1. Panama Canal Stakeholder Working Group Members and Alternates Present:
   Honorable Ed Emmett, Harris County Judge, Chair
   Honorable Carlos H. Cascos, Cameron County Judge, Vice Chair
   Mr. Jack Todd, Texas Association of Manufacturers
   Colonel Leonard Waterworth, Port of Houston Authority
   Mr. Fred Malesa, BNSF
   Mr. Carlton Schwab, Texas Economic Development Corporation
   Mr. Steve Boecking, Alliance Texas
   Mr. Joseph Adams, Union Pacific
   Mr. Jim Griffin, East Harris County Manufacturers Association
   Mr. Jim Greenwood, Texas Oil and Gas Association
   Mr. Rigoberto Villarreal, City of McAllen
   Mr. Kenneth Dierschke, Texas Farm Bureau

   Other individuals attending the meeting are listed in Appendix A

2. Welcome, Introductions, and Review of Agenda – PCSWG Chair Judge Ed Emmett
   Chair Judge Ed Emmett welcomed members to the PCSWG, invited guests, and other attendees. He thanked Steve Boecking for organizing the tour of the Alliance and BNSF Intermodal Hub, as well as hosting today’s meeting. He also thanked Fred Malesa and BNSF for hosting the dinner on Thursday night.

3. Open Public Comment Period - PCSWG Chair Judge Ed Emmett
   There were no public comments.

4. Invited Speakers
   Possible Impacts of the Panama Canal Expansion to Texas Freight Flows, Ted Prince, Ted Prince & Associates, LLC

   Ted Prince discussed some of the possible impacts on Texas ports from the Panama Canal expansion. He described the current market segments, a general first-level analysis, and a more detailed second-level analysis. He examined the markets, intermodal aspects, general concerns, and Texas-specific issues associated with the major commodity types. A copy of his PowerPoint presentation is provided as a separate attachment. Ted covered the following points in his presentation.
• The Panama Canal segments include container, dry bulk, liquid bulk, reefer, car, and passenger vessels. The dry bulk segment is typically subdivided into grain and other vessels and the liquid bulk segment is typically subdivided into crude oil and related products, chemical products, and LNG and LPG.

• Three questions are important to focus on in examining the possible impacts of the Panama Canal expansion. These questions are: How do you look at business? What are the opportunities? and What investments will have the highest impact?

• A first analysis can be conducted considering reefer, car carrier, and passenger vessels. Reefer service is a special niche to established gateways, but it appears to be a shrinking market. Car carrier services focus on established gateways for intermodal lines. Houston’s role in car carrier service is the local market. Passenger vessels use established gateways, such as Galveston.

• A second-level analysis focuses on the role Texas’ ports play today, the potential for a larger role in the future, and issues to consider. The U.S. competes in the global market for dry bulk grain. Brazil is a major competitor in this market. Grain is typically transported on the Mississippi River by barge to New Orleans or shipped by rail to a west coast port. Two general concerns with grain is that it is grown, not produced, and that climate change can affect production and transportation. Texas issues related to increasing grain exports include the lack of north-south rail links and port infrastructure. The Panama Canal expansion may provide greater opportunities for grain exports, but how much the Texas ports can capture is a question.

• The dry bulk–other category covers a wide range of commodities including coal, steel, fertilizer, ores, and minerals. These commodities are typically shipped by rail or truck to ports on the east and west coasts. The gulf region is neither a producer nor a primary import/export gateway for these products.

• The liquid bulk crude oil and related products category uses pipelines in the U.S. and in Panama. Geopolitical sourcing impacts are a general concern and there may be sourcing changes in the future. Port infrastructure issues are possible concerns in Texas.

• The liquid bulk chemical products category represents a potential growth market for Texas ports. Vessel sizes are increasing to handle larger volumes of liquid chemical products. One issue may be available capacity at both ends of the supply chain to handle larger volumes.

• The liquid bulk LNG and LPG category is transitioning from import-based to export-based. Shipping by pipeline to ports continues to be the major mode of transportation. There are new facilities under development in Texas focusing in exports. The potential for Mexican near-sourcing may be an ongoing issue for Texas.

• Most of the discussion associated with the Panama Canal expansion has focused on the imported containers and the need for deep water ports along the east and Gulf coasts to handle the larger post Panamax vessels. Many groups have been promoting
the need to deepen channels at east coast ports and to develop new intermodal connections. The prospects for actual changes from the use of west coast ports may be less than some have suggested, however.

- It is important to examine both the line and port view of container shipments and the shippers view. Considering both the type of movement and geography is important. Shippers focus on the movement of cargo, while lines and ports focus on the movement of containers.

- The financial strategy for ocean carriers focuses on maximizing revenues, minimizing expenses, and optimizing load factors. Vessel deployment tactics include eastbound through the Panama Canal around Cape Horn, westbound through the Suez Canal or around the Cape of Good Hope, and eastbound via west coast ports and rail intermodal facilities. Geopolitics, alliances, and vertical integration also factor into the decision making process.

- Examining the number of port calls, the order of port calls, and vessel sizes provides an indication of activity and importance of ports. The Ports of Los Angeles and Long Beach rank first in the average number of import vessel calls per week on the west coast and are always the first port of call.

- Shipper decision making focuses on maximizing sales, minimizing transportation expenses, and optimizing the supply chain. Factors shippers consider include transportation and logistics, the purchase price, inventory costs, customs and import facilities, overhead and administration, and risk and compliance.

- Analyzing the potential impacts of the Panama Canal expansion from a shipper’s perspective and from a line and port perspective will provide different results. Low cost is not a guaranteed strategy to increase imports and exports unless the shipper is also the vessel operator.

- In closing, it is important to remember that shippers route cargo, not ports or lines. Further, all water container shipment benefits are available today, there is no need to wait until 2015. There are a number of benefits from being a regional powerhouse and core competencies should complement regional economy. Finally, economic obsolescence is a greater risk than physical deterioration.

Jake Bessembinders, Senior Business Director – Intermodal, Union Pacific

Jake Bessembinders provided an overview of UP’s international intermodal operation. He discussed connections with ports in Harris County and mutual growth opportunities. A copy of his PowerPoint presentation is provided as a separate attachment. Jake covered the following topics in his presentation.

- Overall UP’s 2011 international volume is below the peak in 2006, but it is recovering from the low experienced in 2009. In 2011, UP transported 1.78 million marine containers. 2012 volumes will be up slightly over 2011. Ocean carriers contract with Beneficial Cargo Owners (BCOs) and ship marine containers via intermodal rail service to inland points in the U.S. UP’s customers are ocean carriers.
shading international freight in marine containers. Service is currently offered on rail lanes where a sufficient volume of density exists. UP is open to exploring new service lanes if volume and economics justify implementation. Railroads are volume drive businesses.

- The UP system includes 32,000 route miles, covering the western half of the country. Of the 1.78 million international intermodal marine container shipments in 2011, Houston accounted for 95,000 shipments and Dallas accounted for 265,000 shipments.

- The UP’s international intermodal service in Harris County focuses on the east-west Englewood service lanes, the Intermodal Container Transfer Facility (ICTF) at the Ports of Los Angeles and Long Beach, and the Port of Oakland. Other current Houston service lanes focus on Chicago, Denver, St. Louis, Memphis, El Paso, Salt Lake City, and Seattle. There is also the Barbours Cut lane to the ICTF.

- The UP’s international intermodal service in the Dallas/Ft Worth area focuses on the facilities in Mesquite and the Dallas International Terminal (DIT). Current Mesquite service lanes are to Chicago, St. Louis, Memphis, Seattle, and Portland. Current DIT service lanes are to the ICTF and Oakland, CA. The DIT also has a service lane shipping empty containers to Englewood in Houston.

- Mutual growth opportunities require sufficient volume density to serve a market 3-to-5 times a week. Existing container volume moving by truck in existing service lanes provides an indication of possible opportunities. The potential for consistent unit train volumes could lead to more international intermodal market opportunities. Increasing on-dock rail container loading infrastructure in conjunction with increasing volume increases rail connectivity. West coast ports currently have excellent on-dock rail loading facilities.

- Latin American or European origin markets may represent growth opportunities for Texas, as do Midwest destination markets such as Chicago, St. Louis, and Memphis. Southeast destinations may prove more difficult as it takes two railroads to reach destination markets and there is close-in trucking competition from east coast ports. Serving Asian origins via the expanded Panama Canal represents another possible mutual opportunity. The impact on of the Panama Canal expansion on Gulf Coast ports is yet to be determined, but transit time and cost considerations will be the drivers. West coast transit times are 7-to-10 days faster on average than transit times using the Panama Canal and the east coast ports. Currently, time-sensitive freight always uses the west coast ports.

- The Transpacific import share by coast appears to have stabilized over the past few years. Much of the shift that has occurred is the result of customer’s port diversification and rational economic decisions. Time-sensitive freight will always favor the west coast ports. The lowest delivered costs also favor the west coast ports, except for the eastern seaboard. Studies showing further share shift generally assume little or no increase in Panama Canal fees, which may not be the case.
infrastructure at the west coast ports is already in place. Further, additional vessels are required to operate service to east coast ports may impact pricing.

- UP’s industry leading investment program has created capacity to support significant west coast port growth. Intermodal terminal investments of $1.1 billion since 2000 include five new terminals, three terminal expansions, and one interchange gateway. An additional terminal is planned. Intermodal customer satisfaction is at an all-time high.

- In summary, UP’s international intermodal volumes continues to recovery from the low experienced in 2009. The Panama Canal expansion provides some questions, but the west coast ports share seems to be stabilizing, and a further share shift away from west coast ports is not a foregone conclusion. The UP’s network provides superior market coverage. On-going investments and process improvements provide capacity and transit reliability. Capacity exists for additional volume. UP is interested in mutually-beneficial volume growth into and out of the Houston market.

**Steve Boecking, Alliance Texas**

Steve Boecking provided an overview of Alliance Texas. He summarized the development features, the multi-modal transportation system, and future activities. A copy of his PowerPoint presentation is provided as a separate attachment. Steve covered the following points in his presentation.

- Approximately $7.35 billion has been invested in Alliance Texas, which has had a $40.65 billion economic impact on the region. There are 290 corporate residents, with at least 50 companies listed on the Fortune 500, Global 500, or Forbes’ list of top private firms. Approximately 7,700 homes have been constructed and 30,000 people work in Alliance Texas.

- Alliance Texas is served by a multi-modal transportation system. Elements of this system include the BNSF Alliance Intermodal Facility, BNSF and UP Class I rail lines, I-35W, SH 114 and SH 170, and the Fort Worth Alliance Airport. Other elements include the FedEx regional sorting hub, the U.S. Customs and Border Protection clearance and security facility, and centralized examination station. These facilities provide good north-south and east-west service. Alliance Texas also has a foreign-trade zone.

- Sections of Alliance Texas include Alliance Gateway, Alliance Center, and Westport at Alliance. Corporate residents include automotive, aerospace/aviation, logistics, electronics, pharmaceutical/health care, and consumer goods/service companies.

- The Dallas-Fort Worth area is forecasted to grow from a current population of 6.5 million to 10 million by 2030. Population and job growth are also forecast for Alliance Texas. Improvements in the transportation system will be needed to accommodate this growth. Improvements to I-35W, possible dedicated truck
lanes, and coordinating commuter rail and freight rail represent a few examples of possible projects.

Kent Wilkinson, Vice President, Natural Gas Ventures for Chesapeake Energy Corporation

Kent Wilkinson provided an overview of Chesapeake Energy and the benefits of using natural gas in the transportation sector. He summarized the current use of compressed natural gas (CNG) and liquefied natural gas (LNG) and potential future activities. A copy of his PowerPoint presentation is available as a separate attachment. Kent covered the following topics in his presentation.

- The U.S. continues to rely heavily on imported oil. This reliance on foreign oil also impacts the U.S. trade deficit. Natural gas provides a clean, affordable, and abundant alternative to imported oil. In addition, natural gas represents a safe, powerful, and quiet fuel. Natural gas is a domestic Texas product that can be a solution for the state’s transportation sector.

- The Texas Clean Transportation Triangle focuses on Fort Worth, Dallas, Houston, San Antonio, and Austin. The triangle includes five of the 20 largest cities in the U.S. More than 10 percent of the U.S. transportation sector travels through the Triangle each year. Senate Bill 20 and House Bill 2938 address clean transportation in the triangle. Funding for infrastructure and conversions from Texas Emissions Reduction Plan (TERP) is available, including 80 percent of funding for heavy duty truck conversions (up to 550 vehicles) and 20 percent of funding to build up to 13 new CNG and LNG fueling stations. Different types of CNG and LNG equipment were illustrated.

- Ongoing support and education is needed to promote greater use of CNG and LNG. Natural gas can provide integrated solutions to support the integrated nature of logistics, including options at ports.

Brad Walker and Luis Crespo, E-ndeavor

Brad Walker and Luis Crespo discussed a proprietary multimodal scenario model for the Panama Canal. The model allows the analysis of competitive-priced route choices using the Panama Canal. The model includes 150 ports throughout the world and 150 data sets. The model can be used in strategic planning to analyze opportunities by commodity classes and other factors. They further discussed opportunities related to trans-shipment, topping off cargo after vessels travel through the Panama Canal, and other factors influencing possible changes in global logistics.

Dallas County Judge Clay Jenkins

Judge Clay Jenkins discussed the potential of allowing heavier trucks on I-45 between Houston and the UP’s DIT in south Dallas as part of a pilot project. The pilot project would increase the weight limit for trucks from 80,000 pounds to 100,000 pounds. The project would focus on providing a more cost effective link for imported containers arriving at the Port of Houston Authority and the UP intermodal hub in Dallas. He noted
that some other states have increased truck weight limits to provide better intermodal connections at ports.

**Trade Corridors Serving Texas Ports and Port Funding/Projects in Other States – Marc Williams, TxDOT and Katie Turnbull, TTI**

Marc Williams discussed the major freeway corridors serving Texas ports. These trade corridors link Texas ports to other parts of the state and to other states. A copy of Marc’s PowerPoint presentation is provided as a separate attachment. Marc covered the following points in his presentation.

- **I-35** connects Laredo and Corpus Christi, via I-37, to San Antonio, Austin, the Dallas-Fort Worth area, and the central part of the country. Many sections of I-35 are on TxDOT’s 100 most congested roadways list. Major improvements are underway on sections of I-35. TxDOT used innovative advisory and segment committee process to identify needed improvements. These advisory committees provided recommendations in August 2011. Several of these recommendations are being implemented.

- **I-69** will connect the Gulf Coast to central and eastern portion of the country. It will provide Interstate services to communities not currently served by an Interstate freeway. TxDOT used an advisory and segment committee process to help identify potential alignments for I-69. The approach is to maximize the use of existing highways, including US 77, US 281, US 59, and US 84. The segment committee reports were published in July 2012 and the advisory committee recommendation will be finalized this fall.

- The ports-to-plains corridor connects Laredo to the western portion of the country. A Multi-State Corridor Development and Management Plan was developed in 2004. A four-lane expansion project on US 87 north of Dalhart was completed July 2012.

- Other major trade corridors include I-10, I045, and US 69. I-10 connects Texas to the east coast and the west coast. A National I-10 Freight Corridor Study was conducted by eight states to identify options to move freight. I-45 connects Galveston and Houston to Dallas. TxDOT has begun examining how freight movement can be improved on I-45. US 69 connects Beaumont/Port Arthur to the north. Improvements to I-69 would also improve connections to other corridors.

In the interest of time, Katie Turnbull did not discuss examples of approaches being used in other states. A copy of her PowerPoint presentation is available as a separate attachment, however.

**Steve Roop, Freight Shuttle International and Texas A&M Transportation Institute**

Steve Roop discussed the Freight Shuttle system. He described current challenges facing the trucking and freight industry, the role the Freight Shuttle can play in addressing these challenges, the components of the Freight Shuttle, and current activities. His presentation included animated depictions of the Freight Shuttle in operation. Steve covered the following topics in his presentation.
Current challenges facing the trucking industry include traffic congestion and managing uncertainty, highway safety and risk management, and infrastructure deterioration. Energy cost, available roadway capacity, air quality issues, and driver shortages represent other challenges.

The Freight Shuttle is an automated hybrid system that uses the best features of truck and rail. It uses single-container transports, steel wheels-on-a steel guideway, and linear induction motors (LIMs). The Freight Shuttle uses a dedicated, small footprint guideway that can be built within existing highway rights-of-way. The Freight Shuttle will be able to operate 24 hours a day, 7 days a week, offering an option that overcomes throughput, capacity, and impact issues affecting freight transportation.

The Freight Shuttle system business model focuses on serving the market under 500 miles. Railroads and trucks are better at serving the long-haul market. The Freight Shuttle business model further benefits shippers with lower costs and higher performance, state departments of transportation through lease fees and less truck use of existing roadways, and the public through reduced road maintenance, less congested highways, improved safety, and cleaner air. Private investors also benefit from a return on their investments.

There is an opportunity to deploy the Freight Shuttle in Texas. In April 2011 TxDOT issued a Request for Proposals (RFP) for “Low-Carbon Emitting Freight Transportation Facilities.” The stated intent was to lease existing highway rights-of-way for alternative freight transportation technologies. No public funds would be expended and no public costs incurred. The system would be designed to monetize “under-performing” assets through leasing arrangements. Freight Shuttle International (FSI) submitted the sole proposal in October 2011 for the I-35 corridor from San Antonio to Dallas. TxDOT and FSI have signed a three-year “Reservation of Right-of-Way” agreement holding the I-35 corridor for the project. The Freight Shuttle system design and development team includes a number of companies. J.P. Morgan is the financial partner. Trinity Industries is one of the Texas-based partners.

The I-35 corridor from San Antonio to Dallas is approximately 600 miles in length. A line could also connect San Antonio to the Texas/Mexico border and another segment to Monterrey, Mexico could be added. Connecting Dallas to Houston using the I-45 corridor represents another potential line. The Freight Shuttle could also be deployed at Texas/Mexico border crossings to relieve truck congestion and improve port of entry security. Scanning stations could inspect 100 percent of Freight Shuttle’s cargo using high-energy scanning equipment.

Next steps in the development of the Freight Shuttle include public outreach, environmental assessments, and a technology demonstration. Other steps are developing and outlining financing plans and lease provisions. More information on the Freight Shuttle is available at www.freightshuttle.com.
Appendix A – Other Individuals Attending

Richard Zientek, Harris County Judge’s Office
Eduardo Hagert, Texas Department of Transportation
Marc Williams, Texas Department of Transportation
Jay Bond, Texas Department of Transportation
Katie Turnbull, Texas A&M Transportation Institute
Marty Rozelle, The Rozelle Group, Ltd.
Mary Cearly, Texas A&M Transportation Institute
David Garcia, Cameron County
Glen Jones, Texas Farm Bureau
Brinton Payne, BNSF
Neil Strassman, Tarrant County Judge Glen Whitley’s Office
Robert Sakowitz, E-ndeavor Corp/Hazak Corp
Brad Walker, E-ndeavor Corp/Hazak Corp
Luis Crespo, E-ndeavor Corp/Hazak Corp
Brian Hill, U.S. Maritime Administration
Patricia Ledbetter, City Councilwoman, Desoto, TX
Lee Ann Woods, City Councilwoman, Desoto, TX
Rob Harrison, Center for Transportation Research
Michael Brown, Chesapeake Energy
Steve Roop, Texas A&M Transportation Institute and Freight Shuttle International
Todd Olsen, BNSF
Gus Khankarli, Texas Department of Transportation
Ramon Navarro, IV, City of McAllen
Allan Rutter, Cambridge Systematics
Becky Karasko, North Central Texas Council of Governments
Duncan Stewart, Texas Department of Transportation
Sarah Bagwell, Texas Department of Transportation
Coby Chase, Texas Department of Transportation
Kent Wilkinson, Chesapeake Energy
Jake Bessembinders, Union Pacific Railroad
Ted Prince, Ted Prince & Associates, LLC
Dennis Kearns, BNSF
Terry Clower, University of North Texas
Peter Bratt, City of Dallas
Craig Morgan, BNSF
Jodi Hodges, Texas Department of Transportation
Clay Jenkins, Dallas County Judge