 miles of existing rail right of way evaluated. Public involvement began early with phone surveys, direct mail pieces, public and official workshops, and public hearings.
- The purpose of the Tier 1 EIS was to provide transportation options, ease the rate of congestion growth, improve safety, improve energy effectiveness, improve air quality and improve the transportation system efficiency.
- The outcome of the Tier 1 EIS was a system design with an average speed of 85-87 mph (110 top speed), fossil fuel locomotives, mixed usage (freight and passenger), fully grade separated with safety as a key component.
- North Carolina included a 116-mile multi-use trail concept on the Petersburg, VA to Raleigh, NC portion of the corridor. This is a 10-foot wide trail that runs in its own right of way, outside of and adjacent to, the rail right of way. State Resource agencies came up with funds for design and environmental evaluation of the trail. The local communities are responsible for trailhead facilities in their areas.
    - The trail has created synergy in the small towns along the corridor. Originally these communities thought the rail corridor provided no benefits to them because there was no high-speed passenger rail stop in their town. In truth, the re-built rail corridor would provide new and/or improved freight service and the potential for conventional passenger (same equipment and speeds as HSR, but more stops) in the future.
- Outreach for the Tier 1 EIS included creating an advisory committee in both states (NC and VA), working closely with regulatory agencies and showing communities the associated highway work beforehand to get their feedback and make changes where necessary. North Carolina has two Web sites to provide information to the public on the rail system: www.bytrain.org and www.sehsr.org.

Scott Witt – Washington State DOT

- Washington has a big focus on project performance with a goal of 90% of rail projects to be completed on time, within budget and meeting the project scope.
- They initially identified 86 causes that prevented projects from being successful. They looked for easily implementable action steps to solve the problems and vetted more difficult actions to management.
- Several solutions they implemented to improve project performance include:

    - All project managers obtaining Project Management Professional certification.
    - Instituting standard operating procedures for project initiation and change management.
    - Holding monthly meetings so project managers can learn from each other.
    - Developing a rail-specific master deliverables list to assist project schedules.
    - Standardizing the production of internal project estimates.
- Washington now has a better understanding up front of how long a project will take and funding needs.
- Areas Washington identified for improvement include master agreements versus performance agreements, working with the state legislature, working with their partners (including internal partners), comparing their vision with reality and being more private-sector orientated and entrepreneurial.

Freight Rail Case Studies

DJ Mitchell – BNSF Railway

- BNSF includes the capacity to accommodate a train within its signal blocks (7.5 miles) when it talks about the length of their trains. BNSF also includes the distance needed for a moving passenger train to pass a moving freight train (30-40 miles). These figures are important when discussing rail with folks who are not familiar with it and explaining how a track may be at full capacity even if it doesn't look it.
- BNSF finds out from states what they want to accomplish with their rail projects, which gives them their design criteria.
    - Safety is always at the top of the list.
    - The typical answer is to go faster, have more trains and have better reliability.
    - BNSF asks for desired average speed as top speed is not as important.
- Other things that are important when designing rail are:
    - Centralized traffic control.
    - Acceleration and deceleration tracks. There are two different types of traffic: through traffic and yard traffic. BNSF doesn't want to slow down through traffic (passenger rail) so they always have a track around a freight yard or industry to accommodate slower yard traffic.
    - Double tracks (where trains meet and pass) are expensive so a state should understand where they strategically need double track: around yards and industry makes the most sense and where there are some meets and passes by scheduled design.
- BNSF uses computer modeling to validate a track design and then runs trains using the model. They run 15-20 simulations per track alternative to see if the design is feasible. A model shows the on-time performance of passenger rail and the impact of passenger trains on freight traffic.

Don Heron - Canadian Pacific

- The business aspects of passenger rail should be dealt with at the front-end of the project.
- A key to success for past CP projects was that the rail side and the government side understood the rail story very well, which helped the project run smoothly, on time and on budget. Communication between the groups was essential.
- CP has worked with WisDOT on eight projects. In all of them, there have been benefits for all parties involved: WisDOT, CP, the public, etc.

- Good implementation principles include safety first, enhanced capacity for freight service, no fault liability for passenger service and appropriate compensation for use of tracks/right of ways.
- The sequence of design for a successful passenger rail project is to focus on operation first, then complete the engineering cost estimate and design, work out all the difficult issues first and move on to a successful implementation.

David Simpson – David P. Simpson Consultants

There are three key stakeholders in passenger rail: freight carriers, state agencies and federal agencies.

Freight carriers have varied styles of engagement and anxiety about positive train control impacts. There's a need to discuss a more flexible approach to speed and the freight carriers are considering track dedication by service.

- Amtrak performance has improved due to PRIIA enforcement language and reduced freight volumes.

State agencies need to consider:

- A difficult paradigm shift of looking at rail with a minimum 20-year perspective.
- New capacity options related to frequency or electrification of tracks.
- The need for a network vision.
- If a state should own a corridor if they build and maintain it, and determining where best the public investment belongs (freight rail, intercity rail and/or urban commuter rail).

Federal agencies need to consider:

- Need for a long-term vision.
- The integration of planning.
- Seeing Amtrak as a vital player.
- A standardization of approach.
- Transparency of criteria.
- Performance-based selection.

Common themes among all stakeholders comprise questions on long-term vision, how to educate the public, how to develop a resource base and how to institutionalize the present momentum.

State Contracting

Bill Bronte - California DOT

- Caltrans does not own rail infrastructure. It is owned either by the railroad or by local municipalities.
- Track work, including the design, environmental clearance and project delivery, is done by both railroads: BNSF or Union Pacific.
- Set performance outcomes for the railroads to deliver on for the projects.
- Once there is a notice to proceed on a project, Caltrans has periodic on-site meetings with the rail staff for due diligence.

- Caltrans rail inspectors are not engineers. They perform a financial review of the railroad's work to see if the work was completed per the agreement and do spot checks to use as a basis for approving labor and equipment costs.
- Two areas to review diligently are signal work and equipment rental. Caltrans hires consultants to provide technical expertise when required and monitor equipment rental costs to avoid charges for equipment sitting idle.
- Caltrans defines as an allowable cost an accountant, hired by the railroad, to assemble the project invoices so they are easier to review and process, which saves Caltrans staff time.

David Foster - North Carolina DOT

North Carolina does the project design but communicates with Norfolk Southern throughout the process and they approve all of the designs. Norfolk Southern then contracts out the work and NCDOT is responsible for inspection.

- On the Norfolk Southern mainline, NCDOT designs and pays for improvements to assist passenger service; NS approves the designs and does the construction and NS pays for maintenance of the improvement.
- On non-mainline, the scenario is the same, but NCDOT pays for the maintenance of the improvement.
- Generally environmental permitting is done by NCDOT.

Highlights of the discussion

- Caltrans has standard contracts for rail projects and recommends that the legal contract language be taken care of early on. Then all subsequent agreements are basically task orders. This allows the state to focus on the work instead of the contracts.
- With the increased funding for passenger rail throughout the country, the railroads will be hit with many projects over the next few years. The states should trust that railroads will follow their same standards, whether public money is involved or not, because they are ultimately responsible for the functioning of the tracks.
- ARRA funding – In mid-June the Obama administration will provide guidance to the states on the funds and what procedures or rules they will need to follow when using them. The states expect transparency of how the funds will be used to be important. The states may want to consider paying for the railroads to hire an accountant to track and assemble invoices and funding.
- Inspecting the railroad's work – Don Heron suggested creating a drawing that anticipates the audit trail. Then inspectors can go to the track to see if each portion has been physically built and if it matches the drawing.
- Track maintenance – In southern California, Caltrans keeps maintenance on an even schedule (load leveling) so there is no large, cyclical disruption in train schedules. This kind of scheduling also keeps crews working all year, lowers disruptions to passengers and keeps performance measures at higher levels. Maintenance should also be worked into a state's rail budget from the beginning of the project, since this is an activity that will go on in perpetuity.

Agency Coordination

Handling environmental work

- In Washington and North Carolina, the DOT handles the environmental permitting, while in California, either BNSF or Caltrans secures the permits.
- In Wisconsin, WisDOT and the DNR have a cooperative agreement that allows the agencies to work together efficiently and effectively. The two agencies may communicate on a daily basis, and the DNR is involved in both the project design and mitigation processes. This agreement applies to state requirements only and does not exempt WisDOT from federal regulations. When speaking with the media, both agencies speak for the state of Wisconsin so the agencies are on the same page in the public's view.
- Caltrans uses consultants to assess rail impacts on the environment.
- North Carolina has a streamlined face-to-face approach for their environmental process, which is separate from highway projects.
- Minnesota has close agency coordination, but uses the standard public process approach.
- Washington's biggest environmental issues relate to archaeology more than ecology.
- In Wisconsin, the local communities will hire contractors and complete the environmental paperwork with WisDOT's guidance. The local communities can utilize the cooperative agreement with the DNR if they meet the legal definition of who can use the agreement.
- North Carolina has a contract position that works with the local communities on environmental work. In California, stations are statutorily exempt from using federal funds. In Minnesota, Mn/DOT completed most of the station work on the Hiawatha line.

Intergovernmental relations

- Determining who signs the documents for a rail corridor can be difficult. FRA will review all high-speed rail projects and then send them to the USDOT Secretary for final sign-off, which can add a lot of time to the process.
- FRA has new roles related to funding and project development. Groups are going to need to cooperate fully on rail because if one state's program fails, it could have a negative impact on the entire national program.
- States should ensure their paperwork is complete before sending to FRA so that it moves up the list for review, instead of getting sent back for changes.
- States are having a difficult time with out-of-state travel so alternative methods of communication should be explored.
- AASHTO will consider developing a glossary of acronyms to help non-rail folks understand rail issues fully.

High-Speed Rail Peer Exchange – Day 2

Station Development

Mike Schadauer – Minnesota DOT

Mike reviewed the efforts in station design on the Big Lake to Minneapolis Northstar commuter rail line as well as the St. Paul Union Depot in Minnesota.

- Local communities really drove these projects via the Northstar Corridor Development Authority, a joint powers organization of over 30 counties, cities and townships along the Northstar commuter rail line.
- Northstar had a "cookie cutter" approach to the design in terms of size, layout, etc.

The St. Paul Union Depot will serve Amtrak's Empire Builder, intercity bus, local bus, light rail transit, taxis and bicycles. It is on the national register of historic places and is intended to support economic development in downtown St. Paul

Scott Witt – Washington State DOT

Scott presented on the development of the Stanwood station in the state of Washington:

- This station was not supported by the local community and represented a huge challenge despite its small size. Permits were especially challenging.
- You cannot assume a small station will be a small effort. Washington spent more time on this very small project than projects fifteen times its size.
- There were a number of logistical issues to resolve in terms of the schedule and the need for a long length of second track.
- The project also highlighted the need to start early in discussions with key stakeholders.

Highlights of the discussion

- There are often many different funding sources for stations: local, state, private, or a mixture of them.
- There can be great benefits in using private funding. Complicated funding issues arise when mixing in private developers though. For example in Minnesota, state bonding doesn't allow private sector, profit-making involvement.
- California has at least one example of a purely privately funded station that was part of mixed-use development, but this is rare since it requires considerable vision and risk on the part of the developer. In Denver, private developers took the lead on Union Station but prioritized the commercial interests over the needs of the public, and it resulted in a lawsuit.
- If you start early enough to plan that your stations will be multi-modal, then it will be easier to make it happen. If you just think of them as single use, then it's harder to turn them into something else later.
- The Federal Transit Administration has some onerous requirements such as private developers needing to follow federal competitive bidding processes. There is a strong desire to see the Federal Railroad Administration learn from the FTA on how not to structure processes for federal procurement.
- The group discussed the importance of understanding the profile of the typical high-speed rail user:

    - Average trip is less than 500 miles.
    - Majority are not daily users, but more often on business trips, trips to see friends/family, shopping trips, etc. that occur weekly or monthly.
    - Trips that don't make sense for air flights due to airport access time.
    - They choose rail because they prefer the productivity the train allows.
    - Often drive by congestion on the highway system.
    - Fuel costs.
- On-time performance is critical. It's the primary driver of ridership growth.
- Excellent customer service, clean bathrooms, amenities are also very important. Special customer service training programs may be required.
- Station security is another critical issue. People have to feel it's a safe place to get on and off. Visible cameras, room for a police substation, etc.
- Station development should include how the station will be used. Will it be a "cute" station, include retail and restaurants, have intermodal capabilities, etc.?
- Looking at the successes and challenges of various station projects, it seemed clear that for most states having the local community take the lead works the best. It can be challenging to meet all requests by local communities for stops. Communication about the criteria for adding a stop is very important.
- DOT regional representatives should be the "eyes and ears" to identify potential issues at community planning meetings.
- North Carolina has tied their rail projects to other types of community development funded by state earmarks. Often these projects help rejuvenate an area or promote some history of the region, and most of the development is done via the central office, not regionally.
- In Wisconsin, the communities will own the rail stations. Watertown presents a great example of a local community driving the iterative development of the station design with input from the DOT.
- The DOT should be the interface with local communities rather than the railroad. The railroad needs to have input into the design though.
- The developer, the local community and the DOT need to be involved in intermodal planning at each station.

Grade Crossings

- Grade crossings are more than a highway safety issue; they're also a railroad speed, maintenance and safety issue.
- Local communities tend to push back against closing crossings since it redirects traffic.
- Consolidating crossings helps with quiet zone calculations.
- Although the number of grade crossing deaths is comparatively low, there is the potential for large, severe accidents given the number of people on a train and the speed at which the train is traveling. Overall grade crossings are a challenge and are costly but are necessary for mitigating risk.
- Focus on gate design to keep pedestrians from bypassing the gates.
- Participants expressed concern over increasing attacks on the Section 130 FRA grade crossing improvement funds. Critics note that with the overall drop in grade crossing fatalities in recent years safety funds could more be productively directed to other priorities. Forum participants countered that a strong federal program is an essential element of intercity passenger rail

improvement efforts given the resulting increases in speed and frequency of train movements. Safety issues extend beyond the traditional concerns for motorists to an increasing numbers of passenger rail patrons whose safety would be compromised without a robust program of crossing improvements and elimination. (Simpson)

Working with Freight Railroads

Federal funding for passenger rail means that the level of dialog between state agencies and freight railroads is greatly increased. This can be either a project-based dialog or there could be a more proactive approach to working together to educate public agencies. The relationship can also be either a traditional vendor and customer approach where the public agency purchases services from the railroads or it could be a more shared approach with shared resources, such as occurs in North Carolina.

Highlights of the discussion

- Clear communication between partners is critical. You need a formal communication protocol, scope of work, clear understanding of the division of labor and management, written communications on scope changes, etc.
- Many DOTs have trouble hiring qualified staff and may need to work on creative ways to recruit the necessary people.
- It's a challenge for DOTs to take on the increased workload while having fewer and less experienced staff.
- Wisconsin, Illinois and Tennessee are developing Rail Engineering departments in response to the concerns about retiring staff and the need to develop/train new staff.
- Freight railroads also face challenges in organizing and coordinating centralized and regional staff.
- It's a challenge for freight railroads to coordinate with many different states on the same issues. It would be great if state DOTs could centralize questions posed to the rail companies. It's not clear what the right mechanism is for this, although AASHTO would like to help.
- Single points of contact between organizations should be utilized as much as possible.
- CP and BNSF both recommend having a designated team from the freight railroad that can support these new state projects. Basically, the public agency hires its own paid team within the freight railroad and they can advocate for that agency.
- Although CP and BNSF are both excellent to work with, there was discussion about the challenges of communicating with large freight railroads given their complicated organizational structures and the likelihood that passenger rail is a lower priority for them. Different cultures exist within the different freight railroads as well.
- Freight railroads need to recognize that passenger rail is the "face" of railroad to the public.
- In terms of inspecting freight rail work in joint use territory, the consensus is to keep it at a higher level than highway construction inspections, due to the investment that freight railroads have in the quality of the end product. Freight railroads will face problems with the impact on their own trains if they don't follow specifications for quality work. Excessive site construction inspections by the State are unnecessary given the railroad's requirement to comply with FRA standards and given the presence of FRA inspections.
- It is very important to anticipate future maintenance and operating costs in addition to the upfront costs of these projects as DOTs work with the freight railroads to expand the current infrastructure.

Effective DOT Organization

This discussion focused on how much DOT staff is needed to effectively manage the project in the field. WisDOT's Marquette Interchange highway project used a steering committee model and came in early and under budget. WisDOT plans to use a similar model for high-speed rail projects but faces two key questions—how to best structure staff for rail projects and how to gain needed rail knowledge and experience.

Highlights of the discussion

- The federal guidance for the ARRA funding will dictate much of how detailed the project plan and management needs to be.
- WisDOT has a unique cooperative agreement with DNR and should take advantage of it for environmental planning.
- Since the Watertown to Madison corridor is state-owned and the Watertown to Milwaukee corridor is owned by Canadian Pacific, different approaches will be needed:
    - For state-owned corridors, there will be a need for greater management and project oversight. Wisconsin & Southern Railroad will run freight service for that part of the line, although Amtrak will operate the passenger service.
    - For corridors owned by the rail company, WisDOT doesn't need to duplicate the project oversight that the rail company will provide.
- The group agreed that the use of consultants should be minimized and their roles clearly defined. When using consultants, make sure they sit with the rest of the project team.
- The project structure should be small teams from both the DOT and the railroad working closely and personally with a focus on milestones. There is no need for each side to feel they need to provide all the expertise.
- These projects may be more like airport projects than highway projects since WisDOT doesn't own the airports.
- Rail companies have a lot of experience with big rail projects and that's what they are good at. DOTs should focus on figuring out what results they want to ask the railroad to deliver.
- As noted under "Working with Freight Railroads," the group recommended against extensive WisDOT inspection of rail company work because of the investment that the rail company also has in the project's success. WisDOT needs basic knowledge to validate the track materials being used, what type of equipment is being used and labor hours.
- BNSF notes that once you start rail projects, you will always be in the business due to the ongoing maintenance. WisDOT needs to think about whether the ongoing inspections, etc. are a central office or a regional staff role.
- WisDOT should consider keeping rail projects more centralized (less regional) because there are not very many rail projects: concentrate the required specialists expertise in one area. This is the reverse of how most highway projects are handled, because there are so many of them.
- Splitting up the design and construction aspects of the project will pose a problem if WisDOT wants to have a single point of contact approach.
- Overall, WisDOT may need to establish more clearly what it wants in terms of end results before it tries to determine the project structure.

Construction of New Roadway Approaches and Crossings

- The railroads noted that this is a normal part of their project coordination. For example, CP has a public works staff person who coordinates with the state agency on the design and will ensure WisDOT's approval.
- WisDOT staff noted that the key issue is roadway approach aprons and making sure national standards are followed.
- In most cases, WisDOT doesn't own the roadway—the non-state road authorities do. The construction of needed road changes may be done by whoever owns the road.

Utility Relocation

- Utilities and fiber optics pose potential financial and scheduling risks.
- Getting started early (at the same time as environmental work) on assessing the need for relocation of utilities and fiber optics helps ensure any issues will not slow down the project. Perpendicular crossings usually don't stop the project; parallel occupancies may, due to the length.
- The rights of the utilities and fiber optics companies may depend on whether the freight railroad or the DOT owns the property and the provisions of agreements.
- Pole line relocation is just a standard part of the project for railroads, so it's a good place to use their expertise.

Appendix A
Implementing High-Speed Rail in Wisconsin
WisDOT Peer Exchange
June 2-4, 2009

Tuesday, June 2, 2009

7:45 – 8:10	**Registration and refreshments**
8:10 – 8:30	**Welcome Messages** • Ron Adams • Secretary Frank Busalacchi • David Simpson (Facilitator welcome and plan for the day)
8:30 – 9:00	**WisDOT High-Speed Rail Background** • Ron Adams, WisDOT (5 minutes) • Randy Wade, WisDOT (20 minutes) Brief question and answer session to follow.
9:00 – 10:15	**Case Study Presentations (20 minutes each)** • Bill Bronte, Caltrans • David Foster, NCDOT • D.J. Mitchell, BNSF Railway Brief question and answer session to follow.
10:15 – 10:30	**BREAK**
10:30 – 12:00	**Case Study Presentations (20 minutes each)** • Mike Schadauer, Mn/DOT • Scott Witt, WSDOT • Don Heron, Canadian Pacific Brief question and answer session to follow.
12:00 – 1:00	**LUNCH**
1:00 – 2:45	**State Contracting** • Ron Adams, WisDOT (5 minutes) • Bill Bronte, Caltrans (5 minutes) • David Foster, NCDOT (5 minutes) Informal introductory talks followed by facilitated question and answer session.
2:45 – 3:00	**BREAK**
3:00 – 4:30	**Agency Coordination** Facilitated discussions on coordination with resource agencies, DNR and Amtrak for rail and station development.
4:30 – 5:00	**Recap discussions and takeaways**

Wednesday, June 3, 2009

7:45 – 8:10	**Networking and refreshments**
8:10 – 8:15	**Welcome** David Simpson provides welcome, recap of Tuesday meeting, and overview of goals for the day.
8:15 – 9:45	**Station Development** • Mike Schadauer, Mn/DOT (5 minutes) • Scott Witt, WSDOT (5 minutes) Informal introductory talks followed by facilitated question and answer session.
9:45 – 10:00	**BREAK**
10:00 – 12:00	**Working with Freight Railroads** • David Simpson (15 minutes) Observations on the sharing of rail corridors. • Mike Franke, Amtrak (15 minutes) Case study overview. Facilitated roundtable of state experiences.
12:00 – 1:00	**LUNCH**
1:00 – 3:00	**Effective DOT organization Working Groups** Presentation of straw man rail development plan critique. Breakout groups: • Group #1 – conference room #301 • Group #2 – conference room #307 Groups to discuss key issues/opportunities identified during the event relating to how WisDOT can best organize to implement high-speed rail projects.
3:00 – 3:15	**BREAK**
3:15 – 4:30	**Effective DOT organization Report and Discussion** Bring groups back together for reporting on working group activities and discussion.
4:30 – 5:00	**Recap discussions and takeaways**

Thursday, June 4, 2009

7:45 – 8:15	**Networking and refreshments**
8:15 – 8:30	**Welcome** David Simpson provides welcome, recap of Wednesday meeting, and overview of goals for the day.
8:30 – 10:00	**Report Preparation** Prepare brief (one-page) reporting document on peer exchange highlights, participant takeaways and next steps for WisDOT.
10:00 – 10:30	**Break and report printing**
10:30 – 11:30	**Report to Senior Management** Facilitated report to WisDOT senior managers.
11:30 – 11:45	**Closing Remarks**

Appendix B
Implementing High-Speed Rail Peer Exchange
Discussion Questions

Agency Coordination

- What are the most effective approaches to communicating with other agencies involved in the rail and station development?
- What are the potential roadblocks to coordination?
- What practices help streamline the process?

Station development

- How do you best coordinate with locals on station development?
- Who designs and maintain the stations (whether owned by the freight railroads or the DOT)? Locals? DOT? Freight railroads?
- Who is responsible for station maintenance, such as snow removal, policing, cleaning?
- How do you determine how many parking spaces are needed?
- Do you plan links to park and ride facilities? Bus service links?
- Who pays for stations, parking construction and property acquisition? How much does it cost? Is there cost sharing with the locals?
- What are the opportunities for the commercial revenues?

Effective DOT Organization

- Is the mega-project approach appropriate? Should WisDOT use an entirely new approach?
- What employee skill sets are needed?
- Have we missed any competency areas? Have we missed any work activities?
- WisDOT has a limited number of staff. What is the role of consultants? Where should they be used?
- ARRA requirements?
- How are other DOTs organizing themselves, especially over long corridors that cross districts and states?
- Should liaisons to local communities be organized through the district offices or via one team out of Madison?
- What's the outreach strategy to the local communities?
- What DOT staff positions are critical to effective program and project management?
- To what extent have you used consultants to do program or project management? What are the challenges or issues? What positions are best not to contract out?
- Can DOT expertise on large roadway construction projects be transferred to a rail development project?
- How can WisDOT best organize staff to handle and streamline equipment procurement?

Appendix C

Implementing High-Speed Rail

WisDOT Peer Exchange

June 2-4, 2009

Vision

Safety in all aspects
Define role of rail in multimodal context
Fiscally responsible
Provide service that is desirable to public
Quality communication and exceptional relationships
Recognize railroad business model
Recognize railroad as owner
Establish clear partnership roles

Best Practices and Lessons Learned

Communication

- Focus on outcome (such as change in modal shift to rail), not output (miles in track).
- Formalize communication protocol.
- Utilize the Web, making documents available for download.
- Special effort required to educate public on different technologies and role of rail in transportation system.
- Consider bringing in outside consultants. Need identity, branding and coordinated message (formal media plan).
- Focus on how to inform elected officials and administration about the program and the unique features of the public/private partnership on an ongoing basis.
- Long-term, long-range effort.
- One point of contact in DOT and one point of contact in rail company as a principle of project management.

Agency Coordination

- The WisDOT/DNR cooperative agreement is an efficient and effective method for environmental regulatory coordination.
- Station development requires considerable agency coordination.
- It is unclear how much documentation is needed for rail design/development. FRA has limited resources to handle the current wave of regulation and construction.
- It may be necessary to centralize communication with freight railroads and others.

Contracting

- Establish scope, expectations, partner roles.
- Flexible master contracts allow the DOT to add individual tasks to them.
- Allow sole source contracts with justification.
- Competitive bidding can be a challenge when rebuilding private assets. Agree on bidding process at the beginning of the process.
- Improvements need to be done by the corridor owner.
- Put management process in place to assure that the program is carried out consistent with state and federal requirements.
- There is value in having someone help the railroad put together invoices for review by the state.
- State DOTs should consider assisting in funding of dedicated positions/team in carrier organizations.
- Establish and document division of labor early on based on core competencies.

Station Development

- Often many different funding sources – local, state, private, and mixture.
- Complicated funding issues arise when mixing in private developers, but there can be great benefit.
- Local support for a station is critical for completion—communicate early and often. Support the communities in taking the lead with DOT coordination.
- Determine who owns and maintains the station.
- Encourage intermodal and commercial opportunities that will enhance the community and service.
- Station development should promote transit oriented development.
- Big and small stations can require the same effort.
- Safety and integration with road and rail network and platform access are important factors in design.

Best Practices and Lessons Learned (continued)

Operations

- Safety is paramount.
- Ridership grows with on-time performance. Excellent customer service, clean bathrooms, amenities are also beneficial but on-time is the key. Special training programs may be required.

Grade Crossings

- Grade crossings are a key issue, with great potential for safety improvement and innovation.
- Grade crossings need to be integrated into overall service plan.
- Preserve and increase separate federal funding program for grade crossing improvements.
- Grade crossing improvements provide opportunities for creating quiet zones.

Utility Relocation

- Utilities and fiber optics pose potential financial and scheduling risks.
- These need to be addressed early.
- Railroads are knowledgeable about easement holders and their rights.

Ongoing Resource Needs

- Plan for a training program and learning opportunities (like peer exchanges to learn from each other).
- Need capital improvement/operations planning and funding to support ongoing program.

Recommendations for WisDOT

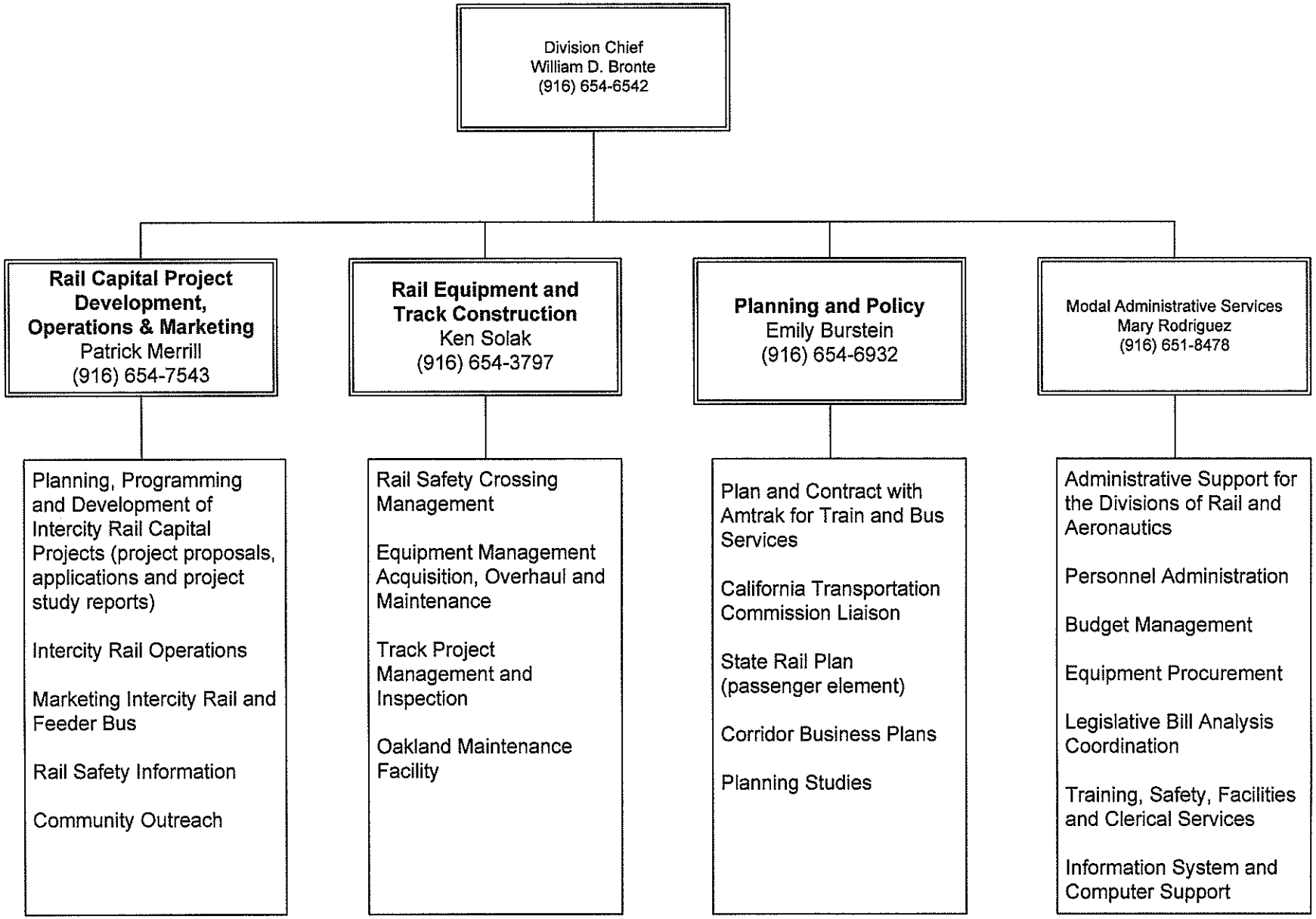
- A single DOT organizational structure (central office) across projects is critical for effective project development and delivery.
- Keep it simple.
- The staffing model for the rail projects doesn't need to be the same as for the Marquette Interchange.
- Centralization of key staff is a good practice.
- Work side by side with the railroad partners without duplicating their efforts. Let them do what they do well.
- Use of consultants should be limited and well-defined. Don't make the job bigger than it is.
- Project administrative structures may need to vary due to ownership.
- Good communication is critical. Communicate with public, locals, partners early and often.
- Excessive inspection is not necessary. Audit and spot check. WisDOT can assume the railroad has an investment in good quality since they use the same line.
- Develop a long-term strategic service plan by corridor that is fiscally sustainable.
- Focus on average speed, not top speed.
- Safety is paramount.
- Do up front work (planning and design using modeling and other means) to help prioritize long-term capital items such as tracks, platforms, etc. and set those priorities within the context of a long-term plan.
- WisDOT should play an active role in station development to enhance the service and community.

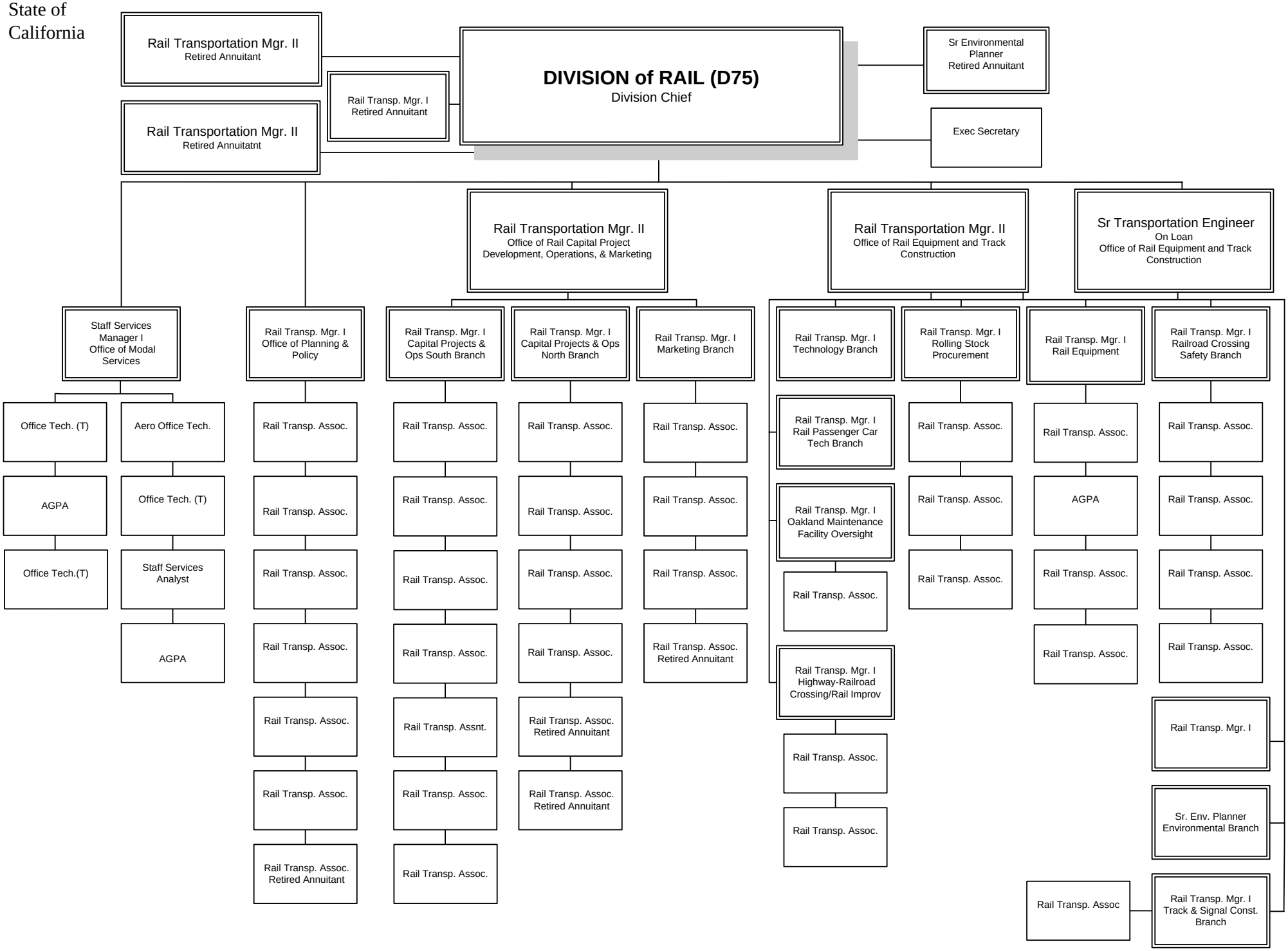
Visiting team members

- Bill Bronte, Caltrans
- David Foster, NCDOT
- Mike Franke, Amtrak
- Don Heron, Canadian Pacific
- DJ Mitchell, BNSF
- Mike Schadauer, Mn/DOT
- Scott Witt, WSDOT

State of California
Department of Transportation
Functional Organization Chart

DIVISION OF RAIL

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Retired Annuitant
Rail Transp. Mgr. I
Retired Annuitant
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Sr Environmental Planner
Retired Annuitant
Rail Transportation Mgr. II
Retired Annuitatnt
Exec Secretary
Rail Transportation Mgr. II
Office of Rail Capital Project Development, Operations, & Marketing
Rail Transportation Mgr. II
Office of Rail Equipment and Track Construction
Sr Transportation Engineer
On Loan
Office of Rail Equipment and Track Construction
Staff Services Manager I
Office of Modal Services
Rail Transp. Mgr. I
Office of Planning & Policy
Rail Transp. Mgr. I
Capital Projects & Ops South Branch
Rail Transp. Mgr. I
Capital Projects & Ops North Branch
Rail Transp. Mgr. I
Marketing Branch
Rail Transp. Mgr. I
Technology Branch
Rail Transp. Mgr. I
Rolling Stock Procurement
Rail Transp. Mgr. I
Rail Equipment
Rail Transp. Mgr. I
Railroad Crossing Safety Branch
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Aero Office Tech.
AGPA
Office Tech. (T)
Office Tech.(T)
Staff Services Analyst
AGPA
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Rail Transp. Assoc.
Rail Transp. Mgr. I
Rail Passenger Car Tech Branch
Rail Transp. Mgr. I
Oakland Maintenance Facility Oversight
Rail Transp. Assoc.
Rail Transp. Mgr. I
Highway-Railroad Crossing/Rail Improv
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AGPA
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Rail Transp. Assoc.
Rail Transp. Mgr. I
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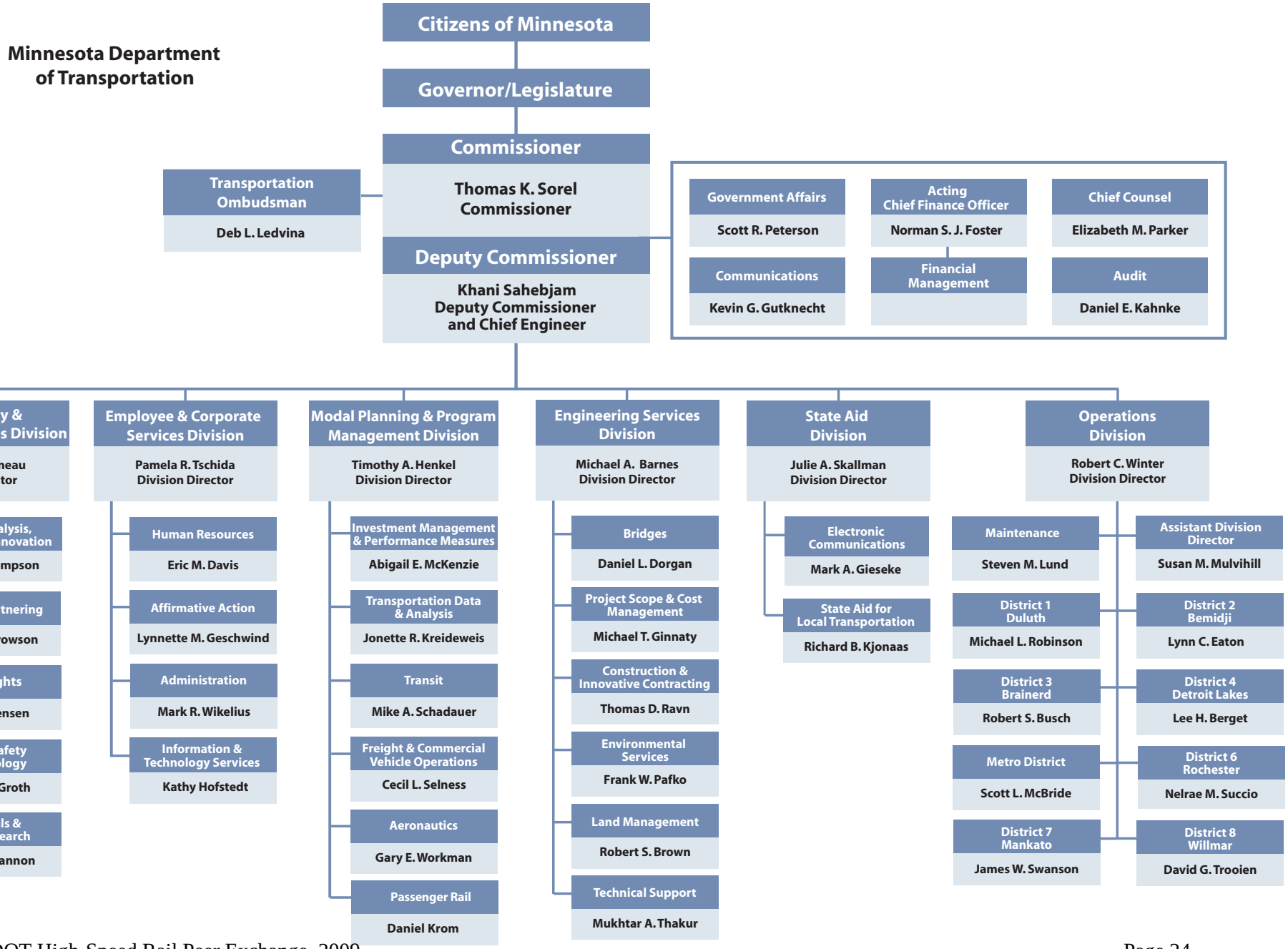
Environmental Branch
Rail Transp. Assoc
Rail Transp. Mgr. I
Track & Signal Const. Branch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Thomas K. Sorel
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Deb L. Ledvina
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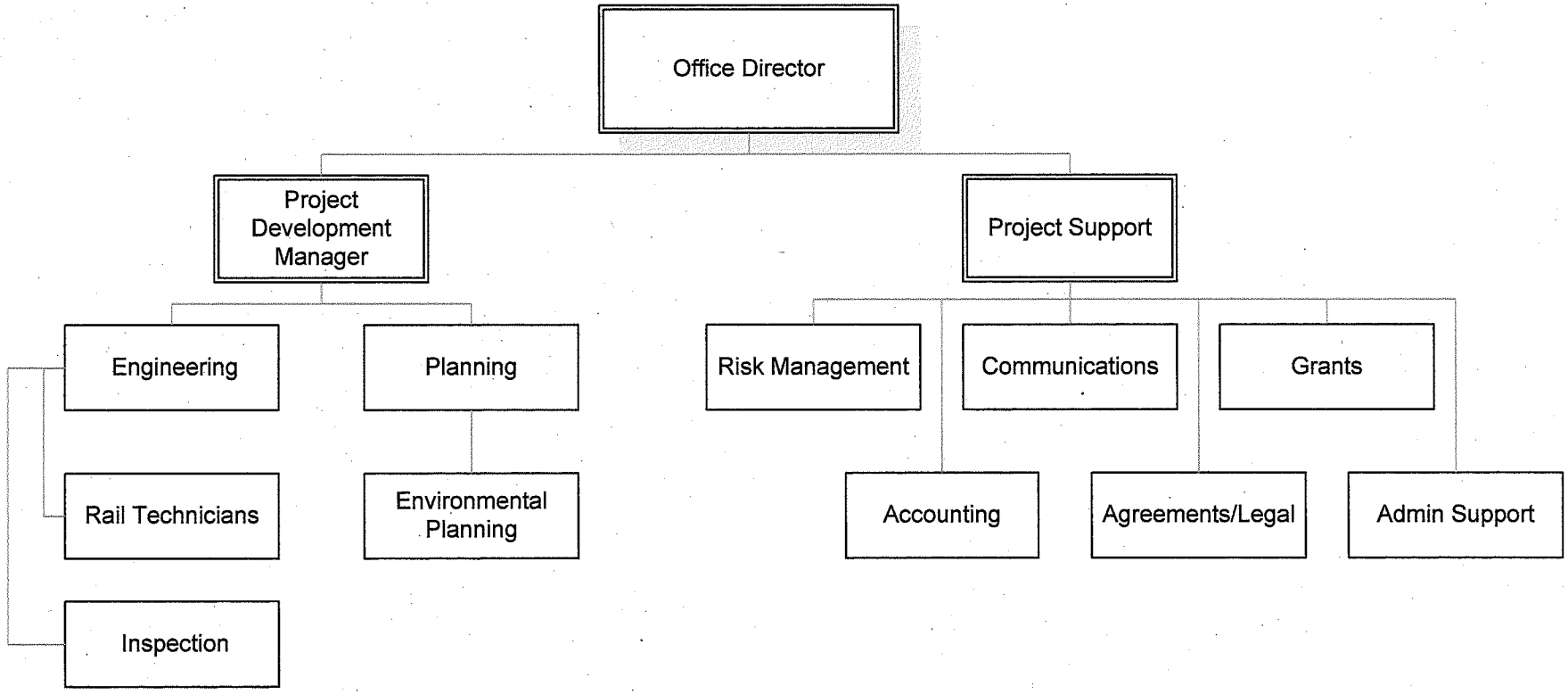
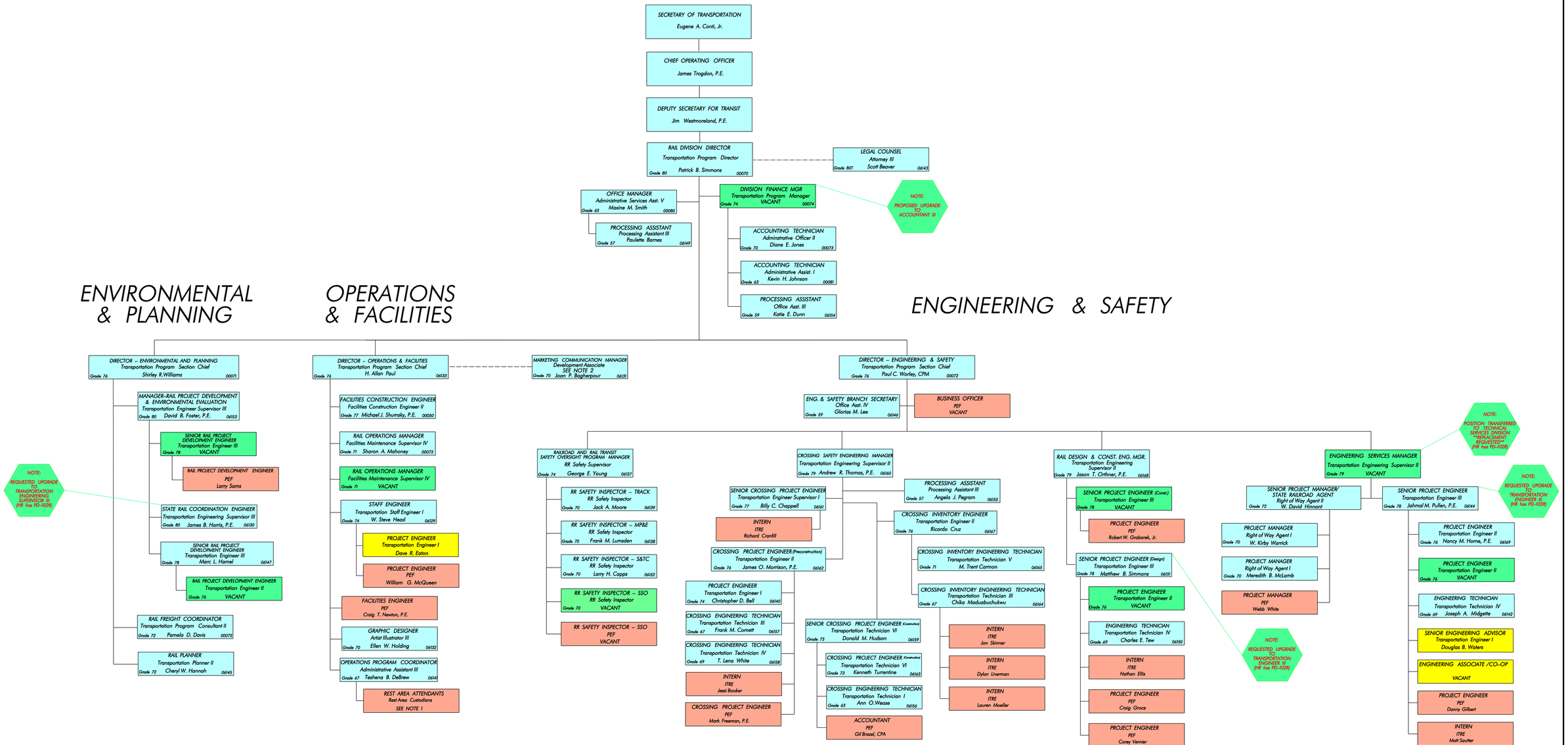
June 2009

Office of Passenger Rail



NCDOT RAIL DIVISION ORGANIZATIONAL CHART



NOTES

NOTE 1: 20 TEMPORARY AGENCY EMPLOYEES AT KANNAPOLIS, SALISBURY, HIGHPOINT, BURLINGTON AND SELMA COMPRISE THESE POSITION THROUGH QUALITY STAFFING (17) AND JOHNSTON COUNTY INDUSTRIES (3)

NOTE 2: COMMUNICATIONS OFFICE POSITION ASSIGNED FULL–TIME TO RAIL DIVISION

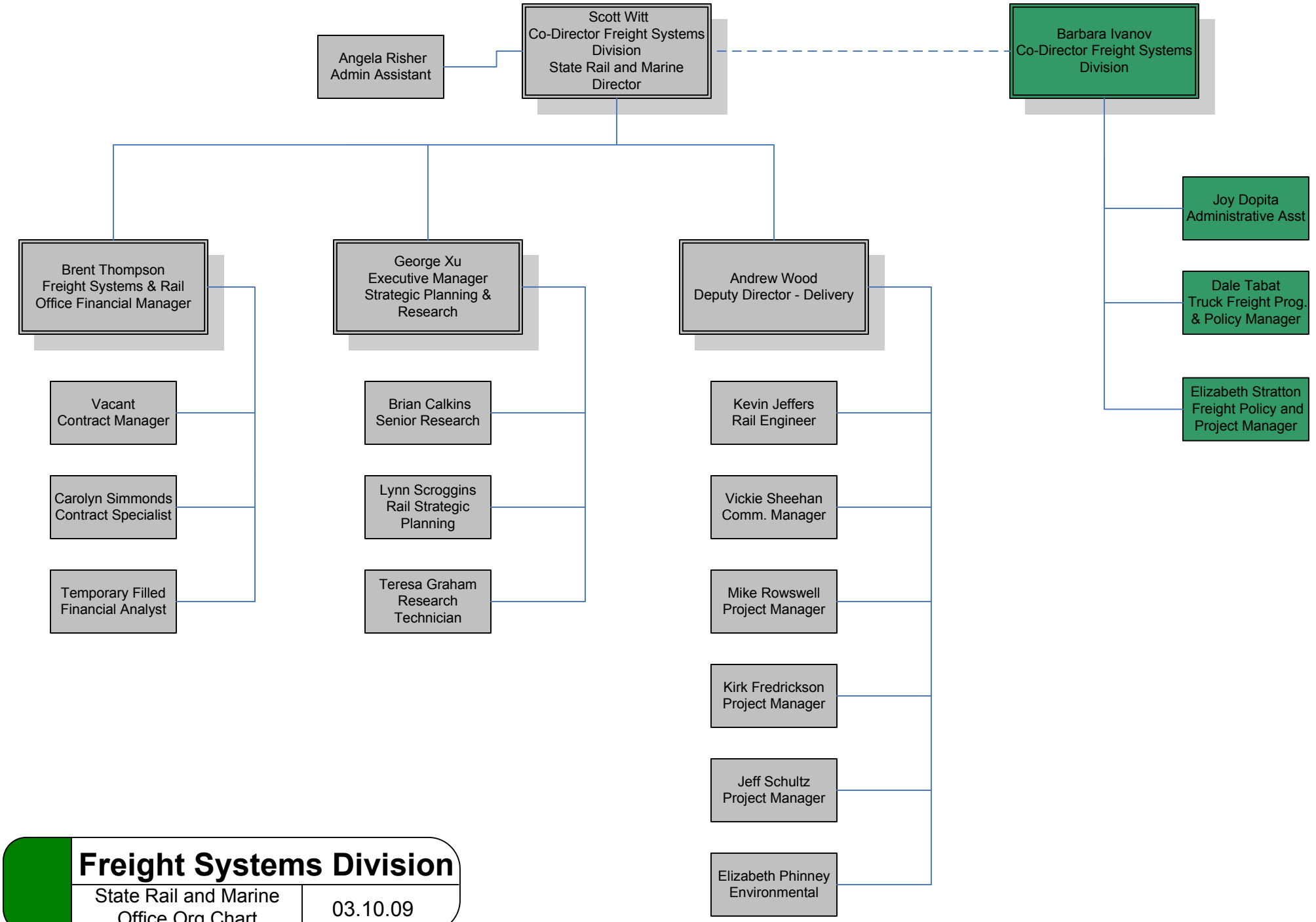
LEGEND

- EXISTING FULL TIME PERMANENT
- VACANT FULL TIME PERMANENT
- DOT TEMPORARY (STATE)
- CONTRACT EMPLOYEE/PEF

RAIL DIVISION

EXISTING ORGANIZATIONAL CHART

UPDATED 4/08/2009



Freight Systems Division

State Rail and Marine Office Org Chart | 03.10.09

Appendix E
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