APPENDIX A

MEETING MINUTES FROM STAKEHOLDER MEETINGS

Project Kick-off Meeting (August 2000)

URS

August 16, 2000

PROJECT MEETING MEMORANDUM

SUBJECT: **New Orleans Rail Gateway and Regional Rail Operational Analysis**
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00

DATE: August 15, 2000
10:00 AM

PLACE: Regional Planning Commission
Conference Room

ATTENDANCE: See Attached List

A project kick-off meeting was held in order to initiate the subject project. Each attendee was provided with an agenda, a project organization chart, a project schedule, and a copy of the scope of work (a copy of all documents attached). Mr. Dussom opened the meeting at 10:00 am.

Mr. Dussom introduced himself as the Project Manager for the Consultant Team. Mr. Dussom stated that he would be the primary contact for the Consultant Team and asked that all correspondence from the LDOTD or the RPC be directed to him at the URS Metairie Office. Mr. Dussom then asked each member of the project team to introduce themselves and to state a brief summary of their participation in the project. This was followed by an introduction of the LDOTD and RPC staff present. Mr. Carriere stated that Mr. Jim Joffrion would serve as the LDOTD Project Contact and asked that Ms. Karen Parsons with the RPC be copied on all correspondence. He also asked that all Consultant correspondence be signed by the appointed Consultant Project Manager, Mr. Dussom.

Mr. Dussom asked that the group review the proposed project organization chart. Mr. Joffrion requested that RPC be added to the Supervisory Level of the organization chart. It was agreed that Ms. Karen Parsons with RPC would be identified as a primary contact on the organizational chart and that a box should be added between the names of Mr. Joffrion and Mr. Russo (this modification has been made and is included on the attached organization chart.

Mr. Carriere then suggested that the Consultant Team provide an overview of the tasks included in the scope of work. Mr. Dussom provided a brief description of the project tasks and discussed the project schedule which identified a responsible individual for each task. Mr. Carriere asked if the manhour estimate which had previously been developed was still applicable. Mr. Dussom stated that the project manhours were as previously developed, with an overall estimate as follows:

Task 1 – Data Collection and Identification of Existing Issues	21%
Task 2 – Committee Communication and Stakeholder Coordination	8%
Task 3 – Determination of Business and Public Requirements And Traffic Forecasts	13%
Task 4 – Rail Process Operations Analysis	9%
Task 5 – Development of Alternatives and Recommendations	37%
Task 6 – Preparation and Presentation of Final Report	11%

Mr. Dussom stated that the project team would likely be coordinating site visits with the local railroads and asked if the RPC and/or LDOTD would like to be notified of these site visits. Mr. Carriere stated that he would like to be notified. Mr. Dussom stated that he would notify Mr. Joffrion and Ms. Parsons with as much advance as possible, however, it was noted that the rail companies may limit the participation in such site visits for safety reasons.

Mr. Carriere then asked that a more detailed discussion of each task ensue. Mr. Carriere stated that he had initiated contact with each of the Class I Railroads, the City of New Orleans, Jefferson Parish, and the New Orleans Public Belt Railroad. This was in order to establish the Senior Level Steering Committee (SLSC). Mr. Carriere stated that all railroads had responded in writing with the exception of CSX and Norfolk Southern. Mr. Carriere stated that he would like to establish the first SLSC meeting for September 14, 15, 19 or 21. After further discussion, it was suggested that AMTRAK and a major regional user of rail services also be identified to be included on the SLSC. Mr. Johnson stated that he would get the name of a participant from the National Institute of Transportation Shippers (NITS League), a trade organization that represents major rail shippers. Mr. Dussom noted his concern regarding various individuals on the project team (ie. Consultant, LDOTD, RPC) all contacting the Railroad company executives. Mr. Carriere stated that he would be the lead contact until the first SLSC, at which time he will direct all correspondence and contact be through the Consultant Team (ie. Project Manager).

Mr. Carriere also stated his intention to meet with the local governments and obtain from them their cooperation to participate in the study (ie. encourage the develop of rail in the area for the long term benefit of economic development). Mr. Carriere stated that without local government commitment, proposed alternative strategies for improvement would likely fail.

Mr. Carriere then asked about the existing studies that LDOTD and RPC were to provide to the Consultant Team. He asked that the Consultant Team develop a library of the documents and that copies of all documents be provided to LDOTD and to RPC. The following assignments were made:

Document	Assignment
1) A Comprehensive Study of Problems in the Old Metairie Railroad Corridor in Jefferson and Orleans Parishes (Vol 1 & 2) (Nov 96)	Already Obtained
2) East Jefferson Major Investment Study (Mar 99)	Already Obtained
3) State Rail Plan Update (1990)	Brian Parsons
4) Gulf South High Speed Rail Corridor (Phases I & II) (Feb 96)	Karen Parsons
5) STB Rail Merger Reports	Tom Hunter

Document (cont'd)	Assignment (cont'd)
6) Southeast Louisiana Rail Final Report (Dec 98)	Already Obtained
7) Port of New Orleans Market Feasibility Study	Already Obtained
8) LATTS Report	Jim Joffrion
9) Strategic Rail Plan for Port of New Orleans (May 91)	Tom Hunter
10) Right-of-Way Preservation Study (Airport to CBD) (Jan 94)	Already Obtained

Mr. Carriere asked that the Consultant Team prepare a bibliography of all resources obtained for the study.

Mr. Brooks noted that in some of the previous studies, specifically the Ralph Kennedy study, the Railroads were critical of the report because they had not been involved with the recommendations until the end of the study. Mr. Brooks recommended that the project team involve the railroads throughout the study process. The project team agreed.

Mr. Carriere discussed the development of a project base map. Mr. Brooks noted that the RPC has substantial resources regarding regional rail maps. Mr. Hunter will meeting with RPC to evaluate their existing data resources for mapping.

Mr. Brooks and Ms. Parsons also noted on-going initiatives which the project team should be aware of, namely a proposed interchange on Earhart Boulevard to serve the Mays Yard terminal and a proposed railroad overpass on Dakin Street. The Earhart interchange is the result of the CNIC railroad's proposed move of its intermodal terminal facilities from the Riverfront Line to the Mays Yard, located between Clearview Parkway and Hickory Street near Earhart Boulevard. The Dakin Street improvement is a local street project that may impose a constraint on the number of tracks that can be accomodated under the overpass.

Mr. Carriere stated the objective of the study was to develop short-term, mid-term, and long-term solutions to correct existing deficiencies and to address potential future growth. Mr. Joffrion stated that in addition, consideration should be given to development of "immediate term" solutions, that is, solutions that could be immediately implemented (at relative low cost) in order to build consensus between the LDOTD, RPC, local government and the Railroad companies. The Consultant Team agreed that within approximately 6 months, that recommendations for "immediate term" solutions would be considered and discussed with LDOTD and RPC.

Mr. Carriere stated that he envisioned that "short-term" improvements would likely represent some small "tweeking" of the system, such as switches or interconnection of communications. Mr. Dussom asked about the funding of the project and the proposed improvements. Mr. Brooks stated that approximately $5 M would be available for improvements through the TEA-21 Demo Funds. Mr. Dussom then asked whether that would be a limiting constraint for the short-term improvements, ie should the short term improvements be limited to less than $5M. Mr. Brooks said that it is likely that additional matching funds could be identified, either through local government participation.

state participation, participation of the railroads, or other federal funding could be found such that a $10 M program could be reasonable in the short term.

Mr. Carriere asked that the Consultant Team identify a model program to which the New Orleans Rail system could one day become or be better than. Mr. Cebula stated that Chicago would likely be a candidate as a model system.

Mr. Brooks concluded with two items: 1) that consideration be given to operating the front belt and back belt system more efficiently as a solution and 2) that passenger rail service from the CBD to the airport be maintained as a viable option.

There being no further business, the meeting was adjourned at approximately 11:30 AM. If there are any comments, please forward them directly to the URS Metairie office.

Prepared by:

URS Consultants, Inc.

Kent B. Dussom, P.E.
Project Manager

Attachment
Distribution: Attendance List
File

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ATTENDANCE RECORD

DATE: 8/15/00 | LOCATION: RPC

PROJECT: New Orleans Civic Conventions and Recreational Analysis State Project No. 737-26-0002

PURPOSE: Kick-Off Meeting

NAME	REPRESENTING	PHONE / FAX
1) James E. Simmons	N-Y Assoc.	(504) 885-0500 NYASSOC@BELLSOUTH.NET
2) Peter Johnson	CANAC	(905) 669-3336 pjohnson@canac.com
3) ~~AD~~ Andy Cebula	CANAC	514-399-3796 acebula@canac.com
4) Kent Dussom	URS	(504) 837-6326 KENT_DUSSOM@URSCORP.COM
5) Thomas Hunter	URS	504-837-6326 TOM_HUNTER@URSCORP.COM
6) Bob Leilich	CANAC	(703) 941-0560 rleilich@canac.com
7) David Bartlett	URS	312-263-8600 DAVID_BARTLETT@URSCORP.COM
8) Karen Parsons	RPC	504-568-6611 kparsons@norpc.org
9) Walt Brooks	RPC	(504) 568-6611 568-6643
10) Jim Joffrion	DOTD/Planning	(225) 379-1956 379-1807
11) Brian Parsons	DOTD/Rail Programs	225/274-4304 bparsons@dotd.state.la.us
12) Blake Carrier	DOTD Deputy Sec	bcarrier@DOTD.STATE.LA.US 225-379-1233
13) Ed Wedge	DOTD/Planning	(225) 379-1928 / 379-1807
14) Dan Broussard	DOTD/Planning & Programming	(225) 379-1924 dbroussa@dotdmail.dotd.state.la.us
15) Bruce Richard	N-Y	(504) 885-0500
16) Bob Bredberg	N-Y	NYASSOC@BELLSOUTH.NET
17)		
18)		
19)		
20)		
21)		
22)		

New Orleans Rail Gateway and Regional Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00

Meeting Agenda

August 15, 2000
Project Kick-off Meeting
Regional Planning Commission

1. Presentation of Consultant Project Staff and Proposed Organization Chart
2. Presentation of LDOTD/RPC Project Staff
3. Joint Review of Scope of Work and Project Schedule
4. Project Deliverables

Technical Work Plan
New Orleans Rail Gateway & Regional Rail Study

TECHNICAL APPROACH

The objective of this work plan is to update the operational findings identified in previous studies and, with the cooperation of the railroads, develop an implementable action plan that best addresses all, and sometimes competing issues.

Task 1 – Data Collection and Identification of Existing Issues

This task is divided into six parts – (1) review of past studies, (2) site inspection, (3) review of intermodal and port capacity capabilities, (4) review of rail passenger capabilities, (5) simulation model coding, and (6) stakeholder involvement. Upon completion of these six sub-tasks, identified issues and congestion in the corridor will be updated to current status. Issue definitions will be divided into the following components or as dictated by the Steering Committee (see Task 2):

- Train Operations - Main Line/Switching Yards
- Terminal Operations - Freight and Intermodal
- Interchanges Between Railroads and Communication Systems
- Port Operations and Rail Support

1.a. Review of Past Studies

The Consultant will review available and relevant reports and summarize useful information, plans, and requirements. From this review, the Consultant will document the current level of rail traffic flow and operational characteristics. In addition, the Consultant will identify where there are gaps in information or inconsistencies and determine what additional information is required by the Consultant to conduct a thorough analysis. Of particular importance are consistent rail traffic forecast projection and service requirements, which are in a form that allow the Consultant to determine specific network flows and the type of traffic to be handled.

Those specific references identified for review include:

(1) A Comprehensive Study of Problems in the Old Metairie Railroad Corridor in Jefferson and Orleans Parishes in Louisiana, Volumes 1 and 2 (November, 1996)
(2) East Jefferson Major Investment Study (March, 1999)
(3) State Rail Plan Update (1990)
(4) Gulf South High Speed Rail Corridor (February, 1996)
(5) STB Rail Merger Reports, Strategic Rail Plan for Port of New Orleans (May, 1991)
(6) Southeast Louisiana Rail Final Report (December, 1998)

1.b. Site Inspection

The Consultant and DOTD/RPC team will perform a site inspection of the study area by hi-rail vehicle or on the head end of trains, accompanied by knowledgeable local railroad management. High-resolution videos and pictures will be taken for study reference.

1.c. Review of Intermodal & Port Capacity & Capabilities

Intermodal rail operations at rail and port terminals within the study area will be identified and their current operations capacity and capabilities will be documented.

1.d. Review of Rail Passenger Capabilities

Current and future passenger rail operations will be investigated and impacts from proposed passenger rail improvements such as: Gulf South High Speed Rail Corridor, light rail service between the New Orleans International Airport and the Union Passenger Terminal. Magnetic Levitation Deployment Project, State Rail Plan, and passenger rail between Baton Rouge and New Orleans will be reviewed.

1.e. Simulation Model Coding

From railroad track charts and other material, all key lines will be coded for use in simulation modeling. Movement records and other train details needed for modeling of line traffic flows will be obtained by the Consultant from railroad records. Additional details of local and switch moves not available in each railroad's computer databases will be obtained by the Consultant from local management's detailed knowledge of operations. Specific information to be requested from each railroad and other stakeholders, as appropriate, includes the following:

- Aerial photographs and other mapping of the study areas will be provided by the DOTD/RPC in sufficient resolution to show individual tracks, switches, and other areas of study interest.
- Track and signal charts.
- Employee timetables and relevant operating bulletins.
- Train characteristics (number of locomotive power units and type, number of cars, train length, and gross weight).
- Train movement details (including delays) for each train or movement during the study period (typically a 1-week representative period), including the breakdown and makeup of new trains.
- Representative track maintenance outages and other non-operating events that must be factored into simulations.

1.f. Stakeholder Review of Current Information & Issues to be Addressed

An initial meeting will be held with DOTD/RPC to clearly and concisely document the goals and objectives of the study from which all alternative solutions will be evaluated.

The Consultant team will explore with the Steering Committees (both senior and working) what issues exist, their relative priorities, solutions that were proposed and not implemented, and what is perceived to be required to either make proposed solutions implementable or what kinds of alternative solutions need to be developed.

Individual meetings/interviews with up to twenty-five key Stakeholders will also be conducted during this Task to identify specific concerns of primary Stakeholders.

At this early stage in the study, issues will be described in detail and further classified into the categories noted at the beginning of this task.

Each of the identified issues will be approached in different ways. How these issues are addressed will be based on what the options are, where they are located, and how issues relate to one another. Using the RAILS™ model, the area rail network will be modeled. Where appropriate subsections of the area model may be used to analyze certain critical areas.

Deliverables from Task 1 will include:

- Level of existing rail car movements and operation characteristics of the existing system
- Preliminary assessment and description of practical line and terminal (yard) capacities, based on analysis of the rail network and as expressed by local rail operating managers
- Documentation of scheduled and unscheduled train operations (including Amtrak), including origin, destination, and routing within the gateway area. This will also include:
  - Power (number of units, total HP)
  - Train length
  - Number of cars (including loads and empties, if available)
  - Delays experienced by each train in sufficient detail that they can be duplicated in the simulation
- Qualitative assessment of service levels – actual versus desired
- Qualitative assessment of Stakeholder concerns
- Qualitative assessment of public issues
- Qualitative ranking of corridors relative to priorities in which issues need to be addressed and resolved

Task 2 – Committee Communication and Stakeholder Coordination

Task 2 will be composed of three main items: (1) Stakeholder identification, (2) establishment of steering committees, and (3) on-going project communications.

2.a. Stakeholder Identification

In coordination with the LDOTD and RPC, a comprehensive list of key stakeholders including organization represented, address, phone number, contact person, title, fax number, and e-mail address will be developed by the Consultant. The list of stakeholders will be evaluated in order to determine a senior level steering committee (small group, SLSC), project working steering

committee (technical group, PWSC), and other key stakeholders (large group). It is anticipated that up to four general stakeholder (large group) meetings will be conducted, four Senior level Steering Committee meetings will be conducted and up to six Project Working Steering Committee meetings will be conducted.

2.b. Establish Steering Committee

To get the greatest level of involvement, two steering committee levels will be established. The first – a senior level steering committee (SLSC) – is to involve one very senior decision maker from each railroad company stakeholder – at the Vice President or higher level. Where major rail shippers are involved, they should also be on this committee. In addition, the Mayor of New Orleans and the President of Jefferson Parish, or their designated appointee will serve on the SLSC. The maximum committee size should be limited to preferably no more than twelve people. The Consultant team will prepare an executive briefing paper, summarizing findings and conclusions, defining alternatives, identifying issues, summarizing pros and cons, quantifying costs and benefits, making recommendations, and spelling out an action plan, as information becomes available. Approximately once every two months, key members of the Consultant team will hold a conference call with the SLSC to review the paper and discuss questions and issues. The role of this steering committee will be to assure that the project retains the corporate or organizational focus of each railroad and stakeholder. It will also serve as a contact point to help assure timely cooperation with the Consultant team at both corporate and local levels.

The second steering committee will be the project working steering committee (PWSC) made up of key local participants including FRA, DOTD, RPC, and others as may be appropriate. The PWSC will also be as small as possible, but not omit key stakeholders or public interests. The PWSC will be convened to review the same material presented to the SLSC, guided by the comments of the senior steering committee. Non-local participants may participate by conference phone if they cannot attend the meeting.

The PWSC will be called to convene approximately once every two months or as the study progress dictates.

2.c. Deliverables

Deliverables from this task will be as follows:

- Project timetable
- Stakeholder Identification
- Steering Committees Established
- Communication channels and responsibilities

Task 3 – Determination of Business & Public Requirements and Traffic Forecasts

From the Consultant review of current information and meetings with railways, major customers, passenger companies, the Port and other key stakeholders the Consultant will determine the business and public requirements, as they currently exist and what is seen to be future needs.

3.a. Determination of Business & Public Requirements

For rail and rail freight customers input will be sought in terms of service requirements, freight economics, capacity availability, and safety of operations. There is a need however to understand and quantify for Intermodal traffic the terminal and trucking requirements and costs.

For passenger companies and proposed new passenger services the requirements will be in capacity availability, service requirements, and essential economics. For passenger growth however it is also essential to quantify the need for adjacent infrastructure such as parking.

For Ports the requirements will be in rail and highway capacity, service, rail and truck costs and economics, rail competitive access, land availability and the ability to provide a total product that is competitive with other ports.

In the case of public requirements the key issues will probably be reduced waiting time at or elimination of level crossings, reduced noise levels, environmental protection and safety. It is anticipated there will be resistance to the construction of new rail trackage as a means to solve some of these issues. The Consultant will raise other important issues not raised by Stakeholders, but the Consultant feels needs to be addressed.

3.b. Consequences of Rail Mergers

Rail mergers have had and will continue to have a significant effect on traffic flows, rail operations, shippers and specific communities such as New Orleans. The UPSP merger consequentially provided BNSF access to New Orleans and the CNIC merger provided KCS with access to the local chemical producers. The objectives of the NS, CSX and CNIC as stated and justified in previous studies was to put in a new single line intermodal network, which would capture truck traffic and reduce highway congestion. This again could benefit New Orleans.

The UPSP merger however, also initially resulted in major rail shipper disruptions as management transitions. The NS and CSX takeover of Conrail also has gone through an evolutionary period. In the end the shipper and local communities have, however, seen changes in the freight rail system. The proposed CN-BNSF merger could effect shippers and communities as a result of a new network that is not going to require interchanges of traffic but will instead provide for a seamless flow, hence improving service and reducing cost.

An examination will be made of the consequences of the CN-BNSF merger and other potential mergers. Possible scenarios will be determined and presented, from which a better understanding of the consequences will be understood and a potential strategy will be developed.

3.c. Traffic Forecasts- Rail

The Consultant in concert with the railroad companies will develop rail and intermodal traffic forecasts for Year 2005, 2010 and 2020. It is likely, however, that railroads will have many detail forecasts for the New Orleans area and, in particular, traffic through the gateway. Where appropriate for future estimates of traffic, the use of previous statistical analysis and trending assumptions will be made that are reasonable. Wherever local traffic assumptions are made, they will be supplemented by information from major shippers into and out of the New Orleans region. The outcome of this study could affect those forecasts.

Besides locally available studies on regional growth projections, other sources, including U.S. government and private organizations such as DRI, will be reviewed for appropriate and useful information.

Forecast information for each railroad's traffic will then be converted into carloads, local switching moves and number of trains and movement characteristics for the planning period. The Consultant will, utilizing forecasts from Amtrak, also factor forecast passenger train movements to establish total train movement requirements.

All forecasts will be reviewed with railroads and other stakeholders, as appropriate. It will be critical that traffic forecasts (translated to expected traffic movements) be approved (signed off) by all involved parties. Adjustments to gain approval will be made, as necessary.

3.d. Passenger Rail Forecasts

Passenger rail forecasts will be acquired from the pool of ongoing studies listed in Section 1d and to evaluate future rail passenger needs and their impact on freight rail movements and corridors.

3.e. Port Forecasts

Forecast cargo flows will be acquired from the Port of New Orleans of individual terminals to project impacts to rail traffic within the gateway. Planned capital improvements at the Port and their future capacity will be evaluated and taken into consideration.

3.f. Deliverables

Deliverables from this task include projections for 2005 (short term), 2010 (mid term), and 2020 (long term) for each of the following:

- Regional growth projections of freight rail traffic (traffic origin or destination in project study area);
- Rail freight and intermodal traffic activity projections (including through movements with no local origin or destination);
- Intermodal Highway Forecasts
- Passenger Rail Requirements Forecasts
- Port Forecasts
- Relationship of above forecasts to current issues if no changes/improvements are implemented (No-Build Alternative);
- Special summary of:
  - Developments at the Port of New Orleans, including container traffic;
  - Operational/Physical impacts of potential Interim Millennium Port and the Millennium Port container terminal (long term);

- Operations/Physical impacts of proposed rail lines (Maglev, light rail, other) (long term);
- Impact of recent and proposed rail mergers on New Orleans regional rail system;
- Evaluation of reciprocal and non-reciprocal switching, joint line facility agreements, trackage right agreements, and other agreements (including labor) that affect rail services in the region.

Task 4 – Rail Process Operations Analysis

The Consultant team will conduct a review of the existing operations and processes in order to identify current operational and capacity deficiencies, interchange delays, communication barriers, grade crossings deficiencies, yard blockages and other obstacles. To carry out this review properly, it is necessary to understand the current operating processes, the on-the-ground infrastructure and the capabilities of the existing rail plant. After calibration, one of the first simulation runs will be to run the model without constrained or artificially restrictive operating practices that the railroads or the Consultant may identify.

The Consultant will also evaluate alternatives that consider policy modifications, such as interchange practices related to inspection and crew changes, terminal operations, train control management issues, operating authorities, carload and intermodal terminal operations, etc.

The Consultant, as an alternative, will evaluate a centralized coordinating operation that could make dispatching or movement recommendations to each carrier. While this does not centralize control, it provides additional information to carriers that in a cooperative, voluntary environment will benefit all carriers in the long run. Deliverables for this task will include documentation of the existing communications process and existing train control management.

Task 5 – Development of Alternatives & Recommendations

Through operations analysis and modeling, the Consultant will develop alternative solutions and formulate recommendations. Also, the Consultant will provide facilitation between railroad and the public sector to search for acceptable solutions.

5.a. Intermodal & Port Interface Modeling

As previously stated many of the rail mergers are based on converting truck traffic to rail. As well there is the possibility of either the existing port operation being expanded or a new Millennium Port. In order to determine the inputs into the rail model these factors must be recognized and taken into account.

An intermodal model will be developed to determine the effect of workload change on existing terminals and support yards. The output of these models for each terminal will be:

- Terminal working track footage required
- Storage track footage required
- Receiving and departure track footage required

- Number and length of new trains generated
- Terminal acreage required
- Truck volumes

5.b. Rail Operations Modeling

Four base case simulations will be run. The first base case simulation run will represent the current (early year 2000) operation. The second simulation over existing plant or improvements that are funded or are project certain will be for the year 2005, followed by 2010. Finally, a simulation of year 2020 and beyond will be run. These base case scenarios will be analyzed and quantified in terms of operational impacts, relevant to both the carriers (train hour delays, total running time, etc.) and the public (road crossing delay hours, etc.) and the rail operating costs associated with each simulation run.

Outputs from the Base Case simulations will be reviewed with each carrier for reasonableness and approval.

Where simulation is an appropriate tool for evaluating alternatives, additional simulations will be performed for each appropriate time period in which an alternative could be implemented to measure and quantify the impact of that alternative (operationally and cost wise). Each alternative must pass at least minimum criteria that it is economically, publicly, and environmentally acceptable if it were implemented.

For budgeting purposes, the Consultant will run two alternative simulation runs for 2005 to test alternative plant and operating change improvements. The Consultant will also run two alternative simulation runs for the 2010 time frame and finally, two simulation runs for the 2020 and beyond time frame.

The Consultant team will estimate the real economic benefit to each carrier that may be affected. Economic benefits, divided by each carriers typical project threshold (usually in the range of 30 to 40 percent return) will determine the amount of capital that each carrier can invest to meet its project threshold. The difference then becomes a public cost (where applicable) that can be independently evaluated against public benefit.

Analyses in this task will not only quantify the details of current and future issue areas, but will serve to help ensure that capital dollars are not unknowingly spent fixing short-term problems which are inconsistent with long-term solutions. The simulations and analyses will also form the basis and platform for finding short, medium and long-term complimentary solutions.

5.c. Development of Alternative Strategies

The Consultant will perform a Value Management or similar facilitation approach to integrate operational, economic, and non-economic findings into a rational procedure for making and justifying study recommendations.

Using this methodology, key knowledgeable stakeholders will be brought together, presented with the issues, analyses and asked to identify all possible options to solve either a network or local problem. These strategies might involve operational change or capital investment or both. Based on facts, consensus, tradeoffs and an agreed to scoring system the options will be

narrowed down to three. Facts that would be considered are items such as estimated cost, ability and difficulty to implement, environmental and public acceptability, and benefits of solution.

These strategies will then be run through the models to determine if they provide the required results. If this test is met, the next step will be, for the acceptable strategies, to identify and quantify the risk of implementing including any environmental or political issues or concerns. Competitive factors between railways will be recognized and quantified and a determination made as to the ability to influence the railway to agree to a particular solution. If these risks and railway competitive issues are manageable or can be solved, general design concepts, where applicable, will be developed and order of magnitude costs for each solution will be estimated.

The best strategy for each problem will then be determined based on benefits, cost to implement and risk assessment. This process will be carried out fully for all issues. Options and strategies will be based on meeting long-term business and key stakeholder requirements.

5.d. Deliverables

Deliverables from this task will include:

- Analysis of simulation findings
  - Current
  - Year 2010 Base Case (no basic changes to plant)
  - Year 2020 Base Case (no basic changes to plant or operating practices)
- Evaluation of plant and operating improvement alternatives for 2005, 2010 and 2020 (Six runs)
  - Operational improvements
  - Capacity related issues
  - Estimated capital costs
  - Economic returns (benefits)
  - Non-economic and third party benefits
  - Port related services
- Potential strategies to handle present and future demand – Operational
  - Short term (0-5 years)
  - Mid term (6-15 years)
  - Long term (16 years +)
- Potential strategies to handle present and future demand – Physical Plant
  - Short term (0-5 years)
  - Mid term (6-15 years)
  - Long term (16 years +)

- Funding issues
  - Private (railroads)
  - Local
  - State and federal
- Environmental issues
  - By corridor
  - By Strategy
  - New construction
- New technologies
  - Potential applications – rail freight and passenger services
  - Rail/public interfaces (primarily grade crossings) and environmental

Task 6 – Preparation and Presentation of Final Report

The Consultant will prepare up to one hundred twenty-five (125) copies of the Draft Report for distribution by the LDOTD.

The Consultant will prepare for and make up to three formal presentations to the LDOTD and the steering committees.

Following compilation and incorporation of comments received from the Steering Committee, the Consultant will prepare up to one hundred twenty-five (125) copies of the Final Report for public distribution by the LDOTD.

Services to be Performed by the LDOTD:

In addition to any services previously indicated to be performed by the LDOTD at no cost to the Consultant, the LDOTD and/or the RPC will furnish without charge, the following services and/or data:

1. Copies of previous studies of reports available.

2. Aerial photography and quadrangle maps.

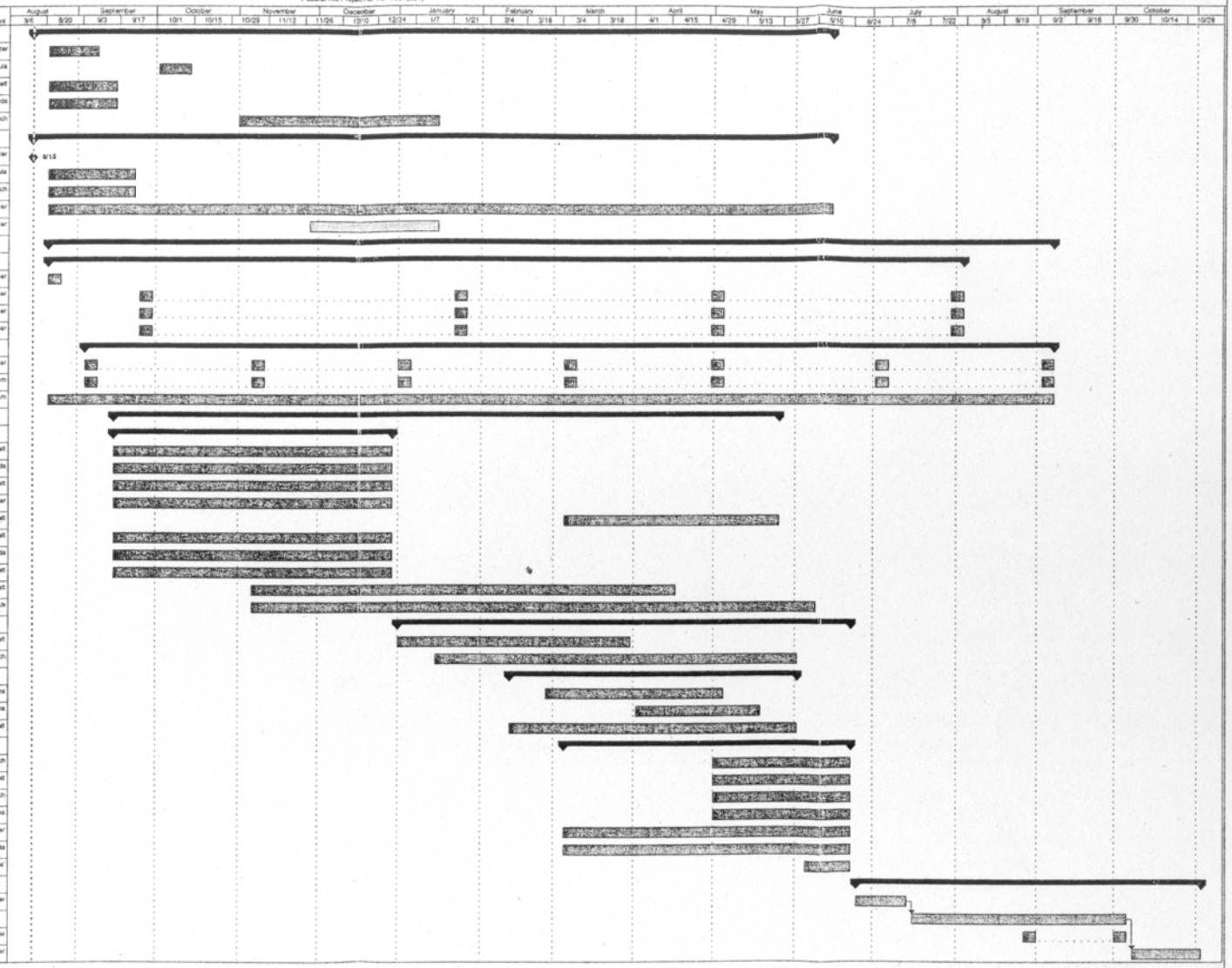
3. Information related to expected cost data for alternative analysis including, but not limited to, right-of-way cost, roadway construction cost, and structure cost of bridge.

4. Standard plans of bridges, culverts, and other structures prepared by LDOTD.

5. Available electronic data as necessary for coordination and delivery of GIS information, for development of presentation graphics for proposed Stakeholder Meetings, and/or other coordination meetings.

New Orleans Rail Gateway and Regional Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)

ID	Task Name	Company	Assignment
1	**1. Data Collection and Identification of Existing Issues (URS/CANAC/N-Y)**		
2	a. Review of Past Studies	URS	T. Hunter
3	b. Site Inspection	CANAC	A. Cebula
4	c. Review of Intermodal & Port Capacity & Capabilities	URS	D. Bartlett
5	d. Review of Rail Passenger Capabilities	N-Y	B. Richards
6	e. Simulation Model Coding	CANAC	R. Leilich
7	**f. Stakeholder Review of Current Information & Issues to be Addressed**		
8	f.1 Initial Meeting with LADOTD & RPC	URS	T. Hunter
9	f.2 Exploratory Meeting with Senior Steering Committee	CANAC	A. Cebula
10	f.3 Exploratory Meeting with Working Committee	CANAC	R. Leilich
11	f.4 Key Stakeholder Meetings (25 mtgs.)	URS	T. Hunter
12	f.5 Deliverables (Various Assessments of Data Gathered)	URS	T. Hunter
13	**2. Committee Communication and Stakeholder Coordination (URS/N-Y)**		
14	**a. Stakeholder Identification**		
15	a.1 Prepare Listing of Stakeholders	URS	T. Hunter
16	a.2 General Stakeholder Meetings	URS	T. Hunter
17	a.3 Senior Level Steering Committee Meetings	URS	T. Hunter
18	a.4 Project Working Steering Committee Meetings	URS	T. Hunter
19	**b. Establish Steering Committee**		
20	b.1 Bi-Monthly SLSC Conference Call (6 calls)	URS	T. Hunter
21	b.2 Prepare Progress Summary for Bi-Monthly Meetings	URS	K. Dussom
22	c. Deliverables	URS	K. Dussom
23	**3. Determination of Business & Public Requirements and Traffic Forecasts (URS/CANAC/N-Y)**		
24	**a. Determination of Business & Public Requirements**		
25	a.1 Rail and Freight Requirements	URS	D. Bartlett
26	a.2 Passenger Service Requirements	N-Y	B. Richards
27	a.3 Port Requirements	URS	D. Bartlett
28	a.4 Public Requirements & Key Issues	URS	T. Hunter
29	b. Consequences of Rail Mergers	URS	D. Bartlett
30	c. Traffic Forecasts - Rail	URS	D. Bartlett
31	d. Passenger Rail Forecasts (Short Term, Mid Term & Long Term)	N-Y	B. Richards
32	e. Port Forecasts	URS	D. Bartlett
33	f. Deliverables (Physical Impacts of Potential Interim Millennium Port & Proposed Rail Lines)	URS	D. Bartlett
34	**4. Rail Process Operations Analysis (CANAC)**	CANAC	R. Leilich
35	**5. Development of Alternatives & Recommendations (N-Y/URS/CANAC)**		
36	a. Intermodal & Port Interface Modeling	URS	D. Bartlett
37	b. Rail Operations Modeling	CANAC	R. Leilich
38	**c. Development of Strategies**		
39	c.1 Conceptual Layouts	N-Y	J. Simmons
40	c.2 Order of Magnitude Cost Estimates	N-Y	J. Simmons
41	c.3 Evaluate Strategies Above for Benefits, Costs, Risk (URS/N-Y)	URS	D. Bartlett
42	**d. Deliverables**		
43	d.1 Analysis of Simulation Findings	CANAC	R. Leilich
44	d.2 Evaluation of Plant & Operating Strategies	URS	D. Bartlett
45	d.3 Study Recomendations - Operational	CANAC	R. Leilich
46	d.4 Study Recomendations - Physical Plant (URS/N-Y)	N-Y	J. Simmons
47	d.5 Funding Issues	URS	T. Hunter
48	d.6 Environmental Issues (N-Y)	N-Y	B. Richards
49	d.7 New Technologies	CANAC	L. Masse
50	**6. Preparation & Presentation of Final Report (URS/CANAC/N-Y)**		
51	a. Prepare Draft Report	URS	T. Hunter
52	LDOTD Review		
53	b. Prepare for & Present Draft Report to LADOTD & Steering Committees (2 presentations)	URS	T. Hunter
54	c. Prepare Final Report	URS	T. Hunter



Project: Rail_Gateway
Date: Tue 8/15/00

Task | Split | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Split | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary

URS

WORK STAFFING PLAN

URS

Legend
URS - URS Corporation
NY - NY & Associates, Inc.
CAN - CANAC, Inc.

LDOTD
James Joffrion, P.E.
Project Coordinator
Planning

New Orleans MPO
Karen Parsons
Project Coordinator

LDOTD
Vincent Russo, P.E.
Project Coordinator
Environmental

URS
Vincent C. Provenza, P.E.
Principal in Charge

Quality Assurance
Rail Operations
Peter Johnson, P.E. - CAN

Rail Engineering
Mike Hirsh - URS

Environmental
Robert Parker - URS

URS
Kent B. Dussom, P.E.
Administrative Project Manager

Rail Operations Planning and Analysis

Technical Manager
Dave Bartlett, P.E. - URS

Rail Modeling & Rail Operation Analysis
R. Leilich - CAN
A. Cebula, P.E. - CAN
G. Vinette - URS
G. Pengelley, P.E. - CAN
S. Rawal, P.E. - CAN

Rail Engineering Signals & Communication

Technical Manager
Greg Hutt - URS

Track and Bridge Design
R. Bredberg, P.E. - NY
J. Simmons - NY

Signals & Communication
S. Lee, P.E. - URS
L. Masse - CAN

Stakeholder Management and Environmental Planning

Technical Manager
Thomas Hunter - URS

Stakeholder Management
S.Hoffeld - URS
B. Richards - NY

Socio-Economic / Title IV
T. Hunter, R.L.A. - URS
S. Hoffeld - URS

Noise & Vibration
R. Green - URS

Support Staff

CADD / GIS
L. Osborne - URS
A. Baker, E.I.T. - URS

Visual Imagery
C. Coleman - URS
L. Osborne - URS

Initial SLSC Meeting (September 2000)

URS

October 4, 2000

SENIOR LEVEL STEERING COMMITTEE (SLSC) MEETING MEMORANDUM

SUBJECT:	**New Orleans Rail Gateway and Regional Rail Operational Analysis** **State Project No. 737-26-0002** **Federal Aid Project No. HP-T021(021)** **Various Parishes** **URS Project No. 04-00046333.00**
DATE:	September 26, 2000 1:30 PM
PLACE:	Regional Planning Commission 21st Floor Conference Room New Orleans, Louisiana
ATTENDANCE:	See Attached List

The meeting began at approximately 1:30 P.M. with Mr. Blaise Carriere requesting self-introductions of attendees. Mr. Carriere then provided a general history and introduction to the project. He emphasized that LDOTD is attempting to address both recurring and non-recurring congestion with this study and that involvement of the steering committee and public representatives are vital to the development of a plan, acceptable to all parties. He further noted that the senior-level steering committee has been structured to include rail representative decision-makers and that the project team will need cooperation by all rail companies in their data collection efforts. Mr. Carriere requested that all attendees ensure cooperation of each rail company's point of contact with regard to the study team's data collection efforts. He then introduced the project team, identifying Ms. Karen Parsons as the RPC project manager and Mr. Kent Dussom as the project manager for URS. Mr. Carriere noted that a permanent project manager for LDOTD had not been named, but that Jim Joffrion is the interim project manager for this study. He then turned the meeting over to Mr. Dussom.

Mr. Dussom began his discussion by confirming that all attendees had a copy of the handout, and followed this with a brief review of the hand-out, which included the meeting agenda, lists of the senior level steering and technical advisory committees, meeting and study objectives, a project schedule, a graphic displaying the independent rail and public interests in this project, and data needs form the railroad companies. Mr. Dussom emphasized the importance of the senior level steering and other study committee input. He continued his discussion by reviewing the meeting

objectives, project goal and objectives, and a summary of the past, related studies. He ended this discussion by inviting interested attendees to leave their name and a list of any materials displayed at the meeting for which copies are desired. He then referred to the graphic that displayed the railroad and public interests in this project, emphasizing that the project team will remain cognizant of these interests throughout the alternatives development process. His discussion ended with a review of the study schedule. Mr. Dussom's then introduced Mr. Andy Cebula of CANAC, who will be leading the operational analysis efforts for the study. Mr. Cebula reviewed the remainder of the handout, which included a list of data needed for the operational analysis. He then returned attention to Mr. Dussom, who requested that each rail company provide their assigned point of contact for study data requests. Calling on each rail company present at the meeting, Mr. Dussom collected points of contact, including those listed on the attached Project Working Committee Table.

Mr. Dussom then suggested that the major meeting objectives had been met and that the project team would be available for the rest of the day to answer questions or discuss the study. Mr. Carriere suggested, however, that each rail company representative generally explain their company's operations for the benefit of the public officials present at the meeting.

Mr. Gary Hutchinson of the New Orleans Public Belt began the discussion by noting that the NOPB has their main yard near the Mississippi riverfront between Nashville and Napoleon Avenues. They presently operate approximately 26 miles of rail trackage and the Huey P. Long Bridge. All but approximately 6 miles of the trackage is single-tracked. Mr. Hutchinson noted that the NOPB has experienced substantial growth in operations in the recent past, mainly in bridging or intermediate traffic. Copper, rubber, zinc, aluminum, and exported paper products have been major goods in transit. He further noted that the NOPB has 160 employees at this time.

Mr. Jack Dial of the New Orleans and Gulf Coast Railroad then provided a brief explanation of NOGC rail operations. He noted that the NOGC rail has four principal industrial customers and that numerous grade crossings (i.e., 50-60) along their 24-mile railroad is a big concern. Mr. Dial also noted that two trains are operated daily, totaling between 20-22,000 cars a year. NOGC will soon be operating a steam excursion train three times daily.

Norfolk Southern was represented by Mr. Rick Crawford and Mr. Dave Fowler. Mr. Crawford explained that integrating the Conrail line with Norfolk Southern has been a major NS objective in the recent past. He also noted Norfolk Southern anticipates substantial train freight growth associated from the growth in highway freight. Major NS customers in the New Orleans area are in St. Bernard and Plaquemines parishes on the east side of the Mississippi River. Since March, there are 3 conference calls daily with all railroads to coordinate traffic on the back belt. Mr. Crawford further noted that Norfolk Southern has made efforts in the past to disperse NS trains by diverting some trains to Meridian, Mississippi. He concluded his discussion by noting that NS is willing to work with the study team to find community-friendly solutions to improve operations and looks forward to the study's challenge.

Mr. Ron Brinson then provided a summary of the Port of New Orleans operations and emphasized that rail operations in New Orleans are an underappreciated service. Mr. Brinson summarized by noting that there are three different types of rail business in New Orleans: local; bridging operations; and intermodal. He noted that having a good report as a result of this study is not enough, emphasizing that operation of all six trunk lines is fundamentally important to the operations and marketing of the Port of New Orleans. He also noted that railroads must become more involved in marketing intermodal operations. Mr. Brinson supported this importance by stating that the Port anticipates a doubling of Port intermodal operations in the next 10 years and another 200 percent increase in the following 10 years. He further noted that the public has been tolerant with industrial development heretofore; however, such tolerance cannot be expected indefinitely. He suggested that rail representatives at the Corporate level (i.e., rather than just the local representatives) become aware of the importance and problems of the New Orleans Rail Gateway. He continued by suggesting that such involvement may minimize public relations problems that may result from inaction or similar. Mr. Carriere supported Mr. Brinson, emphasizing the need to develop a palatable action plan that benefits rail and public interests.

Amtrak's representative, Mr. David Carrol, then provided Amtrak's position regarding the study, noting that Amtrak can act as a conduit of information to the public relating to this study and also suggested that federal Amtrak funds may be available for improvements.

Mr. Steve Barkley of Union Pacific provided the next operations summary. He explained that UP has approximately 20-22 trains that cross the Mississippi every day, with most operations associated with CSX. He and UP support the need for a centralized communications system and agree that there are big opportunities to improve the rail transportation system.

Mr. Bob Fralla of CSX also supported the study and added that the southwest gateway is a very important gateway, especially for minerals, chemicals, and forest products. He added that CSX delivers 11 trains back and forth to UP each day, and 14 trains out of New Orleans daily.

The CNIC representative, Mr. Terry McManaman, then stated that because both sides of the Mississippi River have serious congestion, addressing this congestion should be one of the major study objectives. He also supported the study and emphasized his confidence in the study team, citing the benefits of the study team's alternatives development process. Mr. McManaman then provided some operations data for CNIC that included a current Louisiana employee count of over 300, and a description of CNIC's primary Louisiana region of operations as the region between Hammond, New Orleans, and Baton Rouge. He added that CNIC has four trains inbound and four trains outbound daily and that they are negotiating with the Port of New Orleans to increase intermodal traffic in the Port and improve facilities.

Mr. Ab Rees then provided an operations summary for Kansas City Southern. Mr. Rees noted that as the smallest of the Class I railroads represented at the meeting (i.e., about 10 percent the size of the other railroads represented), he was concerned that the data requests provided in the fax sent in advance of the meeting and summarized in the hand-out would be too time consuming for KCS staff, suggesting that interviews could avoid some of these data research efforts by

railroad staff. He also emphasized the need for doubling or tripling the capacity of the NOPB. Mr. Cebula responded to Mr. Rees's concerns regarding data collection efforts by noting that a lot of the data will be obtained from interviews, and if some data are not available, the project team will use available data instead. Mr. Carriere assured Mr. Rees that the study team is requesting only necessary data and that no excessive or extraneous requests will be made.

Mr. Dave Dawson of Burlington Northern Santa Fe then provided a brief statement of support for the study, noting traffic volume increases over the last three years. He also noted that no BNSF operations are currently on the back belt because all originating and terminating traffic is with the NOPB.

Representing Jefferson Parish and Parish President Tim Coulon, Mr. B.K. Sneed explained that the Parish supports rail and this study, and recognizes that rail operational improvements are integral to the region's improvement. He further offered Jefferson Parish's assistance in lobbying for funding support. One current project that could provide some relief and also could use LDOTD cooperation is the design to provide on/off ramps on Earhart Boulevard at Mays Yard. Mr. Dussom inquired about the Parish's position on closing at-grade railroad crossings. Mr. Sneed responded by noting that past closings have typically been associated with new openings, where several crossings had to be closed for railroad permission to provide a single, new grade crossing, and that these closures have typically been legitimate.

Describing the City's interest in rail improvements as "keen," Mr. Cliff Scineaux of the City of New Orleans likewise provided support for both the study and rail improvements, and offered any assistance that the City could provide to facilitate the study and the development of effective solutions.

Mr. David Doss, representing Congressman David Vitter, added that Congressman Vitter has a great interest in this study and likewise offers support.

Mr. Carriere then suggested that the study team coordinators make their closing remarks. Ms. Parsons expressed her gratitude for everyone's participation at the meeting. She also emphasized the importance of evaluating the Millennium Port's operations for this study. The number of containers shipped through the Port will be important to simulate future demands on the rail system. Ms. Parsons added that the passenger rail initiatives (i.e., between the New Orleans International Airport and the New Orleans Union Passenger Terminal and between Baton Rouge and New Orleans) must also be considered in this study and stated that the New Orleans Rail Gateway's "sister study" (i.e., East-West Corridor EIS) will evaluate passenger rail service and highway improvements for transport of people and goods along this corridor.

Mr. Walter Brooks of RPC followed Ms. Parson's remarks, underscoring the importance of identifying the problems and concerns in improving freight rail operations in the region. He emphasized that the RPC seeks to develop implementable short- and long-term solutions to these problems rather than just producing another study report.

During the closure of this meeting, several questions were posed to attendees. Mr. Carriere requested that attendees provide a comparison between New Orleans and the Memphis Gateways. Attendees noted that the New Orleans Gateway handles a greater volume of traffic. Memphis is about half the size of New Orleans. Mr. Dussom also asked about how interrail agreements are administered. Rail representatives noted that local coordination meetings are conducted, with the host company alternating among meeting participants. Discussion ensued regarding the use of such meetings as technical advisory meetings for this study. Mr. Tom Hunter requested whom he should contact regarding these meetings. Mr. Dawson of BNSF noted that he would provide the current schedule of meetings for his use.

There being no further business, the meeting was adjourned at approximately 2:40 P.M.

Prepared by:

Scott L. Hoffeld
Sr. Environmental Planner

Attachment
Distribution: Attendance List
File

New Orleans Rail Gateway Project Working (Technical) Committee

Name	Title	Company	Address	Telephone	Fax
Mr. Steve Johnson	Trainmaster Avondale	Burlington Northern Santa Fe Railroad	100 Avondale Garden Road Avondale, Louisiana 70094	(504) 436-3409	
Mr. Jim Fitzgerald	Superintendent Gulf South	Canadian National Illinois Central Railroad Co.	8022 Ashland Road Geismar, Louisiana 70734	(225) 746-2301	(225) 746-2306
Mr. David Hamby	District Superintendent	CSX Transportation Company	6701 Almonaster Avenue New Orleans, Louisiana 70126	(504) 244-4390	(504) 244-4370
Mr. Ray Duplechain	Assistant General Manager	New Orleans Gulf Coast Railway Company	4822 Tchoupitoulas Street New Orleans, Louisiana 70115	(504) 896-7411	(504) 896-7419
Mr. Kurt Nastasi	Superintendent of Operations	New Orleans Public Belt Railroad	9387 Highway 23 South Belle Chasse, Louisiana 70037-2149	(504) 391-3167	(504) 391-1534
Mr. David Fowler	Superintendent Terminals	Norfolk Southern Railroad	2101 St. Ferdinand Street New Orleans, Louisiana 70117	(504) 942-3215	(504) 942-3227
Mr. Jim Love	Trainmaster	The Kansas City Southern Railroad	P.O. Drawer 487 220 Airline Highway Metairie, Louisiana 70004	(504) 832-5242	
Mr. Willie Reynolds	Superintendent Livonia, Louisiana Service Unit	Union Pacific Railroad	P.O. Box 217 Livonia, Louisiana 70755	(504) 338-2929	(504) 338-2927
Mr. Patrick Gallwey	Vice-President, Maritime Operations	Port of New Orleans	Post Office Box 60046 New Orleans, Louisiana 70160	(504) 522-2551	(504) 524-4156
Mr. Wayne Tankersley	Director, Terminal Operations	CSX Intermodal	7801 Almonaster Boulevard New Orleans, Louisiana 70126	(504) 244-4332	(504) 244-4345
Ms. Deborah Wetter	General Manager	Gulf Coast Business Group (Amtrak)	National Railroad Passenger Corp. 1001 Loyola Avenue New Orleans, Louisiana 70113	(504) 528-1600	(504) 528-1645
Ms. Kathleen Norman	President	H.C. Freight Systems, Inc.	P.O. Box 19486 New Orleans, Louisiana 70179-0486	(504) 484-6411	(504) 484-6463
Mr. Dan Borne	President	Louisiana Chemical Association	One American Place, Suite 2040 Baton Rouge, Louisiana 70825	(225) 344-2609	(225) 343-1007
Mr. Glenn Guillot	Vice-President	Southeast Motor Freight	916 St. George Avenue Jefferson, Louisiana 70121	(504) 731-2829	(504) 731-2832

New Orleans Rail Gateway and Re al Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00

Sign-In Sheet

September 26, 2000
Senior Level Steering Committee (SLSC) Meeting
Regional Planning Commission

Name	Organization	Mailing Address	Telephone Number	E-mail Address
F.D. FOWLER	N.S. RAILROAD	2101 ST FERDINAND. N.O.	(504) 942-3215	DAVE.FOWLER@NSCORP.COM
R.E. BREDBERG	N-Y ASSOC	2750 Lake Villa DR. MET.	885-0560	NYASSOC@BellSouth.net
BRIAN PARSONS	LADOTD	P.O. BOX 94245, B.R. LA 70804	225/274-4502	bparsons@dotd.state.la.us
JIM JOFFRION	DOTD/PLANNING	P.O. BOX 94245 BR LA. 70804	225/379-1952	
J. Ray Brown	Port of NO	P.O. Box 60046 NOLA 70160	504/528-3201	jrbrown@portno.com
Joseph Cochran	" " "		504/528-3208	jvc@portno.com
Kent Dussom	URS			
WILLIE REYNOLDS	UPRR	P.O. Box 317 LIVONIA, LA 70755	225-338-3939	
JIM LOVE	KCS RR	P.O. BOX 487 METARIE LA.	225 832 5242	
B.K. SNEED	Jeff Parish		349-3655	KSNEED@NOUP.com
Kyle Dryl	UPRR	P.O. Box 217 Livonia, LA 70755		
ANDY ACEBULA	CANAC	1100 UNIVERSITY SUITE 500 MONTREAL CANADA	514-399-3796	ACEBULA@CANAC.COM

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New Orleans Rail Gateway and Re ial Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00

Sign-In Sheet

September 26, 2000
Senior Level Steering Committee (SLSC) Meeting
Regional Planning Commission

Name	Organization	Mailing Address	Telephone Number	E-mail Address
DAVE DAWSON	BNSF	100 Avondale Garden Rd. Avondale LA 70094	5044366195	
RAY DUPLECHAIN	NOPB	4822 TCHOUPITOULAS ST. NEW ORLEANS, LA. 70115	504-896-7410	RAYD@NOPB.Com
Jim Simmons	N-Y Assoc.	2750 Lake Villa Dr. Metairie LA. 70002	504-885-0500	NYASSOC@BellSouth.Net
Bruce Richards	N-Y Assoc.	2750 Lake Villa Dr. Metairie, LA 70002	504-885-0500	NYAssoc@Bellsouth.net
Bob Frulla	CSX	11 Government St Mobile, AL 36602	334-434-1471	Bob_Frulla@CSX.com
Clifford Tiverge	City of New Orleans	1300 Perdido N.O. La.	(504) 565-6844	
Rick Crawford	NS	2001 Market St Suite 29 Phila, PA	(215) 2044289	RLCrawfo@NS.Com
Jack Daly	NOGC	1777 NE Loop 410, Ste 600 San Antonio TX 78217	210/841-5773	JED@REAC.COM
David Ross	Cong. David Vitter	2800 Veterans Blvd Suite 201 Met. LA 70002	504-589-2753	david.ross@mail.house.gov
Abe Rees	KCS	114 W. 11th Kansas City Mo 64105	816-983-1528	
Gil Hutchison	NOPBRR	PO Box 51658 N.O. LA 70151	504-896-7410	JERRYH@NOPB.COM

New Orleans Rail Gateway and Regional Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00

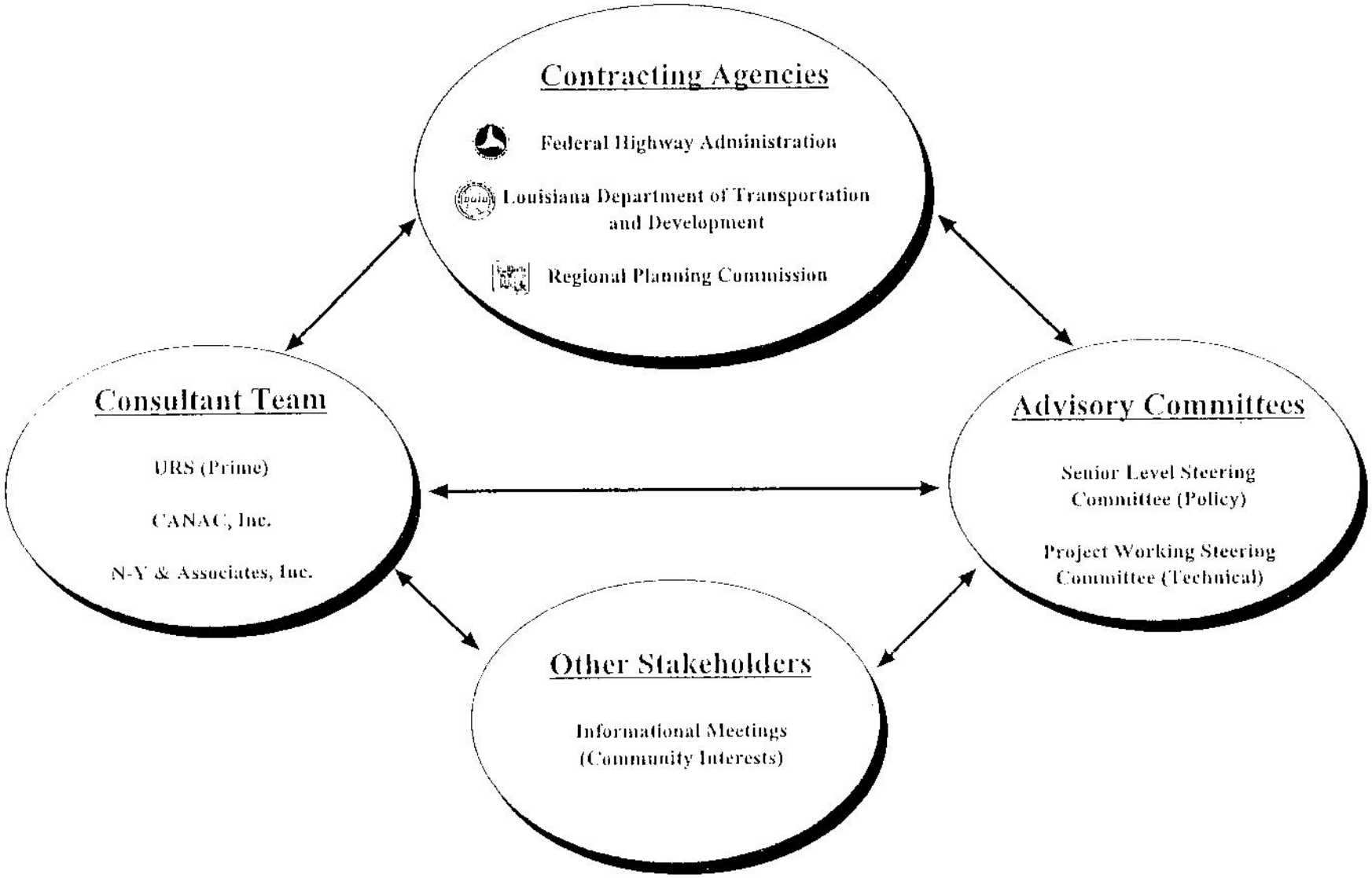
Meeting Agenda

September 26, 2000
Senior Level Steering Committee (SLSC) Meeting
Regional Planning Commission

1. Introduction — 1:30 – 1:40 p.m.
   a. Project Background
   b. Project Team
   c. SLSC/Roles of Committee
   d. Objectives of Meeting
2. Project Goals and Objectives — 1:40 – 1:45 p.m.
3. Project Scope, Timing and Deliverables — 1:45 – 2:15 p.m.
   a. Data requirements from railroads

      Contacts, Rail Infrastructure, Train Operations, Yard Operations, Grade Crossings, Rail Bridges, Currently Planned Changes
   b. Planned field survey and immediate information needs
      1. Local contacts for field survey arrangements
      2. Track and yard plans
4. Designation of point-of-contact for each railroad (day to day working level contact) — 2:15 – 2:30 p.m.
5. Brief (5 min) discussion by each stakeholder of their role in N.O. Rail Gateway and any comments/questions regarding goals/objectives of study — 2:30 – 3:30 p.m.

Project Team



New Orleans Rail Gateway Project Team

Name	Title	Company	Address	Telephone	Fax
Mr. Blaise Carriere	Deputy Secretary	LDOTD	P.O. Box 94245 Baton Rouge, Louisiana 70804-9245	(225) 379-1233	(225) 379-1851
Mr. Jim Joffrion	Planning	LDOTD	P.O. Box 94245 Baton Rouge, Louisiana 70804-9245	(225) 379-1956	(225) 379-1807
Mr. Brian Parsons	Rail Programs	LDOTD	P.O. Box 94245 Baton Rouge, Louisiana 70804-9245	(225) 274-4304	(225) 274-4314
Ms. Karen Parsons	Project Coordinator	RPC	333 St. Charles Avenue, Suite 1100 New Orleans, Louisiana 70130	(504) 568-6611	(504) 568-6643
Mr. Kent Dussom	Project Manager	URS	3500 N. Causeway Boulevard, Suite 900 Metairie, Louisiana 70001	(504) 837-6326	(504) 831-8860
Mr. David Bartlett	Technical Project Manager	URS	2269 Lakeshore Blvd. West, Suite 2205 Etobicoke, Ontario Canada M8V 3X6	(312) 263-8600 (312) 432-7070 (847) 867-5279	
Mr. Thomas Hunter	Project Coordinator	URS	3500 N. Causeway Boulevard, Suite 900 Metairie, Louisiana 70001	(504) 837-6326	(504) 831-8860
Mr. Peter Johnson	Vice President	CANAC	1 Administration Road P.O. Box 1000 Concord, Ontario Canada L4K 1B9	(905) 669-3336	(905) 669-3122
Mr. Andy Cebula	Director, Planning & Operations Support	CANAC	1100 University Street, Suite 500 Montreal, Quebec Canada H3B 3A5	(514) 399-3796	(514) 399-3967
Mr. Bob Leilich	Principal	CANAC	Corporate Strategies, Inc. 5415-A Backlick Road Springfield, Virginia 22151	(703) 941-0560	(703) 642-8998
Mr. James Simmons	Senior Project Engineer	N-Y & Associates	2750 Lake Villa Drive Metairie, Louisiana 70002	(504) 885-0500	(504) 885-0595

New Orleans Rail Gateway Senior Level Steering Committee

Name	Title	Company	Address	Telephone	Fax
Mr. David Carrol	Vice President, High Speed Rail Programs	Amtrak	455 Boston Post Road Old Saybrook, Connecticut 06475	(860) 395-2315	(860) 395-2337
Mr. E.L. Hord	Vice President	Burlington Northern Santa Fe Railroad	24125 Aldine Westfield Road Spring, Texas 77373	(281) 350-7550	(281) 350-7552
Mr. Terry McManaman	Vice President	Canadian National Illinois Central Railroad Co.	800 Woodlands Parkway, Suite 105 Ridgeland, Mississippi 39157	(601) 914-2600	(601) 914-2601
Mr. Marc Morial	Mayor	City of New Orleans	1300 Perdido Street New Orleans, Louisiana 70112	(504) 565-6440	(504) 565-8076
Mr. T.M. Pendergrass	Vice President	CSX Transportation Company	6735 Southpoint Drive, South Jacksonville, Florida 32216-6177	(904) 279-6134	(904) 279-5645
Mr. Jas Gill	Vice President, Manufacturing Past President representing the Louisiana Chemical Alliance	CYTEC Industries	10800 River Road Westwego, Louisiana 70094	(504) 431-6201	(504) 431-6689
Mr. Tim Coulon	President	Jefferson Parish	1221 Elmwood Park Boulevard Jefferson, Louisiana 70123	(504) 364-2626	(504) 736-6638
Mr. Jack Dail	Vice President	New Orleans Gulf Coast Railway Company	1777 N.E. Loop 410, Suite 600 San Antonio, Texas 78217	(210) 841-5773	(210) 841-5763
Mr. Gerald Hutchinson	General Manager	New Orleans Public Belt Railroad	P.O. Box 51658 New Orleans, Louisiana 70151-1658	(504) 896-7420	(504) 896-7419
Mr. Rick Crawford	Special Assistant, Corporate Affairs	Norfolk Southern Railroad	2 Commercial Square, 29 Floor 2001 Market Street Philadelphia, Pennsylvania 19103	(215) 209-4289	(215) 209 4286
Mr. Ron Brinson	President & CEO	Port of New Orleans	P.O. Box 60046 New Orleans, Louisiana 70160	(504) 522-2551	(504) 524-4156
Mr. Ab Rees	Senior Vice President, International Operations	The Kansas City Southern Railroad	114 West 11th Street Kansas City, Missouri 64105	(816) 983-1528	(816) 983-1297
Mr. Steve Barkley	Regional Vice President, Southern Region	Union Pacific Railroad	24125 Aldine Westfield Road Spring, Texas 77373	(281) 350-7201	(281) 350-7206

NEW ORLEANS RAIL GATEWAY COMMITTEES

To establish the greatest level of involvement and to best manage the process of involvement, three (3) working committees are being established as part of the New Orleans Rail Gateway project. The three committees are **the Senior Level Steering Committee**, the **Technical Advisory Committee**, and the **General Stakeholders Committee**. Each of these committees' roles, membership and focus are described at length below:

- As its name indicates, the **Senior Level Steering Committee** (SLSC) is composed of the prime decision-makers from the various entities associated with New Orleans Rail Gateway. Committee members include senior executives from each of the six major rail companies operating in New Orleans, as well as senior executives from the two local lines (New Orleans Public Belt Railway and New Orleans Gulf Coast Railway). Executives from the Port of New Orleans and the various rail-line shippers are also represented on the Committee. In terms of political representation, the Committee also includes the Mayor of New Orleans and the Parish President of Jefferson (or their appointees).

  The role of the Senior-Level Steering Committee is primarily one of *policy*. The Committee will discuss key questions and issues regarding the New Orleans Rail Gateway, and make joint decisions on future actions. By using key decision-makers, a high level of effectiveness in implementing policy and plans should be attained. Senior-level executives also will best be able to assure that the project retains the corporate or organizational focus of each railroad or stakeholder, while still building a consensus on how to improve the New Orleans Rail Gateway.

- The **Technical Advisory Committee** (TAC) is more oriented to the day-to day *operations* within the New Orleans Rail Gateway. The Committee will be composed of local operators (management level) of the major rail companies and local rail companies, the Port, freight/shipping/ trucking operators, and representatives of the rail-served business and industrial parks in the area. The Committee will also include representation from local and state emergency management agencies. It is anticipated that many members of the TAC will be appointed or recommended by their Senior-level counterparts on the SLSC.

  In terms of role and purpose, the TAC is expected to assist with the definition of problems and solutions associated with the operations of the New Orleans Rail Gateway. They will provide an understanding of how the local rail system functions, provide local data deficiencies, identify problem areas in operations, and help to develop operating solutions to those problems.

- The third committee is the **General Stakeholders Committee** (GSC). Composed of local community leaders, elected officials and business leaders, this group's efforts will be focused on the community side of the project. The Committee will act as a conduit for community and neighborhood input, providing an understanding of local citizens' concerns about the railroads, identifying perceived deficiencies, working in consensus building and assisting in the developing of solutions.

New Orleans Rail Gateway and Regional Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00

Meeting Objectives

Senior Level Steering Committee
September 26, 2000

1. Clear understanding and acceptance of high level objectives; scope, timing, deliverables of project.
2. Clarification of information required for rail operations analysis and commitment to provide same.
3. Designation of point-of-contact for each stakeholder for execution of project.
4. Statement by stakeholders of their individual project objectives; concerns; constraints recommended areas of focus.
5. Discuss field survey initiation October 2 and immediate information needs; identify local contacts; track and yard plans.

New Orleans Rail Gateway and Regional Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00

PROJECT GOAL:

Improve the efficiency and safety of freight and passenger rail operations within the New Orleans Rail Gateway to support existing and future economic activity, minimize environmental impacts and improve overall surface transportation efficiency.

PROJECT OBJECTIVES:

1. Quantify specific operating and infrastructure deficiencies of the New Orleans Gateway rail network.

2. Develop alternative operating strategies and infrastructure solutions (Action Plan) for immediate term, 5, 10, 20 year planning horizons that:

   a. Reduce average transit time for traffic handled through gateway.

   b. Reduce operating cost.

   c. Provide improved operating flexibility and ability to recover from major service outages.

   d. Increase gateway capacity.

   e. Meet service requirements of railroad users (shippers/customers, Amtrak, Port of N.O.).

   f. Integrate with requirements and constraints of committed highway and rail transit plans.

   g. Minimize negative impact of rail operations on the public and the environment.

   h. Maximize use of present infrastructure capacity thereby minimizing new capital requirements.

   i. Achieve reasonable consensus and support of identified stakeholders.

3. Examine merits of a central coordinated center for Gateway rail operations.

New Orleans Rail Gateway and Regional Rail Operational Analysis
State Project No. 737-26-0002
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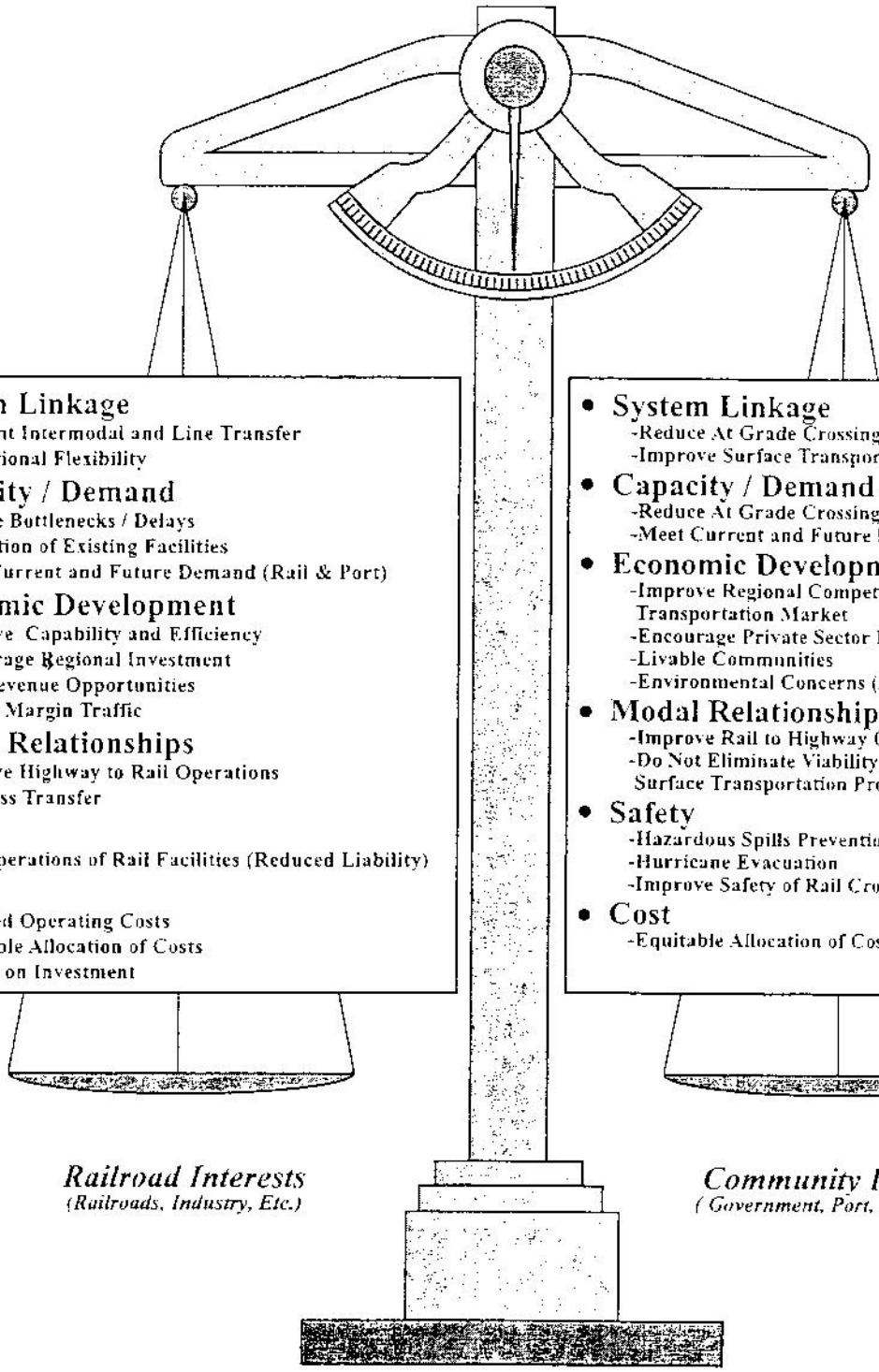
ALTERNATIVE STRATEGIES DEVELOPMENT
Balancing Goals



- **System Linkage**
  - -Efficient Intermodal and Line Transfer
  - -Operational Flexibility
- **Capacity / Demand**
  - -Reduce Bottlenecks / Delays
  - -Utilization of Existing Facilities
  - -Meet Current and Future Demand (Rail & Port)
- **Economic Development**
  - -Improve Capability and Efficiency
  - -Encourage Regional Investment
  - -New Revenue Opportunities
  - -Higher Margin Traffic
- **Modal Relationships**
  - -Improve Highway to Rail Operations
  - -Seamless Transfer
- **Safety**
  - -Safe Operations of Rail Facilities (Reduced Liability)
- **Cost**
  - -Reduced Operating Costs
  - -Equitable Allocation of Costs
  - -Return on Investment

Railroad Interests
(Railroads, Industry, Etc.)

- **System Linkage**
  - -Reduce At Grade Crossing Delays
  - -Improve Surface Transportation Mobility
- **Capacity / Demand**
  - -Reduce At Grade Crossing Delays
  - -Meet Current and Future Demand (Roadway & Ports)
- **Economic Development**
  - -Improve Regional Competitiveness in Transportation Market
  - -Encourage Private Sector Investment
  - -Livable Communities
  - -Environmental Concerns (Noise, Vibration, Aesthetics)
- **Modal Relationships**
  - -Improve Rail to Highway Operations
  - -Do Not Eliminate Viability of Other Surface Transportation Projects (i.e. Light Rail)
- **Safety**
  - -Hazardous Spills Prevention
  - -Hurricane Evacuation
  - -Improve Safety of Rail Crossings
- **Cost**
  - -Equitable Allocation of Costs / Benefits

Community Interests
(Government, Port, Public, Etc.)

New Orleans Rail Gateway and Regional Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00

Railroad Information Required for Operations Review & Analysis
*(Note: * Indicates priority information required for Project Start-up)*

A. Contacts:

1. * Name & coordinates of prime contact person at Railroad through which CANAC team can channel requests for: operating plans; traffic data; infrastructure information; capital project plans; etc…

2. * Confirm permission for team to visit Railroad properties including: right-of-way; control towers; yards

   - Speak with dispatchers; operators; supervisors
   - Ride trains
   - Spend time in control towers
   - Collect operating data
   - Take reference photos and/or videos of plant; connections; etc…

3. * Names, titles & coordinates of local operating supervisors as local contacts for team including: reporting relationships; territory of responsibility; hours of duty

4. * Safety equipment requirements for team field visits: e.g. hard hat; safety boots; vest; glasses; etc…

B. Rail Infrastructure:

1. Current scaled plans of New Orleans Gateway (NOG) rail network; local yards (CAD format preferable; otherwise, hardcopy)

2. Track profile/grades/curves/signaling/siding/interlocking details for all NOG mainline trackage including:

   - Interlocking layout and speeds
   - Turnout location and speeds
   - Equivalent mileages for junction points between connecting railroads
   - Areas at risk of service outages or slow orders (e.g. flooding)
   - Passenger platform locations, if applicable

3. Track maintenance requirements including work block planning procedures and gang operating constraints

C. Train Operations:

1. * Timetables for NOG area including: maximum speeds by train class; head-end restrictions; operating/speed curfews

2. Train schedules and priority for all traffic originating/destined/through NOG: historical data on actual performance to schedule (standard deviation)

3. Local switching assignments operating to/from/through NOG territory; duties; hours of operation

4. Train characteristics: Power consist; train length; gross weight; adhesion factor

5. Crewing: change locations; re-crewing procedures; deadheading

6. Locomotive Fleet: run through power agreements; fueling locations (shop or by-pass track); pusher assignments

7. Train movement data: typical bi-directional volumes by track segment; interchange statistics (to/from volumes of each Railroad; location and method of interchange); seasonal peaks

8. Sample week of detailed actual train movements for baseline analysis from O/S reports; delay reports

9. Infrastructure ownership; running right agreements; train dispatch & interlocking control authorities

10. Dispatching details: location; responsible territory; coordination issues

11. Customer-related commitments which drive service requirements of specific trains (i.e. priority intermodal or passenger trains)

12. Train/car volume growth projections by track segment; by interchange connection

13. Contingency plans for major NOG congestion or service disruptions

14. Perceived causes and location of chronic train/car movement delays; available statistics

D. Yard Operations:

By location: facilities; functions performed; resources (staff; equipment); track capacities; terminal operating manual; volume statistics; typical week operating details; typical time requirements for processing inbound and outbound trains; number of inbound & outbound destination blocks by train

E. Grade Crossings:

Locations; Grade level crossing protection type; grade separation locations & type; vehicular traffic volumes; crossing occupation statistics

F. Railroad Bridges:

1. Lift bridges: locations; type; age; dimensions; operating characteristics/control; vessel activity; maintenance requirements; speed restrictions

2. Fixed bridges: locations; type; age; dimensions; maintenance requirements; speed restrictions

G. Currently Planned Changes Impacting NOG:

1. Operational changes; details; timing; expected impact

2. Infrastructure changes; details; timing; expected impact

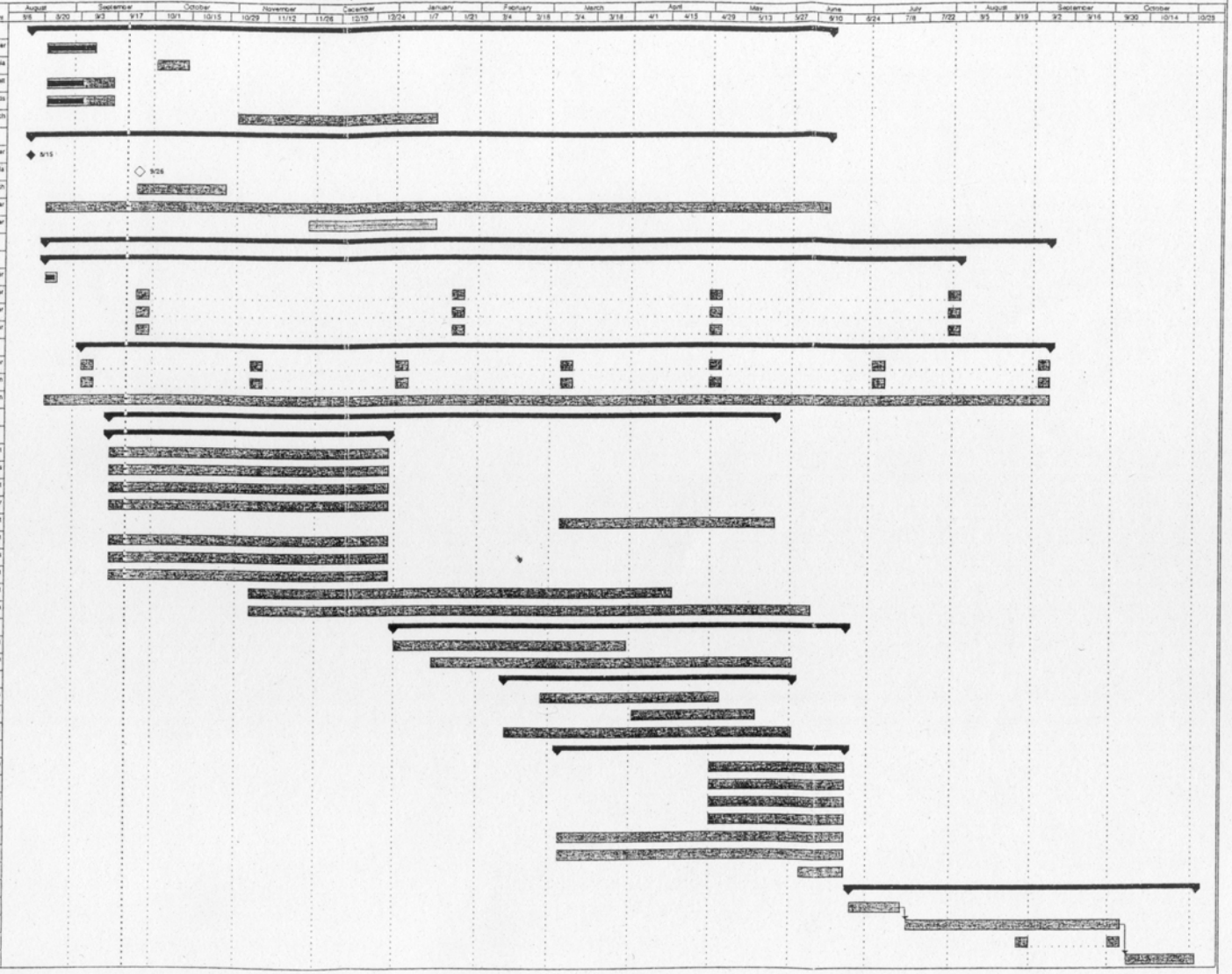
3. Organizational changes: intra-railroad reporting relationships; inter-railroad coordination

New Orleans Rail Gateway Technical Advisory Committee

Name	Title	Company	Address	Telephone	Fax
To be appointed by SLSC		Amtrak			
To be appointed by SLSC		Burlington Northern Santa Fe Railroad			
To be appointed by SLSC		Canadian National Illinois Central Railroad Co.			
To be appointed by SLSC		CSX Transportation Company			
To be appointed by SLSC		New Orleans Gulf Coast Railway Company			
To be appointed by SLSC		New Orleans Public Belt Railroad			
To be appointed by SLSC		Norfolk Southern Railroad			
To be appointed by SLSC		The Kansas City Southern Railroad			
To be appointed by SLSC		Union Pacific Railroad			
Mr. Patrick Gallwey	Vice-President, Maritime Operations	Port of New Orleans	Post Office Box 60046 New Orleans, Louisiana 70160	(504) 522-2551	(504) 524-4156
Mr. Wayne Tankersley	Director, Terminal Operations	CSX Intermodal	7801 Almonaster Boulevard New Orleans, Louisiana 70126	(504) 244-4332	(504) 244-4345
Ms. Deborah Wetter	General Manager	Gulf Coast Business Group	National Railroad Passenger Corp 1001 Loyola Avenue New Orleans, Louisiana 70113	(504) 528-1600	(504) 528-1648
Ms. Kathleen Norman	President	H.C. Freight Systems, Inc.	P.O. Box 19486 New Orleans, Louisiana 70179-0486	(504) 484-6411	(504) 484-6463
Mr. Dan Borne	President	Louisiana Chemical Association	One American Place, Suite 2040 Baton Rouge, Louisiana 70825	(225) 344-2609	(225) 343-1007
Mr. Glenn Guillot	Vice President	Southeast Motor Freight	916 St. George Avenue Jefferson, Louisiana 70121	(504) 731-2829	(504) 731-2832

New Orleans Rail Gateway and Regional Rail Operational Analyses
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)

ID	Task Name	Company	Assignment
1	1. Data Collection and Identification of Existing Issues (URS/CANAC/N-Y)		
2	a. Review of Past Studies	URS	T. Hunter
3	b. Site Inspection	CANAC	A. Cabula
4	c. Review of Intermodal & Port Capacity & Capabilities	URS	O. Bartlett
5	d. Review of Rail Passenger Capabilities	N-Y	B. Richards
6	e. Simulation Model Coding	CANAC	R. Leilich
7	f. Stakeholder Review of Current Information & Issues to be Addressed		
8	f.1 Initial Meeting with LADOTD & RPC	URS	T. Hunter
9	f.2 Exploratory Meeting with Senior Steering Committee	CANAC	A. Cabula
10	f.3 Exploratory Meeting with Working Committee	CANAC	R. Leilich
11	f.4 Key Stakeholder Meetings (25 mtgs.)	URS	T. Hunter
12	f.5 Deliverables (Various Assessments of Data Gathered)	URS	T. Hunter
13	2. Committee Communication and Stakeholder Coordination (URS/N-Y)		
14	a. Stakeholder Identification		
15	a.1 Prepare Listing of Stakeholders	URS	T. Hunter
16	a.2 General Stakeholder Meetings	URS	T. Hunter
17	a.3 Senior Level Steering Committee Meetings	URS	T. Hunter
18	a.4 Project Working Steering Committee Meetings	URS	T. Hunter
19	b. Establish Steering Committee		
20	b.1Bi-Monthly SLSC Conference Call (8 calls)	URS	T. Hunter
21	b.2 Prepare Progress Summary for Bi-Monthly Meetings	URS	K. Dussom
22	c. Deliverables	URS	K. Dussom
23	3. Determination of Business & Public Requirements and Traffic Forecasts (URS/CANAC/N-Y)		
24	a. Determination of Business & Public Requirements		
25	a.1 Rail and Freight Requirements	URS	O. Bartlett
26	a.2 Passenger Service Requirements	N-Y	B. Richards
27	a.3 Port Requirements	URS	O. Bartlett
28	a.4 Public Requirements & Key Issues	URS	T. Hunter
29	b. Consequences of Rail Mergers	URS	O. Bartlett
30	c. Traffic Forecasts - Rail	URS	O. Bartlett
31	d. Passenger Rail Forecasts (Short Term Mid Term & Long Term)	N-Y	B. Richards
32	e. Port Forecasts	URS	O. Bartlett
33	f. Deliverables (Physical Impacts of Potential Interim Millennium Port & Proposed Rail Lines)	URS	O. Bartlett
34	4. Rail Process Operations Analysis (CANAC)	CANAC	R. Leilich
35	5. Development of Alternatives & Recommendations (N-Y/URS/CANAC)		
36	a. Intermodal & Port Interface Modeling	URS	O. Bartlett
37	b. Rail Operations Modeling	CANAC	R. Leilich
38	c. Development of Strategies		
39	c.1 Conceptual Layouts	N-Y	J. Simmons
40	c.2 Order of Magnitude Cost Estimates	N-Y	J. Simmons
41	c.3 Evaluate Strategies Above for Benefits, Costs, Risk (URS/N-Y)	URS	O. Bartlett
42	d. Deliverables		
43	d.1 Analysis of Simulation Findings	CANAC	R. Leilich
44	d.2 Evaluation of Plant & Operating Strategies	URS	O. Bartlett
45	d.3 Study Recommendations - Operational	CANAC	R. Leilich
46	d.4 Study Recommendations - Physical Plant (URS/N-Y)	N-Y	J. Simmons
47	d.5 Funding Issues	URS	T. Hunter
48	d.6 Environmental Issues (N-Y)	N-Y	B. Richards
49	d.7 New Technologies	CANAC	L. Masse
50	6. Preparation & Presentation of Final Report (URS/CANAC/N-Y)		
51	a. Prepare Draft Report	URS	T. Hunter
52	LDOTD Review		
53	b. Prepare for & Present Draft Report to LADOTD & Steering Committees (2 presentations)	URS	T. Hunter
54	c. Prepare Final Report	URS	T. Hunter



Project: Rail_Gateway
Date: Thu 9/21/00

Task | Split | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Split | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary

URS

Site Visits and Interviews with Railroad Officers

Kent

This is a first pass FYI
I will talk with Graham and compare with his set to complement.
Guy 10/1

New Orleans Rail Gateway Study
Site Visits and Interviews with RR Officers

All information contained herein is considered confidential with each individual railroad.

Kansas City Southern (KCS) – New Orleans Terminals

Visit of 9-28-00 by Guy Vinette

Contacts: Bill Slinkard, Superintendent
Jim Love, Trainmaster
Paul Seghers, Ass't Trainmaster

The terminal handles approximately 3,000 lifts per month. The inbound traffic is split 35% export, 30% local and 35% interchange with other RR's; outbound traffic is split 50% import, 25% local, 25% interchange with other RR's. The intermodal yard is located at the West end of the main yard and includes 3 tracks of the following capacity:

Track #103 holds 22 90-ft cars,
Track #105 holds 21 90-ft cars,
Track #109 holds 9 90-ft cars.

Tracks #103 and 105 are parallel and only accessible from one side. Therefore, Track #105 must be clear in order to access Track #103. Track #109 sits by itself. These tracks normally turn twice a day.

East of the main yard, the KCS mainline runs to KCS Jct., approximately 40 car lengths East of the East switch and is used as a switching lead. The junction switch with the IC is protected with a switch point derail.

KCS runs 2 intermodal trains, #9 I/B and #10 O/B. Some other intermodal traffic is handled on trains #53, 55, 56. Train #9 runs from Kansas City to New Orleans every day except Sunday. The train departs KC on Day 1, arrives Shreveport on Day 2 and New Orleans on Day 3. Likewise, Train #10 runs from New Orleans to Kansas City every day except Sunday. These trains will also handle some manifest traffic.

KCS runs 3 manifest trains, #53 & 55 I/B and #56 O/B between New Orleans and Shreveport. Train #53 runs every day except Sunday from Shreveport, directly to CSX Gentilly Yard via the Back Belt; no work is done on it by KCS in New Orleans. The train is handed over to a NS crew at Central Ave and handed over to a CS crew at the NS-CSX Jct. Train #55 only runs on Monday from Shreveport and arrives in New Orleans on Tuesday. It usually has a large block of (Shreveport) intermodal traffic on it because there are no #9 departing Kansas City on Sunday and passing Shreveport on Monday. Train #56 runs from New Orleans to Shreveport every day except Sunday. It gets a large interchange block from CSX that the NOPB delivers via the Front Belt.

Train sizes may vary from 5,000' to 10,000' depending on traffic.

There is one local train that runs New Orleans – Baton Rouge and back every day except Sunday. It picks up and sets off at local industries on that route.

A new agreement with CN-IC is to take effect in a week and will allow KCS to run on IC into Geismar (condition of CN/IC merger agreement).

KCS is striving for a joint intermodal terminal with CN-IC.

A questionnaire was left with KCS for completion.

CSX Intermodal – Gentilly Yard

Visit of 9-28-00 by Guy Vinette

Contacts: Wayne Tankersley, Director, Terminal Operations, CSX Intermodal

The terminal handles approximately 9,000 lifts per month. This traffic is split 67% local (including import/export) and 33% transloads with other RR's. Interchange with other roads is done as follows:

KCS	100% rubber,
CNIC	100% rubber,
UP	90% steel, 10% rubber
BNSF	50% steel, 50% rubber

CSX sends 2 intermodal trains westbound to UP; one goes via the Back Belt and is interchanged at Marconi Drive, the other is taken to UP by the NOPB via the Front Belt.

A questionnaire was left with CSX for completion.

New Orleans Public Belt (NOPB)

Visit of 9-29-00 by Guy Vinette

Contacts: Gerry Hutchison, General Manager
Ray Duplechain, Ass't General Manager

NOPB handles 500-600 cars per day. Approximately 10% passes right through without special handling. The balance is switched and blocked, as required. Traffic from CSX is blocked at France Yard, the rest is blocked at Cotton Warehouse Yard. Traffic has increased substantially on the NOPB in recent years and, so far this year, it has handled over 100,000 cars, mostly due to an increase in blocking of interchange traffic. Traffic to and from industries on the NOPB has remained fairly constant.

On the West Side of Cotton Warehouse Yard, UP, BNSF, IC and KCS operate on NOPB. On the East Side, UP and BNSF have running rights but don't operate there, only NOPB handles traffic on that end. Cotton Warehouse Yard can hold approximately 500 cars and is often congested. When the yard is congested, trains are held on the main line and block movement of through traffic on the Front Belt. This is one of the Front Belt's main constraints in its ability to handle more through traffic. Other constraints would include track structure (90 lb. jointed rail) and self-imposed curfews through downtown (French Quarter/Riverwalk) area. Maximum train length on the Front Belt is now limited to 7,500 feet.

A $800K project, shared with the CSX, was completed recently to allow passage of double stacked trains under Claude Street underpass.

The Port of New Orleans is moving its import/export container operations from the Industrial Canal to the Napoleon and Nashville Streets Wharves. P&O is the main contractor handling these operations and everything is trucked in and out of the Port. Rail is not currently being used although facilities exist. The logistics for efficiently loading/unloading directly between ships and rail are much more complex.

The port expansion currently under way at Napoleon Street Wharf should be good to handle expected container traffic increases over the next 5 to 7 years, after which the Millenium Port should come into operation.

The NOPB would like to increase its role as an interchange railroad but realizes that the possibilities of significant increase in rail activity on the river front are very limited due mainly to space constraints.

A questionnaire was left with NOPB for completion.

Norfolk Southern (NS) – Oliver Yard

Visit of 10-10-00 by Guy Vinette (URS), John Johnston & Subhash Rawal (CANAC)

Contacts: Dave Fowler, Superintendent
Nate Green, Trainmaster

All train and traffic volume information required for the study will have to be obtained from Mr. Rick Crawford in Philadelphia.

NS maintains records of train delays on the Back Belt applicable mostly to westbound trains. Eastbound trains rarely incur delays on the Back Belt (NS policy is to never refuse a train). The interchange location for trains using the Back Belt is officially at Central Avenue but railroads agreed amongst themselves to move it to Marconi Drive in order to minimize inconveniences to all (i.e. blocking level crossings and IC Mainline). As such, eastbound trains are brought in by UP crews to Gentilly Yard, if for CSX, and up to Frenchmen Street, if for NS. Westbound trains are brought to Marconi Drive by CSX and NS, and UP crews get on at that point. Significant delays are accumulated on NS waiting for UP crews (up to 7 hours, average of 2.3 hours). A second W/B train may be held at St. Bernard Ave. If the 2nd train is a CSX train, the CSX crew must stay on until the first train moves because they have to bring the train to Marconi Drive. If the 2nd train is a NS train, it is left unmanned. Any NS yard crew can come and move it once the first train is gone. Other interchange traffic on the Back Belt, may it be IC or KCS, is handled by NS crews. NS has an AEI site in the single track portion of the Back Belt near Old Metairie Road.

The NS mainline to Birmingham is double tracked for 15 miles out of Oliver Yard and one track is used to hold trains, either inbound or outbound, when traffic is heavy. This allows NS sufficient flexibility to keep Oliver Yard fluid at all times.

Union Pacific (UP) – Avondale Yard

Visit of 10-11-00 by Guy Vinette (URS), Graham Pengelley, John Johnston & Subhash Rawal (CANAC)

Contacts: Kyle Graft, Director, Terminal Operations

Interchange between UP and other railroads is as follows:

NOPB: Mon.-Wed.-Fri. at Cotton Warehouse Yd, 40 cars each way, UP crews. Cuts handle NOPB, KCS & BNSF traffic. BNSF does not maintain an interchange at Avondale as NOPB is BNSF's agent for all interchange.

CNIC: 7 days per week, 80 cars each way, 70% hazmat, UP crews.

NS: Eastbound
2 manifest trains (1 Knoxville, 1 Birmingham), each day, UP crews
1 intermodal train from Los Angeles (via Livonia), each day, UP crews
1 cut of 80-100 cars combining NS and CSX traffic, each day, UP crews. NS traffic is set-off at Oliver Yard, balance is taken to Gentilly Yard.

Westbound
2 manifest trains, each day, UP crews
1 intermodal train to Los Angeles (via Livonia), each day, UP crews
1 cut of 40-50 cars, each day, UP crews.

CSX: Eastbound
2 manifest trains, each day, UP crews
2 intermodal trains, each day, UP crews
1 intermodal train, 3 days per week, UP crews
1 cut of 80-100 cars combining NS and CSX traffic, each day, UP crews. NS traffic is set-off at Oliver Yard, balance is taken to Gentilly Yard.

Westbound
3 manifest trains, each day, UP crews
2 intermodal trains, each day, UP crews
1 cut of 70 cars, each day, UP crews.

UP has 24 yard assignments per day out of Avondale. Of those, 8 are hauling jobs for taking trains over the bridge. Road crews and other yard crews can also take trains over the bridge.

UP has an AEI site on the bridge approach at Central Ave., at which point eastbound trains are considered released to the other roads and westbound trains start being tracked by UP. UP tracks the times at which trains get on and off the bridge at both ends, in both directions. UP may have up to 3 trains on the bridge waiting to get clearance for movement at East Bridge Jct and beyond. The wait may be as long as 3-4 hours (e.g. waiting for Amtrak, interchange RR can't take train, etc.). When bridge crossing is slow, trains are held back on UP line prior to Avondale. Travel time between Livonia and Avondale is typically 4-5 hours but lately, run time has been in the order of 15 hours because of bridge congestion and other problems on the UP network

The operator at West Bridge JCT. Is on UP payroll but falls as joint facility employee and his salary is shared proportionately between users.

Visit with Steve Readhead, Manager Intermodal Operations, UP, by Guy Vinette, 10-12-00..

UP intermodal traffic at Avondale is divided 60% with CSX, 35% with NS and 5% local. The local traffic is handled at the Avondale ramp and represents 4500-5000 lifts per month, split 80% containers, 20% trailers. Most of the local traffic is for domestic customers and there is very little import/export at the Port. Local intermodal traffic has been holding steady for the last 8 years and no increase is foreseen in the near future.

The yard has 2 ramp tracks of 1645 feet that can each hold 25-30 cars. Loading and unloading is done using a gantry crane and each track is usually loaded and unloaded twice a day.

Burlington Northern & Santa Fe (BNSF) – Avondale Yard

Visit of 10-11-00 by Guy Vinette (URS) & John Johnston (CANAC)

Contacts: Steve Johnson, Trainmaster

All BNSF interchange traffic is handled trough NOPB. If BNSF road crews on E/B trains have at least 4 hours of duty left, they will take the trains across the bridge to NOPB. If not, the train will stay in Avondale and BNSF will arrange to have a NOPB crew come pick-up the train. BNSF will not send a train on the bridge if one or more UP trains are already sitting there. Because of information inconsistencies between the NOPB and BNSF systems, traffic blocked by NOPB on W/B trains is not always done right and BNSF will re-switch the trains in Lafayette, as required.

Traffic has increased steadily at this gateway since BNSF acquired rights in 1997 and short-term growth is expected to continue at current rate. Currently, BNSF traffic runs as follows:

Eastbound (tonnage limit on bridge is 10,000 tons)
1 manifest train from Temple, TX, each day to NOPB, arrives 22:35.
1 intermodal train from Los Angeles, 6 days/week, sets off block in Avondale for BNSF ramp, CSX & NS traffic taken to NOPB, arrives 02:00.
1 intermodal train from Clovis, NM, 2 days/week + 1 extra (traffic increase), sets off block in Avondale for BNSF ramp. CSX & NS traffic taken to NOPB, arrives 13:45.

Westbound (length limit west of Avondale is 8500 ft.)
1 manifest train to Temple TX, each day from NOPB, crew on duty 13:00.
1 extra manifest train to Temple TX, 3 days/week from NOPB (traffic increase).
1 intermodal train, 5 days/week from NOPB, crew on duty 18:00, ramp traffic added in Avondale.
1 extra intermodal train, 3 days/week from NOPB (traffic increase), ramp traffic added in Avondale.

The BNSF intermodal ramp has one track, 2350 ft long, and handles approximately 6000 lifts per month. The ramp track is unloaded and loaded twice per day. The facility operates at capacity and has no room for expansion.

Canadian National & Illinois Central (CNIC) – Port Intermodal Terminal & Mays Yard

Visit of 10-12-00 by Guy Vinette (URS)

Contacts: John Rowell, Manager, Intermodal Operations
Dennis Cloud, Yardmaster, Mays Yard

CNIC handles some 50,000 lifts per year at its intermodal terminal as compared to 35,000-40,000 five years ago. Growth is expected to continue. The yard at the Port has 5 track for unloading and loading (4 @ 1650 ft, 1 @ 1350 ft). It also has 2 tracks for storage and one run-through track. A cut of 2000-3000 ft is brought in twice daily from Mays Yard and 1 cut of 3500+ ft is returned to Mays every day.

CNIC daily traffic in and out of New Orleans is as follows:

- 2 manifest trains, Geismar - Mays Yd & return
- 1 manifest train, Geismar - Mays Yd - Champaigne
- 1 manifest train, Centralia – Mays Yd – Geismar
- 2 intermodal trains (+ freight) inbound
- 1 intermodal train outbound.

CNIC is under negotiation with the Port of New Orleans to release the intermodal property at the Port and relocate the terminal next to MAYS Yard. It is also negotiating with LDOTD for a ramp off the Earhart Expressway that will provide better access to and from the yard. Preliminary plans are to combine CNIC, KCS and BNSF intermodal operations into Mays Yard with capacity for expansion.

Prepared by Guy Vinette
URS Corp.
10-13-00

Initial TAC Meeting (December 2000)

URS

December 27, 2000

TECHNICAL ADVISORY COMMITTEE (TAC) MEETING MEMORANDUM

SUBJECT:	**New Orleans Rail Gateway and Regional Rail Operational Analysis** **State Project No. 737-26-0002** **Federal Aid Project No. HP-T021(021)** **Various Parishes** **URS Project No. 04-00046333.00**
DATE:	December 15, 2000 9:00 A.M.
PLACE:	Regional Planning Commission 21st Floor Conference Room New Orleans, Louisiana
ATTENDANCE:	See Attached List

Kent Dussom of URS opened the meeting at approximately 9:10 A.M. by noting that everyone had been given an agenda. He then briefly reviewed the agenda and organization of the meeting and provided an overview of the background of the study and the purpose of the project and meeting. Mr. Dussom then introduced the project team, which included representatives of URS, CANAC, and N-Y Associates. This was followed by introductions of Karen Parsons of RPC and Brian Parsons of the Louisiana Department of Transportation and Development, and a request for self-introductions. After self-introductions were completed, Mr. Dussom then reviewed the second page of the handout, which outlined the goals of the study, and then reviewed the organizational/flow chart to illustrate the interaction of the project team. Mr. Dussom then reviewed the differing public and private goals and the difficulty in balancing these goals in developing strategies to improve the overall freight rail operations in the N.O. Gateway.

After reviewing the Gantt chart illustrating the schedule for the project, Mr. Dussom then reviewed the organization of the meeting and turned the meeting over to Graham Pengelley of CANAC. Mr. Pengelley gave a background of CANAC's involvement in this project, noting their data analysis and modeling role for operational analysis. He then summarized CANAC's efforts to date that have generally included data collection of both secondary data and familiarization with rail network including yards and control facilities. Mr. Pengelley then suggested that Mr. Richards discuss N-Y Associates' efforts in collecting present and future passenger rail traffic data. Mr. Richards began his presentation by explaining the various existing passenger rail activities: AMTRAK, riverfront commuter rail line, and a recently added tourist/excursion rail activity on the NOGC. He then summarized the other projects that may have an operational effect on the current freight rail operations: Gulf South High Speed Rail Corridor, Passenger

Service to Baton Rouge, AMTRAK expansion, the Gulf Coast MAGLEV project, LRT service between UPT and NOIA, and other local rail transit projects.

Ms. Wetter noted that the Gulf Coast Project also includes expansion to the Carolinas and East Coast. Mr. Richards then returned the floor to Mr. Pengelley, who continued his presentation on the data collection activities and the data requests to date. He requested that all attendees who have not already done so, review the packets of material submitted to attendees or a designate of their respective railroads several weeks ago. He suggested that if comments on the package were available today that he would appreciate receiving these written/informal comments today. Mr. Pengelley then reviewed the specific data that have been collected to date, noting that track and timetable data are crucial to the successful modeling efforts that will follow the data collection activities. He added that coding of the track network details is about 50 percent complete using data already available prior to information requests. He continued noting that the week of December 4-10 was identified as the sample week for traffic data because 1) this week would avoid the NOPB work program to replace certain rail on the Huey P. Long Bridge; 2) avoid holiday traffic fluctuations and special holiday schedules; and 3) that it is recent data. He noted that while this week may not be a peak week, delay statistics and/or other data will be used to calibrate the sample week to adjust the data to an average or more representative week of data. Mr. Pengelley then noted that after all data are collected, modeling would commence. At this point in the presentation, he turned the floor over to John Johnston of CANAC, who began by explaining the operational analysis that will commence concurrent with the modeling efforts. He reviewed the color track diagram presented in the front of the room, suggesting that attendees may review the diagram more closely at the break.

Mr. Johnston noted that interchange movements (i.e., through train movements) and passenger train activities were the focus of the data collection exercise, and further noted that capacity modeling would begin at the western entrance to the Union Pacific and Burlington Northern Yards at Avondale, then continue over the Huey P. Long Bridge , along the New Orleans Public Belt, front belt, France Road to the junction of the Gentilly Yard. It will also extend along the Norfolk Southern back belt from East Bridge Junction to, and including, the CSXT Gentilly Yard and the Norfolk Southern Yard. The CNIC Mays Yard and the KCS New Orleans Yard and their respective connections to the gateway will also be included. The Receive and Depart (R&D) function of all major yards are to be included in the simulations to determine their effect on the traffic flow across the gateway. He further noted that the modeling territory would not include the industrial track north of the NOPB/SCX diamond beside the Industrial Canal. Also excluded from the model will be the NS industrial lead east of Oliver Yard, as well as UP and NOGC operations on the West Bank, east of West Bridge Junction. In general, he emphasized that operations that may affect the East Bridge Junction will be modeled, as well as all pertinent operations on the front and back belts and their connections such as West Bridge Junction. Messrs. Johnston and Pengelley then presented the New Orleans Gateway Interchange display, noting that the locations and movement data should be reviewed to verify their accuracy because accurate information will be critical in the modeling efforts over the East Bridge Junction and across the Huey P. Long Bridge.

Mr. Pengelley then again took over the floor to discuss the methodology of the modeling efforts that will be undergone and how requested data will be used therein. He noted that an existing scenario will be modeled as well as an unrestricted but realistic scenario without infrastructural improvements, as well as scenarios of future forecasted traffic and plant. Several questions regarding the methodology were posed by attendees to which Mr. Pengelley summarized that the proposed methodology of using simulation

modeling was a widely used and an effective way to evaluate operations. Mr. Pengelley also indicated that CANAC has extensive experience in this type of railroad modeling.

Mr. Pengelley continued his presentation, explaining that immediate operational solutions to the deficiencies would first be investigated, followed by shorter-term smaller scale infrastructural improvements, and other larger scale improvements as future capacity requirements dictate. Mr. Pengelley then began to summarize the deficiencies, or opportunities for improvement, of the existing rail facilities and operations in the region. He first commended the local rail companies by noting that interviews resulted in his learning that within the recent years, the railroads have done a considerable amount of changes to improve community/rail entity relationships. Mr. Pengelley began to review the list of issues by noting that the attendees will be requested to review and add to the list of issues at this meeting. His review of the issues followed the overhead transparencies: 1) Excessive train delays awaiting crews at some interchanges; 2) low crew productivity and poor utilization in some areas; 3) poor condition and questionable reliability of key control towers; 4) chronic congestion at East Bridge junction; 5) Huey P. Long Bridge maintenance regularly impede traffic fluidity; 6) yard holding capacity constraints contribute to train delays; 7) operating curfews on Front Belt limit ability to handle major traffic increase; 8) inconsistent passenger train performance detrimental to smooth gateway operations; 9) inequities in some interchange procedures leads to reduced traffic fluidity; 10) street level crossings in Metairie reduce gateway capacity & efficiency and ability to recover from significant outages or weather; 11) bunching/platooning of inbound trains to yards leads to increased gateway congestion and delay; and 12) excessive communication and coordination required for basic control.

At this point Mr. Pengelley suggested that attendees make comments or ask questions. Walter Brooks of the Regional Planning Commission (RPC) noted that the RPC has approximately $6 million to improve the corridor at this time, and that the region has an excellent opportunity to secure significant monies for this effort, and that this opportunity may not always be available. He encouraged attendees to be forthright with comments and provide support for these efforts. Mr. Dussom, added that at the Senior Level Steering Committee meeting, all rail company Vice Presidents, State representatives, local representatives supported this effort. Mr. Parsons confirmed this support, noting that he also has observed similar and strong support by the Federal Rail Administration.

Mr. Dussom then handed out a summary list of the deficiencies described in the presentation, and explained the purpose of its distribution. He requested that attendees review the list and add any missing issues. He noted that after the break, the revised list would be prioritized by the attendees. This list will be used by the consulting team to prioritize efforts during the remainder of the study. Mr. Brooks then suggested that the attendees take a 10-minute break, after which the group would reconvene to discuss additions.

Mr. Dussom reconvened the meeting at approximately 10:40 AM, after an approximate 15-minute recess. He then requested additions to the list. Additional items noted included:

1. Need for electronic communications for train line-up and notifications system;

2. Need for open communication line (e.g., dedicated always-on open speakerphone line) for tower coordination to address problems in coordination via phones or other.

3. Need for increased capacity by double tracking the back belt from 17th Street Canal Bridge to and including East Bridge Junction. (related to #12)

4. Need for redesign and upgrade of trackage at East Bridge Junction

5. Need to upgrade switching equipment at East Bridge Junction to help decrease delays

6. Need to address interface between trucking, Port operations and intermodal rail (current consistent hours of operation) (related to #4)

Discussion regarding the intermodal improvements ensued. Tom Hunter of URS suggested that the trucking industry provide comments because the intermodal operations will be evaluated in the next phase of the project. Mr. Joe Cocchiana of the Port of New Orleans suggested to Mr. Ed Flynn of LCA that they should talk and perhaps some of the intermodal concerns, as related to the steam ship industry, could be addressed. Ms. Parsons supported this need of cooperation. Mr. Dussom then suggested that Mr. Hunter summarize the issue as point number 16. Mr. Hunter summarized this point, with some assistance by other attendees.

All new deficiency points were condensed into four additional issues for consideration:

1. Line up sheet/Open Line Communications

2. Double tracking 17th Street Bridge to and including East Bridge Junction

3. Redesign and Upgrade signal and switching equipment at East Bridge Junction and West Bridge Junction

4. Address intermodal rail operations with trucking.

These items were added as nos. 13, 14, 15, and 16 to the list of issues.

Ms. Wetter of AMTRAK noted that item nos. 3,4 12, 13 (communications issues) and No. 8 were the most important priority issues for AMTRAK. However, East Bridge Junction and Nos. 14, 15 were also noted as important AMTRAK priorities. Kathleen Norman of the New Orleans Public Belt also noted that at this time, their short line now has access to the "RIFF" money that may assist in implementation. Mr. Cocchiana of the Port of New Orleans noted that the list includes all *current* concerns/deficiencies, and emphasized that the system also needs an increased *future* capacity for growth. Mr. Hunter explained to Mr. Cocchiana that capacity for growth will be considered at a later phase of the operational planning efforts. Ms. Parsons then suggested that there is a need to solidify the train routing protocols, and suggested that the rail companies develop a contingency plan, or game plan, for routing trains. She also noted that after electronic communications are improved, a protocol for staging trains is needed, and represents the RPC's No. 1 priority. Regarding the East Bridge Junction and the double tracking the 17th Street Canal, she requested that the rail companies cooperate and address operational plans that may ameliorate the effects of these proposed improvements. She added that closing the Shrewsberry at-grade crossing should also be considered. She further suggested that the regional rail companies develop a master contingency plan for a hazardous or disaster/ flooding events, so that all railroads would be aware of each others' protocols, and that a protocol be established for operations at East Bridge Junction. Mr.

Hunter suggested that Ms. Parsons' last point be melded with item No. 14 (i.e., double tracking at the 17th Street Canal Bridge).

Further discussion ensued regarding the cooperation of rail companies during crisis events. It was explained by the different attendees that outside of crisis events, the rail companies are competitors; however, during a crisis event, all of the rail companies serve as a seamless rail network with full cooperation.

Kyle Graft of Union Pacific Rail Company noted merit in Ms. Parson's suggestion, emphasizing that the East Bridge Junction was a single point, where better coordination among rail companies is greatly needed. He noted, however, that all of the rail companies coordinate through daily telephone conference calls, and that there is cooperation among the rail companies' officers.

Following this discussion, Ms. Parsons suggested that a master plan for contingencies may not be needed. All attendees agreed. Mr. Dussom then returned to the list and provided the additions to the list on an overhead display. All attendees ranked the priorities during and after the adjournment of the meeting at approximately 11:30AM. The rankings/scores of the issues were tabulated after the meeting, with results printed out and distributed by approximately 11:45 A.M. The resulting top three priorities are 1) chronic congestion at East Bridge Junction decreases traffic velocity; 2) East Bridge Junction to Huey P. Long Bridge needs double tracking and improvement of outdated switching equipment; and 3) poor condition and questionable reliability of key control towers. The resulting ranking list is attached for the record.

Prepared by:

Scott Hoffeld

Scott L. Hoffeld
Sr. Environmental and Transportation Planner
URS Corporation

Enclosures: Agenda
Slides
Rankings

New Orleans Rail Gateway and Regional Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00, N-Y Project No. 20006

Meeting Agenda

December 15th, 2000, 9:00 AM
Technical Advisory Committee (TAC) Meeting
Regional Planning Commission

1. Introduction
   - Project Initiation and Development
   - Project Team
   - Project Goals and Objectives, Schedule
2. Role of Technical Advisory Committee (TAC)
   - Assist with the identification of problems and strategies for improved operations in Gateway
   - Serve as local point of contact for Project Team
3. Meeting Objectives
   - Review Data Requests and address any Questions
   - Discuss Project Approach to Rail Simulation and Review baseline rail operations within New Orleans Gateway
   - Identify "opportunities for improvement" within Rail Gateway
4. Status of Data Requests
5. Presentation of Project Approach to Rail Simulation and Discussion of Current Freight and Passenger Rail Operations in Gateway
6. Presentation of Preliminary List of Issues & Deficiencies Impacting Gateway Performance
   - Discussion of Preliminary List, Identification of additional Issues
   - Preliminary "Ranking of Issues" Exercise

New Orleans Rail Gateway and Regional Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00

PROJECT GOAL:

Improve the efficiency and safety of freight and passenger rail operations within the New Orleans Rail Gateway to support existing and future economic activity, minimize environmental impacts and improve overall surface transportation efficiency.

PROJECT OBJECTIVES:

1. Quantify specific operating and infrastructure deficiencies of the New Orleans Gateway rail network.

2. Develop alternative operating strategies and infrastructure solutions (Action Plan) for immediate term, 5, 10, 20 year planning horizons that:

   a. Reduce average transit time for traffic handled through gateway.

   b. Reduce operating cost.

   c. Provide improved operating flexibility and ability to recover from major service outages.

   d. Increase gateway capacity.

   e. Meet service requirements of railroad users (shippers/customers, Amtrak, Port of N.O.).

   f. Integrate with requirements and constraints of committed highway and rail transit plans.

   g. Minimize negative impact of rail operations on the public and the environment.

   h. Maximize use of present infrastructure capacity thereby minimizing new capital requirements.

   i. Achieve reasonable consensus and support of identified stakeholders.

3. Examine merits of a central coordinated center for Gateway rail operations.

N.O. Rail Gateway Study

Welcome

TAC Members

New Orleans Rail Gateway and Regional Rail Operational Analysis

State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes

December 15, 2006 9:00 A.M.
NPC Main Conference Room
1340 Poydras Street, Suite 2100, New Orleans

N.O. Rail Gateway Study

Project Approach

- Understand present operation & issues
  - Interchange process; traffic volume
  - Traffic control process
  - Infrastructure
  - Yard function
    - Interchange - through trains; local
    - Arrival / Departure process & Industrial switching
  - Passenger Rail Operations/Capabilities

N.O. Rail Gateway Study

***Project Approach** (cont'd)*

- Passenger Rail Operations/Capabilities
  - Impacts from existing activity on established rail corridors:
    - Local light rail transit/commuter
    - Tourist/excursion rail
    - Inter-city passenger rail (AMTRAK)
  - Impacts from future/proposed rail operations:
    - Proposed & projected AMTRAK changes
    - Gulf South High Speed Rail Corridor
    - Passenger Service to Baton Rouge
    - Maglev Deployment Project
    - Light Rail Service between UPT and NOIA
    - Other local rail transit projects

N.O. Rail Gateway Study

***Project Approach** (cont'd)*

- Request present rail operation information
  - Current operating plan/procedures (Dec 15)
  - Track; timetable data (Nov 30)
  - Traffic data (Jan 12)
    - sample week - Dec 4 to 10
    - frequency; direction; routing; time; consist
    - delay statistics
- Simulation model set-up

N.O. Rail Gateway Study

***Project Approach** (cont'd)*

- Simulation scenarios
  - Present baseline operation w. current delays
  - Unconstrained, realistic operation
  - Results compared to identify opportunity for potential improvement
- Performance measures
  - gateway traffic velocity
  - resource reqmt's: crews; locos; car-days

N.O. Rail Gateway Study

***Project Approach** (cont'd)*

- Develop solutions to improve performance
  - Immediate term operating solutions
  - Short term infrastructure improvements to achieve further performance gains
- Perform sims at future traffic levels based on stakeholder forecasts
  - 5, 10, 20 years
- Develop solutions to ensure acceptable level of gateway performance

N.O. Rail Gateway Study

Issues & Deficiencies

- Recent initiatives by RR's are already improving gateway performance & community relations
- Preliminary list of issues based on stakeholder feedback & observation of operations are:
  - Excessive train delays awaiting crews at some interchange points

N.O. Rail Gateway Study

***Issues & Deficiencies** (cont'd)*

- Low crew productivity & poor utilization in some areas
- Poor condition and questionable reliability of key control towers
- Chronic congestion at East Bridge Jct.
- Bridge maintenance regularly impedes traffic fluidity
- Yard capacity constraints contribute to train delays

N.O. Rail Gateway Study

***Issues & Deficiencies** (cont'd)*

- Operating curfews on Front Belt limit ability to handle major traffic increase
- Inconsistent passenger train performance detrimental to smooth gateway operations
- Inequities in some interchange procedures leads to reduced traffic fluidity
- Street level crossings in Metairie reduce gateway capacity & efficiency

N.O. Rail Gateway Study

***Issues & Deficiencies** (cont'd)*

- Bunching of inbound trains to yards leads to increased congestion and delay
- Excessive communication & coordination required for basic traffic control

Break to Add Other Issues to List

Rank /Prioritize Issues

Adjournment

New Orleans Rail Gateway and Regional Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00, N-Y Project No. 20006

Preliminary List of Issues & Deficiencies Impacting Gateway Performance

December 15th, 2006
Technical Advisory Committee (TAC) Meeting
Regional Planning Commission

Item No.	Issue/Deficiency	Rank
4	Chronic congestion at East Bridge Jct. decreases traffic velocity	1
15	East Bridg Junction to HPL Bridge double tracking, Outdated switching equipment	2
3	Poor condition and questionable reliability of key control towers	3
14	Double Track 17th Street	4
12	Excessive communication & coordination required for basic traffic control	5
5	Bridge maintenance regularly impedes traffic fluidity	6
1	Excessive train delays awaiting crews at some interchange points	7
6	Yard capacity constraints contribute to train delays	8
13	Line up Sheet/Open Line (Status)	9
7	Front Belt operating curfews & lack of room for expansion limit its ability to handle major traffic increase	10
9	Inequities in some interchange procedures leads to reduced traffic fluidity	11
2	Low crew productivity & poor utilization in some areas	12
10	Street level crossings in Metairie reduce gateway capacity & efficiency	13
11	Bunching of inbound trains to yards leads to increased congestion and delay	14
8	Inconsistent passenger train performance detrimental to smooth gateway operations	15
16	Added intermodal operations	16

Note: Shading indicates issue identified by attendees in the December 15th meeting.

New Orleans Rail Gateway and onal Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00

Sign-In Sheet

December 15th, 2000, 9:00 AM
Technical Advisory Committee (TAC) Meeting
Regional Planning Commission

Name	Organization	Mailing Address	Telephone Number	
Jim Krawec	CN-IC Rlwy	2400 N. Riverside Dr Baton Rouge La 70802	(225) 382	2260
Ed Flynn	LCA	One Amer Place - 2040 BRLA 70825	225 3414	2609
Kent Dusson	URS		504 837 6326	
John Johnston	CANAC	P.O. Box 6900 1100 University Suite 500 H3W 2Y1 Montreal Que. Canada	514-399-6292	
Karen Parsons	RPC		504-568-6611	
Jim Simmons	N-Y Assoc.	2750 Lake Villa Dr. Metairie, LA. 70002	504-885-0500	
B.B. Beerberg	"	"	"	
Katelin Norman	NOPB	PO Box 51658 NOLA 70151	484-6411	
Ray Dunleavy	NOPB	PO Box 51658 NOLA 70151	896-2410	
Brian Parker	DOTD		225-274-4304	
Carol Cranshaw	DOTD	8900 Jimmy Wedell Dr B.R. LA 70807	225-274-4302	
Joe Cuccia	Port of NO	PO Box 60046 NO 70160	504-528-3248	

New Orleans Rail Gateway and I[illegible]onal Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00

Sign-In Sheet

December 15th, 2000, 9:00 AM
Technical Advisory Committee (TAC) Meeting
Regional Planning Commission

Name	Organization	Mailing Address	Telephone Number	
SCOTT HOFFEN	URS	3500 N. CAUS. STE 900	837 6326	837 8860
TOM HUNTER	"	"	"	"
KENT DUSSOM	"	"	"	"
GLEN GUILLOT	LMTA	P.O. Box 10489 JEFFERSONVILLE 70181	731-2829	
GARY Jackson	CSX TRANS	6701 Almonaster AVE 70458	504-243-7816	504-243-7831
DAVE FOWLER	W.S. R.R.	2101 ST FERD. IN AND NEW ORLEANS 70117	504 943-3215	
WALT BROOKS	RPC	1340 POYDRAS ST. N.O. 70112	504 568 6611	
Kyle Graff	UPRR		504-349-365	
GRAHAM PENGELLY	CANAC	1100 University St Suite 500 MONTREAL QC H3W2Y4	514-399-7879	399-2939 Fax
DEBORAH WEITER	AMTRAK	1001 LOYOLA AVE. NEW ORLEANS, LA 70113	504-528-1600	
Bruce Richards	N-Y Associates	2750 Lake Villa Dr. Metairie, LA 70002	504-885-0500	885-0595 Fax

Individual Stakeholder Meetings

NEW ORLEANS RAIL GATEWAY
AND
REGIONAL RAIL OPERATIONS ANALYSIS STUDY
STAKEHOLDER MEETINGS

URS Corporation (URS) is currently under contract to the Louisiana Department of Transportation and Development (LDOTD) in cooperation with the Regional Planning Commission (RPC) to perform the New Orleans Rail Gateway and Regional Rail Operations Analysis Study. URS is presently evaluating opportunities to improve freight and passenger rail operations throughout the New Orleans Rail Gateway.

MAJOR ISSUES:

- New Orleans has six (6) Class I Rail Carriers and is one of the primary freight rail gateways within the United States providing a critical interchange point between the Eastern and Western rail carriers crossing the Mississippi River.

- The rail system also links to northbound carriers and provides access to industrial and port activity on the Mississippi River.

- The New Orleans Gateway is recognized as being severely congested, creating significant delays in rail freight movement affecting both the local, regional and national transportation system.

- The study is ongoing and includes a review of current rail operations, coordination and development of freight forecasts with all six Class I Railroads in the study corridor, and the development of a regional RAILS simulation model of the study corridor.

- The study objective initially is to develop operational strategies, which can be implemented to improve the efficiency of rail operations within the Gateway for immediate implementation. Longer-term alternatives will also be developed to address forecasted rail operating deficiencies while addressing community concerns.

MEETING PURPOSE:

- The primary intent of this meeting is to hear from you as a key stakeholder, community concerns regarding freight and passenger rail operations within your District.

- Secondarily, we would like to discuss the scope, status, and schedule of the study with you.

N-Y ASSOCIATES, INC.
CONSULTING ENGINEERS
ARCHITECTS, LTD.
ARCHITECTS & PLANNERS

MEETING REPORT

Date of Meeting: March 1, 2001
Location: CSX Intermodal Terminal, New Orleans
Topic: New Orleans Rail Gateway Study
Attendees: Bruce Richards, *N-Y Associates*; Tom Hunter, *URS*; Wayne Tankersley, *CSX Intermodal*.
Report by: Bruce J. Richards

Background:

As part of the New Orleans Rail Gateway Study, representatives of N-Y and URS began a series of "one-on one" meetings with general stakeholders in the area. Stakeholders are identified as major clients or business partners of the rail network (shippers, intermodal operators, and port) as well as elected officials and other representative of the general public. This meeting with Mr. Wayne Tankersley, Director of Terminal Operations for CSX Intermodal, was the first in this series of meetings.

Discussion:

The general discussion centered on CSX's current intermodal operations within the rail gateway. Past and future trends were also discussed, as were problem areas in the rail network. The major points of the discussion were as follows:

- Most of the traffic going through the CSX intermodal is run-through traffic--that is, traffic coming from one direction, changing operators in New Orleans, then proceeding in the opposite direction. The first major train making this movement is # 193, with the entire train operating for one customer (PACER). It originates in Atlanta and proceeds to Long Beach, CA. A second major train is comprised of assorted other customers. It too originates in Atlanta, but ships traffic westward to Houston, Los Angeles, and Long Beach. CSX also handles traffic here which has come from Florida (Jacksonville) and transfers it west bound. These trains are interfaced with the Union Pacific (UP) line in New Orleans, which takes the trains west. CSX utilizes the front belt (NOPB rail line) to handle these movements.

- CSX handles traffic coming from the west, as well—there is always at least a daily train from UP (the PACER train), and sometimes as much as three (3)

trains a day to receive from them. The trains from the west arrive via the 'back belt' (NS rail line).

- Mr. Tankersley indicated that they prefer transferring via the front belt due to crew issues. The crew interchange occurs at Marconi Avenue. The UP crew has to drive there to receive the train, and after passing off the train to UP, the CSX crew has to drive back to the CSX yard. By using the front belt, the train is handed off to a NOPB crew at nearby France Road, an essentially walkable distance. The NOPB crew then takes the train across the Huey P. Long Bridge and delivers it to UP on the westbank.

- In terms of port/intermodal activity, Mr. Tankersley indicated that there was not much land bridge activity for CSX. Most of CSX operates in the east, and serves port traffic on the east coast. For instance, he gave as an example, locally produced crawfish will be trucked in to the terminal, loaded onto a train and shipped east to Jacksonville, where it will be put on a steamship line headed for Sweden. He added that there used to be a lot more train-port service back before Maersk bought Sea-land.

- Mr. Tankersley stated that most incoming/outgoing container traffic that goes through the port is geared towards the KCS and CNIC lines, which head straight up into the heartland of the country.

- Mr. Tankersley indicated that there is a good deal of locally produced export traffic: chicken, shrimp, petrochemicals and plastics, sugar, rice. The split in containers loaded at CSX in New Orleans is about 70% bound international, 30: bound domestic.

- 95% of domestic traffic is handled via rail trailers. Most of the international business is in containers.

- Currently, there is very little intermodal transfer between CSX and NS, KCS and the CNIC, although there may be an upcoming agreement between CSX, KCS, & TFM (Mexican line) to ship things from the eastern US to Mexico.

- There is some transfer traffic between BNSF and CSX. 75-80% of this transfer traffic is 'steel wheel' (direct rail), and all steel wheel transfer goes through the front belt, but often suffers from delays.

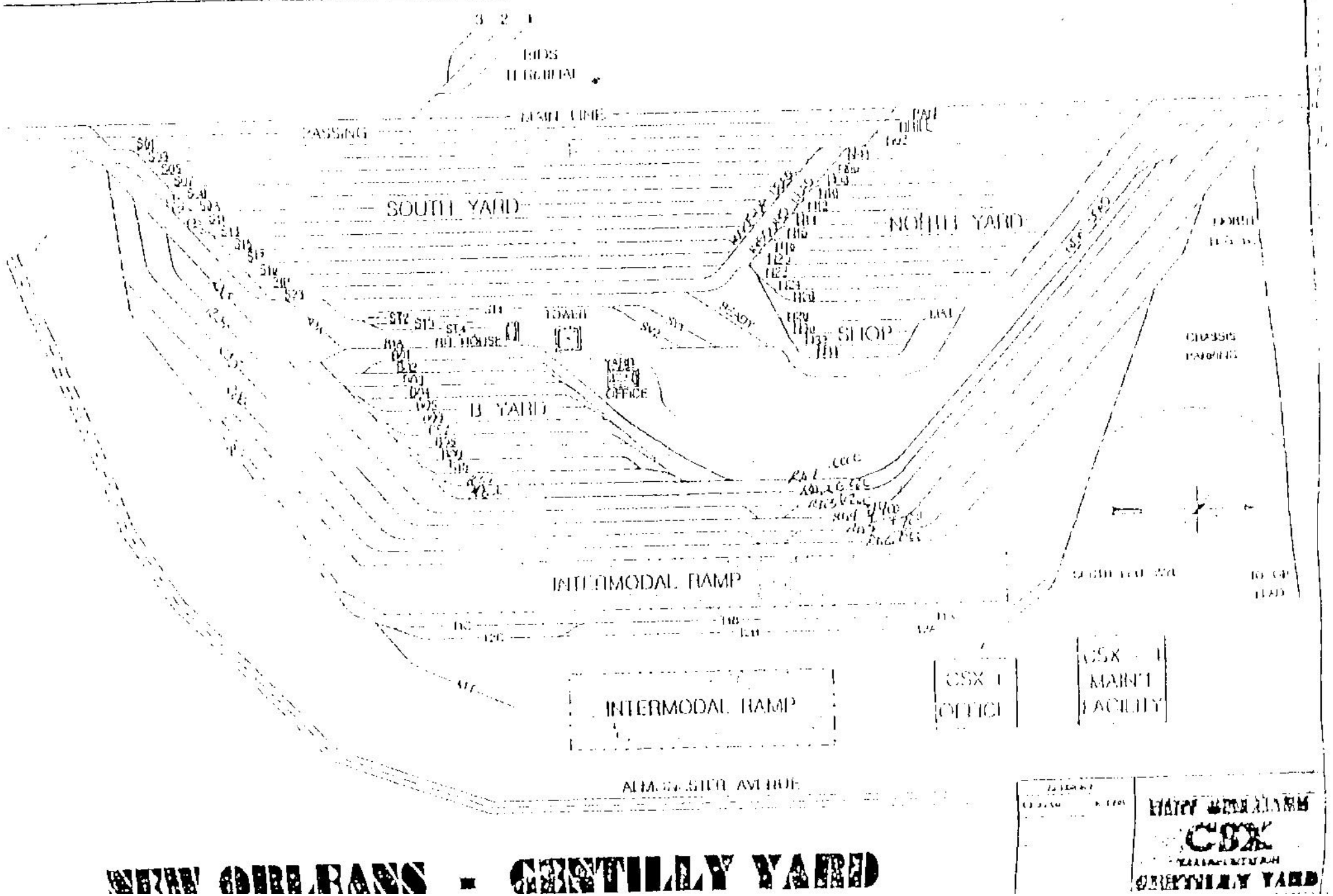
- Mr. Tankersley sees the biggest problem in rail operations as the back belt/Huey P. Long Bridge Crossing—there are so many users: NS line owns it, CNIC controls the switch to Huey P. Long bridge, NOPB owns bridge, and the west switch is controlled by the UP. Amtrak also can lead to problems if their trains run late, due to their "priority status". Currently, there is a thrice-daily conference call to arrange train movements with all lines, but this only

goes so far. An outside agency controlling this bottleneck may help. Things have improved in the last 2 years, however.

- Intermodal trains are estimated at 25% of total through traffic in the New Orleans gateway.

- The CSX yard is not operating at capacity—both lift and park are at about 50%, while car capacity is just over 50%. CSX has 14,000 linear feet under crane, divided under three tracks: a 6500 ft. track, a 5500 ft. one and a 3000 ft. one. CSX does about 60,000-70,000 lifts per year at this intermodal facility.

Mr. Tankersley then took Tom and Bruce on a brief tour of the site, and provided them with a schematic layout of the Gentilly Yard and Intermodal facility (a copy is attached).



NEW ORLEANS - GENTILLY YARD

N-Y ASSOCIATES, INC.
CONSULTING ENGINEERS
ARCHITECTS, LTD.
ARCHITECTS & PLANNERS

MEETING REPORT

Date of Meeting: March 2, 2001
Location: TMM Lines Offices, Metairie
Topic: New Orleans Rail Gateway Study
Attendees: Bruce Richards, *N-Y Associates*; Tom Hunter, *URS;* Shaye Ranson, *Chapter President-Traffic and Transport Club / TMM lines.*
Report by: Bruce J. Richards

Background:

As part of the New Orleans Rail Gateway Study, representatives of N-Y and URS began a series of "one-on one" meetings with general stakeholders in the area. Stakeholders are identified as major clients or business partners of the rail network (shippers, intermodal operators, and port) as well as elected officials and other representative of the general public. This meeting with Ms. Shaye Ranson, Chapter President-Traffic and Transport Club / TMM lines, was the second in this series of meetings.

Discussion:

The general discussion centered on general port trends and how the shipping lines interact with rail. TMM lines as a typical shipper was often used as an example. The major points of the discussion were as follows:

- Ms. Ranson began by giving a background on the Traffic and Transportation club. It is a professional organization for those in the shipping business. Most members are in the rail, truck, steamship or air freight forwarding industries. The New Orleans chapter has about 200 members.

- The biggest change in shipping operations is the shift from France Road to the new uptown riverfront facilities. The new Clarence Henry Truckway is helping tremendously.

- There have been time problems with getting rail shipments to the port – for example, via direct rail it takes 2 days to get container shipments form CSX intermodal yard to the Napoleon Ave. wharf. As such, Ms. Ranson does not see a 'steel wheel' intermodal ramp to the port as realistic.

- There is quite a bit of intermodal activity occurring between the port and rail—most of it is centered on the Midwest market (via the CNIC/KCS lines). 60% of the Port of New Orleans' business is intermodal.

- Ms. Ranson stated that as an example, her TMM lines will get cotton or other such products that are aggregated in Memphis, sent by rail or truck down to New Orleans, then loaded onto ships at the France Road terminal for shipment to other places (mostly Europe's Mediterranean ports or the east coast of South America).

- TMM handles more export than import. Export products include cotton, chemicals (petrochemicals/fertilizers), synthetic resin, synthetic rubber, and farm products-- there is a lot of frozen chicken going to Russia. TMM handles about 100 containers per week.

- A lot more shipping now goes through Houston due to economies of scale. For instance, although they are geographically closer to New Orleans, coffee bound for Baton Rouge and antiques bound for Jackson get off-loaded from ships in Houston, then trucked or railed in.

- Gulfport is also picking up a lot of the port's business: for example, garments and clothes made in Mississippi are being trucked or railed down to Gulfport for export (rather than to New Orleans).

- At the France Road facility, P & O Ports is the big operator. There is a lot of inefficiency, however, at gates in and out of the facility—computer glitches, long lines, etc. At the new Napoleon facility, both P&O and Ceres will share the operations.

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MEETING REPORT

Date of Meeting: March 9, 2001
Location: Port of New Orleans, New Orleans
Topic: New Orleans Rail Gateway Study
Attendees: Bruce Richards, *N-Y Associates*; Tom Hunter, *URS;* Karen Parsons, *Regional Planning Commission*; Joe Cocchiara, Pat Gallwey, Steve Jaeger, Jacinta Noel, *Port of New Orleans*
Report by: Bruce J. Richards

Background:

As part of the New Orleans Rail Gateway Study, representatives of N-Y and URS began a series of "one-on one" meetings with general stakeholders in the area. Stakeholders are identified as major clients or business partners of the rail network (shippers, intermodal operators, and port) as well as elected officials and other representative of the general public. This meeting with officials of the Port of New Orleans was the third in this series of meetings.

Discussion:

The general discussion centered on general Port trends shipping volumes and future outlooks, including issues relating to the development of the Millenium Port. The major points of the discussion were as follows:

- For the most part, the officials agreed that intermodal container movement is not a factor—that most of such traffic is trucked to and from Port facilities. Most rail service to and from the port is break-bulk, boxcar type traffic. Rail facilities operating in conjunction with the port include Alabo street facility down river form the French Quarter (NS line) and the CNIC facilities near the Napoleon Avenue docks. The Napoleon Avenue facility is the only off-dock (actually, near-dock) facility currently serving the port. The remainder of the rail lines serving and passing by the port is the New Orleans Public Belt (NOPB).

- The only major container line that calls on the riverfront facilities is Mediterranean Shipping at the Nashville Avenue wharf. The majority of container shipping occurs at the France Road terminal (which is run by is run

P& O and Ceres), with the largest container handler being Maersk-Sealand operating out of that location.

- A large portion of containers bound for export are arriving at the Port via truck (rather than rail), as it is very local in nature (petrochemicals, seafood, lumber/paper products). In general, the Port officials felt that the Port has a pretty good export/import ratio, but reiterated that most export is very local in its generation.

- Another reason that there is little direct rail/port interaction is that the price of drayage is low. Currently, it costs $70-100 to truck 1 container form a rail ramp to the marine terminal. This cross-town drayage fee is usually paid by the steamship line. NOPB cannot currently compete with this in terms of money or time.

- In terms of interline (bridge) traffic, the NOPB currently handles about 20-25% of such traffic. Other than switching container car trains, they have no experience in intermodal operations.

- In general, the officials pointed out that the "western" rail lines (UP and BNSF) have little interaction with the port in terms of import/export. Most of the business comes from the "central" lines (CNIC & KCS), but also some via the "eastern" lines (NS and CSX). The officials pointed out that these eastern lines provide important links to NE and SE cities, and if the Millennium Port goes through, these rail lines may ship more import/export through New Orleans. They remain convinced that the north south trade axis in the Americas IS going to develop, and that New Orleans needs to get involved now to capitalize on this trade—building strategic alliances with railroads, building better intermodal facilities, etc.

- Port Officials see this as the general plan:

  1. Today: most everything is "rubber-tired" to and from Port and between rail and Port facilities.
  2. Near-term future: The new Napoleon facility will be adjacent to the CNIC's intermodal facility, which will be modified and improved to better enable rail/port interaction and provide opportunity for new traffic. Lifting at the new facility will be by third party.
  3. Long-term future: Development of the Millennium Port with full rail and roadway access.

- The officials pointed out that the Port of N.O. is NOT in the driver's seat for the Millennium Port, the state-appointed Millennium Port Commission is handling it. A few concepts for possible development of the Port (the Jim Amoss idea, and others) were briefly described and discussed. Issues as to

how to get rail to the Port facility, which bank it would be on, possible uses of barges and "pre-blocking" containers on barges were discussed and explained.

- The Port officials also stated that out the biggest deficiency in the current rail gateway was the bottleneck at East Bridge Junction, which is caused by two main problems: its geometry, and communications related to its operation.

- Jacinta Noel of the Port will be able to provide RPC and the consultants with Port import/export data.

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MEETING REPORT

Date of Meeting: March 28, 2001
Location: Councilman Nick Giambelluca's Office, Metairie
Topic: New Orleans Rail Gateway Study
Attendees: Bruce Richards, *N-Y Associates*; Tom Hunter, *URS*; Councilman Nick Giambelluca, Executive Assistant Ed Voltolina, *Jefferson Parish Council*
Report by: Bruce J. Richards

Background:

As part of the New Orleans Rail Gateway Study, representatives of N-Y and URS began a series of "one-on one" meetings with general stakeholders in the area. Stakeholders are identified as major clients or business partners of the rail network (shippers, intermodal operators, and port) as well as elected officials and other representative of the general public. This meeting with Nick Giambelluca, Councilman from the 6th District of Jefferson Parish, was the fourth in this series of meetings.

Discussion:

The general discussion centered on the Councilman's perceptions of the major concerns of his constituents relating to rail operations within his district. The Councilman at first expressed his frustration that local, state and federal officials have been studying the rail problems for years, but that nothing concrete has ever come from the studies. Mr. Giambelluca stated that the generally-held view in his district is that the Metairie section of the "Back Belt" should be removed. He mentioned that many older residents of the area share in the idea that the line was a temporary measure, originally constructed to aid in commerce during WWII and only intended to be in service during the war's duration. The councilman added that he was aware that legal research had been done, and there was no proof that an agreement to remove the line at war's end was ever in place. Giambelluca also discussed the relocation of train activities to other lines, such as the much celebrated "Carrollton Curve" alternative. Many residents would support this alternative, or as another option, perhaps elevating the rail line. He added that neither scenario seemed likely due to costs involved and, in regards to the Carrollton Curve alternative, due to environmental justice issues.

He did, however, state that as it seems the line is to stay in Old Metairie, there are some key issues for its operation that are of prime importance to him and his constituents. These are as follows:

- One of the primary problems is the trains' use of whistles and horns at traffic crossings, particularly during nighttime hours. The Parish has been working for years on this issue—indeed at one point, the State legislature had passed a law freeing the railroads from liability for NOT using their horns and/or whistles at traffic crossings in Metairie. For some years, this policy was in effect. However, the recently passed Swift Rail Act enforced by the Federal Rail Administration has disallowed this, and the trains are back to blowing whistles and horns at intersections. The only way in which the whistle ban can be allowed again is for improvements to be made to the intersections. In addition to having lights and crossing guard arms, they must be "boxed" in such a way so that traffic cannot go around the arms, and improved with sensors that will prevent cars form getting caught on the tracks in between the arms. Unfortunately, the exact standards in how to improve the intersections to qualify for whistle bans is not complete—the FRA is still finalizing these standards. When the standards are finalized, there is certainly a desire to improve the intersections to the new standard, so that the whistle ban can go back into effect.

- Councilman Giambelluca pointed out that the whistle and horn ban wasn't the only local law to be overruled. There was a "speed limit" for trains which was rendered unenforceable, and there had previously been a "5-minute rule" in effect, wherein trains couldn't block intersections for longer than that time. This too, was overruled by new federal regulations and is no longer in effect. According to the Councilman, this has put a burden on emergency vehicle access—previously when responding to calls, drivers of emergency vehicles knew that a train crossing would mean no more than a five-minute delay in their response time, which was generally shorter than taking an alternate route. Now, without the five-minute guarantee, drivers are unaware of whether it will be more time-efficient to take an alternate route or to wait for the train to pass.

- The residents of District 6 also have a complaint that more trains are coming through the Back Belt corridor than ever before. Many point to changes implemented during the World's Fair in 1984, which eliminated many trains from the French Quarter and fair site. Rather than a temporary measure, these changes seem to have been implemented permanently. From their information, about 70-80% of all trains going through the New Orleans gateway go through the Back Belt in Old Metairie.

- Another issue of importance is the amount of hazardous materials passing through the gateway and the heavily residential area in District 6. Recent de-railings in the state have led many constituents to believe such an incident occurring in Metairie is a strong – and worrisome-- possibility.

- One of the other issues with rail lines in Metairie is pedestrian crossings at street crossings. These are either non-existent or are below standard, and any manner in which to improve these crossings would be a help.

- A final issue Councilman Giambelluca pointed out was that of the railroad's tree and grass-cutting procedures along the railroad right-of-way. Previously, the railroad had used a large, rail-car mounted bush-hog type of device which flung branches, cuttings, and rocks everywhere. He succeeded in having an ordinance passed to prevent this type of cutting—now regular crews must come out and cut and trim along the right-of-way. The councilman is interested in making sure this ordinance is followed and that less dangerous cutting methods are continued.

MEMORANDUM

TO: Tom Hunter, Project Manager, URS Corporation
New Orleans Rail Gateway & Regional Rail Operational Analysis

FROM: Darrel Saizan, Jr., Principal, Saizan & Associates

SUBJECT: Meeting Minutes on URS Project #04-00046333.00
with Members of the New Orleans City Council

DATE: April 27, 2001

VIA FAX: **831-8860**

Tom:

Enclosed please find minutes from the meetings that we've held on the Rail Gateway Project with members of the New Orleans City Council.

1. 2/13/2001 - Councilman Troy Carter, District C

Councilman Carter has received complaints from constituents on freight rail movement in his district in three specific areas: Interruption of traffic flow, noise pollution, and vibration. Councilman Carter's district includes the Riverfront Streetcar line, which runs on the front belt line of the New Orleans Public Belt Railroad. Councilman Carter suggested that a consistent set of regulations be established that would address delays in traffic, and he recalled there is no city enforcing policy mandating regulation of time delays. He also advocated community meetings in impaired areas with representatives of the freight railroads and citizens where specific rail traffic patterns could be discussed and agreed upon. Councilman Carter indicated in the Marigny area he has received fairly consistent complaints about freight rail blocking public crossings. Invariably, these blockings occur at peak times - late afternoon or early morning. Councilman Carter suggested a policy for blocking at grade rail crossings which would be helpful and would allow rules to be set that both citizens and the railroads would follow.

2. 2/13/2001 - Councilman Marlin Gusman, District D

Councilman Gusman suggested that the general perception on the freight rail movement in his district, which includes a large portion of the freight rail right-of-way (Florida Avenue) of the Public Belt Railroad - has not been positive and needs to be improved. He also indicated that he feels it is important to develop passenger rail travel within the New Orleans region as a way to mitigate gridlocked state highways and interstate systems. In District D he indicated that the speed of trains which run along this right of way, has been noisy and created a source of concern among his constituents. He also indicated that freight rail movement that did not pay attention

to the length of time that traffic intersections are blocked creating delays is a problem for his constituents. Another item that Gusman brought up is that the railroad – from an aesthetic perspective – do not maintain the property, *i.e.*, grass cutting, trash removal, etc. He said he has received these complaints in the Pontchartrain Park area regarding the right of way that runs near SUNO and goes toward eastern New Orleans and the Gulf Coast. Finally, Gusman indicated that the tank car derailment of 1986, which occurred in District D, is still in the minds of many of his constituents and reinforces the negative perception of freight rail movement in New Orleans and lowers the quality of life or the perception of the quality of life.

3. 3/26/2001 – Councilman Oliver Thomas, District B

Councilman Thomas' district includes the Riverfront area above Canal Street which includes freight rail movement serving the Port of New Orleans along the Front Belt. Because this area is largely an industrial and port-related area and is separated from residences by several blocks, the Councilman has not received many freight rail complaints from his constituents. Additionally, in the areas of Canal Street and Poydras, where there was significant rail movement previously, all of these areas have been grade separated via the NOUPT agreements. Therefore, citizen complaints have been kept to a minimum. District B also includes the NOUPT and the right-of-way that is used by Amtrak through the NOUPT. Thomas indicated that if any complaints surface in District B, he would notify us.

4. 3/26/2001 – Councilwoman Cynthia Willard, District E

Councilwoman Williard represents the lower Ninth Ward and eastern New Orleans, areas which are not totally grade separated. She indicated that along Dwyer Road and in the Village d' Lest area at Chef Menteur Highway and Michoud Boulevard freight trains still run in the street and tie up traffic. She also indicated that she has heard complaints that the underpasses that exist under the freight rail-rights-of-way are not properly maintained by the city or the railroads and have a tendency to flood during peak rain periods. The Councilwoman suggested that we contact the director of the New Orleans Business and Industrial to discuss freight movement in NOBID. NOBID also has included, within its boundaries the CSX Intermodal yard, which employs between 300 and 400 individuals. Willard also suggested that as to the matter of the lack of maintenance by the railroads, she has had complaints when water is allowed to stand for long periods of time in her district and that it becomes a breeding ground for mosquitos. Willard indicated an interest of improving the safety aspects in District E, especially in areas where freight rail is running at grade and not separated from automobile traffic.

Tom, as you know, I've repeatedly tried to set up a meeting with District A Councilman Scott Shea and have not been successful. I will continue to attempt to schedule a meeting in May at the Councilman's earliest convenience.

I will be in touch with you next week in order to discuss any other assignments the URS Corporation would have for me on the New Orleans Gateway Project.

Thank you very much. You can always reach me at my office at 522-5224 or 527-8358.

SLSC and TAC Meeting (April 2001)

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SENIOR-LEVEL STEERING COMMITTEE (SLSC) MEETING MEMORANDUM

SUBJECT:	New Orleans Rail Gateway and Regional Rail Operational Analysis State Project No. 737-26-0002 Federal Aid Project No. HP-T021 (021) Various Parishes URS Project No. 04-00046333.00, N-Y Job No. 20006.01
DATE:	April 26, 2001 1:00 PM
PLACE:	Regional Planning Commission 21st Floor Conference Room New Orleans, Louisiana
ATTENDANCE:	See attached list

The Senior-Level Steering Committee Meeting was held in order to provide a summary of the project to date, to present the initial simulation model results to the Committee, and to discuss future modeling efforts and proposed improvements to consider.

Mr. Dussom began the meeting with a self-introduction. He then turned the floor over to Mr. John Johnston of CANAC, who provided a recap of the rail model program (some, but not all, committee members had visited in the morning to view a presentation of the simulation modeling). Mr. Johnston's recap utilized the computer animation projection on a view screen while he explained the differences between the constrained and unconstrained simulations. The model animation clearly showed the "bottleneck" at East Bridge Junction (EBJ), particularly the effect of the AMTRAK 'window'. Walter Brooks of the RPC inquired about the possibility of adding development options to the model in particular the addition of a west bound turn from the east bank of the Huey P. Long Bridge and an east bound turn for the west bank side of the bridge. Mr. Johnston said that could be easily accomplished and is planned as one of the improvements to be "plugged in" to the model.

Mr. Dussom then resumed the floor and then asked everyone in the room to introduce themselves and whom they represented. After these self-introductions, Mr. Dussom then went over a brief review of the project's goal and objectives. He then reviewed the work done to date, which included research and development of the model which was just demonstrated, and a series of key stakeholder meetings, which is still ongoing. He

stated that at this point in the project, the consultant team is now beginning to look at options to improve efficiency in the gateway, both operational changes and capital improvements. Mr. Dussom noted that the previous day (April 25th) a meeting was held with the Technical Advisory Committee, made up of local representatives of the railroads and associated entities, and added that the team will share the results and findings of the model runs, including findings projected under the various proposed improvement options. Walter Brooks of RPC then pointed out that the list of *Issues and Deficiencies*, used to help identify proposed improvement options, was earlier identified and ranked by the Committee themselves.

The issue of chemicals and hazardous materials being a portion of cargo was next discussed. Mr. J.S. Gill of the Louisiana Chemical Association stated that for his industry, safety is their number one issue. One of the problems he sees, particularly in relation with community interest, is where rail cars containing hazardous materials and other inventory are placed— if it is within the confines of industrial plants and such, it is less problematic than being stored on rail sidings or rail lines (such as in the example of trains being lined up for hours at Marconi Avenue). Blaise Carriere of the DOTD said that it was his perception that a relatively high percentage (30-40%) of rail cars travelling through the area were carrying chemicals, and asked if this number was correct. Mr. Gill said that figure might be a little low, while Steve Barkley of UP said that the figure was "in the ballpark". Mr. Carriere pointed out that a lot of the trains congregate in the vicinity of EBJ, and being centered in a large residential area, this congregation or any delay in moving these trains through could be seen as a safety issue. Mr. Carriere added that he was pleased to see, however, that there was evidence of available gateway network capacity according to the model, and that better utilizing the capacity may help with the bottleneck/ safety issue at EBJ.

Mr. Graham Pengelley of CANAC then proceeded with the presentation using the prepared overheads (copies of these overheads are attached). He first reviewed an overview of what this meeting was to accomplish, then described the modeling approach. In terms of model measures of effectiveness, Mr. Gill asked how general community benefits (such as improved safety) were to be measured. He felt that there definitely was a need for community input in such measures. Tom Hunter of URS pointed out that the group is holding stakeholder meetings with public officials, who as representatives of their constituents are passing along their concerns and providing community input.

Mr. Pengelley then proceeded with his presentation, showing some of the initial results of the modeling, including inter-yard movements. The figures prompted a number of comments:

- Mr. Gill noted that rail shipments (in his industry at least) are on the increase: there has been a shift from pipelines, ships and barges to rail and truck transport as there has been more demand for more overland movement.

- Mr. Carriere pointed out that local movements may be hampered by something he noticed on his rail trip: essentially both the back belt (NS) and front belt (NOPB) are, as he put it, "one–lane roads" with segments where there is only a single-track configuration. He added that the EBJ tower functions as a type of air traffic control tower at an airport, and that the rail network is in need of an new tower, along with proper ownership/stewardship, staffing, state of the art technology, etc. to make it run correctly and efficiently.

- Mr. Brooks stated that a possible change to a ballast system with steel ties on the Huey P. Long Bridge might positively affect the current bridge maintenance schedule. When queried, Mr. Duplechain of the NOPB said that with a ballast system, maintenance would be about 10% of what it is now. This would effectively "open up" the 2nd rail crossing on the bridge.

- Hank Lauricella, representing the Intermodal Committee of the metro-area Chamber of Commerce, brought up the issue of train movements coming off of the Huey P. Long Bridge. Those trains coming form the west bank which are bound for the CNIC or KCS lines (to points north or west) must make a complicated movement which blocks the east bridge junction. A similar scenario occurs for trains which head eastward on the West Bank side. He pointed out the likely need for rail turnouts to handle these movements more efficiently.

Following these comments and discussion, Mr. Pengelley continued with his presentation, presenting data on delay times and constrained vs. unconstrained movement times. Mr. Dussom asked for a point of clarification on the definition of "unconstrained". Mr. Pengelley pointed out that in the model, the movements were not totally unconstrained: there was priority given for bridge maintenance movements, then a second priority given to AMTRAK, etc.

Mr. Lauricella then brought up that the next phase of federal transportation funding was approaching soon (commonly referred to as "T3"). He stated that any of the proposed local rail improvements would be a good fit for this funding program, particularly if they are set up as demonstration projects. He suggested that the RPC get the local Federal representation involved— Representatives Vitter and Jefferson, Senator Landrieu, etc. He emphasized that if these projects were to be funded under this upcoming program, there was a need to start pushing them now. As an aside to Mr. Lauricella's statement, Mr. Brooks pointed out that Mississippi Sen. Trent Lott is working on a 'freight rail investment funding program'. Although Mr. Lott's own state is scheduled to be a primary beneficiary, with a proposed new freight rail line located further inland along the gulf coast, there may be an opportunity for freight rail improvements in the southeastern Louisiana region.

The group then broke for a short intermission.

Upon return from the intermission, Mr. Pengelley continued with his presentation, going over the strategies and improvements submitted for consideration. These

improvements were divided into three main categories, operational, lower cost capital, and higher cost capital. Rick Crawford of Norfork Southern asked if the improvements were considered near-term or long-term. The team replied that the operational improvements are essentially near-term improvements, with the capital improvements being (in general) longer-term items.

The group then discussed several of the proposed alternatives:

- There was some discussion as to the double tracking of the EBJ and the double tracking of the back belt at Metairie Road/17th Street canal. Although there was some expressed opinions that the former would be of limited value without the latter, others expressed the opinion that it might work in conjunction with the closure of the road crossing at Shrewsbury. All agreed that the double tracking of the Metairie Road/17th street Canal segment, with or without a grade separation at Metairie Road, would be difficult from a community interests standpoint.

- Both Mr. Crawford of NS and Mr. Barkley of UP agreed that additional capacity at EBJ was critical to the efficiency of the rail gateway.

- An additional item agreed to by the entire group was the need for signalization along the Back Belt in Old Metairie. The consultant team agreed to add this as a lower cost capital item.

- After someone noted that there were few improvements listed in the eastern sector of the Gateway, the CSX representatives and Mr. Carriere brought up the fact that the Almonaster Rail Bridge is already under study for replacement. The new bridge is planned to have double track capability, as at present.

- In terms of yard capacity, Mr. Carriere stated that it may be conceivable that the State would build and pay for "surge yards" to be used by the railroads on a fee basis. Some of the rail operators stated that there was no need for such state-built facilities, and that their yards have adequate capacity at present.

- The group also agreed that the proposed improvement of double-tracking 17th street/ Metairie Road needs to be one of the last improvements listed, along with the Carrollton Curve. There was also a consensus to change the language of the proposed improvement from "double-track" to "add capacity" or even "evaluate capacity".

- Mr. Carriere asked about the possibility of rail line elevation or grade separation through the EBJ. Several in the group pointed out that if any grade separation would be most effective, it would be the movement from the Huey P. Long Bridge to the Back Belt.

- Mr. Lauricella brought up the military presence in the area, and the need to coordinate with them in terms of selling this location as a strategic point in the rail

network. Both Mr. Dussom and the rail representatives pointed out that the railroads already have protocols with the military for special operations or in event of wartime. For instance, there is a "STRARNET" (Strategic Transportation Network) map that already shows that we are a focal point for military transport movements.

- The issue of whistle/horn bans was also brought up, with the consultant team pointing out that in Old Metairie, the local leadership is awaiting the latest FRA standards. Once the standards are finalized and promulgated, Jeff Parish intends to implement improved roadway/rail crossings, so that the whistle/horn ban can once again go into effect.

The next meeting was then discussed. Mr. Dussom pointed out that the consultant team expected to have cost estimates for improvements, value of benefits, and some cost/benefit analyses. Mr. Gill asked if operations and maintenance cost would be included in cost estimates. Mr. Dussom stated that to the extent possible, it would.

There being no further discussion or questions, the meeting adjourned at approximately 3:00 PM.

Prepared by _____
Bruce J. Richards, AICP
N-Y Associates, Inc.

Attachments: Sign-in sheets
Agenda
Handouts
Slides

cc: Attendees and SLSC members

New Orleans Rail Gateway and [illegible]gional Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00, N-Y Project No. 20006

Attendance Sign-In Sheet

April 25th, 2001, 1:00 PM
Senior Level Steering Committee (SLSC) Meeting
Regional Planning Commission

Name	Representing	Telephone Number
Kent Dussom	URS	504 837 6326
Karen Parsons	RPC	504-568-6611
Tom Hunter	URS	504-837-6526
John Johnston	CANAC	514-399-6292
Steve Barkley	UPRR	281-350-7201
Mike Pendergrass	CSX	
Bill Lawson	AMTRAK	215-266-1587
Bruce Richards	NY Associates	504-885-0500
Graham Pengelley	CANAC	514-399-7879
Jim Simmons	N-Y Associates	504-885-0500
Bob Bredberg	" "	504-885-0500
Brian Parsons	LADOTD	225-274-4309
Blaise Carrione	LADOTD	225-379-1233
Jas Gill	CYTEC INDUSTRIES	504-431-6201

Attendance Sign-In Sheet

April 25th, 2001, 1:00 PM
Senior Level Steering Committee (SLSC) Meeting
Regional Planning Commission

Name	Representing	Telephone Number
Kyle Graff	UPRR	504-349-3155
Gary D Jackson	CSX	504-243-7805
Joshua Grzegorzewski	FHWA - GA Div (on assignment with NORPC)	504-568-6611
Rick Crawford	Norfolk Southern	215 209 4289
[illegible]	NOPB	504-656-7111

New Orleans Rail Gateway and Regional Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00

Meeting Agenda

April 26, 2001
Senior Level Steering Committee (SLSC) Meeting
Regional Planning Commission

1. Introduction 1:00 – 1:15

   A. Summary of Project to Date
   B. Meeting Objectives

2. Discussion of the Simulation Modeling 1:15 – 2:30

   A. Summary of Modeling Process
   B. Modeling Results – Existing Condition
   C. Comparison of Model Results with Actual Data
   D. Modeling Results – Existing Unrestrained
   E. Modeling Results – Future Unrestrained
   F. Discussion of Model Measures of Effectivness

3. Discussion of Future Modeling Effort and Completion of Study 2:30 – 4:00

   A. Proposed Improvements to Consider
   B. Preliminary Engineering and Cost Estimates
   C. Project Schedule and Tasks to Completion

New Orleans Rail Gateway and Regional Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00

PROJECT GOAL:

Improve the efficiency and safety of freight and passenger rail operations within the New Orleans Rail Gateway to support existing and future economic activity, minimize environmental impacts and improve overall surface transportation efficiency.

PROJECT OBJECTIVES:

1. Quantify specific operating and infrastructure deficiencies of the New Orleans Gateway rail network.

2. Develop alternative operating strategies and infrastructure solutions (Action Plan) for immediate term, 5, 10, 20 year planning horizons that:

   a. Reduce average transit time for traffic handled through gateway.

   b. Reduce operating cost.

   c. Provide improved operating flexibility and ability to recover from major service outages.

   d. Increase gateway capacity.

   e. Meet service requirements of railroad users (shippers/customers, Amtrak, Port of N.O.).

   f. Integrate with requirements and constraints of committed highway and rail transit plans.

   g. Minimize negative impact of rail operations on the public and the environment.

   h. Maximize use of present infrastructure capacity thereby minimizing new capital requirements.

   i. Achieve reasonable consensus and support of identified stakeholders.

3. Examine merits of a central coordinated center for Gateway rail operations.

New Orleans Rail Gateway and Regional Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-0004e333.02, N-Y Project No. 20006

Preliminary List of Issues & Deficiencies Impacting Gateway Performance

December 15th, 2006
Technical Advisory Committee (TAC) Meeting
Regional Planning Commission

Item No.	Issue/Deficiency	Rank
4	Chronic congestion at East Bridge Jct. decreases traffic velocity	1
15	East Bridge Junction to HDL Bridge double tracking. Outdated switching equipment	2
3	Poor condition and questionable reliability of key control towers	3
14	Double Track 17th Street	4
12	Excessive communication & coordination required for basic traffic control	5
5	Bridge maintenance regularly impedes traffic fluidity	6
1	Excessive train delays awaiting crews at some interchange points	7
6	Yard capacity constraints contribute to train delays	8
13	Line up Sheet, Open Line (Status)	9
7	Front Belt operating curfews & lack of room for expansion limit its ability to handle major traffic increase	10
9	Inequities in some interchange procedures leads to reduced traffic fluidity	11
2	Low crew productivity & poor utilization in some areas	12
10	Street level crossings in Metairie reduce gateway capacity & efficiency	13
11	Bunching of inbound trains towards leads to increased congestion and delay	14
8	Inconsistent passenger train performance detrimental to smooth gateway operations	15
16	Added intermodal operations	16

Note: Shading indicates issue identified by attendees in the December 15th meeting.

Overview

Objectives

Progress to Date

Operations Modeling

Modeling Approach

Initial Results

Next Steps

Project Progress to Date

Understanding of present operation & issues

- Interchange process; traffic volume
- Traffic control process
- Infrastructure layout
- Passenger Operations

Document future development plans

Progress to Date (cont'd)

Preliminary Observations

- On-going initiatives by RR's are improving gateway performance & community relations on day-to-day basis
- Developed preliminary list of issues & deficiencies impacting gateway effectiveness
- Expanded & prioritized list jointly with stakeholders in Dec/00

Operations Modeling

- Gathered detailed rail operations information
  - Track; timetable data; yard plans
  - Traffic data
    - sample week - Dec 4 to 10
    - frequency; direction; routing; time; consist
    - delay statistics

Operations Modeling (cont'd)

- Analysis & preparation of simulation model input data
  - Considerable time & resources expended in analysis & integration of data
    - Data often incomplete ; non-electronic form
    - over 800 movement records consolidated to 430 defined train movements

Modeling Approach

- Simulation scenarios
  - Present baseline operation w. current delays
  - Unconstrained operation
  - Results compared to identify opportunity for potential improvement
- Performance measures
  - Gateway traffic velocity
  - Resource reqmt's: crews; locos; car-days
  - Community impact

Modeling Approach (cont'd)

- Develop & test solutions to improve performance
  - Immediate term operating solutions
  - Short term infrastructure improvements to achieve further performance gains
- Perform sims at future traffic levels
  - 5, 10, 20 years
- Ensure acceptable level of future gateway performance as traffic grows

Initial Results

- Present Day Operation - sample week
  - 430 movements modeled
    - 288 freight & passenger trains
    - 142 other ind. switchers; 'lite' moves; maint.
  - Actual train delays included

Modeling Approach (cont'd)

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    - 288 freight & passenger trains
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  - Actual train delays included

Initial Results (cont'd)

- Gateway Traffic Patterns
  - Railroad to Railroad Train Movements
  - Traffic Density by Route
  - Daily; Weekly Patterns
  - Traffic bottlenecks

Initial Results (cont'd)

- Unconstrained Simulation
  - Runs present trains making best use of available track capacity
- Initial run based on:
  - Launch times and routing as at present
  - Crew changes at yards only
  - Unconstrained by yard holding capacity
- Transit times compared to baseline results
  - Results indicate max. potential for transit time improvement

Inter Yard Movements by Gateway Route

Sample Week: Dec 4 - 10

Summary

Route	Back Belt		Front Belt		East Bridge Jct		HPL Bridge	
Direction	East	West	East	West	East	West	East	West
Total	86	65	41	61	120	110	95	80
% by Dir	30%	23%	14%	21%	42%	38%	33%	28%
% both Dir	52%		35%		80%		61%	
Avg Daily	12	9	6	9	17	16	14	11

Train Delays at Key Gateway Locations

Sample Week

(excluding Amtrak)

Location	Direction	Total Trains	Trains Delayed	% Delayed	Total Delay Hrs	Avg Delay Hrs	Max Delay Hrs
HPL Bridge	East	92	79	86%	143:05:00	1:48	8:41
HPL Bridge	West	72	52	72%	50:23:00	0:58	3:27
Marconi	West	41	37	90%	90:36:00	2:26	12:00

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Sample Week: Dec 4 - 10

Details

From	To	Back Belt		Front Belt		East Bridge Jct		HPL Bridge	
		East	West	East	West	East	West	East	West
Amtrk	Train 1		3				3		3
	2	3				3		3	
	19		7						
	20	7							
	58						7		
	59					7			
BN	NOPB			17		17		17	
CSX	NOPB				15				
	UP		30		6		36		36
IC	KCS	2				2			
	NOPB			9		9			
	NS	7				7			
	UP						6		6
KCS	CSX	7							
	IC		2				2		
NOPB	BN				15		15		15
	CSX			8					
	IC				6		6		
	KCS				8		8		
	NS			7					
	UP				4		4		4
NS	IC		7				7		
	NOPB				7				
	UP		16				16		16
UP	CSX	43				43		43	
	IC					11		11	
	NOPB					4		4	
	NS	17				17		17	
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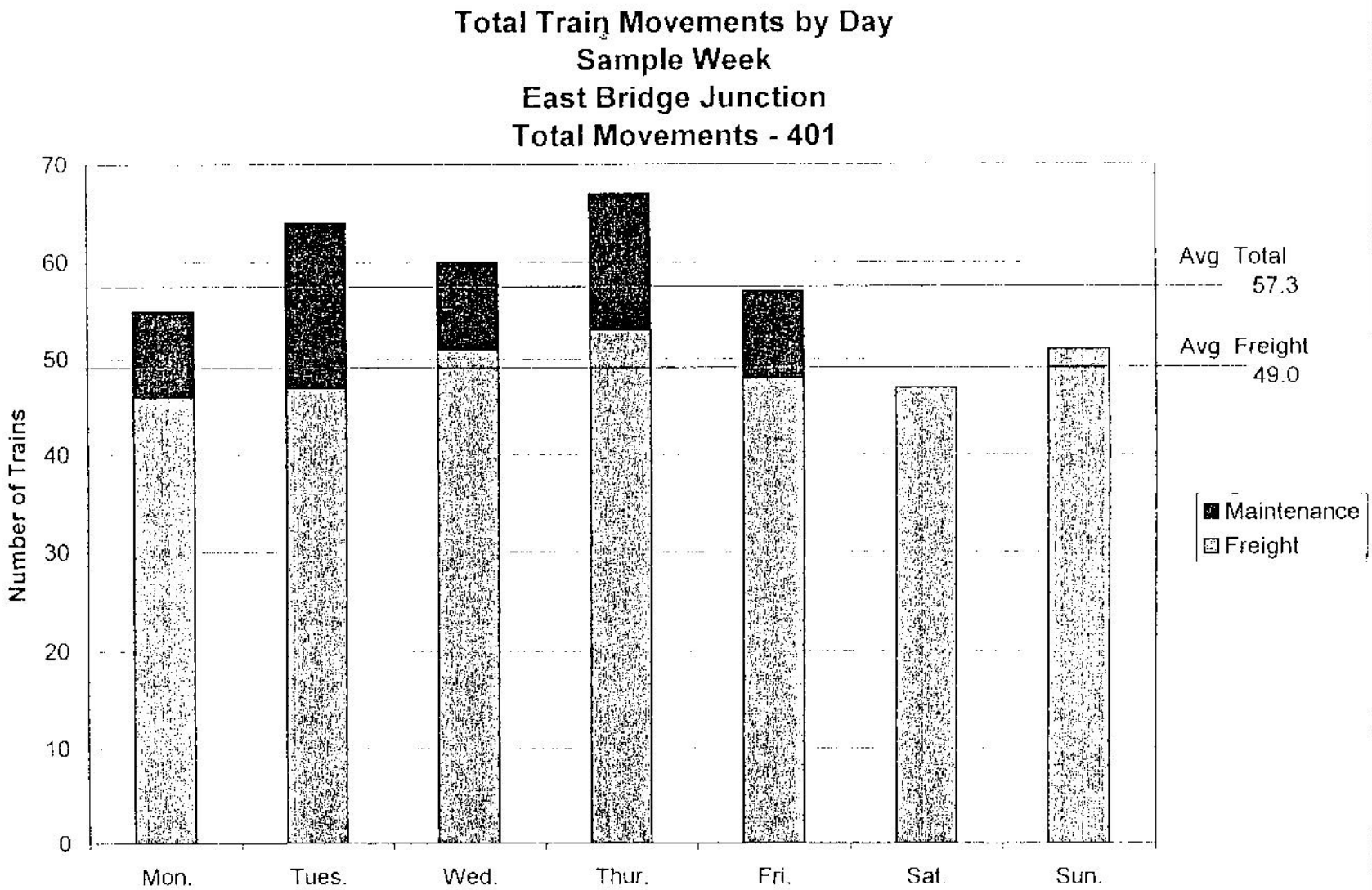
Inter Yard Train Movements*

Sample Week: Dec 4 - 10

	To RR									
From RR	AMTK	BN	CSX	IC	KCS	NOPB	NS	UP	TOTAL	Avg/Day
AMTK	34								34	4.9
BN						17			17	2.4
CSX						15		36	51	7.3
IC					2	9	7	6	24	3.4
KCS			7	2					9	1.3
NOPB		15	8	6	8		7	4	48	6.9
NS				7		7		16	30	4.3
UP			43	11		4	17		75	10.7
Total	34	15	58	26	10	52	31	62	288	
Avg/Day	4.9	2.1	8.3	3.7	1.4	7.4	4.4	8.9	41.1	

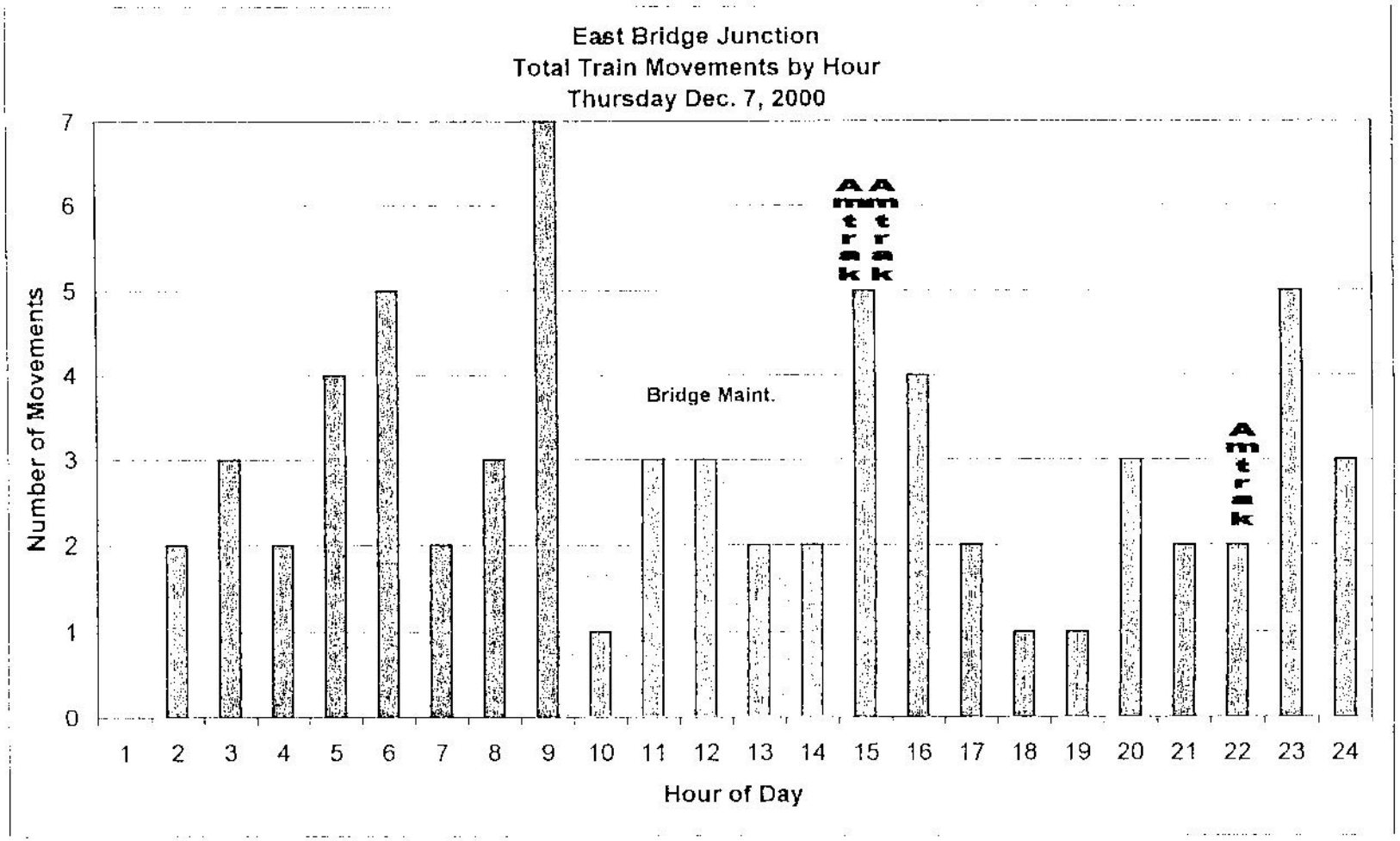
* Excludes: UP to/from NOGC traffic
Intra-RR Movements - Maintenance; industrial/support yard switching; mainline operations

Notes: IC to NS move includes IC to CSX and NS to CSX moves all performed by NS
NS to IC includes KCS traffic


Total Train Movements by Day
Sample Week
East Bridge Junction
Total Movements - 401
Number of Trains
70
60
50
40
30
20
10
0
Mon.
Tues.
Wed.
Thur.
Fri.
Sat.
Sun.
Avg Total
57.3
Avg Freight
49.0
Maintenance
Freight

Transit Times (Hours) - Present vs Unconstrained
Selected Inter Yard Movements

		Present		Unconstrained		Variance		Variance %	
From - To	No.Trains	Avg.	Max.	Avg.	Max.	Avg.	Max.	Avg.	Max.
UP to CSX	44	5:43	12:08	1:29	4:10	4:14	7:58	74%	66%
CSX to UP	34	8:04	18:00	1:21	2:37	6:43	15:23	83%	85%
BN to NOPB	17	7:22	20:55	1:48	5:21	5:34	15:34	76%	74%
NOPB to BN	15	4:55	16:00	1:27	3:58	3:28	12:02	71%	75%


East Bridge Junction
Total Train Movements by Hour
Thursday Dec. 7, 2000
Number of Movements
0
1
2
3
4
5
6
7
Bridge Maint.
Amtrak
Amtrak
Amtrak
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour of Day

Next Steps

Near Term Solutions

- Complete refinements to modeling of present baseline operation
- Re-run unconstrained scenario to test incremental benefits of potential operating improvements

Next Steps (cont'd)

- Future Traffic Scenarios
  - Year 5, 10, 20
  - Traffic levels based on stakeholder forecasts
    - Manifest - 3%; Intermodal - 4% per annum
  - Future train volumes based on ability to increase average train length trains
  - Future scenarios to consider potential traffic impact of Millennium Port
  - Operating & infrastructure solutions to be developed and evaluated

N-Y ASSOCIATES, INC.
CONSULTING ENGINEERS
ARCHITECTS, LTD.
ARCHITECTS & PLANNERS

TECHNICAL ADVISORY COMMITTEE (TAC) MEETING MEMORANDUM

SUBJECT : New Orleans Rail Gateway and Regional Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00, N-Y Job No. 20006.01

DATE : April 25, 2001
9:00 A.M.

PLACE : Regional Planning Commission
21st Floor Conference Room
New Orleans, Louisiana

ATTENDANCE: See Attached List

Kent Dussom of URS opened the meeting with an overview of tasks completed to date and objectives of the meeting.

Following self-introductions, Graham Pengelley of CANAC presented several "Unconstrained" animations **a)** Full view, **b)** East Bridge Junction (EBJ), and **c)** Backbelt. The "unconstrained" model uses **a)** train speeds provided by the railroads, **b)** only safety delays, **c)** yards of an infinite size so as to not be a constraint. Trains are labeled by ownership and also by engine and train number if known.

The constrained model presented is the data collected for the model week, December 4 through December 10, 2000 including recorded delays.

The next model run will limit yard staging capacity, add crew changes at Marconi Drive and other required constraints to match actual conditions.

It was questioned if the model considered the Norfolk-Southern/Jefferson Parish commitment to not meet trains in Metairie crossings.

Mr. Bill Shrewsberry with LADOTD questioned if the model identified the time a crossing is interrupted such as Central Avenue in Metairie.

Ms. Karen Parson, with the RPC, stated the RPC's desire to know the duration of crossing interruption at Louisa Street and the adjacent France Road and Jourdan Road Crossings.

Mr. Pengelley stated the model currently did not track crossing interruption durations but can be set up to do so. He added that not all existing track crossings were included in the model.

Mr. Pengelley presented the following with the overhead projector:

- Objectives: Mr. Dussom distributed the attached handout stating the Project Goal and Project Objectives.

- Project Program To-Date: Mr. Shrewsberry questioned if the model considered delays at crossings adjacent to the rail yards as a result of building trains. The attached Priority List of Preliminary Issues and Deficiencies was distributed from the December 15 TAC meeting.

- Operations Modeling: The model was built using over 800 train movement records representing 430 distinct movements tracked by the system.

- Modeling Approach: Scanner information, West Bridge Junction (WBJ) and East Bridge Junction (EBJ) information were used for the baseline operation with current delays. Performance measures to consider will include **a)** traffic velocity (travel time), **b)** resources involved (crews, engines, car-days) and **c)** community impacts such as grade crossing occupancy.

- Initial Results:

  a) Present day (sample week) movements
  b) Gateway traffic patterns with RR to RR interchange
  c) Traffic Density
  d) Patterns
  e) Bottlenecks

- Inter Yard Movements Chart for Sample Week

- Inter Yard Movements by Gateway Route Chart (by direction and total). Mr. Ray Duplechain with NOPBRR requested copies of this and the previous chart.

- Track network diagram at EBJ.

- EBJ Summary of Train Movements.

- Total train movements by day (freight and maintenance).

- EBJ movements for 12/7/00.

- Train Delays at Key Gateway Locations (HPL Bridge East, HPL Bridge West and Marconi).

- Transit Time (Present vs Unconstrained) for Selected Inter Yard Movements: It was noted that the N. O. Gateway performance is not exceptional compared to other of the nations RR Gateways such as Memphis, St. Louis, Chicago. Opportunities for improvement do exist. Mr. Brian Parsons with LADOTD requested copies of the statistics presented to be included with the minutes.

- Next Step:

  a) Model future conditions based on traffic growth using annual increases (3% manifest and 4% intermodal).
  b) Look at maximum useable train lengths to only add trains as required.
  c) Add Millennium Port rail traffic projections to model.
  d) Evaluate solutions developed to improve rail operations for near, mid and long term in the gateway.

Mr. Shrewsberry asked if the model considered possible track speed increases.

Mr. John Johnston with CANAC stated new track speeds could be added if proposed by segments above the existing track speeds modeled. It was not the intent of this project to increase maximum speeds.

Mr. Dussom suggested a short break at 10:52 AM.

Mr. Dussom reconvened the meeting at 11:12 AM.

Mr. Shrewsberry stated potential funding was available from Amtrak, if Amtrak can derive improvements. He also stated the DOTD was interested in looking at crossings for improvements and other funding sources. He asked if the model will be available for modeling after alternatives after the project is completed. Mr. Pengelley stated the model was upgradeable for routing, speeds, etc. Use of the model beyond this project had not previously been discussed. The model is a proprietary tool of CANAC. Mr. Dussom asked Mr. Shrewsberry if he wanted additional data to be available. Mr. Shrewsberry is interested in crossings at Central Avenue, St. Claude, and the Kenner area, Williams to River Ridge. Mr. Shrewsberry reiterated that he is interested in information to supplement what the DOTD already has.

Mr. Johnston requested the DOTD provide the particular points of information desired.

Ms. Parsons stated a separate meeting should be held to discuss these needs vs. what this project was to address. It was agreed that Ms. Parsons and Mr. Shrewsberry would meet to agree on the additional needs and provide a request to the project team.

Mr. Gerry Hutchinson with NOPBRR indicated they are moving to a reduced number of, (but longer) maintenance days for the bridge which will be different than what was modeled. (10 hour days, Tuesday, Wednesday and Thursday). He stated the NOPBRR also wants a new ballast deck section for the bridge to reduce required maintenance. Mr. Duplechain stated Modjeski & Masters had completed a preliminary review and determine the existing structure could support additional weight of a ballast section.

Potential improvements were identified and presented, divided into **a)** Operational, **b)** Low Cost Capital Improvements, and **c)** Capital Intensive.

The Shrewsbury crossing is a state route that ends at Earhart and the DOTD would be in favor of its closing.

Ms. Parsons stated the Jefferson Parish improvements to Dakin Street will have an effect on Cold Storage Road and the possible future closure of the Shrewsbury crossing. It was noted that benefits of closing Shrewsbury may be dependent on a double track being implemented through EBJ.

Mr. Shrewsberry asked about this project looking at consolidation or relocation of yards for increased efficiency. Mr. Pegelley stated that with the urban environment, many existing yards are physically constrained from expansion.

A new RR bridge over the Mississippi River was noted for consideration. Mr. Shrewsberry stated an I-510/Crescent City Connection agreement specified a minimum spacing to a new bridge to avoid disruption of traffic patterns.

Adding rail capacity to the HPL bridge and eliminating highway traffic was suggested.

The Carrollton Curve alternate was stated by Mr. Duplechain as reducing, but not eliminating Old Metairie traffic.

Ms. Parsons stated that funding for this project originated as a desire to move all freight rail operations out of Old Metairie. Thus, the Carrollton Curve should be looked at including preparation of a construction cost estimate.

Mr. Johnston stated the model could re-direct traffic to avoid Old Metairie through a new single or double track connection to the NOUPT line.

Mr. Duplechain recommended the Carrollton Curve as an elevated rail structure, similar to the one in Kansas City. The elevated section may extend near the bridge.

It was noted that the model does not appear to show all trains outside the gateway. Mr. Johnston responded that the model reflects the information provided to CANAC.

Adding staging track outside the yards was suggested as an alternative to yard expansion, for surge capacity. Long term storage of customer rail cars was discussed.

Customer storage of rail cars in the yards adds to the delays of working the yards. A "sit" yard operated by NOPB was suggested. This new storage yard may need to be out of the gateway.

It was emphasized that operating rail yards are not congested with long term storage. Certain railways with surplus capacity may use it for long term storage. Sit yards have and can be created when commercially viable circumstances exist.

In summary, the preliminary model results were discussed and all agreed that the modeling effort to date appears reasonable and accurately modeled the existing conditions. In addition, alternatives to evaluate were discussed, and with minor modifications, it was agreed to move forward with the evaluation.

There being no further business, the meeting was adjourned at approximately 12:30 P.M.

Prepared by: _____

James E. Simmons, P.E.
Project Manager & Vice President
N-Y Associates, Inc.

JES/jm
Encl: Agenda, Handouts, Slides
cc: Attendees and TAC Members

New Orleans Rail Gateway and Regional Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00, N-Y Project No. 20006

Attendance Sign-In Sheet

April 24th, 2001, 9:00 AM
Technical Advisory Committee (TAC) Meeting
Regional Planning Commission

Name	Representing	Telephone Number
Ray Duffleckhart	New Orleans Public Belt RR	504-656-7111
Wayne Jankersley	CSXT	504-244-4324
Brian Pangrio	LaDOTD	225 274-1304
Glen Guillot	LMTA	504-731-2829
Bob Bredberg	N-Y	504-885-0500
Joshua Gregorzewski	FHWA-LA DIV (with RPC)	504-568-6611
Bill Shrewsberry	DOTD	225 379 1543
Kyle Graff	UPRR	504-349-3655
Jim Love	KCS	504 832-5242
Bruce Richards	N-Y Associates	504-885-0500

New Orleans Rail Gateway and [illegible]ional Rail Operational Analysis
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April 24th, 2001, 9:00 AM
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Regional Planning Commission

Name	Representing	Telephone Number
Kent Dusson	URS Corp	504 837 6326
Jim Simmons	N-Y Assoc	504 885-0500
Barry Weinstein	Universal Maritime	504-948-0227
Max Sanders	Universal Maritime	504-948-0211
Gary Jackson	CSX Transportation	504-244-4390
G. W. Hutchison	NOPB RR	504-896-7410
Karen Parsons	RPC	504-568-6611
Steve Jaeger	Port of N.O.	504-528-3258
Joe Cocchiara	" " "	504-528-3207

New Orleans Rail Gateway and Regional Rail Operational Analysis
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Meeting Agenda

April 25th, 2001, 9:00 AM
Technical Advisory Committee (TAC) Meeting
Regional Planning Commission

1. Introduction — 9:00 – 9:15

   A. Summary of Project to Date
   B. Meeting Objectives

2. Presentation of the Simulation Modeling — 9:15 – 11:30

   A. Summary of Modeling Process
   B. Model Coding/Data Collected
   C. Viewing of Model Simulations
      1. Existing Condition
      2. Existing Unrestrained
      3. Future Unrestrained

BREAK FOR LUNCH — 11:30 – 1:00

3. Discussion of the Simulation Modeling — 1:00 – 2:00

   A. Modeling Results – Existing Condition
   B. Comparison of Model Results with Actual Data
   C. Modeling Results – Existing Unrestrained
   D. Modeling Results – Future Unrestrained
   E. Discussion of Model Measures of Effectiveness

4. Discussion of Future Modeling Effort and Completion of Study — 2:00 – 3:00

   A. Proposed Improvements to Consider
   B. Preliminary Engineering and Cost Estimates
   C. Project Schedule and Tasks to Completion

New Orleans Rail Gateway and Regional Rail Operational Analysis
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00

PROJECT GOAL:

Improve the efficiency and safety of freight and passenger rail operations within the New Orleans Rail Gateway to support existing and future economic activity, minimize environmental impacts and improve overall surface transportation efficiency.

PROJECT OBJECTIVES:

1. Quantify specific operating and infrastructure deficiencies of the New Orleans Gateway rail network.

2. Develop alternative operating strategies and infrastructure solutions (Action Plan) for immediate term, 5, 10, 20 year planning horizons that:

   a. Reduce average transit time for traffic handled through gateway.

   b. Reduce operating cost.

   c. Provide improved operating flexibility and ability to recover from major service outages.

   d. Increase gateway capacity.

   e. Meet service requirements of railroad users (shippers/customers, Amtrak, Port of N.O.).

   f. Integrate with requirements and constraints of committed highway and rail transit plans.

   g. Minimize negative impact of rail operations on the public and the environment.

   h. Maximize use of present infrastructure capacity thereby minimizing new capital requirements.

   i. Achieve reasonable consensus and support of identified stakeholders.

3. Examine merits of a central coordinated center for Gateway rail operations.

New Orleans Rail Gateway and Regional Rail Operational Analysis
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Preliminary List of Issues & Deficiencies Impacting Gateway Performance

December 15th, 2000
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Understanding of present operation & issues

- Interchange process; traffic volume
- Traffic control process
- Infrastructure layout
- Passenger Operations

Document future development plans

Progress to Date (cont'd)

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Sample Week

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CSX	NOPB				15				
	UP		30		6		36		36
IC	KCS	2				2			
	NOPB			9		9			
	NS	7				7			
	UP						6		6
KCS	CSX	7							
	IC		2				2		
NOPB	BN				15		15		15
	CSX			8					
	IC				6		6		
	KCS				8		8		
	NS			7					
	UP				4		4		4
NS	IC		7				7		
	NOPB				7				
	UP		16				16		16
UP	CSX	43				43		43	
	IC					11		11	
	NOPB					4		4	
	NS	17				17		17	
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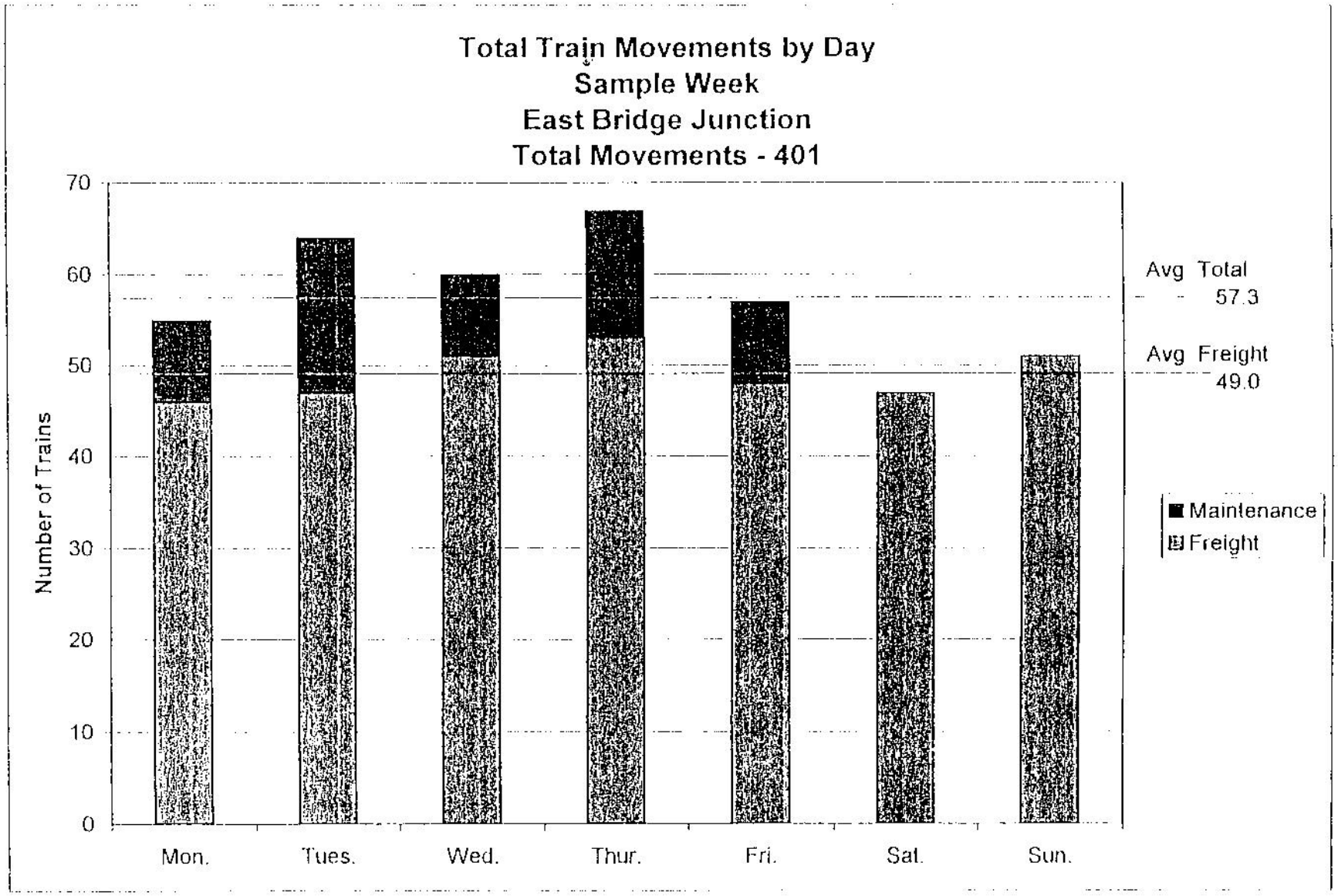
Inter Yard Train Movements*

Sample Week: Dec 4 - 10

	To RR									
From RR	AMTK	BN	CSX	IC	KCS	NOPB	NS	UP	TOTAL	Avg/Day
AMTK	34								34	4.9
BN						17			17	2.4
CSX						15		36	51	7.3
IC					2	9	7	6	24	3.4
KCS			7	2					9	1.3
NOPB		15	8	6	8		7	4	48	6.9
NS				7		7		16	30	4.3
UP			43	11		4	17		75	10.7
Total	34	15	58	26	10	52	31	62	288	
Avg/Day	4.9	2.1	8.3	3.7	1.4	7.4	4.4	8.9	41.1	

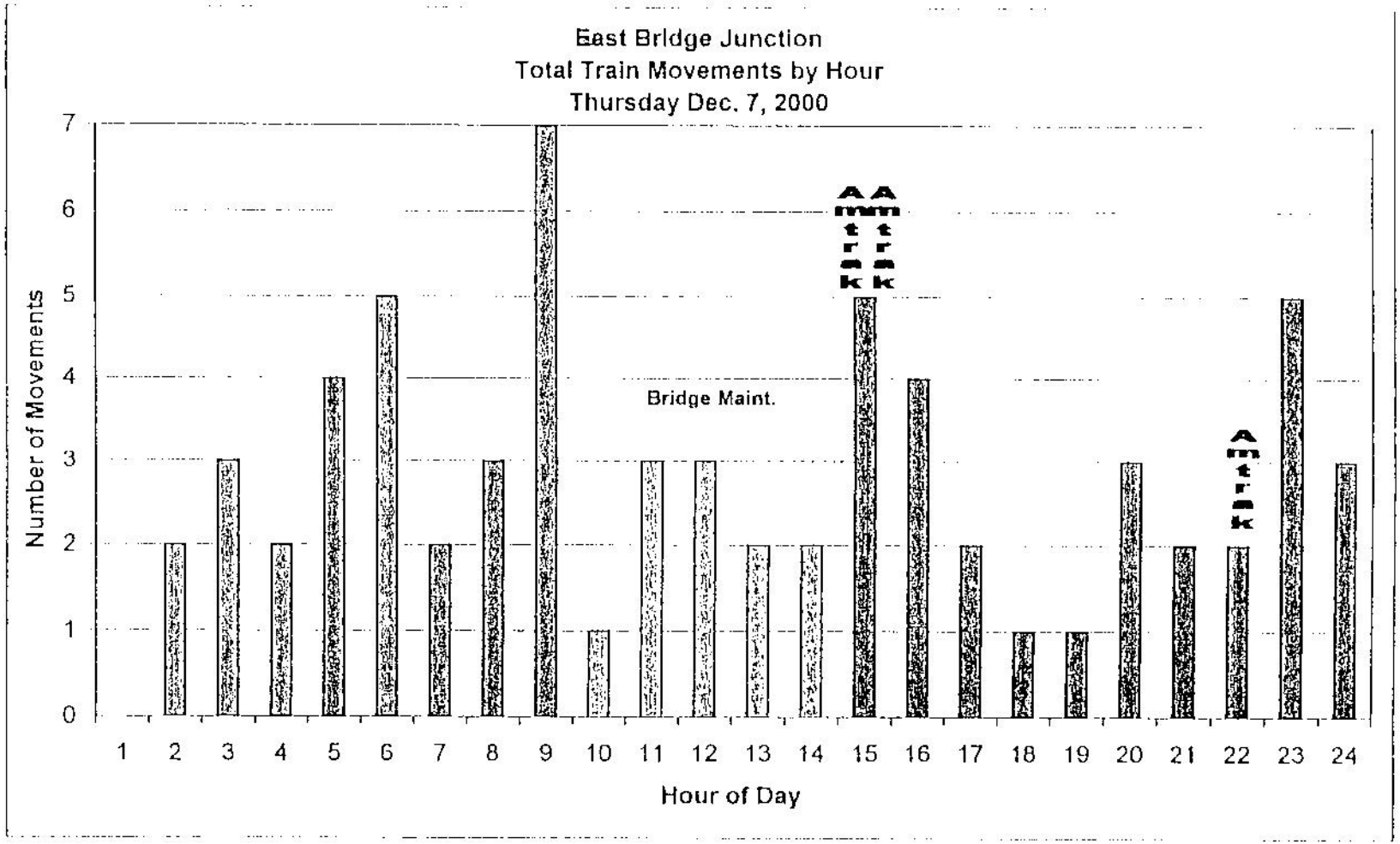
* Excludes: UP to/from NOGC traffic
Intra-RR Movements - Maintenance; industrial/support yard switching; mainline operations

Notes: IC to NS move includes IC to CSX and NS to CSX moves all performed by NS
NS to IC includes KCS traffic


Total Train Movements by Day
Sample Week
East Bridge Junction
Total Movements - 401
Number of Trains
70
60
50
40
30
20
10
0
Mon.
Tues.
Wed.
Thur.
Fri.
Sat.
Sun.
Avg Total
57.3
Avg Freight
49.0
Maintenance
Freight

Transit Times (Hours) - Present vs Unconstrained
Selected Inter Yard Movements

		Present		Unconstrained		Variance		Variance %	
From - To	No.Trains	Avg.	Max.	Avg.	Max.	Avg.	Max.	Avg.	Max.
UP to CSX	44	5:43	12:08	1:29	4:10	4:14	7:58	74%	66%
CSX to UP	34	8:04	18:00	1:21	2:37	6:43	15:23	83%	85%
BN to NOPB	17	7:22	20:55	1:48	5:21	5:34	15:34	76%	74%
NOPB to BN	15	4:55	16:00	1:27	3:58	3:28	12:02	71%	75%


East Bridge Junction
Total Train Movements by Hour
Thursday Dec. 7, 2000
Number of Movements
0
1
2
3
4
5
6
7
Bridge Maint.
Amtrak
Amtrak
Amtrak
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour of Day

Next Steps

- Near Term Solutions
  - Complete refinements to modeling of present baseline operation
  - Re-run unconstrained scenario to test incremental benefits of potential operating improvements

Next Steps (cont'd)

- Future Traffic Scenarios
  - Year 5, 10, 20
  - Traffic levels based on stakeholder forecasts
    - Manifest - 3%; Intermodal - 4% per annum
  - Future train volumes based on ability to increase average train length trains
  - Future scenarios to consider potential traffic impact of Millennium Port
  - Operating & infrastructure solutions to be developed and evaluated

APPENDIX B

HISTORICAL OPERATING STATISTICS UTILIZED FOR FREIGHT FORECASTING

Sources for Analysis of Class I Railroads

LINE	ITEM	SOURCE
Summary ($000)		
1	Total Operating Revenue	Sch.210,L.13, Col.B
2	Total Operating Expense	Sch.210,L.14, Col.B
3	Depreciation	Sch.410,L.136 to L.138+213+232-317, Col.B
4	Total Taxes	Sch.210,L.51, Col.B
5	Net Railroad Operating Income	Sch.210,L.57, Col.B
6	Net Income	Sch.210,L.61, Col.B
7	Capital Expenditures	Sch.330,L.43, Col.E
8	ICC Rate of Return	Line 118 herein
9	Total Assets	Sch.200,L.29, Col.B
10	Total Liabilities	Sch.200,L.49+51, Col.B
11	Average Shareholders' Equity	(Sch.200,L.61, Col.B+C) / two
12	Return on Shareholders' Equity	Line 6 / Line 11 herein
13	Miles of Road Operated	Sch.700,L.57, Col.C
14	Average Employment	Line 308 herein
Financial Results		
Income Statement ($000)		
Operating Revenue		
15	Freight	Sch.210,L.1, Col.B
16	Passenger	Sch.210,L.2, Col.B
17	Passenger-related	Sch.210,L.3, Col.B
18	Switching	Sch.210,L.4, Col.B
19	Water Transfers	Sch.210,L.5, Col.B
20	Demurrage	Sch.210,L.6, Col.B
21	Incidental	Sch.210,L.7, Col.B
22	Joint Facility - CR	Sch.210,L.8, Col.B
23	Joint Facility - DR	Sch.210,L.9, Col.B
24	Railroad Operating Revenue Excluding Govmnt. Transfers	Sch.210,L.10, Col.B
25	Transfers from Govmnt. Authorities	Sch.210,L.11+12, Col.B
26	Freight Service Revenue	Sch.210,L.13, Col.C
27	Total Railroad Operating Revenue	Sch.210,L.13, Col.B
28	Railroad Operating Expense	Sch.210,L.14, Col.B
29	Net Revenue from Operations	Sch.210,L.15, Col.B
Other Income and Miscellaneous Deductions		
30	Income from Affiliated Companies	Sch.210,L.25+26, Col.B
31	Dividends	Sch.210,L.25, Col.B
32	Equity in Earnings (Losses)	Sch.210,L.26, Col.B
33	Total Other Income	Sch.210,L.27, Col.B
34	Miscellaneous Deductions	Sch.210,L.36, Col.B
35	Income Before Fixed Charges	Sch.210,L.37, Col.B
Fixed Charges		
36	Interest on Funded Debt	Sch.210,L.38+39, Col.B
37	Fixed Interest Not in Default	Sch.210,L.38, Col.B
38	Interest in Default	Sch.210,L.39, Col.B
39	Interest on Unfunded Debt	Sch.210,L.40, Col.B
40	Amortization of Discount on Funded Debt	Sch.210,L.41, Col.B
41	Total Fixed Charges	Sch.210,L.42, Col.B
42	Income After Fixed Charges	Sch.210,L.43, Col.B
43	Contingent Interest	Sch.210,L.44, Col.B
44	Extraordinary and Prior Period Items - CR	Sch.210,L.45, Col.B
Income Taxes		
45	Federal Income Taxes	Sch.210,L.47, Col.B

The three major sources, all reports submitted to the Surface Transportation Board, are:

R-1 Annual Report (includes Schedules 200 through 755)

Freight Commodity Statistics

Wage Form A and B

46	State Income Taxes	Sch 210,L 48, Col B
47	Other Income Taxes	Sch.210,L 49, Col B
48	Total Income Taxes Paid	Sch 210,L 47+48+49, Col B
49	Provision for Deferred Taxes	Sch 210,L 50, Col B
50	Discontinued Operations (Net)	Sch 210,L 53+54, Col B
51	Ordinary Income	Sch 210,L 55, Col B
52	Total Extraordinary Items	Sch 210,L 59, Col B
53	Cumulative Effect of Changes in Accounting Principles	Sch 210,L 60, Col B
54	Net Income	Sch 210,L 61, Col B
55	Income from Lease of Road and Equip	Sch.210,L 65, Col B
56	Rent for Leased Roads and Equipment	Sch 210,L 66, Col B
57	Net Railroad Operating Income	Sch 210,L 67, Col B

Balance Sheet ($000)

Assets

Current Assets

58	Cash	Sch 200,L 1, Col.B
59	Temporary Cash Investments	Sch 200,L 2, Col B
60	Special Deposits	Sch 200,L 3, Col B
61	Accounts Receivable (Net)	Sch 200,L 4 to 10, Col B
62	Prepayments and Working Funds	Sch 200,L 11, Col B
63	Materials and Supplies	Sch.200,L 12, Col B
64	Other Current Assets	Sch 200,L 13, Col B
65	Total Current Assets	Sch 200,L 14, Col B
66	Total Other Assets	Sch 200,L 23 Col B

Road and Equipment

67	Road	Sch 200,L 24, Col B
68	Equipment	Sch 200,L.25, Col B
69	Unallocated Items	Sch 200,L 26, Col B
70	Accumulated Depreciation and Amortization	Sch.200,L 27, Col B
71	Net Road and Equipment	Sch 200,L.28, Col B
72	Total Assets	Sch.200,L.29, Col B

Liabilities

Current Liabilities

73	Accounts Payable	Sch.200,L.30 to 36, Col.B
74	Taxes Accrued	Sch.200,L.37 Col B
75	Other Current Liabilities	Sch.200,L.38, Col B
76	Equipment Obligations & Other Debt Due Within One Year	Sch 200,L 39, Col B
77	Total Current Liabilities	Sch 200,L 40, Col B

Noncurrent Liabilities

78	Funded Debt Unmatured	Sch 200,L 41, Col B
79	Equipment Obligations	Sch 200,L 42, Col B
80	Capital Lease Obligations	Sch 200,L 43, Col B
81	Debt in Default	Sch 200,L 44, Col B
82	Accounts Payable Affiliated Companies	Sch 200,L 45, Col B
83	Accumulated Deferred Inc Tax Credits	Sch 200,L 46, Col B
84	Other Long-term Liabilities	Sch 200,L 46 to 48+50, Col B
85	Total Noncurrent Liabilities	Sch 200,L 51, Col B
86	Total Liabilities	Sch 200,L 40+51, Col B

Shareholders' Equity

87	Capital Stock	Sch 200,L 52, Col B
88	Common Stock	Sch 200,L 53, Col B
89	Preferred Stock	Sch 200,L 54, Col B
90	Treasury Capital Stock	Sch 200,L 55, Col B
91	Additional Capital	Sch 200,L 56, Col B

92	Retained Earnings	Sch 200,L 57 to 59, Col B
93	Appropriated	Sch 200,L 57, Col B
94	Unappropriated	Sch 200,L 58, Col B
95	Net Unrealized Loss Noncurrent Marketable Equity Securities	Sch 200,L 59, Col B
96	Treasury Stock	Sch 200,L 60, Col B
97	Net Stockholders' Equity	Sch 200,L 61, Col B
98	Total Liabilities & Shareholders' Equity	Sch 200,L 62, Col B
99	Net Working Capital	L 55 less L 77 herein

Dividends (Cash and Non-Cash) ($000)

100	Common Stock	Sch 220,L 11, Col B
101	Preferred Stock	Sch 220,L 12, Col B
102	INTENTIONALLY LEFT BLANK	
103	INTENTIONALLY LEFT BLANK	
104	Cash Flow	L 54+L 3+L 49 less L 32 herein + Sch 210, L 58, col B

R-1 Investment and Income Items ($000)

105	Investment in Road and Equipment	Sch 352A,L 31, Col D
106	Interest During Construction	Sch 352B,L 41, Col B+C+D+E
107	Other Elements of Investment	Sch 352B,L 42, Col B+C+D+E (if sum is a debit balance)
108	CWOS Working Capital	Sch 245,L 28, Col B
109	Total Property Investment	L 105 less L 106 less 107+108 herein
110	Accrued Depreciation & Amortization	Sch 352A,L 31, Col E
111	Net Investment End of Year	L 109 less L 110 herein
112	Net Investment End of Previous Year	Last year's Analysis
113	Average Net Investment	(L 111+L 112 herein) / two
114	Investment Tax Credit	Sch 450,Note 1 or 1(S)
115	Net Railroad Operating Income After ITC Deduction	L 5 less L 114 herein

STB Revenue Adequacy Data ($000)

116	Net Railroad Operating Income	STB Revenue Adequacy Decision
117	Average Net Investment	STB Revenue Adequacy Decision
118	Rate of Return	L 116 / L 117 herein

Statement of Cash Flows ($000)

Cash Flow - Operating Activities

119	Income from Continuing Operations	Sch 240,L 10, Col B
120	Loss/(Gain) on Sale-Disposal of Tangible Property and Investment	Sch 240,L 11, Col B
121	Depreciation and Amortization Expenses	Sch 240,L 12, Col B
122	Increase/(Decrease) in Provision for Deferred Income Taxes	Sch 240,L 13, Col B
123	Net Decrease (Increase) in Undistributed Earnings (Losses) of Affiliates	Sch 240,L 14, Col B
124	Decrease/(Increase) in Accounts Receivable	Sch 240,L 15, Col B
125	Decrease/(Increase) in Materials & Supplies & Other Current Assets	Sch 240,L 16, Col B
126	(Decrease) Increase in Current Liabilities Other Than Debt	Sch 240,L 17, Col B
127	Increase/(Decrease) in Other-Net	Sch 240,L 18, Col B
128	Net Cash Provided from Continuing Operations	Sch 240,L 19, Col B
129	Cash Generated/(Paid) by Reason of Discontinued Ops & Extraord. Items	Sch 240,L 20, Col B
130	Net Cash Provided from Operating Activities	Sch 240,L 21, Col B

Cash Flow - Investing Activities

131	Proceeds from Sale of Property	Sch 240,L 22, Col B

132	Capital Expenditures	Sch.240,L.23, Col B
133	Proceeds from Sale Repayment of Investments and Advances	Sch.240,L.25, Col B
134	Purchase Price of Long-Term Investments and Advances	Sch.240,L.26, Col B
135	Net Decrease (Increase) in Sinking and Other Special Funds	Sch.240,L.27, Col B
136	Other	Sch.240,L.24+L.28, Col.B
137	Net Cash Used in Investing Activities	Sch.240,L.29, Col B

Cash Flow - Financing Activities

138	Proceeds from Issuance of Long-Term Debt	Sch.240,L.30, Col B
139	Principle Payments on Long-Term Debt	Sch.240,L.31, Col B
140	Purchase Price of Acquiring Treasury Stock	Sch.240,L.33, Col.B
141	Cash Dividends Paid	Sch.240,L.34, Col B
142	Other	Sch.240,L.32+L.35, Col B
143	Net Cash from Financing Activities	Sch.240,L.36, Col B
144	Net Increase (Decrease) in Cash and Cash Equivalents	Sch.240,L.37, Col B
145	Cash and Cash Equivalents at the Beginning of the Year	Sch.240,L.38, Col B
146	Cash and Cash Equivalents at the End of the Year	Sch.240,L.39, Col B

Total Operating Expense Breakdown ($000)

Way and Structures

147	Depreciation	Sch.410,L.136+137+138, Col.H
148	All Other	L.149 less L.147 herein
149	Total Way and Structures	Sch.410,L.151, Col H

Equipment

150	Locomotive, Total	Sch.410,L.219, Col H
151	Locomotive Depreciation	Sch.410,L.213, Col H
152	All Other Locomotive Expense	L.150 less L.151 herein
153	Freight Car, Total	Sch.410,L.238, Col H
154	Freight Car Depreciation	Sch.410,L.232, Col H
155	All Other Freight Car Expense	L.153 less L.154 herein
156	Other Equipment, Total	Sch.410,L.323, Col H
157	Other Equipment Depreciation	Sch.410,L.317, Col H
158	Total Equipment	Sch.410,L.324, Col H

Transportation

159	Transportation - Train Operations	Sch.410,L.419, Col H
160	Transportation - Yard Operations	Sch.410,L.436, Col.H
161	Transportation - Train Yard Common	Sch.410,L.505, Col.H
162	Special Service Operations	Sch.410,L.517, Col.H
163	Administrative Support Operations	Sch.410,L.527, Col.H
164	Total Transportation	Sch.410,L.528, Col H

General and Administrative

165	General and Administrative	Sch.410,L.619, Col.H

Total

166	Total Railroad Operating Expense	Sch.410,L.620, Col H

Freight Service Expense ($000)

Ways and Structure

167	Labor	Sch.410,L.151, Col.B
168	Fringe Benefits	Sch.410,L.112+113+114, Col.H
169	Materials and Supplies	Sch.410,L.161, Col B
170	Casualties and Insurance	Sch.410,L.115+116+117, Col.B

171	Lease Rentals and Other Rents	Sch.410,L.118 thru 123+L.130 thru L.135, Col.F
172	Depreciation	Sch.410,L.136+137+138, Col.F
173	All Other	Sch.410,L.151, Col.F less L.167 thru L.172 herein
174	Total Way and Structures	Sch.410,L.151, Col.F

Equipment

Locomotives

175	Labor	Sch.410,L.219, Col.B
176	Fringe Benefits	Sch.410,L.205, Col.F
177	Materials and Supplies	Sch.410,L.219, Col.C
178	Casualties and Insurance	Sch.410,L.206, Col.F
179	Lease Rentals and Other Rents	Sch.410,L.207+208+211+212, Col.F
180	Depreciation	Sch.410,L.213, Col.F
181	All Other	Sch.410,L.219,Col.F less L.175 thru L.180 herein
182	Total Locomotives	Sch.410,L.219, Col.F

Freight Cars

183	Labor	Sch.410,L.238, Col.B
184	Fringe Benefits	Sch.410,L.224, Col.F
185	Material and Supplies	Sch.410,L.238, Col.C
186	Casualties and Insurance	Sch.410,L.225, Col.F
187	Lease Rentals and Other Rents	Sch.410,L.226+227+230+231, Col.F
188	Depreciation	Sch.410,L.232, Col.F
189	All Other	Sch.410,L.238,Col.F less L.183 thru L.188 herein
190	Total Freight Cars	Sch.410,L.238, Col.F

Other Equipment

191	Labor	Sch.410,L.323, Col.B
192	Fringe Benefits	Sch.410,L.309, Col.F
193	Materials and Supplies	Sch.410,L.323, Col.C
194	Casualties and Insurance	Sch.410,L.310, Col.F
195	Lease Rentals and Other Rents	Sch.410,L.311+312+315+316, Col.F
196	Depreciation	Sch.410,L.317, Col.F
197	All Other	Sch.410,L.323,Col.F less L.191 thru Line 196 herein
198	Total Other Equipment	Sch.410,L.323, Col.F

Transportation

Train Operations

199	Labor	Sch.410,L.419, Col.B
200	Fringe Benefits	Sch.410,L.414, Col.F
201	Materials and Supplies	Sch.410,L.419, less L.409 & 410, Col.C
202	Locomotive Fuel and Power	Sch.410,L.409 & 410, Col.F
203	Casualties and Insurance	Sch.410,L.415, Col.F
204	Freight Loss and Damage	Sch.410,L.412, Col.F
205	All Other	Sch.410,L.419,Col.F less L.199 thru Line 204 herein
206	Total - Transportation Train	Sch.410,L.419, Col.F

Yard Operations

207	Labor	Sch.410,L.435, Col.B
208	Fringe Benefits	Sch.410,L.430, Col.F
209	Materials and Supplies	Sch.410,L.435, Col.C less L.425&426, Col.C
210	Locomotive Fuel and Power	Sch.410,L.425+426, Col.F
211	Casualties and Insurance	Sch.410,L.431, Col.F
212	Freight Loss and Damage	Sch.410,L.428, Col.F
213	All Other	Sch.410,L.435, Col.F less L.207 thru L.212 herein
214	Total - Transportation Yard	Sch.410,L.435, Col.F

Train and Yard Common

215	Labor	Sch.410,L.505, Col.B
216	Fringe Benefits	Sch.410,L.505, Col.F
217	Materials and Supplies	Sch.410,L.505, Col.C
218	Freight Loss and Damage	Sch.410,L.504, Col.F
219	All Other	Sch.410,L.505, Col.F less L.215 thru L.218 herein

220	Total Transportation Train & Yard Common	Sch.410,L.506, Col.F

Specialized Service Operations

221	Labor	Sch.410,L.517, Col.B
222	Fringe Benefits	Sch.410,L.512, Col.F
223	Materials and Supplies	Sch.410,L.517, Col.C
224	Freight Loss and Damage	Sch.410,L.511, Col.F
225	Casualties and Insurance	Sch.410,L.513, Col.F
226	All Other	Sch.410,L.517, Col.F less L.221 thru L.225 herein
227	Total Special Service	Sch.410,L.517, Col.F

Administrative Support Operations

228	Labor	Sch.410,L.527, Col.B
229	Fringe Benefits	Sch.410,L.522, Col.F
230	Materials and Supplies	Sch.410,L.527, Col.C
231	Casualties and Insurance	Sch.410,L.523, Col.F
232	All Other	Sch.410,L.527, Col.F less L.228 thru L.231 herein
233	Total Administrative Support	Sch.410,L.527, Col.F

Freight Service Expense (Continued) ($000)

Total Transportation

234	Labor	Sum of L.199+207+215+221+228 herein
235	Fringe Benefits	Sum of L.200+208+216+222+229 herein
236	Materials and Supplies	Sum of L.201+209+217+223+230 herein
237	Locomotive Fuel and Power	Sum of Lines 202+210 herein
238	Casualties and Insurance	Sum of L.203+211+225+231 herein
239	Freight Loss and Damage	Sum of L.204+212+218+224 herein
240	All Other	Sum of L.205+213+219+226+232 herein
241	Total Transportation	Sum of L.206+214+220+227+233 herein

General and Administrative

242	Labor	Sch.410,L.619, Col.B
243	Fringe Benefits	Sch.410,L.611, Col.F
244	Materials and Supplies	Sch.410,L.619, Col.C
245	Casualties and Insurance	Sch.410,L.612, Col.F
246	Property and Other Taxes (Excluding Income and Payroll)	Sch.410,L.614+L.615, Col.F
247	Public Relations and Advertising	Sch.410,L.609, Col.F
248	All Other	Sch.410,L.619, Col.F less L.242 thru L.247 herein
249	Total General & Administrative	Sch.410,L.619, Col.F

Total Freight Service Expense

250	Labor	Sch.410,L.620, Col.B
251	Fringe Benefits	Sum L.168+176+184+192+235+243 herein
252	Materials and Supplies	Sum L.169+177+185+193+236+244 herein
253	Locomotive Fuel and Power	Line 237 herein
254	Casualties and Insurance	Sum L.170+178+186+194+238+245 herein
255	Lease Rentals and Other Rents	Sum of Lines 171+179+187+195 herein
256	Depreciation	Sum of Lines 172+180+188+196 herein
257	Freight Loss and Damage	Line 239 herein
258	Property and Other Taxes	Line 246 herein
259	All Other	Sum of L.173+181+189+197+240+247+L.248 herein
260	Grand Total Freight Service Expense	Sch.410,L.620, Col.F

Railroad Taxes ($000)

261	Total Federal Income Taxes	Sch.460,L.4, Col.B
262	Railroad Retirement	Sch.460,L.5, Col.B
263	Supplemental Annuities	Sch.460,L.7, Col.B
264	Medicare	Sch.460,L.8, Col.B
265	Unemployment Insurance	Sch.460,L.3, Col.B
266	Total Payroll Taxes	Sum of L.262 thru 265 herein
267	All Other United States Taxes	Sch.460,L.3, Col.B
268	Federal Income Taxes	Sch.460,L.2, Col.B

269	Other Federal Taxes	Sch 450,L 9, Col B
270	Total U.S. Government Taxes	Sch.450,L 10, Col.B
271	Other Than U.S. Government Taxes	Sch 450,L 11, Col B
272	Grand Total Railroad Tax Accruals	Sch 450,L 11, Col B
273	Provision for Deferred Taxes	Sch.210,L 60, Col B

Equipment Rents (Net Payable) ($000)

274	Private Line Cars	Sch 414,L 25, Col E less Col B
275	Per Diem Basis - Mileage	Sch 414,L 25, Col F less Col C
276	Per Diem Basis - Time	Sch 414,L 25, Col.G less Col.D
277	Total Equipment Rents	Sum of L 274 thru 277 herein

Financial Ratios

278	STB Rate of Return	Line 118 herein
279	Return on Shareholders' Equity	Line 12 herein
280	Current Ratio	L.85 / L.77 herein
281	Ratio of Cash Flow to Debt Due Within One Year	L.104 / L.76 herein
282	Ratio of Cash Flow to Total Long-Term Debt	L.104 / Sch 200, L.41 thru 46, Col B
283	Days of Cash Operating Expenses in Net Working Capital	L.99 / ((L.2 less L.3 herein) / 365 days)
284	Fixed Charge Coverage (Times)	L.35 / (L.41+L.43) herein
285	Debt Ratio	(Sch.200,L.41 thru 46, Col B) / ((Sch 200,L.41 thru 46, col B) + L.97 herein)
286	Debt/Equity Ratio	(Sch.200,L.41 thru 46,Col.B)/L.97 herein
287	Ratio of Interest Expenses to Total Outstanding Debt	(L.41+L.43 herein) / Sch 200,L Line 46,Col B
288	Profit Margin	(Line 1 less Line 2) / Line 1 herein
289	INTENTIONALLY LEFT BLANK	
290	STB Rate of Return	Line 118 herein
291	Rate of Return on Total Capitalization (Pretax)	Lines 54+41+43+48+49 herein / (Sch.200,L.41 thru 46,Col B+L.97 herein)
292	Rate of Return on Total Capitalization (After Tax)	Lines 54+41+43 herein / (Sch 200,L 41 thru 46,Col B + L 97 herein)
293	Operating Ratio	L 2 / L 1 herein
294	Expense Ratio	(L.2+L.41+L.43) / L.1 herein
295	Transportation Ratio - Train	L.159 / L.1 herein
296	Transportation Ratio - Yard	L.160 / L.1 herein
297	Maintenance of Road Ratio	L.149 / L.1 herein
298	Maintenance of Equipment Ratio	L.158 / L.1 herein
299	Freight Revenue Per Mile of Road	(L.15 x 1000) / L.13 herein
300	Freight Expense Per Mile of Road	(L.260 x 1000) / L.13 herein

Railroad Resources

Wage and Employee Data

Average Number of Employees

301	Executives, Officials and Staff Assistants	Wage Form A,Line 100,Col 2
302	Professional & Administrative	Wage Form A,Line 200,Col 2
303	Maintenance of Way and Structures	Wage Form A,Line 300,Col 2
304	Maintenance of Equipment and Stores	Wage Form A,Line 400,Col 2
305	Transportation (Exc. Train & Engine)	Wage Form A,Line 500,Col 2
306	INTENTIONALLY LEFT BLANK	
307	Transportation - Train and Engine	Wage Form B,Line 600,Col.2
308	Total	Wage Form B,Line 700,Col.2

Compensation ($000)

309	Executives, Officials and Staff Assistants	Wage Form A,Line 100,Col 11
310	Professional & Administrative	Wage Form A,Line 200,Col 11
311	Maintenance of Way and Structures	Wage Form A,Line 300,Col 11
312	Maintenance of Equipment and Stores	Wage Form A,Line 400,Col 11
313	Transportation (Exc. Train & Engine)	Wage Form A,Line 500,Col 11
314	INTENTIONALLY LEFT BLANK	
315	Transportation - Train and Engine	Wage Form B,Line 600,Col 12
316	Total	Wage Form B,Line 700,Col 12
317	Total Straight Time Pay	Wage Form B,Line 700,Col 9

318	Total Overtime Paid	Wage Form B,Line 700,Col 10
319	Total Vacation, Holiday & Oth Allowances	Wage Form B,Line 700,Col 11
320	Total Compensation Charged to Freight Operating Expense	Sch 410,L 620, Col B

Hours (000)

321	Total Straight Time Hours Worked	Wage Form B,Line 700,Col 4
322	Total Straight Time Hours Paid For	Wage Form B,Line 700,Col 5
323	Total Overtime Hours Paid For	Wage Form B,Line 700,Col 6
324	Total Vacation, Holiday & Other Allowances Hours Paid For	Wage Form B,Line 700,Col 7
325	Total Hours Paid For	Wage Form B,Line 700,Col 8
326	Total Hours Worked	Wage Form B,Line 700,Col 4+6

Average Annual Compensation

327	Executives, Officials and Staff Assistants	Line 309 - Line 301 herein
328	Professional & Administrative	Line 310 - Line 302 herein
329	Maintenance of Way and Structures	Line 311 - Line 303 herein
330	Maintenance of Equipment and Stores	Line 312 - Line 304 herein
331	Transportation (Excluding Train & Engine)	Line 313 - Line 305 herein
332	INTENTIONALLY LEFT BLANK	Line 314 - Line 306 herein
333	Transportation - Train and Engine	Line 315 - Line 307 herein
334	All Employees	Line 316 - Line 308 herein

Plant and Equipment

Mileage

335	Miles of Road Operated	Sch 700,L 57, Col C
336	Miles of Second Main Track Operated	Sch 700,L 57, Col D
337	Miles of All Other Main Track Operated	Sch.700,L 57, Col E
338	Miles of Passing Tracks, Crossovers, Turnouts, etc. Operated	Sch.700,L 57, Col F
339	Miles of Way Switch Tracks Operated	Sch 700,L 57, Col G
340	Miles of Yard Switch Tracks Operated	Sch.700,L 57, Col H
341	Total Miles of Track Operated	Sch.700,L 57, Col I
342	Miles of Road Operated (Excluding Trackage Rights)	Sch.700,L 57, Col C less Class 5
343	Miles of Track Operated (Excluding Trackage Rights)	Sch.700,L 57, Col I less Class 5

Ties

Ties Laid in Replacement

344	Treated Wood - New	Sch 721,L 6, Col B
345	Treated Wood - Second-Hand	Sch 721,L 6, Col F
346	Untreated Wood - New	Sch 721,L 6, Col C
347	Untreated Wood - Second-Hand	Sch 721,L 6, Col G
348	Other Than Wood - New	Sch 721,L 6, Col D+E
349	Other Than Wood - Second-Hand	Sch.721,L 6, Col H
350	Total Ties Laid in Replacement	Sch 721,L 6, Col I
351	Switch & Bridge Ties Laid in Replacement (in Board Feet)	Sch.721,L 6, Col J
352	Average Ties per Mile	Special Survey
353	Total Ties in Maintained Track	Line 352 x Line 343 herein
354	Total Gross Ton Miles per Mile of Maintained Track (000)	(Sch 755,L 104, Col B+C) ÷ L 343 herein
355	Per New Ties Laid in Replac to Total Ties Maintained Track	Lines 344+346+348) ÷ Line 353
356	New Ties Replaced per Mile of Track	(Lines 344+346+348) ÷ Line 343 herein

Ties Laid in Addition

357	Treated Wood - New	Sch 722, Col B
358	Treated Wood - Second-Hand	Sch 722, Col B
359	Untreated Wood - New	Sch 722, Col B
360	Untreated Wood - Second-Hand	Sch 722, Col B

361	Other Than Wood - New	Sch.722, Col B
362	Other Than Wood - Second-Hand	Sch.722, Col B
363	Total Ties Laid in Additional Track	Sch.722, L.20, Col B
364	Total Switch & Bridge Ties Laid in Additional Track (Board Feet)	Sch.722, L.20, Col E

Rail

Rail Laid in Replacement

365	New Rail - Miles	Sch.723, L.5, Col.B+C
366	New Rail - Tons	Special Survey (old Sch.515)
367	Relay Rail - Miles	Sch.723, L.5, Col D+E
368	Relay Rail - Tons	Special Survey (old Sch.515)

Rail Laid in Addition

369	Tons of New Rail - Running, etc	Sch.724, Class 1+2+3, Col C
370	Tons of Relay Rail - Running, etc	Sch.724, Class 4, Col C
371	Tons of New Rail - Yard, etc	Sch.724, Class 1+2+3, Col G
372	Tons of Relay Rail - Yard, etc	Sch.724, Class 4, Col G

All Rail

373	Avg. Weight of Rail (Pounds per Yard)	Sch. 725
374	Total Track Miles of Welded Rail Installed to Date	Sch.724, L.36, Col C and stockholder reports

Capital Expenditures ($000)

Road

375	Communications Systems	Sch.330, L.20, Col E
376	Signals and Interlockers	Sch.330, L.21, Col E
377	All Other Road	L.378 less (L.375+376) herein
378	Total Road	Sch.330, L.30, Col.E

Equipment

379	Locomotives	Sch.330, L.31, Col E
380	Freight Cars	Sch.330, L.32, Col.E
381	Other Equipment	L.382 less (L.379+380) herein
382	Total Equipment	Sch.330, L.39, Col E
383	Total Road and Equipment	Sch.330, L.30+39, Col E
384	Excess of Cash Flow Over Capital Capital Expenditures	Line 104 less Line 383 herein

Equipment

Locomotives

Locomotives in Service

385	Diesel-Electric	Sch.710, L.5, Col.J
386	Electric	Sch.710, L.6, Col.J
387	Other	Sch.710, L.7+8, Col.J
388	Total in Service	Sch.710, L.10, Col.J
389	Units Owned and Used	Sch.710, L.10, Col.H
390	Units Leased	Sch.710, L.10, Col

Aggregate Horsepower

391	Diesel-Electric	Sch.710, L.5, Col.K
392	Electric	Sch.710, L.6, Col.K

Aggregate Horsepower per Unit

393	Diesel-Electric	Line 391 / Line 385 herein
394	Electric	Line 392 / Line 386 herein

New Locomotives Installed

395	Diesel-Electric	Sch.710, L.5, Col.C+D
396	Electric	Sch.710, L.6, Col.C+D
397	Other	Sch.710, L.7+8, Col.C+D
398	Total	Sch.710, L.10, Col.C+D

Rebuilt Locomotives Installed

399	Diesel-Electric	Sch.710, L.5, Col.E

400	Electric	Sch.710, L.6, Col.E
401	Other	Sch.710, L.7+9, Col.E
402	Total	Sch.710, L.10, Col.E

All Other Locomotives Installed

403	Diesel-Electric	Sch.710, L.5, Col.F
404	Electric	Sch.710, L.6, Col.F
405	Other	Sch.710, L.7+9, Col.F
406	Total	Sch.710, L.10, Col.F

Locomotives Retired

407	Diesel-Electric	Sch.710, L.5, Col.G
408	Electric	Sch.710, L.6, Col.G
409	Other	Sch.710, L.7+9, Col.G
410	Total	Sch.710, L.10, Col.G

Freight Cars

Freight Cars in Service

411	Box - Plain 40'	Sch.710, L.36, Col.K+L
412	Box - Plain 50'	Sch.710, L.37, Col.K+L
413	Box - Equipped	Sch.710, L.38, Col.K+L
414	Gondola - Plain	Sch.710, L.39, Col.K+L
415	Gondola - Equipped	Sch.710, L.40, Col.K+L
416	Covered Hopper	Sch.710, L.41, Col.K+L
417	Open Hopper - General Service	Sch.710, L.42, Col.K+L
418	Open Hopper - Special Service	Sch.710, L.43, Col.K+L
419	Refrigerator - Mechanical	Sch.710, L.44, Col.K+L
420	Refrigerator - Non-Mechanical	Sch.710, L.45, Col.K+L
421	Flat TOFC/COFC	Sch.710, L.46, Col.K+L
422	Flat Multi-Level	Sch.710, L.47, Col.K+L
423	Flat General Service	Sch.710, L.48, Col.K+L
424	Flat All Other	Sch.710, L.49, Col.K+L
425	All Other Types	Sch.710, L.50+51+52, Col.K+L
426	Total Freight Cars in Service	Sch.710, L.53, Col.K+L
427	Owned	Sch.710, L.53, Col.I
428	Leased	Sch.710, L.53, Col.J
429	Caboose Cars	Sch.710, L.54, Col.L
430	Total Cars in Service	Sch.710, L.55, Col.K+L

Aggregate Capacity (Tons)

431	Box - Plain 40'	Sch.710, L.36, Col.M
432	Box - Plain 50'	Sch.710, L.37, Col.M
433	Box Equipped	Sch.710, L.38, Col.M
434	Gondola - Plain	Sch.710, L.39, Col.M
435	Gondola - Equipped	Sch.710, L.40, Col.M
436	Covered Hopper	Sch.710, L.41, Col.M
437	Open Hopper - General Service	Sch.710, L.42, Col.M
438	Open Hopper - Special Service	Sch.710, L.43, Col.M
439	Refrigerator - Mechanical	Sch.710, L.44, Col.M
440	Refrigerator - Non-Mechanical	Sch.710, L.45, Col.M
441	Flat TOFC/COFC	Sch.710, L.46, Col.M
442	Flat Multi-Level	Sch.710, L.47, Col.M
443	Flat General Service	Sch.710, L.48, Col.M
444	Flat All Other	Sch.710, L.49, Col.M
445	All Other Types	Sch.710, L.50+51+52, Col.M
446	Total Freight Car Capacity	Sch.710, L.53, Col.M

Average Capacity Per Car (Tons)

447	Box - Plain 40'	Line 431 ÷ Line 411 herein
448	Box - Plain 50'	Line 432 ÷ Line 412 herein
449	Box - Equipped	Line 433 ÷ Line 413 herein
450	Gondola - Plain	Line 434 ÷ Line 414 herein
451	Gondola - Equipped	Line 435 ÷ Line 415 herein
452	Covered Hopper	Line 436 ÷ Line 416 herein
453	Open Hopper - General Service	Line 437 ÷ Line 417 herein

454	Open Hopper - Special Service	Line 438 Line 418 herein
455	Refrigerator - Mechanical	Line 439 Line 419 herein
456	Refrigerator - Non-Mechanical	Line 440 Line 420 herein
457	Flat TOFC COFC	Line 441 Line 421 herein
458	Flat Multi-Level	Line 442 Line 422 herein
459	Flat General Service	Line 443 Line 423 herein
460	Flat All Other	Line 444 Line 424 herein
461	All Other Types	Line 445 Line 425 herein
462	Average Freight Car Capacity	Line 446 Line 426 herein

New Freight Cars Installed

463	Box - Plain 40'	Sch 710, L 36, Col D+E
464	Box - Plain 50'	Sch 710, L 37, Col D+E
465	Box - Equipped	Sch 710, L 38, Col D+E
466	Gondola - Plain	Sch 710, L 39, Col D+E
467	Gondola - Equipped	Sch 710, L 40, Col D+E
468	Covered Hopper	Sch 710, L 41, Col D+E
469	Open Hopper - General Service	Sch 710, L 42, Col D+E
470	Open Hopper - Special Service	Sch 710, L 43, Col D+E
471	Refrigerator - Mechanical	Sch 710, L 44, Col D+E
472	Refrigerator - Non-Mechanical	Sch 710, L 45, Col D+E
473	Flat TOFC COFC	Sch 710, L 46, Col D+E
474	Flat Multi-Level	Sch 710, L 47, Col D+E
475	Flat General Service	Sch 710, L 48, Col D+E
476	Flat All Other	Sch 710, L 49, Col D+E
477	All Other Types	Sch 710, L 50+51+52, Col D+E
478	Total New Freight Cars Installed	Sch 710, L 53, Col D+E

Rebuilt Freight Cars Installed

479	Box - Plain 40'	Sch 710, L 36, Col F
480	Box - Plain 50'	Sch 710, L 37, Col F
481	Box - Equipped	Sch 710, L 38, Col F
482	Gondola - Plain	Sch 710, L 39, Col F
483	Gondola - Equipped	Sch 710, L 40, Col F
484	Covered Hopper	Sch 710, L 41, Col F
485	Open Hopper - General Service	Sch 710, L 42, Col F
486	Open Hopper - Special Service	Sch 710, L 43, Col F
487	Refrigerator - Mechanical	Sch 710, L 44, Col F
488	Refrigerator - Non-Mechanical	Sch 710, L 45, Col F
489	Flat TOFC COFC	Sch 710, L 46, Col F
490	Flat Multi-Level	Sch 710, L 47, Col F
491	Flat General Service	Sch 710, L 48, Col F
492	Flat All Other	Sch 710, L 49, Col F
493	All Other Types	Sch 710, L 50+51+52, Col F
494	Total Rebuilt Freight Cars Installed	Sch 710, L 53, Col F

All Other Freight Cars Installed

495	Box - Plain 40'	Sch 710, L 36, Col G
496	Box - Plain 50'	Sch 710, L 37, Col G
497	Box - Equipped	Sch 710, L 38, Col G
498	Gondola - Plain	Sch 710, L 39, Col G
499	Gondola - Equipped	Sch 710, L 40, Col G
500	Covered Hopper	Sch 710, L 41, Col G
501	Open Hopper - General Service	Sch 710, L 42, Col G
502	Open Hopper - Special Service	Sch 710, L 43, Col G
503	Refrigerator - Mechanical	Sch 710, L 44, Col G
504	Refrigerator - Non-Mechanical	Sch 710, L 45, Col G
505	Flat TOFC COFC	Sch 710, L 46, Col G
506	Flat Multi-Level	Sch 710, L 47, Col G
507	Flat General Service	Sch 710, L 48, Col G
508	Flat All Other	Sch 710, L 49, Col G
509	All Other Types	Sch 710, L 50+51+52, Col G
510	Total Other Freight Cars Installed	Sch 710, L 53, Col G

Freight Cars Retired

511	Box - Plain 40'	Sch.710, L 36, Col H
512	Box - Plain 50'	Sch.710, L.37, Col H
513	Box - Equipped	Sch.710, L 38, Col H
514	Gondola - Plain	Sch.710, L.39, Col H
515	Gondola - Equipped	Sch.710, L 40, Col.H
516	Covered Hopper	Sch.710, L.41, Col H
517	Open Hopper - General Service	Sch.710, L 42, Col H
518	Open Hopper - Special Service	Sch.710, L 43, Col.H
519	Refrigerator - Mechanical	Sch.710, L 44, Col H
520	Refrigerator - Non-Mechanical	Sch.710, L 45, Col.H
521	Flat TOFC/COFC	Sch.710, L 46, Col H
522	Flat Multi-Level	Sch.710, L 47, Col H
523	Flat General Service	Sch.710, L 48, Col H
524	Flat All Other	Sch.710, L 49, Col H
525	All Other Types	Sch.710, L 50+51+52, Col.H
526	Total Freight Cars Retired	Sch.710, L 53, Col H

Summary of Operations

Summary Statistics

527	Avg. Miles of Road Operated (Freight)	Sch.755, L 1, Col.B
528	Total Carloads Originated	FCS, Grand Total, Col. B+D
529	Total Tons Originated	FCS, Grand Total, Col. C+E
530	Revenue Tons Carried (000)	Sch.755,L 105, Col B
531	Gross Ton-Miles (Excluding Locomotives)(000)	Sch.755,L 104, Col B less L 98, Col B
532	Train-Miles	Sch.755,L.7, Col B

Traffic **(See page end for STC Codes)**

Carloads Originated

533	Grain (including Soybeans)	FCS Cols. B+D
534	Other Farm Products	FCS Cols. B+D
535	Metallic Ores	FCS Cols. B+D
536	Coal	FCS Cols. B+D
537	Crushed Stone, Gravel and Sand	FCS Cols. B+D
538	Non-Metallic Minerals	FCS Cols. B+D
539	Grain Mill Products	FCS Cols. B+D
540	Food and Kindred Products	FCS Cols. B+D
541	Primary Forest Products	FCS Cols. B+D
542	Lumber and Wood Products	FCS Cols. B+D
543	Pulp, Paper and Allied Products	FCS Cols. B+D
544	Chemicals and Allied Products	FCS Cols. B+D
545	Petroleum Products	FCS Cols. B+D
546	Stone, Clay and Glass Products	FCS Cols. B+D
547	Coke	FCS Cols. B+D
548	Metals and Products	FCS Cols. B+D
549	Motor Vehicles and Equipment	FCS Cols. B+D
550	Waste and Scrap Material	FCS Cols. B+D
551	Forwarder and Shipper Assn. Traffic	FCS Cols. B+D
552	All Other	L 553 less sum of lines 533 thru 551
553	Total Carloads Originated	FCS Cols. B+D total

Tons Originated

554	Grain (including Soybeans)	FCS Cols. C+E
555	Other Farm Products	FCS Cols. C+E
556	Metallic Ores	FCS Cols. C+E
557	Coal	FCS Cols. C+E
558	Crushed Stone, Gravel and Sand	FCS Cols. C+E
559	Non-Metallic Minerals	FCS Cols. C+E
560	Grain Mill Products	FCS Cols. C+E
561	Food and Kindred Products	FCS Cols. C+E
562	Primary Forest Products	FCS Cols. C+E
563	Lumber and Wood Products	FCS Cols. C+E
564	Pulp, Paper and Allied Products	FCS Cols. C+E
565	Chemicals and Allied Products	FCS Cols. C+E

566	Petroleum Products	FCS Cols. C+E
567	Stone, Clay and Glass Products	FCS Cols. C+E
568.	Coke	FCS Cols. C+E
569	Metals and Products	FCS Cols. C+E
570	Motor Vehicles and Equipment	FCS Cols. C+E
571.	Waste and Scrap Materials	FCS Cols. C+E
572.	Forwarder and Shipper Assn. Traffic	FCS Cols. C+E
573.	All Other	L 574 less sum of lines 554 thru 572
574	Total Tons Originated Carload Shipments	FCS Cols. C+E subtotal
575	Less Than Carload Shipments	FCS Cols. C+E
576	Grand Total Tons Originated	L.574 + 575 herein

Gross Freight Revenue ($000)

577	Grain, including Soybeans.	FCS Col. L
578	Other Farm Products	FCS Col. L
579	Metallic Ores	FCS Col. L
580	Coal	FCS Col. L
581	Crushed Stone, Gravel and Sand	FCS Col. L
582	Non-Metallic Minerals	FCS Col. L
583.	Grain Mill Products	FCS Col. L
584	Food and Kindred Products	FCS Col. L
585.	Primary Forest Products	FCS Col. L
586.	Lumber and Wood Products	FCS Col. L
587	Pulp, Paper and Allied Products	FCS Col. L
588	Chemicals and Allied Products	FCS Col. L
589	Petroleum Products	FCS Col. L
590	Stone, Clay and Glass Products	FCS Col. L
591.	Coke	FCS Col. L
592.	Metals and Products	FCS Col. L
593	Motor Vehicles and Equipment	FCS Col. L
594	Waste and Scrap Materials	FCS Col. L
595	Forwarder and Shipper Assn. Traffic	FCS Col. L
596	All Other	L.597 less sum of lines 577 thru 595
597	Total Carload Revenue	FCS Col. L subtotal
598.	Less Than Carload Revenue	FCS Col. L
599	Total Gross Freight Revenue	Line 597+598 herein (FCS Col. L total)

Traffic Averages

600	Revenue per Ton Originated	L.599 * 1000 ÷ L.576 herein
601	Tons Originated per Carload	L.574 ÷ L.553 herein

Percent of Tons Originated

602.	Grain (including Soybeans)	L.554 ÷ L. 576 herein
603	Other Farm Products	L.555 ÷ L. 576 herein
604	Metallic Ores	L.556 ÷ L. 576 herein
605	Coal	L.557 ÷ L. 576 herein
606	Crushed Stone, Gravel and Sand	L.558 ÷ L. 576 herein
607	Non-Metallic Minerals	L.559 ÷ L. 576 herein
608	Grain Mill Products	L.560 ÷ L. 576 herein
609	Food and Kindred Products	L.561 ÷ L. 576 herein
610	Primary Forest Products	L.562 ÷ L. 576 herein
611	Lumber and Wood Products	L.563 ÷ L. 576 herein
612	Pulp, Paper and Allied Products	L.564 ÷ L. 576 herein
613	Chemicals and Allied Products	L.565 ÷ L. 576 herein
614	Petroleum Products	L.566 ÷ L. 576 herein
615	Stone, Clay and Glass Products	L.567 ÷ L. 576 herein
616	Coke	L.568 ÷ L. 576 herein
617	Metals and Products	L.569 ÷ L. 576 herein
618	Motor Vehicles and Equipment	L.570 ÷ L. 576 herein
619	Waste and Scrap Materials	L.571 ÷ L. 576 herein
620	Forwarder and Shipper Assn. Traffic	L.572 ÷ L. 576 herein
621	All Other	L.573 ÷ L. 576 herein
622	Total Tons Originated Carload Shipments	L.574 ÷ L. 576 herein
623	Less Than Carload Shipments	L.575 ÷ L. 576 herein

624	Grand Total Tons Originated	L.576 L. 576 herein

Percent of Gross Freight Revenue

625	Grain (Including Soybeans)	L.577 L. 599 herein
626.	Other Farm Products	L.578 L. 599 herein
627	Metallic Ores	L.579 L. 599 herein
628	Coal	L.580 L. 599 herein
629	Crushed Stone, Gravel and Sand	L.581 L. 599 herein
630	Non-Metallic Minerals	L.582 L. 599 herein
631	Grain Mill Products	L.583 L. 599 herein
632	Food and Kindred Products	L.584 L. 599 herein
633	Primary Forest Products	L.585 L. 599 herein
634	Lumber and Wood Products	L.586 L. 599 herein
635	Pulp, Paper and Allied Products	L.587 L. 599 herein
636	Chemicals and Allied Products	L.588 L. 599 herein
637	Petroleum Products	L.589 L. 599 herein
638	Stone, Clay and Glass Products	L.590 L. 599 herein
639	Coke	L.591 L. 599 herein
640.	Metals and Products	L.592 L. 599 herein
641	Motor Vehicles and Equipment	L.593 L. 599 herein
642	Waste and Scrap Materials	L.594 L. 599 herein
643	Forwarder and Shipper Assn. Traffic	L.595 L. 599 herein
644	All Other	L.596 L. 599 herein
645	Total Carload Revenue	L.597 L. 599 herein
646	Less Than Carload Revenue	L.598 L. 599 herein
647	Grand Total Gross Freight Revenue	L.599 L. 599 herein

Operations

Operating Statistics

648	Average Miles of Road	
	Operated in Freight Service	Sch.755,L.1, Col.B
649.	Freight Train-Miles	
	Locomotive-Propelled	Sch.755,L.5, Col.B
650.	Total Freight Train-Miles	Sch.755,L.7, Col.B

Locomotive Unit-Miles

651	Freight Road Service	Sch.755,L.11, Col.B
652.	Freight Train Switching	Sch.755,L.12, Col.B
653	Freight Yard Switching	Sch.755,L.13, Col.B
654	Total Freight Locomotive Unit-Miles	Sch.755,L.14, Col.B

Freight Car Miles (000)

655	Loaded	Sch.755,L.30 + L.64, Col.B
656	Empty	Sch.755,L.46 + L.82, Col.B
657	Work Equipment and No Payment	Sch.755,L.63 + L.84, Col.B
658	Total	Sch.755,L.48, Col.B

Loaded Car-Miles By Type (000)

659	Box - Plain 40'	Sch.755,L.15 + L.47, Col.B
660	Box - Plain 50'	Sch.755,L.16 + L.48, Col.B
661	Box - Equipped	Sch.755,L.17 + L.49, Col.B
662	Gondola - Plain	Sch.755,L.18 + L.50, Col.B
663	Gondola - Equipped	Sch.755,L.19 + L.51, Col.B
664	Covered Hopper	Sch.755,L.20 + L.52, Col.B
665.	Open Hopper - General Service	Sch.755,L.21 + L.53, Col.B
666	Open Hopper - Special Service	Sch.755,L.22 + L.54, Col.B
667	Refrigerator - Mechanical	Sch.755,L.23 + L.55, Col.B
668	Refrigerator - Non-Mechanical	Sch.755,L.24 + L.56, Col.B
669	Flat TOFC/COFC	Sch.755,L.25 + L.57, Col.B
670	Flat Multi Level	Sch.755,L.26 + L.58, Col.B
671	Flat General Service	Sch.755,L.27 + L.59, Col.B
672	Flat All Other	Sch.755,L.28 + L.60, Col.B
673	Tanks	Sch.755,L.61 + L.62, Col.B
674	All Other Cars	Sch.755,L.29 + L.63, Col.B

Empty Car-Miles By Type (000)

575.	Box - Plain 40'	Sch 755,L 31 + L 66, Col B
576	Box - Plain 50'	Sch 755,L 32 + L 66, Col B
577	Box - Equipped	Sch 755,L 33 + L 67, Col B
578	Gondola - Plain	Sch 755,L 34 + L 68, Col B
579	Gondola - Equipped	Sch 755,L 35 + L 69, Col B
580	Covered Hopper	Sch 755,L 36 + L 70, Col B
581	Open Hopper - General Service	Sch 755,L 37 + L 71, Col B
582	Open Hopper - Special Service	Sch 755,L 38 + L 72, Col B
583	Refrigerator - Mechanical	Sch 755,L 39 + L 73, Col B
584	Refrigerator - Non-Mechanical	Sch 755,L 40 + L 74, Col B
585	Flat TOFC/COFC	Sch 755,L 41 + L 75, Col B
586	Flat Multi-Level	Sch 755,L 42 + L 76, Col B
587	Flat General Service	Sch 755,L 43 + L 77, Col B
588	Flat All Other	Sch 755,L 44 + L 78, Col B
589	Tanks	Sch 755,L 79 + L 80, Col B
590	All Other Types	Sch 755,L 45 + L 81, Col B

Total Car-Miles By Train Type (000)

591.	Unit Train	Sch 755,L 85, Col B
592.	Way Train	Sch 755,L 86, Col B
593	Thru Train	Sch 755,L 87, Col B
594	Total Car-Miles	Sch 755,L 88, Col B
595	Caboose Miles (000)	Sch 755,L 89, Col B
596	INTENTIONALLY LEFT BLANK	
597	INTENTIONALLY LEFT BLANK	
598	INTENTIONALLY LEFT BLANK	
599	INTENTIONALLY LEFT BLANK	

Gross Ton-Miles - Freight (000)

700	Locomotives	Sch 755,L 98, Col B
701	Cars, Contents and Cabooses	Sch 755,L 99+L 100+L 101, Col B
702.	Passenger Trains, Cars and Contents	Sch 755,L 102, Col B
703.	Non-Revenue	Sch 755,L 103, Col B
704.	Total Gross Ton-Miles	Sch 755,L 104, Col B
705	Passenger Gross Ton-Miles - Including Locomotives	Sch 755,L 104, Col C

Tons Carried (000)

706	Revenue Freight	Sch 755,L 105, Col B
707	Non-Revenue Freight	Sch 755,L 106, Col B
708	Total	Sch 755,L 107, Col B

Ton-Miles of Freight (000)

709	Revenue	Sch 755,L 110, Col B
710	Non-Revenue	Sch 755,L 113, Col B
711	Total	Sch 755,L 114, Col B

Train Hours and Carloads Carried

712	Freight Train Hours - Road Service	Sch 755,L 115, Col B
713	Total Carloads Carried	FCS Col [illegible]

Train Switching Hours-Road Service

714	Freight	Sch 755,L 118, Col B
715	Passenger	Sch 755,L 118, Col C

Yard Switching Hours

716	Freight	Sch 755,L 117, Col B
717	Passenger	Sch 755,L 117, Col C

Number of Loaded Freight Cars

718	Unit Trains	Sch 755,L 121, Col B
719	Way Trains	Sch 755,L 121, Col B

720	Thru Trains	Sch 755,L 122, Col B
721	Train-Miles Per Mile of Road	L 650 ÷ L 648 herein
722	Gross Ton-Miles Per Mile of Road (000)	L.704 ÷ L 648 herein
723	Revenue Ton-Miles Per Mile of Road (000)	L.709 ÷ L 648 herein
724	Net Ton-Miles Per Mile of Road (000)	L.711 ÷ L 648 herein
725	Road Locomotive Unit-Miles Per Train-Mile	L 651 ÷ L 650 herein
726	Freight Car-Miles Per Train-Mile	(L.658 x 1000) ÷ L 650 herein
727	Gross Ton-Miles Per Train-Mile (000)	L 704 ÷ L 650 herein
728	Net Ton-Miles Per Train-Mile	L.711 ÷ L 650 herein
729	Train-Miles Per Train-Hour	L 650 ÷ L 712 herein
730	Gross Ton-Miles (Excluding Locomotives) per Train-Hour	((L 701+702+703)x1000) ÷ L 712 herein
731	Net Ton-Miles Per Train-Hour	L.711 ÷ L 712 herein
732	Ratio of Yard Switching Hours to Road Train-Hours	L.716 ÷ L 712 herein
733	Revenue Ton-Miles Per Yard Switching Hour	(L.709 x 1000) ÷ L.716 herein
734	Revenue Ton-Miles Per Gross Ton-Mile (Excluding Locomotives)	L.709 ÷ (L.701+702+703) herein
735	Percent of Loaded Freight Car-Miles	L 655 ÷ (L.655+L 656) herein
736	Net Ton-Miles Per Loaded Car-Mile	L 711 ÷ (L 655 + (L 657 x .5)) herein
737	Average Haul (miles)	(L 709 x 1000) ÷ L 576 herein Note: Average haul for individual railroads = L.709 ÷ L.530 herein
738	Freight Revenue Per Ton-Mile (cents)	L 15 ÷ L 709 herein

Freight Service Revenue Per

739	Ton-Mile (cents)	L.25 ÷ L.709 herein
740	Loaded Car-Mile ($)	L.25 ÷ (L.655 + (L.657 x .5)) herein
741	Ton Carried ($)	L.26 ÷ L.706 herein
742	Loaded Car ($)	L 741x(L 711 ÷ (L 655+(L 657x .5))) herein

Freight Service Expense Per

743	Ton-Mile (cents)	L.260 ÷ L 709 herein
744	Loaded Car-Mile ($)	L 260 ÷ (L 655 + (L 657 x .5)) herein
745	Ton Carried ($)	L 260 ÷ L 706 herein
746	Loaded Car ($)	L 745x(L 711 ÷ (L.655+(L 657x .5))) herein

Fuel Consumption (Locomotive Diesel Oil)

747	Freight (Gallons)	Sch 750,L 1, Col B
748	Passenger (Gallons)	Sch 750,L 2, Col B
749	Yard Switching (Gallons)	Sch 750,L 3, Col B
750	Total (Gallons)	Sch 750,L 4, Col B
751	Cost of Fuel ($000)	Sch 750,L 5, Col B
752	Work Train (Gallons)	Sch 750,L 6, Col B
753	Average Cost of Diesel per Gallon	(L.751 x 1000) ÷ L.750 herein

Commodity Grouping	Standard Transportation Commodity Code
Grain (including Soybeans)	01 13 + 01 144
Other Farm Products	01 less (01 13 + 01 144)
Metallic Ores	10
Coal	11
Crushed Stone, Gravel and Sand	142 + 144
Non-Metallic Minerals	14 less (142 + 144)
Grain Mill Products	204 + 20923
Food and Kindred Products	20 less (204 + 20923)
Primary Forest Products	241
Lumber and Wood Products	24 less 241

Pulp, Paper and Allied Products	26
Chemicals and Allied Products	28 + 29 less (291 + 29911 + 29913 + 29914)
Petroleum Products	291
Stone, Clay and Glass Products	32
Coke	29911 + 29913 + 29914
Metals and Products	33 + 34
Motor Vehicles and Equipment	371
Waste and Scrap Material	40
Forwarder and Shipper Assn. Traffic	44 + 45

Abbreviations

Col.	A column from the R-1 Annual Report to the Surface Transportation Board (STB).
FCS	Freight Commodity Statistics, a report required by the Surface Transportation Board.
L.	A line from the R-1 Annual Report to the Surface Transportation Board
Sch.	A schedule from the R-1 Annual Report to the Surface Transportation Board.
STCC	(or STC Code) Standard Transportation Commodity Code
URCS	Uniform Rail Costing System

ICC Line No.	AAR LINE	Analysis of Class I Railroads, 1991 ITEM	1989	1990	1991	1992	1993	1994	1995
		SUMMARY OF OPERATIONS	**US**	**US**	**US**	**US**	**US**	**US**	**US**
		Summary Statistics							
	1 527	Average Miles of Road Operated (Frt)	138,006	133,189	129,672	126,201	123,703	123,297	125,043
	5 532	Train Miles	382,660,555	379,577,736	374,973,728	390,240,630	405,446,078	440,896,350	458,271,056
85+86+87	658	Total Frt Car Miles (1,000's)	26,076,625	26,158,971	25,627,706	26,127,883	26,883,251	28,484,885	30,383,353
	104 704.	Total Gross Ton-Miles (1,000's)	2,128,275,904	2,185,006,708	2,150,235,017	2,214,024,338	2,306,501,489	2,475,279,719	2,649,683,665
	107 529.	Total Tons Originated	2,033,892	2,068,560	2,016,926	2,052,623	2,075,273	2,214,727	2,349,101
	115 712	Freight Train Hours - Road Service	16,841,996	16,040,463	15,807,189	16,439,826	17,550,949	19,689,715	20,994,977
	117 716.	Freight - Yard Switching Hours	12,098,008	11,377,561	10,370,646	10,058,744	10,918,410	11,513,880	11,591,134
120+121+122	(713).	Total Carloads Carried	56,747,285	61,392,955	54,229,698	58,561,236	60,604,085	65,172,216	65,996,258
	528.	Total Carloads Originated		21,884,649	20,868,297	21,205,530	21,682,894	23,178,595	23,726,164
			21,226,015						
		Operating Averages							
L532/L527	721	Train-Miles Per Mile of Road	2,773	2,850	2,892	3,092	3,278	3,576	3,665
L704/L527	722	Gross Ton-Miles Per Mile of Road (000)	15,422	16,405	16,582	17,544	18,645	20,076	21,190
L704/L532	727.	Gross Ton-Miles Per Train Mi	5,562	5,756	5,734	5,673	5,689	5,614	5,782
		SUMMARY OF OPERATIONS	**EAST**	**EAST**	**EAST**	**EAST**	**EAST**	**EAST**	**EAST**
		Summary Statistics							
	527	Average Miles of Road Operated (Frt)	52,876	50,755	50,162	49,160	48,841	48,350	47,328
	532	Train-Miles	136,049,091	135,906,365	133,040,659	137,396,288	145,039,007	159,549,447	163,538,964
	658.	Total Frt Car Miles (1,000's)	10,067,887	10,032,566	9,713,872	9,834,047	9,953,840	10,333,238	10,648,105
	704.	Total Gross Ton-Miles (1,000's)	764,462,961	799,330,961	761,839,064	779,649,757	807,208,671	858,818,976	876,202,156
	529	Total Tons Originated	1,000,485	1,012,640	951,797	942,008	931,379	984,010	988,374
	712	Freight Train Hours - Road Service	7,330,756	6,653,872	6,670,140	6,868,801	7,295,729	8,147,950	8,446,855
	716	Freight - Yard Switching Hours	5,977,444	5,571,608	5,134,291	4,440,460	5,014,710	5,375,719	5,400,472
	713	Total Carloads Carried	30,188,427	34,349,344	27,927,849	30,591,444	31,871,852	35,409,246	35,289,313
	528.	Total Carloads Originated	11,083,414	11,015,518	10,484,875	10,378,372	10,591,440	11,323,416	11,265,933
		Operating Averages							
	721.	Train-Miles Per Mile of Road	2,573	2,678	2,652	2,795	2,970	3,300	3,455
	722.	Gross Ton-Miles Per Mile of Road (000)	14,458	15,749	15,188	15,859	16,527	17,763	18,513
	727.	Gross Ton-Miles Per Train Mi	5,619	5,881	5,726	5,674	5,565	5,383	5,358
		SUMMARY OF OPERATIONS			**WEST**	**WEST**	**WEST**	**WEST**	**WEST**
		Summary Statistics	**WEST**	**WEST**					
	527	Average Miles of Road Operated (Frt)	85,130	82,434	79,510	77,041	74,862	74,947	77,715
	532	Train-Miles	246,611,464	243,671,371	241,933,069	252,844,342	260,407,071	281,346,903	294,732,092
	658	Total Frt Car Miles (1,000's)	16,008,738	16,126,405	15,913,834	16,293,836	16,929,411	18,151,647	19,735,248
	704.	Total Gross Ton-Miles (1,000's)	1,363,812,943	1,385,675,747	1,388,395,953	1,434,374,581	1,499,292,818	1,616,460,743	1,773,481,509
	529.	Total Tons Originated	1,024,407	1,055,920	1,065,129	1,110,615	1,143,894	1,230,717	1,360,727
	712	Freight Train Hours - Road Service	9,511,240	9,386,591	9,137,049	9,571,025	10,255,220	11,541,765	12,548,122
	716.	Freight - Yard Switching Hours	6,120,564	5,805,953	5,236,355	5,618,284	5,903,700	6,138,161	6,190,662
	713	Total Carloads Carried	26,558,858	27,043,611	26,301,849	27,969,792	28,732,233	29,762,970	30,706,945
	528	Total Carloads Originated	10,142,601	10,869,131	10,383,422	10,827,158	11,091,454	11,855,179	12,460,231

ICC Line No. — AAR Analysis of Class I Railroads, 1991

LINE	ITEM							
	Operating Averages							
721.	Train-Miles Per Mile of Road	2,897	2,956	3,043	3,282	3,478	3,754	3,792
722.	Gross Ton-Miles Per Mile of Road (000)	16,020	16,810	17,462	18,618	20,027	21,568	22,820
727	Gross Ton-Miles Per Train-Mi	5,530	5,687	5,739	5,673	5,757	5,745	6,017
	SUMMARY OF OPERATIONS	**BNSF**	**BNSF**	**BNSF**	**BNSF**	**BNSF**	**BNSF**	**BNSF**
	Summary Statistics							
527	Average Miles of Road Operated (Frt)	34,622	33,862	32,498	31,500	30,817	30,503	31,288
532	Train-Miles	116,092,229	114,370,802	110,044,753	112,715,176	114,017,820	123,190,267	126,938,283
658	Total Frt Car Miles (1,000's)	7,223,270	7,265,485	6,957,806	6,938,029	7,190,790	7,817,997	8,364,908
704.	Total Gross Ton-Miles (1,000's)	627,199,208	634,033,614	622,305,919	629,343,099	650,981,076	703,401,214	765,962,040
529.	Total Tons Originated	409,740	418,813	415,679	424,607	431,603	463,143	502,967
712.	Freight Train Hours - Road Service	4,077,218	4,016,060	3,857,607	3,866,921	4,013,432	4,322,219	424,799
716.	Freight - Yard Switching Hours	2,177,834	2,115,534	1,826,849	1,927,620	2,056,621	2,194,209	2,241,205
713.	Total Carloads Carried	8,884,570	8,394,708	8,947,198	9,264,899	9,829,107	10,104,202	10,537,998
528.	Total Carloads Originated	4,938,125	5,050,752	5,019,865	5,154,442	5,337,619	5,769,750	5,967,469
	Operating Averages							
721.	Train-Miles Per Mile of Road	3,353	3,378	3,386	3,578	3,700	4,039	4,057
722.	Gross Ton-Miles Per Mile of Road (000)	18,116	18,724	19,149	19,979	21,124	23,060	24,481
727.	Gross Ton-Miles Per Train-Mi	5,403	5,544	5,655	5,583	5,709	5,710	6,034
	SUMMARY OF OPERATIONS	**CSX**	**CSX**	**CSX**	**CSX**	**CSX**	**CSX**	**CSX**
	Summary Statistics							
527	Average Miles of Road Operated (Frt)	19,565	18,943	18,854	18,905	18,779	18,759	18,645
532.	Train-Miles	48,319,137	52,074,404	51,659,257	54,875,037	57,449,059	65,639,148	67,940,358
658	Total Frt Car Miles (1,000's)	3,953,264	3,888,673	3,821,156	3,934,153	3,950,905	3,973,452	4,221,235
704.	Total Gross Ton-Miles (1,000's)	297,791,701	323,077,330	299,173,719	312,604,532	320,865,368	336,270,312	345,674,489
529.	Total Tons Originated	402,314	403,813	380,365	379,741	358,697	380,649	392,647
712.	Freight Train Hours - Road Service	2,877,001	2,680,093	2,633,906	2,839,552	3,001,880	3,482,116	3,626,529
716	Freight - Yard Switching Hours	2,055,864	2,030,708	1,940,254	1,404,851	1,886,961	2,011,855	2,100,369
713	Total Carloads Carried	12,582,626	11,907,856	10,429,327	12,614,352	13,547,705	16,086,367	16,238,658
528.	Total Carloads Originated	5,411,714	5,396,871	5,096,202	5,135,860	5,119,915	5,438,626	5,414,221
	Operating Averages							
721.	Train-Miles Per Mile of Road	2,470	2,749	2,740	2,903	3,059	3,499	3,644
722.	Gross Ton-Miles Per Mile of Road (000)	15,221	17,055	15,868	16,536	17,086	17,926	18,540
727	Gross Ton-Miles Per Train-Mi	6,163	6,204	5,791	5,697	5,585	5,123	5,088
	SUMMARY OF OPERATIONS					**IC**	**IC**	**IC**
	Summary Statistics							
527	Average Miles of Road Operated (Frt)	2,887	2,773	2,766	2,732	2,717	2,665	2,642
532	Train-Miles	5,974,119	5,495,679	5,445,286	5,149,363	5,659,496	7,179,088	7,758,073
658	Total Frt Car Miles (1,000's)	496,588	466,068	467,861	446,518	477,748	491,485	571,497
704	Total Gross Ton-Miles (1,000's)	36,085,838	35,137,295	37,367,083	35,523,529	38,121,838	39,774,459	45,697,684

ICC Line No.	AAR Analysis of Class I Railroads, 199(LINE ITEM							
529	Total Tons Originated	71,631	67,517	70,522	69,784	68,373	72,516	71,941
712	Freight Train Hours - Road Service	288,491	268,780	317,504	290,129	335,483	350,458	428,269
716.	Freight - Yard Switching Hours	458,569	286,095	252,268	224,893	150,125	235,925	123,460
713	Total Carloads Carried	4,979,353	4,997,388	775,922	772,862	831,310	844,387	916,920
528	Total Carloads Originated	604,204	588,772	666,875	655,328	628,416	678,814	666,123
	Operating Averages							
721	Train-Miles Per Mile of Road	2,069	1,982	1,969	1,885	2,083	2,694	2,936
722.	Gross Ton-Miles Per Mile of Road (000)	12,499	12,671	13,509	13,003	14,031	14,925	17,297
727.	Gross Ton Miles Per Train-Mi	6,040	6,394	6,862	6,899	6,736	5,540	5,890
	SUMMARY OF OPERATIONS	**KCS**	**KCS**	**KCS**	**KCS**	**KCS**	**KCS**	**KCS**
	Summary Statistics							
527	Average Miles of Road Operated (Frt)	1,681	1,681	1,682	1,680	1,712	2,880	2,931
532	Train-Miles	3,927,652	3,884,994	3,921,579	4,166,132	4,319,142	5,790,774	6,780,566
658	Total Frt Car Miles (1,000's)	275,758	279,963	282,380	303,583	310,389	399,974	448,877
704.	Total Gross Ton-Miles (1,000's)	23,373,420	23,833,678	23,828,694	25,608,614	26,461,147	33,766,838	37,963,679
529.	Total Tons Originated	35,827	37,766	38,485	41,567	45,481	60,571	63,423
712	Freight Train Hours - Road Service	209,995	171,515	168,890	183,393	192,759	310,711	364,373
716.	Freight - Yard Switching Hours	184,426	234,946	176,517	218,868	202,124	206,441	209,592
713	Total Carloads Carried	720,681	733,759	701,336	721,021	755,602	1,240,366	1,384,482
528.	Total Carloads Originated	219,489	235,290	257,646	273,472	293,649	449,247	482,073
	Operating Averages							
721	Train-Miles Per Mile of Road	2,336	2,311	2,331	2,480	2,523	2,011	2,313
722.	Gross Ton-Miles Per Mile of Road (000)	13,904	14,178	14,167	15,243	15,456	11,725	12,952
727.	Gross Ton-Miles Per Train-Mi	5,951	6,135	6,076	6,147	6,126	5,831	5,599
	SUMMARY OF OPERATIONS	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**
	Summary Statistics							
527	Average Miles of Road Operated (Frt)	15,955	14,842	14,721	14,703	14,589	14,652	14,415
532	Train-Miles	39,218,076	36,844,466	37,802,383	41,115,621	43,316,076	46,048,117	48,480,786
658	Total Frt Car Miles (1,000's)	2,728,146	2,813,223	2,712,767	2,828,697	2,859,094	3,006,002	3,094,309
704	Total Gross Ton-Miles (1,000's)	211,112,718	220,693,904	213,240,950	222,857,201	229,907,913	247,068,548	256,408,158
529	Total Tons Originated	280,243	286,789	257,631	262,456	263,936	277,932	282,013
712	Freight Train Hours - Road Service	2,166,798	1,787,572	1,994,817	2,129,674	2,250,155	2,389,230	2,601,643
716	Freight - Yard Switching Hours	1,504,495	1,415,287	1,292,195	1,316,474	1,343,915	1,428,555	1,601,192
713	Total Carloads Carried	9,000,702	8,171,525	8,672,822	9,298,755	9,724,465	10,347,271	10,402,302
528	Total Carloads Originated	4,466,112	4,439,421	4,208,204	4,359,646	4,592,249	4,958,478	4,953,788
	Operating Averages							
721	Train Miles Per Mile of Road	2,458	2,482	2,568	2,796	2,969	3,143	3,363
722	Gross Ton-Miles Per Mile of Road (000)	13,232	14,870	14,485	15,157	15,759	16,862	17,788
727.	Gross Ton-Miles Per Train-Mi	5,383	5,990	5,641	5,420	5,308	5,365	5,289
	SUMMARY OF OPERATIONS	**UP**	**UP**	**UP**	**UP**	**UP**	**UP**	**UP**

ICC Line No.

AAR Analysis of Class I Railroads, 1991

LINE	ITEM							
	Summary Statistics							
527	Average Miles of Road Operated (Frt)	43,057	41,598	40,285	38,828	37,271	36,425	38,366
532.	Train-Miles	119,862,868	117,668,542	119,553,837	127,481,054	133,512,255	144,947,039	152,466,188
658	Total Frt Car Miles (1,000's)	8,006,416	8,024,104	8,123,934	8,505,942	8,880,789	9,430,955	10,320,194
704	Total Gross Ton-Miles (1,000's)	674,004,990	684,101,502	698,661,785	735,866,764	778,120,380	838,966,057	920,662,388
529.	Total Tons Originated	526,741	543,569	554,252	582,894	607,933	654,349	734,111
712	Freight Train Hours - Road Service	4,914,314	4,851,773	4,725,534	5,132,551	5,646,369	6,543,648	7,254,532
716	Freight - Yard Switching Hours	3,425,782	3,129,078	2,909,243	3,150,189	3,311,208	3,425,890	3,370,953
713	Total Carloads Carried	14,539,475	14,232,886	13,872,042	15,244,928	15,362,551	16,179,893	16,504,155
528.	Total Carloads Originated	4,495,288	5,034,245	4,552,999	4,826,394	4,874,842	5,271,587	5,586,875
	Operating Averages							
721.	Train Miles Per Mile of Road	2,784	2,829	2,968	3,283	3,582	3,979	3,974
722	Gross Ton Miles Per Mile of Road (000)	15,654	16,446	17,343	18,952	20,877	23,033	23,997
727	Gross Ton-Miles Per Train-Mi	5,623	5,814	5,844	5,772	5,828	5,788	6,038

AAR Analysis of Class I Railroads, 1998

LINE	ITEM	1996	1997	1998	1999	1998
	SUMMARY OF OPERATIONS	**US**	**US**	**US**	**US**	**US**
	Summary Statistics					
527	Average Miles of Road Operated (Frt)	126,543	121,632	119,775	131,773	119,775
532.	Train-Miles	468,791,949	474,954,365	474,947,058	490,529,188	474,947,058
658	Total Frt Car Miles (1,000's)	31,715,224	31,659,850	32,636,545	33,851,070	32,657,356
704	Total Gross Ton-Miles (1,000's)	2,696,098,672	2,789,809,917	2,858,867,134	2,982,276,391	2,858,867,134
529	Total Tons Originated	2,256,231	1,585,243,924	2,190,244	2,188,209	1,648,665,481
712	Freight Train Hours - Road Service	21,324,735	24,673,279	24,897,877	24,335,086	24,897,877
716.	Freight - Yard Switching Hours	11,475,032	10,976,228	11,285,088	11,234,858	11,285,088
(713).	Total Carloads Carried	63,108,342	67,392,966	65,768,690	68,261,733	33,945,263
528.	Total Carloads Originated	24,158,570	25,016,471	25,704,975	27,096,202	25,704,975
	Operating Averages					
721	Train Miles Per Mile of Road	3,705	3,905	3,965	3,723	3,965
722	Gross Ton Miles Per Mile of Road (000)	21,306	22,936	23,869	22,632	23,869
727.	Gross Ton-Miles Per Train-Mi	5,751	5,874	6,019	6,080	6,019
	SUMMARY OF OPERATIONS	**EAST**	**EAST**	**EAST**	**EAST**	**EAST**
	Summary Statistics					
527	Average Miles of Road Operated (Frt)	46,778	46,758	46,640	59,189	46,640
532	Train-Miles	168,079,920	168,726,384	172,588,766	173,950,036	172,588,766
658	Total Frt Car Miles (1,000's)	10,760,729	10,941,466	11,060,891	11,037,364	11,081,702
704.	Total Gross Ton-Miles (1,000's)	892,496,434	918,133,352	934,879,824	945,588,111	934,879,824
529	Total Tons Originated	1,004,628	722,539,748	1,059,732	1,005,697	747,617,044
712	Freight Train Hours - Road Service	8,942,773	9,244,234	9,592,290	9,679,612	9,592,290
716	Freight - Yard Switching Hours	5,333,721	5,417,585	5,693,197	5,899,370	5,693,197
713.	Total Carloads Carried	32,555,742	37,195,637	36,621,382	37,163,554	16,449,790
528.	Total Carloads Originated	11,068,956	11,199,745	11,534,089	12,248,881	11,534,089
						12,248,881
	Operating Averages					
721	Train-Miles Per Mile of Road	3,593	3,609	3,700	2,939	3,700
722.	Gross Ton-Miles Per Mile of Road (000)	19,079	19,636	20,045	15,976	20,045
727.	Gross Ton-Miles Per Train-Mi	5,310	5,442	5,417	5,436	5,417
	SUMMARY OF OPERATIONS	**WEST**	**WEST**	**WEST**	**WEST**	**WEST**
	Summary Statistics					
527	Average Miles of Road Operated (Frt)	79,765	74,874	73,135	72,584	73,135
532	Train Miles	300,712,029	306,227,981	302,358,292	316,579,152	302,358,292
658	Total Frt Car Miles (1,000's)	20,954,495	20,718,384	21,575,654	22,813,706	21,575,654
704	Total Gross Ton-Miles (1,000's)	1,803,602,238	1,871,676,565	1,923,987,310	2,036,688,280	1,923,987,310
529.	Total Tons Originated	1,251,603	862,704,176	1,130,512	1,182,512	901,048,437
712	Freight Train Hours - Road Service	12,381,962	15,429,045	15,305,587	14,655,474	15,305,587
716	Freight - Yard Switching Hours	6,141,311	5,558,643	5,591,891	5,335,488	5,591,891
713.	Total Carloads Carried	30,552,600	30,197,329	29,147,308	31,098,179	17,495,473
528	Total Carloads Originated	13,089,614	13,816,726	14,170,886	14,847,321	14,170,886

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LINE	ITEM					
	Operating Averages					
721	Train Miles Per Mile of Road	3,770	4,090	4,134	4,362	4,134
722	Gross Ton-Miles Per Mile of Road (000)	22,611	24,998	26,307	28,060	26,307
727.	Gross Ton-Miles Per Train Mi	5,998	6,112	6,363	6,433	6,363
	SUMMARY OF OPERATIONS	**BNSF**	**BNSF**	**BNSF**	**BNSF**	**BN**
	Summary Statistics					
527	Average Miles of Road Operated (Frt)	35,170	33,719	33,315	33,226	33,315
532	Train Miles	128,057,134	143,935,336	147,158,791	146,097,909	147,158,791
658	Total Frt Car Miles (1,000's)	8,317,291	8,503,628	9,051,706	8,989,941	9,051,706
704	Total Gross Ton-Miles (1,000's)	747,565,119	846,177,756	929,774,471	957,085,651	929,774,471
529.	Total Tons Originated	480,329	384,882,036	498,563	509,413	429,408,242
712.	Freight Train Hours - Road Service	4,540,795	7,434,264	7,546,644	6,940,121	7,546,644
716	Freight - Yard Switching Hours	2,299,874	2,436,551	2,417,000	2,302,421	2,417,000
713.	Total Carloads Carried	10,503,240	10,280,791	11,029,068	12,109,890	7,797,882
528.	Total Carloads Originated	5,863,518	6,119,788	6,739,202	6,876,523	6,739,202
	Operating Averages					
721	Train-Miles Per Mile of Road	3,641	4,269	4,417	4,397	4,417
722.	Gross Ton-Miles Per Mile of Road (000)	21,256	25,095	27,909	28,805	27,909
727.	Gross Ton-Miles Per Train-Mi	5,838	5,879	6,318	6,551	6,318
	SUMMARY OF OPERATIONS	**CSX**	**CSX**	**CSX**	**CSX**	**CSX**
	Summary Statistics					
527	Average Miles of Road Operated (Frt)	18,405	18,285	18,181	23,357	18,181
532	Train-Miles	68,390,650	68,314,777	68,126,177	83,435,844	68,126,177
658	Total Frt Car Miles (1,000's)	4,215,697	4,283,026	4,324,325	5,049,346	4,345,136
704	Total Gross Ton-Miles (1,000's)	347,827,073	358,151,710	364,879,655	438,016,198	364,879,655
529	Total Tons Originated	394,723	296,516,877	413,211	436,454	306,034,673
712	Freight Train Hours - Road Service	3,759,848	4,041,720	4,138,947	4,550,699	4,138,947
716	Freight - Yard Switching Hours	2,145,449	2,217,010	2,230,258	2,645,172	2,230,258
713	Total Carloads Carried	14,167,533	18,117,362	17,562,255	18,844,524	5,656,630
528	Total Carloads Originated	5,179,247	5,122,299	5,327,094	6,294,014	4,184,418
	Operating Averages					
721	Train-Miles Per Mile of Road	3,716	3,736	3,747	3,572	3,747
722	Gross Ton-Miles Per Mile of Road (000)	18,899	19,587	20,069	18,753	20,069
727.	Gross Ton-Miles Per Train Mi	5,086	5,243	5,356	5,250	5,356
	SUMMARY OF OPERATIONS	**IC**	**IC**	**IC**	**IC**	**IC**
	Summary Statistics					
527.	Average Miles of Road Operated (Frt)	2,630	2,598	2,593	2,591	2,593
532.	Train Miles	7,950,479	8,077,550	8,101,689	8,031,251	8,101,689
658	Total Frt Car Miles (1,000's)	516,964	518,406	544,030	558,256	544,030
704	Total Gross Ton-Miles (1,000's)	43,326,978	42,686,222	44,900,125	46,822,214	44,900,125

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LINE	ITEM					
529	Total Tons Originated	67,724	43,285,067	74,187	78,155	48,705,923
712	Freight Train Hours - Road Service	449,158	428,933	419,684	397,056	419,684
716	Freight Yard Switching Hours	1,543	0	178,841	212,397	178,841
713	Total Carloads Carried	574,005	877,183	911,073	949,513	959,189
528	Total Carloads Originated	616,925	593,040	645,834	678,504	645,834
	Operating Averages					
721	Train Miles Per Mile of Road	3,023	3,109	3,124	3,100	3,124
722.	Gross Ton-Miles Per Mile of Road (000)	16,474	16,430	17,316	18,071	17,316
727	Gross Ton Miles Per Train-Mi	5,450	5,285	5,542	5,830	5,542
	SUMMARY OF OPERATIONS	**KCS**	**KCS KCS**		**KCS**	**KCS**
	Summary Statistics					
527.	Average Miles of Road Operated (Frt)	2,945	2,845	2,756	2,756	2,756
532	Train-Miles	6,862,418	6,969,487	7,439,532	7,306,370	7,439,532
658	Total Frt Car Miles (1,000's)	432,266	447,221	488,837	492,070	488,837
704.	Total Gross Ton-Miles (1,000's)	37,276,541	38,675,843	42,173,993	43,158,682	42,173,993
529.	Total Tons Originated	62,469	31,421,460	68,000	66,129	32,298,411
712	Freight Train Hours - Road Service	348,178	357,308	398,594	431,803	398,594
716	Freight - Yard Switching Hours	207,568	209,110	196,967	193,051	196,967
713	Total Carloads Carried	1,443,631	1,465,530	1,528,894	1,548,620	892,705
528	Total Carloads Originated	481,656	443,910	463,953	455,927	463,953
	Operating Averages					
721	Train Miles Per Mile of Road	2,330	2,450	2,699	2,651	2,699
722.	Gross Ton-Miles Per Mile of Road (000)	12,658	13,594	15,303	15,660	15,303
727.	Gross Ton-Miles Per Train-Mi	5,432	5,549	5,669	5,907	5,669
	SUMMARY OF OPERATIONS	**NS**	**NS NS**		**NS**	**NSC**
	Summary Statistics					
527	Average Miles of Road Operated (Frt)	14,282	14,415	14,423	21,788	14,423
532	Train-Miles	49,431,410	49,748,319	53,009,618	61,503,285	53,009,618
658	Total Frt Car Miles (1,000's)	3,140,123	3,190,918	3,179,475	4,028,656	3,179,475
704	Total Gross Ton Miles (1,000's)	262,817,857	271,172,191	273,325,652	344,768,213	273,325,652
529	Total Tons Originated	291,539	229,845,521	306,194	360,282	233,133,810
712	Freight Train Hours - Road Service	2,752,232	2,785,463	3,001,449	3,685,931	3,001,449
716	Freight Yard Switching Hours	1,624,129	1,683,890	1,733,833	2,237,904	1,733,833
713	Total Carloads Carried	10,195,283	10,573,339	10,401,257	13,428,835	4,871,251
528	Total Carloads Originated	5,034,104	5,247,423	5,335,173	5,028,866	3,621,159
	Operating Averages					
721	Train Miles Per Mile of Road	3,461	3,451	3,675	2,823	3,675
722	Gross Ton Miles Per Mile of Road (000)	18,402	18,812	18,951	15,824	18,951
727.	Gross Ton Miles Per Train Mi	5,317	5,451	5,156	5,606	5,156
	SUMMARY OF OPERATIONS	**UP**	**UP UP**		**UP**	**UP**

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LINE	ITEM					
	Summary Statistics					
527	Average Miles of Road Operated (Frt)	36,670	34,946	33,706	33,341	33,706
532	Train Miles	157,172,877	148,003,556	140,493,696	156,052,885	140,493,696
656	Total Frt Car Miles (1,000's)	11,609,687	11,270,036	11,552,221	12,845,514	11,552,221
704	Total Gross Ton-Miles (1,000's)	970,213,346	945,256,838	911,756,772	995,804,494	911,756,772
529	Total Tons Originated	648,294	419,677,108	508,331	552,543	413,615,706
712.	Freight Train Hours - Road Service	7,047,954	7,257,763	7,024,797	6,946,021	7,024,797
716	Freight - Yard Switching Hours	3,260,469	2,570,100	2,643,283	2,520,752	2,643,283
713	Total Carloads Carried	16,348,283	16,528,191	14,708,177	15,364,554	7,995,068
528	Total Carloads Originated	6,341,319	6,849,217	6,570,086	7,137,090	6,570,086
	Operating Averages					
721.	Train-Miles Per Mile of Road	4,286	4,235	4,168	4,681	4,168
722.	Gross Ton-Miles Per Mile of Road (000)	26,458	27,049	27,050	29,867	27,050
727.	Gross Ton-Miles Per Train-Mi	6,173	6,387	6,490	6,381	6,490

EXHIBIT 1
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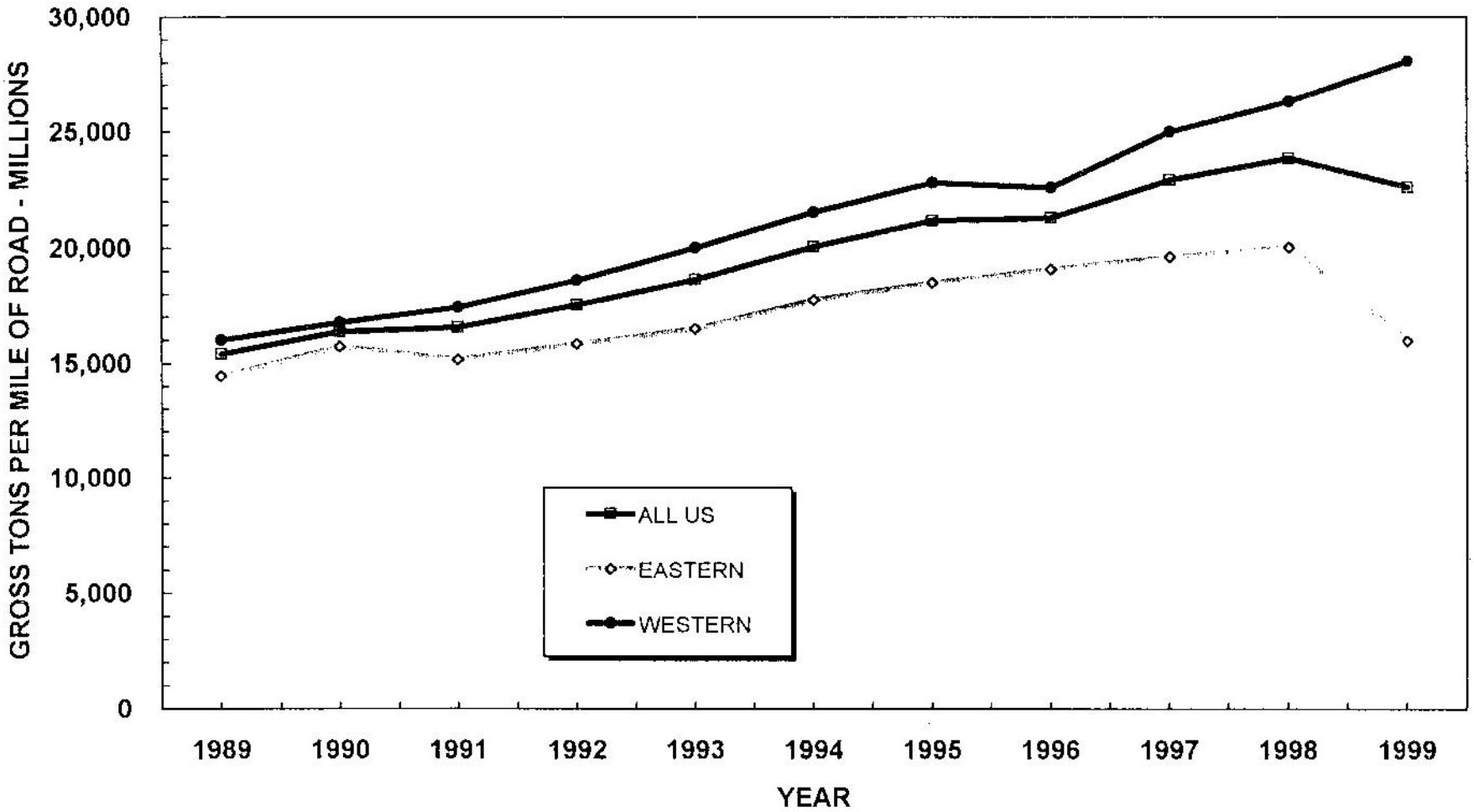

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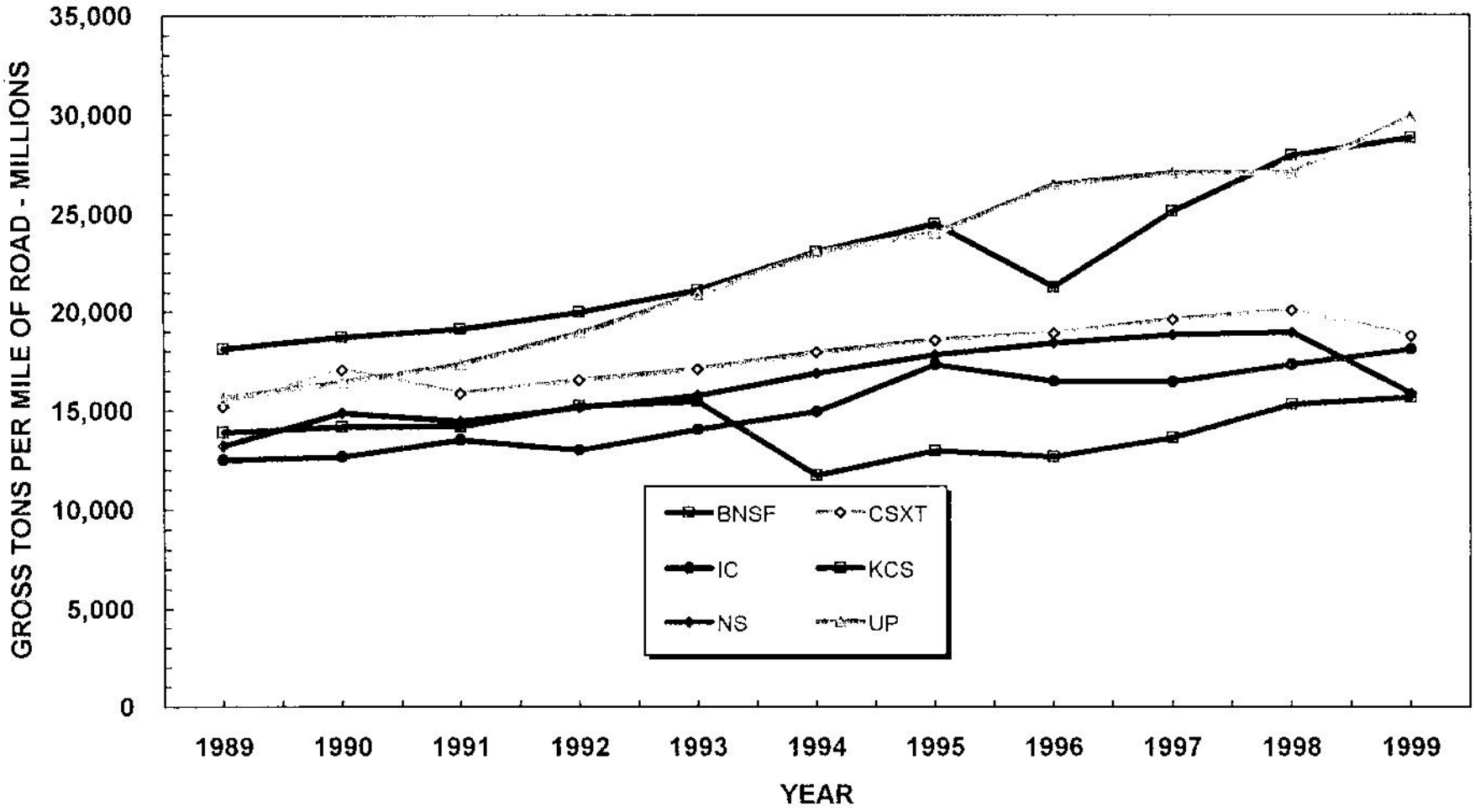

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TRAIN MILES PER MILE OF ROAD

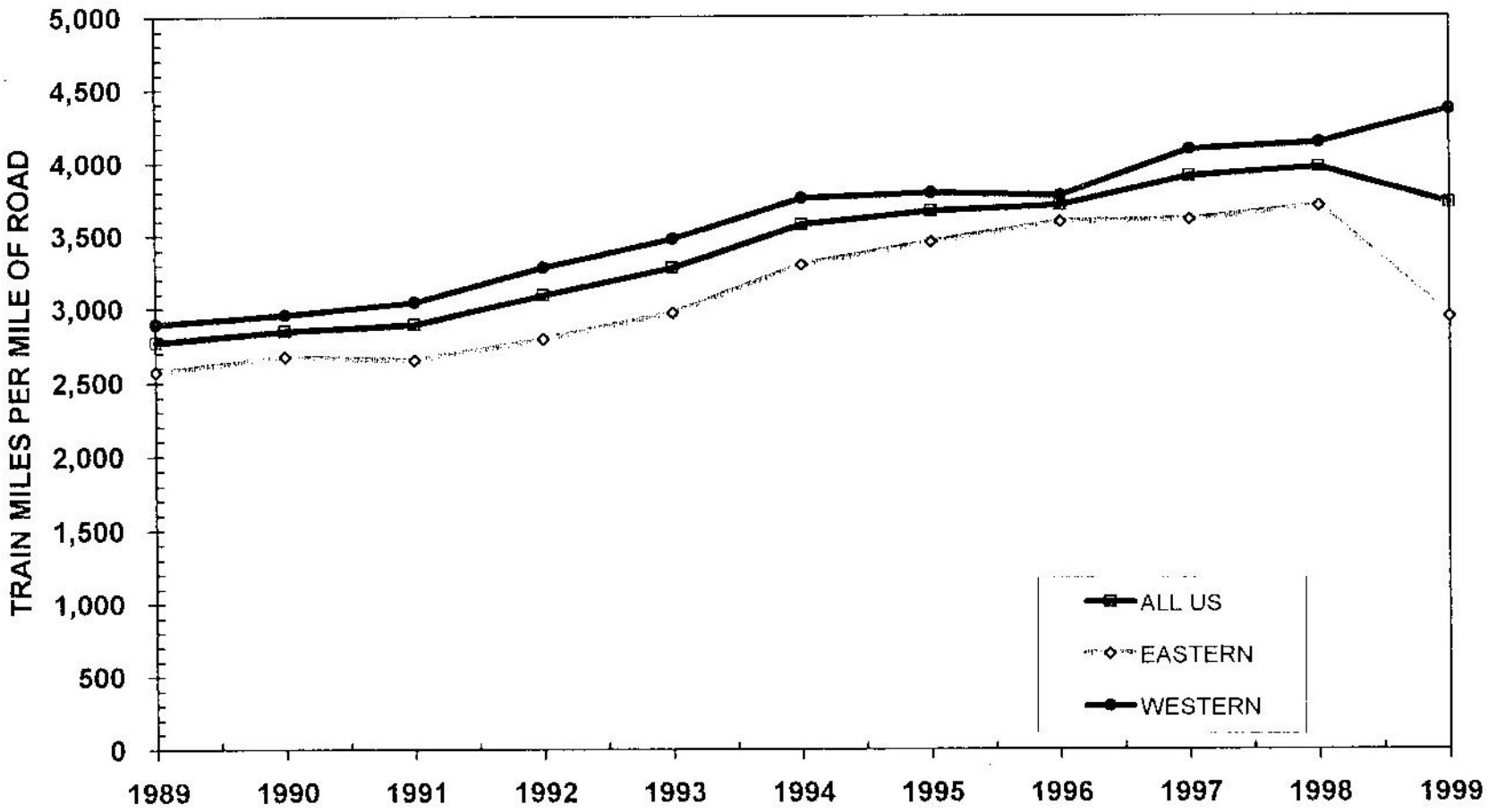


EXHIBIT 4
TRAIN MILES PER MILE OF ROAD

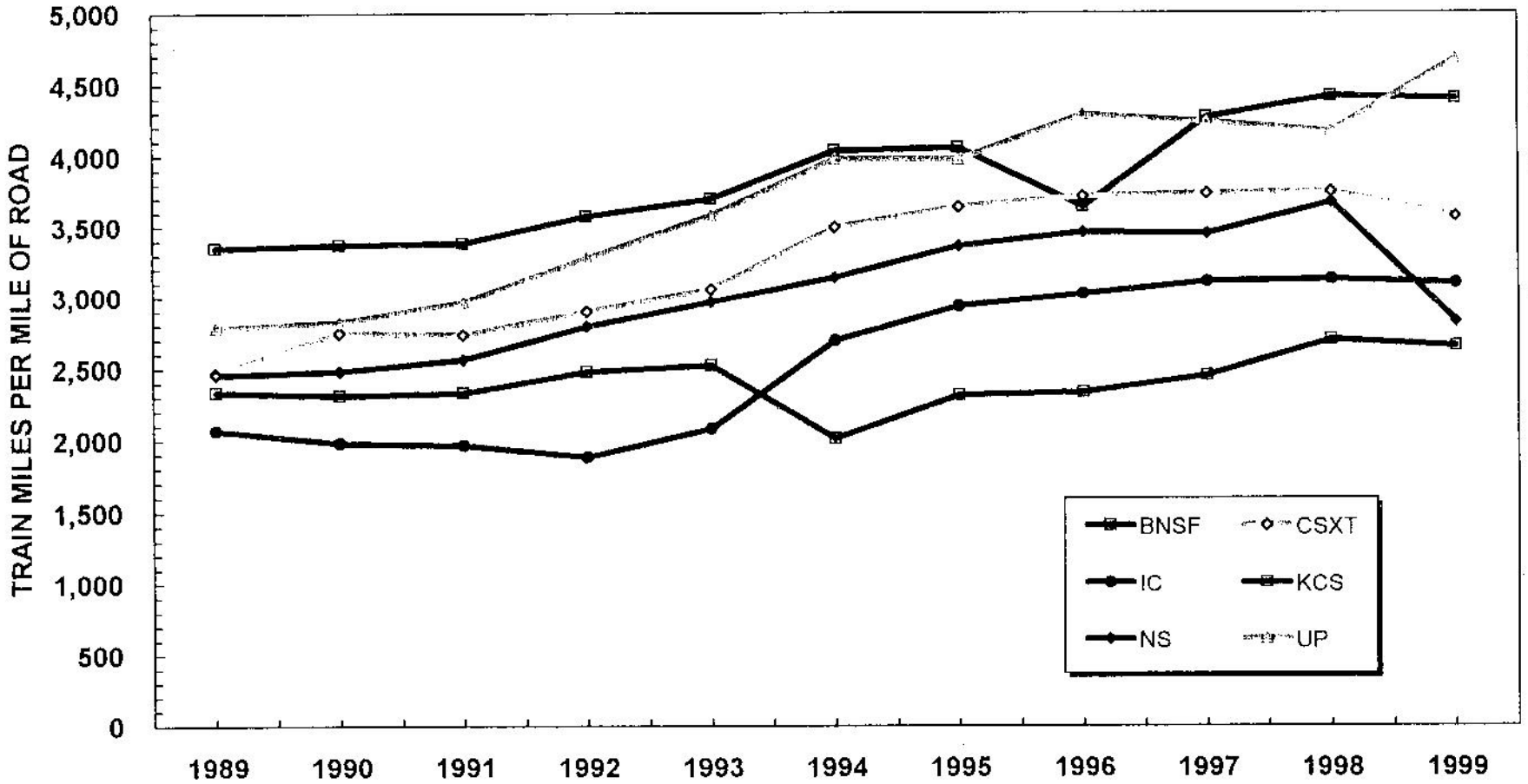


EXHIBIT 5
GROSS TON-MILES PER TRAIN MILE

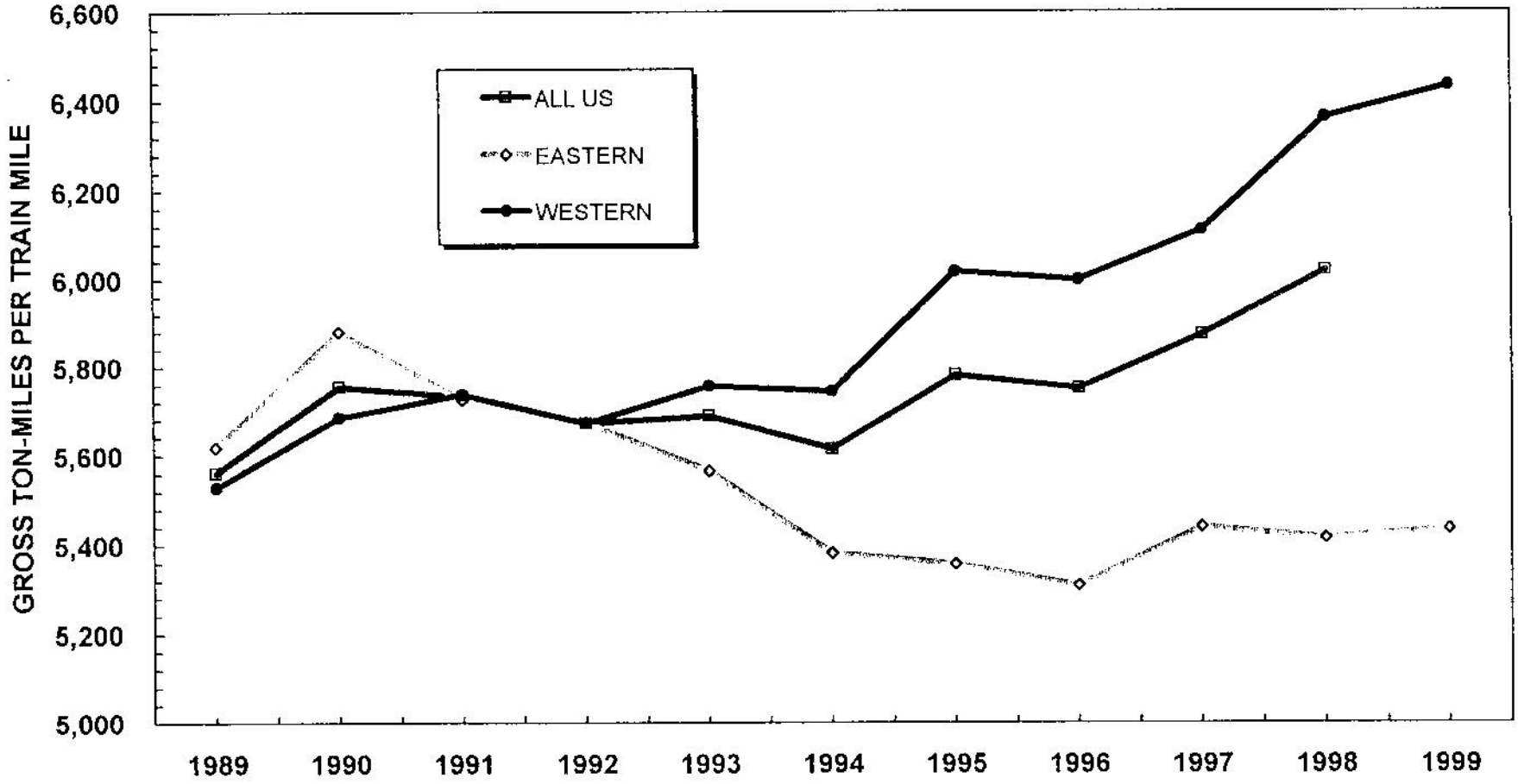


EXHIBIT 6
GROSS TON-MILES PER TRAIN MILE

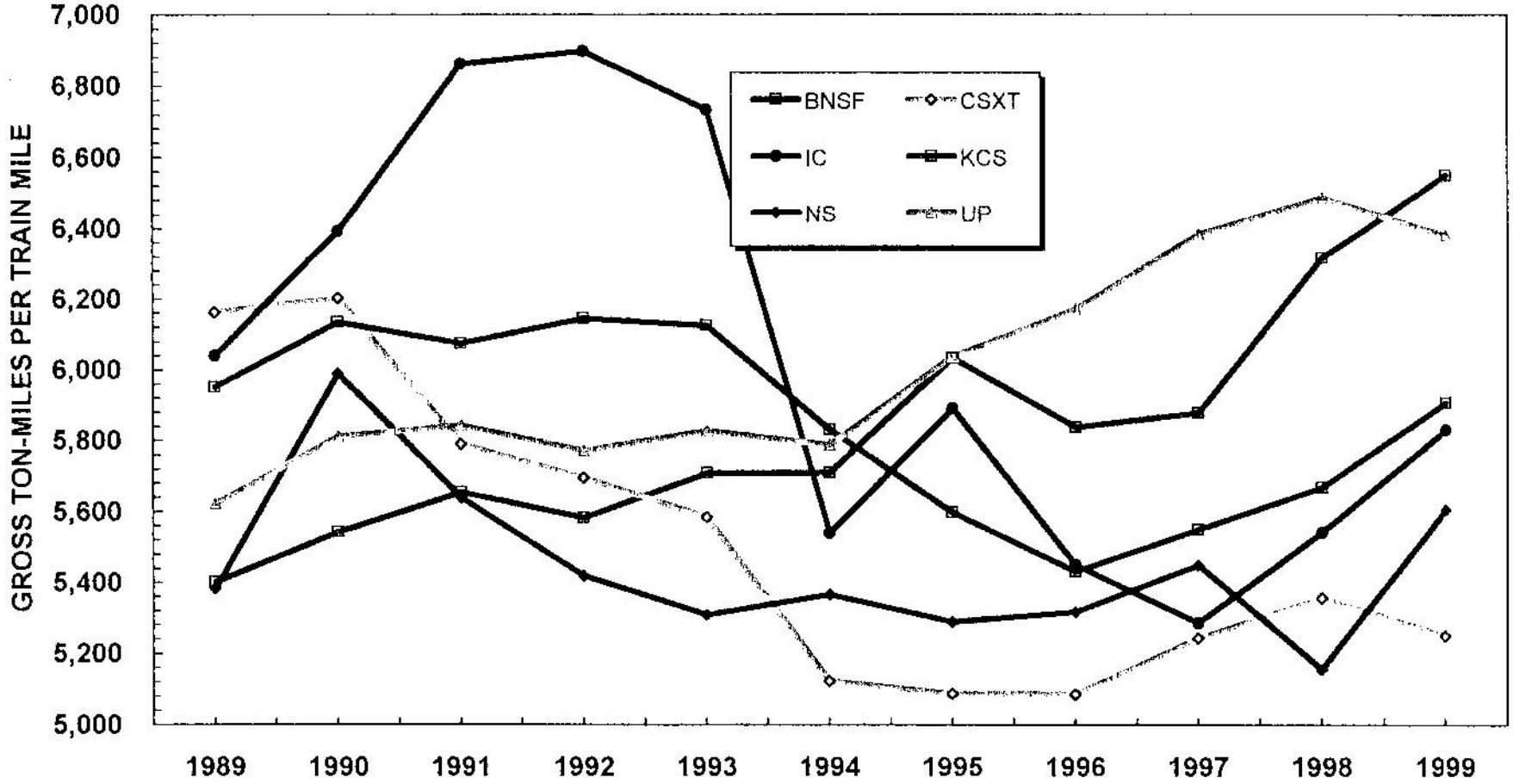
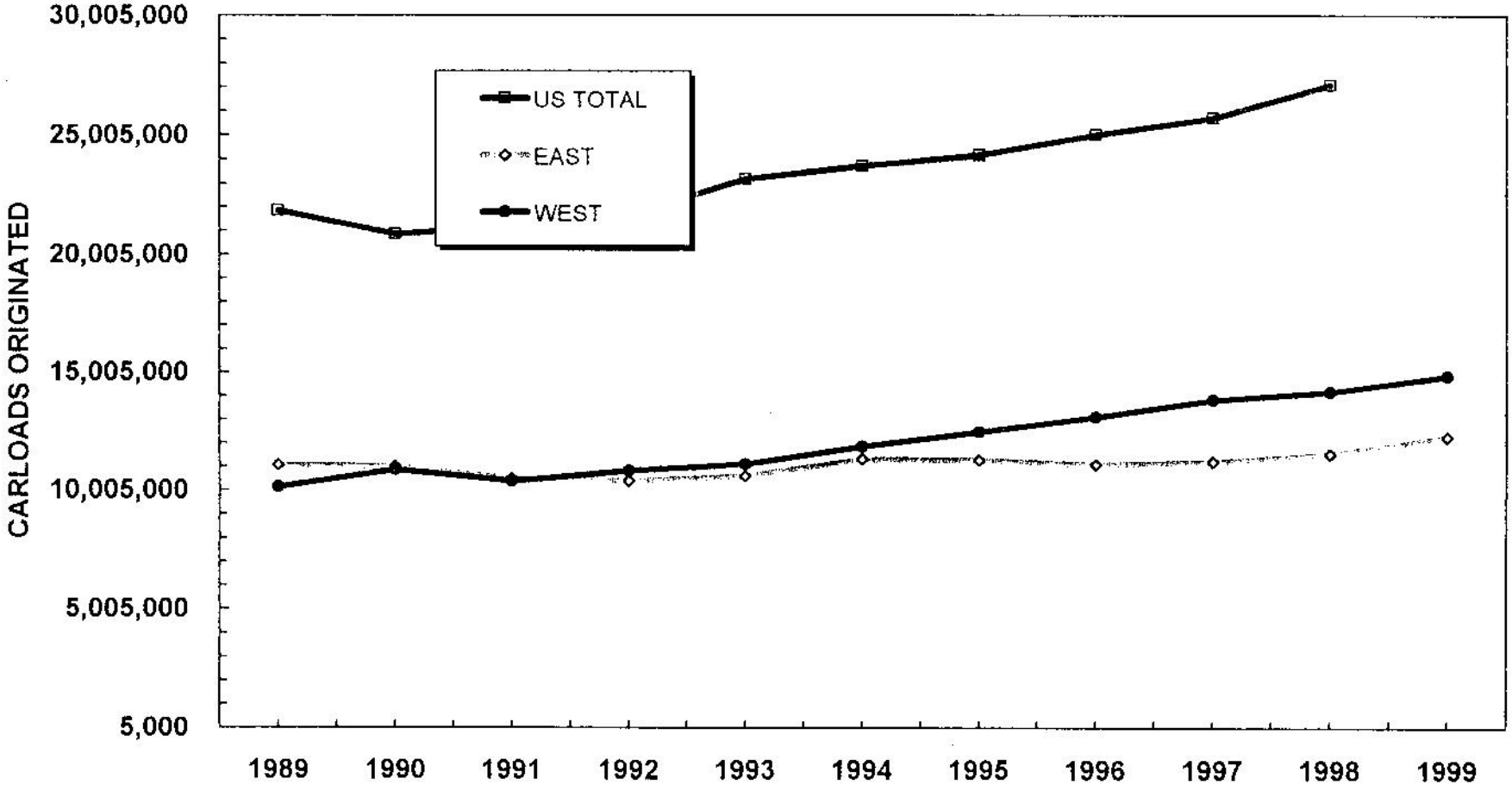


EXHIBIT 7
CARLOADS ORIGINATED



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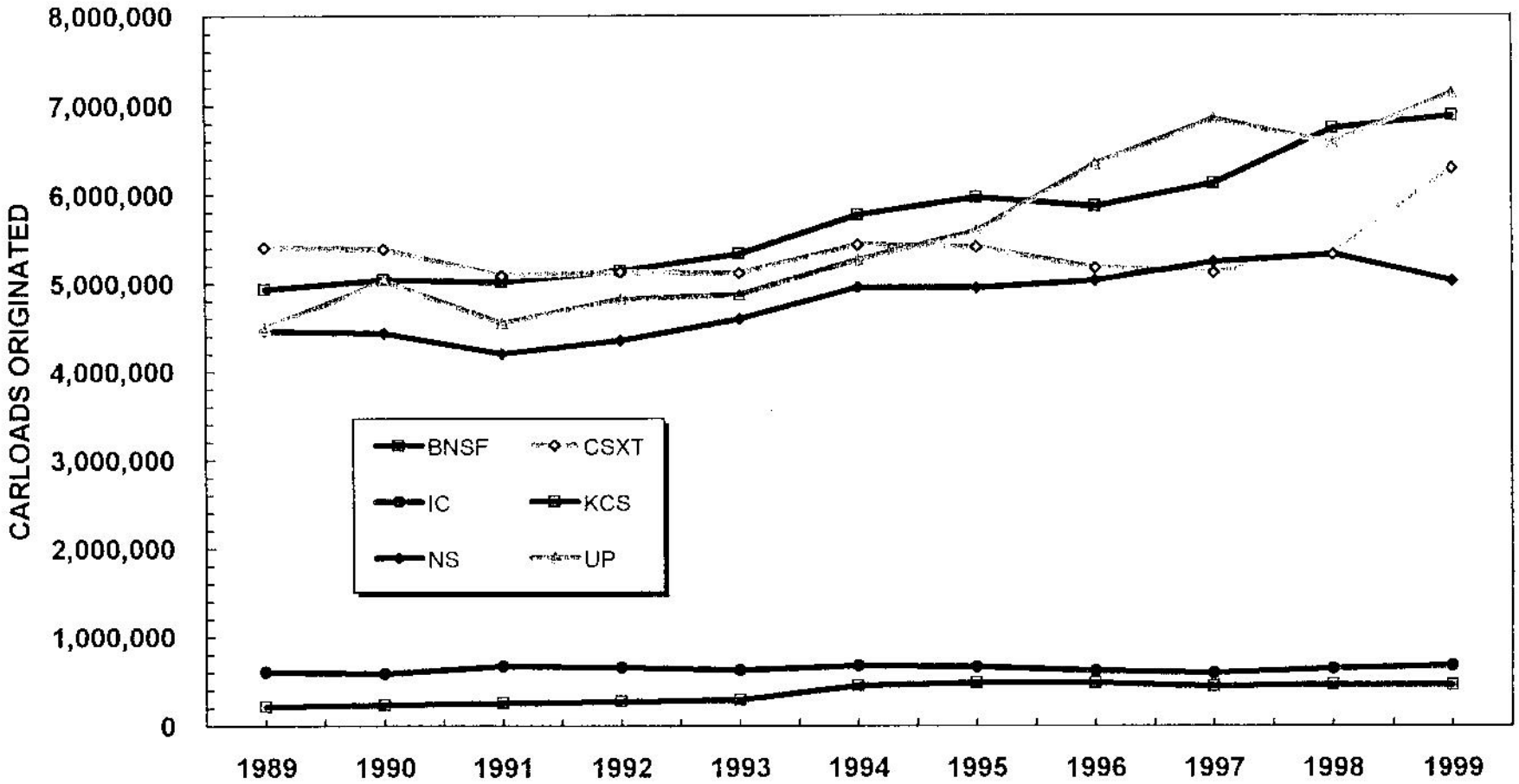
CARLOADS ORIGINATED



APPENDIX C

FRA GUIDANCE DOCUMENT "RAILROAD CORRIDOR TRANSPORTATION PLANS"

U.S. Department
of Transportation

**Federal Railroad
Administration**

RAILROAD CORRIDOR TRANSPORTATION PLANS

A GUIDANCE MANUAL

Office of Passenger Programs
Washington, DC 20590

Revised March 8, 2002

Corridor Transportation Plans

I. Introduction

This paper provides guidance to proponents of new or improved high-speed intercity rail services or systems. The Federal Railroad Administration makes this paper available to suggest the level of analysis and planning necessary to progress a program or project of this type. In the past, the Federal Railroad Administration and Amtrak have collaborated on a number of occasions to prepare a long range planning document for various rail corridors that have been called master plans or transportation plans. These studies attempt to take into full account the plans of intercity rail passenger service, local commuter rail services and the rail freight operators over a relatively long period of 20 years. The relatively independent plans of these various operators are synthesized into one long-range plan so that many incremental projects planned by each party over this 20-year period will collectively provide the infrastructure to permit the various services to coexist without degrading the various operations.

An initial reading of this document will quickly reveal that a Corridor Transportation Plan is a very detailed plan that will usually require relatively extensive research and analysis. Many people will ask why such a detailed plan is required at the beginning of a corridor project when there is so much "excess capacity" on the rail line in question. The observation concerning "excess capacity" is usually made by someone standing beside a rail line and observing that "I've seen only one train in the last two hours." While similar observations may be true, most non-railroad people (and many lifelong railroaders) find it difficult to appreciate how train movements or routine maintenance activities many miles away cascade their impact up and down the railroad. Inevitably, a cursory analysis and operating plan for new or significantly upgraded corridor passenger service on an existing freight line (with or without commuter service) will result in undesirable or unacceptable reliability and/or performance levels for all corridor users. There is little question that providing the information and analysis to support a Corridor Transportation Plan may take a period of months, but in the long run its preparation is the quickest way to properly define all the elements that must be addressed in order to provide higher speeds and improved frequencies for intercity passenger service, while maintaining or improving freight and commuter services.

It has usually been found to be relatively easy to take a long range, 20-year plan and determine which pieces need to be done to support the initial service levels and which components can wait for future funding or service level needs. Conversely, without a detailed long-range plan, it is very difficult to know if the short-range plans and projects will address anything other than immediate problems. Sometimes, the apparent short-term solutions only make the long-term problems worse and will ultimately have to be removed and replaced—typically an expensive learning experience.

Proponents of a high-speed rail project also need to consider that any Federal funding or Federal approval of a new or upgraded intercity rail passenger corridor would require preparation of appropriate environmental documentation. Clearances have to be obtained for a project under the requirements of the National Environmental Protection Act (NEPA) and the National Historical Preservation Act, section 4(f) of the DOT Act, the Clean Water Act, and others. All these acts require site specific information (square footage of wetlands

to be filled or detailed modifications to be made to an historic building, for instance) in order to prepare the documents and obtain approvals. A clear and complete understanding of all project elements, reached through sound engineering and railroad planning, is needed to complete these documents.

The Federal Railroad Administration has found that railroad corridor programs or projects lend themselves to tiered environmental documentation. Since funding design and construction of improvements to railroad corridors generally extends over decades, a tiered first level Environmental Impact Statement (EIS) or Programmatic Environmental Impact Statement (PEIS) is usually the appropriate form of documentation. This allows for identification of the full scope of projected improvements or modifications and either full analysis of defined elements or deferral of site-specific clearance of elements to later documentation. Typically, a long-range transportation plan is necessary to identify all project elements and for preparation of the initial environmental document. It is possible that the PEIS or first tier EIS may categorically exclude work that does not impact environmentally or historically sensitive resources (for example: installing welded rail, replacing ties, installing a new signal system, or reinstalling track on an old roadbed) and may also identify other elements for separate environmental documentation (such as: new stations, curve eliminations, new maintenance shops, and so forth). This type of documentation can incorporate by reference many elements of a corridor transportation plan and thus simplify the clearance process.

The balance of this document outlines parameters used and various factors that usually require analysis and study in preparing a corridor transportation plan. The document further discusses in some detail the analysis usually found to be the most critical to a transportation plan, but it should be emphasized that each corridor will most likely have unique conditions or circumstances that will have to be addressed individually. Additional information concerning these studies may be found in Chapter 17 of the American Railway Engineering and Maintenance Association manual of recommended practices.

II. Route Selection - Preliminary Analysis

Potential rail transportation corridors will usually connect at least two and sometimes a series of relatively large population centers. A typical corridor may have one or several rail lines connecting the end points or various intermediate population centers. Where more than one rail line exists (or existed in the past), a determination must be made as to which route or combination of route segments will make up the corridor. Where multiple rail lines exist, it is frequently found that one or more are simply not compatible with being upgraded to corridor status, because of numerous curves, steep grades, routing that avoids population centers, routes that run down city streets at grade or other obvious untenable defects. A preliminary assessment of the options will usually reduce the possibilities to one or perhaps two viable routes that meet basic requirements for speed, multiple tracks, intermodal station sites, ridership potential, estimated cost of improvements, and the like.

The selected route or routes will then need to be subjected to the comprehensive long range analysis associated with a corridor transportation plan.

III. Physical Characteristics of the Rail Line (Existing and Proposed)

The analysis required for a corridor transportation plan will necessitate assembling as much detailed information as possible about the rail line(s). Scaled drawings should be obtained or prepared which contain the following minimum information:

A. Track plans showing

1. Number and location of tracks (existing and previously removed)

2. Curvature

   a. Degree of curve

   b. Superelevation

   c. Spiral length (spirals were not introduced in the U.S. until 1900, so most spirals are retrofitted onto old curves)

3. Track profiles showing all grades and grade change points

4. Interlocking configurations including turnout and crossover sizes and/or diamond crossing with other rail lines

5. Length of passing tracks, if any.

6. Major bridges and tunnels including any weight or clearance restrictions, if any.

7. Highway crossing locations and warning systems (public and private)

8. Location of passenger stations and platforms

9. Location of industrial spurs

10. FRA track classification and construction

    a. Rail weight and age, welded or jointed

    b. Type of ties

    c. Ballast type and section

11. Standard turnout sizes in use

12. Complex terminal and yard sites will typically require larger scales than open running main lines

13. Location of right of way fencing

14. Air rights ownership or utility rights of way

15. Location of freight yards

B. Signal system plans (the FRA regulations that require the enforcement of signal indications, when authorized speeds exceed 79 mph, means that improperly located signal positions or undesirable signal aspects, while overly safe, may significantly add to the trip time of passenger trains under many circumstances).

1. Determine if the system is based on speed signaling or route signaling and obtain the relevant operating rules.

2. Obtain or prepare a set of general signal plans (sometimes known as route and aspect charts) that shows each signal location and aspects that can be displayed (both wayside and cab signals).

3. Determine the type of track circuits (AC, DC, coded, etc.)

4. Determine if pole lines are used for signal lines

5. Determine what the signal design speed is for each corridor segment for each type of train operated

6. Obtain the train braking curves used with the signal design speed (freight and passenger)

7. Highway crossing warning systems

   a. Track circuit based

   b. Overlay circuits

   c. Constant warning time

8. Location and type of hazard detectors (high/wide loads, dragging equipment, hot box, etc.) and their connection to the signal system.

9. Interlocking snow melting systems

   a. Type (electric, gas, hot air, etc.)

   b. Remote or local control

C. Communications systems along the corridor

1. Is it private or leased lines?

2. Is there open line wire?

3. Is the main system microwave, fiber optics, cable, or leased?

4. Where are the radio transmitters for the wayside-to-train radio system? What systems are used to reach the transmitters?

5. Is there any backup system ?

IV Operations Support Facilities

The rail line described in item III carries the trains that move along all or parts of a corridor; however, there are many other supporting facilities that may ultimately have to be modified, expanded, moved or eliminated as the corridor is upgraded to support more services operating at higher speeds. Narrative summaries of the following types of facilities need to be prepared (augmented with plans or drawings as necessary) in order to provide a long-term planning document.

A. Passenger stations are critically important in attracting riders to intercity and commuter trains. The following information needs to be assembled for each existing and proposed station.

1. Location in the community relative to work centers, homes and local highways

2. Platform type (high or low level), length, width, access to station and if it is on tangent or curved track, "train approaching" warning devices, intertrack fences

3. Length of platform canopy, if any

4. Station size and amenities, staffed or unstaffed, primary use (commuter or intercity)

5. Automobile parking capacity

6. Intermodal access (bus, taxi, heavy or light rail transit)

7. Existing physical condition

8. Passenger information systems

9. Compliance with the Americans with Disabilities Act

B. Railway passenger vehicle storage and maintenance facilities will need to be provided at or near the various origination/destination points. The following information will need to be assembled:

1. Site of the facility

2. Function of the facility (daily servicing and storage, light running repairs, medium repairs, etc.)

3. Rail vehicle capacity

4. Special facilities or equipment, if any (a wye or loop for turning trains, etc.)

5. Existing physical condition

C. The corridor rail line will require periodic inspection and repairs. The location of various maintenance-of-way bases, type of staff, required facilities, etc., needs to be documented; so that existing sites can be augmented or new ones selected.

D. Each corridor will have one or more centers that control the movement of trains and equipment. The location of the traffic control centers needs to be identified, the type of equipment being used, and the capability of the systems to accept new track configurations and increased numbers of trains on the corridor.

V. Proposed Operating Plan for All Corridor Services on a Date 20 Years in the Future

It is essential for each organization intending to operate rail service of any kind over a corridor or portions of a corridor to analyze their long term objectives and prepare a realistic assessment of the service levels that can be anticipated. Although each corridor will have unique projections, several general comments need to be made.

Copies of all operating agreements between the rail corridor owner and tenant operators with operating rights need to be obtained and appropriate summaries prepared so that everyone will know all of the various rights and conditions. Likewise, if the corridor contains moveable bridges over public navigable waterways, Coast Guard regulations covering those specific bridges should be obtained and summarized.

Very high annual growth rates (6 - 10%) are usually not sustained in a mature economy like that found in the United States, unless the particular corridor is shown to be experiencing large population and industrial growth or any proposed new services would tend to relieve existing overcrowding on alternative modes of travel. One might observe a relatively high growth rate for intermodal freight service, but when the diversion from more conventional car load freight is taken into account the overall growth is reduced rather significantly.

Similarly, existing mature rail commuter systems around major cities like New York or Chicago might average 2% growth per year over 20 years, which in absolute terms would still require more and longer trains due to the high base ridership of existing service levels. Conversely, a start-up commuter service in a relatively large metropolitan region might experience very high percentage growth rates, but still require only 30 minute peak headways after 20 years. All projections need to be carefully scrutinized in order to avoid constructing infrastructure that may never be required.

Proposed schedules may be based on existing timetables if similar service now exists. However, most corridors will be projecting service of a kind not now in existence, which will require the use of computerized train performance calculators (TPCs) working on the data base developed in section III.

The following information needs to be developed for each service using the corridor:

A. Intercity corridor passenger service

1. Location of station stops

2. Train schedules (include dwell time)

3. Train size and type of equipment (coaches, tilt cars, food service, etc.), train weight and locomotive horsepower

B. Local commuter services

1. Location of station stops (existing and proposed)

2. Train schedules (local, express, zone express, deadhead moves, etc.)

3. Train consists (locomotives and cars), train weight and locomotive horsepower

4. Branch line junction points

C. Freight services

1. Local freight schedules (note places where the train clears the corridor for extended periods of time)

2. Manifest freight schedules (include all points where stops are made to pick-up or set-off cars and typical horsepower and tonnage)

3. Intermodal freight schedules (include all stops, tonnage and typical horsepower/ton ratio)

4. Mineral and extra train schedules (include all stops, tonnage and horsepower)

5. All yards or work sites should be defined

D. Long distance passenger services

1. Location of station stops

2. Train schedules (arrival and departure times at all stations)

3. Train size, locomotive horsepower (minus hotel power requirements), types of cars (coach, sleeper, diner, mail, express, etc.)

E. Schedule pad

Whenever passenger schedules are produced by various TPC runs, a pad must be added to the TPC schedule to account for a number of factors. The following describes various factors that need to be included for calculating a single track schedule with pad. A double track schedule with pad is the first term only (1.07T).

Schedule with Pad $$= 1.07T + M\left(\frac{\frac{1}{2}L}{S} + W + \frac{D}{S}\right)$$

Where

T = Train performance calculator (TPC) run time

1.07 = 7% added for;

a. Human operation instead of perfect TPC operation
b. Some TPC assumptions will prove not feasible to achieve
c Extra station dwell for mail, baggage, wheelchairs, etc
d. Temporary slow orders
e. Low diesel power output or extra cars
f. Congestion or other off-schedule trains
g. Signal imposed delays
h. Weather conditions
i. Miscellaneous delays

M = Number of meets with other passenger trains (freight trains are assumed to wait longer for meets, and not cause delays to passenger trains)

L = Distance between passing tracks in miles (average with deviation not greater than 25%)

D = Distance in miles from home signal at passing track to distant signal at passing track.

S = Average speed in miles per minute

W = Interlocking operating time, use 1 minute

a. 5 second loss of shunt protection
b. 2 second CTC polling time for transmit/receive
c. 8 second switch movement time for small interlocking (15 to 30 seconds for large interlocking)
d. 30 second human response time
e. 10 second train brake release time

Assumption: Passing tracks are at least 4 miles long with at least one intermediate block signal and turnouts are either equilateral # 20 or lateral # 32.

If freight traffic is particularly heavy on a single track railroad a further adjustment may be necessary to account for the occasion when a passing track between two passenger trains is occupied by a freight train, thus more than doubling the distance between passing tracks available for passenger trains. In order to keep the pad within reason, it may be necessary to provide a universal crossover in the middle of selected passing tracks so that a meet and overtake can occur at the same time.

Railroads have historically placed most of the needed schedule pad near the end of the trip, in order to influence the on-time performance that is typically calculated from end point to end point. On long corridors with relatively large pads, this technique can result in relatively large deviations from published schedules near the end of a run. These large schedule deviations may be totally unacceptable to a high density commuter operation, where certain schedule slots at junctions or major stations are reserved for the intercity corridor trains. Where high density commuter or freight operations are encountered on a corridor, the intercity schedule pad must be spread out over the whole route at appropriate locations so that the intercity trains will have small schedule deviations at critical operating locations and not negatively impact the performance of other corridor users.

F. Trip time feasibility analysis

Analyzing a particular corridor to assess ways to increase average overall speeds will involve many TPC runs that individually determine the effects of changing one parameter at a time. All of the speed restrictions contained in the employees' timetable special instructions should first be carefully reviewed to make sure everyone understands why they exist; sometimes their reason for existence is obsolete or is no longer valid. Most of the effort usually involves increasing speeds through curves, raising maximum speeds or

increasing horsepower-per-ton ratios.

1. Increasing speeds through curves can be accomplished by increasing the actual superelevation up to a maximum of 6 inches, increasing the unbalance of passenger cars to approximately 5 inches for non-tilting vehicles, or by using tilt-body trains that can operate at an effective unbalance up to 9 inches as permitted by FRA regulations. Any increase in curve speeds must address the spiral curve which connects tangent track to a constant radius curve. Since spirals were not introduced to American railroads until 1900, the retrofitted spiral must be carefully checked to see if higher speeds can be accommodated with comfort and safety. Higher curve speeds will usually require rather significant changes to spirals, some of which will not prove feasible and will ultimately limit the maximum speed through a curve.

2. Maximum speeds on tangent track can typically be increased after the track structure has been improved and the track geometry (alignment, cross-level, profile, etc.) tightened up to meet FRA standards for the desired speed. Higher speeds may require respacing signals and installing cab signals for speeds above 79 mph. It should be noted that, when cab signals are installed, FRA regulations require all trains (freight, commuter, etc.) operating over those tracks to have fully functioning cab signals. Enforcement of all speed restrictions may be required where speeds exceed 110 mph. Highway grade crossings are prohibited where train speeds exceed 125 mph.

3. Increasing the horsepower-per-ton ratio by adding a locomotive on a typical corridor passenger train has been shown to improve low-speed acceleration and grade climbing speeds in addition to attaining higher maximum speeds. The improved lower-speed performance and grade climbing ability may eliminate the need for higher maximum speeds in order to attain a certain overall schedule.

VI. Proposed Railroad Operations Analysis

Most railroad corridors being proposed for higher-speed, more frequent intercity passenger services will typically already have significant freight service over at least a significant portion of the route. Additionally, there is likely to be existing or proposed local commuter service in the larger metropolitan areas. Creating an infrastructure that will allow these three services to coexist on the same tracks is usually the biggest challenge in preparing a corridor transportation plan. Unless the corridor is short (100 miles or so) and service is made up of only commuter, intercity corridor, and local freight trains, it will be necessary to employ a relatively sophisticated train operating model simulator that is smart enough to do its own train dispatching via alternative paths over the corridor's track configuration. At a minimum, these systems will need to be able to plot train movement stringlines at a useable scale (typically 10 minutes per inch), be able to randomly input delays by type of train (freight, commuter, intercity), and tabulate delays associated with

each train operated during the 24 hour day. The plot should locate each interlocking or station and identify which track a train took as it moved over the corridor.

A typical corridor will probably require the model to be run a number of times, with track and interlocking changes being made after each run, before all services are able to operate at an acceptable level of 90% on-time performance. The initial schedules (developed under Section V) will have to be altered or additional infrastructure provided as conflict points are identified along the corridor. Conflicts will occur when a faster train has to pass a slower train (e.g., a non-stop intermodal freight overtaking a local commuter train) or opposing trains try to pass each other on a single track. It should be noted that schedule variability of freight trains is generally greater than that of passenger trains, because freight train tonnage and the resulting horsepower-per-ton ratios will vary rather significantly by day of week and through the various seasons of the year. After the modeling simulations and various revisions to track and schedules have produced what appears to be a viable operation for all services, it is desirable to run a 7-day simulation with only the random train performance changing daily to confirm that most normal operations can be handled.

The track configuration produced by the simulations should be reviewed to see if additional facilities should be added to handle routine contingencies such as; track maintenance, locomotive or other train failure, etc. Complex terminal areas (passenger and freight) usually need detailed human analysis to insure that interlocking configurations provide for not only the routine revenue moves, but also the various switching and yard moves. After these adjustments are made, a scaled track plan of the entire corridor should be prepared and checked to insure that the proposed facilities can be built without undue expense. Some locations may require more detailed verification analysis using large-scale mapping (at 40 feet per inch) to confirm that the desired track layout will fit.

VII. Highway Crossings

The typical corridor has a relatively large number of public and private highway-rail crossings at grade. A corridor transportation plan should identify each of these grade crossings, the relationship of the highway to the rail line at each site (sight lines, grades, pavement type, etc.), type of warning system, type and density of highway traffic, history of accidents, proximity of nearby crossings or grade separated bridges, etc. Special pre-emptive circuits should be considered for nearby highway traffic signals in order to clear highway traffic that might have stopped on a railroad grade crossing.

Every effort should be made to simply close as many highway grade crossings as possible, especially where there is a series of closely-spaced crossings or where nearby bridges can carry the traffic over or under the railroad. If closing a crossing is not readily feasible and train speeds will not exceed 110 mph, then each public crossing should be provided with gates, flashing lights, and bells activated by a constant warning time system that adjusts for different train speeds. Four-quadrant crossing gates, lane barriers and other devices to preclude vehicles from driving around gates should be installed as deemed appropriate.

Every effort should be made to provide grade separation for high-density crossings or those with a history of accidents. Each of these sites usually requires a separate study to assess

options.

VIII. Environmental/Historic Impacts

A corridor transportation plan is not intended to be an environmental or historic assessment of any of the many proposed actions. However, there should be a general awareness of environmental or historic properties that could eventually pose major obstacles to proposed changes. A proposal to relocate a corridor on a causeway through a Federal or state waterfowl preserve for several miles might never see the light of day. Likewise, a proposal to demolish a station on the National Register of Historic Places would probably have extremely rough going. On the other hand, old signal towers have been relocated or demolished after preparing an Historic American Engineering Report to document the structure.

IX. Cost Estimates

Conceptual level cost estimates should be prepared for each item listed as a corridor requirement. All parties should be aware that conceptual level cost estimates will carry a large contingency factor (typically 30 - 35 percent), because average unit costs are usually used and detailed design analysis has not been done. Review of the various cost estimates will typically result in some projects being deemed too expensive for the benefits produced, and requests to look at other alternatives will be made. It can be expected that a typical transportation plan will involve a number of options being costed before all parties can agree on some of the most cost-effective solutions.

A corridor transportation plan would typically summarize the various project costs into four basic categories:

A. Recapitalization: This category would include repairs or replacement of life-expired capital assets that would be necessary under any circumstance to simply continue existing levels of service and operations. Typical elements might include:

1. Bridge replacements (undergrade and overhead)

2. Replacement of signal and communications cable

3. Replacement of right-of-way fencing

4. Replacement of station roofs, platforms, etc.

B. Trip time improvements: This category would include items that are solely intended to reduce trip times for corridor passenger train service. Typical elements might include:

1. Curve realignments

2. Concrete ties and welded rail installation

3. Grade crossing removal or improvements

4. Install a new cab signal system in order to operate at more than 79 mph

5. Reconfigure a junction or station for higher speeds

6. Purchase higher-speed rolling stock

7. Install an electric traction system

C. Capacity-related improvements: This category would include items that are required to increase the capacity of the corridor in order to allow increases in traffic by all users of the corridor. Typical elements might include:

1. New passing tracks

2. Additional main tracks

3. Interlocking reconfigurations

4. Additional station platforms

5. New or expanded maintenance facilities

6. Install high-level passenger platforms

7. Revise signal locations and aspects

D. Other projects: This category would include other corridor related projects that do not fall within any of the other three categories. Typical projects might include:

1. Purchasing new commuter rolling stock

2. Building new commuter stations

3. Constructing multi-modal terminals

4. Constructing additional parking facilities

5. Improving freight clearances

X. Prioritization of Projects

A long-range plan that projects requirements over a period of two decades can only provide general guidance on construction priorities. The studies that make up a corridor transportation plan will usually be able to identify those projects that would be of significant benefit to existing operations or some projects that should have been built years ago. The studies will also identify projects that all parties agree will not be required until traffic levels have reached those projected near the end of the 20 year planning period. The remaining projects will fall into a rather broad category of being needed sometime in the next 5 to 15 years. Three priority categories are usually sufficient:

A. Immediate requirement

B. Mid-term requirement

C. Long-term requirement

Many transportation executives will request a ranking of schedule improvement projects based on cost per minute saved. Comparison of several TPC runs would determine trip time savings achieved by curve alignment changes, higher maximum speeds, improved acceleration, higher-speed turnouts, etc., which can then be compared to the cost. Likewise, more frequent passing tracks on a single track railroad might be shown by the train modeling system to be able to reduce the schedule pad and thus the schedule at a certain cost per minute of eliminated pad.

XI. The Corridor Transportation Plan Report

A formal report needs to be prepared that outlines and summarizes the analysis and findings of the various studies undertaken for the transportation plan. This typically results in a simple two volume report: Volume One summarizes the findings and projected costs of the various improvements; Volume Two contains the detailed analysis and justification of all the improvements contained in Volume One. Usage of past transportation plans has shown that Volume Two, with its detailed analyses and other techical components, is the more important from a substantive viewpoint. However, Volume One requires careful attention because it is directed toward policy-makers, who set priorities, control budgets, and need to understand the rationale for the proposals.

Volume One should contain information such as that described below. Since each corridor is unique, the topics, order, and emphasis will necessarily vary. The following arrangement has worked well in recent reports in which the FRA staff has participated.

A. Executive Summary (extracted from the sections that follow)

B. Chapter 1—Introduction
   1. Rationale for the study
   2. Purpose and approach

C. Chapter 2—The Corridor Today

1. Fixed Plant
    - a. Location (include map)
    - b. Background and ownership
    - c. Data sources for the condition descriptions that follow
    - d. Trackage and track conditions
        - (1) Rail
        - (2) Ties and timbers
        - (3) Turnouts, crossovers, double-slip switches
        - (4) Ballast and subgrade
        - (5) Geometry of the permanent way; discuss line and surface; curves, spirals, and superelevation
    - e. Bridges, culverts, and other structures
    - f. Highway/railroad grade crossings
    - g. Electrification (if any)
    - h. Signals, train control, communications
        - (1) Signals and train control
        - (2) Operational control and dispatching
    - i. Support facilities (yards and shops; maintenance-of-way bases)
    - j. Stations and parking
2. Users and services
    - a. Entities
    - b. Services
        - (1) Intercity passenger
            - (a) Corridor
            - (b) Other
        - (2) Commuter (there may be more than one type)
        - (3) Freight (Through and local; there may be multiple types)
        - (4) Summary description of existing service quality

D. Chapter 3—Service Goals (i.e. what each service expects or intends by the planning "horizon year," which should be identified early in this chapter.)

- a. Intercity passenger
    - (1) Corridor
    - (2) Other
- b. Commuter (there may be more than one type)
- c. Freight (Through and local; there may be multiple types)

E. Chapter 4—Methodologies (i.e., how the work was done; the chapter should largely track this guidance manual. Topics for additional study can be listed here as well.)

F. Chapter 5—Analytical results (Generalized descriptions; site-specific projects go in Chapter 8)

1. Travel time analyses (train performance calculator results and discussion)
2. Capacity analyses (manual and computerized train interaction simulations)

G. Chapter 6—Environmental/historic factors. Summarize any items that have surfaced in the study that appear to warrant any environmental/historic reviews.

H. Chapter 7—Corridor-wide investments. (i.e., investments in subsystems. For each of the components, exemplified by the following, "the need" (based on foregoing chapters) should be summarized and "the program" should be described.)

1. Track geometry (curves, spirals, superelevation)
2. Track structure (ordinary track components and special trackwork)
3. Bridges, culverts, and other structures
4. Highway-railroad crossings (general treatments; specific major projects go in Chapter 8)
5. Electrification (if applicable)
6. Signals and train control
7. Support facilities
8. Stations and parking

I. Chapter 8—Site-Specific Investments. (This key chapter should describe, both in words and in very clear before-and-after schematics, all important site-specific improvements and rationalizations.)

J. Chapter 9—Program summary and conclusions. This chapter should recapitulate the potential improvements, summarize the study's conclusions, and provide a table of corridor-wide and site-specific investment proposals, with their estimated costs.

The detailed appendices in Volume Two should contain the following minimum information:

A The final proposed operating schedules of all trains (including deadheads) of all users of the corridor (intercity passenger, commuter, freight, and long-distance passenger services), including the ultimate destination or origination of each train.

B. The final track configuration of the entire corridor drawn to scale (sample attached as Exhibit 1) and containing the following basic information:

1. All main tracks, passing tracks, industrial spurs, station tracks, etc.

2. All interlockings and junctions with other lines showing turnout sizes and track configuration

3. The location of all passenger platforms

4. The location of all highway grade crossings:

a. To be removed

b. To be grade separated

c. To remain in use

5. All maintenance facilities and yards

6. All curves, major bridges and tunnels

7. All industrial freight spurs

C. Cost estimates of distinguishable segments such as a passing track (turnouts, signals, track components, bridges, retaining walls, earthworks, etc.). Listings of unit cost figures used in the estimates should be included.

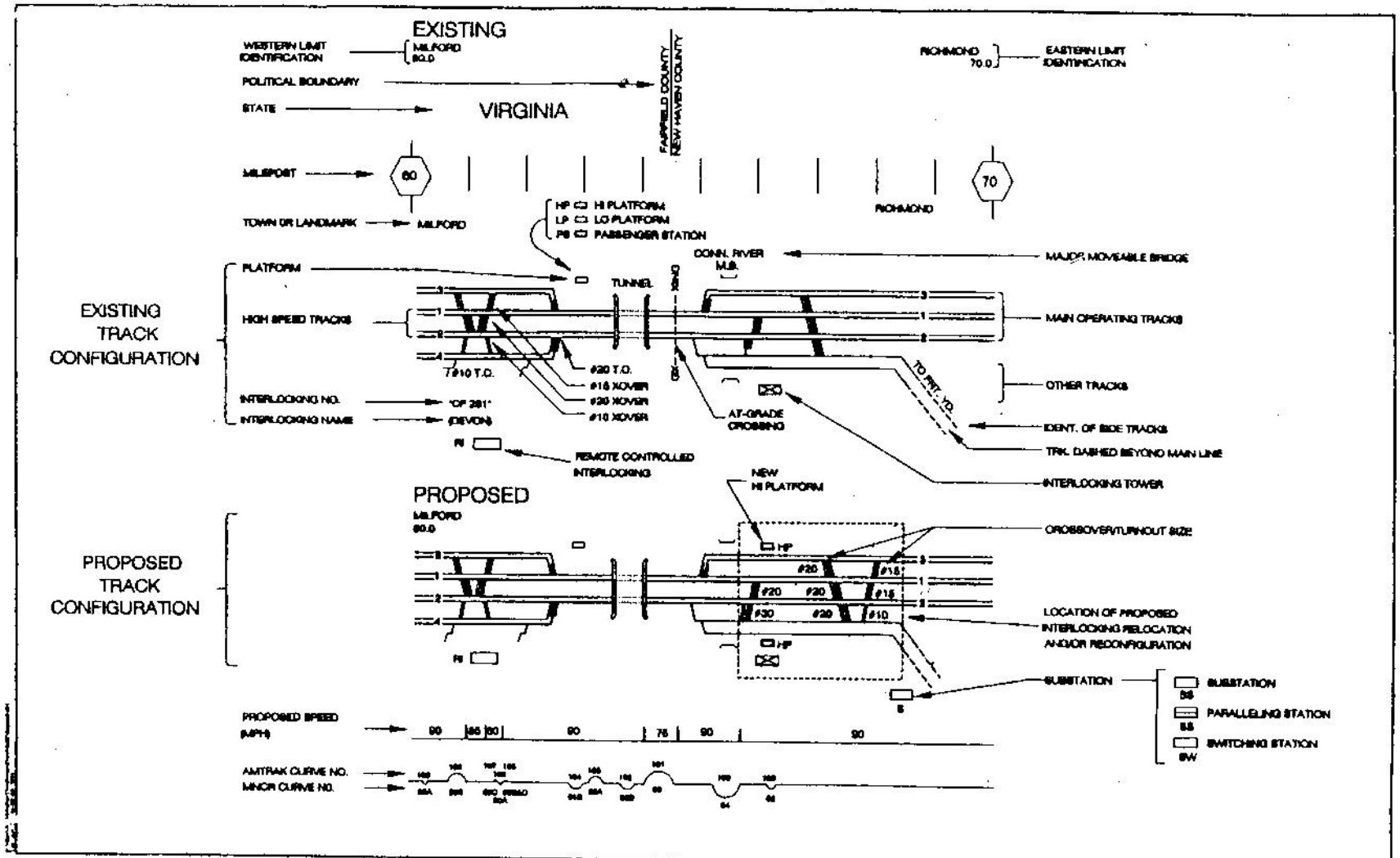
D. The detailed analysis of each curve on the corridor showing elements such as: degree of curve, superelevation, spiral length, maximum speed if limited by jerk rate (the rate of change of superelevation), etc.

E. A detailed description explaining the train operating modeling work that describes the justification for each of the changes recommended for the corridor track configuration.

F. The final proposed speed-versus- distance plot for the proposed intercity corridor passenger service and a brief description of the proposed passenger trains (horsepower, tonnage, seats, maximum speed, tilt or non-tilt, etc.)

G. A discussion of interactions between various individual projects that may dictate the construction sequence or cause significant disruption to train operations. Some projects, such as replacing a major bridge or interlocking, may require suspending all rail service for a period of time (several days to a week or two) during which other work can be accomplished without additional disruption.

H. A detailed description of proposed signal system changes such as; installing cab signals, respacing signal locations for higher speeds, adding signal aspects to increase capacity, installing a new centralized traffic control system, etc. This section should contain a description of any vehicle modifications required to permit operations on a new cab signal or speed enforcement system.



United States Department of Transportation • Federal Railroad Administration

A-E Support Services for Northeast Corridor Railroad Improvements

Task Order No. 103

Task No. 4 - Washington, D.C. to Richmond, Va. Rail Study

De LEUW, CATHER

EXHIBIT 1
TRACK CONFIGURATION LEGEND
Existing And Proposed 2015 Track Configurations

APPENDIX D

DETAILED MODEL SIMULATION RESULTS

Evaluate Directional Running
Simulation 5
(Option 5)

		TO							
FROM	Data	BN	CSX	IC	KCS	NOPB	NS	UP	Grand Total
BN	Count of Duration					13			13
	Average Duration					3:34:13			3:34:13
	Max Duration					6:38:46			6:38:46
CSX	Count of Duration					10		22	32
	Average Duration					4:49:36		3:45:24	4:05:28
	Max Duration					8:11:51		7:02:04	8:11:51
IC	Count of Duration				1	4	1	1	7
	Average Duration				2:47:09	9:11:41	6:26:22	0:48:27	6:41:14
	Max Duration				2:47:09	9:56:40	6:26:22	0:48:27	9:56:40
KCS	Count of Duration		4	2					6
	Average Duration		4:11:38	3:53:58					4:05:45
	Max Duration		4:59:38	4:04:54					4:59:38
NOPB	Count of Duration	9	6	3	6		4	2	30
	Average Duration	3:23:11	4:30:43	3:25:04	2:27:03		3:01:22	3:21:19	3:22:37
	Max Duration	5:55:12	7:13:57	7:00:04	3:59:56		3:43:54	3:21:36	7:13:57
NS	Count of Duration			4				12	16
	Average Duration			4:01:09				3:57:36	3:58:29
	Max Duration			4:14:17				6:42:14	6:42:14
UP	Count of Duration		29	6		2	12		49
	Average Duration		4:18:59	4:40:44		3:56:40	3:25:41		4:07:41
	Max Duration		6:09:21	5:05:23		4:45:51	6:11:10		6:11:10
Total Count of Duration		9	39	15	7	29	17	37	153
Average Duration		3:23:11	4:20:02	4:08:49	2:29:55	4:48:18	3:30:35	3:43:16	4:01:31
Max Duration		5:55:12	7:13:57	7:00:04	3:59:56	9:56:40	6:26:22	7:02:04	9:56:40

Add Capacity at East Bridge Junction
Simulation 6a
(Option 4)

		TO							
FROM	Data	BN	CSX	IC	KCS	NOPB	NS	UP	Grand Total
BN	Count of Duration					12			12
	Average Duration					3:17:21			3:17:21
	Max Duration					4:15:56			4:15:56
CSX	Count of Duration					8		17	25
	Average Duration					3:59:12		3:23:17	3:34:47
	Max Duration					5:26:58		5:58:45	5:58:45
IC	Count of Duration				1	4		1	6
	Average Duration				2:47:09	8:58:38		0:53:36	6:35:53
	Max Duration				2:47:09	9:40:35		0:53:36	9:40:35
KCS	Count of Duration		3	2					5
	Average Duration		3:02:05	3:34:24					3:15:01
	Max Duration		3:27:07	3:43:02					3:43:02
NOPB	Count of Duration	8	6	2	6		4	2	28
	Average Duration	3:20:43	4:24:23	1:34:15	2:24:16		2:39:22	3:10:40	3:08:02
	Max Duration	5:33:55	7:13:57	2:38:45	3:43:07		2:58:25	3:16:23	7:13:57
NS	Count of Duration			4				9	13
	Average Duration			4:57:12				3:09:53	3:42:54
	Max Duration			6:37:42				6:21:50	6:37:42
UP	Count of Duration		25	4		2	10		41
	Average Duration		3:16:49	4:28:20		3:56:46	2:55:04		3:20:26
	Max Duration		4:09:57	5:04:59		4:46:03	4:59:08		5:04:59
Total Count of Duration		8	34	12	7	26	14	29	130
Average Duration		3:20:43	3:27:26	3:59:57	2:27:32	4:25:46	2:50:35	3:13:06	3:31:18
Max Duration		5:33:55	7:13:57	6:37:42	3:43:07	9:40:35	4:59:08	6:21:50	9:40:35

Add Capacity at East Bridge Junction
Simulation 6b
(Option 4)

		TO							
FROM	Data	BN	CSX	IC	KCS	NOPB	NS	UP	Grand Total
BN	Count of Duration					13			13
	Average Duration					3:45:03			3:45:03
	Max Duration					6:38:46			6:38:46
CSX	Count of Duration					10		22	32
	Average Duration					4:41:54		3:45:43	4:03:16
	Max Duration					7:29:05		6:36:07	7:29:05
IC	Count of Duration				1	4	1	1	7
	Average Duration				2:47:09	9:02:25	5:48:07	1:27:13	6:36:02
	Max Duration				2:47:09	9:40:35	5:48:07	1:27:13	9:40:35
KCS	Count of Duration		4	2					6
	Average Duration		3:11:19	3:36:51					3:19:49
	Max Duration		3:33:15	3:43:02					3:43:02
NOPB	Count of Duration	9	6	3	6		4	2	30
	Average Duration	3:21:47	4:24:23	3:17:24	2:24:16		2:39:22	3:10:40	3:15:58
	Max Duration	5:38:57	7:13:57	6:43:42	3:43:07		2:58:25	3:16:23	7:13:57
NS	Count of Duration			4				12	16
	Average Duration			5:05:36				4:00:16	4:16:36
	Max Duration			7:04:27				7:29:44	7:29:44
UP	Count of Duration		29	6		2	12		49
	Average Duration		3:38:08	4:38:55		3:56:46	3:10:55		3:39:40
	Max Duration		5:26:12	5:04:59		4:46:03	6:11:28		6:11:28
Total Count of Duration		9	39	15	7	29	17	37	153
Average Duration		3:21:47	3:42:30	4:21:27	2:27:32	4:49:14	3:12:44	3:44:48	3:51:34
Max Duration		5:38:57	7:13:57	7:04:27	3:43:07	9:40:35	6:11:28	7:29:44	9:40:35

Yard Consolidation of KCS/CNIC
Simulation 7
(Option 16)

		TO							
FROM	Data	BN	CSX	IC	KCS	NOPB	NS	UP	Grand Total
BN	Count of Duration					13			13
	Average Duration					3:47:02			3:47:02
	Max Duration					6:38:46			6:38:46
CSX	Count of Duration					10		22	32
	Average Duration					4:41:58		3:47:17	4:04:22
	Max Duration					7:29:54		7:01:58	7:29:54
IC	Count of Duration						1	1	2
	Average Duration						5:46:51	1:27:27	3:37:09
	Max Duration						5:46:51	1:27:27	5:46:51
KCS	Count of Duration		4	1					5
	Average Duration		3:16:52	3:26:40					3:18:49
	Max Duration		3:52:07	3:26:40					3:52:07
NOPB	Count of Duration	9	6	3	6		4	2	30
	Average Duration	3:21:38	4:24:31	3:23:18	2:39:09		2:39:22	3:39:28	3:21:26
	Max Duration	5:39:23	7:12:40	6:43:10	5:09:26		2:58:25	4:03:06	7:12:40
NS	Count of Duration			4				12	16
	Average Duration			4:59:44				3:56:31	4:12:19
	Max Duration			6:40:30				6:42:07	6:42:07
UP	Count of Duration		29	6		2	12		49
	Average Duration		3:37:37	4:40:13		3:56:29	3:09:42		3:39:13
	Max Duration		5:24:04	5:04:41		4:45:58	6:11:10		6:11:10
Total Count of Duration		9	39	14	6	25	17	37	147
Average Duration		3:21:38	3:42:42	4:24:03	2:39:09	4:09:46	3:11:48	3:46:05	3:44:38
Max Duration		5:39:23	7:12:40	6:43:10	5:09:26	7:29:54	6:11:10	7:01:58	7:29:54

Yard Staging Improvements
Simulation 8
(Option 8)

		TO							
FROM	Data	BN	CSX	IC	KCS	NOPB	NS	UP	Grand Total
BN	Count of Duration					13			13
	Average Duration					3:45:28			3:45:28
	Max Duration					6:38:46			6:38:46
CSX	Count of Duration					10		22	32
	Average Duration					4:41:53		3:49:19	4:05:45
	Max Duration					7:29:05		7:02:04	7:29:05
IC	Count of Duration				1	4	1	1	7
	Average Duration				2:47:09	9:02:25	5:47:03	1:27:13	6:35:52
	Max Duration				2:47:09	9:40:35	5:47:03	1:27:13	9:40:35
KCS	Count of Duration		4	2					6
	Average Duration		3:10:31	3:34:07					3:18:23
	Max Duration		3:32:26	3:43:02					3:43:02
NOPB	Count of Duration	9	6	3	6		4	2	30
	Average Duration	3:21:40	4:24:29	3:17:24	2:24:16		2:39:22	3:10:40	3:15:57
	Max Duration	5:39:31	7:13:57	6:43:42	3:43:07		2:58:25	3:16:23	7:13:57
NS	Count of Duration			4				12	16
	Average Duration			5:02:27				3:55:52	4:12:31
	Max Duration			6:54:40				6:42:14	6:54:40
UP	Count of Duration		29	6		2	12		49
	Average Duration		3:38:16	4:40:44		3:56:40	3:10:34		3:39:53
	Max Duration		5:26:12	5:04:58		4:45:51	6:11:10		6:11:10
Total Count of Duration		9	39	15	7	29	17	37	153
Average Duration		3:21:40	3:42:32	4:20:58	2:27:32	4:49:25	3:12:26	3:45:31	3:51:42
Max Duration		5:39:31	7:13:57	6:54:40	3:43:07	9:40:35	6:11:10	7:02:04	9:40:35

Ballast Decking on Huey P. Long Bridge
Simulation 9
(Option 11)

		TO							
FROM	Data	BN	CSX	IC	KCS	NOPB	NS	UP	Grand Total
BN	Count of Duration					13			13
	Average Duration					3:33:18			3:33:18
	Max Duration					4:16:12			4:16:12
CSX	Count of Duration					10		22	32
	Average Duration					4:42:24		3:33:58	3:55:21
	Max Duration					7:28:40		5:58:15	7:28:40
IC	Count of Duration				1	4	1	1	7
	Average Duration				2:47:09	8:55:22	5:46:48	0:46:44	6:26:02
	Max Duration				2:47:09	9:41:10	5:46:48	0:46:44	9:41:10
KCS	Count of Duration		4	2					6
	Average Duration		3:10:31	3:34:05					3:18:22
	Max Duration		3:32:26	3:42:59					3:42:59
NOPB	Count of Duration	9	6	3	6		4	2	30
	Average Duration	3:24:00	4:24:45	3:14:16	2:18:54		2:39:22	3:11:19	3:15:22
	Max Duration	5:38:21	7:13:56	6:42:39	3:44:47		2:58:25	3:16:48	7:13:56
NS	Count of Duration			4				12	16
	Average Duration			4:58:44				3:40:30	4:00:04
	Max Duration			6:41:52				6:22:23	6:41:52
UP	Count of Duration		29	6		2	12		49
	Average Duration		3:38:10	4:35:42		3:56:40	3:04:29		3:37:43
	Max Duration		5:26:49	5:01:59		4:45:57	6:11:11		6:11:11
Total Count of Duration		9	39	15	7	29	17	37	153
Average Duration		3:24:00	3:42:30	4:17:20	2:22:57	4:43:10	3:08:07	3:30:20	3:45:56
Max Duration		5:38:21	7:13:56	6:42:39	3:44:47	9:41:10	6:11:11	6:22:23	9:41:10

Improved Connection to CNIC Yard
Simulation 13
(Option 9)

		TO							
FROM	Data	BN	CSX	IC	KCS	NOPB	NS	UP	Grand Total
BN	Count of Duration					13			13
	Average Duration					3:45:51			3:45:51
	Max Duration					6:38:46			6:38:46
CSX	Count of Duration					10		22	32
	Average Duration					4:41:53		3:48:47	4:05:23
	Max Duration					7:29:05		7:02:04	7:29:05
IC	Count of Duration				1	4	1	1	7
	Average Duration				2:47:09	9:00:24	5:47:03	1:27:13	6:34:43
	Max Duration				2:47:09	9:42:28	5:47:03	1:27:13	9:42:28
KCS	Count of Duration		4	2					6
	Average Duration		3:10:31	3:34:07					3:18:23
	Max Duration		3:32:26	3:43:02					3:43:02
NOPB	Count of Duration	9	6	3	6		4	2	30
	Average Duration	3:21:40	4:24:28	3:18:04	2:24:16		2:39:22	3:11:23	3:16:04
	Max Duration	5:39:31	7:13:57	6:43:49	3:43:07		2:58:25	3:17:50	7:13:57
NS	Count of Duration			4				12	16
	Average Duration			5:02:11				3:56:12	4:12:42
	Max Duration			6:53:35				6:42:14	6:53:35
UP	Count of Duration		29	6		2	12		49
	Average Duration		3:38:13	4:12:13		3:56:40	3:10:33		3:36:21
	Max Duration		5:26:12	5:04:59		4:45:51	6:11:10		6:11:10
Total Count of Duration		9	39	15	7	29	17	37	153
Average Duration		3:21:40	3:42:29	4:09:38	2:27:32	4:49:18	3:12:25	3:45:21	3:50:31
Max Duration		5:39:31	7:13:57	6:53:35	3:43:07	9:42:28	6:11:10	7:02:04	9:42:28

Improved Operation (20 yr Traffic)
Simulation 15a
(Options 1, 2 and 3)

		TO							
FROM	Data	BN	CSX	IC	KCS	NOPB	NS	UP	Grand Total
BN	Number of Trains					18			18
	Average Duration					3:56:51			3:56:51
	Max Duration					5:23:34			5:23:34
CSX	Number of Trains					14		34	48
	Average Duration					5:27:57		4:51:04	5:01:50
	Max Duration					7:31:35		7:30:25	7:31:35
IC	Number of Trains				1	6	3	2	12
	Average Duration				2:47:09	7:40:02	4:49:25	3:11:26	5:48:12
	Max Duration				2:47:09	9:40:35	5:48:06	4:55:54	9:40:35
KCS	Number of Trains		6	3					9
	Average Duration		3:24:43	4:01:57					3:37:08
	Max Duration		4:15:09	4:47:14					4:47:14
NOPB	Number of Trains	12	7	4	8		4	2	37
	Average Duration	4:03:00	4:33:26	4:18:13	2:51:42		2:39:22	3:11:58	3:43:11
	Max Duration	5:59:31	7:13:57	7:12:55	3:58:02		2:58:25	3:18:17	7:13:57
NS	Number of Trains			5				17	22
	Average Duration			5:08:11				4:33:44	4:41:34
	Max Duration			6:39:09				6:48:04	6:48:04
UP	Number of Trains		44	9		2	14		69
	Average Duration		4:17:07	4:18:39		3:58:09	3:23:32		4:05:54
	Max Duration		5:43:36	5:09:11		4:48:48	6:15:41		6:15:41
Total Number of Trains		12	57	21	9	40	21	55	**215**
Average Duration		4:03:00	4:13:37	4:27:58	2:51:11	5:02:16	3:27:23	4:38:29	**4:21:52**
Max Duration		5:59:31	7:13:57	7:12:55	3:58:02	9:40:35	6:15:41	7:30:25	**9:40:35**

Improved Operation (20 yr Traffic)
Simulation 15b
(Options 1, 2 and 3)

		TO							
FROM	Data	BN	CSX	IC	KCS	NOPB	NS	UP	Grand Total
BN	Number of Trains					18			18
	Average Duration					3:56:10			3:56:10
	Max Duration					5:23:34			5:23:34
CSX	Number of Trains					14		34	48
	Average Duration					5:27:57		4:34:12	4:49:52
	Max Duration					7:31:35		7:22:51	7:31:35
IC	Number of Trains				1	6	3	2	12
	Average Duration				2:47:09	7:40:00	4:49:25	3:24:02	5:50:17
	Max Duration				2:47:09	9:40:35	5:48:06	5:13:51	9:40:35
KCS	Number of Trains		6	3					9
	Average Duration		3:24:42	3:59:25					3:36:16
	Max Duration		4:14:14	4:47:14					4:47:14
NOPB	Number of Trains	12	7	4	8		4	2	37
	Average Duration	3:59:42	4:33:26	4:13:38	2:51:42		2:39:22	3:11:29	3:41:36
	Max Duration	5:57:25	7:13:57	7:12:55	3:58:02		2:58:25	3:18:03	7:13:57
NS	Number of Trains			5				17	22
	Average Duration			5:01:34				4:05:31	4:18:15
	Max Duration			6:37:15				6:25:01	6:37:15
UP	Number of Trains		44	9		2	14		69
	Average Duration		4:15:55	4:17:08		3:56:16	3:24:29		4:05:05
	Max Duration		5:43:36	4:58:42		4:45:03	6:15:41		6:15:41
Total Number of Trains		12	57	21	9	40	21	55	**215**
Average Duration		3:59:42	4:12:41	4:24:31	2:51:11	5:01:52	3:28:01	4:19:46	**4:16:18**
Max Duration		5:57:25	7:13:57	7:12:55	3:58:02	9:40:35	6:15:41	7:22:51	**9:40:35**

APPENDIX E

HUEY P. LONG BRIDGE BALLAST DECK INVESTIGATION – ESTIMATED PROJECT COST

H.P. Long Bridge – Ballast Deck Investigation

ESTIMATED PROJECT COST

Based on the above scheme, an estimated cost was developed as shown herewith.

LABOR AND EQUIPMENT

Rail work	$1,500,000
Tie removal	700,000
Set concrete slab spans	1,750,000
Tamping	50,000
Signal	100,000
	$4,100,000

MATERIALS

Concrete slab spans	$8,500,000
Waterproofing	500,000
Ballast	350,000
Steel ties	1,550,000
Epoxy, other materials	100,000
Signal materials	200,000
Scaffolds, construction support mat'l	150,000
	$11,350,000

SUBTOTAL		$15,450,000
25% Contingency	3,850,000	
TOTAL		**$19,300,000**

ITEMS FOR DISCUSSION

The above described scheme is only one of a number of possible schemes. Another possible, but difficult to administer scheme is to work on both approaches of the same track at the same time, thus reducing the overall time by half. The involvement of contractors, subcontractors for specialty work and the tenant line support for the project, all needs development and further discussion. Some of the items needing development in Phase II are:

1. Design of the concrete slab spans
2. Detailing of the slab spans and their attachment to girder tops
3. Project sequencing
4. Signal system revisions
5. Possible reuse of the existing walkways or their use as access within the girder spans
6. Refinement of the project cost

URS

August 16, 2000

PROJECT MEETING MEMORANDUM

SUBJECT: **New Orleans Rail Gateway and Regional Rail Operational Analysis**
State Project No. 737-26-0002
Federal Aid Project No. HP-T021(021)
Various Parishes
URS Project No. 04-00046333.00

DATE: August 15, 2000
10:00 AM

PLACE: Regional Planning Commission
Conference Room

ATTENDANCE: See Attached List

A project kick-off meeting was held in order to initiate the subject project. Each attendee was provided with an agenda, a project organization chart, a project schedule, and a copy of the scope of work (a copy of all documents attached). Mr. Dussom opened the meeting at 10:00 am.

Mr. Dussom introduced himself as the Project Manager for the Consultant Team. Mr. Dussom stated that he would be the primary contact for the Consultant Team and asked that all correspondence from the LDOTD or the RPC be directed to him at the URS Metairie Office. Mr. Dussom then asked each member of the project team to introduce themselves and to state a brief summary of their participation in the project. This was followed by an introduction of the LDOTD and RPC staff present. Mr. Carriere stated that Mr. Jim Joffrion would serve as the LDOTD Project Contact and asked that Ms. Karen Parsons with the RPC be copied on all correspondence. He also asked that all Consultant correspondence be signed by the appointed Consultant Project Manager, Mr. Dussom.

Mr. Dussom asked that the group review the proposed project organization chart. Mr. Joffrion requested that RPC be added to the Supervisory Level of the organization chart. It was agreed that Ms. Karen Parsons with RPC would be identified as a primary contact on the organizational chart and that a box should be added between the names of Mr. Joffrion and Mr. Russo (this modification has been made and is included on the attached organization chart.

Mr. Carriere then suggested that the Consultant Team provide an overview of the tasks included in the scope of work. Mr. Dussom provided a brief description of the project tasks and discussed the project schedule which identified a responsible individual for each task. Mr. Carriere asked if the manhour estimate which had previously been developed was still applicable. Mr. Dussom stated that the project manhours were as previously developed, with an overall estimate as follows: