

Solicitation Number: CEOI 0804 RMA18000000001

**CEOI**

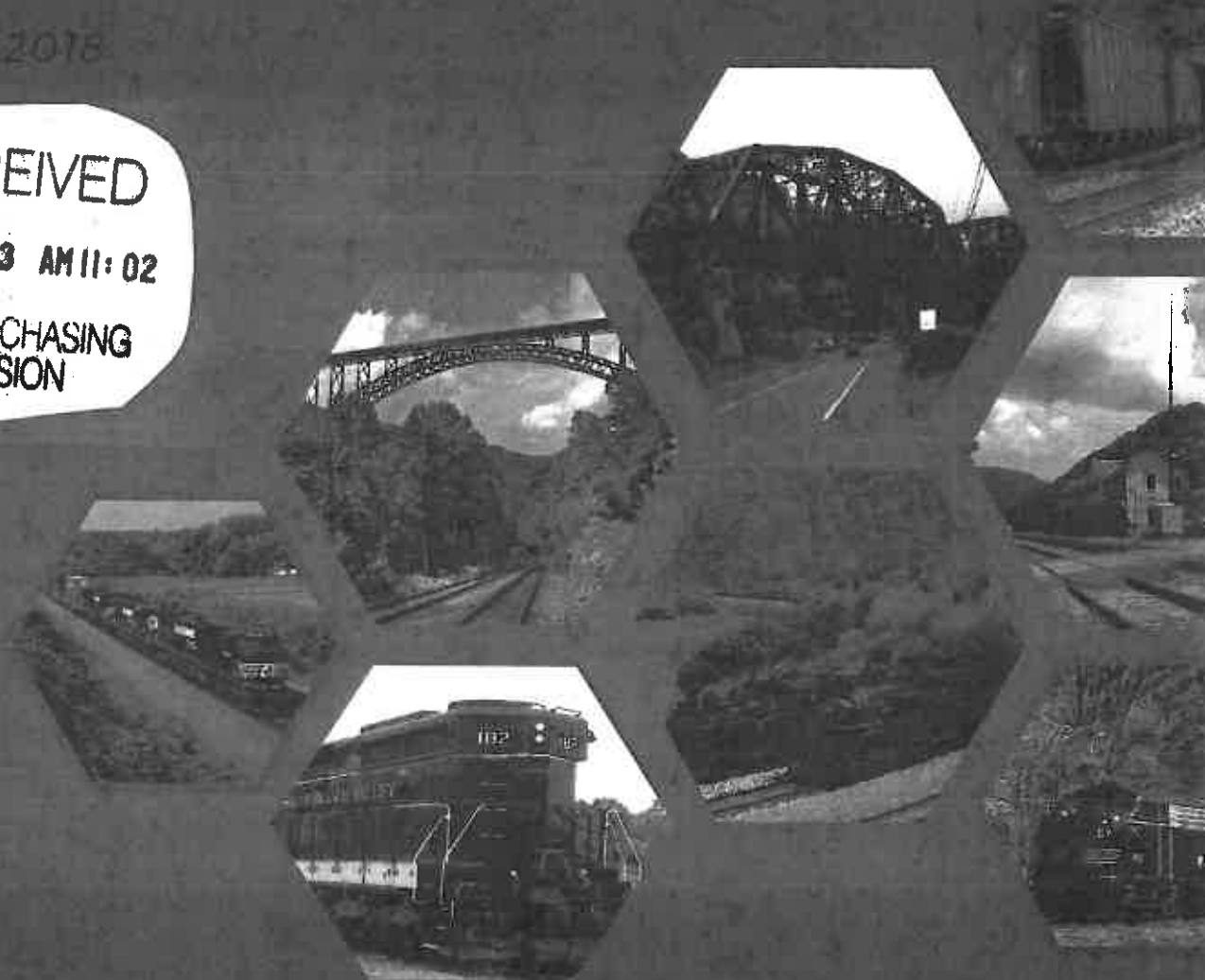
WEST VIRGINIA UPDATED  
STATE RAIL PLAN

FEBRUARY 13, 2018

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WV PURCHASING  
DIVISION



Submitted to:

the **STATE OF WEST VIRGINIA**

Submitted by:

**wsp**



Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

State of West Virginia  
 Centralized Expression of Interest  
 02 – Architect/Engr

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Proc Type: Central Purchase Order

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**BID RECEIVING LOCATION**

BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

Vendor Name, Address and Telephone Number:

WSP USA Inc.  
 13530 Dulles Technology Drive  
 Suite 300  
 Herndon, VA 20171

**FOR INFORMATION CONTACT THE BUYER**

Jessica S Chambers  
 (304) 558-0246  
 jessica.s.chambers@wv.gov

Signature X

FEIN # 11-1531569

DATE February 12, 2018

All offers subject to all terms and conditions contained in this solicitation

**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.:** \_\_\_\_\_

**Instructions:** Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

**Acknowledgment:** I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

**Addendum Numbers Received:**

(Check the box next to each addendum received)

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6  |
| <input type="checkbox"/> Addendum No. 2            | <input type="checkbox"/> Addendum No. 7  |
| <input type="checkbox"/> Addendum No. 3            | <input type="checkbox"/> Addendum No. 8  |
| <input type="checkbox"/> Addendum No. 4            | <input type="checkbox"/> Addendum No. 9  |
| <input type="checkbox"/> Addendum No. 5            | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

WSP USA Inc.

Company

John D. Porcari

Authorized Signature

February 12, 2018

Date

**NOTE:** This addendum acknowledgement should be submitted with the bid to expedite document processing.  
Revised 6/8/2012



February 13, 2018  
Bid Clerk  
State of West Virginia  
Department of Administration, Purchasing Division  
2019 Washington Street, East  
Charleston, WV 25305

**Subject: West Virginia Updated State Rail Plan Expression of Interest**

Dear Selection Committee:

WSP USA Inc. (WSP), formerly WSP | Parsons Brinckerhoff, is pleased to submit this Expression of Interest to the West Virginia State Rail Authority (SRA) to update the West Virginia State Rail Plan (Plan). Joining us on this important project are Thrasher Engineering and the EDR Group.

Development of a successful Plan requires a consultant team that has extensive experience in preparing FRA compliant rail plans. It is important that the consultant understands all facets of freight and passenger rail operations and markets, the competitive dynamics of freight and passenger transportation, and has the capability to assess and evaluate the socio-economic impacts of rail transportation investments. The WSP team has the requisite experience.

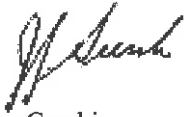
- **WSP Is a National Leader in Developing PRIIA Compliant Rail Plans.** WSP team members have participated in the preparation of 20 PRIIA compliant rail plans. Our significant experience contributes to our ability to develop plans that have been considered as best practices by the Federal Railroad Administration (FRA) and by the American Association of State Highway and Transportation Officials (AASHTO) in its State Rail Planning Best Practices Volume 2 document, published in March of 2016. Our significant experience will also be critical in meeting the SRA's one year schedule
- **WSP Is a Recognized Expert in Rail Planning.** WSP has been involved in the three highly significant recent U.S rail projects. We were selected to provide technical assistance to North Carolina Department of Transportation (NCDOT) in evaluating the feasibility and public benefits of a proposed \$272 million intermodal terminal to be operated by CSX. WSP also assisted in the preparation of a \$150 million FASTLANE grant application for the Maryland Department of Transportation to improve the Howard Street Tunnel, the major impediment to intermodal service in the east. And finally, WSP is updating the landmark Freight Rail Bottom Line Report for AASHTO's Council on Rail Transportation. Joe Gurskis, our proposed rail plan project manager, led each effort with participation by Alex King, Sebastian Guerrero, Joe Bryan, and Scot Sibert.
- **WSP Has Significant Expertise in Rail Infrastructure Economics.** The WSP team is not only knowledgeable about rail planning, but also brings other functional expertise needed to complete a successful rail plan. EDR Group specializes in transportation economic impact and benefit/cost analysis, with economists that have expertise in understanding relationships between rail transportation improvements and economic growth and development.
- **WSP Understands the Regional Rail Transportation Challenges.** The WSP team has participated in many leading freight and passenger transportation projects in the region. WSP prepared the West Virginia Public Port Authority (WVPPA) Strategic Port Master Plan, which examined opportunities for logistics development in the state. Both WSP and Thrasher were involved in the Prichard Intermodal Terminal (HIG) design and the Region VII PDC Economic Sustainability Study and Strategic Action Plan. EDR Group staff member, Paul Bingham, helped to prepare the previous West Virginia State Rail Plan while with a prior employer. Although not in West Virginia, WSP recently completed the District of Columbia Rail Plan, which examined barriers to Maryland Area Regional Commuter (MARC)

expansion throughout the region.

Because of our strong capabilities and highly experienced project team, we can assure the SRA that we can deliver the plan in the required time frame.

Thank you for this opportunity. As requested, we have included one hard copy of our proposal for your review. Should you need a reproducible file or additional copies, please do not hesitate to contact me. We sincerely appreciate your consideration of our qualifications to work with the SRA in updating its rail plan. If the SRA wishes to discuss our proposed work plan or team qualifications in further detail, please contact me, your proposed project manager, at 703-742-5830 or [joe.gurskis@wsp.com](mailto:joe.gurskis@wsp.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Joe Gurskis". The signature is written in a cursive style with a large initial "J".

Joe Gurskis  
Principal Consultant




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# QUALIFICATIONS AND EXPERIENCE

## COMPANY INFORMATION

This proposal is submitted by WSP (formerly WSP | Parsons Brinckerhoff). WSP will serve as the prime contractor for this project, while Thrasher Engineering, Inc. and EDR Group will serve as subcontractors.


 **WSP** is a global infrastructure firm with a 50-year track record of service to public agencies and private clients in West Virginia. WSP provides a full range of engineering, planning and construction management services. With more than 15,000 professional and technical staff to draw upon, we have the experience and resources to meet any project requirements.


WSP is a national leader in rail and brings 125 years of rail planning and engineering expertise to the Plan. With the firm's size and scope, it can draw upon numerous employees and practice areas with specialized expertise for the West Virginia State Rail Plan. The firm's United States (U.S.) Advisory Services group provides strategic consulting services to public and private sector clients. Within that group is WSP's Freight and Logistics practice, which specializes in transportation studies including statewide rail plans. Other U.S. Advisory Services practices assist public agencies in securing funding and organizing public/private partnerships while another specializes in asset management. WSP's Transit and Rail Division, staffed by 260 professionals, provides rail engineering and operating consulting services. The firm's Ports and Marine Group focuses its expertise in intermodal and river port planning.



"WSP recently completed the approved Oklahoma State Rail Plan, which received acclaim from the FRA as a thorough and impressively well thought out plan.

- Johnson Bridgwater, Project Manager, Oklahoma Passenger State Rail Plan Rail Programs Division, ODOT

 **Thrasher Engineering, Inc. (TEI)** is the largest privately held planning, architecture and engineering firm in the state of West Virginia. The firm has more than 35 years of experience in delivering professional and technical services to public agencies and private clients. Thrasher provides a full range of engineering, planning and construction phase services throughout the Mid-Atlantic region. With more than 350 employees in nine offices across seven states, Thrasher has the resources and expertise to meet any project requirement. Thrasher has an experienced team of planners and landscape architects skilled in listening to project stakeholders to prepare solid planning document. Thrasher provides a full range of engineering design services to support public utility and private development projects including site/civil, infrastructure, structural and transportation engineering. Thrasher has an unmatched record of supporting our clients in securing grant and loans for infrastructure improvements.

 **EDR Group** is a consulting firm that focuses on economic and transportation modeling, and analysis. The firm, started in 1996 by a core group of economists and planners who are specialists in forecasting, modeling and analytic evaluation, to assess impacts of transportation infrastructure, services and technology on economic development. EDR Group provides consulting advisory services and full-scale research projects for public and private sector organizations throughout the country. It is nationally recognized for its extensive work with economic models and their connection to transportation and land use models and performance management. EDR Group is nationally known for its pioneering work, quantifying and forecasting the benefits of multi-modal transportation alternatives and market access enhancements. The transportation experience of EDR Group includes planning studies covering the economic impacts of rail, highway, air, waterborne and non-motorized modes of transportation, including economic benefits, economic impacts and benefit-cost relationships. The firm's work is organized into three areas: (1) general research on transportation investment impacts and productivity implications; (2) transportation planning studies including economic impacts, growth opportunities and benefit-cost analysis; and (3) performance evaluation including cost-

effectiveness implications, return on investments, system operations and public/private cost and benefit assessments. EDR Group usually works as part of multi-disciplinary teams, providing the economic analysis in conjunction with partners with expertise in transportation system operations and transportation demand modeling, stakeholder outreach and organizational and financial advisory services.

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## SUMMARY OF TEAM QUALIFICATIONS

WSP has assembled a team uniquely qualified to prepare the Plan. Our team is experienced in preparing state rail plans with a strong familiarity with West Virginia transportation issues, knowledge of regional issues that impact West Virginia and the project tools and specialized knowledge that will help to evaluate a practical path forward.

### *EXPERIENCE PREPARING STATE RAIL PLANS*

WSP is a leader in the development of Passenger Rail Investment and Improvement Act of 2008 (PRIIA) compliant state rail plans. The firm has developed 14 state rail plans, listed below, since the passage of PRIIA and staff members have prepared an additional 6 while with prior employers for a total of 20 plans.

- |                        |                |                |
|------------------------|----------------|----------------|
| — Arkansas             | — Indiana      | — Oklahoma     |
| — Arizona              | — Kentucky     | — Pennsylvania |
| — Colorado             | — North Dakota | — Virginia     |
| — District of Columbia | — New Jersey   | — Vermont      |
| — Delaware             | — Ohio         |                |

The same key staff who prepared these plans would develop the Plan Update.

Our experience is in all aspects of plan development: rail market analysis, freight and passenger rail operations transportation economics, rail infrastructure development, institutional issues, and outreach to rail stakeholders and the public. WSP rail plans have been recognized as “best practices” by the FRA and by AASHTO in its State Rail Planning Best Practices, Volume 2 published in March 2016. The WSP team will be led by Joe Gurskis who heads WSP’s state rail planning efforts. Joining WSP several years ago to lead the firm’s services in state rail plans, he has participated in each of our 14 state rail plans, as well as several plans before joining WSP. In addition to his state rail plan experience, Mr. Gurskis has been involved in numerous other freight and passenger rail projects. Alex King and Anna Lynn Smith, two key team members, have led or assisted in the majority of state rail plans as well. Our experience in preparing state rail plans will be of significant value to the West Virginia Department of Transportation (WVDOT), not only for understanding FRA requirements, but also for knowledge of how other states have addressed issues relevant to West Virginia. Being significantly up on the state rail plan learning curve will help ensure that the Plan is completed in 365 days.

### *EXPERIENCE WITH WEST VIRGINIA AND REGIONAL RAIL ISSUES*

WSP also has experience addressing rail and multimodal transportation freight issues in West Virginia. For the WVPPA, WSP, led by Alex King, estimated shipper benefits of using rail intermodal service through the Heartland Intermodal Gateway (HIG) terminal at Prichard. Previously, WSP, under the direction of Joe Gurskis, developed the Port Strategic Master Plan for WVPPA, which identified multi-modal logistics opportunities in West Virginia and provided strategic Action Plans for several key logistics locations in the state. WSP staff members authored a study on trade and logistics as part of the WVDOT Long-Range Multi-Modal Transportation Plan. EDR Group’s Paul Bingham helped prepare the 2013 West Virginia State Rail Plan while he was at a prior employer.

WSP also has significant rail planning experience with the regional rail system, which impacts West Virginia. The firm is currently working on the State of Ohio Rail Plan and completed state rail plans for the District of Columbia, Virginia and



Kentucky. WSP prepared the 2007 MARC Growth & Investment Plan and in 2004 WSP analyzed the possibility of extending MARC service to Hancock, West Virginia. Both studies are still relevant today.

Thrasher Engineering is West Virginia's leading engineering and environmental consulting firm with three offices in the state. This local familiarity and presence provides a valuable addition to the project team. Thrasher and WSP have a history of collaborating and look forward to continuing the partnership.

Thrasher has experience promoting economic development through rail infrastructure, having assisted with the design and planning of two rail spurs to business parks in West Virginia.

The firm has experience in asset inventory through data collection for an economic development project in West Virginia.

EDR Group's Paul Bingham helped prepare the 2013 West Virginia State Rail Plan while he was at a prior employer.

## TOOLS AND SPECIALIZED KNOWLEDGE

EDR Group brings to the project an unparalleled reputation in transportation planning economics. The firm's TREDIS suite of tools will allow the team to efficiently assess the impacts, benefits and performance of projects and initiatives within the Plan. TREDIS is also highly detailed in its representation of both freight and passenger costs and benefits, including the value of improving transportation reliability, access and system connectivity. EDR Group has been widely lauded for its breakthrough technology -- developing a 3-dimensional representation of transportation impacts and economic consequences across a 3-dimensional perspective of space, time and elements of social and the economy.

## STAFFING PLAN

### ORGANIZATIONAL CHART

The WSP Team offers extensive rail planning expertise as well as experience in West Virginia. In this section, we have included our project team organization chart (see **Error! Reference source not found.**) and detailed the capabilities, roles and responsibilities of key personnel. Resumes for all staff identified are included in Appendix A.



Figure 1 Organizational Chart

## KEY STAFF QUALIFICATIONS AND ROLES IN PROJECT

We assembled a team with experience in all professional disciplines necessary to complete the Plan. Mr. Gurskis, our proposed project manager, understands the value of appropriately assigning team members to tasks to deliver a best practice outcome. He will assign work tasks to the team with the goal of providing quality results while minimizing costs. We commit our team members to work with the SRA and stakeholders to the extent necessary to meet your expectations.

Below are biographies of our key staff. Full resumes are provided in Appendix A.



### JOSEPH (JOE) GURSKIS | PROJECT MANAGER

**Role on Project:** Mr. Gurskis will serve as project manager, given his deep experience with rail planning and past work in West Virginia.

Joe Gurskis is a Principal with WSP's U.S. Advisory Services with over 40 years' experience in the rail industry. Mr. Gurskis leads WSP's state rail planning practice area and has extensive knowledge of the railroad industry operations, markets, economics and project funding. He has supported several states in the development of PRIIA and FRA compliant state rail plans. He has led the development of state rail plans for Arizona, Arkansas, District of Columbia, Kansas, New Jersey, Ohio, Oklahoma and Virginia and served as senior advisor on the Arkansas, Colorado, Delaware, Indiana, Kentucky, South Carolina and Vermont rail plans and the supplement to the Pennsylvania Plan. In addition to his state rail plan experience, Mr. Gurskis has conducted numerous other freight and passenger rail studies on behalf of state department of transportation (DOT)s. He is project manager for the update to the AASHTO Rail Freight Bottom Line Report Update and recently led the feasibility analysis in support of North Carolina's funding of a new intermodal terminal. He has also held management positions with CSX Transportation and Southern Pacific Railroad, where he was vice president.



### ALEXANDER (ALEX) KING | DEPUTY PROJECT MANAGER

**Role on Project:** Mr. King will serve as deputy project manager, given his deep experience with rail planning and prior work in West Virginia.

Alexander King's areas of specialty include transportation planning, market analysis, financial analysis and benefit-cost analysis. Mr. King has lead the preparation of state rail plans in Ohio, Indiana, Vermont and Arkansas and helped prepare state rail plans in ten other states since the passage of the PRIIA in 2008. He has also participated in freight and goods movement studies on state and regional levels, intermodal terminal and inland port feasibility studies, port master plans, railroad financial valuations, preparation of competitive grant applications, as well as a variety of other projects. Mr. King recently lead a modal comparison of costs to use truck/rail intermodal through the Heartland Intermodal Gateway (HIG) and all-truck transportation between the Port of Virginia and points in West Virginia. At a prior firm, he analyzed the impact of trade trends on West Virginia and assessed the needs of the WVPPA for the WVDOT Long-Range Plan. Before joining WSP, Mr. King held positions at several transportation consulting firms specializing in infrastructure, management and economics. He has 21 years of experience in freight and railroad transportation.



### JOSEPH (JOE) BRYAN | PRINCIPAL IN CHARGE

**Role on Project:** Mr. Bryan will serve as principal-in-charge (PIC) given his experience in successfully delivering planning projects. As PIC, Mr. Bryan will have overall responsibility to ensure that the work is being completed to the satisfaction of WVDOT.

Joe Bryan is a principal consultant with the U.S. Advisory Services group of WSP, directing the firm's practice in freight transportation and logistics policy, planning and management. He has been a leading contributor to the development of public and public-private freight planning in the U.S., working at the urban, corridor and national levels and he assists private and public sector clientele in strategy development, policy and operations analysis and market assessment.

Mr. Bryan possesses broad practical experience in freight carrier management in multiple modes. He has been associated with truckload, less-than-truckload (LTL), air and rail freight companies and has held senior positions in marketing and operations. Mr. Bryan will monitor the performance of the project team and status of the project and deliverables. He will perform quality assurance reviews to audit adherence to procedures and policy and client satisfaction. Mr. Bryan will enhance project success by assuring both client satisfaction and financial performance through active client contact and oversight as a safe guard to help prevent margin erosion, manage “scope creep” and mitigate risks. Mr. Bryan’s active involvement in monitoring project financial performance will ensure that the project budget is compatible with the contract scope and deliverables which should lead to improved project and business unit performance.



### SEBASTIAN GUERRERO, PHD | FREIGHT PLANNING

**Role on Project:** Dr. Guerrero will provide data analysis for the Plan, particularly in modal share, safety and trends, tasks which he has performed for other state rail plans.

Dr. Sebastian Guerrero is a transportation economist who is passionate about using the power of data analysis to improve transportation systems in ways that better quality of life. He has experience working on a variety of projects in the domains of freight transportation, sustainability and economic development. In recent years, Dr. Guerrero has gained unique expertise in how to use existing and emerging data sources to inform freight planning processes, particularly at the state level. He was the principal author of the 2016 Quick Freight Facts Report published by the United States Department of Transportation (USDOT) in part to provide State DOTs a data overview for the freight sector. Dr. Guerrero was also the lead investigator helping Florida DOT develop a freight data support system that collected and integrated 15+ freight data sets into a streamlined inventory that maximizes their usefulness and value to the State. In these and other projects, Dr. Guerrero has developed compelling data visualizations, either dynamic or static, that present data results clearly to technical working groups, policy makers and stakeholders.



### SHANNON MCLEOD, ENV SP | INTERMODAL PLANNER

**Role on Project:** Ms. McLeod will serve as a multimodal freight expert for the Plan given her experience analyzing multimodal freight issues in West Virginia on behalf of the WVPPA.

Shannon McLeod is a senior intermodal planner with WSP. Ms. McLeod has provided project management and technical direction on intermodal planning and supply chain initiatives that benefit public agencies, ports, freight railroads and other private clients for more than 15 years. Throughout her career, she has delivered development, planning and operational solutions on numerous maritime, freight and international transportation projects. Her experience has focused on planning and design studies ranging from feasibility and strategic analyses to operational and productivity improvements of existing facilities to providing master planning solutions for new terminals or expansions. She also specializes in stakeholder outreach activities and the development of communication strategies and materials, such as business case reports and stakeholder consultation programs, that are used for market and trend analyses, client promotion, public-private partnership opportunities, training and government approvals. Ms. McLeod served as senior planner and task leader for statewide freight transportation study that helped WVPPA plan for future growth of the state’s multi-modal system by integrating transportation initiatives into policy, planning and investment strategies.



### FOSTER NICHOLS | INTERMODAL PLANNER

**Role on Project:** Mr. Nichols will serve as a passenger rail expert and advisor, given his extensive experience in passenger rail consulting and experience consulting for the Maryland Transportation Authority (MTA).

Foster Nichols is an assistant vice president and manager of operations planning in the Transit and Rail Systems group. Mr. Nichols has been a transportation industry consultant for 34 years and a WSP employee for 26 years. He is a specialist in the planning of passenger rail systems. He oversaw developing train schedules and operating plans for the California High-Speed Rail Project. He helped develop New York State’s high-speed rail plan for

the Empire Corridor and Amtrak's Transportation Plan for the Northeast Corridor prior to the start of Acela Express service in 2000. Mr. Nichols has been a technical advisor to the University of Pennsylvania Graduate Design Studio, which published its vision for high-performance high-speed rail in the Northeast Corridor in the Spring of 2010. Mr. Nichols has directed the development of long range strategic plans for the Long Island Rail Road, the MARC commuter rail system in Maryland, the Virginia Railway Express and the metropolitan railway system of Cape Town, South Africa. He has performed over two dozen commuter rail corridor planning and feasibility studies across the U.S. As part of the comprehensive planning study of the MARC system for the MTA, Mr. Nichols managed a study that determined the costs and facility requirements associated with extending MARC commuter service from Martinsburg to Hancock, West Virginia. He also has been involved in the planning and design of several major U.S. rail terminal projects, most notably the Moynihan Station project in New York City and the Washington Union Terminal Master Plan for Amtrak in Washington, DC.



**SCOT SIBERT, AICP | INTERMODAL PLANNER**

**Role on Project:** Mr. Sibert will serve as a passenger rail expert for the Plan, given his experience in passenger rail planning.

Scot Sibert is a certified planner with more than 19 years of experience in transportation including rail, transit and highway planning. His combined qualifications and managerial experience are demonstrated in his ability to coordinate and prepare a wide range of multimodal planning documents, including alternative analyses, short- and long-range transportation plans, rail corridor studies, corridor studies, freight studies and intercity passenger rail operations analysis. Mr. Sibert is proficient in geographic information systems. Mr. Sibert has worked with several metropolitan planning organizations (MPOs), with whom he has fostered excellent client relationships because of his hands-on approach, daily communication and creative troubleshooting. He is equally adept at addressing the interests and concerns of the many stakeholders involved in a project. In addition, Mr. Sibert is deeply knowledgeable of Federal Transit Administration (FTA), National Environmental Policy Act (NEPA) and FRA regulations. For the South Carolina Department of Transportation (SCDOT), he was the task leader that developed sections of the State Rail Plan which is part of the SCDOT's overall multi-modal plan focusing on existing conditions, identification of operational needs and deficiencies and project needs. Mr. Sibert also provided summaries on the status of high speed rail systems within South Carolina and coordinated with shortline railroads to identify priority projects and their associated costs for inclusion into the multi-modal plan. Mr. Sibert has served as project manager for various NCDOT Rail Division Limited services Agreements including Rail Planning, Operations and Facilities Design and Management and Rail Crossing Safety. Mr. Sibert has managed projects ranging from evaluation of extending Amtrak service outside of North Carolina, to intercity passenger rail station feasibility studies, to general rail feasibility studies, intermodal studies and other assigned tasks that relate to freight and passenger rail. Mr. Sibert has presented at conferences on topics such as Conducting a Traffic Separation Study and the National Perspective of Passenger/High Speed Rail in the U.S. and within Tennessee.



**ANNA LYNN SMITH, AICP | TRANSPORTATION PLANNING**

**Role on Project:** Ms. Smith will lead tasks relating to vision, goals and objectives, as well as serve an outreach role, given her experience conducting visioning sessions for other state rail plans and with rail planning in general.

Anna Lynn Smith has a broad comprehension of the transportation industry and has worked on a wide range of planning and management projects for departments of transportation, transit agencies and railroads in North America. She has participated in the development of numerous FRA compliant State Rail Plans including those for Delaware, Pennsylvania, Virginia, the District of Columbia, Vermont, Indiana, North Dakota and Arizona. For these plans, she has served in a variety of technical and leadership roles including project manager, deputy project manager and lead author. Her additional efforts for these plans include conducting technical analyses; performing public and stakeholder outreach; and developing the vision, goals and objectives. As a senior supervising planner for WSP, she has also developed skills in areas such as capital and long range planning; transit system financial analyses; quality system development and implementation; rail engineering; service planning; and operations.

## THRASHER ENGINEERING



### CHAD BILLER, PE | ENGINEER

**Role on Project:** Mr. Biller will help assist with profiling West Virginia rail institutional structures and funding, as well as assist with public outreach given Chad's deep experience with transportation infrastructure projects in the state.

Chad Biller has extensive experience in all aspects of civil engineering, but his primary emphasis lies in transportation projects. He has assisted with numerous transportation infrastructure projects within West Virginia and as such is highly knowledgeable about West Virginia transportation agencies, transportation funding in West Virginia and stakeholder outreach in West Virginia.



### DAVID HAFLEY | PLANNER

**Role on Project:** Mr. Hafley will assist with profiling the West Virginia rail network and with stakeholder outreach, given his experience in planning and with working in West Virginia.

Mr. Hafley's planning experience encompasses virtually all elements of economic and community development planning. He has managed multi-disciplinary project teams in the preparation of economic analysis and feasibility studies, comprehensive plans, waterfront and downtown studies, private commercial and industrial development and revitalization master plans. He has worked throughout the mid-Atlantic region preparing strategic master plans for state and local government clients. He is very experienced in the development and implementation of community improvement programs that lead to successful implementation. He is a skilled meeting facilitator with a demonstrated ability to organize and lead community planning workshops and citizens' groups that build consensus on challenging planning issues. His economic development and planning clients include the West Virginia Development, WVDOT, U. S. Department of the Interior, National Park Service, US Army Corps of Engineers and various local governments and state agencies. Mr. Hafley has complex technical assignment experience in managing market and economic analysis, environmental permitting, cost estimating, bid and award, construction management and commissioning. He has led community and economic development projects throughout the region including Virginia, West Virginia, Ohio and Kentucky.

## EDR GROUP



### PAUL BINGHAM | ECONOMIST

**Role on Project:** Mr. Bingham will assist in describing freight trends, given his nationally recognized expertise in freight and trade analysis. He will also lead the benefit/cost analysis with his experience in this area.

Mr. Bingham, Vice President at EDR Group, has over 30 years of experience managing economic analysis of transportation for federal, state, regional and local government agencies. He also has experience providing management consulting to organizations involved in freight transportation. His research work has included quantitative analysis, forecasting, model development and benefit cost analysis of transportation networks and corridors for all modes of freight transportation and international trade. For 20 years, he has been involved in analysis and forecasting of freight transportation and economic analysis in the U.S. including over 30 studies for regional planning agencies, state DOTs and for the Federal government. He is a nationally-recognized expert in freight transportation research, having contributed to work and programs of the U.S. National Academies of Science (NAS) Transportation Research Board (TRB) for over 25 years. He is co-chair of the TRB Value of Transportation Infrastructure Task Force. He is former Chair of the TRB Freight Systems Group overseeing the work of 11 freight transportation topic committees and is a former Chair of the TRB Freight Transportation Data Committee. He has extensive experience with state rail freight planning, including the prior West Virginia State Rail Plan while employed elsewhere. He has managed estimates of the economic impacts of

transportation programs on regional competitiveness, economic development, supply chain efficiency and alignment with policy initiatives.



**CHANDLER DUNCAN | PLANNER**

**Role on Project:** Mr. Duncan will assist in performance evaluation, given his experience in this area for other planning studies.

Chandler Duncan, of EDR Group, is a leading consultant in assessing the economic impacts and evaluating the performance of rail transportation. He is a transportation planner and economist specializing in multi-disciplinary planning projects analyzing transportation system impacts on economic development, performance management and infrastructure needs through travel demand modeling, economic analysis, statistical methods, financial and costing models. He has extensive experience in state transportation and rail system planning, policy, modeling, analytics and evaluation. His skills include rail passenger and freight flow analysis and demand forecasting, benefits quantification and performance evaluation. His current practice with EDR Group involves economic and performance studies for rail and other of transportation. Recent projects include statewide rail plans for Michigan and Missouri; a regional study in Omaha, Nebraska on the return on investment (ROI) for proposed new rail and transit services; a national study on allocating resources between programs of work; a statewide study in Massachusetts on prioritizing multi-modal investments and a multi-state study on the economic impact of completion of multiple transportation corridors in the Appalachian region.



**STEVEN LANDAU | ECONOMIST**

**Role on Project:** Mr. Landau will lead the efforts to quantify the economic impact of rail and of the Plan given his focus in economic impact analysis.

Steven Landau leads EDR Group's state and local economic impact work. He has more than 30 years of experience working with federal, state, regional and local transportation departments in transportation planning. He specializes in evaluating the national, regional and local impacts of transportation investments and has designed and conducted economic impact analyses for decision makers and economic development practitioners. As the leader of the firm's transportation practice, Mr. Landau has designed and executed many successful traveler spending surveys for economic impact studies. From this experience, he knows how to tailor survey questions and conduct analysis to minimize bias, maximize the number of complete responses and when necessary to find and incorporate additional data sets. He has developed traveler spending surveys for rail including for AMTRAK service and for airports.

# EXPERIENCE MATRIX

WSP has a history of completing projects that require the same the same professional disciplines as would be required to complete the Plan, including other state rail plans, freight studies and passenger rail studies.

**Table 1 Experience Matrix**

WSP Team Project Experience	Stakeholder & Public Involvement	Freight Markets & Traffic	Rail Infrastructure	Rail Governance & Institutions	Rail Safety	Passenger Rail Planning	Economic & Socio Economic Trends	Rail Needs	Economic Impact & Benefit Cost Analysis	Funding	Rail Project Programming	Performance Measurement
<b>State Rail Plans</b>												
Arkansas State Rail Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Arizona State Rail Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Colorado Freight & Passenger State Rail Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Delaware State Rail Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
District of Columbia Rail Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Indiana State Rail Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Kentucky State Rail Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
New Jersey Passenger & Freight State Rail Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
North Dakota State Rail Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ohio State Rail Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oklahoma Passenger & Freight State Rail Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pennsylvania State Rail Plan Supplement	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Vermont State Rail Policy Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Virginia State Rail Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Representative Freight Studies</b>												
Hampshire County EDA Romney Business Park Rail Spur - WV	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Harrison County Business and Technology Center Rail Spur - WV	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Heartland Intermodal Gateway Facility Site Development	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Kansas Short Line Railroad Study	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Multiple Federal Grant Applications	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
North Carolina Intermodal Terminal Feasibility	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ohio Freight Study	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

WSP Team  
Project Experience

	Stakeholder & Public Involvement	Freight Markets & Traffic	Rail Infrastructure	Rail Governance & Institutions	Rail Safety	Passenger Rail Planning	Economic & Socio Economic Trends	Rail Needs	Economic Impact & Benefit Cost Analysis	Funding	Rail Project Programming	Performance Measurement
West Virginia Strategic Port Master Plan	●	●	●				●	●	●			
<b>Representative Passenger Rail Studies</b>												
Amtrak Downeaster Service Economic Benefits						●		●	●			
FRA Midwest and Southwest Regional Plans		●	●	●		●		●	●		●	
FRA Northeast Corridor Futures EIS		●	●	●		●		●	●		●	
KC-OKC-Ft. Worth Service Development Plan		●	●	●		●		●	●		●	
Lynchburg Regional Connectivity Study						●		●	●		●	
New Hampshire Rail Capital Corridor Economic Impact						●		●	●		●	

## HISTORY OF COMPLETING PLANS ON TIME/WITHIN BUDGET

WSP has a history of delivering projects, including state rail plans, on time and within budget. WSP also has a history of delivering on projects that have firm deadlines dictated by public agencies. For example, Joe Gurskis, the proposed WSP project manager, has led the preparation of over a dozen TIGER, FASTLANE and INFRA Grants applications. Nearly all were prepared under compressed schedules with each having to be delivered in advance of an unchangeable deadline.

As shown in the table below, state rail plans have typically required one to two years to complete depending on scope. Technical work, including stakeholder outreach, information gathering and writing usually requires less than a year, but review periods can exceed a year. FRA reviews can be as long as six months. Obtaining relevant data and scheduling outreach can also introduce delays. A benefit of WSP having completed 14 state rail plans is that the firm has a fundamental understanding of how to control project costs. We know the sources of information and how to cost-effectively deploy project resources. WSP assumes the risk of any cost overruns for which it is responsible and does not charge the client should cost overruns occur.

**Table 2 Recent Rail Plans**

Recent Rail Plan	Project Budget	Actual Project Charges	Agreed upon Time Frame	Actual Time Frame
Virginia State Rail Plan	\$199,000	\$199,000	14 months	14 months
District of Columbia State Rail Plan	\$484,470	\$484,470	21 months	21 months
Indiana State Rail Plan	\$200,000	\$200,000	17 months	17 months
New Jersey State Rail Plan	\$348,700	\$348,700	24 months	24 months
Oklahoma State Rail Plan	\$670,000	\$670,000	18 months	18 months



WSP can work with the SRA to reduce the duration of the Plan to less than a year by the following:

- Clearly defining roles of all participants
- Introducing parallel efforts where possible
- Engaging stakeholders early in the process with information requests prepared soon after starting the project
- Ensuring that all relevant stakeholders needing to sign off on the Plan are briefed early and understand what to expect.
- Conducting parallel FRA review with public review period

A Project Management Plan (PMP) is instrumental in performing according to schedule and budget. It will be prepared at project onset and will detail measures to avoid schedule and budget slippage. Key procedures will include:

- 1 Planning.** When realistic timetables and budgets are known and agreed to ahead of time, the risk of slippage is less. The planning will detail the required time intervals and interim deliverables not only for activities to be performed by the consultant team, but also the timing of any information requests, activities, or reviews by the SRA.
- 2 Monitoring.** The PMP will detail reporting requirements and monitoring. When schedule and budget variance is identified early, corrective action can be taken. The status of schedule and budget will be described each month within progress reports that are submitted to the SRA with invoices.
- 3 Contingency.** The PMP will identify additional resources that could be made available for each task of the Plan in case of a need to accelerate task completion.

## RECENT SRP PROJECT DESCRIPTIONS AND REFERENCES

### INDIANA STATE RAIL PLAN

Indiana Department of Transportation | Indianapolis, Indiana

Indiana State Rail Plan

October 2017

#### Goals and Objectives

The Indiana Department of Transportation (INDOT) sought to produce a PRIIA compliant state rail plan within a constrained budget. The plan would need to be produced with a highly professional quality, reflect issues and opportunities of the rail system, include adequate outreach and highlight the impacts of INDOT rail projects. adhered to the outline from the State Rail Plan Guidance for the but departed where the document would be improved by doing so.

*"WSP recently completed the 2017 Indiana State Rail Plan. Their team lead by Alex King was very knowledgeable and easy to work with throughout the development of the State Rail Plan."*

*Thomas R. Rueschhoff, PE  
Indiana DOT*

current  
Indiana  
public  
economic  
INDOT  
FRA 2013  
most part,  
flow



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#### Outcome

WSP produced a compliant state rail plan that reflected feedback from hundreds of stakeholders and members of the general public. WSP worked with the FRA to adjust the formatting of the plan to fit INDOT needs. Case studies highlighting the impacts of INDOT rail activities were presented. The Plan reflected issues and opportunities related to current passenger rail initiatives, commuter rail improvements, the Hoosier State service, safety issues, short line rail issues, rail and economic development, multimodal initiatives and INDOT's ongoing efforts to improve safety.

## OKLAHOMA PASSENGER & FREIGHT STATE RAIL PLAN

Oklahoma Department of Transportation | City, Oklahoma

### Goals and Objectives

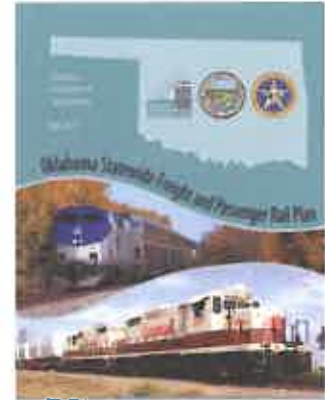
WSP developed a PRIAA compliant Passenger and Freight Rail Plan that met State of Oklahoma and FRA requirements. The 25-year statewide plan set forth Oklahoma's policy on freight and passenger rail transportation for both the short term and for a 2035 planning horizon, currently being implemented. The plan was written to educate the public, state legislators and other "investors" in the state's rail system. It demonstrated the link between rail transportation and the Oklahoma economy.

### Outcome

WSP and ODOT jointly designed a work plan that incorporated collaboration of the railroads, shippers, relevant government agencies and economic development authorities through extensive workshops, interviews and government agency meetings. As part of the planning process, WSP staff assisted ODOT in receiving a FRA HSIPR grants and TIGER grant, both of which provided funding towards the state's effort to improve and expand its rail service.

*"In their final review, the FRA had NO substantive change requests to share and complemented the Plan (prepared by WSP) as one of the most thorough and unique they have on record... The document will definitely serve as a blueprint for action, rather than simply filling a hole on our 'required documents shelf'..."*

*Johnson Bridgewater  
Oklahoma DOT*



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## NEW JERSEY PASSENGER & FREIGHT STATEWIDE RAIL PLAN

New Jersey Transit | Newark, New Jersey

### Goals and Objectives

WSP completed a PRIAA compliant State Rail Plan for the State of New Jersey. The project team, following the FRA outline for SRPs, worked with NJDOT and NJ Transit to profile the state's freight, commuter and passenger rail operations, define the goals and objectives of the rail service, determine rail needs, identify key rail initiatives and document the state's rail investment program.

### Outcome

Our staff incorporated previous rail planning work and worked closely with NJ Transit, NJDOT and FRA to develop a comprehensive plan defining state freight and passenger needs and proposed improvements. WSP also led the outreach effort to railroad stakeholders operating within the state, passenger organizations, shippers, other transportation modes and the public by facilitating open houses throughout the state.

*The Key Challenges and Rail System Goals and Objectives provide a blueprint for New Jersey to move forward both with funding and modernizing the state rail system*

*Alan Kearns  
NJ Transit*



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The plan provided a profile of the freight traffic base and described over 50 passenger and freight rail improvement projects and initiatives addressing rail needs. The SRP included an inventory of existing rail transportation network, analysis of rail economic, transportation and environmental impacts, long-range investment program for current and future rail freight and passenger services, analysis of current and potential rail-related funding sources, performance evaluation for passenger rail services and a comprehensive view of the state's high-speed rail corridor opportunities and plans. The plan also included detailed analysis to understand the economic impacts of rail investment priorities, including jobs, economic development, transportation benefits and other benefits and costs.

## DISTRICT OF COLUMBIA RAIL PLAN

District Department of Transportation | Washington, DC

### Goals and Objectives

The District of Columbia wanted to produce a state rail plan compliant with PRIIA and FRA Guidance, involve District stakeholders in the process, quantify economic impact of commuters to the District, assess the possibility of a new commuter rail station within the District, assess the possibility of a freight intermodal terminal in the District.

### Outcome

The result is a FRA-compliant, actionable and pragmatic roadmap for future rail investment and policies in the District. In addition, WSP directed efforts that assessed potential locations for a commuter stations, assessed market opportunities for a transload or intermodal terminal, directed effort that assessed the economic benefits of consumers, as well as the impact of stations on property values.

## VIRGINIA STATE RAIL PLAN

Virginia Department of Rail and Public Transportation | Richmond, VA

### Goals and Objectives

Virginia DRPT sought to update its state rail plan in such a way that would meet the needs of Virginia while at the same time adhere to the requirements of PRIIA.

### Outcome

WSP updated the rail plan by comparing the existing plan with the stipulations of PRIIA to identify gaps in meeting federal requirements for state rail plans. We also updated the rail inventories, traffic forecasts, performance metrics and other elements of the plan that changed since its publication in 2008. Recent changes in global and logistics trade were examined to ensure that the plan considers their impacts on Virginia's rail needs. Similarly, the impact of infrastructure improvements globally, i.e., the Panama Canal expansion project and domestically, such as rail corridor development projects on rail needs, were evaluated.

## WEST VIRGINIA STRATEGIC PORT MASTER PLAN

West Virginia Public Port Authority | Charleston, West Virginia

### Goals and Objectives

Assess existing and future connectivity to reach selected markets, analyze specific markets, encourage development of freight partnership between shipping community and WVPPA, provide specific strategic Action Plans and implementable recommendations to increase the strength and viability of the region's freight system.

### Outcome

In addition to a general strengths, weakness, opportunities and threat (SWOT) analysis for West Virginia, the plan focused on the logistics services to be provided at six locations in West Virginia centered on Clarksburg, Huntington, Martinsburg, Point Pleasant, Prichard and Weirton and the infrastructure required to support those services. Development of the plan involved (1) an assessment of addressable market and the freight traffic movements that could be served (2) determination of the logistics needs at the locations and (3) an assessment of strengths and weakness of each location as a logistics center.

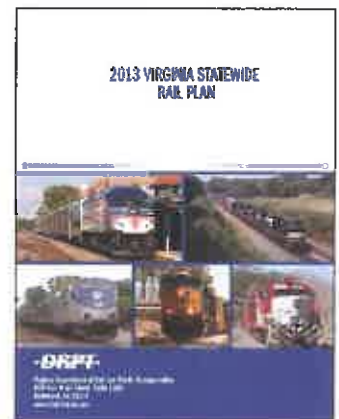


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## THRASHER ENGINEERING/WSP QUALIFICATIONS

### REGION VII PDC ECONOMIC SUSTAINABILITY STUDY AND STRATEGIC ACTION PLAN

US Economic Development Authority/City of Logan | Barbour, Braxton, Gilmer, Lewis & Tucker Counties

#### Goals and Objectives

Perform a comprehensive study and develop an economic sustainability plan for the areas within the Region which experience perennial flooding. Specific counties identified for the analysis include Barbour, Braxton, Gilmer, Lewis, and Tucker.

#### Outcome

WSP and Thrasher teamed on this project. Thrasher's role in the project was asset inventory. Utilizing in-house staff for data collection, Thrasher's GIS personnel used cartographic and analysis skills to create maps to show non-residential structures affected by 100-year flood. Maps were divided into regions, counties, and population centers. There were approximately 35 maps generated for this project



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### HEARTLAND INTERMODAL GATEWAY DESIGN WORK AT PRICHARD, WEST VIRGINIA

West Virginia Public Port Authority | Prichard, West Virginia

#### Goals and Objectives

WVDOT required design and services during construction for a proposed Intermodal Facility Terminal, along the Big Sandy River in Prichard, West Virginia.

#### Outcome

The project included an access road design with bridge crossing of the Norfolk Southern existing tracks, design of storage tracks and pad tracks for the intermodal facility, realignment of existing eastbound mainline tracks at the site, crossover tracks north and south of the site, utility design and permit acquisitions, site development design and pavement design. Thrasher was responsible for site design, utility design and relocation, final grading design and surveying. WSP was responsible for all other project elements. The WVPPA needed to expedite the final design of the terminal to enable a federal grant to be used for a portion of the construction costs. Through the combined efforts of over 52 staff in 10 offices, WSP and Thrasher could accelerate the design process. To accomplish this challenging and aggressive schedule, WSP and Thrasher worked in close coordination and integration with WVDOT engineering staff and NS operations/engineering staff.



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## EDR GROUP

### VTRANS 2040 MULTIMODAL PLAN

#### Virginia Department of Transportation | Virginia

##### Goals and Objectives

EDR Group provided a wide range of economic impact analysis in support of a comprehensive update of Virginia's VTrans2040 Multimodal Transportation Plan.

##### Outcome

For this study, EDR Group developed a comprehensive review of economic trends influencing the growth and demand for transportation services regionally and in the state. This included trends analyses, needs assessment, scenario analysis and an implementation plan. The focus of the economic impact assessment was on the effects of improved connectivity on access to labor markets, attraction and retention of key industry clusters and the role of multimodal transportation investments in meeting the demands of a changing workforce. EDR Group was also responsible for updating the assessment of the freight investment strategy on the state's economy and using economic performance evaluation criteria to assess project prioritization.

### ECONOMIC IMPACT STUDY

#### Hampton Roads Transit | Hampton Roads, Virginia

##### Goals and Objectives

EDR Group conducted a region-wide economic impact study. The study assessed the economic impact of the region's existing transit market, the current and projected economic impact of transit and the incremental impact of future transit investments in terms of overall employment income and the regional and state economy.

##### Outcome

The centerpiece of the Hampton Roads Study was a series of topical case studies on issues such as property development, high-technology manufacturing sites, access to educational resources, competitiveness of the tourism industry and other topics of business and economic concerns. The case studies both provided a case in point for many of the economic relationships to transit identified in the impact modeling and provided a context for the business community to become engaged with transit as an issue of strategic significance.



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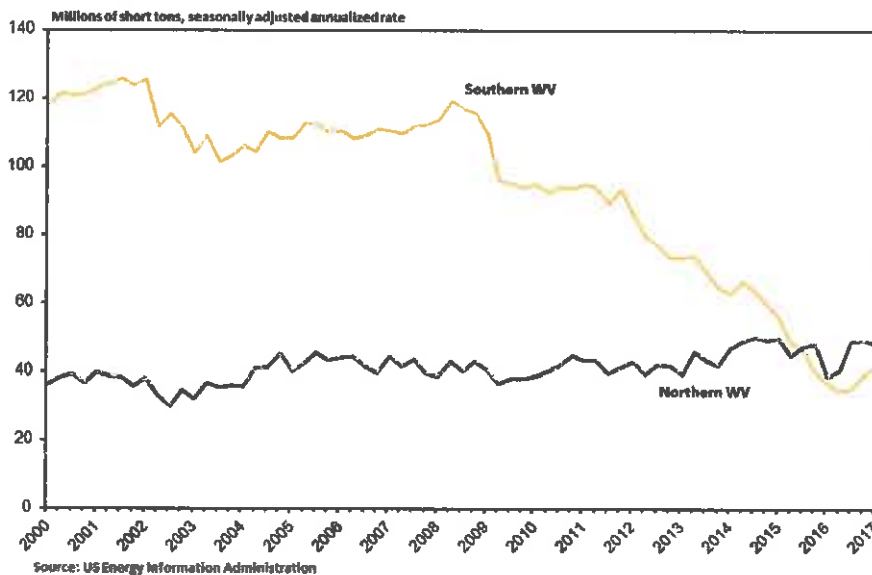
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# APPROACH AND METHODOLOGY

## PROJECT UNDERSTANDING

The WVDOT would like to update the 2013 West Virginia State Rail Plan to comply with the requirements of Section 11315 of the FAST Act of 2015. The updated Plan should be consistent with the FRA State Rail Plan Guidance of 2013. It will be developed within the context of several issues that may affect the West Virginia rail system:

- **Changes to Energy Markets.** Coal shipments in southern West Virginia have decreased dramatically. The U.S. Energy Information Agency (EIA) reports that domestic rail shipments of coal from West Virginia dropped from 57.4 million tons in 2010 to 25.3 million tons in 2015<sup>1</sup>. In northern West Virginia, losses in domestic shipments have been counteracted by increases in exports, but overall production has declined in southern West Virginia as shown in Figure 2 below. The decline of Southern West Virginia coal has the potential to threaten the viability of rail corridors that relied on coal as a traffic base.



**Figure 2. Historical Coal Production by Region in West Virginia**

Losses in coal production have been driven, in part, by now reversed federal government policies, but more so by reduced natural gas prices that have encouraged electric utilities to switch from coal to natural gas-fueled electric generation. Lower natural gas prices, in turn, are the result of improvements in extraction technology that have boosted natural gas production in shale gas areas such as in West Virginia. Shale gas could boost rail demand, although not on a scale commensurate with reductions in coal shipments. Shale-related rail shipments are driven by sand, pipe and other inputs to the drilling process shipped and natural gas byproducts such as ethylenes.

- **Support for West Virginia Manufacturing.** West Virginia manufactures products that require rail transportation. For example, the chemical industry is West Virginia's largest manufacturing sector and employs 10,000 people<sup>2</sup>. Chemical manufacturing is one of the most rail-dependent manufacturing sectors. Other top manufacturing sectors include primary

<sup>1</sup> EIA Coal Distribution Report

<sup>2</sup> West Virginia Department of Commerce

metals, motor vehicles, petroleum and coal products, wood products, plastics and rubber. Each of these industries use rail and improvements to rail services and infrastructure can boost the competitiveness of each.

- **Multimodal Transportation.** West Virginia’s multimodal facilities represent an opportunity to the state. WSP recently estimated that shippers could cut costs by as much as 50 percent by using intermodal service between the Port of Virginia and the Heartland Intermodal Gateway (HIG) in Prichard<sup>3</sup> instead of using all-truck transportation. To be successful, it will be important that HIG and other facilities be appropriately marketed and integrated into economic development efforts. For the WVPPA, WSP also assessed the potential for additional transload and rail-served river facilities to support West Virginia’s industries.
- **Tourism.** Rail can support tourism, an industry that the West Virginia Department of Commerce estimates contributes \$4B to the state’s economy<sup>4</sup>. Intercity passenger rail can help bring visitors to West Virginia and excursion railroads can provide additional attractions to the state. Furthermore, railbanked rail rights-of-way can provide tourists recreational opportunities. The SRA recently saw its responsibilities increase by assuming oversight of the Cass Scenic Railroad.
- **Commuter Rail.** MARC train service improves mobility in the eastern panhandle and aids in providing access to high paying jobs in Washington, DC. Maryland and West Virginia are currently negotiating a new contract to continue the service into West Virginia. Eight of 18 Brunswick Line trains enter West Virginia and there is no weekend service.
- **State Ownership of Rail Lines.** Given that the state owns and operates the South Branch Valley Railroad and owns and oversees the West Virginia Central Railroad, the management of these assets and any required asset renewal or upgrade will be a significant topic for the Plan.
- **Intercity Passenger Rail.** The Amtrak Capitol Limited stops in Martinsburg and Harpers Ferry, while the Cardinal stops at White Sulphur Springs, Alderson, Hinton, Prince, Thurmond, Montgomery, Charleston and Huntington. The Cardinal has received significant attention recently with some proposing to eliminate the service, while others have proposed making it a daily service. Expansion of Northeast Regional Amtrak services in nearby Virginia could provide opportunities through bus connections with points in West Virginia.

## PROJECT MANAGEMENT

Immediately following a scoping meeting with WVDOT to kick-off the Plan preparation, our management team will draft and submit to WVDOT a Project Management Plan (PMP), which will include expectations for overall coordination, schedule, products and content of deliverables and progress reports.

## COMMUNICATION

Project communication will be facilitated through weekly project conference calls plus additional informal communications between WVDOT and WSP project managers. In addition, the WSP project manager is located in Herndon, Virginia, a two-hour drive from Moorefield, making face to face meetings easily doable. Another important facet of communication between WVDOT and WSP relates to comments on draft work products and responses to those comments. In the end, our work products do not represent WSP but represent the agencies that hire us to develop these work products on their behalf. Therefore, we must facilitate a

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Figure 3. Contents Ohio State Rail Plan Project Management Plan

<sup>3</sup> [https://transportation.wv.gov/ports/Documents/HIGRailServiceCostAnalysis\\_FinalReport12\\_04\\_2015.pdf](https://transportation.wv.gov/ports/Documents/HIGRailServiceCostAnalysis_FinalReport12_04_2015.pdf)

<sup>4</sup> <https://gotowv.com/wp-content/uploads/2015/09/2014-Economic-Impact-Executive-Summary.pdf>

process by which the work products that WSP authors become the work products of our clients. We have established systems to ensure that this process occurs smoothly and the consulting team and agency staff engage in productive dialogues, so that WSP shares its opinions and experiences, but the end product appropriately reflects the needs and positions of the agency.

## PROJECT APPROACH

Following is the approach that we will use in developing the Plan. It is designed to the requirements set out by FRA in its 2013 Guidance and can easily be modified to include specific needs of the SRA.

### TASK 1      *ROLE OF RAIL-FRA RAIL PLAN CHAPTER 1*

The Role of Rail, the initial chapter of a state rail plan as requested by FRA, describes how rail transportation fits into a state’s overall freight/passenger transportation system and importance to the state. It includes the elements described below.

**Table 3. Role of Rail Information Requirements**

<b>FRA Required Element</b>	<b>Potential Source of Information/Activity</b>
The state’s goals for the multimodal transportation system	Previous multimodal long-range transportation plan
Conceptual analysis of rail’s role in state’s transportation system	Surface Transportation Board (STB) Waybill, FAF, CFS, Transearch (if available), Amtrak
Description of the institutional governance structure	Targeted interviews of public sector rail decision makers
Summary of freight and passenger rail services, initiatives and plans	Amtrak route information, recent significant federal grant awards and applications, DOT, MPO, private initiatives

## TRANSPORTATION GOALS AND OBJECTIVES

The Plan will describe West Virginia’s transportation planning process and the role of the Plan within WVDOT’s overall goals, the role of the Plan within West Virginia’s “family of plans,” and the State’s overall transportation vision and goals. We will reexamine the multimodal transportation goals and objectives from the 2010 West Virginia Long-Range Plan (LRTP) and any updates.

## RAIL TRANSPORTATIONS ROLE IN MOVING FREIGHT AND PEOPLE

In accordance with FRA guidance, WSP will profile the modal shares for freight, intercity passenger and commuter transportation. Freight mode share data will likely be derived from the Federal Highway Administration’s (FHWA) Freight Analysis Framework (FAF) database, while intercity passenger rail mode share will be estimated using data from Amtrak and the FHWA. To the extent data is available, MARC’s share of commuters between the eastern panhandle and the Washington Metropolitan Area will be estimated. Availability of intercity passenger rail service will also be described, including a quantification accessibility of the service as measured by the state’s population within 10 or 30-mile radius of intercity passenger rail stations, per FRA guidance.



**Table 4. Rail Market Share by Mileage from WSP Indiana Rail Plan**

Commodity	0 - 99 Miles	100 - 249 Miles	250 - 499 Miles	500 - 999 Miles	1,000 + Miles
Agricultural Products	2%	4%	54%	77%	3%
Food Products, Including Animal Feed	0%	2%	12%	25%	41%
Stone and other Non-Metallic Mineral Products	0%	5%	8%	12%	10%
Metallic Ores	4%	0%	12%	1%	57%
Coal	0%	82%	66%	49%	100%
Chemicals	1%	5%	30%	19%	8%
Plastics and Rubber	0%	2%	22%	34%	51%
Wood, Paper, Forest Products	0%	6%	14%	15%	45%
Metals and Metal Products	0%	0%	6%	12%	32%
Vehicles and Transportation Equipment	3%	30%	32%	28%	39%
Other	0%	3%	12%	10%	13%

**INSTITUTIONAL STRUCTURE AND AUTHORITIES, RAIL SERVICES AND INITIATIVES**

Through interviews, team knowledge, and document reviews, WSP will profile the institutions that govern rail transportation in the state and the specific roles that each play in rail transportation in the state. In addition to the SRA’s functions, WSP will describe the roles of other institutional stakeholders such as other WVDOT divisions such as the WVPPA and the Division of Public Transit, the Department of Commerce, Economic Development Authority (WVEDA) and the Public Service Commission. WSP will also describe the role of MPOs, local economic development agencies and port districts among others. The state’s authority to grant, loan and enter public/private partnerships will be described.

**SUMMARY OF RAIL SERVICES**

WSP will profile passenger rail services in West Virginia. Details will follow in a subsequent discussion of the existing rail system and will outline recent rail initiatives/plans. WSP will highlight accomplishments since completion of the last Plan.

**TASK 2 INVENTORY OF EXISTING RAIL SYSTEM-FRA RAIL PLAN CHAPTER 2**

Task 2, Inventory of the Existing Rail System provides a baseline for the remainder of the Plan, whereby current rail infrastructure and services are described, as are trends that will impact the rail system in the future. Based on the current conditions and future trends, WSP will identify needs and opportunities for the future. Following is a description of the existing rail system inventory information requirements.

**Table 5. Existing Rail System-Information Requirements**

FRA Required Element	Potential Source of Information/Activity
Existing freight transportation system and intermodal connections	FRA requires information that will need to be requested of rail carriers, such as FRA track classification, multimodal facility capacity and usage, etc.
Existing passenger rail transportation system and intermodal connections	Amtrak
Objectives for passenger rail services	Consistent with overall objectives included in plan – to be developed in conjunction with WVDOT
Performance evaluation	FRA PRIIA Section 207 data website
Statement of public financing	Documenting new federal funding developments such as the FAST Act, safety grants
Ongoing programs and projects to improve the safety and security of rail transportation	WVDOT, Public Service Commission of West Virginia, FRA
General analysis of rail transportation’s economic and environmental impacts	TREDIS analysis of West Virginia rail impacts

**FRA Required Element**

Demographic and economic growth factors

Freight demand and growth

Passenger demand, fuel cost trends, rail, highway and airport congestion, land use trends

**Potential Source of Information/Activity**

West Virginia University Bureau of Business or Economic Research, or source to be consistent with other WVDOT/MPO plans

STB Waybill Sample for base year, FAF for forecast growth, West Virginia Bureau of Business and Economic Research and other sources for commodity-specific forecasts

Derived from a variety of sources

**SYSTEM DESCRIPTION AND INVENTORY**

**Railroad Profiles**

WSP will develop a profile of each railroad. The profiles will include a short narrative and provide infrastructure, traffic and economic data. Figure 4 is an example drawn from a WSP plan for Oklahoma.

**Rail Line Inventory**

WSP will update rail line inventory data that appears in the appendix of the 2013 Plan. Information requests will be submitted to each freight railroad operating in the state. In addition to basic data on mileage, trackage rights, etc., per FRA requirements, WSP will request from Class I railroads data on:

- Signal types (TWC, ABS, CTC)
- Number of tracks
- FRA track classifications
- Clearance or weight restrictions

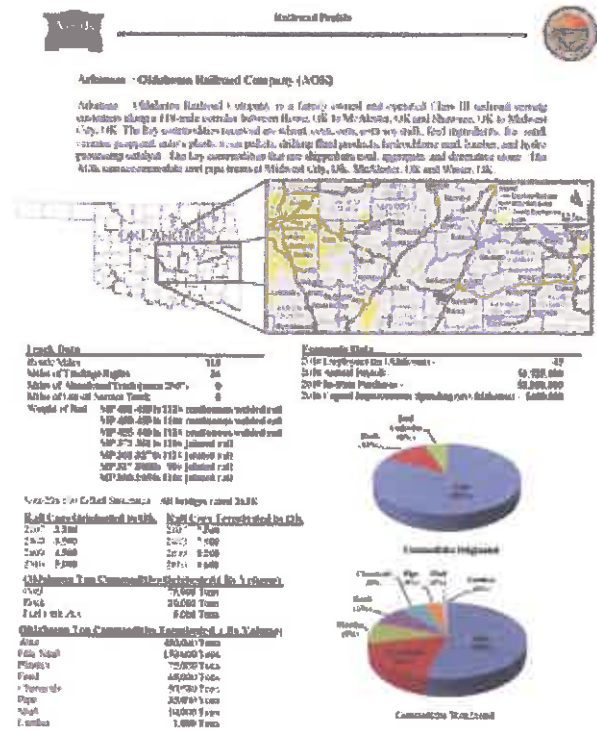
WSP will also identify the primary purposes of each Class I railroad mainline track. For example, what commodities it carries, what markets the line connects and what the traffic volumes are.

The inventory will also include planned infrastructure improvements such as siding extensions, double tracking and signal system upgrades including PTC not yet in place.

The Class II and Class III carrier inventories will be similar, but more focused on the condition of the rail lines identifying:

- Track unable to accommodate 286,000 pound railcars
- Excepted or FRA Class 1 track
- Condition of bridges
- Track consisting of light weight rail

We will also seek information on the traffic base of the short line carriers to support their rail operations, including number of carloads handled and number of on line customers.



**Figure 4. Example of Railroad Profile from WSP Oklahoma Rail Plan**

To provide a focused, concise narrative, inventory data will be presented in maps and tables where possible, rather than paragraph descriptions. Figure 5 was used in WSP’s Indiana State Rail Plan to show dispatch systems of the state’s rail lines.

The inventory of inactive and rail banked lines from the 2013 Plan will be updated, along with an assessment of trends in rail line abandonments. At risk rail lines will be identified. These are lines that are either inactive or in a state of poor repair with low levels of freight.

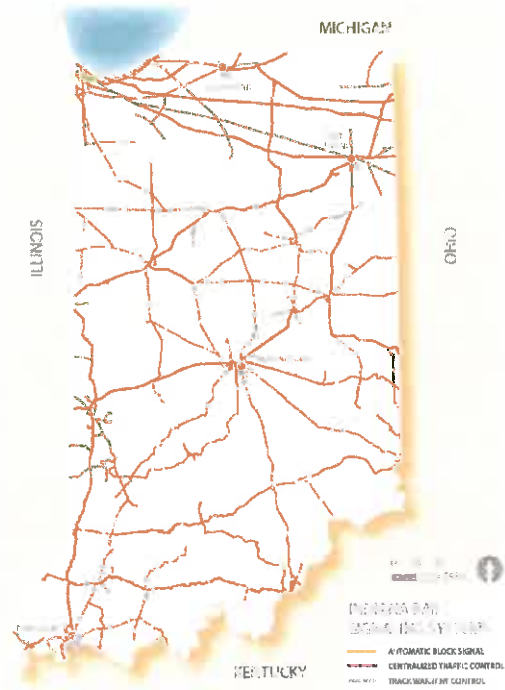
As in the 2013 Plan, Strategic Rail Corridor Network (STRACNET) lines and passenger rail routes will be identified.

**Multimodal Facilities**

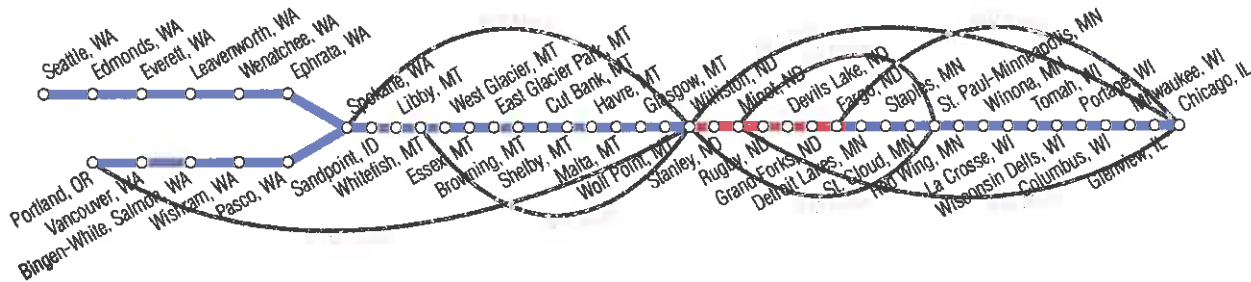
WSP will inventory multimodal freight facilities, including the Heartland Intermodal Facility (HIG) at Prichard, port facilities, and non-containerized truck/rail facilities. To the extent data is available, descriptions will be provided of the rail layout, throughput capacity and current volumes. The study team will begin the inventory by updating information on the facilities included in the 2013 Plan, adding additional facilities as relevant.

**Passenger Rail Services and Performance**

We will also profile the two Amtrak and one MARC passenger service presenting maps and route summaries, schedules and data on ridership, ridership trends, ridership by station and top origins/destinations outside of West Virginia. Per FRA guidance, the ten Amtrak stations and one additional MARC station will be profiled describing: type (urban, suburban, rural, etc.), amenities, service frequency, local transit and intercity bus connections to also be considered. WSP will update PRIIA Section 207 performance measures from the 2013 Plan. MARC Brunswick Line overall and West Virginia ridership and performance measures will also be updated.



**Figure 5. Rail Dispatch Systems from the Indiana State Rail Plan**



**Figure 6. Major North Dakota Passenger Rail Ridership Pairs from WSP North Dakota Rail Plan**

**Safety**

The Plan will describe safety trends in West Virginia. WSP will use the FRA safety database to develop a crossing inventory and assess safety trends. The crossing inventory will describe and map West Virginia’s crossings by attribute and provide an accident history.

The plan will discuss West Virginia efforts to improve the safety of highway/rail grade crossings. It will also review trends in trespasser incidents and recommend solutions, including potential solutions oriented toward education, enforcement or environmental design. Also, discussed will be security issues and issues related to hazardous materials movement.

## Public Finance and Funding

WSP will review federal, state and local funding and financing sources and document them in the Plan. The Plan will detail state funding through the SRA, WPPA and the WVEDA, limitations on state funding, the revenue sources tied to that funding and how sources can vary from year-to-year. The Plan will update descriptions of federal programs that can be used to support rail. Any examples of locally-funded rail projects will also be discussed.

## Trends, Forecasts and Freight Flows

Per FRA guidance, WSP will assess trends that could impact current and future demand for freight and passenger services. With respect to freight we will look at economic factors such as identification of rail-structural changes in the West Virginia economy such as changes in the coal industry, rail-dependent emerging industries and changing and evolving land use patterns. WSP will also look at trends improving the competitive position of rail transportation: (1) truck driver and mechanic shortages, (2) electronic logs and hours of service constraints, and (3) the growing interest by the railroads in domestic intermodal service. The potential for other trends such as electric powered trucks, autonomous vehicles and the permitting of longer and heavier trucks will adversely affect the railroads. Economic and demographic trends, such as population, employment, personal income will also be analyzed as required by FRA guidance. This analysis will rely on federal data sources, or the West Virginia University Bureau of Business and Economic Research. Because the economies of regions within West Virginia are distinct and different, the discussion of West Virginia's economy and socio economic trends will address regional differences within the state.

The plan will include a freight flow analysis. The confidential waybill will be requested of the STB. Most likely, freight flow forecasts will be based on forecasts by the FHWA FAF. The Plan will assess trends by major industries that use rail freight, assessing the prospects of each industry, the likely future usage of rail and the implications for economic development in West Virginia. WSP has been using a data visualization software product, Tableau, to help clients analyze freight flow data. A screen shot of West Virginia rail freight flows is shown in Figure 9. WSP can develop a stand-alone application as a leave behind, by which the SRA can analyze flows without a separate Tableau software license.

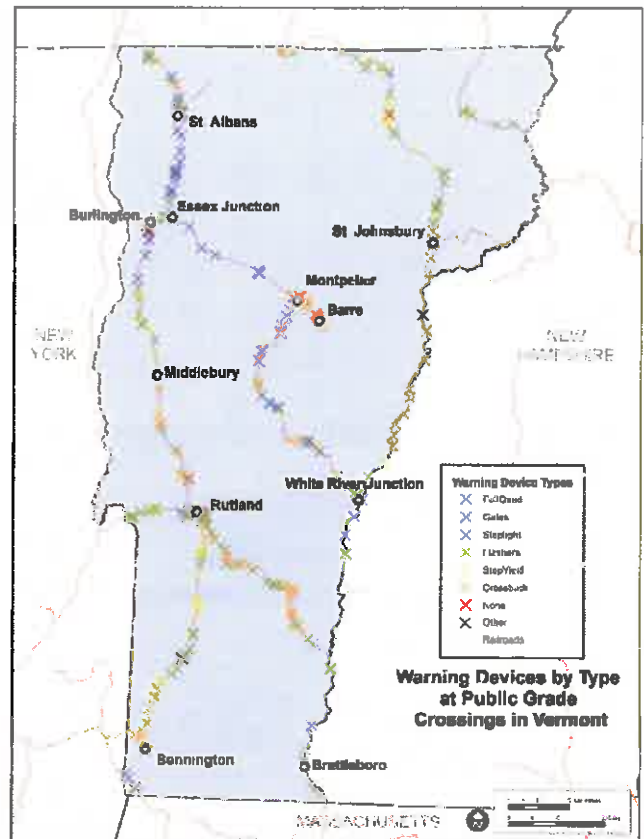
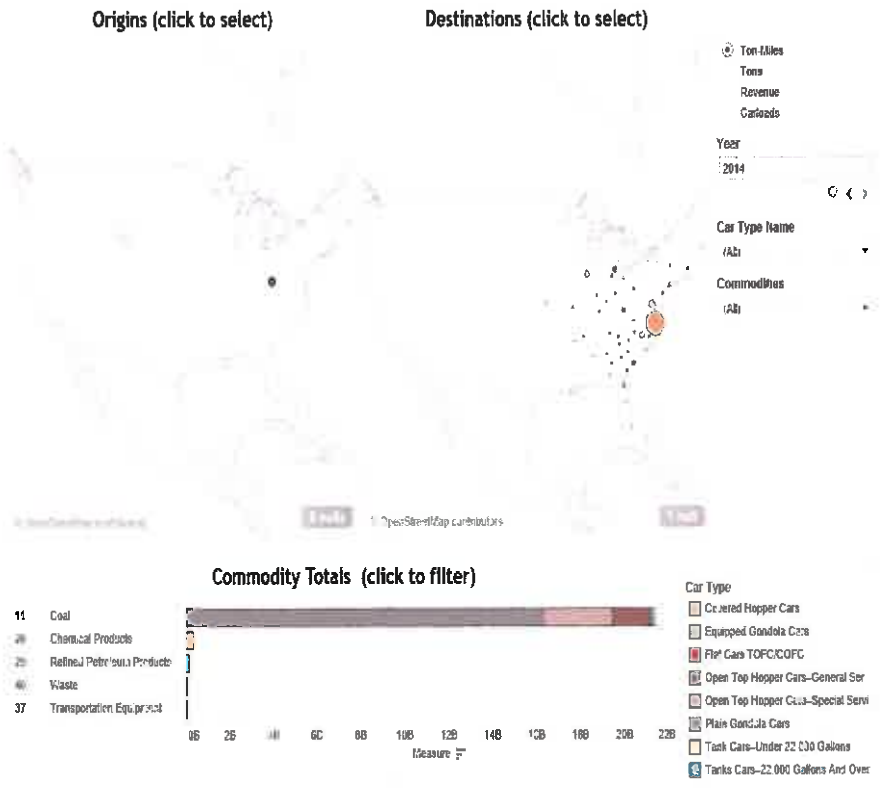


Figure 7. Crossing Locations from the Vermont State Rail Plan



**Figure 8. Origins and Destinations of West Virginia Rail Traffic by Commodity and Car Type-WSP FAF Analysis**

As directed by FRA Guidance, the Plan will also include an analysis of trends in passenger travel demand, fuel costs, rail congestion, highway and airport congestion and land use. Each trend analysis will be tied back to the West Virginia rail system to understand the future performance of competing transportation modes or the interaction of rail and land use.

**Rail Impacts**

WSP will quantify rail transportation’s impact on West Virginia’s economy. The impacts from railroad employment and investment, rail industry spending on other industries in West Virginia, consumer spending of railroad employees will be calculated. The economic impact of rail freight shipments to, from, within West Virginia on freight users will also be assessed. Finally, we will calculate economic impact of visitors to West Virginia, either by Amtrak or to ride tourist trains.

In addition to economic impacts, environmental impacts, including congestion mitigation, trade and economic development, air quality, land use, energy-use, resiliency and community impacts will be discussed per PRIIA requirements. This information will be customized to West Virginia to the extent possible.

**Rail Service Needs and Opportunities**

As directed in the FRA guidance, Chapter Two will conclude with an analysis of needs and opportunities. This essentially “sets the stage” for the two chapters that follow, which address proposed freight and passenger rail improvements and investments. Some of the content for this section may come from the analysis of quantitative data gathered during the preceding task, but most of the issues and opportunities will be identified by through consultation with stakeholders and members of the general public. To be thorough in addressing rail needs and opportunities, it is recommended that a set of general planning goals be considered. The study team would then consider the issues and opportunities that address each planning goal. Examples are displayed in Table 4.

**Table 6. Planning Goals, Needs and Opportunities**

<b>Planning Goal</b>	<b>Potential Freight Rail Need/ Opportunity</b>	<b>Potential Passenger Rail Need/Opportunity</b>
Effectiveness, Efficiency, Mobility	<ul style="list-style-type: none"> <li>— Added capacity of improved operations</li> </ul>	<ul style="list-style-type: none"> <li>— Capacity expansion to improve passenger train speed/reliability</li> <li>— Additional passenger train frequency to improve convenience</li> <li>— Reduce costs</li> <li>— New service to create viable transportation alternative</li> </ul>
Connectivity/Access	<ul style="list-style-type: none"> <li>— Improve connectivity between rail lines</li> <li>— Additional multi-modal facility capacity</li> <li>— Improve access to multimodal facility</li> </ul>	<ul style="list-style-type: none"> <li>— Improve station(s)</li> <li>— Improve connectivity to other modes such as transit and air travel</li> </ul>
Infrastructure Preservation/Maintenance	<ul style="list-style-type: none"> <li>— Preserve or railbank obsolete branch line</li> <li>— Rehabilitate short line bridges, track</li> </ul>	<ul style="list-style-type: none"> <li>— Track and structures on which passenger rail depends need repair</li> </ul>
Economic Development	<ul style="list-style-type: none"> <li>— Establish or improve rail access to existing or new business location</li> </ul>	<ul style="list-style-type: none"> <li>— New station or passenger service to draw visitors to area</li> <li>— Better access to employment centers</li> </ul>
Environment	<ul style="list-style-type: none"> <li>— Reduce regional emissions</li> </ul>	<ul style="list-style-type: none"> <li>— Reduce regional emissions</li> </ul>
Safety/Security	<ul style="list-style-type: none"> <li>— Improve at-grade crossings</li> <li>— Prevent trespassers frequently crossing rail right-of-way</li> </ul>	<ul style="list-style-type: none"> <li>— Improve at-grade crossings</li> <li>— Prevent trespassers frequently crossing rail right-of-way</li> </ul>

**TASK 3 PROPOSED FREIGHT AND PASSENGER INVESTMENTS AND IMPROVEMENTS- FRA RAIL PLAN CHAPTERS 3 AND 4**

Task 3 provides the basis for the Action Plan. Chapters 3 and 4 of the Plan describe proposed passenger and freight rail improvements and investments. For the SRA’s requirements, these improvements and investments will be grouped into Action Plans for immediate, intermediate and long-range timeframes.

The Action Plan will include The Rail Service and Investment Program, Chapter 5 of the FRA stipulated rail plan, which will provide the roadmap for the future. WSP proposes that the rail service and investment program element of the Action Plan be structured as a set of initiatives, each including a package of investments and related policy changes, funding strategies and implementation steps. The benefit of grouping projects into initiatives is to provide a more actionable plan that is easier to communicate with stakeholders and is easier for agencies to work with.

The improvements and investments will address the needs and opportunities identified in Task 2. Table 5 shows examples of rail improvements and investments and the need being addressed.

**Table 7. Examples of Rail Needs or Opportunities and Associated Improvements and Investments**

Need or Opportunity	Potential Freight Rail Improvements and Investments
Short line railroad will need to be upgraded to properly respond to market opportunities	<ul style="list-style-type: none"> <li>– Enlarge sidings to enable railroad to handle unit trains</li> <li>– Improve bridges to accommodate heavier loads</li> </ul>
Opportunity to attract employers to the state by rail-served locations	<ul style="list-style-type: none"> <li>– New rail spurs to rail-served site</li> <li>– Improve roadway access to rail-served industrial site</li> <li>– New rail transload facility</li> <li>– Improved marketing of rail-served industrial sites</li> </ul>
Need to improve safety at highway-rail grade crossings	<ul style="list-style-type: none"> <li>– Improve countermeasures and passive warning at crossings</li> <li>– Grade separation</li> <li>– Crossing closure</li> <li>– Corridor-based approach, whereby a series of coordinated improvements are established in a community</li> </ul>
Changes in energy markets create both opportunities and threat to West Virginia rail networks	<ul style="list-style-type: none"> <li>– Help build new spur to new ethane cracker plant</li> <li>– Support transfer of underutilized rail line to new owner</li> </ul>
New Amtrak services in West Virginia create opportunities for connections with West Virginia Opportunity to expand MARC service in West Virginia	<ul style="list-style-type: none"> <li>– Establish Thruway Bus connections</li> <li>– Build new stations and support facilities to MARC/Amtrak stations in the eastern Panhandle</li> <li>– Purchase new trainsets for express service</li> </ul>
Opportunity to expand rail tourism	<ul style="list-style-type: none"> <li>– Build a new rail line on an existing right-of-way</li> </ul>

If available, WSP will rely on project cost estimates from rail carriers and studies for costs. If not available, WSP will estimate capital costs and where relevant, operating and maintenance costs on a conceptual basis. Costs will be developed on a “programmatic” level using a spreadsheet estimator developed as part of the Oregon Statewide Rail Study, adjusted to reflect state-to-state cost differentials.

WSP will develop a comprehensive list of potential projects, along with a sortable database to allow the SRA to group and examine projects by type, geography and other attributes. Where relevant, projects will be mapped like the example from our Vermont rail plan.

**TASK 4 WEST VIRGINIA RAIL SERVICE AND INVESTMENT PROGRAM-FRA**  
**CHAPTER 5**

FRA guidance describes the Rail Service and Investment Program as the “key component of the state rail plan” and the “Action Plan” component of the state rail plan. Its development is along the following lines:

- Step 1 – Assess each project identified in Task 3 against the goals/objectives that govern the rail planning process
- Step 2 – Calculate the benefits of each project
- Step 3 – Develop the investment program that allocates funding to the state’s top priority projects
- Step 4 – Finalize the Action Plan

## UPDATE VISION, GOALS AND OBJECTIVES

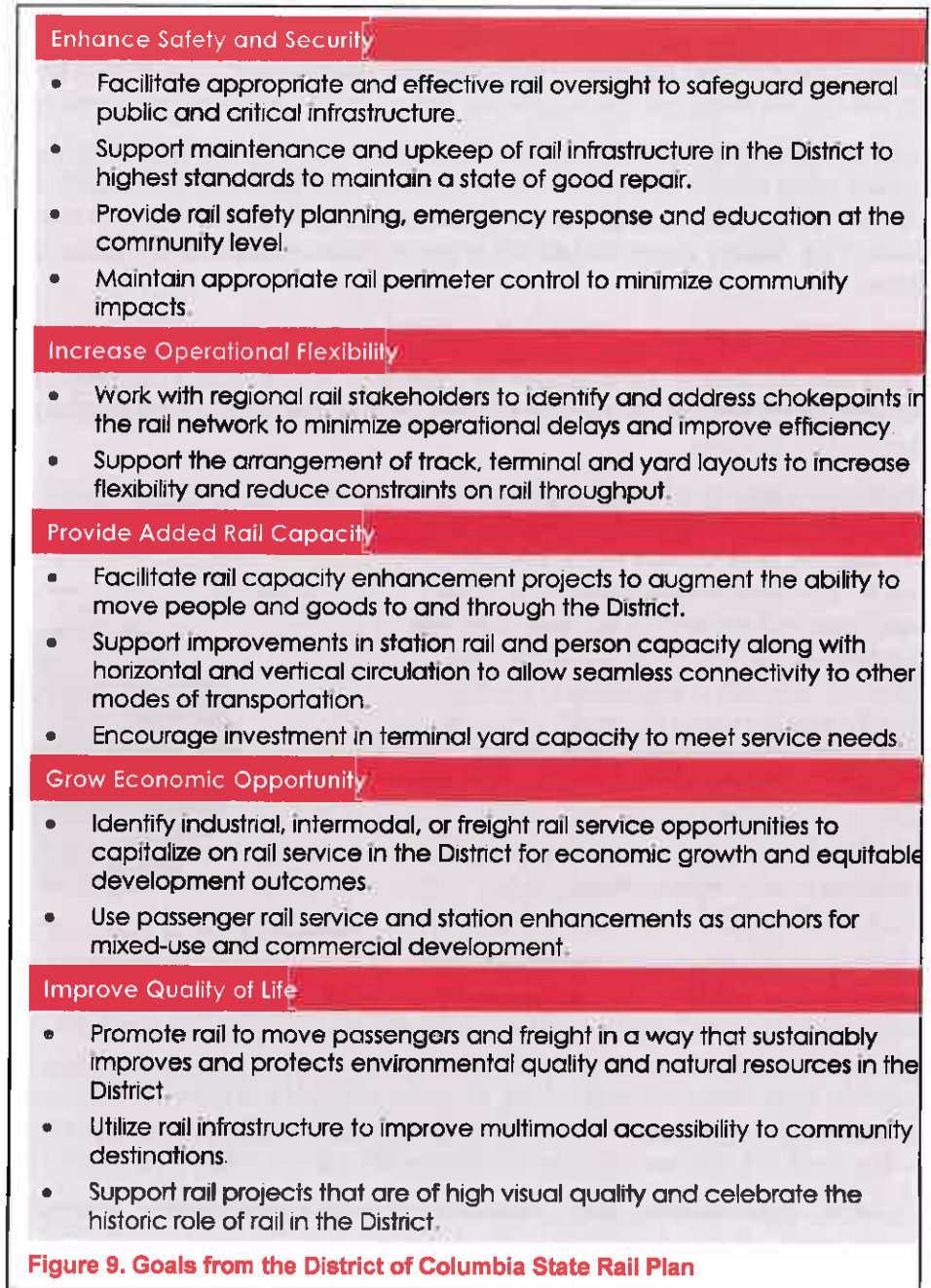
Vision, goals and objectives that appear in state rail plans have several sources. They can be derived from stakeholder feedback, whether by overall themes of stakeholder feedback or through specialized visioning workshops. In other cases, they adhere closely to statewide multimodal goals and objectives, or are developed by state agency personnel. WSP will work with the SRA and others as designated by the SRA to determine the appropriate approach.

### PROJECT IMPACT ANALYSIS

#### Performance Evaluation

Performance evaluation will use performance measures to identify needed improvements in the West Virginia rail network. Evaluation of performance measures can quantify needs of the rail network, gauge the success of improvement initiatives and be used in prioritization of projects or initiatives. Evaluation of performance measures will reflect the reasons for which they are established, tied to goals and objectives developed in the planning process. The purpose of the evaluation is to determine whether the goals and objectives are being met.

Performance measures will therefore be tied to the goals and objectives established in the Plan. The performance measures will not comprehensively address the quality and cost of rail service in West Virginia, especially for rail freight, since statistics such as the cost of freight rail service or measures of quality such as on-time performance are proprietary and not available for publication. However, this performance evaluation will indirectly address the freight rail performance issues through an assessment of the infrastructure on which the state's rail service relies and other relevant metrics.





One consideration in establishing performance measures relates to the frequency with which performance data is gathered and the difficulty in obtaining data. Certain freight rail-related performance data is publicly available and can be accessed over the Internet. However, other data is proprietary and can be made available only with the agreement of private railroad companies. The WSP team has experience in other state rail plans working with short line railroads and other companies to obtain and evaluate proprietary data in a manner that maintains confidentiality yet informs the state rail plan.

For the Rail Action Plan over the immediate, intermediate and long-range time, the project will include estimates of public and private sector benefits from the rail system improvements. Employing the TREDIS model software, improvements impacts will include travel time savings and the effects of improved connectivity on access to labor markets, attraction and retention of key industry clusters and the role of transportation investments in meeting the demands of a changing state workforce.

### Rail Impacts

The WSP team will quantify rail transportation’s impact on West Virginia’s economy. The impacts from railroad employment and investment, rail industry spending on other industries in West Virginia and wages spent by railroad industry workers will be estimated.

The economic impact of rail freight shipments to, from and within West Virginia on freight users will also be assessed, using an input output analysis approach. As railroad customers depend on greater or lesser degrees of rail services and other industries sell products and services to the rail industry, this inter-industry approach is appropriate to quantify impacts, by industry and by geographic region, to account for in-state versus out-of-state impacts. Each industry differs in their rail-dependency, as rail customers, rail providers or both. The critical enabling function of railroads supplying businesses that purchase or sell products shipped via the railways, are all included in the impacts of rail.

Share of State Rail Impacts By Industry (Percent)

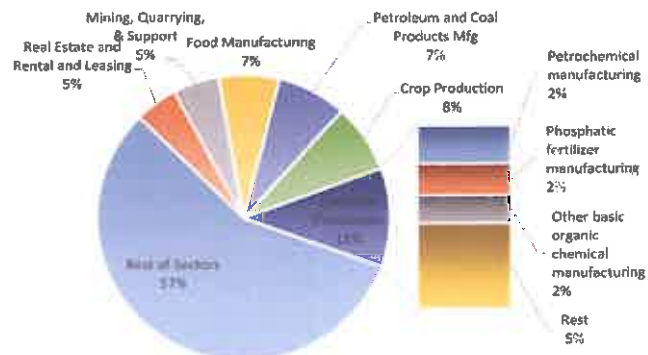


Figure 10 Share of State Rail Impacts by Industry

Our proposed approach will use TREDIS model to assess the industry economic impacts in the state. As a dynamic economic simulation model, TREDIS is a sophisticated tool for estimating impacts via industry-specific relationships that are commonly referred to as the “cost-elasticity of demand” or “output cost response elasticity”. The elasticity factors are a critical point distinguishing the dynamic economic simulation models from input-output models like IMPLAN and RIMS. And it is the reason why those latter models are less useful for rail transportation impact studies. They lack the ability to estimate response elasticities as well as the ability to address the ways that changes in rail operating costs and performance can affect how West Virginia businesses compete in markets.

Results of the impact modeling to be conducted for this study will consist of an economic impact analysis that provides a series of measures of the baseline impacts of rail transportation quantified in terms of business sales (output), value added (Gross State Product), wages and employment by industry sector (3-digit NAICS) for West Virginia. Direct, indirect and induced impacts will be developed using TREDIS. Economic impacts can be forecast to 2045 using industry growth forecasts from Moody’s economy.com currently integrated into the TREDIS model. This analysis will be carried out for the current role that AMTRAK passenger, rail commuter, freight and tourist railroads play in the state’s economy.

Commuter rail passenger impacts will include estimates of the value of travel time savings for the passengers and depending on mode choice, the implications from available alternative modes of transportation. The leisure passenger rail impacts, including for tourist railroad businesses, will include estimates of passenger expenditures derived from surveys and interviews. The tourism impact analysis will include identification of spending by out-of-state visitors that would not have

made their trips except for the Amtrak and commuter rail access to West Virginia. The visitor impact estimates will be derived from the associated tourism spending profiles across various categories such as lodging, food & beverage and other retail expenditures. Tax effects will also be developed for federal and state/local taxes including revenues driven by wages, business sales and property taxes.

In addition to economic impacts, environmental impacts, including congestion mitigation, trade and economic development, air quality, land use, energy-use, resiliency and community impacts will be discussed per PRIIA requirements. This information will be customized to the West Virginia rail system to the extent possible.

### **Public and Private Sector Rail Benefits**

For the Rail Action Plan over the immediate, intermediate and long-range time periods, the project will include estimates of public and private sector benefits from the rail system improvements. Employing the TREDIS model software, impacts of improvements for the private sector by industry will be derived from separately-estimated rail service travel time savings and the follow-on effects of improved connectivity on access to labor markets, attraction and retention of key industry sectors, such as manufacturing and the role of rail transportation investments in meeting the demands of the changing state workforce. The TREDIS Software includes the benefit cost analysis tool to estimate the traditional travel time savings benefits as well as the wider benefits in a full societal benefits estimation process. Estimated benefits can be applied in benefit cost analysis module of TREDIS to compare the discounted net present values of benefits streams to Rail Action Plan costs. This benefits estimation and benefit cost analysis approach has been used successfully in Federally-approved state project grant applications such as the TIGER, FASTLANE and INFRA grant programs previously across the country.

### **FUNDING PLAN**

An important element of the Action Plan will be identifying sources of funding. WSP will work with the SRA to identify and describe existing funding sources. We will identify additional funding sources based on our investigations in other recent rail plans and our knowledge of available funding programs and their applications. We will consider innovative funding sources, particularly as they appear relevant to specific projects. If of interest, the project team can also investigate the processes by which funding programs came into being in other states to determine whether West Virginia could follow a similar process recognizing the constitutional constraints. WSP will develop alternative funding programs that reflect the project list, prioritization and funding strategies previously identified.

### **IMMEDIATE, INTERMEDIATE AND LONG-TERM ACTION PLAN**

Improvements, investments and policy changes will be grouped into initiatives. Activities within initiatives will be related by similar goals, similar sponsors and in many cases, similar funding or financing sources.

Improvements, investments and policy changes will also be grouped by immediate, intermediate and long-range time frames. Timing will likely be determined by funding availability and priority. Project priority could be established by project sponsors, determined by Steering Committee members, by estimated project impacts, or some combination of approaches.

For each initiative, a sponsor or set of sponsors will be identified based on agencies' existing responsibilities. If a new organization would need to be created or new legislation would need to be passed for an initiative to be contemplated, the Plan will describe the need for the organizational change or legislation and how the existing organizational structures would not be able to support the initiative and the specific changes that would need to take place. The organizational assessment will also consider the necessity of entering multi-state and public/private agreements to accomplish initiatives.

Funding or financing sources would be recommended for each initiative. Identified state, local, private and federal funding would be based on availability and applicability to that type of project. Sources will also be identified based on scale. For example, the U.S. Economic Development Administration frequently funds freight rail projects, but the funds available for any specific grant are usually around several hundred thousand dollars. TIGER grants are usually in the \$5 - \$20 million range. Assumption regarding funding sources would be appropriately scaled to the initiatives they would fund. Current funding sources would be assumed to continue into the future.

If no funding mechanism is available, the Plan would indicate the most feasible path for such a source to come into existence, whether this be legislative or otherwise. If such a path were currently considered infeasible, this would initiative would be identified as something to be considered in the future.

Some initiatives may be sufficiently ill-defined that they are conceptual only. In this case, rather than estimate costs, we suggest project sponsors and funding sources, the Plan may recommend additional study. The timing, potential funding/financing and the initiatives' organizational structure will be vetted with the Steering Committee.

Examples of projects from the 2013 Plan grouped into initiatives are shown in **Error! Reference source not found.** Per FRA guidance, the Plan will describe how the Plan's long-term vision integrates with other planning efforts, such as the multimodal Long-Range Transportation Plan and planning efforts of neighboring states.

**Table 8 Grouping 2013 West Virginia State Rail Plan Projects into Initiatives**

Initiative	Activity
Short-term upgrades to state-owned rail assets	<ul style="list-style-type: none"> <li>– SBVR Unit train improvements</li> <li>– SBVR Shops and sand tower</li> <li>– SBVR Locomotive upgrades</li> <li>– SBVR Bridge deck rehabilitation</li> <li>– WVCR Rail bridge decks</li> </ul>
Long-term upgrades to state-owned assets	<ul style="list-style-type: none"> <li>– SBVR Locomotive fleet upgrades</li> <li>– SBVR Bridge improvements</li> <li>– WVCR Daily Branch upgrade</li> <li>– WVCR bridge improvements</li> </ul>
Complete grade crossing improvements	<ul style="list-style-type: none"> <li>– AO Grade crossing upgrades</li> <li>– CSX Crossing surfacing</li> <li>– RJCX Grade crossing upgrades</li> <li>– WW Grade crossing upgrades</li> </ul>
Passenger station improvements	<ul style="list-style-type: none"> <li>– Prince railroad station rehabilitation</li> <li>– Harpers Ferry ADA compliance</li> </ul>
Improvements to shared use corridors	<ul style="list-style-type: none"> <li>– Huntington Station/South Yard Siding</li> <li>– Replace Hawk's Nest Bridge</li> </ul>
New passenger rail stations – identified location	<ul style="list-style-type: none"> <li>– Charleston passenger terminal</li> <li>– Hurricane passenger station</li> </ul>
Expand and improve MARC service to West Virginia	<ul style="list-style-type: none"> <li>– New passenger rail stations in eastern panhandle</li> <li>– Purchase new commuter trainsets</li> </ul>
Promote/expand tourist train operations	<ul style="list-style-type: none"> <li>– Tourist train signage</li> <li>– WVCR Highland adventure of mountain &amp; rail</li> <li>– Hampshire County rail spur and station project</li> </ul>
Establish multimodal facilities	<ul style="list-style-type: none"> <li>– Trash transfer facility in Upper Kanawha Valley</li> <li>– Upgrade Mittal Weirton Yard</li> </ul>

## TASK 5 - STAKEHOLDER OUTREACH

Stakeholder outreach is a key factor to preparing a successful state rail plan, since many of the issues, opportunities and potential improvements are uncovered through consultation with stakeholders. Early in the project a Stakeholder Outreach and Involvement Plan will be developed, which will detail the goals, responsibilities, approach, contacts, survey and questionnaires to be used in the stakeholder outreach effort. The purpose of this plan is to ensure that adequate and reasonable notice and opportunity for comment and other input be provided for a variety of stakeholders.

For the 2030 Plan, a steering committee met quarterly. Steering committees are an effective tool by which to review state rail plans with key stakeholders in a state, particularly in situations where the number of key stakeholders is limited. WSP successfully worked with steering committees on the recent North Dakota State Rail Plan, District of Columbia State Rail Plan and Vermont State Rail Plan (Vermont has a permanent Vermont Rail Advisory Council). Subject to WVDOT feedback, it is recommended that the steering committee be continued in the current state rail plan.

It is our practice to develop the Outreach Plan jointly with the state DOT's public information division. This ensures that the outreach program is consistent with local customs and that the program fits with any other outreach efforts being conducted in the state. The specific outreach approaches and structure of stakeholder meetings will depend upon feedback from the WVDOT for what is most appropriate in West Virginia. Some suggestions based upon WSP's extensive experience in rail planning are below:

- **Surveys of Railroads Operating in the State are a Standard Procedure for State Rail Planning.** Typically, WSP provides short line railroads with a standard survey form which requests (1) FRA required information regarding their railroads, (2) needs and opportunities for the Rail Service and Investment Program, (3) general feedback regarding rail issues in the state. Class I railroads are usually approached individually with customized information requests.
- **Regional Stakeholder Meetings are an Effective Means for Gathering Information for State Rail Plans.** These are most effective if they are followed by a series of in-person meetings. Often, a round of stakeholder meetings will recommend other individuals that have insights, have rail-related needs, or are in the process of completing rail improvements. This approach was recently used for the Arizona State Rail Plan, where stakeholder meetings were followed by highly productive targeted meetings.
- **The Internet can Provide Valuable Tools for Engaging the General Public with State Rail Plans.** It is recommended that an online survey be used to solicit public feedback. For the recent District of Columbia State Rail Plan, an online survey had over 1,000 responses. Part of the success of this approach was the successful use of social media to make online users aware of the Rail Plan. Interesting new possibilities using map-based crowd sourcing software could also be represent an effective way to engage the public.
- **Electronic Newsletters and Other Approaches to Push Information to Stakeholders and the General Public** can boost awareness and involvement in the state rail plan. WSP previously followed an approach like that of the 2013 Plan, whereby regional stakeholder meetings are coupled with public open house sessions. At each location, an afternoon or morning meeting is held with invited stakeholders and then evening meetings are held for the general public. The public meetings are advertised using standard public notification procedures, such as press releases. Unfortunately, the public open houses have not always been found to be a good use of agency or consultant staff time. In some locations, agency and consultant staff have outnumbered attendees. One option is to hold fewer public meetings. These can be held at a central location, such as Charleston. These could be held in conjunction with steering committee meetings. Another option is to rely more heavily on the Internet for engaging the general public.



## JOSEPH "JOE" GURSKIS

*Project Manager*



### Years with the firm

8

### Years of experience

43

### Education

*Master of City Planning,  
Harvard University, 1974*

*B.S., Economics, Wharton  
School, University of  
Pennsylvania, 1972*

### CAREER SUMMARY

Joe Gurskis is a Principal with WSP's U.S. Advisory Services with over 40 years' experience in the rail industry. Mr. Gurskis leads WSP's state rail planning practice area and has extensive knowledge of the railroad industry operations, markets, economics and project funding. He has supported several states in the development of PRIIA and Federal Railroad Administration (FRA) compliant state rail plans (SRPs). He has led the development of state rail plans for Arizona, Arkansas, District of Columbia, Kansas, New Jersey, Ohio, Oklahoma and Virginia. He served as senior advisor on the Arkansas, Colorado, Delaware, Indiana, Kentucky, South Carolina and Vermont rail plans and the supplement to the Pennsylvania Plan. In addition to his state rail plan experience, Mr. Gurskis has conducted numerous other freight and passenger rail studies on behalf of state department of transportation (DOTs). He is project manager for the update to the AASHTO Rail Freight Bottom Line Report Update and recently led the feasibility analysis in support of North Carolina's funding of a new intermodal terminal. Mr. Gurskis has also held management positions with CSX Transportation and Southern Pacific Railroad, where he was Vice President, Revenue Yield Management.

### PROFESSIONAL EXPERIENCE

- **West Virginia Port Strategy**, West Virginia Public Port Authority (WVPPA), Charleston, West Virginia: Led the development of a strategic master plan for the WVPPA. The plan focused on the logistics services provided to six locations in West Virginia and the infrastructure required to support those services. Development of the plan involved assessing the addressable market and freight traffic movements that could be served; the strengths and weaknesses of each location as a logistics center; and determining the logistics needed at the locations.
- **Arizona State Rail Plan**, Arizona Department of Transportation (AZDOT), Phoenix, Arizona: Project manager for the update to the 2011 Arizona SRP. The rail plan is addressing Arizona's rail challenges. It is a major pass through state for freight moving between the San Pedro Bay ports and other locations in California and the East. Arizona has wrestled with the issue of how the state can add value to rail moves from the ports leading to increased economic development in the state. Arizona is also seeking to improve its rail connectivity to the Mexican rail network. The rail plan update will be developed in accordance with 2013 FRA SRP Guidance
- **North Dakota State Rail Plan**, North Dakota Department of Transportation (NDDOT), Bismarck, North Dakota: Project manager who led the development of a SRP that met the requirements of the FRA. The plan is being built from a significant outreach effort addressing key rail issues facing the state including: rail crossing safety, emergency response practices, rail velocity and capacity to move crude oil and agriculture commodities, short line viability and the need for an intermodal terminal.
- **District of Columbia Rail Plan**, District Department of Transportation (DDOT), Washington DC: Project manager who led development of a PRIIA compliant rail plan that addresses rail issues on a complex network supporting freight, commuter and intercity passenger rail operations. Although a compact network, it is the center of a heavily used rail corridor with diverse rail services.
- **Oklahoma State Rail Plan**, Oklahoma Department of Transportation (ODOT), Oklahoma City, Oklahoma: Project manager for the development of an SRP that met the requirements of PRIIA. The plan was developed as a business plan for rail development in the state. In addition to a substantive analysis of rail issues, the plan balanced the state's multimodal passenger transportation needs with its multi modal freight needs and served as a tutorial for



## JOSEPH "JOE" GURSKIS

*Project Manager*

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the general public.

- **Colorado State Rail Plan**, Colorado Department of Transportation (CDOT), Denver, Colorado: Senior advisor for the preparation of the Colorado SRP. His principal role was ensuring that the plan represented best practices and was compliant with federal requirements.
- **Arkansas State Rail Plan**, Arkansas Department of Transportation (ADOT), Little Rock, Arkansas: Principal-in charge of the development of an SRP that met the requirements of the FRA. He also led the stakeholder outreach. The plan focused on the importance of rail transportation to the state's economy and identified necessary improvements to both the freight and passenger systems.
- **Virginia State Rail Plan**, Virginia Department of Transportation (VDOT), Richmond, Virginia: Project manager for the preparation of an updated state rail plan to meet federal requirements. The project team also updated the rail inventory, traffic forecasts, performance metrics and other elements of the plan that have changed since its original publication in 2008. Recent changes in global and logistics trade were examined to ensure that the plan considered their impacts on Virginia's rail needs.
- **New Jersey State Rail Plan**, New Jersey Department of Transportation (NJDOT), Trenton, New Jersey: Project manager for the development of a state rail plan that identified and addressed both commuter and intercity passenger rail issues facing the state as well as necessary improvements in freight mobility. The project also included the integration of prior rail freight studies with passenger plans to develop a statewide rail plan that met FRA requirements.
- **Delaware State Rail Plan**, Delaware Department of Transportation (DELDOT), Dover, Delaware: Senior advisor responsible for project quality control and quality assurance for the Delaware SRP. The plan focused on the state's freight and commuter rail operations with a heavy emphasis in educating the public on rail transportation and rail issues. Mr. Gurskis also facilitated stakeholder outreach workshops.
- **Freight Rail Bottom Line Report**, American Association of State Highway and Transportation Officials (AASHTO), Washington, DC: Project manager of the update of the groundbreaking Freight Rail Bottom Line report published in 2002. The purpose of the update is to determine the role of state governments in addressing future rail capacity constraints.

### *PREVIOUS EXPERIENCE*

While employed elsewhere, Mr. Gurskis' experience includes:

- **Kansas State Rail Plan**, Kansas Department of Transportation (KDOT), Topeka, Kansas: Project manager responsible for the development of the PRIIA compliant 2009 rail plan for the state of Kansas. In addition to complying with current state rail plan requirements as stipulated by PRIIA, the plan is heavily focused on expanding existing rail passenger services in the state and improving the state's short line railroad network, which is critical to the state's agribusiness and economy. In addition, models were developed to measure the benefits of rail improvements. Mr. Gurskis also led the public outreach program for the plan.
- **Ohio State Rail Plan Update**, Ohio Department of Transportation (ODOT), Columbus, Ohio: Project manager for the preparation of the PRIIA-compliant 2009 rail plan for the state of Ohio. Development of the plan was fast-tracked to secure funding for rail improvements in the state. The plan focused on the introduction of high speed rail service in Ohio.. An important element of the plan process was the development of a methodology and tools to evaluate railroad improvement projects.



**Years with the firm**

5

**Years of experience**

20

**Education**

*M.B.A., Business Administration, University of Maryland, 2000*

*B.A., History, Brown University, 1993*

**Professional affiliations**

*Council of Supply Chain Management Professionals*

**CAREER SUMMARY**

Alexander King is a principal consultant with WSP. His areas of specialty include transportation planning, market analysis, financial analysis and benefit-cost analysis. Mr. King has led the preparation of state rail plans in Ohio, Indiana, Vermont and Arkansas and helped prepare state rail plans in 10 other states since the passage of the Passenger Rail Investment and Improvement Act (PRIIA) in 2008. He has also participated in freight and goods movement studies on state and regional levels, intermodal terminal and inland port feasibility studies, port master plans, railroad financial valuations, preparation of competitive grant applications, as well as a variety of other projects. Before joining WSP, Mr. King held positions at several transportation consulting firms specializing in infrastructure, management and economics.

**PROFESSIONAL EXPERIENCE**

- **Ohio State Rail Plan**, Ohio Rail Development Commission, Columbus, Ohio: Project manager of the State of Ohio Rail Plan (Plan), which will be compliant with the requirements of the Passenger Rail Investment and Improvement Act (PRIIA) and subsequent Federal Railroad Administration (FRA) guidance of 2013. The Plan will include innovate stakeholder outreach approaches, such as virtual stakeholder meetings. The Plan will quantify the impact of the freight rail industry on Ohio and will feature case studies that show the impacts of freight rail infrastructure improvement projects.
- **Indiana State Rail Plan**, Indiana Department of Transportation (INDOT), Indianapolis, Indiana: Project manager of the Indiana State Rail Plan (Plan). Helped to negotiate several changes from the FRA-prescribed format, so that the Plan could better meet the needs of INDOT. The Plan reflected several issues, including INDOT’s tactics for managing the Hoosier State service, the reliance of Indiana’s rail network on Chicago and potential improvements to Chicago approaches, strategies for crossing improvements and closures and freight rail improvements’ impacts on the Indiana economy.
- **District of Columbia State Rail Plan**, District Department of Transportation, Washington, DC: Did much of the writing for this state rail plan. Discussed plans to integrate changes to the rail network into proposed changes to the District’s urban landscape, particularly the CSX rail lines south of Union Station. Organized rail service investment program.
- **Heartland Intermodal Gateway Rail Service Cost Analysis**, West Virginia Public Port Authority, Charleston, West Virginia: Led an effort to compare costs of truck/rail intermodal transportation through the Heartland Intermodal Gateway (HIG) and all-truck transportation between points in West Virginia and Chicago, the Port of Virginia.
- **North Dakota State Rail Plan**, North Dakota Department of Transportation, Bismarck, North Dakota: Analyzed freight rail trends in North Dakota, including an in-depth assessment of agricultural and energy product freight trends. Led a task to evaluate and recommend changes to rail-related programs, planning efforts, processes, policies and regulations. This task involved extensive interviewing of state personnel, other stakeholders, as well as benchmarking to programs in other states.
- **Virginia Statewide Rail Plan**, Virginia Department of Rail and Public Transportation, Richmond, Virginia: Developed a new organizational structure for the updated plan, work with WSP staff members to update the Statewide Rail plan’s statistics and figures, ensure that it meets federal requirements and to respond to clients’ comments and edits.
- **Kentucky State Rail Plan**, Kentucky Transportation Cabinet, Frankfort, Kentucky: Wrote or directed the writing of chapters on rail freight flows, funding sources, abandonments and abandonment policy and rail intermodal connections.
- **Vermont State Rail Plan**, Vermont Agency of Transportation, Montpelier, Vermont: Led the preparation of this state rail plan to meet the requirements of the Federal Railroad

Administration. As part of this project, evaluated options for continued state ownership of rail lines, considering the likely costs of keeping the lines, implications of ending existing leases, potential sale price to current operator or other party, potential advantages or disadvantages of selling the line, economic impacts of the lines.

- **Arkansas State Rail Plan**, Arkansas State Highway and Transportation Department, Little Rock, Arkansas: Led the preparation of a state rail plan that meets the requirements of the Federal Railroad Administration. Plan includes a comprehensive analysis of freight trends, strategies for railroad network preservation, measures to integrate rail with economic development activities.
- **North Carolina Intermodal Feasibility Analysis**, North Carolina Department of Transportation, Johnston County, North Carolina: Helped a state department of transportation to assess the feasibility of a proposed truck/rail intermodal hub. Led the task to estimate likely diversion from truck to intermodal rail to the facility, as well as assessed the economic impact of the project to the state.
- **Wallace to Castle Hayne Rail Line Rehabilitation**, North Carolina Department of Transportation, Pender County, North Carolina: Helped to assess the feasibility of restoring an inactive rail line in eastern North Carolina to service. Estimated the likely freight that would use the rail line and the value of restoring the rail line to both civilian and military stakeholders, directed the preparation of benefit/cost analyses to assess the economic efficiency of the project.
- **New Haven State Street Platform Project Transportation Investment Generating Economic Recovery (TIGER) Application**, New Haven, Connecticut: Prepared a benefit/cost analysis to support the Connecticut Department of Transportation's TIGER grant application seeking funding to construct a new passenger station platform in New Haven. Grant application was successful.

#### PREVIOUS EXPERIENCE

Prior to joining WSP, Mr. King worked as a senior freight planner and analyst at other transportation consulting firms for both public and private sector clients. His experience includes:

- **West Virginia Multimodal Statewide Transportation Plan**, West Virginia Department of Transportation, Charleston, West Virginia: Documented trends in global and national trade and determined their impact on West Virginia. Characterized the state's role in international and domestic logistics; assessed the need for proposed intermodal facilities, including potential market for proposed facilities, suitability of locations and need for public involvement.





**Years with the firm**

6

**Years of experience**

37

**Education**

*M.B.A. Tuck School,  
Dartmouth College, 1980*

*B.A. Princeton University,  
1974*

**Professional certifications**

*National Highway Institute,  
Certified Instructor*

**Professional affiliations**

*Advisory Committee on Supply  
Chain Competitiveness, U.S.  
Dept. of Commerce, Vice-  
Chair of Subcommittee on  
Freight Policy and Movement.*

*Committee on Urban Freight  
Transportation,  
Transportation Research  
Board, National Academy of  
Sciences, Current Member and  
Past Chair (2005-2011)*

**CAREER SUMMARY**

Joe Bryan is a principal consultant with the U.S. Advisory Services group of WSP, directing the firm’s practice in freight transportation and logistics policy, planning and management. He has been a leading contributor to the development of public and public-private freight planning in the U.S., working at the urban, corridor and national levels and he assists private and public sector clientele in strategy development, policy and operations analysis and market assessment. Mr. Bryan possesses broad practical experience in freight carrier management in multiple modes. He has been associated with truckload, less-than-truckload (LTL), air and rail freight companies and has held senior positions in marketing and operations. Mr. Bryan will monitor the performance of the project team and status of the project and deliverables. He will perform quality assurance reviews to audit adherence to procedures and policy and client satisfaction. Mr. Bryan will enhance project success by assuring both client satisfaction and financial performance through active client contact and oversight as a safe guard to help prevent margin erosion, manage “scope creep” and mitigate risks. Mr. Bryan’s active involvement in monitoring project financial performance will ensure that the project budget is compatible with the contract scope and deliverables which should lead to improved project and business unit performance.

He has been leading state freight plans in Illinois and Oklahoma, contributing to the state freight plan in Texas and managing urban freight plans in Phoenix and Raleigh. He recently completed a state Logistics and Supply Chain Asset Study for Michigan Economic Development Corporation, oversaw assessment of a new CSX intermodal hub in North Carolina and led a cargo market strategy for John F. Kennedy International Airport (JFK) Airport in New York. Mr. Bryan has been active in urban freight planning for many years and has helped metropolitan planning agencies across the continent to research and characterize the patterns, distribution systems, operating requirements and future needs of goods and services movement in their regions and to prepare responsive strategies. He is past chair of the Transportation Research Board (TRB) Urban Freight Committee and was a principal contributor to the National Cooperative Freight Research Program (NCFRP) 15A guidebook “Understanding Urban Goods Movement” (Report 14), for which he conceived and oversaw its systematic supply chain analysis. He is a member of the US Department of Commerce’s Committee on Supply Chain Competitiveness, which recommended freight performance measures to the US Department of Transportation; he successfully piloted its new approaches in a feasibility study for FHWA and the I-95 Corridor Coalition and is co-technical lead for the follow-on project implementing these measures.

Mr. Bryan was co-principal investigator for the National Cooperative Highway Research Program (NCHRP) 8-42 study “Rail Freight Solutions to Roadway Congestion” (Report 586). For four railroad merger applications, he led the analysis of potential highway diversion to an expanded intermodal network and prepared verified statements for submission to the Surface Transportation Board. He directed the creation of the first national database of county-to-county freight traffic flows and he was his firm’s lead member for the federal Freight Analysis Framework (FAF) study, a seminal effort in national freight planning. He is an author of the original American Association of State Highway and Transportation Officials (AASHTO) Freight Rail Bottom Line Report and principal in charge for its 2018 update; a developer and instructor for the National Highway Institute’s Fundamentals of Freight Data Course; and served on the TRB select panel on national Strategies for Improved Passenger and Freight Travel Data.

**PROFESSIONAL EXPERIENCE**

- **Oklahoma State Freight Transportation Plan**, Oklahoma Department of Transportation (ODOT), Oklahoma City, Oklahoma: Project manager for this comprehensive multimodal freight plan. Oklahoma combines urban and large rural areas, has important energy, agricultural and military sectors and has substantial volumes of road and rail freight passing through the state. With input from stakeholders and the state’s first freight advisory

committee, the plan treated vision and goals, market trends, commodity flow, performance measures, networks and bottlenecks, strategy and regional coordination, project priorities and freight investment.

- **Illinois State Freight Transportation Plan**, Illinois Department of Transportation (IDOT), Springfield, Illinois: Project manager for this update of the 2012 State Freight Plan, also led by Mr. Bryan. Illinois is the nation's third largest state for freight, a major manufacturing and distribution center and a multimodal hub. This plan features multimodal analysis, evaluation of logistics trends, bottleneck assessment, network designations and responsive strategies and policies. Its investment plan applying FAST Act freight funds to projects is being conducted as a competitive grant program for agencies and partners around the state.
- **AASHTO Freight Rail Bottom Line Report**, American Association of State Highway Officials, Washington, DC: Principal-in-charge for update of the influential 2002 report, for which Mr. Bryan was a contributing author. The rail landscape has changed considerably in intervening years and this update provides contemporary guidance to state DOTs on business factors and decision making by Class I and short line rail carriers, how to identify appropriate rail projects for public support and justify funding and how to approach railroad partnerships.
- **Ohio Statewide Freight Study**, Ohio Department of Transportation (ODOT), Columbus, Ohio: Project manager for the freight component of the state long range transportation plan, whose primary goal was to develop detailed understanding of the utilization of freight infrastructure assets in the state and the economic opportunities available from investment. From elements including multimodal traffic assessment, input from leaders in logistics and industry and comprehensive needs analysis, the study culminated in recommendations for growth and performance strategies supported by policy and investment.
- **National Freight Mobility Monitoring Program**, Federal Highway Administration (FHWA), Washington DC: Co-technical lead for development of this new federal program, under a prime contact held by the I-95 Corridor Coalition. Building on the implementation approach the team piloted in an FHWA/I 95 Corridor Coalition White Paper, the project is identifying a representative national "market basket" of supply chains that provides insight into performance for key industries, economic regions, corridors, commodities, freight networks/facilities and import/export trade. The program measures the speed, reliability and cost of multimodal freight transportation by stage and end-to-end for representative lanes in each industry. The result will be a type of "Dow Jones Industrial Average" for tracking American supply chain performance, which public agencies can use to diagnose the deficiencies affecting industry and make corrective investments. The national program will be accompanied by pilots in New York and Chicago to extend the measurement into metropolitan regions.
- **Project Scorpion – Feasibility Analysis of Proposed Intermodal Hub Terminal**, North Carolina Department of Transportation (NCDOT), Raleigh, NC: Principal-in-charge for this feasibility assessment of a proposed truck-rail container transfer terminal in North Carolina. CSX Transportation Company was interested in developing a new state of the art facility in the Southeast to serve as the regional hub of its intermodal network and sought \$120 million in state supported incentives to offset the development costs. WSP developed a demand forecast for the terminal analyzing potential diversion of truck traffic to rail, evaluated opportunities for economic development and prepared benefit-cost and economic impact analyses. The study found the terminal would produce 24,000 jobs and \$1.8 billion in public benefits and CSX and NCDOT announced the construction of the terminal.



**CAREER SUMMARY**

Anna Lynn Smith has gained a broad base of experience in the field of transportation consulting and has worked on a wide range of planning and management projects for departments of transportation, transit agencies and railroads in North America. Her career experience encompasses all phases of project development from capital/project planning, operations and maintenance (O&M) costing and schedule/budget development and monitoring, to the provision of construction support services. As a senior supervising planner for WSP, she has developed skill in several capacities including capital and long-range planning, transit system financial analyses, quality system development and implementation, rail engineering, service planning and operations. She has also been active on a corporate level with the firm's career development and knowledge sharing efforts.

**PROFESSIONAL EXPERIENCE**

- **Federal Railroad Administration Midwest Regional Rail Planning Study, Washington, DC:** Project manager to identify the potential for a high-performance, multi-state intercity passenger rail network in the Midwest region. The study builds on current rail planning efforts within the twelve states of Illinois, Missouri, Iowa, Michigan, Wisconsin, Ohio, Nebraska, Kansas, South Dakota, North Dakota, Indiana and Minnesota and requires extensive coordination with the DOTs and rail stakeholders in each state. She is also serving as a lead author of the project's final report.
- **District of Columbia State Rail Plan, District Department of Transportation (DDOT), Washington, DC.** Served as Deputy Project Manager in the development of a state rail plan compliant with the requirements of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) and Federal Rail Administration Guidance of 2013. For this effort, she worked with DDOT, rail stakeholders and the public to identify passenger and freight transportation needs and opportunities such as infrastructure upgrades, safety improvements, policy changes and operations. She was also involved in the public open houses and development of the plan's survey and website.
- **Great Northern Corridor Multistate Planning and Development Study, Phase II, Great Northern Corridor Coalition (GNCC):** The mission of the GNCC is to promote a premier multi-state freight corridor. With the corridor receiving two FHWA Multimodal Corridor Operations and Management (MCOM) grants, she aided in defining a sustainable business model for the GNCC describing the specific actions required to support its objectives. For this effort, she led a benchmarking exercise of relevant coalitions, conducted interviews with these selected organizations and worked to develop recommended business model alternatives for review and discussion with the Coalition. The areas of focus for this effort included organizational structure, operations and resource management.
- **Preliminary Operations Analysis, Virginia Railway Express (VRE), Alexandria, Virginia:** Project manager for efforts to construct ridership estimates and subsequent fleet and infrastructure requirements to support the VRE System Plan 2040. As part of this task, proposed new schedules were developed, operations analyzed and fleet requirements determined to meet the goals of expedited service and increased frequencies outlined in the 2040 Plan. The ridership potential for each of the new services was examined along with the extent to which the service additions were possible based on existing infrastructure limitations.
- **National Cooperative Railroad Research Project 07-02, Developing Multi-State Institutions to Implement Intercity Passenger Rail Programs, Transportation Research Board, Washington, DC:** Served as lead author for a case study on the Northeast Corridor to document the distinguishing aspects of the Northeast Corridor, including its long history as a multi-use rail corridor and the various existing arrangements for the provision of service and longer-term efforts underway to advance the Corridor. As part of this research she led multiple interviews with Northeast Corridor stakeholders to understand the challenges faced

**Years with the firm**

20

**Years of experience**

25

**Education**

*M.B.A., Operations Management/Marketing, Villanova University, 1999*

*B.S., Civil and Architectural Engineering, Drexel University, 1993*

**Additional studies**

*Railway Systems Design for Operations Short Course, Widener University School of Engineering, 2003*

**Professional registrations**

*American Institute of Certified Planners, 2000 (130629)*

**Professional affiliations**

*Transportation Research Board; American Planning Association; Women's Transportation Seminar, Philadelphia Chapter President, 1995-98, National Annual Report Chair, 2000-06; Pennsylvanians for Transportation Solutions (PenTrans) Board of Directors, 2010-present.*

in improving the Corridor and how these various entities are working together to address them.

- **Rail Planning and Engineering Services Open End Contract**, Delaware Department of Transportation (DELDOT), Dover, Delaware: Served as the project manager for this three-year open end task order contract, responsible for project administration, client liaison, staff coordination and quality assurance for all project deliverables. As part of this effort she served as task lead for the Delmarva Intercity Rail Feasibility Study and participated in a review of the Wilmington Downtown Circulation Study to identify and examine safety issues associated with the proposed bus transfer location in Downtown Wilmington.
- **Southwest Multi-State Rail Plan**, Federal Railroad Administration (FRA): Served as a lead author for this effort developed as part of FRA's National Rail Planning Study focusing on the states of California, Arizona and Nevada. She was responsible for bringing together the key analysis components of the multi-state plan and outlining the recommendations for the project's stakeholders to finalize the plan following completion of the study. A national conceptual rail planning toolkit for the Southwest will serve as a model example for multi-state rail network planning.
- **Oklahoma State Rail Plan**, Oklahoma Department of Transportation (ODOT), Oklahoma City, Oklahoma: Assisted in the development of this freight and passenger rail plan compliant with the Passenger Rail Investment and Improvement Act of 2008 (PRIIA). Her roles included leading the development of the plan's vision, goals and objectives, as well as developing a methodology to evaluate and prioritize capital projects and strategic initiatives. She was also involved in the overall quality assurance and quality control review of the document.
- **Virginia State Rail Plan**, Virginia Department of Rail and Public Transportation (DRPT), Richmond, Virginia: Task lead for this effort to develop a PRIIA compliant state passenger and freight rail plan. She was responsible for developing the plan purpose and objectives along with identifying rail's impact in Virginia. She participated in bringing together the various technical memoranda into a final report and was also responsible for the preparation of the Statewide Rail Resource Allocation Plan.
- **Transportation Planning and Engineering Services**, Delaware Department of Transportation (DELDOT), Dover, Delaware: Served as the project manager for this three-year open end task order contract, responsible for project administration, client liaison, staff coordination and quality assurance for all project deliverables. As part of this effort, she led the update of the Sussex County Transportation Plan and participated in the development of the County's Coordinated Human Services Transportation Plan. She also led the development of an update to the State's Passenger and Freight Rail Plan.
- **Mid-Atlantic Rail Operations Project**, I-95 Corridor Coalition, New Jersey to Virginia: Worked with the project team to identify, describe and analyze key bottlenecks and capacity issues in the rail corridors of the Mid-Atlantic states. The objective of these efforts was to develop a short-term rail investment program that would eliminate key rail bottlenecks in Mid-Atlantic transportation corridors. She contributed to the development of strategies describing improvements associated with eliminating bottlenecks and mitigating capacity constraints.



**Years with the firm**

20

**Years of experience**

8

**Education**

*Ph.D., Transportation Engineering, University of California at Berkeley, 2013*

*M.S., Transportation Engineering, Georgia Institute of Technology, 2009*

*B.S., Civil and Environmental Engineering, Georgia Institute of Technology, 2009*

**Professional affiliations**

*TRB Freight Transportation Economics and Regulation Committee, Member*

**CAREER SUMMARY**

Dr. Sebastian Guerrero is a transportation economist who is passionate about improving the sustainability of freight transportation systems. He has experience working on projects at the intersection of freight transportation, sustainability and economic development. Dr. Guerrero has led numerous evaluations of proposed infrastructure investments, often using benefit-cost methodologies to assess the economic efficiency of different alternatives. He is an expert on the relationship between climate change and freight transportation, having published and presented widely on this topic. For his doctoral dissertation, Dr. Guerrero evaluated several policies to reduce life-cycle greenhouse gas emissions from the freight sector through an economic model that considered shipper and carrier behavior.

In recent years, Dr. Guerrero has gained unique expertise in leveraging existing and emerging data sources in freight planning processes, particularly in assessing freight reliability. He has used the National Performance Management Research Data Set in five distinct projects to assess the on-time performance and reliability of supply-chains. In Oregon, he combined this data set with information about incident frequency and shipment value to quantify the costs of unreliability to shippers in the State. This information was used to identify bottlenecks throughout the roadway network and guide investments that improve statewide freight resiliency. Dr. Guerrero also has experience assessing the economic importance of airports to shippers that rely on air freight.

**PROFESSIONAL EXPERIENCE**

- **NCHRP 07-24 Estimating the Value of Truck Travel Time Reliability**, Transportation Research Board, Washington, DC: Currently the project manager and principal investigator for this project on estimating a value of truck reliability and developing a planning framework for using this value in Benefit Cost Analyses. This project includes an in-depth review of the latest research approaches and a review of how different public agencies around the world are using the latest research in this field for enhancing planning processes. This project will include a nationwide survey of motor carriers and shippers to econometrically estimate values of reliability along the most important dimensions and industry characteristics. Emphasis will be placed on estimating values that can be used in conjunction with existing reliability data (NPMRDS) and in ongoing freight planning activities.
- **Oklahoma Statewide Intermodal Plan**, Oklahoma Department of Transportation (ODOT), Oklahoma City, Oklahoma: Dr. Guerrero contributed to the preparation of many components of this freight plan. This included being a key staff in the collection and analysis of data used for characterizing the use and performance of freight assets in the State. Performed bottleneck identification analysis using NPMRDS, identifying places in the roadway network that are causing frictions in the movement of freight. Presented results in several public/stakeholder meetings and outlined key freight trends in the use and performance of freight assets.
- **Rail Division Planning Project**, North Carolina Department of Transportation (NCDOT), North Carolina: Dr. Guerrero served as the principal who led the analysis for a rail capacity improvement project, analyzing market data, developing demand forecasts and understanding rail capacity bottlenecks in the region. He performed a BCA analysis to assess the economic efficiency of the proposed investments program. Dr. Guerrero led traffic analysis work to determine the adequacy of surrounding infrastructure and proposed projects to accommodate vehicular traffic increases. Client: North Carolina Department of Transportation (NCDOT). Project Value: \$891,000.
- **Howard Street Tunnel Project**, CSX Transportation, Baltimore, Maryland: Estimated the impact of the project on truck traffic and rail traffic throughout east coast states. Helped develop benefit-cost analysis methodology to assess the economic efficiency of the

proposed project.

- **USDOT Quick Freight Facts Report**, U.S. Department of Transportation (USDOT), Washington, DC: Principal investigator for the development of a user-friendly but comprehensive overview of information about the freight sector in the U.S. This involved collecting and analyzing a variety of multimodal data covering the extent, usage, condition, performance and financing of freight transportation infrastructure, considering all major modes.
- **Freight Data Support System**, Florida Department of Transportation (FDOT), Tallahassee, Florida: Dr. Guerrero served as the principal who developed integrated freight data support system to assist FDOT freight practitioners analyze and interpret 15+ key freight datasets. This included nationwide datasets maintained by USDOT as well as proprietary datasets such as Transearch. The data support system procured, cleaned, integrated and streamlined the use of freight data sets in Florida, to provide a comprehensive overview of the freight sector in the State.
- **Freight Highway Bottleneck Identification**, Oregon Department of Transportation (ODOT), Salem, Oregon: Develop economic framework for evaluating the performance of the state's highways. Developed a ground-level understanding of the operational bottlenecks faced by the trucking sector in Oregon by: (1) translating different data sources (NPMRDS, HERS-ST, Incident Records and Travel Demand Model) into a single spatial-analytical platform; (2) defining 12 tangible indicators measuring elements such as delay, unreliability and estimating delay costs; and (3) establishing a hierarchy of thresholds to identify bottlenecks. This approach is innovative in that it combines a variety of data sources to develop indicators that make sense to stakeholders, such as delay and unreliability. Subsequent workshops with freight and trucking representatives validated preliminary results of the analysis.
- **Bi-State Regional Commission Freight Plan**, Illinois/Iowa: Dr. Guerrero served as the principal to develop a comprehensive multimodal freight data toolkit and visualization package for the metropolitan planning organization (MPO) covering the Quad Cities area of Iowa and Illinois to identify chokepoints and needs, as well as help identify projects and strategies for future improvements. The toolkit was received by the client and stakeholders with fanfare and will be integrated into state planning processes. He also developed a multimodal project prioritization tool using benefit-cost analysis (BCA) methodologies.
- **Inventory and Assessment of Waterborne Transportation Resources**, New Jersey Transportation Planning Authority (NJTPA), New Jersey: Dr. Guerrero served as principal consultant who developed database and front-end-user interface for the tool to organize and display information about waterborne facilities in NJTPA counties, including ports and docks. This tool was designed to facilitate planning workshops and processes by readily giving users access to a wide range of information about waterborne facilities and channel characteristics.
- **Long Range Transportation Plan (LRTP)**, Alaska Department of Transportation and Public Facilities (ADOTPF), Juneau, Alaska: Dr. Guerrero served as the principal who supported a performance-based evaluation of the state's freight transportation network and identified key bottlenecks and priority areas. This analysis looked at waterborne trade, seaport facilities, trucking and air cargo. Mr. Guerrero crossed commodity level data with modal data to understand the freight needs in key imports, exports and internal flows of goods. He quantified the reliability of trucks using GPS travel data to identify congestion bottlenecks in the network and demonstrate its value as a standalone performance measure.
- **Inland Port Logistics Feasibility Study**, City of Ocala, Florida: Dr. Guerrero served as the principal who studied the feasibility of building a logistics facility in this central part of Florida to attract supply chains and economic activity to the area and improve the performance of the freight network.



**Years with the firm**

**19**

**Years of experience**

**20**

**Education**

*M.S., Regional Planning,  
Indiana University of  
Pennsylvania, 1998*

*B.A., Geography, Millersville  
University, 1994*

**Professional registrations**

*American Institute of Certified  
Planners (AICP)*

**Professional affiliations**

*American Planning  
Association; North Carolina  
Association of Metropolitan  
Planning Organizations  
(NCAMPO); North Carolina  
American Planning  
Association (NCAPA);  
American Council of  
Engineering Companies/North  
Carolina (ACEC/NC) Rail  
Subcommittee*

**CAREER SUMMARY**

Scot Sibert is a certified planner with more than 19 years of experience in transportation including rail, transit and highway planning. His combined qualifications and managerial experience are demonstrated in his ability to coordinate and prepare a wide range of multimodal planning documents, including alternative analyses, short- and long-range transportation plans, rail corridor studies, corridor studies, freight studies and intercity passenger rail operations analysis. Mr. Sibert is proficient in geographic information systems. Mr. Sibert has worked with several metropolitan planning organizations, with whom he has fostered excellent client relationships because of his hands-on approach, daily communication and creative troubleshooting. He is equally adept at addressing the interests and concerns of the many stakeholders involved in a project. In addition, Mr. Sibert is deeply knowledgeable of FTA, NEPA and FRA regulations. Mr. Sibert has served as project manager for various North Carolina Department of Transportation Rail Division Limited services Agreements including Rail Planning, Operations and Facilities Design and Management and Rail Crossing Safety. Mr. Sibert has managed projects ranging from Traffic Separation Studies (TSS), to evaluation of extending Amtrak service outside of North Carolina, to operation and ridership analysis, to intercity passenger rail station feasibility studies, to stations staffing studies, to general rail feasibility studies, intermodal studies and other assigned tasks that relate to freight and passenger rail. For the South Carolina Department of Transportation (SCDOT), he was the task leader that developed sections of the State Rail Plan which is part of the SCDOT's overall multi-modal plan focusing in on existing conditions, identification of operational needs and deficiencies and project needs. Mr. Sibert also provided summaries on the status of high speed rail systems within South Carolina and coordinated with shortline railroads to identify priority projects and their associated costs for inclusion into the multi-modal plan. Mr. Sibert has presented at conferences on topics such as Conducting a Traffic Separation Study and the National Perspective of Passenger/High Speed Rail in the United States and within Tennessee.

**PROFESSIONAL EXPERIENCE**

- **NCDOT Rail Division On-Call Limited Services – Operations and Facilities:** Project manager managing various tasks under the NCDOT Rail Division Operations and Stations on-call including:
  - Managing the evaluation of the Amtrak and North Carolina passenger rail service (Carolinian and Piedmont) operations efficiency studies. This study evaluates options for extending the North Carolina (NCDOT) supported Amtrak Carolinian (Train 79 & 80) passenger rail service from New York Penn Station to New Haven, CT. The study considered the feasibility of the extension and if there were slots for the trains in the crowded New Haven-New York corridor. Evaluations revolving around which parties would assume the managerial and financial responsibility for the service, where would the train be stored, serviced and restocked and how would inventory and staffing for servicing the train be managed. The second phase of the study is analyzing ridership and financial performance, along with developing an operating cost model to evaluate operational feasibility and project operating costs.
  - Evaluated and updated Hillsborough and Lexington ridership projections for these two future intercity passenger rail stations. In addition, evaluated and updated the Amtrak cost summary for expenses, operating costs and revenue.
  - Assisting in updating the North Carolina's Station Improvement Program'. This updated document serves as the Rail Division's program plan and presents the data driven evaluation process currently used by the Rail Division for passenger rail station projects.
  - North Carolina passenger rail station staffing study evaluated the staffing levels required at North Carolina rail stations statewide for reliability and efficiency for

conducting business operations without undermining quality and customer service. The analysis evaluated whether service objectives were being met, understand the extent to which roles and duties are being fulfilled and identify opportunities to improve efficiency and reduce costs. Ultimately, the goal of this effort was to find a balanced level of staffing needed to sufficiently provide the level of service and perform value-added functions at North Carolina intercity passenger train stations.

- Public awareness studies and on-board surveys were conducted throughout North Carolina in June 2016 and in 2014 on the state-supported Piedmont and Carolinian services. The purpose of those surveys was to update information about passenger statistics, preferences and demographics for the Piedmont and Carolinian services. Through this task, overseeing evaluations in identifying creative ways to engage with the public in providing more efficient and effective public outreach and customer service.
- Harrisburg Station Site Analysis which evaluated 10 potential station location sites, environmental screening, conceptual design layouts and ranking of station locations through the development of a selection criteria methodology.
- **NCDOT Rail Division On-Call Limited Services – Rail Planning:** Project manager managing tasks under the Rail Planning on-call including:
  - Evaluated and analyzed the ability to implement Amtrak Thruway service between Salisbury, NC and Asheville, NC; a second study analyzed the impacts of extending Amtrak service from Lynchburg, VA to Charlotte, NC.
  - Coordinated with NCDOT Rail Division and the North Carolina Metropolitan Planning Organizations (MPO) in conducting individual meetings to discuss the process in which and identify, rail projects that the MPOs may submit for inclusion in the Strategic Mobility Formula that allocates available revenues based on a data-driven scoring process and local input.
  - Oversight on the CCX Intermodal Terminal analysis in Rocky Mount, NC. The study consisted of an evaluation of potential intermodal facilities, the cost benefit to such a facility in North Carolina, the economic impacts to the region (including job growth), the market availability for such facility and identification of funding alternatives.
- **NCDOT Rail Division On-Call Limited Services – Engineering and Safety:** Project manager managing tasks under the on-call contract with the North Carolina Department of Transportation (NCDOT) Rail Division including:
  - Mebane Traffic Separation Study (TSS) was conducted to determine the effectiveness, usefulness and safety operations of eight (8) roadway/rail at-grade crossings. The TSS involved coordination with local municipalities, NCDOT Rail Division, NCDOT Highway Divisions, Norfolk Southern and NCR, conducting stakeholder workshops, public information workshops and public hearings. The TSS is a comprehensive evaluation of traffic patterns and road usage.
  - Pembroke Traffic Separation Study (TSS) is being conducted to determine the effectiveness, usefulness and safety operations of eleven (11) roadway/rail at-grade crossings. The TSS involved coordination with local municipalities, NCDOT Rail Division, NCDOT Highway Divisions and CSX, conducting stakeholder workshops, public information workshops and public hearings. The TSS is a comprehensive evaluation of traffic patterns and road usage.





**Years with the firm**

7

**Years of experience**

20

**Education**

*B.S., Mass Communications: Public Relations, Virginia Commonwealth University, 1994*

*MPA, Maritime, Ports and Logistics Management, Old Dominion University, 2008*

**Professional registrations**

*Institute for Sustainable Infrastructure (ISI) Envision™ Sustainability Professional (ENV SP), 2014*

**Professional affiliations**

*American Association of Port Authorities (AAPA); Planning and Research Work Group; Transportation Research Board; Vice Chair, Ports and Channels Committee; Member, Intermodal Freight Terminal Design and Operations Committee*

**CAREER SUMMARY**

Shannon McLeod has provided project management and technical direction on intermodal planning and supply chain initiatives that benefit public agencies, ports, freight railroads and other private clients for more than 15 years. Throughout her career, she has delivered innovative development, planning and operational solutions on numerous freight transportation projects that led to a broad array of Federal grant opportunities and other funding resources. Ms. McLeod’s experience has focused on planning and logistics studies ranging from feasibility and strategic analyses to operational and productivity improvements of existing facilities to providing master planning solutions for new terminals or expansions.

She also specializes in stakeholder outreach activities and the development of communication strategies and materials, such as business case reports and stakeholder consultation programs, that are used for market and trend analyses, client promotion, public-private partnership opportunities, training and government approvals.

**PROFESSIONAL EXPERIENCE**

- **Statewide Strategic Plan**, West Virginia Public Port Authority (WVPPA), Charleston, West Virginia: Senior planner and task leader for statewide freight transportation study that helped WVPPA plan for future growth of the state’s multi-modal system by integrating transportation initiatives into policy, planning and investment strategies. The study identified the state’s freight transportation infrastructure, analyzed market conditions and evaluated business opportunities including Marine Highway for successful freight logistics services, specifically for four selected regions within the state. Upon conclusion, strategic recommendations and action plans were identified on which the WVPPA may focus its efforts over the next 20 years.
- **Oklahoma State Rail Plan**, Statewide, Oklahoma City, Oklahoma: Planner for the development of a statewide rail plan that met the requirements of the Passenger Rail Investment and Improvement Act (PRIIA). Prepared a profile of the state’s network of intermodal container and trailer facilities as well as the connectivity to river ports/terminals and cargo facilities. The plan balanced the state’s multimodal passenger transportation needs with its multimodal freight needs.
- **Moorebank Inland Port/Intermodal Terminal Feasibility Study**, Sydney, Australia: Senior planner supporting the project team with the technical planning and evaluation of the site to assist the Federal Government’s Department of Finance with determining the feasibility of developing an inland intermodal rail port connected to Port Botany. Technical assistance focused on performing capacity analyses, identifying global intermodal best practices and developing operational guidelines and facility requirements report.
- **NCFRP 50 Freight Resiliency: Dealing with Major Cargo Traffic Diversions in National Emergencies**, National Academy of Sciences, Washington, D.C. Project manager and researcher for this NCFRP report that will develop guidance for stakeholders to mitigate and adapt to logistical disruptions with the aim of enhancing freight transportation system resilience. The target audiences include freight carriers and shippers, state transportation agencies, metropolitan planning organizations, freight advisory councils and other organizations interested in a resilient, sustainable and robust multimodal freight transportation system.
- **Scoping Study for the Railway Line in DRC/Angola (Kolwezi to Port of Lobito)**, Angola: Senior planner involved with capacity analysis and high level assessment for current and future container, dry bulk, general cargo and inland facility at Port of Lobito as part of a scoping study to determine condition of rail and port infrastructure between Kolwezi in Democratic Republic of Congo to Port of Lobito in Angola.

- **Global Container Terminals Deltaport Marine Terminal Densification**, Port of Vancouver, Canada: Senior planner and deputy project manager in the development of alternative conceptual plans for maximizing the throughput potential of the existing marine/intermodal container terminal, including consideration of automation, rail yard densification and landform modifications.
- **Inland Port Capacity Augmentation**, Greer, South Carolina: Deputy project manager on effort to establish the capacity of the existing intermodal terminal and to prepare viable options for rapid staged increase in capacity. Work was done quickly in response to burgeoning demand and included operations analysis, inventory simulation, capacity modeling, site planning and construction feasibility.
- **West Hayden Island Terminal Conceptual Development Study**, Portland, Oregon: As deputy project manager and senior planner provided planning services and technical assistance to the port through creation of alternative development plans that verified a single dry bulk, auto or combined rail-served marine terminal operation could be constructed within the port's 300-acre site on WHI. The study included site planning, road and rail analysis and estimating capital costs for each facility plan, which were used to inform and help shape the conceptual development visions prepared separately by the City of Portland.

#### PREVIOUS PROJECT EXPERIENCE

Before joining WSP, Ms. McLeod's project experience with other engineering consulting firms included but is not limited to:

- **Saskatchewan Agrivision Corporation – Canadian Intelligent Super Corridor**, Canada: Primary client contact and lead planner providing a business case plan for the development of a TransCanadian Corridor and North American inland port to support containerized transportation of Canadian agricultural products. A summary analysis of market, economic, transportation and other business dynamics was provided for Saskatchewan's future development of an inland distribution and logistics service port. The project also included the organization and facilitation of a stakeholder meeting to secure support, reduce competition and encourage public-private partnership investments.
- **Cincinnati-Portsmouth Rail Line Evaluation and Strategy**, Clermont County, Ohio: Lead planner for the assessment of future rail freight development supporting economic development in the county. Analyzed the region's existing and planned freight network to identify opportunities to provide congestion mitigation or enhanced freight access, identified infrastructure constraints on the line and determined if there was sufficient market potential to warrant freight operations on the line by Norfolk Southern or a short line operator.

#### PUBLICATIONS

- Shannon McLeod, Frank Southworth, Jolene Hayes and Anne Strauss-Wieder. "Enhancing U.S. Port Resilience." In Ports' 16: 14th Triennial International Conference. 2016.
- Southworth, Frank, Jolene Hayes, Shannon McLeod and Anne Strauss-Wieder. Making US Ports Resilient as Part of Extended Intermodal Supply Chains. No. Project NCFRP-37. 2014.
- McLeod, Shannon, Erik Stromberg, W. Scott Douglas and Paul H. Bea Jr. "Future Marine Highway Development in the US." In Ports' 13: 13th Triennial International Conference. 2013.
- Gajjar, H., McLeod, S., & Wakeman III, T. "Modeling the Economics of Port Resiliency." In Ports' 13: 13th Triennial International Conference. 2013.



**Years with the firm**

**19**

**Years of experience**

**25**

**Education**

*Bachelor of Science, Civil Engineering - West Virginia University*

**Professional registrations**

*Registered Professional Engineer : West Virginia [redacted], Ohio [redacted] and Pennsylvania [redacted]*

**Professional affiliations**

*American Society of Highway Engineers; American Society of Civil Engineers; National Society of Professional Engineers*

**CAREER SUMMARY**

Chad Biller has extensive experience in all aspects of civil engineering, but his primary emphasis lies in transportation projects. Mr. Biller’s expertise has made him a go-to source for the design and layout of numerous transportation projects throughout the region. His knowledge of design in the mountainous terrain of West Virginia and its surrounding states, is second to none.

Mr. Biller is responsible for the development of project design, production of project specifications, plans, bidding, quality assurance/quality control and project monitoring. His repertoire of projects within this realm include mass grading, access roads, drainage, storm water management, erosion and sediment control.

**PROFESSIONAL EXPERIENCE**

- **Multi-Use Trail and Pedestrian Bridge**, City of Bridgeport, Harrison County, West Virginia.
- **Multi-Use Pedestrian Bridge**, Town of Farmington, Marion County, West Virginia.
- **Heartland Intermodal Center Site Design and Permitting**, Prichard, West Virginia.
- **Courthouse Street, Sidewalks and ADA Renovations**, Harrison County Commission, Harrison County, West Virginia.
- **Main Street Revitalization Project**, City of Grafton, Taylor County, West Virginia.
- **Sidewalk Improvements**, City of Pleasant Valley, Marion County, West Virginia.
- **Safe Routes to School Project**, City of Ripley, Jackson County, West Virginia.
- **Main Street Revitalization Project**, City of Ripley, Jackson County, West Virginia.
- **Traffic Circle and Road Re-Alignment**, Fairmont State University, Marion County, West Virginia.
- **Historic Verner Bridge 3 Span Structure**, Mingo County, West Virginia.
- **Kanawha County Bridge Repairs Emergency Routes**, Kanawha County, West Virginia.
- **Lodgeville Road and Bridge**, Harrison County, West Virginia.
- **Notre Dame Arch Bridge Replacement**, Harrison County, West Virginia.
- **Wayne County High School Bridge**, Wayne County, West Virginia.
- **Wolfe Creek Industrial Park Bridge**, Fayette County, West Virginia.
- **Jakes Run Single Span Arch Bridge and Roadway Approaches**, Monongalia County, West Virginia.



**Years with the firm**

2

**Years of experience**

39

**Education**

*Masters of Science, Urban and Regional Planning - University of Oklahoma*

*Bachelors of Science, Urban and Regional Planning - Northern Michigan University*

**Professional certifications**

*American Institute of Certified Planners (AICP)*

**CAREER SUMMARY**

David Hafley’s planning experience encompasses virtually all elements of economic and community development planning. He has managed multi-disciplinary project teams in the preparation of economic analysis and feasibility studies, comprehensive plans, waterfront and downtown studies, private commercial and industrial development and revitalization master plans.

Mr. Hafley has worked throughout the mid-Atlantic region preparing strategic master plans for state and local government clients. He is very experienced in the development and implementation of community improvement programs that led to successful implementation. He is a skilled meeting facilitator with a demonstrated ability to organize and led community planning workshops and citizens’ groups that build consensus on challenging planning issues. His economic development and planning clients include the West Virginia Development, West Virginia Department of Transportation, United States Department of the Interior, National Park Service, US Army Corps of Engineers and various local governments and state agencies.

Mr. Hafley has complex technical assignment experience in managing market and economic analysis, environmental permitting, cost estimating, bid and award, construction management and commissioning. He has led community and economic development projects throughout the region including Virginia, West Virginia, Ohio and Kentucky.

**PROFESSIONAL EXPERIENCE**

- **County Long Range Transportation and Transit Analysis, Fayette and Raleigh:** Following the 2010 Census, a new Metropolitan Planning Organization was created covering portions of Raleigh and Fayette Counties. Mr. Hafley was project manager for the LRTP, which was prepared in close coordination with Region 1 and 4 Planning and Development Councils, local governments, WVDOH and multiple stakeholder groups.
- **Chief Logan Intermodal Center, Logan County, West Virginia:** Project manager for a proposed \$10 million mixed use transit project in downtown Logan. Project elements included master planning, public engagement, NEPA documents, preliminary and final engineering.
- **Community Development & Economic Revitalization Plan, Wyoming and McDowell Counties, West Virginia:** Mr. Hafley was project manager for a multi-county community development master plan for areas impacted by flooding in 2001 and 2002. Project elements include fiscal analysis of 13 separate local governments, Market and economic analysis, master planning, cost estimating and implementation strategy and public involvement
- **West Virginia Public Ports Authority Strategic Master Plan, West Virginia:** Mr. Hafley served as task leader for public involvement and stakeholder engagement task leader. He also participated in project quality assurance and deliverables management.
- **City of Beckley Intermodal Gateway, Raleigh County, West Virginia:** Project manager for \$30 mixed use transit-oriented development project in historic downtown Beckley. Mr. Hafley led the project from concept to operation. Project phases were master planning, public involvement, NEPA, development alternatives, full architecture and engineering design, Green Building Council compliance and all construction phase services.



**CAREER SUMMARY**

Mr. Bingham, Vice President at EDR Group, has over 30 years of experience managing economic analysis of transportation for federal, state, regional and local government agencies. He also has experience providing management consulting to organizations involved in freight transportation. His research work has included quantitative analysis, forecasting, model development and benefit cost analysis of transportation networks and corridors for all modes of freight transportation and international trade. For 20 years, he has been involved in analysis and forecasting of freight transportation and economic analysis in the U.S. for over thirty studies for regional planning agencies, state DOTs and for the Federal government. He is a nationally-recognized expert in freight transportation research, having contributed to work and programs of the U.S. National Academies of Science Transportation Research Board (TRB) for over 25 years. He is co-chair of the TRB Value of Transportation Infrastructure Task Force. He is former Chair of the TRB Freight Systems Group overseeing the work of 11 freight transportation topic committees and is a former Chair of the TRB Freight Transportation Data Committee. He has extensive experience with state rail freight planning, including the prior West Virginia State Rail Plan while at CDM Smith. He has managed estimates of the economic impacts of transportation programs on regional competitiveness, economic development, supply chain efficiency and alignment with policy initiatives.

**Years with the firm**

2

**Years of experience**

20

**Education**

*B.A., Program in Economics,  
Cornell University 1978-1983*

*B.S., Economics and Computer  
Science, University of  
Maryland, 1998*

At EDR Group, Mr. Bingham applies the EDR Group’s TREDIS® model and many individual-mode transportation data sources in the analysis of benefits and impacts of regional, corridor and state transportation studies. He has been responsible for the economic forecasting behind major policy and planning studies integrating macroeconomic and industry sector modeling with regional area, demographic and land use modeling. He has previously managed the benefit cost analysis of proposed state DOT and Federal transportation improvements in Maryland, Kentucky, Missouri, Pennsylvania, Delaware and Connecticut.

Mr. Bingham has worked with shippers, carriers, infrastructure investors and public agencies to assess supply chain performance and impacts of transportation projects and policies. Mr. Bingham’s recent project experience includes an economic impact assessment for the Northeast Corridor Commission of freight rail use on AMTRAK tracks in the Northeastern U.S. Previously, at CDM Smith, he was National Economics Practice Leader, managing the economic impact analysis in the West Virginia, Georgia, Florida, Texas, Wyoming state rail plans. His experience with West Virginia rail extends back to providing modal commodity market analysis for West Virginia corridor studies for the Appalachian Regional Commission. Mr. Bingham also provided economic analysis for the freight module of the 2017 Virginia statewide transportation plan working as a subcontractor to Michael Baker.

Previously, at IHS Global Insight he managed market assessment forecasts underlying business planning for five of the North American Class 1 railroads, 14 ocean carriers, 22 U.S. port authorities and for several large trucking companies and integrated freight carriers. He was co-developer and publisher of a containerized freight performance evaluation system and publication on behalf of the Strategic Supply Chain Council of the National Retail Federation that featured monthly forecasts of U.S. containerized trade. He has provided market analysis for freight transportation financial planning and market strategy studies in the highway, rail and seaport sectors. He acted as an advisor on regional MPO Strategic Plans and provided expert testimony on freight and the economy to state legislatures, elected officials and freight facility boards of directors. At prior employer Booz Allen Hamilton, he managed an internal business strategy market assessment of a major freight rail business line for senior Class 1 railroad management.

*PROFESSIONAL EXPERIENCE*

The following is a sampling of Mr. Bingham's relevant experience for the state rail plan update:

*Rail Studies*

- **State Rail Plans and Economic Analysis:** West Virginia DOT, Georgia DOT, Mississippi DOT, Louisiana DOTD, Ohio DOT, Washington DOT, Wyoming DOT
- **Freight Rail Use of the Northeast Corridor:** Northeast Corridor Commission
- **Intermodal Freight-Rail Forecast for San Pedro Bay Ports:** Ports of Los Angeles and Long Beach
- **Short Line Freight Rail Studies:** Long Island Railroad and Short Line Railroads for Georgia (GDOT)
- **Intermodal, Merchandise and Bulk Commodity Business Market Studies:** Four Class 1 Railroads

*Regional, Rural and State Multimodal Transportation Plans and Freight Studies*

- **District of Columbia Freight Plan:** District of Columbia DOT
- **State DOT Freight Plans:** Texas DOT, Louisiana DOTD, Mississippi DOT, Florida DOT, Pennsylvania DOT, Missouri DOT, Connecticut DOT (ongoing)
- **Appalachian Region Highway Corridors:** Appalachian Regional Commission
- **Statewide Integrated Land Use Transportation Model – Oregon DOT**
- **Northeast Corridor and the American Economy:** Northeast Corridor Commission
- **Connecticut Multimodal Statewide Strategy:** Connecticut DOT
- **I-94 Freight and Trade Corridor Analysis:** Michigan DOT
- **Northeast CanAm Connections Study:** Maine DOT, NYS DOT, VAOT, NHDOT
- **Gateways and Corridors Initiative Freight and Trade Flow Analysis:** Transport Canada

*National Level Freight Research*

- **National Cooperative Freight Research Program (NCFRP), Report 33, Improving Freight System Performance in Metropolitan Areas:** Co-PI as subcontractor
- **Freight Demand Modeling and Data Improvement - Strategic Highway Research Program (SHRP) 2 C20:** Expert Task Group



**Years with the firm**

**7**

**Years of experience**

**23**

**Education**

*MBA, Business Administration,  
University of Minnesota, 2003*

*MRP, Regional Planning,  
University of North Carolina  
at Chapel Hill, 1998*

*BA, Political Science, North  
Carolina State University,  
1995*

**CAREER SUMMARY**

Mr. Duncan is a leading consultant in assessing the economic impacts of rail transportation. He is a transportation planner and economist specializing in multi-disciplinary projects analyzing linkages between economic development, land use and infrastructure needs through travel demand modeling, economic analysis, statistical methods, financial and costing models. He has extensive experience in state transportation and rail system planning, policy, modeling, analytics and training. His skills include rail passenger and freight flow analysis and demand forecasting, benefits quantification and performance evaluation. His current practice with EDR Group involves economic and performance studies for rail and other of transportation—recent projects include: statewide rail plans for Michigan and Missouri, a regional study in Omaha, Nebraska on the return on investment (ROI) for proposed new rail and transit services, a national study on allocating resources between programs of work, a statewide study in Massachusetts on prioritizing multi-modal investments and a multi-state study on the economic impact of completion of multiple transportation corridors in the Appalachian region.

**PROFESSIONAL EXPERIENCE**

The following is a sampling of Mr. Duncan’s relevant experience for the Plan update:

**Passenger Rail and Transit Studies**

- TIGER Application benefit cost analysis for preserving rail service in Vermont
- Michigan State Rail Plan – Economic Impact of new inter-city service
- ASCE “Failure to Act” Assessment of national economic impact of rail infrastructure assets
- Connecticut DOT Waterbury Service economic impact assessment
- Hampton Roads Transit – Economic Impact of Transit Study (included both rail and transit)
- APTA Transit and the Knowledge Economy Study (included inter-city rail in California)

**Transportation Corridor Studies**

- Analysis of completion benefits for 24 highway corridors for the Appalachian Regional Commission
- Fiscal and economic effects of Illiana Corridor improvements for Indiana DOT
- Economic benefits of Idaho Falls Connector

**Economic Impact Modeling**

- Economic benefits and impacts of freight and workforce accessibility gains for statewide vision plan of North Carolina DOT.
- Economic impact of the Utah Unified Plan for the Utah Transportation Coalition
- Economic Impact of Transit in Hampton Roads, Virginia
- Economic impact of transit on the US Economy, American Public Transportation Association (APTA)
- Performance and economic analysis for the American Society of Civil Engineers (ASCE) “Failure to Act” study, focusing on impact of infrastructure deficiencies on global competitiveness and economic performance.

*Performance Evaluation and Scenario Planning*

- Prioritization of Nebraska DOT transportation project selection based on evaluation of performance, freight and economic measures
- Development of Community Planning Association of Southwest Idaho (COMPASS) performance measure evaluation framework, for comparing different policy and prioritization criteria
- Update of Ohio DOT economic scoring methodology for evaluating major new expansion projects
- Toolkit for Colorado DOT to incorporate economic benefits and impacts into project prioritization
- Development of scenarios using CUBE software for sensitivity testing of Ohio River Bridges traffic & revenue due diligence for Indiana Finance Authority and Kentucky Transportation Cabinet.
- Assessment of comparative performance and economic impacts of different scenarios for the Pikes Peak Area Council of Governments long range plan update, including effects of alternative scenarios on overall economic impact as well as project prioritization.





**Years with the firm**

16

**Years of experience**

32

**Education**

*Masters, City Planning,  
Massachusetts Institute of  
Technology*

*B.A., US History, University of  
Massachusetts*

**CAREER SUMMARY**

Steven Landau leads EDR Group’s state and local economic impact work. He has more than 30 years of experience working with federal, state, regional and local transportation departments in transportation planning. He specializes in evaluating the national, regional and local impacts of transportation investments and has designed and conducted economic impact analyses for decision makers and economic development practitioners. As the leader of the firm’s transportation practice, Mr. Landau has designed and executed many successful traveler spending surveys for economic impact studies. From this experience, he knows how to tailor survey questions and conduct analysis to minimize bias, maximize the number of complete responses and when necessary to find and incorporate additional data sets. He has developed traveler spending surveys for rail including for AMTRAK service and for airports.

Mr. Landau has for has extensive experience in conducting and communicating economic impact research. He has worked extensively in evaluating passenger rail and transit operations, as well as planned service, economic development strategies and multi-model freight alternatives. He is an expert in regional input/output modeling and in aggregating data sets to develop sound analyses.

Before joining EDR Group, Mr. Landau oversaw economic development for the Boston region’s MPO for nearly 15 years and was Director of Economic Research for the University of Massachusetts’ Donahue Institute. Mr. Landau has been a featured speaker at professional conferences and workshops, with topics including the economic impact of transportation facilities, options for inter-regional transportation and multimodal transit options. A sample of his relevant professional experience is presented below.

**PROFESSIONAL EXPERIENCE**

The following is a sampling of Mr. Duncan’s relevant experience for the state rail plan update:

**Passenger Rail and Transit Studies**

- **Economic Impact:** Mr. Landau’s passenger rail transportation experience includes evaluation of the benefits and costs of both intercity rail and urban rail transit. This includes studies of potentials for local development as well as regional economic growth. His experience also involves analyzing scenarios in the contexts of complete transportation systems, including passenger and freight rail and highway for improving transportation operations and connectivity, as well as forecasting the potential effects of disinvestment in surface transportation facilities. Examples include:
  - Massachusetts State Rail Plan – Massachusetts DOT
  - AMTRAK Downeaster - Boston, MA to Portland passenger rail corridor – Maine DOT
  - South Coast Commuter Rail Corridor Alternatives– Massachusetts DOT
  - Economic analysis of expansion of rapid transit and commuter rail network in metropolitan Toronto – Metrolinx
  - Economic Evaluation of proposed highway and rail investment programs in Greater Toronto Area – Ontario Ministry of Transport
  - I-93 Interchanges /Commuter Rail Impact Analysis for Tri-Town– Massachusetts DOT
  - Economic and Benefit-Cost Evaluation of Transit Improvement in Durham, Ontario
  - Rail and Bus Transit Alternatives – Durham, Ontario
  - Regional transportation benefits of highway and rail investment in the Greater Toronto Area – Ontario Ministry of Transportation

- Failure to Act: Economic Impact of Current Investment Trends in Infrastructure – ASCE
- Niagara-Gateway Corridor Study (Toronto to Buffalo) – Ontario MOT
- West Ontario Corridor Study (Detroit to Toronto) – Ontario MOT
- **Economic Impact – Transportation Facility Improvements:** Mr. Landau has analyzed the economic impacts of a wide-range of state transportation facilities, including rail stations, airports and cruise terminals, covering a wide range of topics, including: the facilities’ contributions to the economy and tax base of metro areas and states; the economic consequences of future changes in passenger volumes, routes served and freight; how expanded facilities give states greater access to new markets, economic impacts and scenario development of facility redevelopment and realignments; and utilized input/output analysis to trace the spillover economic impacts of facilities on their surrounding regions. Examples include:
  - Economic Impact of Virginia’s Airports – Virginia DOT
  - Economic Impact of Cruise Terminal – Port of Long Beach
  - Air/Ground Multimodal Transportation and Economic Development Strategy – Montana DOT
  - Economic Impact of Airports and Aerospace Industry in Oregon (2008 and 2014) – Oregon DOT
  - Economic Impact of Aviation and the State Aviation Fund in Arizona – Arizona DOT
  - South Dakota State Aviation Systems Plan – South Dakota DOT
  - Colorado Statewide Airport Economic Study – Colorado DOT
  - Caltrans Airport Land Use and Transportation Study – California DOT (Caltrans)
  - Economic and Tax Revenue Assessment of Hartsfield-Jackson Atlanta International Airport (ATL—2006, 2010, 2014, 2018 - ongoing) – City of Atlanta Aviation Department
  - Economic and Tax Revenue Assessment of San Francisco International Airport (SFO) – 2012, 2014 and 2017 – City and County of San Francisco Airport Commission
  - Economic and Tax Revenue Assessment of Tampa Airport – Tampa International Airport – Hillsborough County Aviation Authority



THE AMERICAN INSTITUTE OF  
CERTIFIED PLANNERS

SCOT R. SIBERT

Has qualified as a

*Member*

with all benefits of a Certified Planner and responsibility to the  
AICP Code of Ethics and Professional Conduct.

Membership Certificate Number [REDACTED]

July 1, 2002

A handwritten signature in black ink, appearing to read "Scott R. Sibert", written over a horizontal line.

President

A handwritten signature in black ink, appearing to read "Paul Fan", written over a horizontal line.

Executive Director



INSTITUTE FOR  
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INFRASTRUCTURE

I S I

presents the

**Envision™ Sustainability  
Professional Credential**

to

**Shannon McLeod**

**Presented on: December 31, 2014**

**William Bertera**

**Executive Director  
Institute for Sustainable Infrastructure**