

# La Entrada al Pacifico (LEAP) Rail District Economic and Financial Feasibility Study

Cambridge Systematics (CS) is pleased to submit this proposal to the Texas Department of Transportation (TxDOT) to determine the economic and financial feasibility of developing a north-south rail line connecting the Texas Pacifico, Union Pacific, and BNSF Railway lines in the La Entrada al Pacifico (LEAP) Rural Rail Transportation District (RRTD). Rudy J. Rivera Associates (RJRA) will support CS on this effort. We have reorganized the work plan into three parts:

- Part A consists of reviewing recent and ongoing studies and conducting interviews to identify a range of investment options;
- Part B consists of assessing the economic and financial feasibility of the investment options to position TxDOT and its partners to move forward viable development alternatives; and
- Part C consists of the kick-off meeting, communications plan, and status reporting elements of this purchase order.

The purpose of this study is to move forward the proposal to develop a north-south rail linkage between McCamey, Texas and Seagraves, Texas via the Midland-Odessa area. Currently there is no north-south rail linkage serving agricultural and industrial shippers in this corridor, many of which would benefit from economy of scale rail rates to move certain commodities such as intermodal and bulk. While this study includes planning elements, its ultimate intent is to provide an implementation strategy based on economic and financial feasibility analysis. This strategy will guide TxDOT, the LEAP RRTD, and other partners toward development, including the next steps of environmental study, preliminary engineering, and financial partnership. To that end, the study activities are oriented to answer the following questions:

- Would a new rail line attract sufficient traffic to warrant its construction?
- Which shippers would use the line and would they and/or the rail carriers provide adequate financial backing to support construction and continued operation?
- What are the potential obstacles—physical, financial, or regulatory—that inhibit development of the rail line and how can these be overcome?

- What are the next steps and actions that TxDOT, LEAP, or other partners take to move rail development to engineering, financing, and construction?

As requested, we present our proposed Work Breakdown Schedule (WBS) in Section A, Action Plan in Section B, and Cost and Time Estimate in Section C.

## ■ A. Work Breakdown Schedule

Based on the Scope of Work provided by TxDOT, we have identified 11 tasks for this study:

- Tasks A.1 to A.4 of Part A, to develop a range of possible rail infrastructure investment options and to collect data necessary for Part B;
- Tasks B.1 to B.6 of Part B, to develop economic and finance factors, conduct economic and financial feasibility analysis of the rail investment options, and develop implementation strategies; and
- Task C.1 of Part C, to conduct a project kick-off meeting, to develop the communications plan, and to prepare progress reports over the course of the study.

Our proposed Work Breakdown Schedule for this study is provided in a separate Microsoft Project attachment (“LEAP Schedule\_v2.mpp”), identifying the individual tasks in the project, showing the schedule by task, and identifying the relationships between the tasks. A description of the activities we will conduct to perform this scope of work for each Part and associated Task are presented in Section B: Action Plan.

## ■ B. Action Plan

This section provides a description of the activities within each task that the CS team will conduct for this study, and biographies for the staff proposed to complete these activities.

### **Part A: Develop Range of Infrastructure Options**

We will gather information from existing and ongoing studies and conduct interviews with public and private stakeholders and state agencies to develop a range of possible rail infrastructure investments in the LEAP-RRTD. The Tasks associated with this effort are presented below.

### ***Task A.1: Review of Existing Studies and Literature***

The CS team will review and document opportunities and best practices recommended in ongoing and existing studies and literature. Because there are at least two important ongoing studies potentially impacting rail development in the study area, the CS team will coordinate with TxDOT to leverage work from those studies and ensure this study appropriately builds on any preliminary findings available from those efforts. The two ongoing studies are:

- La Entrada al Pacifico (LEAP) Study currently underway, led by TxDOT-TPP; and
- West Texas Freight Study currently underway, led by TxDOT Odessa and Lubbock Districts.

Based on reconnaissance for this scope of work, draft data analysis and forecasts from the West Texas Freight Study should be available for use in this study effort. Those products include an assessment of existing truck and rail freight movement and an estimate of future flows largely covering the area from McCamey to Seagraves. That study will eventually recommend infrastructure alternatives, but that analysis will focus primarily on infrastructure needed for system efficiency and will not determine the economic or financial feasibility of constructing the north-south rail link. The LEAP Study will also consider the current and future demand for a rail alignment from McCamey to the Midland-Odessa area as part of a larger east-west corridor study between Presidio and Ft. Worth. However, the LEAP Study will not provide the current or future demand estimates until late 2007 or early 2008. The CS team will continue to work closely with the respective TxDOT project managers of these studies to ensure open communication and to reduce possible overlap.

In addition to these two studies, the CS team will also review recently completed studies by TxDOT and its in-state partners—including University of Texas Center for Transportation Research and Texas Transportation Institute—on rural rail or freight issues and/or specific treatment of the study area. In addition, the team will review applicable Texas statutes or policies regarding Rural Rail Transportation District powers with regard to rail development and financing and other statutes or regulations in consultation with TxDOT. Our recent work for GBE in assessing the regulation and administration of RRTDs will be particularly relevant.

Major rail relocation and/or construction studies and efforts have been recently completed or are underway in other states. These studies may offer lessons for this study, especially relating to economic development opportunities and financing potential. The CS team will obtain and review these studies to develop best practices and information relating to rail development, economic impacts, and financing approaches. The CS team may also consult key Federal Railroad Administration (FRA), state, and railroad contacts to obtain current information on similar freight-rail development efforts and relate findings to the LEAP Rural Rail Transportation District.

### ***Task A.2: Stakeholder Interviews***

The CS team will design an interview guide and process to collect information about the range of rail infrastructure improvements that could be developed in the LEAP Rail District. This process will include 1) interview guide design, 2) identify public and private stakeholders and state agency staff participants for interviewing, 3) conduct the interviews, and 4) summarize the information. We will work closely with TxDOT to design the guide and we will consult with TxDOT and the LEAP Rail District to develop the list of contacts, including at the Kickoff meeting (Part C). We anticipate that we will continue to add and refine the interview list as we obtain contacts through the initial interviews. Based on an initial scan, the anticipated interviewees may include:

- Freight carriers, focusing on railroads with current or future potential operations in the LEAP Rail District (Union Pacific, BNSF Railway, Permian Basin Railway, Texas Pacifico Transportation, Ltd.), but also including trucking companies—especially those with interest and potential for intermodal or transshipment to/from rail;
- Shippers moving freight in the LEAP Rail District, including major shippers within the District that receive or generate freight from the Midland-Odessa area, and external shippers that move significant quantities through the LEAP Rail District;
- Businesses that have located elsewhere due to the lack of local rail service;
- Local officials, agencies, economic development groups, and adjacent rail districts (e.g. South Orient Rail District);
- TxDOT officials, including District Engineers, TxDOT project managers over ongoing studies, and the TxDOT TPP Multimodal Section;
- Public officials or private participants in similar freight rail expansion projects throughout the USA, including at least FRA and/or FHWA TIFIA.
- Potential financial partners or supporters not directly involved in goods movement, including private investment groups and/or industrial real estate firms.

The interviews will be used to collect information to identify the range of infrastructure possibilities and will also provide a basis for economic and financial assessments. The interview guide will be designed to obtain relevant information about:

- Current freight transportation and economic demand characteristics of the region (key shippers, modes, facilities, volumes, etc.);
- Current freight transportation and economic supply characteristics of the region (existing facilities, available property, unused capacity);
- Rail infrastructure that could be developed in the LEAP Rail District, including key characteristics (location, extent, capacity, potential users, and commodities);

- Economic trends in the region or external to the region that could create freight-rail transportation demand in the LEAP Rail District (emerging industries, high-growth commodities, shifts in manufacturing or consumption, etc.);
- Financial participation (willingness to participate and conditions for participation); and
- In the case of businesses that have moved from the area due to the lack of local rail service, we will determine the factors that could improve business retention and attraction.

We anticipate that stakeholder interviews will be accomplished early on in the study period, but that additional interviews or follow-up interviews may be required through the course of the study to refine information and analyses. The first interviews will be conducted with economic development officials as they typically provide the best starting point for developing a network of relevant contacts. In addition, the economic development officials will assist in identifying adversely affected businesses due to lack of local rail service. In total, the CS team will conduct between 25 and 35 interviews either by telephone or in person where more effective. Interviews will be documented and a bulleted summary of interview findings will be provided to TxDOT.

### ***Task A.3: Develop Range of Infrastructure Options***

The information collected in Tasks A.1 and A.2 will be summarized and used to identify a full range of options for rail infrastructure investment. The range of development may not only include the possible rail connection between McCamey and Seagraves, but supporting facilities such as sidings, spurs, yards, stations, and terminals, including intermodal or transload facilities. The information will be—to the extent possible—displayed graphically in GIS format to illustrate the location of potential facilities. The economic analysis (in Part B) will build on these preliminary facility maps to show the demand centers for rail activity in the corridor. Relevant sketch-plan level of detail will be provided on the type and extent of the infrastructure options, such as approximate capacity, potential commodities, highway access, etc. The options will be further refined and analyzed in Part B.

### ***Task A.4: Prepare Part A Draft and Final Report and Presentation***

CS will prepare a draft report on the preliminary findings/range of infrastructure options from the material developed in Tasks A.1 through A.3. Upon TxDOT's review of the draft report and receipt of both TxDOT's verbal and written comments, we will deliver the Final Part A draft report to TxDOT and will make a presentation of the preliminary findings to TxDOT and the LEAP Board.

## **Part B: Conduct Economic and Financial Feasibility Analyses**

The objective of this part of the study is to evaluate the range of infrastructure options identified in Part A for those facilities that hold the most promise of implementation. The tasks described below will be prepared to determine the best range of options for a proposed rail line and related facilities based on ability to attract customers, investors, and other resources for success. The deliverables will focus on preparing development options to move forward for TxDOT, the LEAP Rail District, and other partners.

### ***Task B.1: Identify Economic and Financial Factors for Rail Investment***

Building on the literature review and the initial stakeholder interviews conducted in Part A, the CS team will develop a list of key economic and financial factors necessary to attract potential customers to the facility and potential partners to invest. These factors will be used to evaluate the range of infrastructure options in the subsequent economic and financial analyses tasks. Factors may include:

- Transportation benefits (time savings, reliability improvement, access improvement, shipper cost savings, safety savings, environmental savings etc.);
- Economic development benefits (job creation, business attraction);
- Costs (rail line development unit costs, terminal development unit costs); and
- Financial participation factors (return-on-investment, short-term vs. long-term return, risk, ability to form partnerships, etc.)

While some factors may be quantified, and information on those factors may be available from existing/ongoing studies, some factors may only be qualitatively assessed. These determinations will be made based on availability of reliable data. For costs, general unit costs from similar studies will be used for order-of-magnitude estimates.

### ***Task B.2: Define Investment Scenarios***

Before undertaking the economic and financial feasibility analysis, the CS team will work with TxDOT and other stakeholders to package the range of infrastructure options into 2 or 3 investment scenarios that will simplify further analysis. The packaging of new rail infrastructure and facilities may be accomplished based on level of investment (low, medium, high), geographic extent, and/or other factors identified in Task B.1.

### ***Task B.3: Conduct Economic Feasibility Analysis***

The purpose of this task is to measure and evaluate the economic impacts of the investment scenarios (including breakdowns for individual facilities). The evaluation factors will be determined in Task B.1, but we will quantify (where possible) or qualitatively assess the impacts (positive and negative) of the investment options in this

Task. We will not utilize sophisticated transportation network or economic models to generate impacts or benefits. Instead, the impacts will be estimated using factors from existing studies and examples and scaling the impacts of this study to those results. This approach has been successfully applied by CS recently in projects where there was a tight timeframe to complete complex analysis. The outcome of this Task will be an indication of which investment options are economically viable (sufficient demand exists to utilize the facilities). From the findings, the team will recommend actions to enhance economic viability of the investment options.

#### ***Task B.4: Conduct Financial Feasibility Analysis and Develop Implementation Strategy***

Building on the results of the economic analysis, we will conduct a financial analysis to determine whether the rail infrastructure options are financially viable. Through this task, the CS team will also develop an implementation strategy. This task will result in a list of criteria that must be met in order to secure participation by potential investment groups that TxDOT and its partners can use to move development options forward. Part of the financial analysis is the formulation of possible investment roles based on beneficiaries of investment. The beneficiaries will be identified largely through Task B.3 and will likely include customers of the rail line (shippers) but may also include public entities or private investment groups. Additional or follow-up interviews may be required to clarify participation criteria and other investment sensitivities and to further identify the potential participants. The outcomes of this Task will include:

- a ranking of investment options by financial viability (ability generate sufficient revenue to cover finance costs); and
- a set of financial strategies and actions that should be taken to support financial attractiveness and meet the criteria for viability of the investment options. Part of the strategic recommendations will include an assessment of available public and private innovative financing techniques and a description of the potential partners for financial participation.

In addition, this Task will generate a refined list of potential financial participants that TxDOT, LEAP or other partners could approach for future support. These potential financial participants will be organized into deliverable for Task B.5.

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#### ***Task B.5: Build Database of Potential Users and Financial Participants***

This Task will build upon the list of contacts developed in Part A through the review of existing studies and the stakeholder interviews. Using the results of the financial and economic assessment (and the interview activities), we will assemble an electronic database of potential users of the line and also the potential financial participants (some of which may not be shippers, but may be rail carriers, public entities, or other private investment groups). The database will be provided in an easy-to-use Excel format so that

the State or other parties can sort and classify the entries. The database will be provided as a deliverable of the project to TxDOT-GBE.

### ***Task B.6: Prepare Part B Draft and Final Reports, Databases, and Presentations***

CS will submit a Task B draft report detailing the economic and financial feasibility of the 2 or 3 investment options and an implementation strategy of actionable steps to move development toward financing, engineering, and construction. The draft report will be submitted 14 weeks after the Notice to Proceed has been given by TxDOT while the final report will be submitted to TxDOT at the conclusion of this purchase order (sixteen weeks [four months] after the NTP is provided). We will also prepare and deliver a presentation summarizing the draft findings to TxDOT and the LEAP Rail District Board prior to submitting the final report. The database developed in Task B.5 will also be submitted to TxDOT as part of this Task.

## **Part C: Kick-Off Meeting and Progress Reports**

While this Part is shown after Parts A and B in this section, the specific elements will be conducted both early on in this effort (kick-off meeting and communication plan) as well as throughout (progress reporting) this purchase order's schedule.

### ***Task C.1: Kick-Off Meeting, Communication Plan, and Progress Reports***

CS will begin this study by participating kick-off meeting with TxDOT and LEAP-RRTD within one week of the purchase order release to establish lines of communication; clarify and answer any outstanding questions about the work; develop contact lists, finalize deliverables, schedule; clarify key issues; and begin the work.

We will follow TxDOT GBE guidelines by preparing a communication plan of this purchase order in this Task. We will submit bi-weekly status reports for the duration of this purchase order. Each status report will discuss accomplishments within the reporting period by task, planned work for the next reporting period, and any particular questions or issues that need to be resolved. In addition, we will hold conference calls with TxDOT on a regular basis to discuss study progress and key findings.

## **CS Team Biographies**

**Stephen Decker**, the Senior Research Director for the overall research effort, will provide quality assurance/quality control oversight and technical direction to the study team.

**Donald B. Ludlow**, AICP is proposed as the Project Manager. He will be responsible for overseeing the research for all study tasks, and reviewing the quality and consistency of all draft and final deliverables. Mr. Ludlow has nine years of professional consulting experience, seven of which have focused on freight-rail and intermodal transportation

planning, economic evaluation, and transportation financing projects. He recently managed the TTC Rural Development Opportunities: Ports-to-Plains Corridor Case Study for TxDOT GBE and served as Deputy Project Manager over the TxDOT NAFTA Study Update. His familiarity with the geography, transportation facilities, regional economy, and stakeholders in the LEAP Rail District will enable him to effectively and efficiently complete this study. Mr. Ludlow has recently managed freight studies with similar economic and financial elements in Maryland, Virginia, Minnesota, and Washington, D.C.

**Jessica Wang** and **Juan Zorilla**, who are Research Analysts at CS, will provide data analysis and technical support for all tasks. **Gary Maring** will serve as a Policy Specialist and will provide high-level rail, economic, and financial expertise.

Cambridge Systematics will be assisted by RJ Rivera & Associates (RJRA). **Gus Chavez**, a former Project Director with TxDOT's Transportation Planning & Programming Division, will lead the work for RJRA, providing support to the review of existing studies, stakeholder interviews, and collection and refinement of economic, cost, and/or financial data.

## ■ C. Cost and Time Estimate

This section presents our cost and time estimate to complete the action plan described in Section B. The estimated cost for this study is \$96,220, of which \$12,500 will support the efforts of RJ Rivera & Associates.

### Cost Estimate

Table 1 provides the cost estimate for Part A and Table 2 provides the cost estimate for Part B. Table 3 provides a summary of the information provided in the previous two tables. The total cost for Parts A through C is \$96,220, including direct costs associated with travel and other printing and communications expenses.

### Time Estimate

Table 4 provides the time estimate of total hours and hours by task for Part A. Table 5 provides the total hours and hours by task estimates for Part B. Table 6 provides a summary of the information provided in the previous two tables.

**Table 1. Part A Cost Estimate, Develop Range of Infrastructure Options**

	<b>Proposed Staff</b>	<b>Staff Rates</b>	<b>Number of Hours</b>	<b>Costs</b>
<b>Direct Labor</b>				
Senior Research Director	Decker	\$200.00	10	\$2,000
Project Manager	Ludlow, Chavez	\$150.00	158	\$23,700
Research Analyst	Wang, Zorilla	\$100.00	176	\$17,600
Policy Specialist	Maring	\$250.00	8	\$2,000
<i>Total Direct Labor</i>			<b>352</b>	<b>\$45,300</b>
<b>Other Direct Costs</b>				
Travel		4 person trips @ \$300		\$ 1,200
Per Diem		8 person days @ \$160		\$ 1,280
Copying				\$200
Telephone/Fax				\$250
<i>Total Other Direct Costs</i>				\$2,930
<b>Total Cost, Part A</b>				<b>\$48,230</b>

**Table 2. Part B Cost Estimate, Conduct Economic and Financial Feasibility Analyses**

	Staff Rates	Number of Hours	Costs
<b>Direct Labor</b>			
Senior Research Director	\$200.00	12	\$2,400
Project Manager	\$150.00	140	\$21,000
Research Analyst	\$100.00	160	\$16,000
Policy Specialist	\$250.00	28	\$7,000
<i>Total Direct Labor</i>		<b>340</b>	<b>\$46,400</b>
<b>Other Direct Costs</b>			
Travel	2 person trips @ \$300		\$600
Per Diem	4 person days @ \$160		\$640
Copying			\$200
Telephone/Fax			\$150
<i>Total Other Direct Costs</i>			\$1,590
<b>Total Cost, Part B</b>			<b>\$47,990</b>

**Table 3. Total Cost Estimate Summary**

Direct Labor, Part A	\$45,300
Direct Labor, Part B	\$46,400
Other Direct Costs	\$4,520
<b>Total Cost</b>	<b>\$96,220</b>

**Table 4. Part A Time Estimate, Develop Range of Infrastructure Options**

<b>Title</b>	<b>Task A.1</b>	<b>Task A.2</b>	<b>Task A.3</b>	<b>Task A.4</b>	<b>Task C</b>	<b>Total Hours</b>
Senior Research Director	2	2	2	2	2	10
Project Manager	32	60	32	24	10	158
Research Analyst	40	80	40	16	0	176
Policy Specialist	2	0	2	4	0	8
<b>Total Hours</b>	<b>76</b>	<b>142</b>	<b>76</b>	<b>46</b>	<b>12</b>	<b>352</b>

Note: Time for Task C: Kick-Off Meeting and Progress Reports is allocated between Parts A and B.

**Table 5. Part B Time Estimate, Conduct Economic and Financial Feasibility Analyses**

<b>Title</b>	<b>Task B.1</b>	<b>Task B.2</b>	<b>Task B.3</b>	<b>Task B.4</b>	<b>Task B.5</b>	<b>Task B.6</b>	<b>Task C</b>	<b>Total Hours</b>
Senior Research Director	2	2	2	2	0	2	2	12
Project Manager	16	8	32	32	2	40	10	140
Research Analyst	16	8	48	48	16	24	0	160
Policy Specialist	4	4	4	12	0	4	0	28
<b>Total Hours</b>	<b>38</b>	<b>22</b>	<b>86</b>	<b>94</b>	<b>18</b>	<b>70</b>	<b>12</b>	<b>340</b>

Note: Time for Task C: Kick-Off Meeting and Progress Reports is allocated between Parts A and B.

**Table 6. Total Time Estimate Summary**

	<b>Hours</b>
Hours, Part A	352
Hours, Part B	340
<b>Total Hours</b>	<b>692</b>