Economic Impacts of Delays at the Border on Freight Movement and Trade between the United States and Mexico

Technical Memorandum #1: Literature Review and Data Needs

May 18, 2005
SAN DIEGO ASSOCIATION OF GOVERNMENTS

ECONOMIC IMPACTS OF DELAYS AT THE BORDER ON FREIGHT MOVEMENT AND TRADE BETWEEN THE UNITED STATES AND MEXICO

TECHNICAL MEMORANDUM #1

Prepared By:
HLB DECISION ECONOMICS INC.
8403 Colesville Road, Suite 910
Silver Spring, MD 20910

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1. INTRODUCTION

HLB Decision Economics Inc. (HLB) has been engaged by the San Diego Association of Governments (SANDAG) to assess the impacts of border delays on freight movement and trade on the U.S. and Mexican economies over the next ten years. The study has three main objectives:

1. Assess the industries affected by the delay as the excess delay disrupts their supply chain management;

2. Estimate the long-run impact on industry output and productivity, on both sides of the border; and,

3. Estimate the overall economic impacts, using local regional and national multipliers, on both sides of the border.

This memorandum is the first of three on the economic impacts of border delays on freight movement and trade between the United States and Mexico. The purpose of this memorandum is to (i) present the literature review on the impact of border delays on trade, and (ii) define the data needs for the economic impact model (trade volumes, elasticities, etc.).

Following this introduction, Section 2 presents the literature review. The data needs are identified in Section 3. References used in the literature review are provided at the end of the memorandum.

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1 The study is conducted in parallel with an assessment of the economic impacts of border delays on tourism, shopping, work and productivity in the San Diego – Northern Baja California border region.
2. LITERATURE REVIEW

This section presents the literature review on the economic impacts of border delays on freight movement and trade. U.S. – Canada border studies are summarized separately from U.S. – Mexico border studies. The main conclusions and lessons learned from those studies are set out at the end of this section.

2.1 Overview

Many studies have been conducted since the events of September 11, 2001 led U.S border authorities to increase the inspection rigor with which both the flow of both persons and goods enter into the United States through its land ports of entry. Not surprisingly, the bulk of the studies are concerned with effects of freight queue and processing times. The amount of freight moving across the land borders reflects an economic interdependence (ever increasing since the implementation of NAFTA in January 1994) which, when delayed, disturbed or disrupted, has a significant downward impact on each side of the border.

The studies summarized below cover both the Canadian and Mexican borders and were conducted for a wide variety of purposes such as estimating economic impact, environmental consequences, or highway safety effects as a result of the admission of Mexican trucks beyond the border area. They are not merely concerned with delays and their impacts, but uncertainty in the crossing times as well. As in other areas of transportation research, longer wait times are better tolerated if their predictability is high.

U.S. – Canada border studies are relatively more diversified not only in their approach to border-crossing issues, but in their scope as well. The KPMG study (2002) is solely based on a survey of Canadian carriers, while Robideaux and others (2003) use a combination of secondary source reviews and site visit/personal interviews. Also, HLB’s report (2004) assesses the impacts of border delays at different economy levels (country, state/province, and county/region), while the study by the Ontario Chamber of Commerce (2004) focuses on the Province of Ontario.

Less research effort has been devoted to the Mexican border so far, despite the increasing interdependence of the U.S. and Mexican economies. Most importantly, none of the studies summarized below take a cross-border approach on the problem, focusing on the U.S. side of the border instead.

2.2 U.S. – Canada Border Studies

2.2.1 KPMG (2002)

KPMG LLP and International Road Dynamics Ltd. (IRD) conducted a survey of Canadian carriers in May – June 2002 about border-crossing issues, and the proposed border-crossing system – EXPECT (Expedited Carrier Tracking).

Over 93 percent of the carriers indicated that they were affected by delays at the border. The carriers surveyed reported an average 20 percent increase in border delays crossing southbound, and a 12 percent increase in delays northbound when comparing May 2001 to May 2002, in spite of a decrease in border crossings due to a slower market. Furthermore, 85 percent of the carriers agreed that the delays will continue to increase as the economy picks up over the next six
months. Significantly, 74 percent of carriers agreed that just-in-time shipments are seriously delayed by the increased security at the borders, and that they would be further delayed in the future by planned increases in security at the borders.

However, the carriers were split on whether the U.S. – Canada border initiatives post 9/11 are a factor in long line ups and processing problems – 46 percent felt this was a result of security initiatives post 9/11, while 43 percent believed that long line-ups and processing problems are not new.

Border delays are a significant cost to the carrier community. The estimated cost of delays of only those responding, based on the average delay per truck, and a rate of $50 per truck hour of idle time, totals $25.7 million. The delays range from $15,625 for the smallest carrier to $11.4 million for the largest carrier. According to this sample, the cost to the Canadian carrier population (and their customers) is substantial.

2.2.2 Taylor, Robideaux and Jackson (2003)
A 2003 study by Taylor, Robideaux and Jackson for the U.S. Department of Transportation takes a comprehensive view of the costs caused by delays at the U.S. – Canada border. The primary purpose of the study is to document the costs of border crossing wait time and uncertainty, and other border related costs, and their impact on the U.S. and Canadian economies. The study also addresses the impact of 9/11 on traffic and trade levels, examines the causes of long wait times and uncertainty, and explores possible short term and long term solutions.

The research effort relies on the collection of a considerable amount of data from newspaper articles, border related reports, Canada Customs archives, site visits to ports of entry and interviews with all main stakeholders. Examples of specific cost impacts at the detailed level include primary booth wait time (backups), secondary inspection yard processing time, reduced cycles for carriers, lost productivity from reduced trade, higher inventory carrying costs, customs administration costs, brokerage costs, payment of duties, and federal inspection services (FIS) staff costs.

The key finding is that the present border management system and trade policies are costing the U.S. and Canadian economies an estimated US$7.52 to 13.20 billion, with a most likely cost estimate of US$10.3 billion. These costs relate to specific costs to carriers and manufacturers resulting from border wait times and uncertainty, other border related costs borne by manufacturers and carriers for duties, broker fees, and customs administration, and costs for inspection staffs borne by the two countries. The total costs represent 2.70 percent of merchandise trade totaling US$382 billion in 2001. After adjusting out non-truck related costs, the total border costs related to trucking are estimated at US$9.45 billion at the midrange, or some 4.02 percent of total truck trade totaling US$270 billion in 2001. Wait time and uncertainty related costs range from US$2.52 to US$5.27 billion with a midrange estimate of US$4.01 billion.

2.2.3 HLB Decision Economics (2004)
This report by HLB Decision Economics for the Canada-U.S.-Ontario-Michigan Border Transportation Partnership provides an economic assessment of the impact of the increasing traffic congestion in the Windsor-Detroit crossings on the industrial productivity in the area, the
economic activity, and tourism traffic at the national and regional levels. The study identifies the opportunity cost and the potential economic impacts in the case of not undertaking any solution to ease the congestion on the existing border crossings between Detroit and Windsor. Two broad categories of impacts are explored: the impact on cross-border freight movements and industry productivity, with a strong focus on the just-in-time transborder automobile manufacturing supply chain; and the impact on cross-border personal trips for vacation, shopping or recreation purposes.

In particular, the study treats personal trips and tourism as an impact measured and analyzed separately from the freight and merchandise movement issues, although it does not address work trips and the impact of delays on such trips. The study uses sound economic theory to develop a methodology to measure the incremental impact on the U.S. and Canadian economies. The impact is estimated based on the effects of delay on productivity, industry competitiveness, and potential loss revenues to industries using the border. It is noteworthy that the Ontario-Michigan Border carries about 40 percent of the trade between the U.S. and Canada. The methodology also assesses the increase in overall travel costs and the increasing loss in recreation and shopping trips. The impact is then estimated in terms of jobs, earning, output, and tax revenues at the national, regional and local levels for both the U.S. and Canada.

On the freight side, the study finds that, unless steps are taken to expand infrastructure capacity at the principal border crossings between Michigan and Ontario, mounting congestion and delay will cost the U.S. more than US$2.2 billion and Canada more than CAN$0.3 billion a year in foregone production and output by 2020. Exponentially rising congestion over the subsequent decade (2020 to 2030) would lead to further production losses of US$11.4 billion per year to the U.S. and CAN$2.1 billion per year to Canada by 2030. Unless capacity at the border expands, these impacts imply cumulative production losses of fully US$40 billion between 2003 and 2020 and another US$60 billion by 2030.

Failure to address the congestion problem, and the production losses arising accordingly, means 17,000 fewer jobs in the United States and 6,000 fewer jobs in Canada in 2020, soaring to over 120,000 fewer jobs by 2030 in both countries.

2.2.4 OCC Borders and Trade development Committee (2004)

Following the works by Taylor, Robideaux and Jackson (2003), HLB Decision Economics, and others, the Ontario Chamber of Commerce (OCC) Borders and Trade Development Committee conducted a study to quantify the costs of border delays on the province of Ontario and its businesses. The study examines several keys industries (trucking, automotive, and tourism).

According to the Canadian Department of Foreign Affairs and International Trade, two-way trade in merchandise between Canada and the U.S. totaled $563.7 billion in 2002. Of this, Canada exported $345.4 billion to the U.S., while it imported only $218.3 billion. This means that of the total two-way trade in merchandise between the two countries, Canada represented 61.3 percent of the exports. Therefore, delays at the border impacted Canada’s export industry nearly twice as hard as the U.S. export industry in 2002, with Canada absorbing $8.34 billion (61.3 percent) of the estimated $13.6 billion total cost of border delays that year. From 1999 to 2003, Ontario’s share of Canada’s total two-way trade with the U.S. averaged 63 percent. Given that Ontario represents 63 percent of all Canada’s surface trade with the U.S., it is reasonable to
estimate that 63 percent of the total cost of border delays on Canada was directly absorbed by the province of Ontario. Under this scenario delays at Ontario’s borders are costing the province $5.25 billion annually in lost revenue, or $600,000 in lost revenue per hour of delay. These figures do not include the costs associated with lost tourism revenue, as well as lost jobs, lost tax revenue, and the environmental and health impacts.

The United States accounts for over 93 percent of Ontario’s exports and over 72 percent of the province’s imports, the majority of which (70 percent) is moved by truck across the border. The trucking industry provides a crucial link to all businesses that rely on the import or export of goods to and from the U.S. The table below illustrates the costs to the trucking industry attributable to border delays, time uncertainty and customs operations.

### Table 1: Costs to the Trucking Industry Attributable to Border Delays, Time Uncertainty and Customs Operations

<table>
<thead>
<tr>
<th>Type of Cost</th>
<th>Minimum Cost ($CAN millions)</th>
<th>Maximum Cost ($CAN millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Inspection</td>
<td>$364.0</td>
<td>$464.4</td>
</tr>
<tr>
<td>Secondary Inspection</td>
<td>$795.3</td>
<td>$1,199.0</td>
</tr>
<tr>
<td>Excess Plan Time</td>
<td>$150.0</td>
<td>$680.7</td>
</tr>
<tr>
<td>Reduced Cycle/Other</td>
<td>$86.9</td>
<td>$260.6</td>
</tr>
<tr>
<td>Driver Documentation/ Customs Administration</td>
<td>$308.8</td>
<td>$859.2</td>
</tr>
<tr>
<td>Cabotage</td>
<td>$132.0</td>
<td>$440.0</td>
</tr>
<tr>
<td><strong>Total Border Wait Time and Uncertainty Costs</strong></td>
<td><strong>$1,836.4</strong></td>
<td><strong>$3,903.9</strong></td>
</tr>
</tbody>
</table>

Primary inspection refers to delays associated with the primary customs booths. Secondary inspection refers to the 10-40 percent of trucks that must clear up paperwork with customs staff and the 1 percent of trucks that have their contents physically inspected. Excess planned time refers to the time that is lost when a carrier assumes a delay, but in fact proceeds unhindered. Reduced cycle and other costs refers to the cost associated with carriers not being able to make as many trips because of the border delays, time lost for documentation and faxing paperwork to brokers, as well as general border administration costs. Cabotage costs refer to the restrictions that are placed on Canadian drivers by U.S. immigration and customs rules. A conservative estimate of the cost to the trucking industry associated with border delays is approximately $1.84 billion annually.

### 2.3 U.S. – Mexico Border Studies

#### 2.3.1 Federal Reserve Bank of Dallas (2001)

In 2001, the Federal Reserve Bank of Dallas published a study targeted toward investment in border infrastructure and its effect on the economy of the border region. This study, conducted before 9/11, emphasizes the importance of retail trade in the Texas – Mexico border economy, but also addresses freight issues. It examines both the benefits and the costs of border crossings.
One direct benefit from international trade is the federal jobs created in the (former) U.S. Customs Service, the Immigration and Naturalization Service and various federal law enforcement agencies. While the overall share of federal civilian jobs along the border remains low (about 2.3 percent in 1998) these jobs pay relatively high wages, especially when the value of employee benefits is taken into consideration (see Figure 1 below). Another benefit of international trade is its creation of transportation and warehousing jobs. Growth in border transportation services has lifted average border earnings because this sector pays better-than-average earnings. In 1998, transportation services workers earned an average of $29,662, versus an average of $24,427 for all border jobs. Besides producing jobs and earnings, international trade creates direct revenue for border cities through bridge tolls, as local governments own most of the 26 motor vehicle crossings on the Texas–Mexico border. Southbound fees collected at the bridges accrue to U.S. public and private bridge owners and can be substantial. In 1999, the three bridges in Laredo collected $27.2 million in tolls.

Figure 1: The Benefits of International Trade to the Border Economy

The costs of building and maintaining infrastructure to service international trade, however, remain a challenge. The increased auto and truck traffic stimulated by Mexico’s entry into the General Agreement on Tariffs and Trade (GATT) in 1986 and the start of NAFTA in 1994 have placed pressure on border infrastructure. The number of vehicles crossing the Texas – Mexico border has increased dramatically since the early 1990s. This is especially true in Laredo, which has seen truck crossings rise 116 percent, from 1.3 million in 1993 to 2.8 million in 1999. With the influx of traffic passing through the border come infrastructure and social costs. From 1993 through 2000, the Texas Department of Transportation (TXDOT) spent $388 million on roads and highways in Laredo and is projecting to spend another $298 million from 2001 through 2005. An important congestion cost, air pollution, is increasing in border cities, especially in El Paso, which exceeds air quality standards in many categories.

Although border cities are investing in bridges, there seems to be less incentive to build highways and interchanges. The TXDOT border districts of El Paso, Laredo and Pharr have all received higher-than-average funding per daily vehicle mile traveled. However, because of the
rapid growth in truck traffic and its concentration on major arteries, the border may need even greater spending to reduce congestion and the associated social costs.

2.3.2 Center for Transportation Research, University of Texas (2002)
This report published in 2002 by the Center for Transportation Research, University of Texas at Austin primarily examines issues surrounding an open border between the United States and Mexico and assesses the possible benefits and costs for the citizens of Texas. Few issues have been as contentious as the NAFTA requirement to open the Texas-Mexico border to cross-national truck traffic. This study examines issues surrounding an open border and assesses the possible benefits and costs for the citizens of Texas. The study uses economic data on trade volumes and employment to assess the impacts that an open border will have on Texas.

Since NAFTA went into effect, Mexico has replaced Japan as the United States second largest trading partner behind Canada. Trucks move over 80 percent of goods between the U.S. and Mexico, with nearly 70 percent of U.S – Mexico commercial traffic passing through ports-of-entry on the Texas border. Much of the trade between Texas and Mexico is being fueled by the growth in Mexico’s maquiladora industry. A large portion of the Texas-Mexico border traffic carries raw materials to Mexico’s manufacturing industry or intermediate goods that are assembled at maquiladoras. Finished goods are then re-exported back across the border as finished products.

An open border should lead to reduced congestion, reduced accidents, and less pollution (air and noise) for Texas border communities. Long-haul trucks are more efficient and cleaner-running than drayage trucks, and the elimination of border zones will result in decreased border crossings with the absence of “dead-weight” hauls. However, border communities will suffer negative economic impacts once cross-border trucking operations are enacted. Border communities (particularly Laredo) are dependent on the current drayage transportation system for economic growth and employment.

To assess the most contentious open border issue, safety, studies used to evaluate Mexican truck safety are scrutinized, the politics of the safety issue are examined, and recommendations are made for properly evaluating Mexican truck safety. Existing studies of Mexican truck safety compare Mexican drayage trucks to U.S. long-haulers; this is comparing apples to oranges. A closer inspection of data shows that Mexican long-haul trucks are about as safe, or safer, than their U.S. counterparts. Additionally, Mexico has made great strides in harmonizing safety standards with the U.S. The safety debate and decision to delay the border opening was largely a result of political considerations and pressure from the Teamsters and other interests.

After assessing the economic, environmental, social, and safety issues, the study comes to the conclusion that, although an open border produces winners and losers, it will be a net benefit to the state. An open border should only enhance the comparative advantages that Texas and Mexico enjoy in relation to each other. By removing a non-tariff barrier to trade, prices on goods traded between Texas and Mexico should fall. This should result in increased trade between Texas and Mexico, leading to more demand for higher paying skilled labor on the Texas side as maquiladora operations become cheaper. However, transportation-dependent border economies will suffer in the short-term once open border trucking operations take effect.
2.3.3 SANDAG (2002)

Closer to this particular project, SANDAG prepared a qualitative report on the border issues for the California Department of Transportation (Caltrans), District 11 – San Diego County and Imperial County. As a result of traffic conditions along the San Ysidro port of entry and anticipated population and economic growth expected in the San Diego – Tijuana metropolitan area, increasing bi-national coordination and co-operation between transportation and planning agencies have become of paramount importance to the region. Caltrans in collaboration with SANDAG and various transportation and planning agencies from the Republic of Mexico have undertaken several studies over the past years aimed at documenting and addressing cross-border traffic congestion, and improving cross-border wait times. The SANDAG report outlines a framework and methodology to conduct future bi-national economic impact studies of border wait times on individuals and trucks crossing the U.S. – Mexico border (trucks account for about 98 percent of goods shipped into the United States from Mexico).

For goods shipment SANDAG recommends the development of a survey of Mexico based companies that export goods to the U.S (maquiladoras) regarding the impacts of border delays. From the maquiladora survey it should be possible to define what companies consider a long wait time, the importance of wait times to a company’s profitability, and the options companies implement to cope with long wait times. If border wait times remain long or increase, it should be possible to summarize the likely responses of companies that transport goods across the border (diversion to other ports of entry, or use of alternative modes of shipment such as rail). This type of analysis will help understand how companies deal with the longer border wait times and the manner in which these wait times contribute to corporate decisions regarding such things as employment, exports and plant closures.

2.3.4 SAIC (2003)

In 2002, Science Applications International Corporation (SAIC) conducted a survey of key regional stakeholders in U.S.-Mexico trade. The survey sponsored by the California Department of Transportation (Caltrans) and the San Diego Association of Governments (SANDAG) was undertaken to shed new light on the commercial border crossing issues of the region and to collect valuable information not previously available. The goal of the study was to survey key private sector stakeholders in binational trade (maquiladoras, customs brokers, shippers and transportation companies) to determine their experience and concerns regarding border crossing delays at Otay Mesa, Calexico, and Tecate, and to develop a reliable source of data to be used in supporting recommendations for improvements to border transportation infrastructure or federal inspection procedures.

The survey was composed of three sections: inbound shipments; outbound shipments; and a management section to capture general comments and concerns regarding border crossing delays and infrastructure improvements. The survey was designed to measure data such as types of products shipped, frequency of shipments, the border crossing most frequently used, and the types of vehicles used to transport products.

Among the key findings from the inbound and outbound segments of the survey are:

- The majority of the goods crossing the border that are received inbound to facilities in Mexico are shipped by trailer, as opposed to containers or other types;
• Of the groups surveyed, customs brokers handle the largest volume of daily inbound and outbound shipments; and

• 34 percent of outbound shipments head to destinations in Southern California, which is the top destination for these shipments.

Regarding the general management section of the survey, the following observations can be made:

• The majority of companies ship at times dictated by the schedules of their customers or their own production schedule, rather than for minimization of travel time or port congestion;

• Most companies surveyed stated that it takes an average of two to three hours to cross the border at the port of entry most frequently used; anything beyond one hour is considered an “excessive” wait;

• Infrastructure improvements are needed to facilitate border crossing, particularly at the Otay Mesa port of entry; and

• Nearly two-thirds of all respondents said that they would not make any changes in the way they operate if delays continue or worsen. However, 45 percent of the shippers indicated they would change their operational procedures if delays continue or worsen (i.e., change hours of operation, switch to a different border crossing, or change shipping schedules).

2.4 Conclusions

While the studies, described above, are different in nature and were authored for various reasons, they provide different perspectives on how to deal with the assessment of border issues. All the studies tend to stress, one way or another, the importance of border traffic and freight movement to the economy, primarily at the regional level and at the national level as well. Most of them use descriptive statistics to show the effects of border delays on the trucking industry and the import-export business at large. Few studies rely on a formal survey to gather new and relevant data, and fewer use analytical statistics to determine the full impact on the economy. Furthermore, only one report questions the incrementality of the economic impacts – i.e., whether the economic loss is purely incremental or merely a transfer of loss from one region to another. Last but not least, most studies do not take a cross-border approach on the problem and focus on one side of the border solely. This is especially true for the U.S. – Mexico border.
3. DATA NEEDS

The purpose of this section is to identify the general data needs to populate HLB’s model, based on a preliminary assessment of the methodology. It also presents a list of potential data sources. HLB will build on its past experience with estimating the economic impacts of border delays to collect the required data.\(^2\)

3.1 Data Requirements

In general, the data needs can be divided into four categories:

- **Volume Data** – These are freight flow data (exports and imports separately) arranged by commodity grouping (based on a commodity classification such as the United Nations’ Standard International Trade Classification), by surface mode of transportation (rail, truck, pipeline and other), and with geographic detail for U.S. exports to and imports from Mexico (national, state and county levels). Typically freight data are expressed either in value (current U.S. dollars) or in weight (metric tons or U.S. short tons).

  Alternately, volume data refer to the (annual) number of truck crossings for each port of entry – ideally in both directions, by day of the week and time of the day.

- **Wait Time Data** – These are the average wait times at the border for commercial (truck) traffic, by port of entry, day of the week and time of the day.

- **Elasticity Data** – This category includes the elasticity of freight transport demand with respect to freight costs (travel/wait time and vehicle operating costs). Ideally, the elasticity data should be detailed by mode of transportation (truck vs. rail for instance) and industry/commodity grouping.

- **Freight Forecast** – The economic impacts of border delays on freight will be estimated over a 10-year horizon. Hence the need for an indication of future levels of merchandise trade between the United States (and more specifically California) and Mexico.

The data should be as specific to the study area (i.e., the San Diego – Northern Baja California border region, or more precisely the Otay Mesa and Tecate ports of entry\(^3\)) as possible. However, HLB recognizes that some data may not be readily available. In such case, HLB will derive estimates based on existing evidence.

3.2 Potential Data Sources

In general, volume data will be obtained from existing databases maintained by the U.S. Census Bureau and the Bureau of Transportation Statistics. Border wait time data are compiled by the U.S. Customs and Border Protection. Elasticity estimates can be retrieved online from the

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\(^3\) The San Diego – Northern Baja California border region includes a third port of entry: San Ysidro. However, the port of San Ysidro was closed to commercial truck traffic in 1994.
Transport Elasticities Database of the Australian Bureau of Transport and Regional Economics (BTRE).

Key data requirements and proposed data sources are shown in Table 2 below.

**Table 2: Summary of Data Requirements**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Potential Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade/Traffic Volume</td>
<td></td>
</tr>
<tr>
<td>Freight Data: in Terms of Value or Weight</td>
<td>U.S. Census Bureau, Foreign Trade Division</td>
</tr>
<tr>
<td>By Time of the Day</td>
<td></td>
</tr>
<tr>
<td>By Day of the Week</td>
<td></td>
</tr>
<tr>
<td>By Industry/Commodity Grouping</td>
<td>Bureau of Transportation Statistics, Transborder Surface Freight Data and Border Crossing/Entry Data</td>
</tr>
<tr>
<td>By Geographic Level: National, State, County</td>
<td>Bureau of Economic Analysis, International Economic Accounts</td>
</tr>
<tr>
<td>By Freight Flow: Exports and Imports</td>
<td></td>
</tr>
<tr>
<td>Number of Crossings by Mode: Truck and Rail</td>
<td>San Diego Regional Chamber of Commerce</td>
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<tr>
<td>By Time of the Day</td>
<td></td>
</tr>
<tr>
<td>By Day of the Week</td>
<td></td>
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<tr>
<td>By Industry/Commodity Grouping</td>
<td>San Diego Association of Governments</td>
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<td>By Geographic Level: National, State, County</td>
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<tr>
<td>By Freight Flow: Exports and Imports</td>
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<td>Border Wait Time</td>
<td>U.S. Customs and Border Protection</td>
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<td>By Mode: Truck, Rail, etc.</td>
<td>Federal Highway Administration</td>
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<tr>
<td>By Day of the Week and Time of the Day</td>
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</tr>
<tr>
<td>By Port of Entry: Otay Mesa and Tecate</td>
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<tr>
<td>Elasticity of Freight Transport Demand with respect to Freight Costs</td>
<td>Australian Bureau of Transport and Regional Economics, Literature</td>
</tr>
<tr>
<td>By Mode: Truck, Rail, etc.</td>
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<tr>
<td>By Main Industry/Commodity Grouping: Food and Live Animals, Chemicals and Related Products, etc.</td>
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<tr>
<td>Freight Forecast</td>
<td>Congressional Budget Office, Global Insight, Inc., Southern California Association of Governments</td>
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<tr>
<td>By Geographic Level: National, State and County</td>
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</tbody>
</table>

**3.3 Next Step**

The data will be collected from the various sources listed above, processed and summarized in the form of tables and graphs, which will be presented in the reference and work book for the RAP (Risk Analysis Process) session. Whenever model input data are not available, HLB will make assumptions (based on other empirical evidence and case studies) and submit them for review and approval by the panel experts.
BIBLIOGRAPHY


