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Final decisions regarding precise staffing requirements for supervisors and agreement employees within each of the SAAs have not been made at this time. However, NS and CSX anticipate that as of Day 1 the required number of such employees will not be substantially different from the number currently employed by Conrail in the SAAs.⁵ Over time, as traffic levels increase, it is anticipated that additional agreement employees will be hired by the CSAO.

B. CSAO Operations.

Conrail will operate the SAAs for the exclusive benefit of NS and CSX. Conrail will not hold itself out to provide service to customers in its own name, nor will it participate directly in rates, routes, transportation contracts or billing arrangements with shippers. All car movements handled by the CSAO will be for the account of either NS or CSX. Conrail will not have access to NS or CSX proprietary customer or rate information.

Shippers seeking rail service to, from or within each SAA will make arrangements for transportation from origin to destination with NS or CSX. Operational information and instructions required for the movement of cars, and to monitor cars within the SAAs, will be conveyed electronically to CSAO personnel via direct real-time links with both NS and CSX data systems. Conrail will report actual location, spotting information and status changes for all NS or CSX cars to the applicable linehaul railroad's data system.

Operationally, each SAA will function as an extension of both the NS and CSX rail systems. CSAO responsibilities will include local switching, train make-up and break-up, car

⁵ NS or CSX may also directly employ additional supervisory personnel in connection with their own activities in the vicinity of the SAAs (e.g., at Croxton Yard for NS or South Kearny Yard for CSX).

classification and blocking services for NS and CSX within each of the SAAs. In addition, the CSAO will be responsible for equipment servicing and running repairs, and for routine maintenance of track and communications and signal facilities in the SAAs. These services will be performed by CSAO employees. Each SAA will be managed by a superintendent, who will also deploy Trainmasters and Yardmasters as necessary to oversee operations within the various yards contained in the SAA.

CSAO management will be responsible for procuring the locomotives required for operation of the SAAs, and for fueling and servicing those locomotives. As discussed below, NS and CSX are committed to making an adequate supply of properly equipped power available to the CSAO. General mechanical supervision of all locomotive operations will be under the jurisdiction of a CSAO supervisor, including fueling, servicing and running repairs to NS and CSX locomotives while at CSAO facilities. Freight car inspections and light running repairs will be performed by personnel assigned to the various yards comprising the Shared Assets Areas, under supervision of CSAO supervisors.

The CSAO will be staffed and equipped to perform ongoing routine maintenance of track, bridges and structures within the SAAs. More substantial program work beyond routine maintenance will be provided by NS or CSX as indicated in the Operating Plans.

NS and CSX each will operate road trains into, out of, and through each SAA with their own equipment and crews. In addition, NS and CSX will be permitted to operate with their own crews to any shared, customer-operated or respectively allocated facility within an SAA, subject to the local movement guidelines established pursuant to the applicable Shared Assets Area operating agreement. Customer requirements and operational efficiencies will determine the extent to which NS or CSX elect to serve customer facilities directly.

With minor exceptions (identified in the Operating Plans), all NS and CSX train movements within the SAAs will be subject to the direction and control of the CSAO dispatcher. In areas that are not dispatched (e.g., yard or industrial tracks), NS and CSX train movements will be under the direction of the designated CSAO official in charge. NS and CSX employees operating within each SAA will be subject to all applicable SAA operating rules and regulations. NS, CSX and CSAO train movements over lines that are also used by passenger operators will (on all but one short segment) be under the direction and control of the involved passenger agency's dispatchers.

Other railroads (e.g., Canadian Pacific Railway and short-line carriers) may also operate over particular line segments within the SAAs, pursuant to existing trackage rights and interchange arrangements. Train movements by such other railroads within the SAAs will be subject to the direction and control of the CSAO dispatcher.

Teams consisting of NS and CSX personnel are in the process of developing integrated operating plans for each of the three SAAs. A detailed plan for operations in the North Jersey SAA has already been completed and submitted to the STB for review. Application, Vol. 3 Supp., CSX/NS-119 at 16-166.

The anticipated CSAO operations in all three SAAs are based, to a large degree, upon Conrail's current operations. Those operations will be adjusted to the extent necessary to reflect the competitive service options to be offered by NS and CSX to, from and via the SAAs. Accordingly, changes from Conrail's current operations will primarily involve additional blocking by the CSAO to facilitate the division of cars between NS and CSX. Other minor changes are necessitated by (i) the relocation of certain local assignments to either NS, CSX or CSAO-

controlled facilities, and (ii) the redirection of some traffic currently handled by those local assignments or handled via terminals that will be controlled by a different operating entity.

C. Dispatching of SAA Territories.

As described in the SIPs submitted separately by NS and CSX, the carriers have devised a plan to integrate dispatching systems as a part of the division of the current Conrail dispatching offices between NS, CSX and the CSAO. The consolidation of the CSAO dispatching function for SAA lines will be accomplished in the following manner:

- (i) Conrail's current Branch Line Dispatcher at Mt. Laurel will become the CSAO dispatcher for the North Jersey SAA. The Ashmore Secondary, Cement Secondary, Hudson Secondary and Washington Secondary lines, which are currently handled by the Conrail Branch Line Dispatcher but will not be part of the CSAO, will be removed from this dispatcher's jurisdiction and transferred to a NS dispatching desk. Conversely, the Conrail line segments between CP-5 and CP-SK on the River Line, and between CP-Port Reading Jct. and CP-M&H Jct. on the Trenton Line, which will be part of the CSAO, will be added to the Branch Line Dispatcher's territory. As a result, the current Conrail Branch Line Dispatcher desk at Mt. Laurel will control all CSAO trackage in the North Jersey SAA.
- (ii) Conrail's current Philadelphia Dispatcher (who is also located in Mt. Laurel) will become the CSAO dispatcher for the South Jersey/Philadelphia SAA. This will be accomplished by adding the Harrisburg Line between CP-River and CP-Rock and the Chester Secondary line (which are currently handled by other desks in the Mt. Laurel dispatching office) to the Philadelphia Dispatcher desk. Several non-CSAO line segments, including the Trenton Line between CP-Park and CP-Nice, the Harrisburg Line between CP-Penrose and CP-River, the Arsenal Connection, the Belair Branch and the Blue River Branch will be removed from the Philadelphia Dispatcher desk and transferred to a CSX dispatching desk.
- (iii) A Detroit SAA dispatching desk will be created in the Dearborn office by removing from the current Detroit dispatcher's jurisdiction certain line segments that will not be part of the CSAO territory.

When these steps are completed, the Mt. Laurel office will house two of the three CSAO desks, and the Dearborn office will house the third. The CSAO Detroit dispatcher's desk will eventually be relocated to Mt. Laurel as well (in connection with the planned future relocation of dispatching desks for Conrail lines allocated to NS and CSX).⁶

As a result of these changes, train operations in the SAAs will be under the supervision and control of three dedicated CSAO dispatching desks. CSAO dispatchers will not have any responsibility for train movements outside the SAAs; indeed, the removal of non-SAA line segments may, in certain instances (e.g., Detroit), result in a reduction in the geographic territory for which CSAO dispatchers will be responsible. Overall staffing of the CSAO dispatching function will be at a level equivalent to current Conrail staffing. Applicants propose to fill the CSAO dispatcher positions from the ranks of current Conrail dispatchers, so that the CSAO dispatchers are likely to be familiar with their respective territories prior to Day 1. To the extent that the reassignment of certain Conrail line segments to the CSAO dispatch desks would place line segments under the jurisdiction of a dispatcher who is not familiar with those segments, the dispatcher will receive appropriate training prior to assuming responsibility for such segments. A new dispatching workstation will be established in the Mt. Laurel office during the transition to facilitate these changes. This desk will be used to handle line segments from other desks on a temporary basis, as line segments are transferred to and from other dispatching desks. This will avoid temporarily over-burdening any particular dispatching desk by adding new line segments to that desk before an appropriate balance can be obtained by removing other line segments.

⁶ The three-phase process by which the overall realignment of Conrail, NS and CSX dispatching assignments will be accomplished is described in detail in the NS Safety Integration Plan.

D. CSAO Administrative Functions.

The CSAO organization will be responsible for its own administrative functions, including compliance with all applicable government reporting requirements, in connection with rail operations in the SAAs. The CSAO will maintain and enforce its own Internal Control Plan ("ICP"), and will report personal injuries, train accidents, grade crossing accidents, spills, train miles, employee hours of service and drug testing information as a separate entity. It will develop its own safety process to include an accident/incident reporting system. In doing so, the CSAO will draw upon the resources and prior experience of NS, CSX and Conrail, and will endeavor to adopt the "best practices" of those carriers, as well as systems and procedures suited to the specific needs of the CSAO. This comprehensive reporting system will be established by CSAO management and put in place before the CSAO assumes operation of the SAAs.

1. Senior Safety/Environmental Officer.

Applicants' strong commitment to safety and environmental compliance in connection with operations in the SAAs is reflected in their decision to create a senior CSAO management position devoted exclusively to these issues. The CSAO's Senior Safety/Environmental Officer ("CSAO Safety Officer") will be directly responsible for assuring the CSAO's full compliance with all applicable environmental, health and safety regulations, and for establishing a strong safety culture for the CSAO. In particular, he/she will be responsible for supervising CSAO personnel who perform mandated recordkeeping and government reporting of personal injuries, train accidents, grade crossing accidents, spills, train miles, employee hours of service and drug testing information. In addition, the CSAO Safety Officer will work with state and local governments in which the SAAs are located to address railroad grade crossing and related safety issues. He/she will provide leadership in the development and implementation of

programs designed to enhance the quality of life, wellness and personal safety of CSAO employees.

2. Internal Control Plan.

The CSAO will develop its own ICP for reporting railroad accidents and incidents in compliance with FRA regulations at 49 CFR Part 225. The CSAO's proposed compliance with these regulations is discussed in Section IV.B below.

The CSAO will adopt and post its policy regarding harassment and intimidation at major shops, office buildings, terminals and facilities in each of the SAAs prior to the commencement of operations, and that policy will be effective as of Day 1. See Section X.B below. Because most railroad harassment/intimidation policy statements follow very closely the language of FRA's regulation, any of the current policies of NS, CSX or Conrail can readily be adapted for use by the CSAO.

3. Personal Injury Reporting.

Because the NS and CSX injury reporting systems are linked to their respective payroll systems, it is not deemed feasible to utilize those systems for recording and reporting CSAO injuries. The CSAO will establish its own personal injury reporting process (utilizing the existing Conrail system, if economically feasible). NS and CSX will assist the CSAO in developing its system.

Conrail currently delegates portions of this function to an outside health management contractor, Pioneer Development & Support Systems ("PDSS"). When a Conrail employee is injured, the employee's supervisor notifies the contractor. The contractor initiates an on-line CT75 injury form based upon information provided by the supervisor, and arranges any required medical treatment. When the contractor enters the information, the system creates a file

and assigns an incident number to the form. The Claims Department investigates the injury and inputs more detailed information to the CT75 form. Conrail's Safety Department is responsible for the initial evaluation of FRA reportability, while the employee's supervisor is responsible for following up on any medical treatment that may affect reportability. Monthly FRA reports are generated from Conrail's computer records maintained by the Safety Department. Monthly statistical reports on injuries are posted in accordance with FRA guidelines.

The CSAO's personal injury reporting process will be substantially similar to that followed by Conrail, with one significant difference. Rather than utilizing the services of an outside contractor, local CSAO supervisors will handle injury incidents from inception to conclusion. The supervisors will develop all required injury and accident information, will input that information into Conrail's on-line injury reporting system (which will be retained in the short term) and will make initial FRA reporting determinations. Thus, a greater degree of accountability with respect to these matters will rest with the CSAO's supervisory personnel. CSAO supervisors will receive comprehensive training with respect to FRA reporting requirements prior to assuming these responsibilities.

4. Grade Crossing and Train Accident/Incident Reporting.

The CSAO will maintain its own reporting system for grade crossing and train accidents/incidents. The CSAO system will track accident damage costs to assure compliance with FRA regulations.

Grade crossing and train accident reporting on Conrail is currently handled by the Safety Department, which accumulates information manually from a variety of sources. (Conrail does not presently have any mainframe database for grade crossing and train accident reporting.) When a grade crossing or train accident occurs, the Conrail dispatcher is instructed to make an

entry in his Log Book about the occurrence. Also, under established procedures, a Transportation Field Supervisor or Division employee enters the accident in the Unusual Occurrence Report ("UOR") System -- a stand-alone system not linked to other Conrail databases -- which assigns the report a unique number. To facilitate reporting UOR's, the Safety Department has established its own UOR's form on an Electronic Bulletin Board. This form is manually filled in by Transportation and sent to the Safety Department. To ensure that all accidents have been input to the UOR's system, Safety Department employees review daily a printout of all dispatchers' logs, all UORs input by the divisions, electronic UORs, derailment reports, and the Core Services morning report.

The Conrail Safety Department is also responsible for preparing FRA report forms. Conrail currently uses the FRA AIRG system in performing this function. This system is a stand-alone system that is not linked to other Conrail databases. As a result, use of the system requires separate, duplicate entry of data into the AIRG system. FRA train accident report forms (Forms 54 and 57) are printed from the AIRG system. Train accident damage estimates used to make initial reportability decisions are derived from the UORs. Actual damages to track, structures, signals and equipment are accumulated manually from Engineering, MP200 reports and from the Car Accounting Department.

It is anticipated that the CSAO will adopt a train accident/incident reporting system based upon the FRA AIRG system on Day 1. In the future, consideration will also be given to alternative systems.

Both NS and CSX will operate trains into and out of CSAO territory. These activities of NS and CSX will not, however, involve trains operating exclusively within the boundaries of the CSAO. All crews will be from NS or CSX operating divisions bordering the

SAAAs, and injuries to NS or CSX crew members on trains operating in CSAO territory will be reported by, and charged to, NS or CSX (as applicable). Grade crossing accident and train accident reporting will be initiated by the owning railroad (CSAO, CSX or NS). If the damage threshold is exceeded and involves track and/or signal damage, then each involved railroad will report, referencing each other's incident number(s).

5. Drug and Alcohol Testing.

The CSAO's procedures for handling drug and alcohol testing are discussed in Section IV.C below.

6. DOT 5800 Spill Reports.

The CSAO will be responsible for the preparation and filing of DOT 5800 reports in connection with spills of hazardous materials occurring in any of the SAAAs. It is anticipated that the CSAO manager responsible for the initial response to a particular hazardous materials incident will also be assigned responsibility for preparation of the DOT 5800 report. A copy of this report, along with a detailed incident report, will be submitted to the CSAO Senior Safety Officer (or his designee). Within 30 days of the incident, the CSAO Environmental Department will forward copies of all DOT 5800 reports to USDOT, the Association of American Railroads and to NS or CSX (as applicable).

7. Environmental Matters.

The CSAO Safety Officer will be responsible for environmental safety matters, to include remediation, compliance and hazardous materials response. Environmental training will be handled either directly in-house or, at the discretion of the CSAO, may be secured through outside vendors. Hazardous materials training will be provided through traditional Operating Rules classes. The existing Conrail "One Plan" for spill prevention, control and countermeasures

and hazardous materials response will continue to be used by the CSAO, but will be amended as necessary to reflect new personnel, territorial boundaries, any revised response telephone numbers and other matters. Long-term environmental remediation and hazardous materials response assistance for the CSAO will be contracted for by the CSAO from CSX (subject to agreement upon contract terms agreeable to the parties). The designated CSX hazardous materials response staff will be located in Philadelphia (for the North Jersey and South Jersey/Philadelphia SAAs) and Toledo (for the Detroit SAA).

E. CSAO Customer Service.

Customers will notice little change in the way services are provided on shipments to, from, or through the SAAs. Orders will be placed with CSX and NS personnel, and CSX and NS employees will prepare waybills for these shipments. Waybilling for CSX traffic in CSAO territory will be performed at CSX's Jacksonville facility; waybilling for NS traffic will be done in Atlanta. CSX and NS will control their own shipments, with CSAO performing tracking, switching, dispatching, crew management and other necessary functions. NS and CSX will provide timely data on trains planned or en route to the SAAs, and will supply waybill and other necessary information sufficiently in advance to allow the CSAO to handle cars safely, perform all necessary services, and block or deliver cars correctly to customers. A very detailed plan has been developed to exchange train consist, hazardous materials and movement event information among CSX, NS and the CSAO, in order to ensure a safe operating environment for the movement of trains within the SAAs.

The positions which currently support Conrail's customer service function in the SAA area will be retained on Day 1. CSAO personnel will continue to perform the current "yard office" functions (such as reporting "place" and "pull" transactions, controlling inventory, and

checking information on hazardous materials) presently performed by Conrail in the SAAs. Car tracing for traffic originating in Conrail's former territory will be handled by the CSAO. Traffic originating on existing CSX and NS lines will be traced by CSX personnel in Jacksonville or NS personnel in Atlanta (as applicable), as is the practice today. Conrail's present operating systems will also remain in place at least for the near term.

Applicants recognize that disruptions attendant to Day 1 operations must be minimized. In pursuit of that end, CSX and NS have already made arrangements to hire additional customer service center personnel, who will be trained and in place on Day 1. Current and prospective customer service personnel will undergo intensive training in the handling of movements of hazardous materials.

While Conrail's present systems are capable of handling the arrival, servicing, and departure of traffic in the three SAAs in the short term, Applicants will seek to develop improved systems over the next several years. NS and CSX have requested proposals for the creation of a more sophisticated Transportation Operations Support System to replace Conrail's current system. The eventual implementation of this system is made necessary by the intense competition for traffic foreseen by NS and CSX in these industrial centers, and by the unsuitability of Conrail's computer system for operations from and after the year 2000.

III. TRAINING.

Applicants envision that the CSAO territories will be staffed from the ranks of existing Conrail employees. With few exceptions, the various yards, line segments and facilities comprising the SAAs will be under the direct supervision of CSAO managers, dispatchers and supervisors who, in many cases, previously operated them for Conrail.

Conrail currently has well-developed training practices and procedures covering all facets of its operations.⁷ Since most employees initially selected to work in and supervise the CSAOs will have been previously trained, qualified and certified (where required) by Conrail, they will enter their CSAO positions already possessing the requisite knowledge and qualifications to perform their duties safely and in compliance with applicable laws. Any new employees hired by the CSAO -- and all NS and CSX employees who operate trains within the CSAO -- will likewise be trained and qualified in a manner consistent with the comprehensive procedures currently in place at Conrail.

Specifically, NS and CSX crews operating in the SAAs will be required to be qualified with respect to all operating, safety, hazardous material, air brake and train handling, and any other rules, procedures or instructions applicable to that SAA. Training for NS and CSX crews will be provided by qualified employees, and will be coordinated through the CSAO, NS or CSX. Any CSAO (or NS or CSX) employee responsible for delivering such instruction will be trained in instructional delivery methodology. As needed, NS and CSX will provide instructional resources to support the CSAO in accomplishing required training of NS and CSX employees.

Likewise, if CSAO employees operate in an area controlled by either NS or CSX, or if NS employees operate in an area controlled by CSX (or vice versa), those employees will be pre-qualified with respect to all operating, safety, hazardous material, air brake and train handling, and any other rules, procedures or instructions applicable to that facility or area. All necessary instruction, qualification or certification will be administered by the controlling road. This procedure replicates the well-established practice where rail employees of one company have been

⁷ A description of Conrail's current training procedures is set forth in Appendix A.

granted authority to operate over or within trackage or facilities controlled by another railroad or company.

CSAO management will be responsible for providing appropriate training for CSAO employees. Technical training for new employees and other required training may be accomplished through the use of NS or CSX training facilities or by contracting with third parties. Training will be provided on an annual (ongoing) basis, and will be supplemented as needed. When technical training on specific types of equipment is needed, field forces will be given latitude to arrange field training seminars with the involved vendors.

Teams are currently defining the specific scope of training required to support ongoing CSAO activities. The result of this effort will be a recommendation for design, development and delivery of a comprehensive system of employee training that meets or exceeds the training programs in place on Conrail today. In developing its training programs, CSAO management will draw upon the experience of NS, CSX and Conrail, and will endeavor to replicate the "best practices" of all three carriers with respect to safety training. It is anticipated that CSAO management will, at least initially, rely on the training capabilities of NS, CSX, current Conrail or third parties. NS and CSX will make their respective training resources available to the CSAO as needed to provide thorough and efficient instruction for CSAO personnel.

IV. OPERATING SAFETY PRACTICES.

A. Railroad Operating Rules.

On Day 1, all CSAO employees and facilities will be subject to the operating rules promulgated by the Northeast Operating Rules Advisory Committee ("NORAC"), and all train operations within the Shared Assets Areas (including those conducted by NS and CSX) will take place in accordance with the NORAC operating rule book. Moreover, the CSAO will request

membership in NORAC and will be an active participant in that organization. Because Conrail's existing operations in the North Jersey, South Jersey/Philadelphia, and Detroit areas are subject to NORAC rules today, adherence to those rules following consummation of the proposed transaction should help insure that CSAO operations are not disrupted or otherwise made more complex than they are today. Because NORAC operating rules fully comply with Part 217 of the FRA's Railroad Operating Rules regulations, their wholesale adoption on Day 1 will insure that operations within the CSAO areas will comport with those regulations. In addition, operations within the CSAO areas will be conducted, as today, under rules compatible with those governing operations on Amtrak's Northeast Corridor.

All operating employees on CSAO properties -- including NS and CSX employees operating trains within the SAAs -- will attend annual rules classes conducted by the CSAO dealing with such subjects as safety, hazardous materials handling and operating rules, and they will be required to complete successfully an annual rules examination. The CSAO will be responsible for maintaining a high-quality training program that incorporates the latest video training techniques, instruction manuals and knowledgeable instructors. NS and CSX are committed to insuring that the CSAO has ample resources to implement and maintain this program.

Future operating rules for the CSAO, including the possibility of modified NORAC rules that could be used by all railroads operating in the East, is a subject that has received and will continue to receive substantial attention from a team of Rules Department officials from NS, CSX and Conrail (and following consummation of the transaction, the CSAO). As the study of operating rules continues, the current NORAC rules will remain in place on CSAO properties, and the NORAC process will continue to be used for maintaining and amending the NORAC rule

book. Current timetables and Bulletin Orders on CSAO properties will be made available to all crews who will be operating on those properties, including CSAO, Amtrak, NS, CSX, CP Rail, and short-line crews.

B. Accident and Incident Reporting.

Conrail has in place a system for reporting railroad accidents and incidents in accordance with FRA regulations at 49 CFR Part 225. Currently, three types of events are reported:

- Personal injuries;
- Train accidents/incidents; and
- Crossing accidents.

The method currently followed by Conrail will be modified to the extent that certain duties that Conrail presently contracts out to a third-party vendor will instead be assigned to CSAO supervisory personnel. Specifically, it will be the responsibility of the CSAO supervisors to report and follow-up on personal injuries sustained, and train or crossing accidents that occur, in connection with CSAO operations. Thus, the CSAO supervisors will be directly accountable for handling and reporting injuries, train accidents and incidents. The CSAO supervisors will also ensure that emergency medical assistance is provided if needed. All accidents resulting in personal injury, fatalities, or damage to property will be reported to the required internal and external authorities by the quickest available means of communication.

Any CSAO employee who sustains a personal injury while on duty or while on CSAO property will be required to report the injury to his/her supervisor prior to leaving CSAO premises. The injury is to be reported to the employee's immediate supervisor, the employee in

charge of the premises or to other designated personnel for transmittal to the appropriate CSAO supervisor.

Following Day 1, the CSAO will likewise assume full responsibility for all train accident and incident data reporting for all SAA areas. Direct responsibility for reporting accidents and incidents will be assigned to the CSAO supervisors and all reporting functions will be performed internally.

Thorough training of CSAO employees with respect to recordkeeping and reporting requirements will occur prior to Day 1, in order to ensure that an effective and consistent reporting procedure is in place. All CSAO employees will be advised in writing of CSAO's commitment to prompt and accurate reporting of all injuries, occupational illnesses, accidents and incidents related to railroad operations, and of CSAO's commitment to full compliance with FRA accident/incident reporting requirements.

C. Control of Alcohol and Drug Use.

The CSAO will be directly responsible for testing for alcohol and drug use by its employees in accordance with FRA regulations. Conrail policies and procedures with respect to this critically important area will remain applicable in the CSAO-controlled territories. Conrail, CSX and NS all have policies and rules in place that prohibit employees from having in their possession, using, or being under the influence of alcoholic beverages, intoxicants, illegal drugs or medicines that could impair alertness or coordination when reporting for duty, on duty, on company property or occupying facilities provided by the company. All three railroads conduct federally mandated post-accident, reasonable cause, and random drug and alcohol toxicological testing programs pursuant to FRA regulations at 49 CFR Part 219. The proposed implementation of these required testing programs by the CSAO is discussed below.

1. Post-Accident Toxicological Testing.

The CSAO will continue to conduct Post-Accident Toxicological Testing in compliance with FRA requirements at 49 CFR 219, Subpart C. The Conrail procedure for toxicological testing following a qualifying event is as follows: 1) urine and blood samples are collected, usually at the nearest hospital emergency room, using FRA kits; 2) where practicable, and when it poses no delay to the collection of the urine and blood samples, a Breath Alcohol Technician (BAT) provided by a third-party vendor is dispatched to the scene of the accident to collect breath samples; and 3) shipment of the samples is arranged by the responsible railroad officer within 24 hours by air express to the designated FRA laboratory. Employees who test positive for prohibited drugs and/or alcohol in a mandatory post-accident test are removed from service and are subject to discipline.

Applicants anticipate that the CSAO will continue to utilize the third-party vendor testing facility and BAT personnel currently under contract to Conrail for post-accident testing.

2. Random Toxicological Testing.

Random testing under the existing Conrail program -- which has been approved by the FRA -- is based on the concept of "clusters." Clusters are a combination of unique reporting points, work shifts and days of the week which determine the physical location and time frame for the occurrence of random testing. All on-duty covered employees within the clusters are tested for drugs and alcohol. Employees in through-freight service are tested if the cluster falls within their on-duty or off-duty reporting point.

Any employee who fails, under circumstances that constitute a refusal, to provide an adequate breath or urine sample for random testing under this system is removed from covered service for a minimum period of nine months. Conrail may also charge such an employee with

insubordination under company policies, potentially resulting in further discipline, including dismissal.

The CSAO will continue to implement these existing Conrail practices with regard to random toxicological testing.

3. Testing for Reasonable Cause.

While Subpart D "reasonable cause" permits railroads to require urine and breath testing under certain circumstances, they are not required to do so. Applicants anticipate that the CSAO will utilize the authority granted by FRA regulations to test for reasonable cause to the fullest extent practicable. Employees selected for testing under Subpart D will be tested in accordance with 49 CFR, Part 40 procedures. An independent professional outside laboratory will be used for drug testing, and a copy of the laboratory report setting forth the results will be furnished to the employee.

Conrail utilizes the services of a third party, Short Stop, in some circumstances to collect urine and breath samples for testing under Subpart D. However, Conrail does not routinely perform discretionary testing under Subpart D today. While the CSAO will utilize Subpart D authority for testing on Day 1, no final decision has been made as to whether the CSAO will continue to use the services of Short Stop.

4. Corporate Testing Program.

In addition to these two current FRA-required drug and alcohol testing programs, Conrail policy currently provides for a drug screen urinalysis as a mandatory part of all pre-employment, return to duty and periodic medical examinations (except where the employee is subject to random testing under FRA or FHWA testing regulations). If, during a special medical examination, the examining physician indicates that drug and alcohol testing is warranted, a urine

test and/or breath test is required of the employee. Except in mandatory post-accident testing circumstances, employees who test positive for prohibited drugs and/or alcohol for the first time (i.e., no previous positive test or Rule G violation in the past ten years) are referred to Conrail's Counseling Services Manager for evaluation and admission into an approved treatment program, if prescribed. Employees who test positive for prohibited drugs and/or alcohol are subsequently required to provide, on an unannounced basis, follow-up breath and urine specimens for a period of up to five years following their return to service.

It is anticipated that the CSAO will adopt a similar corporate testing program.

5. Medical Review Officer Review.

The CSAO Medical Review Officer ("MRO") review will be conducted by a Medical Director or associate. A decision will be made prior to Day 1 as to whether the CSAO will retain its own MRO or whether this function will be performed by an MRO associated with NS or CSX. In either case, a CSAO employee who tests positive for alcohol or drug use on a random urine or breath test will be removed from service and instructed to contact the appropriate CSAO counseling service for evaluation.

6. Employee Assistance Program.

In accordance with the requirements of 49 CFR Part 219, Subpart E, Conrail has a formal policy designed to identify and assist employees with alcohol and drug problems. The Conrail Employee Assistance Program is operated by third-party vendor PDSS. In addition to meeting the FRA requirements of Subpart E, this program offers family and emotional counseling as well as post-traumatic incident counseling. Beginning on Day 1 and continuing for the short term, this Employee Assistance Program will be continued with the present vendor to provide

services on behalf of the CSAO. Applicants have not yet determined who will be the service provider under CSAO's employee assistance program.

D. Operational Tests and Inspections.

NS and CSX are committed to maintaining a high-quality operational testing and inspection program for CSAO employees, including the many current Conrail employees who will be working in the SAAs. In order to minimize the possibility of confusion or uncertainty about applicable testing and inspection programs, Applicants have agreed that they will maintain Conrail's successful and well-established efficiency testing program on Day 1 of the consolidation. Thereafter, the CSAO General Manager, in consultation with each CSAO Superintendent, will have responsibility for effective operational testing, including any decisions about possible modification of the existing Conrail program.

NS and CSX are strongly committed to insuring that the CSAO General Manager has all necessary resources at his disposal to comply fully with Part 217.9 of the FRA's regulations. Consistent with that commitment, NS and CSX will defer to the CSAO General Manager's discretion as to the most effective and efficient manner of achieving such compliance over the long term. It is recognized that the operational testing and inspection program adopted by the CSAO General Manager must provide adequate testing not only of all CSAO employees, but also the employees of other railroads operating within CSAO territory -- including NS, CSX, Canadian Pacific and short-line operators. All such employees will be subject to operational testing administered by the CSAO General Manager (or his designee) at any time or place.

E. Certification and Qualification of Locomotive Engineers.

The program for the certification and qualification of locomotive engineers in compliance with Part 240 of Title 49 of the CFR will be the responsibility of the CSAO General

Manager and his designees. As with operational testing and inspections, NS and CSX are fully committed to insuring that sufficient resources are made available to permit full compliance with these regulations. On Day 1, the existing Conrail certification program will remain in effect for the CSAO, and CSAO supervisors will have direct responsibility for qualifying and certifying locomotive engineers under their jurisdiction. (It is worth noting that there are relatively few differences among the existing certification programs of Conrail, NS and CSX. Nevertheless, to the extent that Applicants' ongoing review of the those programs reveals a clear "best practice" in any particular area, such practices will be identified to the CSAO General Manager for his consideration in determining whether to adopt them for the CSAO.)

Consistent with the existing Conrail program, CSAO engineers will continue to be tested and recertified no less often than every three years. Testing and recertification will involve an examination on the operating and safety rules of the CSAO, including train handling and air brake application procedures; a "check ride" with a Road Foreman of Engines -- to occur at least annually -- for the purpose of conducting a performance evaluation prior to actual recertification; a test for rule compliance during actual train operations (including a test to determine if the engineer controls the train in compliance with a signal that requires action to reduce speed or to stop the train); and successful fulfillment of the medical and driving record requirements of the certification process (including vision and hearing tests and a search of the individual engineer's driving record).

NS has agreed that the CSAO may, at its option, send its locomotive engineer trainees to the Conway, PA training center which NS is acquiring from Conrail. Of course, consistent with Applicants' desire to accord the CSAO General Manager discretion with respect to all such matters, the CSAO will also be free to elect to send new locomotive engineers to any

other qualified instructional training center that the General Manager and his staff may choose. The option of using the Conway center or some other established, high-quality facility (including CSX's facility at Cumberland, MD) will enable the CSAO to avoid the expense and burden of creating and maintaining a separate (and duplicative) training facility.

F. Physical Characteristics Training.

Physical characteristics training must also be provided to employees before they are qualified to perform service on a particular line or within a particular yard or terminal. Physical characteristics training is the responsibility of the railroad operating the facility -- the railroad must identify the employees requiring physical characteristics training and assure that adequate training is provided. Such training consists of both direct contact with supervisory employees and delivering training materials containing useful facility-specific information (e.g., a diagram of the yard layout indicating track numbers, or names and safety-related information such as the location of exits from the property and the location of emergency response equipment).

Supervisors ascertain each employee's familiarity with the facility, through written directives instructing employees to notify a supervisor if they believe physical characteristics training is required, and by maintaining a list of qualified employees. When an employee requires training, local supervisors will meet with the employee and accompany him/her while operating on new property. In some cases, student trips may be arranged with experienced employees for a sufficient period of time. Supervisors will maintain a record of training activity for each employee.

Physical characteristics training for CSAO (and NS and CSX) employees will begin immediately upon implementation of the operating plan. Applicants anticipate that many (if not most) CSAO employees will not require significant physical characteristics training, because

implementing agreements will likely permit many employees to remain in the same job assignment, or at least at the same job location, where they worked prior to consolidation. However, some employees may change assignments or relocate, which may or may not result in a need for physical characteristics training, depending upon their familiarity with their eventual work location. Subsequently hired employees will receive physical characteristics training as a part of their overall training process. If new services are established as the Operating Plans are implemented, special attention will be given to making certain that employees assigned to these services are familiar with all areas where they will operate.

G. Hours of Service.

The CSAO General Manager and his designees will be responsible for insuring that appropriate records are maintained evidencing compliance with Hours of Service regulations (49 CFR Part 228). As with most other CSAO functions, Day 1 operations will be predicated upon Conrail's existing practices, which involve reporting of on-duty time on the employee's payroll timeslip. The timeslips are then processed for payroll purposes and recorded on microfilm for subsequent retrieval as needed. Because Conrail's employees successfully use this system today, Applicants do not anticipate any difficulty in continuing to utilize the same proven system for recording the time of CSAO employees. However, recognizing that CSX currently uses electronic record-keeping for Hours of Service reporting purposes, and that NS will implement such a system in 1998, the CSAO General Manager may in time explore a similar program (which would require approval by FRA). Conrail communication and signal employees covered by the Hours of Service Act currently complete a different form for Hours of Service compliance. This form is filed monthly with the local supervisor for inspection by FRA. This practice will continue on the CSAO.

On Day 1, the crew calling clerks currently in Dearborn will continue to use Conrail's existing mainframe computer system to track the status of CSAO employees and to determine which individuals to call for duty for all three of the SAAs. Crew management functions for the CSAO will eventually be centralized in Mt. Laurel.

V. MOTIVE POWER AND EQUIPMENT.

The CSAO's Mechanical Operations organization will carry out most of the mechanical department functions now performed by Conrail in the SAAs, including inspections, servicing, and light and running repairs of locomotives, freight cars and related equipment, with certain exceptions noted below (and in Applicants' Operating Plans). The CSAO anticipates retaining many of the same employees and functionally the same staffing levels currently utilized by Conrail for these activities at terminals located within the SAAs. The CSAO will continue to operate under existing Conrail labor agreements governing these activities, with each SAA being one seniority district for consistency and retention of qualified employees.

In accordance with FRA regulations, CSAO Mechanical Operations employees will continue to perform pre-departure freight car inspections, air brake tests, and daily locomotive inspections in the SAAs in the same manner and at the same locations as Conrail's current operations. The CSAO's plan to maintain current staffing levels for these activities will ensure an adequate supply of qualified personnel to perform freight car and daily locomotive inspections and air brake tests in compliance with federal regulations. If increases in traffic levels over time require additional mechanical operations staffing, the CSAO will hire and train additional employees for these activities.

When freight cars are found to be defective, CSAO Mechanical Operations personnel will make running repairs, under FRA and Association of American Railroads

guidelines, to ensure safe train operations. The CSAO will continue to operate full service running repair tracks at Oak Island and Pavonia, NJ, and at North Yard in Detroit. In addition, mobile repair forces with block trucks, equipped with air capability and jacking systems, will be assigned to several locations to make repairs to cars destined for originating trains. These locations are expected to include Oak Island, Metuchen, and Port Reading in the North Jersey SAA; Pavonia, Stoney Creek Yard, Midvale Yard, and South Philadelphia in the South Jersey/Philadelphia SAA; and in Sterling Yard, North Yard (two equipment sets), and River Rouge in the Detroit SAA.

The principal differences between Conrail's current mechanical operations and those proposed to be performed by the CSAO relate to locomotive supply, quarterly inspections, and heavy repairs and maintenance. Under the proposed transaction, all of the locomotives now owned by Conrail will be allocated and conveyed separately to NS or CSX. NS and CSX in turn will provide locomotives to the CSAO in sufficient numbers to permit the CSAO to carry out its assigned operations safely and efficiently.

NS and CSX anticipate that on Day 1, they will provide the CSAO with approximately 100 locomotives for its use in the Shared Assets Areas. These units will be similar in number and type to those currently utilized by Conrail in providing service in these areas (with certain adjustments to reflect known workload changes). Applicants will ensure that the CSAO is provided an adequate number of locomotives equipped with the necessary cab signal and automatic train control devices required to operate over Amtrak and commuter rail lines in the Northeast. In addition to existing Conrail locomotives that are already equipped with such devices, several hundred new locomotives will be purchased by NS in 1998 and 1999, many of which also will be equipped with (or pre-wired for) such cab signals and automatic train control

devices. These new purchases, in conjunction with Conrail's existing locomotives (and the locomotives in the NS and CSX locomotive fleets that are equipped with such devices) will ensure that the CSAO has an ample number of locomotives equipped with cab signaling and automatic train control devices. See Section IX below.

NS and CSX will perform all FRA-mandated quarterly inspections, as well as heavy locomotive maintenance and repairs, for CSAO locomotives. These services will be provided at facilities to be owned and operated by NS at Bellevue, OH, and Enola, PA (and, eventually, at Conway, PA), and by CSX at Selkirk, NY and Huntington, WV. Locomotive units requiring quarterly inspections or heavy maintenance will be "swapped out" of the CSAO pool and replaced by locomotives with similar capabilities (including cab signal equipment or automatic train control devices, when necessary).

CSAO diesel shops at Pavonia and Oak Island will discontinue quarterly locomotive inspections and heavy locomotive maintenance on Day 1. Staffing at these diesel shops will reflect the reduction in heavy locomotive work within the CSAO. Safety will not be affected, however, because these activities will be performed safely and effectively at NS- and CSX-owned facilities. The Pavonia and Oak Island diesel shops will continue to perform running repairs, fueling, sanding, and servicing of locomotives for use in the SAAs. The CSAO anticipates that staffing at these facilities will approximate the number of Conrail employees currently performing those remaining functions.

In certain circumstances, federal regulations permit pre-blocked cuts of freight cars to be switched or interchanged without being re-inspected individually. Properly implemented, so-called "block swapping" can enhance efficiency without impairing safety, by freeing inspection personnel from the need to perform unnecessarily duplicative inspections and tests. NS and CSX

understand that strict compliance with applicable regulations regarding block swapping is essential. This concern, however, has relatively little application to the operations of the CSAO. Given its primary role as a yard-operating agent for NS and CSX, the CSAO will engage in very few block swapping operations. Most of the traffic to be handled by the CSAO will originate (or terminate) in these areas, and will receive a full mechanical inspection. The only yards within the SAAs in which Conrail currently performs block swapping operations are Oak Island, NJ; Morrisville, PA; and Livernois Yard, in Detroit, MI. The CSAO does not currently anticipate engaging in additional block swapping operations in any other yards or areas. Block swapping inspection practices as they now exist on Conrail properties in the CSAO areas will continue as they are currently being performed. Applicants have not yet identified any specific means by which improvements to Conrail's practice could be implemented, but will continue to examine this issue.

The CSAO Mechanical Operations organization will have the responsibility and authority to implement and manage training on mechanical operating procedures and practices. Both CSX and NS training resources will be made available to the CSAO on a contract basis to assist in providing and updating training for CSAO mechanical personnel. Training of new hires for the CSAO's Mechanical Operations organization will be handled on a contract basis by NS or CSX, or by an independent third-party contractor. New hires in the CSAO areas will be trained in mechanical and safety skills and will use a course curriculum similar to those employed in the NS and CSX in-house training programs. Safety of operations will always be the focus of any training program for CSAO shop craft personnel, as well as in non-agreement supervisor training.

VI. SIGNAL AND TRAIN CONTROL.

Coordination and management of signals, train control systems and train movement protocols in the SAAs will be relatively straightforward. The CSAO will retain the signaling systems currently in place in the SAAs, and will continue to operate under NORAC rules for the foreseeable future. This approach should mitigate any concern regarding potential confusion concerning operating rules, train movement protocols, and wayside signals within the SAAs.

As noted previously, the CSAO will maintain overall staffing levels in the SAAs at or near current Conrail levels for the work remaining in the CSAO. Applicants hope to fill many, if not most, positions with Conrail operating personnel currently employed in these areas. Consequently, it is anticipated that most CSAO operating employees will be very familiar with the CSAO signaling systems and with NORAC rules on Day 1. The familiarity of existing Conrail employees with existing rules and procedures will reduce the need for extensive pre-consummation training, and will promote safety in these areas.

Existing signal and communications systems in the SAAs will be maintained, at least initially. The CSAO will continue current practices to prevent the operation of locomotives lacking the necessary cab signal and automatic train control systems on territory utilizing such devices today. Under current practices, entry onto such lines is controlled by the owning entity (i.e., Amtrak or commuter railroads), and, unless excepted by timetable special instructions, locomotives and trains lacking proper equipment are denied entry.

Over time, CSAO management will evaluate existing communications and signaling ("C&S") systems and practices, and will consider any future changes in train operations in the SAAs and on neighboring lines, in determining future revisions and upgrades to C&S

systems. Management will identify best practices, and establish standards and procedures based on a "best fit" with the CSAO organization. In particular, the CSAO will develop standards for the safest and most efficient means for accomplishing changes or additions to C&S plans. CSAO management will establish a position with assigned responsibilities for developing and implementing appropriate C&S standards and procedures. The CSAO also will draw upon the expertise of CSX and NS from time to time in developing C&S standards and procedures. It is anticipated that most design work for CSAO C&S systems will be handled by outside contractors.

It is anticipated that C&S staffing in the SAAs, including manpower involved in daily signal maintenance operations, will remain at or near current levels. CSAO management will evaluate these staffing levels over time, and will recommend changes as necessary to ensure a safe and efficient operation. The CSAO's C&S manpower will include a small signal construction contingent, which will handle small projects such as installation of grade crossing systems and new turnouts in signaled territory. For large projects, services will be provided by NS or CSX as indicated in the Operating Plans.

FRA has requested information regarding budgeting for signals and train control in the Shared Assets Areas. The CSAO's projected budget for C&S will include both operating and capital elements. Operating budget funds will include all material, labor and purchased services required for ongoing operations, including inspections, FRA-mandated tests, maintenance, minor repairs, safety meetings, training, tools and other operating requirements. Capital expenditures for C&S will include those relating to C&S equipment and installations.

Formulation of the CSAO's operating budget for C&S will begin on an annual basis for budget year 1999. Monies remaining in Conrail's 1998 operating budget will be used to fund operations for the partial year 1998 (post-closing). The level of CSAO operating funding for

C&S during the remainder of 1998 will be determined by prorating Conrail's overall C&S operating budget to reflect the CSAO's share of Conrail system-wide manpower and equipment. For 1999, the CSAO's C&S operating budget will be established by annualizing Conrail's actual C&S operating expenditures for the partial year 1998, and prorating the CSAO's respective allocation of manpower and equipment. The result of these calculations will be compared to annualized actual expenditures from the CSAO's operations during 1998, with adjustments made to reflect any discrepancies.

The CSAO's capital expenditure budget for C&S will be prepared on an annual basis, reflecting a "three-year plan" of proposed capital expenditures for C&S equipment and installations. The capital budget process will focus on items that enhance the safety and reliability of C&S systems, and on replacement of items identified as worn-out or obsolete. Proposed expenditures will be categorized and prioritized, and added to the three-year plan as appropriate. During the latter part of each year, items of the highest priority will be submitted to CSAO management for consideration as upcoming-year capital improvement projects. If approved by the Conrail Board of Directors, these projects will become active capital projects in the following year. The level of C&S capital budget funding in the CSAO for 1999 will be based on capital budget numbers for Conrail, prorated to the appropriate levels based on the respective levels of manpower and equipment in the CSAO areas.

Applicants anticipate that current maintenance and repair programs will continue, with a coordination of efforts and training in systems design and operating practices to ensure continuity of safety and efficiency.

VII. ENGINEERING.

In order to ensure continued effective inspection and maintenance of track, bridges and structures in the Shared Assets Areas, the CSAO will continue to perform at least the same or higher levels of bridge and track inspections and running maintenance activities as those currently performed by Conrail. In fact, through improved efficiency and better utilization of crews and equipment, the CSAO will strive to provide enhanced inspection and light maintenance services, without increasing costs.

A. Bridges and Structures.

1. Inspections.

CSAO bridges and structures are currently covered by Conrail's bridge inspection program. Conrail's expertise will not be lost as a result of the proposed transaction. A sufficient number of maintenance of way and structures employees with Conrail experience, who are experienced in performing bridge inspections using Conrail procedures and practices, will be assigned to work in the CSAO areas. These employees will be able to sustain a CSAO bridge inspection program equivalent to the Conrail program currently in place.

NS and CSX recognize that changes (particularly increases) in traffic levels must be considered in determining the extent and frequency of bridge inspection activities. As a consequence, the CSAO will adjust inspection activities, as needed, to account for traffic increases in the SAAs that will occur as a consequence of the transaction.

2. Bridge Rehabilitation/Renewal.

Bridge and Structure maintenance and renewal will continue to be accomplished on a priority basis, within the framework of existing practices established by Conrail. Given the current age and condition of some bridges and structures in the SAAs, CSX and NS anticipate

that immediate investments will be required for work on some CSAO bridges and structures to ensure that the safety of CSAO operations does not decline in the near future.

The CSAO will oversee the maintenance, rehabilitation, and renewal of bridges and structures in the SAAs. "Spot" maintenance work on bridges and structures will be performed directly by CSAO personnel. More substantial maintenance work, including program maintenance, new construction, and emergency work, will be provided by NS or CSX as indicated in the Operating Plans. NS and CSX recognize that there will be increases in traffic levels on certain routes in the CSAO areas, and that the age and condition of bridges and structures in these areas must be considered in determining the appropriate level of rehabilitation and renewal activities for CSAO bridges and other structures. CSAO's program for the maintenance, rehabilitation, and renewal of bridges and other structures within the SAAs will fully take account of changing traffic patterns.

3. Operating and Capital Expenditures.

Funding sufficient to maintain the safety of CSAO bridges and structures through adequate inspection, maintenance, and renewal activities will be provided as follows: for the year 1998, funds remaining in Conrail's 1998 operating budget designated for CSAO lines will be used to support Bridges and Structures operating expenditures in the SAAs for the remainder of the year. For budget year 1999 and subsequent years, CSAO management will annually submit to the Board of Directors a proposed operating budget. The budgeted funds will cover all material, labor and purchased service monies required for ongoing operations, including those needed for inspections, FRA regulatory compliance, maintenance, minor repairs, safety meetings, training, tools, and all other operating requirements. The CSAO's 1999 Bridges and Structures operating budget will be established by annualizing Conrail's partial year operating expenditures on CSAO

territory during 1998, and adjusting that amount as appropriate to take account of changed traffic levels and other factors. After 1999, CSAO operating expenditures for Bridges and Structures will be based on historical data and practices, with adjustments made for changing traffic patterns, expensed rehabilitation work and other factors.

The Bridges and Structures capital budget for the CSAO will also be developed on an annual basis. The foundation for this process will be a "three-year plan" of proposed capital expenditures. During mid-year, CSAO field Bridges and Structures forces will make recommendations to CSAO management for capital expenditures relating to Bridges and Structures. Recommendations will include those items which would enhance the safety and serviceability of CSAO bridges and structures. Recommendations will be segregated by category, prioritized, and added to the three-year plan. During the latter part of the year, those items of the highest priority will be submitted to the Conrail Board of Directors for consideration as upcoming-year capital improvement projects. Capital projects approved by the Board will become active capital projects in the following year.

4. Manpower.

As previously mentioned, Bridges and Structures inspection, rehabilitation and renewal work in the CSAO areas will generally follow existing Conrail practices. Although the division of Conrail properties among NS, CSX and the CSAO will require the realignment of districts used by Conrail to provide maintenance and inspection services, current manpower allocations for the remaining maintenance and inspection of Bridges and Structures within the CSAO will not be reduced on Day 1. In other words, the CSAO will have sufficient manpower to maintain the same levels and quality of inspections and routine maintenance presently performed by Conrail. To the extent possible, Conrail employees will be left in place to work in familiar

territories. Any changes to bridge inspection practices which would affect manpower allocations will be made systematically only after careful study and only after employees receive training/familiarization with the new organization processes and programs.

B. Track.

1. Maintenance/Inspections.

Regular track maintenance is a vital component of any railway safety program.

The CSAO will maintain rigorous procedures to ensure that tracks within the CSAO areas are regularly inspected and maintained. The objectives of this program are twofold:

- i. to achieve strict compliance with FRA Track Safety Standards (found at 49 CFR Part 213) on the most heavily utilized segments, as well as secondary lines and smaller yards within the CSAO properties; and
- ii. to perform inspection work on the basis of standards higher than those mandated by the FRA, so that deviations can be detected and corrected before track conditions become defective.

Regulatory compliance with track safety standards is already a mandatory objective of the Conrail inspection and maintenance activities within CSAO areas. The continuation of existing Conrail inspection and maintenance procedures by the CSAO will ensure that all track within the SAAs is maintained safely and in compliance with all applicable regulations.

The CSAO will have a staff of experienced Conrail employees to handle inspections and light track maintenance work on an ongoing basis. Additionally, each year CSAO management will determine the needs and priorities for annual rail, tie, and surfacing program work, and will present recommendations to the Conrail Board of Directors. Once approved by the Board, program work will be provided by CSX or NS as indicated in the Operating Plans.

CSX and NS recognize that traffic volumes will increase on several CSAO lines following the consummation date, and that increases in traffic volume will affect the required level of maintenance and inspection required for those lines. The CSAO will adjust the level of track maintenance and inspection performed within the Shared Assets Areas to account for fluctuations in traffic and operational changes. CSX and NS have already identified certain rail yards and facilities within the SAAs that would benefit from rehabilitation and/or maintenance beyond levels currently provided by Conrail. Thus, if anything, the proposed transaction will result in an improvement in track maintenance within the SAAs.

2. Operating and Capital Expenditures.

Funding for the inspection and maintenance of CSAO track will be determined in a manner similar to that previously described for Bridges and Structures maintenance. Funds remaining in Conrail's 1998 operating budget designated for CSAO lines will be used to support track work in the SAAs for the remainder of 1998. For budget year 1999 and for subsequent years, CSAO management will annually submit a proposed operating budget to the Board of Directors. The budgeted funds will cover all material, labor and purchased services required for ongoing operations, including those needed for inspections, FRA regulatory compliance, maintenance, minor repairs, safety meetings, training, tools, and all other operating requirements. The CSAO's 1999 track maintenance budget will be established by annualizing Conrail's partial year operating expenditures on CSAO territory for 1998, and adjusting that amount as appropriate to take account of any change in traffic levels and other factors. After 1999, CSAO operating expenditures for track work will be based on historical data and practice, with adjustments made for changing traffic patterns and other factors.

The CSAO's track program and construction capital budget will also be prepared on an annual basis. CSAO field personnel will provide recommendations for inclusion in a "three-year plan" of proposed track capital projects. Those items of the highest priority will be submitted to the Conrail Board for consideration as upcoming-year capital improvement projects. Projects approved by the Conrail Board of Directors will become active capital projects.

3. Roadway Equipment.

To the maximum possible extent, CSAO maintenance of way equipment needs will be filled by allowing existing Conrail equipment to remain on CSAO properties. Applicants do not propose to reduce maintenance of way equipment allocated to the Shared Assets Areas for routine track maintenance below current levels. Future needs for additional maintenance of way equipment for routine track maintenance activities will be determined by CSAO management and submitted to the Conrail Board of Directors for approval. Once equipment needs are approved by the Board, requests for equipment will be filled by NS and CSX. Roadway equipment for program maintenance will be supplied by the entity responsible for performing each program work project.

4. Manpower.

Track inspection and routine day-to-day maintenance work in the CSAO areas will generally follow existing Conrail practices. Although the division of Conrail properties will require the realignment of districts used by Conrail to provide routine maintenance and inspection services, Applicants anticipate that current staffing levels for remaining track inspection and routine maintenance within the SAAs will not be reduced. To the extent possible, Conrail employees will be left in place to work in familiar territories, with each SAA being one seniority district for consistency and retention of qualified employees.

VIII. HIGHWAY-RAIL GRADE CROSSINGS.

To maintain the safety of grade crossings on the shared lines following the proposed transaction, the CSAO will follow the same safety procedures and initiatives that have been utilized successfully by Conrail on these lines. Because the present safety plan will remain in effect, few new grade crossing safety issues will arise on CSAO lines as a result of the transaction. Nor will changes in the operations of the CSAO lines materially affect grade crossing safety. Specifically, no train speed increases are planned for the CSAO territories, no proposed track construction projects will affect crossings in the CSAO areas, and, as described below, traffic volume increases are minimal on those CSAO lines with rail-highway grade crossings.

This section addresses the CSAO safety plan with regard to highway-rail grade crossings in three parts: (A) Increase in Traffic Volumes; (B) Operation Lifesaver and Other Public Education Programs; and (C) Crossing Eliminations and Improvements. To the extent that the Conrail transaction poses environmental or safety issues in specific impact areas, such issues will be addressed in the Draft Environmental Impact Statement.

A. Increase in Traffic Volumes.

The projected increase in traffic volumes does not pose an increased risk to rail crossing safety with respect to rail lines that will be operated by the CSAO. Nearly all of the CSAO rail lines projected to experience an increase in rail traffic as a result of the transaction are lines that do not have highway-rail grade crossings today.

Only six individual CSAO line segments are projected to experience traffic increases of three or more trains per day as a result of the proposed acquisition. Of those six lines, five are located in the Northeast Corridor and do not have any rail-highway grade crossings. Rail-highway grade crossing safety, therefore, is not an issue for those segments.

The only CSAO line with rail grade crossings that is projected to experience an increase in train traffic is the Chemical Coast Secondary. This line is 9.1 miles long and has seven crossings. Five of those crossings are protected by gates, and all are equipped with flashing lights. This line segment is projected to experience an increase in train traffic from 11.0 trains per day to 16.2 trains per day.

Because most CSAO lines that are projected to experience an increase in traffic do not have rail-highway grade crossings, and most that do have crossings will not experience significant traffic increases, the Conrail safety plan that is presently in place will require few revisions with regard to grade crossings on CSAO lines. NS and CSX will ensure that Operation Lifesaver and other education safety programs presently in place to improve railway crossing safety focus their primary efforts in areas that may experience traffic increases.

Beginning in January of 1998, CSX and NS officials will discuss projected traffic increases and track changes with Department of Transportation officials in all states affected by traffic volume increases on CSAO lines, in an effort to insure appropriate coordination between the railroad and such agencies. Topics for these discussions will include: procedures for approval of crossing changes, identification of necessary traffic control device improvements (including funding), and potential changes in Section 130 funding projects affected by traffic changes. NS and CSX will cooperate with state Departments of Transportation to ensure that all crossings affected by increases in traffic are equipped with the appropriate safety devices.

B. Public Education - Operation Lifesaver.

NS, CSX and Conrail are all active supporters of public education programs designed to improve rail crossing safety, including Operation Lifesaver. For many years, members of NS, CSX and Conrail grade crossing safety groups have shared and adopted safety practices

through cooperative local, state and national Operation Lifesaver events. NS, CSX and Conrail conduct comprehensive Grade Crossing Collision Investigation Courses throughout their respective operating territories. These three-day training courses are approved for state law enforcement continuing education requirements. The program includes not only investigatory skills and attention to the legal rights and obligations of motorists at crossings, but also training in hands-on railroading and hazardous materials awareness. Police officers learn how train brake systems work and get a feel for the actual handling of a freight train.

Applicants will continue this commitment to railway crossing safety by ensuring that Operation Lifesaver and other grade crossing and trespasser safety programs continue in CSAO areas. These programs will be focused particularly in those areas that experience traffic volume increases as a result of the transaction.

NS and CSX grade crossing safety groups will support Conrail's Operation Lifesaver activities in CSAO areas, and will serve as liaisons between the CSAO and the national and state Operation Lifesaver organizations. Operation Lifesaver presentations in SAAs will be made by railroad volunteers, including employees of NS, CSX and the CSAO whose duties include operations within the SAAs. In addition to presentations to schools, governmental and community organizations, NS, CSX and CSAO will work with state Operation Lifesaver organizations to sponsor "Operation Lifesaver/Officer on the Train" special trains in CSAO areas. All Conrail-certified Operation Lifesaver presenters employed by the CSAO will be added to NS's and CSX's computerized databases.

Railroad police officers with jurisdiction over CSAO areas will conduct Grade Crossing Collision Investigation Courses within the CSAO operating territories. Moreover,

railroad police, working with local law enforcement officials, will actively apprehend, eject and prosecute trespassers on CSAO area rights-of-way.

Continuing programs such as Operation Lifesaver, and focusing them in areas where traffic increases can be expected, will help ensure that the proposed transaction does not adversely affect grade crossing safety in CSAO areas.

C. Crossing Eliminations and Improvements.

State governments have primary responsibility for highway railroad crossing safety, including the location or closure of crossings and the design and installation of crossing warning systems. Nevertheless, NS and CSX believe that it is in the interest of the public (and of the railroads) to participate actively in identifying hazardous conditions, making such conditions known to government officials, and implementing appropriate corrective measures. The CSAO, as operator of the Shared Assets Areas, will develop and share with state agencies its own recommendations for proposed grade crossing closures and improvements. NS, CSX and CSAO will work closely with the state Departments of Transportation or similar agencies to ensure that all crossings in the CSAO areas are equipped with appropriate warning devices (as determined by the relevant agency) and that such improvements are carried out in an efficient manner. The carriers will also work with state agencies to evaluate adjacent crossings, with a view toward eliminating redundant crossings.

IX. PASSENGER RAILROADS.

CSX, NS and Conrail all possess extensive experience in coordinating their operations with those of Amtrak and local commuter railroads. The CSAO will benefit from that experience. The merger will have no adverse impact -- and likely will have a beneficial impact -- on the safe coexistence of passenger and freight traffic. The plans developed by CSX and NS

with respect to passenger operations on their expanded systems are discussed in their respective SIPs.

The SAAs include only one short segment of CSAO-owned track over which passenger operations are currently conducted. New Jersey Transit Corporation ("NJT") operates commuter trains over a five-and-one-half-mile segment of track between CP-NK (near Oak Island) and Aldene, NJ. For this reason, the possibility that the proposed transaction could compromise passenger operations on CSAO-owned lines is extremely remote.

CSAO routes will include six line segments owned by Amtrak, NJT, or the Southeastern Pennsylvania Transportation Authority ("SEPTA") over which passenger trains currently operate. Those segments are described in Table 1.⁸

TABLE 1
PASSENGER LINE SEGMENTS OVER WHICH CSAO WILL OPERATE

<u>Commuter Road</u>	<u>Line Segment</u>
Amtrak	Lane, NJ - Zoo, PA
NJT	Aldene - Bound Brook, NJ
NJT	Union - Red Bank, NJ
SEPTA	Media Line, PA
SEPTA	Airport Line, PA
SEPTA	Chestnut Hill W., PA

CSAO operations on these line segments will consist of local freight trains that operate when convenient for the passenger agency. All CSAO train movements over these lines

⁸ Table 1 contains information from the Application, Vol. 3A, at 269-80 and 450, and from the Conrail System Map showing the proposed allocation of Conrail lines and rights (dated June 7, 1997).

will be controlled by the passenger agency's dispatchers. Those dispatchers, who are experienced in handling both freight and passenger movements over the subject lines, are not affected by the proposed transaction and will remain in place after Day 1. Passenger trains will continue to receive dispatching priority over freight movements on these lines -- indeed, freight movements in the SAAs will operate under the same time restrictions as exist today. See Joint Verified Statement of John W. Orrison and D. Michael Mohan, Application, Vol. 3 Supp., at 10. Amtrak, NJT and SEPTA each have adopted NORAC rules, on which CSAO crews will be fully trained and qualified. Thus, the proposed transaction will not compromise the continued safe operation of these passenger railroad-owned line segments.

In fact, the CSAO's integration of the SAA dispatching function into a single facility (at Mt. Laurel) will promote clearer communication between CSAO dispatchers and dispatchers of passenger railroads. These passenger segments are presently divided among several Conrail dispatching assignments, meaning that passenger agencies' train dispatchers must talk to two or even three Conrail dispatchers in order to coordinate train movements. Under the CSAO's integrated dispatching plan, contact with only one dispatcher per movement in each SAA will be necessary, thereby reducing the risk of miscommunication.

FRA has indicated that having a sufficient number of cab-signaled locomotives in the Northeast Corridor is a key safety consideration. All CSAO freight locomotives operating in the Northeast Corridor will be outfitted with the required cab-signaling equipment. As the NS and CSX SIPs demonstrate, NS and CSX also will have more than a sufficient number of locomotives with cab signals and Locomotive Speed Limiters ("LSLs") to support their own operations in the SAAs. By the end of 1998, NS will have 1,033 signal-equipped locomotives, with the potential for adding 113 more units in 1999 if such action becomes necessary.

Moreover, CSX will receive more than enough cab-signaled locomotives to operate the lines over which it will operate pursuant to the transaction. In sum, Applicants will have a significantly larger cab-signaled fleet available for use in the SAAs than that presently possessed by Conrail.

X. EMPLOYEE QUALITY OF LIFE.

As explained previously, one important duty of the CSAO Safety Officer will be the development and implementation of programs to improve employees' quality of life and reduce job-related fatigue and stress. CSX, NS and Conrail have all taken proactive measures to enhance employee quality of life and to ensure a fit workforce, and the CSAO will continue this progress with the support of NS and CSX. Conrail is presently training additional operating personnel who will be able to carry out CSAO functions so that the CSAO will be fully staffed as of Day 1. This planning and training will result in sufficient staffing to ensure properly rested employees on and after Day 1.

A. Work/Rest Issues.

Predictability of work hours is advantageous to maintaining alertness and eliminating the physical strain on railroad employees. Problems may arise when employees are forced to wait for late trains, or have their normal sleep patterns disrupted by an irregular and ever-changing schedule. These problems are exacerbated when crews are stretched too thin.

However, as noted above, the number of employees in the CSAO operating area will not be reduced, so that overly lean staffing will not be a potential source of unsafe conditions in the SAAs. Moreover, the CSAO's operations in the SAAs will be essentially local in nature -- the CSAO will not conduct any long-haul train operations. Accordingly, few CSAO employees will need to spend significant amounts of off-duty time away from home. Indeed, it is anticipated

that many CSAO employees will remain within their current assigned areas, and will be assigned to jobs with consistent reporting times.

Both NS and CSX currently utilize computerized crew management systems developed by PS Technology. The systems have some differences (relating to compliance issues associated with each carrier's labor agreements), but are similar in design. Applicants have not yet decided whether to use one of these systems, or Conrail's current system, for the CSAO. The NS and CSX systems can readily be modified for use in connection with the CSAO's crew management function. Utilization of such a computerized crew management system will improve the ability of crews to maintain a regular work schedule by providing up-to-the-minute information on train operations, vacancies, the availability of extra employees, extraboard standing, and rest status.

B. Perceptions of Harassment or Intimidation.

The CSAO will adopt a strict policy to protect against harassment and intimidation of employees, based upon existing NS, CSX and Conrail policies, and in full compliance with FRA regulations. This policy will become effective on Day 1, and will be posted at major facilities, terminals and on safety bulletin boards across the SAAs.

Employees alleging violations of the policy may report the incident to their immediate supervisor, who will then undertake a review of the action, advising the employee in writing of the results of the review. If an employee has reasonable cause to believe he or she has been intimidated or harassed by a supervisor, the employee will have available to him/her a procedure under which his/her concerns can be brought directly to the attention of the Senior Safety Officer. In appropriate circumstances, the complaint and investigation will be treated as

confidential. The CSAO policy will strictly prohibit retaliation against any employee who reports a suspected violation.

XI. COMPUTER SYSTEMS COMPATIBILITY.

In order to determine the computer systems that will be required to operate the CSAO, NS and CSX carefully analyzed the business needs of the new organization, particularly with respect to operating department systems. In identifying the CSAO's business requirements, it became apparent that modifications would be required to use either the CSX or NS systems for the CSAO. Given the need for such modifications to existing systems to adapt them for CSAO's use, a decision was made jointly by NS and CSX to explore whether the provision of the necessary modifications by a third-party provider would best serve the CSAO's needs.

NS and CSX are currently evaluating proposals from several prospective vendors. Until the time that any new or modified system is ready for implementation, the CSAO will continue to operate using the existing Conrail system. Implementation of a new or modified system will take place only after all required training and testing have been completed. Given the relatively limited geographic areas in which the CSAO will conduct operations, implementation can probably be accomplished in one phase.

XII. TRANSITION IMPLEMENTATION PLANNING FOR THE SAAs.

NS and CSX have approached their analyses of safety issues in the Shared Assets Areas in a deliberate and collaborative manner calculated to insure that the planning teams have ample information, opportunity and incentive to develop the most comprehensive safety implementation plans possible. The hallmark of this effort has been coordination and collaboration. Both companies have assigned experienced, high-ranking officials to spearhead the process: for CSX, the company's Vice President--Operations Support has been designated the

head of a team that includes representatives from the railroad's Operations Support, Transportation, Mechanical and Safety and Environmental Departments. For NS, its Vice President--Transportation & Mechanical heads up a similarly experienced team that includes, among others, the General Manager--Staff and the Assistant Vice President--Safety and Environmental Protection.

Both the NS and CSX teams have been supported by literally dozens of other railroad employees with specialized knowledge of the many areas of significance to the SIP process. Those employees have spent hundreds of hours on the ground in the SAAs (often with their Conrail counterparts) in order to understand the nature of existing operations and practices in these areas. Much of that knowledge has, in turn, been shared both with the other members of the individual employee's "home" railroad and with their counterparts on the other acquiring line (i.e., NS or CSX), all in an effort to make certain that the implementation planning process is subject to as complete and thorough an analysis of existing operations, and potential solutions, as possible.

This process will continue unabated up to and beyond the date of actual consummation of the consolidation transaction. NS, CSX and Conrail recognize that maintaining the highest possible level of safety in the SAAs is critically important, and all three companies are committed to that goal. While many of the present practices and procedures of Conrail will be adopted by the CSAO on Day 1, the companies are committed to working with the CSAO General Manager and his staff over time to identify the "best practices" of each of the three railroads and to adapt those practices as appropriate to CSAO operations.

APPENDIX A

SUMMARY OF CURRENT CONRAIL CRAFT TRAINING

I. TRAIN AND ENGINE SERVICE TRAINING.

Conrail utilizes the services of the Academy of Industrial Training (AIT), an outside vendor, to provide new-hire training for train service employees and certain Mechanical Department employees (Carmen, Machinists and Electricians). AIT is located outside Philadelphia, on a property that includes ample space for classrooms, models, and rail spurs featuring actual locomotive and freight car equipment. Prospective Conrail employees must successfully complete initial training at AIT before being considered for employment by Conrail. During this initial phase of training, trainees are paid by AIT and are covered under Workman's Compensation.

Training provided by AIT is thorough entry-level training. The train service training is three weeks long and covers basic safety practices, operating rules and signals. If a participant successfully completes this training and is hired by Conrail, he/she continues training on-the-job at his/her designated work location. After trainees have successfully completed approximately three weeks of on-the-job training, they are promoted to Trainman. Promotion to Conductor requires passing a locally-administered Conductor examination. A similar arrangement is in place for Mechanical Department employees, with initial AIT training of eight weeks for Carmen and 10 weeks for Machinists and Electricians, followed by on-the-job training if selected to be a Conrail employee.

Conrail also operates an in-house Transportation Training Center at Conway Yard (near Pittsburgh, PA), which includes several classrooms equipped for traditional training. In addition, a TracNet (CBT) Center is located in this building. The center is equipped with a DSL-made, non-motion Locomotive Simulator that was installed in 1989. While the center is able to

provide a variety of transportation-related training activities, Locomotive Engineer Training (LET) is by far the major activity at Conway.

Conrail's LET program consists of six weeks of classroom instruction followed by approximately 14 months of on-the-job training. Each student receives from four to ten hours of simulator training (as required) during the classroom phase of training. The Transportation Training Center is also used to re-certify Conrail Roadway Foremen of Engines. Other training programs offered at this location include a two-day Supervisor of Locomotive Engineer program, a three-week New Hire Trainman Program (used where AIT cannot accommodate Conrail training requirements), a one-day Air Brake Training Class for Maintenance-of-Way ("MOW") Equipment Operators, a three-day Discipline Procedures Program for non-agreement employees, and occasional Conductor promotional classes.

II. ROADWAY AND BRIDGE WORKER TRAINING.

MOW Training at Conrail is conducted primarily by two employees who travel the Conrail system providing training to MOW/B&B employees. Classes are held at local hotels, with field trips to rail locations as appropriate. Conrail currently offers the following training for MOW, and, where appropriate, B&B employees:

- Roadway Worker Protection training.
- A four-day Introduction to Track Maintenance class for new hires.
- A two-week Track Maintenance Workshop for foremen.
- Operating Rules training (including hazardous materials handling).
- A five-day Track Inspection class for track inspectors and foremen.
- A three-day class for track inspectors (topics covered change annually).

- A two-day track inspection seminar for shippers/customers having their own rail operations.

III. TRAINING FOR MOTIVE POWER AND EQUIPMENT PERSONNEL.

Conrail operates two primary mechanical training facilities -- one at Elkhart, IN, and the other at Hollidaysburg, PA.

The Elkhart facility has been in operation since 1993, and focuses on air brake and welding training for both agreement and non-agreement employees. The main classroom at Elkhart has a capacity of 20 students, is equipped for video projection and features a ten-car air brake simulator with an operational locomotive air brake simulator. The air brake simulator employs examples of each type of control valve currently in use as well as empty/loaded equipment. In addition, full-scale operational models of brake rigging, slack adjusters, truck-mounted brake systems and a RoadRailer bogie are available.

Adjacent to the main classroom is a smaller classroom that can seat about 12 students for traditional training. It also houses the Elkhart TracNet Center, one of many CBT training facilities Conrail has implemented system-wide. Immediately outside the classrooms are a truck tear-down station, a coupler tear-down station and draft gear, cushion unit and brake rigging models. An adjacent track provides an area to spot up to 12 cars for practicing initial terminal inspection and repair.

The Elkhart facility also includes a welding training station that can accommodate four trainees. Each booth has its own power supply, work bench, tool crib and welding fume extraction fan. The facility is equipped to perform bend/stress tests and can train on "stick," wire and flux core equipment. The welding center offers 40-hour courses in S.M.A.W., G.M.A.W., F.C.A.W. and G.T.A.W. processes as well as qualifications in A.S.M.E. pipe welding procedures

and oxy-acetylene/plasma-burning procedures. Qualification tests in unlimited thickness are given to comply with AWS D.15.1 standards. Conrail has certified welding inspectors and trainers and is a voting member on the AWS D.15.1 committee.

Classes offered include an 8-hour Initial Terminal Test course, an 8-hour Repair Track Test course, a 20-hour Supervisor Seminar and a 40-hour Air Brake Course. In addition, Elkhart provides Air Brake Training classes for AAR and FRA field inspectors. While not currently doing so, the Elkhart facility is equipped to provide complete training for new-hire Freight Car Repairers. When not in use during training courses, the Elkhart Air Brake Simulator is often used as an analytical tool to identify causes of air brake-related train delays and incidents.

Conrail's second primary mechanical training facility is at its Hollidaysburg shops. The training facilities at Hollidaysburg include two classrooms equipped for traditional instruction and a 10-booth welding training facility. Hollidaysburg has an air brake simulator similar to the one at Elkhart, and is generally equipped to provide the same training programs (although there is no TracNet Center at Hollidaysburg). Hollidaysburg is capable of providing the same classes taught at Elkhart and is also equipped to provide new-hire Carmen training.

In a smaller Mechanical training facility, consisting of a recently renovated conference room located in the Roundhouse, Machinist and Electrician training is delivered on each of three shifts.

IV. DISPATCHER TRAINING.

Conrail's Dispatcher Training consists of both classroom and on-the-job activities. Trainees begin their training with two weeks of classroom training usually conducted at Canton, OH. This is followed by one week of field training actually riding trains, followed by one week of dispatching simulation and operating rules review in Dearborn, MI. Trainees are then assigned

four weeks of on-the-job training, after which they return to Canton for review and training in hazardous materials. Trainees then return to their divisions and continue on-the-job training until qualified by local officers.

V. SIGNAL TRAINING.

Conrail's Signal Repair and Training facility is located at Buckeye Yard in Columbus, OH. The signal training building houses several medium-size classrooms. A wide array of models is available in the classroom building to support training on various types of signal systems. New signal employees attend four nine-day training sessions within the first two years of employment.

Outside of the classroom building is a large signal park featuring operational examples of a variety of signal and crossing appliances. In addition to standard signal and crossing device training, Conrail also provides instruction on high voltage electrical wiring and pole climbing, and the signal park is equipped with appropriate models to support this training. Testing of equipment for internal Conrail analysis as well as various equipment vendors is also conducted at this facility.

VI. HAZARDOUS MATERIALS TRAINING.

General hazardous materials training is conducted for all Transportation and Engineering Department employees, as part of their annual operating rules training. Employees whose positions so require attend annual hazardous materials update training. Depending on the nature of the work the employee will be doing, a range of job-specific training events are available. Some of this specific training is done by dedicated training personnel, but most is done by field supervisors or specific hazardous materials teams who have been trained in instructional techniques.

VII. ANNUAL OPERATING RULES TRAINING.

All operating department crafts (other than Mechanical Department employees) participate annually in an eight-hour operating rules class.

BACKGROUND MATERIAL

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**SURFACE TRANSPORTATION BOARD
DECISION NO. 52 DECIDED
NOVEMBER, 3, 1997**

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SERVICE DATE - LATE RELEASE NOVEMBER 3, 1997

SURFACE TRANSPORTATION BOARD

STB Finance Docket No. 33388

CSX CORPORATION AND CSX TRANSPORTATION, INC.,
NORFOLK SOUTHERN CORPORATION AND NORFOLK
SOUTHERN RAILWAY COMPANY—CONTROL AND
OPERATING LEASES/AGREEMENTS—CONRAIL, INC.
AND CONSOLIDATED RAIL CORPORATION

Decision No. 52

Decided: November 3, 1997

As requested by the United States Department of Transportation (DOT) in its filing on October 21, 1997, in this proceeding (DOT-3) at pages 4-6, we have decided to require Applicants¹ to prepare Safety Integration Plans (SIPs) that address the concerns set forth in the verified statement of Edward R. English included with DOT's submission. That verified statement and Applicants' SIPs will be made a part of the environmental record and dealt with through the environmental review process. This is consistent with the Board's practice of treating safety matters in its environmental review of the proposals that come before it. We anticipate that DOT, as well as other interested parties, will analyze the Applicants' SIPs and give us the benefit of their views on the adequacy of Applicants' plans.

Specifically, we will require Applicants to file these SIPs with the Board 30 days from the date of service of this decision. These SIPs will be incorporated as a separate section of the Draft Environmental Impact Statement (EIS) to facilitate participation by commenters desiring to address only the adequacy of Applicants' SIPs. To accommodate inclusion of this material in the Draft EIS, and because of the late receipt of information necessary to prepare a sufficiently complete Draft EIS (e.g., receipt of the Errata and Supplemental Environmental Report approximately 9 weeks after the filing of the Application and Environmental Report), service of

¹ CSX Corporation (CSXC) and CSX Transportation, Inc. (CSXT) are referred to collectively as CSX. Norfolk Southern Corporation (NSC) and Norfolk Southern Railway Company (NSR) are referred to collectively as NS. Conrail Inc. (CRI) and Consolidated Rail Corporation (CRC) are referred to collectively as Conrail. CSX, NS, and Conrail are referred to collectively as Applicants.

the Draft EIS, which had been scheduled for November, will not occur until the latter part of December. The 45 day period for comment on the Draft EIS will commence upon the service of the Draft EIS. We anticipate that the comment period will end in early February. Given the additional time required to issue the Draft EIS with the SIPs, we must extend the time accordingly for our Section of Environmental Analysis (SEA) to complete the EIS process and to ensure that the Board has adequate time to consider fully the environmental record in arriving at its decision in this proceeding. As a result, the Final EIS, which had been scheduled for service in early April 1998, will now be served in May of 1998.

These changes, in turn, will require the following modifications to our overall schedule for processing the applications as set forth in Decision Nos. 6 and 12 in this proceeding.² Oral argument will now be held on June 4, 1998, to be followed by a voting conference on June 8, 1998. Our final written decision will be served on Thursday, July 23, 1998. The remainder of the current procedural schedule, including the date for filing the parties' briefs will not be affected.

We recognize that our decision today results in extending the previously established schedule by 45 days. However, we have concluded that this delay is necessary to permit us to give safety concerns full consideration as warranted by this proceeding.

This action will not significantly affect either the quality of the human environment or the conservation of energy resources.

It is ordered:

1. Applicants CSX and NS, and Conrail, to the extent it will be responsible for operation in the Shared Assets Areas, shall file Safety Integration Plans in conformity with the request of the United States Department of Transportation in DOT-3 in this proceeding, as more

² Served on May 30, 1997, and on July 23, 1997, respectively.

specifically detailed in the verified statement of Edward R. English, within 30 days of the date of service of this order.

2. Responses to Applicants' SIPs shall be made by comments to the Draft EIS, which will be served by the end of the year. Comments on the Draft EIS will be due 45 days from the date of service of that document.

3. Oral Argument will be held on June 4, 1998.

4. The Board will hold a voting conference on June 8, 1998.

5. The final written decision will be served on July 23, 1998.

By the Board, Chairman Morgan and Vice Chairman Owen.

Vernon A. Williams

Secretary

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**PRELIMINARY COMMENTS OF THE
UNITED STATES DEPARTMENT OF
TRANSPORTATION, OCTOBER 21, 1997**

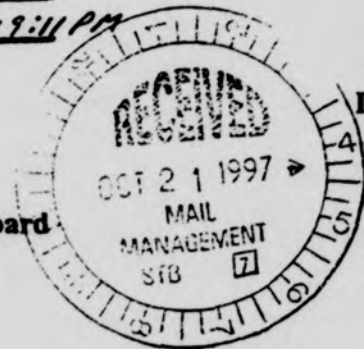
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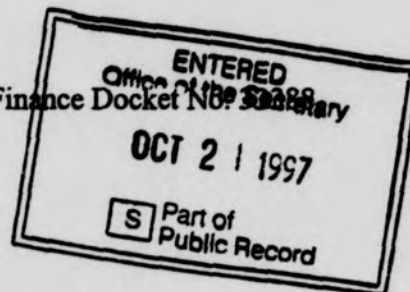
Before the
Surface Transportation Board
Washington, D.C.



DOT-3

CSX Corporation and CSX Transportation, Inc.,)
Norfolk Southern Corporation and Norfolk)
Southern Railway Company -- Control and)
Operating Leases/Agreements -- Conrail, Inc.)
and Consolidated Rail Corporation)

Office of the Secretary
Finance Docket No. 30288



**Preliminary Comments of the
United States Department of Transportation**

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DONALD M. ITZKOFF
Deputy Administrator

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October 21, 1997

**Before the
Surface Transportation Board
Washington, D.C.**

CSX Corporation and CSX Transportation, Inc.,)	
Norfolk Southern Corporation and Norfolk)	
Southern Railway Company -- Control and)	Finance Docket No. 33388
Operating Leases/Agreements -- Conrail, Inc.)	
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**Preliminary Comments of the
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October 21, 1997

STB

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10/11

Before the
Surface Transportation Board
Washington, D.C.

CSX Corporation and CSX Transportation, Inc.,)	
Norfolk Southern Corporation and Norfolk)	
Southern Railway Company -- Control and)	Finance Docket No. 33388
Operating Leases/Agreements -- Conrail, Inc.)	
and Consolidated Rail Corporation)	
_____)	

**Preliminary Comments of the
United States Department of Transportation**

Introduction

On June 23, 1997, CSX Corporation ("CSXC"), CSX Transportation, Inc. ("CSXT"), Norfolk Southern Corporation ("NSC"), Norfolk Southern Railway Company ("NSR"), Conrail, Inc. ("CRR"), and Consolidated Rail Corporation ("CRC") (collectively, "Applicants"),¹ filed an application with the Surface Transportation Board ("STB" or "Board") seeking approval and authorization under 49 U.S.C. §§ 113231-25 for: (1) the acquisition by CSX and NS of control of Conrail, and (2) the division of the assets of Conrail between CSX and NS. The Board found the application in substantial compliance with applicable rules and accepted it for consideration. Decision No. 12, served July 23, 1997.

¹ / The abbreviations used herein are consistent with those adopted by the Board. Hence, CSXC and CSXT, and their wholly-owned subsidiaries, are referred to collectively as "CSX." NSC and NSR, and their wholly-owned subsidiaries, are referred to collectively as "NS." CRR and CRC, and their wholly-owned subsidiaries, are referred to collectively as "Conrail." Decision No. 12, served July 23, 1997, at note 2.

By Decision No. 6, served May 30, 1997, the STB concluded that the National Environmental Policy Act ("NEPA") requires preparation of an environmental impact statement ("EIS") to enable it to identify and assess the likely environmental consequences of this transaction. Those potential consequences encompass safety (e.g., increased risk of grade crossing accidents, integration of different rail operations and procedures) air quality, rail passenger operations (intercity and commuter), and community impacts (arising from increases in train traffic). Notice of Final Scope of EIS, served October 1, 1997.²

By Decision No. 6 the Board also established a procedural schedule for this proceeding that encompasses 350 days from submission of the application to service of the Board's final decision. That Decision also calls for the United States Department of Transportation ("DOT" or "Department") to submit its preliminary comments on the proposed transaction by October 21, 1997.

The role of the Department in this proceeding is ultimately grounded both in the statutory provisions that govern this transaction, 49 U.S.C. §§ 11323-24, and in DOT's statutory responsibilities as the Executive Department of the United States established by Congress "to provide general leadership in identifying and solving transportation problems," to the end that the Secretary of Transportation "shall provide leadership in the development of transportation policies and programs."³ Pursuant to these provisions and the Board's prior orders, we hereby submit our preliminary comments on the proposed transaction.

Preliminary Comments

Through this transaction the two largest railroads in the Eastern United States, CSX and NS, would gain control over and divide the assets of the third largest, Conrail. CSX operates approximately 18,500 route miles and almost 32,000 track miles of railroad in 20 states east of the Mississippi River and in Canada. CSX has principal routes to virtually every major metropolitan area in the Midwest and Eastern United States: between Chicago, St. Louis, Memphis, and New Orleans on the one hand, and Miami, Norfolk, Washington, D.C., and

² / A draft EIS is now scheduled to be issued in November, 1997.

³ / 49 U.S.C. §§ 101(b)(5) and 301(2), respectively.

Philadelphia on the other.

NS operates more than 14,000 route miles and 25,000 track miles of railroad, also in 20 states east of the Mississippi and in Canada. NS has routes to virtually every major market from Kansas City and Chicago in the Midwest, to New Orleans in the South, to Norfolk in the East, and to Buffalo in the North. Both CSX and NS also serve the major metropolitan areas of Atlanta, Detroit, Cincinnati, Louisville, Kentucky, Jacksonville, Florida, and Charlotte, North Carolina. Both interchange traffic with other railroads at these and numerous other locations throughout their systems.

Conrail operates approximately 10,500 miles of track in the Northeast and Midwest. Its primary network forms an "X" connecting Chicago and East St. Louis in the West with Boston, New York, Philadelphia, Baltimore, and Washington, D.C. in the East. The lines of the "X" intersect in the vicinity of Cleveland, Ohio. Conrail also serves Pittsburgh, Indianapolis, Detroit, Cincinnati, and Montreal, Canada.

CSX and NS ultimately agreed jointly to purchase Conrail common stock for more than \$10 billion in cash. This amount, and most of Conrail's assets, will be divided between NS and CSX on a 58% - 42% revenue basis, respectively. The remainder of Conrail's physical assets — track, rolling stock, yards, etc. — are largely contained in three so-called "Shared Asset Areas" in Detroit, Northern New Jersey, and Southern New Jersey/Philadelphia. Both CSX and NS will provide service to shippers in these areas via their own trains, crews, and equipment; each will set its own rates and service offerings independently. CSX/NS-18 at 45-46. ⁴ Maintenance and dispatching in these areas will be undertaken by a jointly-owned successor to Conrail.

The Applicants contend that the proposed transaction is in the public interest and should be approved. It will enhance intramodal competition, in their view, because it will introduce service by both CSX and NS into areas in which Conrail has effectively enjoyed a monopoly, and because it will extend single line service to more shippers. The Applicants also urge that approval of the transaction will intensify intermodal competition because the resulting improved rail service will in their view divert much traffic now hauled by motor carriers. By removing large numbers of trucks from the highways, particularly

⁴ / There are also other areas in which Conrail assets will be shared by NS and CSX. *Id.* at 49-54.

the heavily traveled I-95 corridor, this transaction will also increase safety and improve air quality as well. Finally, the Applicants aver that the transaction will produce significant savings through improved integration of facilities and better utilization of equipment. They submit that quantifiable public benefits amount to nearly \$1 billion annually. Statements from many shippers, receivers, and States and various public bodies in support of this proposal have been filed.

The Department is not taking a position on the merits of the application at this time. Neither does DOT take a position at this time as to whether relief would be required in the public interest as a condition to any approval by the Board. However, it is clear that the proposed transaction raises fundamental issues concerning the rail industry in the United States. These include the transaction's impact on competition, on communities likely to be subject to the passage of many more trains, on passenger rail operations, on the Applicants' employees, and on the financial prospects of NS and CSX (and therefore of rail service in the East). As discussed below, we also believe that, given the scope of this acquisition and the recent difficulties experienced by large Class I rail carriers in trying to integrate mergers of their own, there are fundamental safety issues that arise from the pending transaction and that need to be addressed.

The Department considers it essential for the Board to develop a complete evidentiary record and to consider the full impacts of the proposal. We intend to participate in these proceedings to that end. DOT anticipates submitting its views on the merits of the transaction in its brief, which is due February 23, 1998.

The Transaction's Potential Effect on Safety

In the Department's view, the most important issue raised by the pending transaction is its potential effect on safety. We have learned from the UP/SP and BN/SF mergers⁵ that the integration of two major Class I railroads into one even larger carrier presents significant challenges in a great many areas: harmonizing information systems, coordinating marketing, training dispatchers, modifying operational practices and procedures, implementing personnel policies and bargaining agreements, and so forth. It is also necessary that these challenges be met in a manner that ensures continued safety.

⁵/ Respectively, ICC Finance Docket Nos. 32670 and 32549.

To integrate the many elements of such independent entities into a single railroad, particularly during the integration process itself, is difficult under the best of circumstances. Where, as here, two very large and very different rail carriers seek to divide and absorb part of a third, and to share the remainder of the third in some of the most heavily populated and industrialized portions of the country,⁶ that difficulty can only be magnified. In that context, the necessity for an overriding commitment to safety is intensified.

The Department, through the Federal Railroad Administration ("FRA"), is the federal agency with plenary authority over the safety of the railroad industry. See generally 49 U.S.C. §§ 20101-53. We have carefully reviewed the application in an attempt to determine the specific steps to be taken by CSX, NS, and Conrail in order to maintain safe operations during their anticipated but unprecedented integration. To date there is little to provide such assurance.

Moreover, FRA has investigated recent serious incidents on CSX and completed a comprehensive safety audit of the carrier, thereby obtaining a detailed understanding of its safety status.⁷ FRA has also assessed recent accidents and incidents on the Union Pacific and Burlington Northern Santa Fe railroads, as they seek to integrate with their recent merger partners. These efforts have yielded evidence of regulatory shortcomings and threats to safety from numerous quarters.

As a result of these reviews, DOT is compelled to raise safety as an issue here. Therefore, although the subject of rail safety is and remains principally the statutory charge of DOT and the FRA, *supra*, we believe that, in the context of a proposal of this magnitude, evidence and comments should be invited on the following issue:

1. Whether implementation of the transaction would have an adverse effect on rail safety.

Accordingly, submitted herewith is the verified statement of Edward R. English, the Director of FRA's Office of Safety Assurance and Compliance.

⁶ / By Decision No. 44, served October 15, 1997, the Board ordered the Applicants to supply more detailed information on their intended operations in the Northern New Jersey Shared Asset Area.

⁷ / This is called a Safety Assurance and Compliance Program ("SACP") review.

DOT-4. Mr. English's statement expresses the Department's growing concern that the ever larger size and complexity of major Class I railroads, and thus of consolidations involving such carriers, pose a risk to safety in the absence of very careful and detailed implementation planning. More specifically, Mr. English recounts (1) accidents and other evidence of safety problems arising from the recent UP/SP and BN/SF mergers, (2) deficiencies found in a just-completed safety audit of CSX, and (3) the lack of specific information in the pending application that addresses the precise manner in which the Applicants propose to maintain rail safety while integrating their operations following any approval. Mr. English concludes that it is in the public interest that the Applicants address this subject in a much more detailed way.

The Applicants themselves appreciate that this is critical. Both CSX and NS have already committed to working with FRA to prepare detailed plans that will guide the integration of their respective portions of the Conrail system and the Shared Asset Areas. The Department is also actively considering addressing the subject of safety implementation/integration plans in the context of rail consolidations in a rulemaking proceeding. However, addressing these matters in the context of the pending proceeding as well, will facilitate a thorough and timely airing in a manner that furthers the public's paramount interest in safe and dependable rail operations throughout our nation.

Additional Major Issues

The Department submits that the following major issues also warrant consideration by the Board:

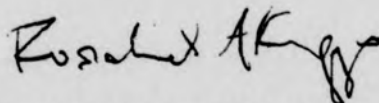
2. Whether the transaction will significantly reduce competition (including intramodal, intermodal, product and geographic), as reflected in the transportation rates and services likely to be available to the shipping public after the acquisition.
3. If the transaction would significantly reduce competition, whether the anticompetitive effects can be eliminated or mitigated through conditions on the transaction.
4. If the transaction would significantly reduce competition, whether this loss would be offset by transportation benefits to the shipping public.

5. If the transaction would significantly reduce competition, whether the public benefits could still be secured by less anticompetitive measures.
6. Whether the transaction would result in a loss of essential services now provided to communities.
7. Whether the transaction would have adverse effects on rail passenger service, both inter-city and commuter.
8. If the transaction would have adverse effects on rail passenger service, whether these effects can be eliminated or mitigated through conditions on the transaction.
9. Whether the transaction would have adverse environmental impacts on communities.
10. If the transaction would have adverse environmental impacts on communities, whether these effects can be eliminated or mitigated through conditions on the transaction.
11. The effect of the transaction on the merging carriers' employees.
12. Whether the merger would lead to a railroad industry structure that would adversely affect the adequacy of transportation available to the public and/or the development and maintenance of a sound rail transportation system in the United States.

Conclusion

The Department appreciates this opportunity to participate in a decision of pivotal significance to the nation's rail industry and the general public. We look forward to contributing to a sound final decision.

Respectfully submitted,



ROSALIND A. KNAPP
Deputy General Counsel

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**Before the
Surface Transportation Board
Washington, D.C.**

CSX Corporation and CSX Transportation, Inc.,)	
Norfolk Southern Corporation and Norfolk)	
Southern Railway Company -- Control and)	Finance Docket No. 33388
Operating Leases/Agreements -- Conrail, Inc.)	
and Consolidated Rail Corporation)	
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**Verified Statement of
Edward R. English**

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A) INTRODUCTION

My name is Edward R. English, and my position at the Federal Railroad Administration (FRA) is that of Director of the Office of Safety Assurance & Compliance. In this capacity I am responsible for carrying out FRA's safety regulatory enforcement, accident investigation and field operations programs. These programs cover the five broad disciplines of Operating Practices, Track and Structures, Signal and Train Control, Hazardous Materials and Motive Power and Equipment.

Between 1960 and 1972 I was employed by the Engineering Department of the New York Central Railroad, and later the Penn Central Transportation Company. During that time I held various positions, including Division Engineer in charge of planning, programming and implementation of all maintenance and construction activities in an area that covered the State of Michigan and portions of Ohio, Indiana and Illinois.

I began my employment with the Federal Railroad Administration in 1972 as a field supervisor responsible for regional enforcement activities pertaining to track and structures. In 1975 I accepted a position in FRA headquarters with nation-wide responsibilities for railroad track and structures. In 1983 my duties were expanded to include all enforcement programs in the areas of track, signals, and motive power and equipment until my promotion to my present position in 1989.

My responsibilities include the supervision of all personnel in the Office of Safety Assurance and Compliance and liaison responsibilities with FRA's eight regions and their respective specialists and inspectors. Recent project/program responsibilities for the Office of Safety Assurance and Compliance have included:

1. Locomotive Crashworthiness and Cab Working Conditions (Report to Congress)
2. Railroad Communications and Train Control (Report to Congress)
3. High Speed Rail Standards (Florida Overland Express)
4. Roadway Maintenance Worker Protection Regulation
5. Amtrak RoadRailer safety studies
6. Steam Locomotive Inspection Regulations
7. Track Safety Standards Revisions
8. Assessment of Railroad Bridge Safety and Related Regulations
9. Two-Way, End-of-Train (EOT) Regulation
10. Coordination/Participation in Railroad Safety Audits and Safety Assurance and Compliance Program (SACP), including recent SACP oversight activities at Union Pacific, Wisconsin Central, CSX, among others.

B) SAFETY ISSUES MUST BE CONSIDERED IN THE CONTEXT OF THIS PROPOSED ACQUISITION

1) Recent Mergers

Filings by interested parties before the Surface Transportation Board (STB) and its predecessor, the Interstate Commerce Commission (ICC), have not generally addressed issues of safety. That is understandable, in no small part because FRA has plenary authority over safety in the railroad industry. However, the scope of rail mergers among, and acquisitions by, Class I railroads has changed dramatically in ways that present serious safety issues. As these carriers, and the consolidations in which they are involved, become larger and more complex, maintaining safe operations becomes more of a challenge. FRA has always been prepared to exercise its underlying authority in such circumstances to insure that the railroads involved meet the challenge. My statement discusses some instances of recent FRA action in this regard. We think that the proposed transaction presents a similar situation.

In the last four months alone, the newly merged Union Pacific (UP/SP¹) has experienced three fatal train collisions that resulted in five employee fatalities and several employee injuries. Thus far in 1997, UP/SP has experienced nine employee fatalities, more than twice the number in all of 1996. It has also experienced two other serious, non-fatal collisions during that same period. FRA has concluded that these occurrences, and many less visible safety problems, are directly related to inadequate safety planning by the acquiring railroad to implement the transaction in a sufficiently safe manner. The merged Burlington Northern Santa Fe (BNSF) has also had operational difficulties and serious accidents, some of which also appear to relate to inadequate safety planning in for implementation of the merger. FRA's conclusions concerning the BNSF merger are more tentative because the FRA's safety staff has not examined the BNSF merger as deeply as it has the merger between the former Union Pacific (UP) and the Southern Pacific (SP). In both cases, the sheer magnitude of the operations being integrated has produced a significant change in the difficulty of implementing the transaction in a safe manner. The acquisition of Conrail (CR) by Norfolk Southern (NS) and CSX Transportation (CSX) introduces new and even more significant complexities, because, in addition to sheer size, the acquiring railroads are dividing an operating railroad and creating a new type of entity, the Conrail Shared Assets Operation (CSAO), that presents a series of serious safety concerns. It is clearly no longer sufficient to assume that the acquiring railroads will work out ways to comply with Federal railroad safety laws in their new configurations, or that the transition to those configurations will be smooth and acceptably safe.

The merged UP/SP and the merged BNSF are railroads of enormous size and operational complexity. The lines of each company cover virtually the entire area of the United States west of the Mississippi River, and reach east to Chicago. The merged UP/SP is the nation's largest railroad. It has more than 36,000 miles of track and employs 53,000 staff. Prior to their mergers, three of the four railroad parties had relatively poor safety records (FRA reported accident rates,

¹Throughout this document I refer to the newly merged Union Pacific/Southern Pacific entity as UP/SP.

see Fig. 1-1), with UP having the highest accident rate of any of the large railroads for five of the last six years. Southern Pacific consistently had the second highest rate (except for 1995, when it led the industry in major accident rate). It is then, perhaps, no surprise that the merged company (UP/SP) has experienced safety problems almost since the day of the merger. These problems have been aggravated by rapid traffic growth and shortages of both locomotives and the crews to operate them. This has led to major disruption in UP/SP services to customers, overworked supervisors, overworked train and engine service personnel and a severe shortage of qualified employees in Texas (Houston) and other UP/SP system locations. So, again, it might have been anticipated that the new company, faced with booming traffic and the challenge of operating service over more than 3,500 miles of trackage rights on competitor UP, would exhibit a relatively poor safety performance.

The safety experience of BNSF and UP/SP since their recent mergers is summarized below.

2) UP/SP Merger

a) Incidents

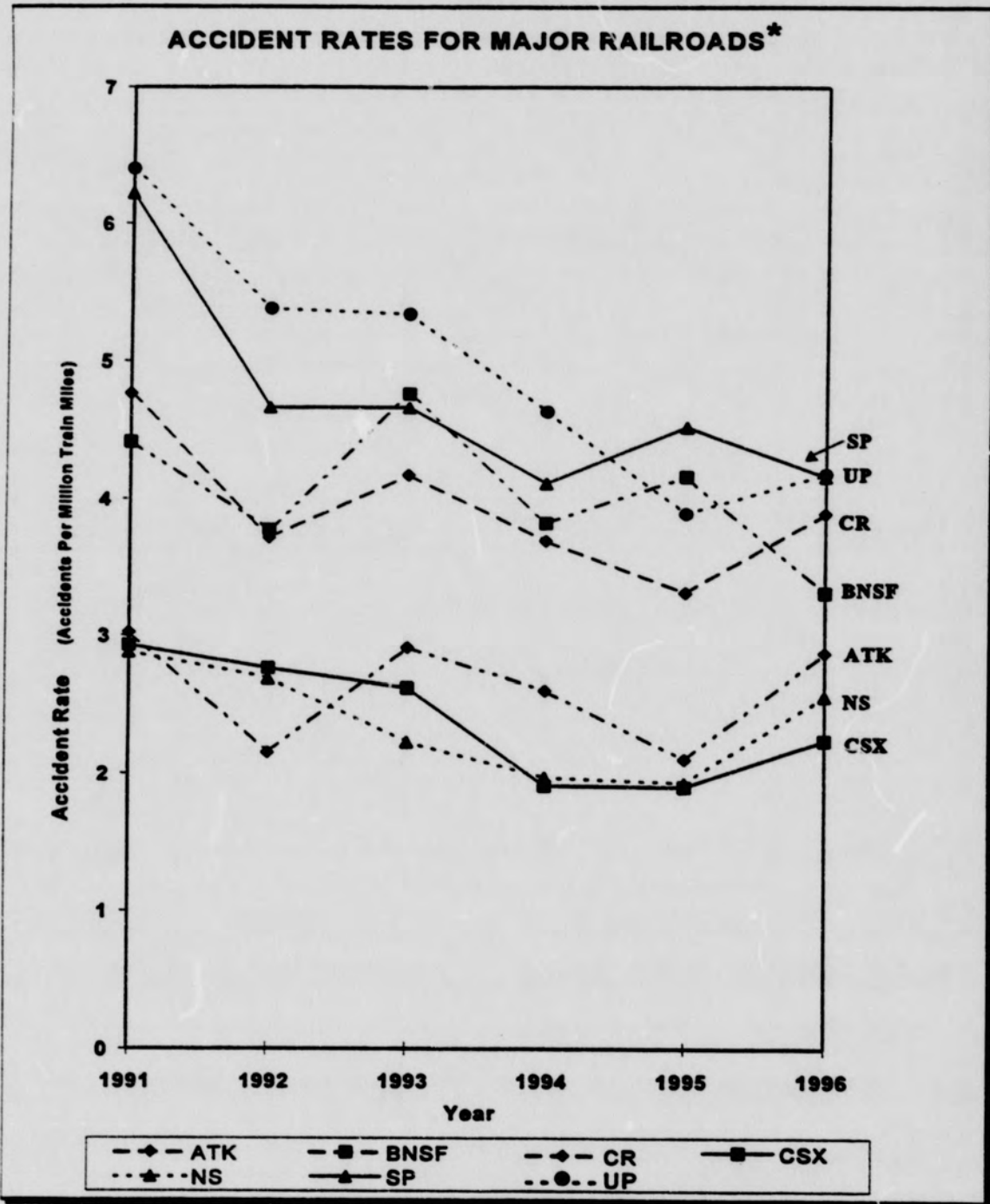
Since the merger of UP/SP was initiated, management decisions were made to reduce/consolidate forces and concentrate upon attaining the efficiencies and operating savings identified in the parties' filings to the STB. The pace at which this goal has been pursued in the implementation of the merger has led to operations characterized not only by major service disruptions, employee fatigue and low morale, but by a number of serious train incidents. Since January of 1997 UP/SP has experienced **nine fatalities of on duty employees, more than double the previous year**. The deaths include five that resulted from collisions involving UP/SP trains during the past three months. These recent incidents include:

- Devine, Texas (San Antonio), June 2, 1997: Head-on collision of two trains; likely cause was dispatcher error; two crew member fatalities;
- Rossville, Kansas (Topeka), July 2 1997: Side collision involving train running through siding; possible cause was crew fatigue; engineer fatality;
- Fort Worth, Texas, August 21, 1997: Runaway locomotives on grade collided with mainline train; two engineer fatalities.

Two subsequent collisions in Wyoming and California, as noted below, fortunately did not result in loss of life or serious injury, however they demonstrated a **disturbing trend**:

- Shawnee Jct., Wyoming, August 22, 1997: UP/SP unit coal train struck the rear of a standing BNSF coal train; UP/SP conductor and engineer injured;
- Barstow, California, August 23, 1997: UP/SP freight train struck the rear of a standing BNSF freight train; derailed equipment struck the side of a passing UP/SP freight train; UP/SP conductor was injured.

Figure 1-1



Source: FRA Accident/Incident Data Base 1991 through 1996.

*For accidents with damage greater than \$500,000 per accident

b) Conclusions From the Safety Survey

As a result of these incidents, FRA undertook a post-merger safety survey of the US/PS and has drawn several conclusions from the results of the safety survey. Some of these were used in the preparation of DOT's comments to the STB in UPSP Oversight, F.D.No. 32760 (Sub-No.21)². Some of those conclusions include the following:

(1) Train Control Systems and Operating Practices

The findings from the previously mentioned UP/SP incidents investigated by the FRA indicated a strong correlation between a lack of training on specific new rules and procedures that resulted from the merger with the potential for creating incidents. The following examples clearly indicate that there was a fundamental breakdown in the application of sound railroad safety practices that, in most cases, can be directly related to the pursuit of operational efficiencies anticipated from the merger, and a resultant safety culture that placed those efficiencies before safety in the day-to-day decision making process. FRA found that in virtually all management levels, supervisors perform a multitude of tasks that are not directly related to their supervisory responsibilities. In many cases, these were tasks that were typically performed by administrative personnel whose jobs were eliminated as a result of the merger. The inability of supervisors to monitor and evaluate the performance of those that they supervise contributes to a breakdown in the safety processes. For example:

- FRA found that some officers do not have time to conduct meaningful operational tests, and as a result, some tests were not actually conducted. Consequently, the testing program has become a numbers generating exercise that makes any evaluation of the level of an employee's understanding and compliance with the operating rules impossible. An initial review of the tests conducted on the 250 mile subdivision where the Devine, TX head on collision occurred indicate that virtually all of the tests were conducted at only three convenient locations along the line. This raises questions of adequacy of testing in terms of added safety value.
- During a night inspection, FRA inspectors observed a conductor report for duty at West Colton with a patch covering his left eye. The conductor said he received the eye injury from swimming pool chemicals, and his personal physician was providing treatment. He said he did not report this injury to anyone at the railroad. This conductor had already made one trip from Bakersfield to West Colton without any management person noticing him and was now working back to Bakersfield in the same condition. FRA searched for a company officer to investigate this concern, but no one was available on the property. Employees know they can report for duty at West Colton, CA without being observed by a

²Railroad Control Application, submitted by CSX and NS to the Surface Transportation Board, Finance Docket No. 33388, 1997.

manager. This is only one example, but this could also pertain to other conditions that would limit employee ability to gain supervisory support in any number of areas, i.e., questions on rules and operating practices, etc. It also indicates a lack of supervision during evening hours. Although this is not a violation of regulations, it is believed that the individual may have placed himself in an unsafe circumstance.

- SP train, engine, and yard crews are not allowed to make photocopies of posted General Orders (GO) and General Notices (GN). They must try to remember the rules changes, restrictions and changed practices contained in 72 GOs and 70 GNs. On former UP trackage, crews can access a computer printer and print out a personal copy of GO and GN. It is FRA's judgement that crews cannot reasonably be expected to remember and comply with all the directions issued in 142 GOs and GNs without some form of reference material. When crews are overwhelmed by such information, they may overlook a critical safety rule change or directive or simply stop trying to "keep up" with those notices that they deem less than critical. Proper planning before the merger could have assured adequate familiarity by managers with their districts.
- The railroad was unable to show records for "manager" locomotive engineer familiarization trips. Because of the congestion caused by the merger these managers have been called for service in any of four directions out of Houston, Avondale, and San Antonio, without regard for qualification or familiarization over the territory on which they are called to operate. Several records indicated that the managers were performing service on one subdivision and making a qualifying trip on another subdivision on the same calendar day. Either the record is falsified or the manager performed excess service, either of which violates the law. In most cases when managers do get the chance to familiarize themselves with a new territory, they only get one trip over districts as long as 250 miles. Locomotive engineers operating in territories over which they have not become properly familiarized are at a substantially increased risk of train-handling/human-factor train incidents and are not legally qualified to perform their duties.
- For approximately 130 managers who performed covered services in the Houston area, the railroad was able to produce only 40 pre-employment drug testing records. Managers who had not previously performed this service, or who were out of the random drug-testing pool, were subject to pre-employment drug testing before performing covered services. The railroad had not produced any evidence of managers selected for random testing while performing this service and, furthermore, FRA was only able to inspect records for about one-half the managers who had performed this service. Uniform, consistent drug testing programs insure the integrity of that segment of the transportation industry's work force engaged in safety sensitive activities. Failure to conduct testing when required is a federal violation of law and may lead to unacceptable risk of

personal injuries, train wrecks, and/or other related incidents. Adequate pre-merger planning would have assured compliance.

- One UP/SP crew reported finding a signal with an unfamiliar aspect and indication. Since they did not have the proper Timetable as a reference, they had to call the control operator and describe the signal location and aspect, and request guidance as to what they were authorized to do. However, when crews operate very slowly through Houston because of uncertainty, they are criticized by managers for unnecessarily delaying trains. With proper planning, correct Timetables would have been provided and uncertainty, as well as risk, would have been reduced.
- FRA has received reports that many UP and former SP engineers are sent out to operate Distributed Power Units (DPU) equipment before they have received any training. When they find the DPU equipment and call the Manager of Operating Practices (MOP) for help, they are told that if they do not want to operate the train the railroad will send out another crew and they will be sent home. Crew Management System (CMS) has a listing of all DPU qualified engineers, but does not accurately reflect who is qualified.

(2) Training and Quality Control at Central Dispatch Center

FRA conducted a dispatching audit the week of June 22, 1997, at UP/SP's consolidated Harriman dispatch Center in Omaha, Nebraska. Errors in the transmission and acknowledgment of messages were commonplace – almost 80% of the orders monitored contained one or more errors. The audit also found problems with the level of dispatcher experience and lack of training. Many of these issues may be related to the Chicago and North Western Transportation Co. (CNW) merger because some experienced dispatchers did not move to Omaha, Nebraska, which made it necessary for the railroad to hire replacements. Numerous procedural problems associated with the understanding and application of the rules were noted during the assessment, such as operations against the current of traffic without the issuance of a track movement authority. These problems could be directly related to the hiring of replacements. Dispatching errors are very dangerous because they may cause collision between trains. Some examples follow:

- On six occasions, track warrants (instructions transmitted by the dispatcher) were not repeated back to the dispatcher as issued. In one case the copying employee changed the direction of the train in his repeat. In another case, the employee read back the wrong "to" location identifying the location as a milepost when the dispatcher issued it as a control point.
- On two occasions, employees did not read the pre-printed portions of the warrants. In one case an incorrect track warrant number was repeated on the same warrant that the crew failed to read back line specific instructions (Line 15). The

dispatcher caught that the employee had left off the specific line (Line 15) but failed to catch that the crew had read the wrong track warrant number. In one case the copying employee read back an incorrect track warrant number that the dispatcher caught.

- On two occasions the dispatcher omitted reading certain lines (both box 7's) that were prompted by the anti-conflict function of the CTWC computer.
- One case was noted where the dispatcher rearranged "trains prompted" on a specific line on the warrant (line 7) so they would be in the proper order on arrival. The software on box 7 does not allow the dispatcher to arrange the opposing trains in arrival order. If the dispatcher desires to eliminate the confusion of having the trains arrive out of order, he must read the warrant incorrectly.
- One case was noted where the dispatcher attempted to talk a train crew into taking a track warrant addressed to an engine that was in the consist, but not cleared for movement, in order to attempt to resolve a conflicting move issue. The crew refused to take the mis-addressed warrant.
- Lack of identification of employees copying the warrants appears to be a systemic issue. Several times the identification of the copying employee consisted only of "go ahead dispatcher." Only maintenance of way employees give the name of the copying employee prior to the dispatcher issuing the warrant.
- On June 25, while FRA was present at the Harriman Dispatching Center, the train dispatcher controlling the Kenosha Subdivision verbally issued authority to a northbound freight train to operate against the current of traffic on the same track that a southbound METRA commuter train was operating. This potential incident was avoided because the signal system functioned as intended.
- On August 19, FRA was notified that trains are operating against the current of traffic on the Union Pacific Railroad's Milwaukee Subdivision between stations KO and Bryn Mawr under verbal authority. This issue is another example of the difference in the operating procedures on the merged railroad companies. For example, on the former CNW train dispatchers issued authority in writing, not verbally, as was the procedure on the Union Pacific.
- FRA found that in virtually all management levels supervisors perform a multitude of tasks that are not directly related to their supervisory responsibilities. The inability of supervisors to monitor and evaluate the performance of those they supervise contributes to a breakdown in safety processes. For example, FRA's review of the basic elements of their dispatcher's program found several areas of weakness in need of immediate correction to enable the railroad to improve its

ability to determine the extent of compliance by its train dispatchers with operating rules, timetables, timetable special instructions and train dispatcher rules.

- State of Iowa Track Inspectors discovered several concerns relative to train location line-ups on former CNW trackage through Iowa as issued by the UP/SP Harriman Center in Omaha. In response to these concerns, FRA investigated this situation at the Harriman Center in Omaha. The software in the UP/SP's Computer Aided Dispatcher (CAD) system was not properly programmed to accommodate unique north and south directions used on former CNW. This was causing some of the errors on train location line-ups.

(3) Train Inspection and Hazardous Materials Defects

Since approval of the merger, FRA inspectors have documented continuing train inspection/hazardous materials defect problems, particularly with trains received in interchange from Mexico. Inspections at Brownsville and Laredo, Texas have revealed defects related to insecure closures of rail tank cars (65 since late 1996). Approximately 86 various placarding defects have been noted with numerous billing infractions. While these problems existed at a reduced level prior to the merger, many of the personnel typically assigned to identify and correct these problems accepted buy-out offers from the SP. This reduction of personnel was further compounded by the failure to assign these duties to other personnel. Similarly, FRA has also found numerous instances where improper or missing documentation and/or labelling of hazardous materials shipments has occurred. In mid-June of this year FRA identified a number of BNSF trackage right trains operating from Houston and Longview, Texas across the Southern Pacific and two trains operating each day from Houston to Memphis and Longview to Memphis with the physical make-up of these trains not manifested at the BNSF/SP interchange at Pine Bluff, Arkansas. BNSF and UP/SP are currently working on this problem to eliminate the train consist mixups. These instances could pose problems for safe transportation of the shipment or foster improper procedures in case of an incident. Before there was any discussion of a merger with UP, SP routinely worked to identify and correct computer errors that resulted in billing and train consist problems. Just prior to the merger, however, SP required a complete cost justification for all computer corrections. In many instances it appears that the corrective costs for regulatory compliance were weighed against the probability of FRA penalty costs and the railroad chose not to make the changes that would have ensured regulatory compliance. To further exacerbate the situation SP stopped making computer corrections when the merger was approved in the belief that it was better wait until after the two railroads' computer systems had been merged before making any changes. These systems are still not merged, and until they are, the problems, and therefore the associated risks, continue. These problems could have been easily addressed in a comprehensive safety plan developed before the merger.

(4) Hours-of-Service Utilizations of Train Crews

FRA found evidence of ineffective utilization which can lead to crew fatigue, stress, a lowering of morale, violations of the Hours of Service law, and a reduced ability to comply with operating rules. Crews are working longer hours without getting time off. Cumulative fatigue can erode train and engine service employees' ability to perform their duties safely. When crews work erratic schedules for days on end, their ability to read and follow instructions, identify and comply with signals, react appropriately in emergency situations, make safety-critical decisions and act on those decisions is affected. The result can be train incidents and employee fatalities. For example, the recent UP mergers (first, with the Chicago North Western Railroad and, then, with the Southern Pacific Railroad Co.) have caused substantial growing pains within the UP Crew Management System (CMS), by combining the operations of these railroads into a centralized office in Omaha with a reduced workforce. Railroad management agrees that the CMS is presently short of personnel, yet they are offering voluntary buy-outs to 40 experienced employees and preparing to hire 40 new employees apparently to save on personnel costs. As a result of these seemingly contradictory actions, CMS does not have the management resources to handle calling crews, arrange for proper relief personnel, calling vans, etc. Other consequences of this personnel issue are:

- Crews are being left on trains after the expiration of their Hours of Service limits. Sometimes in excess of two hours is spent awaiting the arrival of crew vans or relief crews. Crews run out of service time under the Hours of Service Act approximately 75% of the time. This severely constrains crew unavailability and compounds rest and fatigue issues.
- The UP/SP has one Crew Balancer Position for its entire UP/SP system. As a result of what appears to be fatigue due to excess work, questionable management decisions are by the incumbent. Specifically, FRA noted numerous examples where train crews spend the majority of their time at an away-from-home terminal which contributes to poor morale. Poor management of train crews results in inefficient train movements, thereby adding to the negative atmosphere.
- Time wasted waiting on "dead head" transportation needlessly keeps crews away from home, delays final release tie-ups, extends the period during which crews are not available for other service, and contributes substantially to manpower shortages.
- Cumulative fatigue and workplace stress is reported as a major concern for train and engine service crews. FRA observed examples where crews are off-duty at home terminals for 8 to 10 hours, yet away-from-home crews are off duty for 30 to 48 hours. Crews report the only way to get a day off is to lie about being sick. Morale is very low among train crew members because they feel they are frequently mishandled when they must stop working on line under the Hours of

Service laws. It is not uncommon for crews to sit on a train for hours waiting for transportation to a tie-up point. Most crews report waiting 3 to 4 hours for deadhead transportation. One UP/SP crew from San Antonio worked 12 hours, then waited for a carryall from 11:00 p.m. until 9:00 a.m. the next day, for a total of 22 hours. The crew was 10 miles from their home terminal, San Antonio.

- When UP merged with SP, employees of each railroad began operating over the lines of the other railroad. There were some former SP terminals where UP Timetables were not available to train crews. Also, the SP Timetable was out of print prior to the merger, and former UP crews called to operate trains over former SP trackage did so without Timetables or Timetable Special Instructions. Additionally, because the UP and SP computer systems were initially incompatible, former SP train crews could not obtain copies of UP General Orders and other instructions and notices.

FRA has presented all of its conclusions about UP/SP to the railroad's management and expects the management to present a safety action plan describing how each problem will be remedied. FRA will enforce the resultant safety action plan.

3) BNSF Merger

There are several FRA concerns that have arisen in the context of the newly merged BNSF (now well into the second year of merger integration). I will briefly describe three of these safety concerns that FRA believes are directly related to, and/or have been aggravated by the merger as discussed below.

a) Cajon Pass (California) Derailments

Shortly after the BNSF merger in February 1996, a westbound freight train derailed on the Cajon Pass due to loss of braking on a descending 3% grade. The incident resulted in fatal injuries to two of the crew members, serious injuries to a third and the derailment of 45 of 49 cars and four locomotives. The National Transportation Safety Board determined that the incident could have been avoided if the crew had made an emergency brake application from the rear of the train. A similar derailment occurred on the same grade in December 1994. After the derailment, BNSF agreed to install two-way, end-of-train devices on all trains using the Cajon Pass. Although BNSF was one of the first of the major railroads to equip its trains with two-way end-of-train devices (EOT), pre-merger operating practices at BN did not ensure for correct use of the equipment. In many cases the rear device could not communicate with the head-end device. This fact was never reported to top management for correction. In other instances the train crews failed to use or activate the EOT equipment (because of a lack of instruction/training). A properly prepared and implemented safety plan would have provided for avenues of communication that could have corrected these conditions.

b) Incompatible Electronic Data Systems

Prior to the merger of the Burlington Northern Railroad (BN) and the Santa Fe Railway (ATSF)

the BN used "YMS" and "Compass" programs as well as a system left over from a former merger called "FRISCO." However, the ATSF used a newer program called "TSS" (Transportation Support System). The railroads were able to exchange electronic data with each other because each had specific interchange points and treated each other's information as foreign line data. The BNSF initially began changing to the TSS system in November 1996, but it soon became evident that TSS was incapable of managing an operation of the magnitude of the BNSF. Also, the BNSF redesignated many of its terminal and operations to use only one of the previous systems (i.e. Chicago used COMPASS, Kansas City used TSS, etc.). This resulted in a systemic problem which impacted safety as follows:

- Computer-generated train lists were often incorrect, incomplete or both. A reliance appears to be placed on Automatic Equipment Identifiers (AEI) readers to verify train placement of hazardous materials cars and effect corrections in the documentation. These units have demonstrated a propensity to go offline unexpectedly, give inaccurate car counts due to a variety of circumstances, and if the person entering the power consist into the system enters an incorrect locomotive number, it can cause the reader to fail to recognize the train at all.
- Train documents for westbound train movements originating in Chicago and moving over former BN trackage were being generated by the ATSF TSS Software. Often when a new train list was printed at subsequent terminals, the previous set-outs were still included. This created confusion and limited the value of the document in identifying hazardous materials in an emergency situation.
- Train lists were often reversed when printed by the present system. This is most prevalent in locations with North/South Yards where employees often were not aware of a requirement to "set" the direction of a train properly for East/West movements.
- Often when an AEI reader detected an error in train placement, the train list was corrected in the computer; however there was no procedure in place to ensure the train crew's list was updated as well. Although a screen identified train consists with incorrect train placement of hazardous materials, that function was in the Network Operations Center (NOC) and train crews reported little or no effort to notify them of needed corrections.
- Inbound crews check consists for outbound crews using the inbound list, so if the outbound list was incorrect, there was no system to warn the train crew of the error.

A "new" TSS was placed in service throughout the BNSF system on July 4, 1997. Based on FRA's initial observations, this new system has eliminated these problems. FRA will continue to monitor progress.

c) Lack of Coordination between the SOC and NOC

Prior to the merger the ATSF had consolidated their train dispatching and other operational functions in the System Operations Center (SOC) in Schaumburg, IL, while the BN had just

completed a similar consolidation at the NOC in Fort Worth, TX. Procedures were not put in place at the time of the merger to ensure that proper coordination took place between the two centers prior to the authorization of train movements. This lack of coordination resulted in a breakdown in many functional areas. For example, at adjacent locations that were controlled by different centers, maintenance-of-way personnel were issued 'track and time' by the dispatcher at the NOC. This information was not communicated to the dispatcher at the SOC. Subsequently, the SOC dispatcher authorized a train to operate over the trackage, thereby endangering the maintenance-of-way personnel.

d) Locomotive Identification

Following the merger, BN and ATSF locomotives began operating over the entire combined system. Instructions were issued to identify trains by using the initials BNSF prior to the locomotive number. This caused a potentially dangerous situation whereby two locomotives (one BN and the other ATSF) could be identified as the same locomotive. Much confusion was caused to dispatchers, train crews, and maintenance-of-way employees in regard to track warrants, track and time, etc. This situation was further complicated by locomotives being painted with the new BNSF identification.

e) Unfamiliarity with the Merging Partners' Policies and Procedures

BNSF did not implement a process by which to communicate operational and/or safety procedures as they were applied by the formerly separate BN and ATSF railroads. For example, the ATSF only equipped 10% of its locomotive fleet with event recorders. They accomplished this by using the ATSF numbering system and equipping every other locomotive. Shortly after the merger, a train was dispatched from a former BN terminal with two ATSF locomotives, neither of which were equipped with event recorders. The train subsequently derailed. The absence of an event recorder hampered the resulting incident investigation.

f) BNSF Safety Issues Resulting From UP/SP Merger

As a result of the UP/SP merger, the BNSF took over operation of former SP trackage from MP 14.9 - Avondale Yard - New Orleans, westward to Lake Charles, Louisiana. However, eastward from MP 14.9 was still designated internally as SP (though actually UP/SP), though the SP expertise had been eliminated. Prior to the merger this line was dispatched by SP and was a daily Amtrak route carrying about 26 freight trains a day. BNSF assumed train dispatching functions westward from MP 14.9, but there was no apparent designation or train dispatcher for trackage from MP 14.9 eastward to West Bridge Jct. - MP 10.5. This was Centralized Train Control (CTC) territory prior to merger, and the automatic block signal system was still in place. Ultimately, UP/SP resolved this oversight and resumed dispatching functions for this track segment after FRA interceded.

FRA has presented all of its conclusions about UP/SP to the railroad's management and expects the management to present a safety action plan describing how each problem will be remedied. FRA will enforce the resultant safety action plan.

4) Safety Culture

From FRA's perspective the definition of a company's 'safety culture' encompasses management's attitudes, directives, planning, and resource allocations on the subject of safety. These elements ultimately provide the vision and direction for all levels of railroad employees and influence their training, health, morale and safety practices and habits. The safety culture of U.S. railroad companies, especially the major Class I lines, starts at the top (Chief Executive Officer) and permeates throughout the entire rank and file of employees (labor and management). A company's safety culture is an intangible that can be viewed by different individuals from different perspectives and can be misinterpreted. As FRA has investigated safety accidents and injuries across the nation, it has become apparent that the safety cultures of the railroad companies, as reflected by their underlying priorities, practices and philosophies, greatly influenced the success or failure of their merger integration processes.

Following approved mergers most railroads in the past have chosen to reduce forces and eliminate duplication of facilities in order to achieve pre-merger calculated financial efficiencies. Consequently, past mergers and the recent 'mega-mergers' (BNSF and UP/SP) resulted in mass 'downsizing' of personnel (cost reduction strategy) through incentive programs. These programs were offered by the merged (or soon to be merged) railroads for seasoned management and operating personnel to opt for early retirement benefits and/or 'buy out' bonuses. In many cases hundreds, if not thousands, of railroad personnel with strong railroad safety knowledge have been eliminated from the merged railroads (an estimated 1,100 or more supervisors reduced at BNSF alone).

A shortsighted 'safety culture' in a company may indicate that cost reduction is valued over safety. This can lead to employee misunderstandings, lack of communication, irritability, fatigue, low morale, perception of intimidation, loss of talent and institutional knowledge, and other undesirable traits which can significantly increase exposure to incidents and injuries.

a) UP/SP

As FRA began its recent safety review on the merged UP/SP, one area that drew particular attention was the different corporate cultures of the now merged Union Pacific and Southern Pacific railroads. The main thrust of the operating philosophy residing at Union Pacific was a "get-the-train-out-of-town" (productivity driven) attitude versus one that places the highest priority upon safety. For example, dispatcher performance at UP was measured based upon train movements (productivity) and not on the safety of operations.

UP/SP admitted that due to the rapid reduction in personnel following approval of the merger, there may be an actual shortage of personnel of up to 1,500 train and engine, mechanical, dispatching and supervisory personnel. This has contributed to widely reported service problems, especially in Texas generally and in the Houston area in particular. In mid-September approximately 130 railroad managers were performing temporary duty as train and engine service crews in Houston terminals.

b) CSX

The FRA recently conducted a Safety Assurance and Compliance Program (SACP) review of CSX, one of the principals in the Conrail acquisition. This was during the period July through August, 1997.³ Although CSX has one of the better safety records in the industry, this SACP was initiated due to safety concerns after several high-profile incidents and collisions which included:

- June 1997: One fatality and multiple injuries occurred when a CSX freight train collided with the rear of another CSX freight near St. Albans, West Virginia;
- June 1997: CSX freight train derailed 34 cars, 17 of which were hazardous materials tank cars near Marianna, Florida; of the 13 loaded cars, five were leaking product, resulting in four-hour evacuation within one square mile of the incident;
- July 1997: CSX freight train derailed due to a shifted trailer and sideswiped an Amtrak passenger train near Crystal City (Washington, D.C.) on the Virginia Railway Express (VRE), tearing out the signal system and creating extended service delays for over 3,000 commuters;
- July 1997: Eastbound CSX freight train experienced a shifted load, and struck a westbound CSX train in Lawrenceville, Illinois; a total of six cars derailed; one of the cars, which contained a residue hazardous material, was punctured and caught fire.

In light of these serious safety incidents, FRA examined CSX closely and identified specific problems with CSX's safety culture and lack of commitment at the local supervisor level. FRA also identified the perception by employees that harassment and intimidation exist at many locations on the CSX system. Separately, FRA is currently examining a number of potential individual liability actions as a result of willful or negligent acts that may have compromised CSX safety. CSX, rail labor, and the FRA are working cooperatively to identify solutions to these problems and ways to enhance the employee safety culture. FRA also identified other crew rest and "quality of life" issues at CSX.

c) NS

For many years NS has been a successful safety performer from a historical perspective. NS' train accident rate (accident rate per million train miles) is frequently one of the lowest of the Class I railroads. It also has, however, a long history of being very 'provincial' in its operating policies, rules, and practices. There are strong individualistic traits which dictate NS' company safety culture and may greatly influence any acquisition partners. NS management may have strong tendencies to hold rigidly to their own rules and practices and, thereby, may not actively seek the "best practices" of the merging partners. This would be safety-critical to such areas as

³ Federal Railroad Administration, "Safety Assurance and Compliance Program for CSX Transportation," September 1997. The Executive Summary is attached as Appendix.

the merged Conrail's supervision of hazardous materials and compatible operating rules and equipment in the northeast (especially Amtrak's Northeast Corridor).

FRA perceives a much greater difference between the NS and Conrail cultures than that of NS and CSX. All railroads have varying forms of identifiable safety culture with some being more individualistic than others, but NS is at an extreme end of this scale. If these differences are not integrated in a prudent fashion, conflicts of personalities may occur which may adversely affect management functions, maintenance of track and equipment, operating practices and ultimately, the safety of rail operations. FRA firmly believes that transition planning by NS should address this issue. NS may have internally addressed this issue, but there appears to be no such effort identified in their STB filings or elsewhere that FRA could detect.

C) NEED FOR A SAFETY INTEGRATION PLAN

The safety problems encountered in previous mergers provide sufficient cause for railroads involved in this merger to formally address the safety of combined operations. For the reasons set forth in this statement, FRA has concluded that it is vitally important that each acquiring railroad prepare a detailed *Safety Integration Plan* (SIP) prior to integrating any operations of an acquired railroad with those of an acquiring railroad. A Safety Integration Plan must be a formal, written document that systematically describes how each element of an acquired railroad will be integrated safely into the operations of the acquiring railroad in compliance with the federal railroad safety laws. Among other benefits, this should assure that no aspect of railroad safety is left unexamined. Both railroad management and FRA can evaluate the likely effectiveness of a comprehensive plan in advance and assure that any gaps or deficiencies are corrected before implementation begins. A written plan also facilitates training everyone who must implement it and provides a reference for the trainees to use later. In this case, FRA believes that both NS and CSX must have Safety Integration Plans (SIP) in place before either begins to integrate any CR operations with its own because it would not appear to be safe to leave the remainder of CR operating independently. FRA is also actively considering addressing the subject of safety integration plans in the context of rail consolidations in a rulemaking proceeding.

The findings that follow reflect my views and the conclusions of FRA with regard to many of the shortcomings of the operating plans with respect to safety.

D) THE PROPOSED ACQUISITION - FRA's GENERAL REVIEW

1) FRA Safety Analysis

An extensive review by FRA of the NS and the CSX operating plans in this proceeding revealed that no comprehensive assessment of the safety effects of the proposed acquisition has been submitted. This was not surprising since safety has generally been beyond the scope of STB proceedings. It was surprising to learn, however, during the course of the safety assessment described below, that neither NS nor CSX had a fully defined, comprehensive safety plan that

FRA could identify for the implementation of the proposed transaction. While one carrier has provided FRA with preliminary planning documents in this regard, this is not the systematic plan that FRA requires.

Given the poor safety experiences of the UP/SP merger and the safety related problems FRA also identified in the context of the BNSF merger, given the complex rail operations and population density of the northeastern United States, FRA has concluded that a safety assessment of the proposed acquisition is imperative. Accordingly, FRA formed teams of expert FRA personnel to address safety in functional areas such as:

- Track, bridges, and structures
- Dispatching centers
- Operating practices
- Car and equipment maintenance, and inspection
- Signals and train control
- Hazardous materials
- Highway grade crossings

A team leader was appointed for each functional area, and the team leaders coordinated the collection of information about current and projected performance of Conrail and the acquiring railroads in each safety area. Areas in which merger-related safety issues could be foreseen were identified and analyzed.

In addition, a safety forecasting model was constructed and used to anticipate the future performance of major segments of Conrail and the two acquiring railroads after Conrail's operations are successfully integrated into the operations of the acquiring railroads. The model is based upon traffic and investment forecasts provided by NS and CSX in their filings.

While CSX and NS have had the two best safety records among large U.S. railroads for the last six years, and therefore one might reasonably expect them to better achieve a safe transition than railroads with poorer records, FRA is nevertheless concerned by the difficulties posed by the sheer size of the acquisition, the issues presented by the concept of the proposed Conrail Shared Assets Operating Areas (CSAO - detailed in Section D.2.b), and the sharp differences between much of the territory through which Conrail operates and through which CSX and NS operate.

Specifically, the northeastern United States is a densely settled area with a large volume of hazardous material movement, especially to the "Chemical Coast" in northern New Jersey. There are dense, high-speed passenger train operations, especially on Amtrak's Northeast Corridor (NEC) and connecting lines. The high volumes of highway traffic yield large numbers of highway-rail crossings with significant collision exposure.

While the safety histories of CSX and NS are good (see attached Figure 1-1, excerpted from *U.S. DOT and FRA Accident/Incident Bulletins, Nos. 160-165, 1992-1997*), large parts of their operations, especially NS', are in more rural, less densely settled portions of the United States. CSX and NS have yet to show that they recognize the need to adapt their operating procedures

to the unique characteristics of Conrail's high-volume territory with special attention to hazardous material movement.

2) General System-Wide Issues

a) Safety Training of Employees and Supervisors

The operating plans filed by CSX and NS are not specific about the training and/or retraining to be provided for employees and supervisors. This is particularly true for the Conrail Shared Assets Operations (CSAO). Although the operating plans of CSX and NS address maintenance-of-way training and track inspection procedures, the training of Conrail employees in safety rules and programs, Roadway Worker Protection, on-track safety, and engineering procedures are not adequately addressed and remain a major concern. The Roadway Worker Protection program is a major element of any railroad engineering department's overall safety program. The CSX and NS safety integration plans for the merger should show explicitly (in terms of resources and schedules) how these safety-critical items are to be addressed.

The differences in the Applicant's and Conrail's signaling systems can lead to significant problems. The accurate interpretation of the signal aspects (colors, number of lights, and location) and indications (meanings of the aspects) is vital for the safe movement of trains governed by block signal indications. The operating plans submitted by CSX and NS do not include any details identifying the scope and depth of training to be provided to operating personnel who govern the movement of trains by block signal indications. The training and qualification of these employees is imperative to ensure safe operations.

b) Conrail Shared Assets Operating Areas

The CSAO Areas identified in the operating plans are located in northern New Jersey, southern New Jersey/Philadelphia and Detroit. Each of these CSAO Areas is to be managed by Division Superintendents under the direction of a General Manager of Conrail. Dispatching is to be conducted by Conrail Corporation (CRC), the proposed surviving CR entity, on a local basis as agreed to by CSX and NS. CRC will be responsible for routine and program maintenance. Much of the equipment and maintenance services will be provided by CSX and NS.

The CSAO may prove to be very complex operating environments with overlapping authorities of the railroads sharing the Areas. The CSAO concept may lead not only to operational difficulties, but to potential controversies over liability for the quality of train service, train inspections, crew assignments, dispatching, incident cause findings, damage costs, employee injury claims, equipment damage claims, maintenance of track and equipment, etc. Locomotives operating in the CSAO and the Northeast Corridor (NEC) will need to be equipped with ACS/ATC compatible signal systems. I believe that the many questions raised by the formation of the CSAO must be answered, including:

- Where will dispatching functions be geographically located?
- How will emergency response and evacuation actions be conducted?

- How will the agreed-upon protocols for the movement of each carrier's trains be ensured?
- How will dispatchers and maintenance of equipment personnel coordinate with Amtrak and commuter services?

Since the CSAO will not be operated as traditional terminals with single ownership, responsibilities, and liabilities, many safety concerns regarding the management and operation of these CSAOs must be carefully examined.

3) Major Findings of FRA Safety Analysis

FRA's review of the operating plans has identified many safety related issues which must be addressed by the Applicants in great detail. While all these issues and concerns are more fully set out below, the following are the more serious issues that require special attention.

a) Hazardous Materials Response

Conrail, because of the volume of hazardous materials handled and the densely settled areas through which this traffic moves, presently has a well-trained hazardous materials response team. FRA sees no evidence that either of the acquiring railroads has planned to integrate these sound training practices in their combined systems. It is very important that both CSX and NS recognize why Conrail maintains such a high level of training and response capability and that they develop plans and enact measures that will maintain the level and quality of hazardous materials response capability in this part of the country.

b) The NORAC Rulebook

Both NS and CSX propose to increase their operations over trackage owned and dispatched by Amtrak and various state commuter railroads. All of these entities use an operating rulebook developed by the Northeast Operating Rule Advisory Committee (NORAC) to reflect the complexity and density of rail operations in the northeast. NORAC is comprised of voluntary railroads that collaborate on a common set of rules. On the other hand, NS and CSX have each developed and use their own individual operating rulebooks. There is nothing more essential to ensuring railroad operating safety than strict adherence to the established operating rules. Both CSX and NS will need to reconcile any differing rules and their operations with the NORAC rules.

An increase in freight operations will require the training of NS and CSX employees in NORAC procedures, and both railroads will need to make a continuing commitment to this training in order to ensure that enough trained and qualified personnel are available to sustain safety in these areas.

c) The Conrail Shared Assets Operation

As identified in the CSX and NS operating plan submissions, there are three areas which will operate as a separate entity with joint CSX and NS control: northern New Jersey, southern New Jersey/Philadelphia, and Detroit. These survivors of Conrail will be separate, jointly owned terminal operations, but it appears from the merger filings that they will differ in many ways

from traditional terminal railroads. For example, although each CSAO will have operating staff and will dispatch trains (including its own and those of NS and CSX), both NS and CSX will be directly able to serve customers at CSAOs. NS and CSX crews will operate NS and CSX locomotives on CSAO track, although the CSAOs will also have some of its own motive power. Therefore, the CSAOs seem to have considerably less independence than a typical switching terminals. This raises a number of immediate safety issues:

- Who will train and qualify CSAO crews?
- Which rulebook(s) will they use?
- How will incidents and injuries on CSAOs be reported?
- Where will CSAO locomotives be inspected and maintained?
- Who will file CSAO accident reports, if the organization does not file its own?

The legal responsibilities and operational conduct of the CSAOs must be clarified before the acquisition goes forward.

d) Signals and Train Control

The disparities among wayside signal aspects and indications on CSX, CR, and NS are a major safety concern to FRA. Inconsistencies between wayside signal aspects and indications already exist in the Northeast Corridor and on the three railroads involved in the proposed acquisitions. The signal aspects (colors, numbers of lights, and location) convey different signal indications (meanings) on all three railroads. These inconsistencies are the legacy of prior mergers and acquisitions and are of increasing concern to FRA. Absent systematic plans to remedy it, this situation will worsen following the proposed acquisition.

e) Results of the CR/CSX/NS Line Segments Risk Analysis

An analytic model was constructed for FRA by its consultant, ZETA-TECH Associates, Inc., to quantify the safety impacts of changes in rail traffic forecast by CSX and NS in their STB filings. The model included 61 segments covering all Conrail main lines, plus certain lines of CSX and NS on which traffic flows would increase as a result of the proposed acquisition (See Table 1). Its purpose was to measure impacts on safety in terms of dollars of accident cost, for each segment in the analysis both in a base year (1995) and in the year 2000 (assuming successful completion of the acquisition).

The risk analysis is a regression model which takes into account train volume, track characteristics, operating speed, and includes a "firm variable" to capture historical differences in accident rates among the three carriers due to non-quantifiable factors. However, it should be noted that this model implicitly assumed "steady state" conditions such that:

- All former CR employees are trained in NS or CSX practices
- Former CR supervisors are brought up to the caliber of NS and CSX
- Morale and discipline are the same on all segments of the former CR as on the lines of the acquiring roads.

Table 1
List of Line Segments

Conrail Segments

1. Oak Island - Selkirk
2. Selkirk - Buffalo (Frontier)
3. Frontier - Niagara Falls
4. Frontier - Cleveland (Collinwood)
5. Collinwood - Berea (Short Line)
6. Collinwood - Toledo (Stanley) via Lakefront Line
7. Stanley - Elkhart
8. Stanley - Columbus
9. Elkhart - Kalamazoo *
10. Elkhart - Blue Island
11. Selkirk - Boston
12. Croxton - Binghamton *
13. Binghamton - Buffalo
14. Buffalo - Harrisburg *
15. Oak Island - Bound Brook
16. Bound Brook - Allentown *
17. Allentown - Reading *
18. Reading - Harrisburg
19. Reading - Philadelphia (Abrams)
20. Abrams - Greenwich YD *
21. Bound Brook - CP Falls (Phila.) *
22. Harrisburg - Johnstown
23. Johnstown - Greensburg - Pittsburgh (Conway)
24. Johnstown - Kiski - Conway
25. Conway - Alliance
26. Alliance - Cleveland
27. Alliance - Crestline
28. Crestline - Ft. Wayne
29. Ft. Wayne - Clark Junction
30. Crestline - Galion
31. Galion - Columbus *
32. Galion - Indianapolis (Avon)
33. Indianapolis - E. St. Louis (Rose Lake)

34. Toledo - Detroit
35. Detroit - Ypsilanti
36. Columbus - Deepwater, WV
37. Landover - "RO"
38. Enola - Perryville
39. Rockville - Buffalo
40. Columbus - Cincinnati *

CSX Segments

1. Baltimore - Point of Rocks (Old Main Line)
2. Baltimore - Washington
3. Washington - Point of Rocks
4. Point of Rocks - Cumberland
5. Cumberland - New Castle, PA
6. Greenwich, OH - Chicago (Barr)
7. Deshler - Toledo *
8. Danville - Evansville
9. Hyattsville - Anacostia Junction
10. "RO" - Richmond

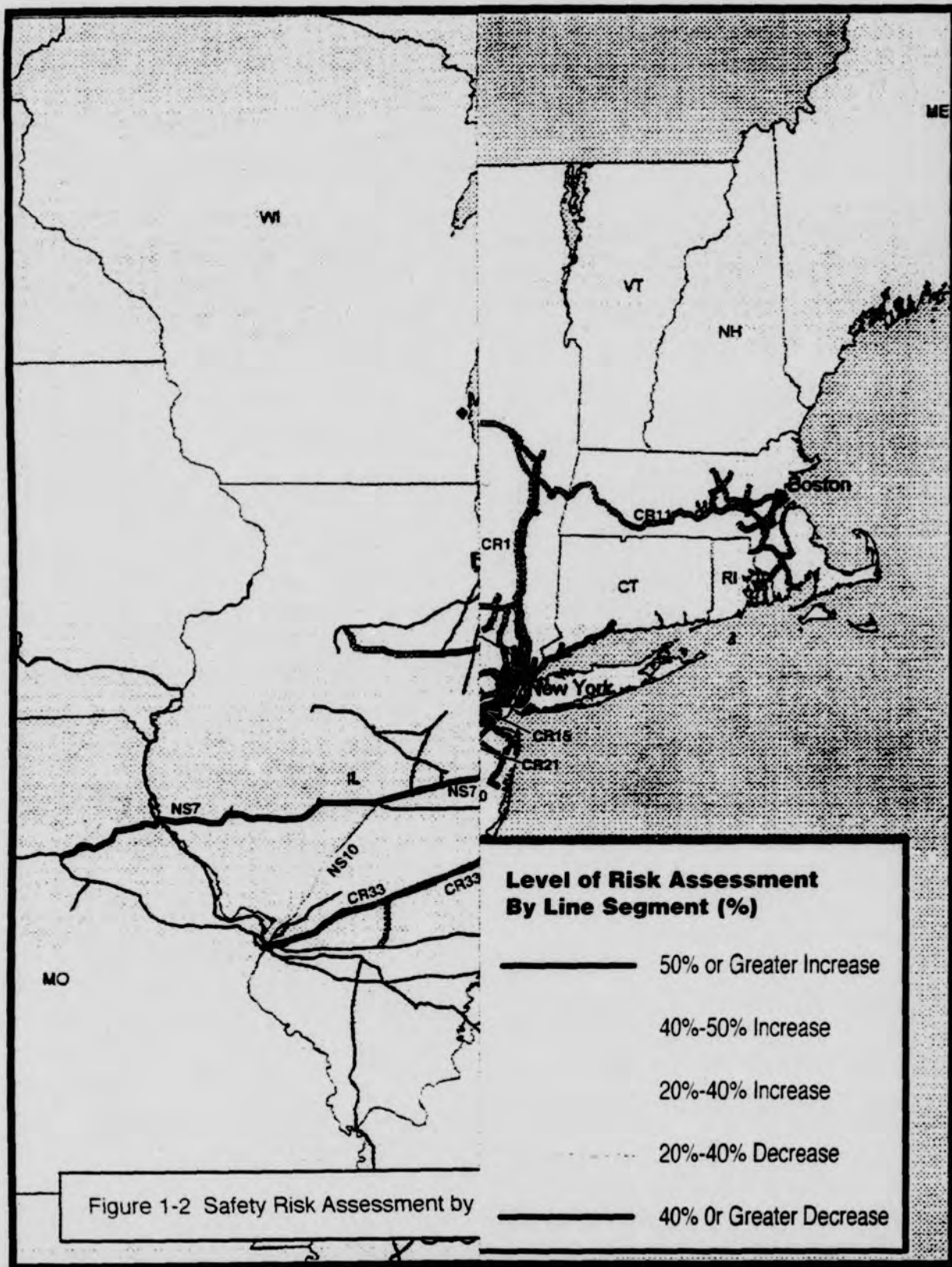
NS Segments

1. Hagerstown - Roanoke
2. Manassas - Shenandoah Jct.
3. Buffalo - Cleveland
4. Cleveland - Ft. Wayne
5. Ft. Wayne - Chicago (Calumet)
6. Ft. Wayne - Muncie
7. Ft. Wayne - Kansas City
8. Columbus - Bellevue
9. Bellevue - Sandusky
10. Decatur - St. Louis
11. Deepwater, WV - Roanoke

* No calculation or risk assigned on Map of Safety Risk Assessment (Figure 1-2)

Overall, the model indicated that traffic volume in train miles was projected to increase 17.8% by the year 2000 on the line segments analyzed. This increase in train volume was estimated to result in a 12% increase in accident costs (risks) assuming Conrail's operations to have been successfully integrated into those of CSX and NS (See Table 2). However, this cost increase (risk) was not uniform over the network (See Figure 1-2, Map of Safety Risk Assessment by Line Segment of Proposed Conrail Acquisition). Certain segments with large projected traffic increases also sustained large increases in risk (cost). The large projected traffic increases on a number of line segments mean that, while the accident rate may be reduced on a line segment, the total costs (risk) of rail accidents on that line segment will increase. Moreover, there is nothing in the application, as noted earlier, that addresses the models of successful integration.

FRA thinks it imperative that the acquiring carriers specifically address in their safety integration plans measures that might be taken to mitigate these projected increases. Such an effort could yield significant gains in safety.



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Table 2
Results of Accident Safety Model - Risk Assessment

SEQUE NT	8 yrs ANNUAL	1995 PREDCT.	2000 PREDCT.	1995	2000	8 yrs ANNUAL AVERAGE	1995 PREDCT. COST	2000 PREDCT. COST	N TRAIN MILES	% COST PRED.	FROM	TO
	Average Cost	COST	COST	TRAIN MILES	TRAIN MILES	PER TRAIN MILE	PER TRAIN MILE	PER TRAIN MILE				
	Note 1	Note 2	Note 3						Note 4	Note 5		
CR1	\$685,876	\$225,056	\$103,769	2,858	2,888	\$234.84	\$76.30	\$84.86		35.4%	Oak Island	Selkirk
CR2	\$2,712,219	\$2,698,689	\$3,274,124	13,414	18,073	\$202.20	\$216.17	\$217.22		31.4%	Selkirk	Buffalo
CR3	\$4,955	\$95,217	\$68,774	840	819	\$7.74	\$148.68	\$107.61		11.3%	Frontier	Niagara
CR4	\$1,778,760	\$1,401,480	\$1,288,240	8,470	8,616	\$187.83	\$147.88	\$150.58		13.1%	Frontier	Cleveland
CR5	\$7,529	\$197,217	\$218,373	249	251	\$30.29	\$793.37	\$216.38		11.1%	Collinwood	Berea
CR6	\$1,483,644	\$687,022	\$471,084	3,726	2,848	\$399.34	\$184.46	\$185.39		11.1%	Crawbridge	Toledo
CR7	\$1,292,385	\$1,208,101	\$688,111	7,171	8,022	\$180.24	\$168.62	\$144.19		11.1%	Air Line Jct.	Elkhart
CR8	\$287,623	\$148,181	\$40,638	1,880	431	\$153.54	\$76.84	\$84.27		11.1%	Stanley	Columbus
CR10	\$1,336,199	\$940,183	\$787,448	6,889	8,240	\$230.11	\$188.13	\$144.39		11.1%	Elkhart	So. Chicago
CR11	\$816,210	\$814,111	\$717,848	6,374	6,303	\$88.08	\$161.48	\$135.42		11.1%	Selkirk	Boston
CR13	\$206,021	\$289,809	\$98,216	2,877	4,243	\$71.26	\$100.76	\$89.31		11.1%	Binghamton	E. Buffalo
CR18	\$44,610	\$331,212	\$238,183	1,980	1,861	\$22.48	\$187.24	\$141.61		11.1%	Oak Island	Bethlehem
CR18	\$44,610	\$331,212	\$238,183	1,980	1,861	\$22.48	\$187.24	\$141.61		11.1%	Reading	Harrisburg
CR19	\$280,408	\$171,462	\$127,742	1,221	1,285	\$229.63	\$140.42	\$101.01		11.1%	Reading	Philadelphia
CR22	\$1,386,313	\$1,773,864	\$1,648,333	11,218	11,384	\$121.80	\$188.13	\$146.17		11.1%	Enola	E. Conway
CR23	\$803,688	\$134,146	\$92,801	870	861	\$89.85	\$164.12	\$107.61		11.1%	Conplitt	Federal St.
CR24	\$246,237	\$179,727	\$138,249	78	186	\$3,235.32	\$2,371.07	\$822.61		11.1%	Conway	Alliance
CR26	\$443,441	\$818,400	\$382,428	2,880	1,877	\$171.88	\$200.88	\$187.80		11.1%	Alliance	Cleveland
CR26	\$378,061	\$348,803	\$300,128	1,488	1,888	\$259.70	\$238.76	\$177.84		11.1%	Alliance	Crestline
CR27	\$381,010	\$407,892	\$208,237	2,028	700	\$175.37	\$201.37	\$284.78		11.1%	Arline Jct.	N. Detroit
CR28	\$172,318	\$329,441	\$388,024	777	1,820	\$221.93	\$420.40	\$211.89		11.1%	Crestline	Fl. Wayne
CR29	\$389,248	\$330,047	\$238,624	178	880	\$2,136.16	\$1,323.28	\$341.78		11.1%	Fl. Wayne	Clarka Jct.
CR30	\$188,427	\$275,824	\$442,889	1,010	3,027	\$188.80	\$273.18	\$426.19		11.1%	Berea	Gallon
CR32	\$146,201	\$740,828	\$889,707	6,884	8,818	\$21.73	\$130.34	\$117.82		11.1%	Gallon	Indianapolis
CR33	\$26,674	\$424,384	\$377,188	4,738	5,234	\$5.61	\$138.68	\$118.61		11.1%	Indianapolis	E. St. Louis
CR34	\$482,923	\$212,314	\$173,247	781	838	\$619.48	\$282.78	\$187.29		11.1%	N. Detroit	Jackson
CR35	\$404,687	\$489,778	\$821,470	1,704	2,827	\$237.42	\$286.78	\$184.44		11.1%	Jackson	Kalamazoo
CR36	\$208,021	\$104,471	\$88,168	28	838	\$231.33	\$118.76	\$78.88		11.1%	Columbus	Deepwater
CR37	\$10,338	\$145,382	\$118,367	384	802	\$28.06	\$378.61	\$235.74		11.1%	Deepwater	RO
CR38	\$262,577	\$244,884	\$170,488	1,278	1,080	\$209.72	\$191.83	\$182.34		11.1%	Enola	Perryville
CR39	\$188,718	\$180,848	\$128,187	1,801	1,784	\$110.68	\$106.31	\$71.83		11.1%	Rockville	Buffalo
CSX1	\$62,010	\$88,809	\$88,247	839	634	\$89.42	\$108.47	\$109.19		11.1%	Baltimore	Point of Rocks
CSX2	\$182,228	\$189,788	\$211,128	1,784	1,801	\$103.88	\$113.30	\$111.08		11.1%	Baltimore	Washington
CSX3	\$802,181	\$231,088	\$288,861	1,843	1,844	\$308.73	\$140.87	\$133.19		11.1%	Washington	Point of Rocks
CSX4	\$129,788	\$481,189	\$444,138	3,828	4,398	\$33.07	\$122.00	\$122.77		11.1%	Point of Rocks	Cumberland
CSX5	\$823,788	\$809,388	\$828,374	6,312	7,882	\$89.82	\$89.83	\$107.43		11.1%	Cumberland	New Castle
CSX6	\$1,386,208	\$904,728	\$2,388,842	8,848	13,239	\$202.48	\$132.18	\$180.89		11.1%	Greenwich	Chicago
CSX8	\$818,882	\$808,828	\$864,378	3,881	4,634	\$223.98	\$218.62	\$210.61		11.1%	Greenwich	Chicago
CSX10	\$88,188	\$39,488	\$37,428	3,788	4,648	\$17.48	\$115.76	\$118.17		11.1%	Evansville	Richmond
NS1	\$387,881	\$129,473	\$289,244	1,373	3,384	\$282.60	\$85.10	\$88.08		11.1%	RO	Hagerstown
NS2	\$33,843	\$104,869	\$87,018	876	448	\$89.90	\$181.48	\$218.17		11.1%	Roanoke	Manassas
NS3	\$113,071	\$288,888	\$883,443	2,314	4,873	\$48.88	\$114.04	\$117.33		11.1%	Manassas	Buffalo
NS4	\$824,078	\$803,028	\$781,392	3,773	8,648	\$219.41	\$133.32	\$138.41		11.1%	Buffalo	Cleveland
NS5	\$888,887	\$219,380	\$238,386	1,321	1,834	\$884.08	\$188.02	\$135.37		11.1%	Cleveland	Fl. Wayne
NS6	\$18,440	\$70,898	\$89,840	1,284	860	\$14.70	\$88.30	\$88.21		11.1%	Fl. Wayne	Muncie
NS7	\$1,188,798	\$1,389,848	\$3,089,818	8,888	18,113	\$118.60	\$139.61	\$180.52		11.1%	Fl. Wayne	Kansas
NS8	\$31,408	\$258,619	\$378,411	2,887	3,383	\$11.82	\$98.10	\$87.04		11.1%	Columbus	Belleuve
NS10	\$72,472	\$219,148	\$313,874	1,838	2,821	\$39.48	\$119.34	\$111.17		11.1%	St. Louis	Decatur
NS11	\$2,838	\$4,820	\$8,228	88	221	\$32.88	\$48.88	\$28.13		11.1%	Deepwater	Roanoke
TOTAL	\$33,882,187	\$33,882,187	\$28,878,721	148,728	176,543	\$187.86	\$187.86	\$186.76	17.8%	-4.3%	Total	
EXPECTED INCREASE IN COST 12.62%												
Note:												
(1) Average annual accident cost, 1980-1988												
(2) Predicted 1995 accident cost, calibrated to 8 years average												
(3) Predicted year 2000 accident cost												
(4) Projected percent change in train miles, Year 2000 (From Railroad Filings)												
(5) Predicted change in accident cost, Year 2000 V.S. 1988												

A similar situation exists with respect to highway-rail crossings. More lives are lost in highway-rail grade crossing accidents by far than in any other aspect of rail operations except for trespassing (which also results in large numbers of deaths relative to other railroad-related causes of death). Again, on average, the traffic increase is relatively small, but on specific segments of the network the train volume is projected to increase significantly. For example, the increase in volume from four trains per day to a range of 43 - 47 trains per day is projected on the Cleveland Short Line (CSL) between Collinwood and Berea, Ohio. An increase of 13 trains per day to 36 - 38 trains per day is projected for the NS line through Lakewood, Ohio. Although there have been no recent grade crossing accidents on the CSL and Lakewood line segments, the very large projected increase in train volumes demands a careful evaluation of risks and possible measures to mitigate them. All of the crossings on each of these segments should be analyzed together as a corridor and mitigation measures designed to reduce risk along entire segments rather than on a crossing-by-crossing basis.

A separate analysis was performed for accidents at highway-rail grade crossings based on a 1986 FRA-developed grade crossing prediction model. This grade crossing analysis made use of data from several FRA sources; an FRA-maintained inventory of public highway-rail crossings in the United States and a separate FRA-maintained grade crossing accident database. Five years of accident data, together with crossing safety information, highway traffic levels, and railroad traffic levels were used to calculate predicted number of accidents per crossing and per segment. The post-acquisition accident rate for each study segment was computed using the railroad projected traffic for the year 2000 with the results calculated by line segment (by summing across all crossings on the segment). The predicted number of accidents, fatalities, and injuries per year was tabulated for each line segment of the CR, NS, and CSX lines and is shown in Tables 3 through 5.

Table 3
CR Line Segments - Base Case and Post Acquisition Case

	Station	Station	Miles	Base Case			Predicted			Predicted			Post Acquisition Case			Predicted			Change in		
				Page Trains Day	Per Train Day	Total Trains Day	Predicted Accidents Per Year	Predicted Fatalities Per Year	Predicted Injuries Per Year	Page Trains Day	Per Train Day	Total Trains Day	Change In Trains	Predicted Accidents Per Year	Predicted Fatalities Per Year	Predicted Injuries Per Year	Change in Accidents Per Year				
CR1	RIDGEFIELD H	NEW BURG	44.9	0	23.6	23.6	1.6784	0.1130	0.4759	0	24.8	24.8	1.2	1.6976	0.1143	0.4814	0.0195				
	NEW BURG	SELKIRK	80.1	0	22.2	22.2	1.1220	0.0817	0.2912	0	23.4	23.4	1.2	1.1362	0.0827	0.2948	0.0142				
CR2	SELKIRK	HOFFMANS	25.4	0	38.7	38.7	0.3450	0.0310	0.0860	0	45.2	45.2	6.5	0.3590	0.0323	0.0895	0.0140				
	RENSSELAER	W. ALBANY	4	14	3.4	17.4	0.0000	0.0000	0.0000	14	3.4	17.4	0	0.0000	0.0000	0.0000					
	W. ALBANY	HOFFMAN	23	7.4	0.1	7.5	0.0000	0.0000	0.0000	7.4	0.1	7.5	0	0.0000	0.0000	0.0000					
	HOFFMAN	UTICA	66.4	7.4	38.3	45.7	0.4233	0.0443	0.0975	7.4	44.8	52.2	6.5	0.4381	0.0456	0.1004	0.0126				
	UTICA	SYRACUSE	50.6	7.4	36.9	44.3	0.0000	0.0000	0.0000	7.4	43.4	50.8	6.5	0.0000	0.0000	0.0000					
	SYRACUSE	SYRACUSE J	5.5	7.1	40	47.1	0.0000	0.0000	0.0000	7.1	46.6	53.7	6.6	0.0000	0.0000	0.0000					
	SOLVAY	LYONS	42.3	7.1	39.5	46.6	0.0000	0.0000	0.0000	7.1	44.8	51.9	5.3	0.0000	0.0000	0.0000					
	LYONS	FAIRPORT	23.4	7.1	39.8	46.9	0.2456	0.0239	0.0634	7.1	45.1	52.2	5.3	0.2505	0.0244	0.0646	0.0050				
	FAIRPORT	ROCHESTER	10.7	7.1	31.8	38.9	0.2329	0.0138	0.0604	7.1	36.5	43.6	4.7	0.2383	0.0141	0.0617	0.0054				
	ROCHESTER	CHILI	12.7	7.1	33.4	40.5	0.2484	0.0287	0.0505	7.1	36.9	44	3.5	0.2522	0.0291	0.0513	0.0038				
	CHILI	FRONTIER	50.5	7.1	40.6	47.7	0.7806	0.1044	0.2171	7.1	45.9	53	5.3	0.8004	0.1071	0.2226	0.0198				
	FRONTIER	BUFFALO	4.1	7.1	52.8	59.9	0.0000	0.0000	0.0000	7.1	49.5	56.6	-3.3	0.0000	0.0000	0.0000					
CR3	BUFFALO	BLACK ROCK	7.1	5.1	1.6	6.7	0.0000	0.0000	0.0000	5.1	1.6	6.7	0	0.0000	0.0000	0.0000					
	BLACK ROCK	NIAGRA FALL	21.1	5.1	7.3	28.1	0.8949	0.0147	0.2052	5.1	22	27.1	-1	0.8880	0.0146	0.2036	-0.0069				
CR4	BUFFALO	DRAW	1.7	2	55.8	57.8	0.0000	0.0000	0.0000	2	58.5	60.5	2.7	0.0000	0.0000	0.0000					
	DRAW	BUFF CRK JCT	0.4	2	55.8	57.8	0.0000	0.0000	0.0000	2	52.5	54.5	-3.3	0.0000	0.0000	0.0000					
	BUFF CRK JCT	BUFF SENCA	3.3	2	55.8	57.8	0.0000	0.0000	0.0000	2	52.5	54.5	-3.3	0.0000	0.0000	0.0000					
	BUFF SENCA	ASHTABULA	122.8	2	50.1	52.1	3.3932	0.3805	0.8323	2	50.8	52.8	0.7	3.4022	0.3816	0.8345	0.0091				
	ASHTABULA	QUAKER	46.5	2	48.3	50.3	0.8099	0.0931	0.1924	2	54.2	56.2	5.9	0.8240	0.0947	0.1957	0.0141				
	QUAKER	DRAW BRIDGE	7.6	2	53.4	55.4	0.0000	0.0000	0.0000	2	12.9	14.9	-40.5	0.0000	0.0000	0.0000					
CR5	QUAKER	MAYFIELD	5.8	0	6.8	6.8	0.0000	0.0000	0.0000	0	43.8	43.8	37	0.0000	0.0000	0.0000					
	MAYFIELD	MARCEY	3.3	0	3.4	3.4	0.0000	0.0000	0.0000	0	43.8	43.8	40.4	0.0000	0.0000	0.0000					
	MARCEY	SHORT	8.6	0	16.4	16.4	0.0000	0.0000	0.0000	0	45.8	45.8	29.4	0.0000	0.0000	0.0000					
	SHORT	BEREA	4	0	13.4	13.4	0.0000	0.0000	0.0000	0	47.3	47.3	33.9	0.0000	0.0000	0.0000					
CR6	STANLEY	DUNKIRK	57.2	0	11.6	11.6	4.3050	0.3606	1.2978	0	1.4	1.4	-10.2	2.5524	0.2105	0.7731	-1.7576				
	DUNKIRK	RIDGEWAY	21.1	0	13.2	13.2	0.1007	0.0105	0.0330	0	1.4	1.4	-11.8	0.0605	0.0062	0.0199	-0.0401				
	RIDGEWAY	MARYSVILLE	22.2	0	22.2	22.2	0.5559	0.0578	0.1824	0	9.4	9.4	-12.8	0.4406	0.0457	0.1446	-0.1153				
	MARYSVILLE	DARBY	19.3	0	22.2	22.2	0.1146	0.0119	0.0376	0	5	5	-17.2	0.0774	0.0080	0.0254	-0.0372				
	DARBY	MOUNDS	2.6	0	2.2	2.2	0.0000	0.0000	0.0000	0	2	2	-0.2	0.0000	0.0000	0.0000					
	MOUNDS	SCIOTO	5.8	0	2.2	2.2	0.6929	0.0326	0.1834	0	2	2	-0.2	0.6793	0.0320	0.1797	-0.0136				
CR11	BOSTON BEA	FRAMINGHAM	18.3	38	9.3	47.3	0.5327	0.0184	0.1294	38	8.7	46.7	-0.6	0.5316	0.0183	0.1292	-0.0011				
	FRAMINGHAM	WESTBORO	11.9	12	15.3	27.3	0.0000	0.0000	0.0000	12	14.4	26.4	-0.9	0.0000	0.0000	0.0000					
	WESTBORO	WORCESTER	11	12	15.3	27.3	0.0000	0.0000	0.0000	12	14.4	26.4	-0.9	0.0000	0.0000	0.0000					
	WORCESTER	PALMER	39	4	20.3	24.3	0.0000	0.0000	0.0000	4	19.9	23.9	-0.4	0.0000	0.0000	0.0000					
	PALMER	SPRINGFIELD	15.3	6	22.3	28.3	0.0000	0.0000	0.0000	6	21.9	27.9	-0.4	0.0000	0.0000	0.0000					
	SPRINGFIELD	WESTFIELD	11	2	22.3	24.3	0.0000	0.0000	0.0000	2	22.1	24.1	-0.2	0.0000	0.0000	0.0000					
	WESTFIELD	SELKIRK	85	2	24.3	26.3	0.1661	0.0134	0.0351	2	24.1	26.1	-0.2	0.1657	0.0124	0.0350	-0.0003				
CR10	RO	FIELD	2	0	0	0	0.0000	0.0000	0.0000	0	16	16	16	0.0000	0.0000	0.0000					
	SOUTH PHILA	FIELD	8	0	8.2	8.2	0.0000	0.0000	0.0000	0	21.1	21.1	12.9	0.0000	0.0000	0.0000					
	FIELD	BELMONT	4	0	8.2	8.2	0.0000	0.0000	0.0000	0	15.8	15.8	7.6	0.0000	0.0000	0.0000					

Table 3 - continued
CR Line Segments - Base Case and Post Acquisition Case

	Station	Station	Miles	Base Case			Predicted Accidents Per Year	Predicted Fatalities Per Year	Predicted Injuries Per Year	Post Acquisition Case					Predicted Accidents Per Year	Predicted Fatalities Per Year	Predicted Injuries Per Year	Change in Accidents Per Year
				Page Trains Day	Pri Trains Day	Total Trains Day				Page Trains Day	Pri Trains Day	Total Trains Day	Change Trains In					
CR21	PARK JCT	BELMONT	0.9	0	17	17	0.0000	0.0000	0.0000	0	18.3	18.3	1.3	0.0000	0.0000	0.0000		
	BELMONT	WEST FALLS	1.3	0	24.5	24.5	0.0000	0.0000	0.0000	0	27.1	27.1	2.6	0.0000	0.0000	0.0000		
	WEST FALLS	CP NEW TOW	3.7	0	11.1	11.1	0.0000	0.0000	0.0000	0	11.4	11.4	0.3	0.0000	0.0000	0.0000		
	CP NEW TOW	CP WOOD	20.7	48	13	60	0.0000	0.0000	0.0000	48	11.4	59.4	-0.6	0.0000	0.0000	0.0000		
CR28	CP WOOD	TRENTON	3.7	48	14.3	62.3	0.0000	0.0000	0.0000	48	10	58	-4.3	0.0000	0.0000	0.0000		
	TRENTON	CP PT READI	24.7	0	15.7	15.7	0.0000	0.0000	0.0000	0	11.4	11.4	-4.3	0.0000	0.0000	0.0000		
	CRESTLINE	BUCCYRUS	11.9	0	6.5	6.5	1.0769	0.1203	0.2946	0	14.5	14.5	8	1.3254	0.1488	0.3623	0.2483	
	BUCCYRUS	ADAMS	113.3	0	3.9	3.9	1.4158	0.1296	0.4333	0	13.9	13.9	8	1.7675	0.1619	0.5411	0.3517	
CR29	ADAMS	FT. WAYNE	5	0	5.9	5.9	0.0000	0.0000	0.0000	0	13.9	13.9	8	0.0000	0.0000	0.0000		
	FT. WAYNE	WARSAW	39.7	0	2.4	2.4	0.2171	0.0361	0.1370	0	6.4	6.4	4	0.7121	0.0462	0.1994	0.1550	
	WARSAW	TOLLESTON	83.1	0	1	1	0.0604	0.0036	0.0171	0	5	5	4	0.0844	0.0052	0.0238	0.0240	
	TOLLESTON	CLARK JCT	3.9	0	0	0	0.2428	0.0165	0.0629	0	5	5	5	0.6663	0.0513	0.1680	0.4235	
CR30	BEREA	GREENWICH	42	0	14.5	14.5	1.3502	0.1794	0.4032	0	34.2	34.2	39.7	1.8999	0.2531	0.5669	0.5498	
	GREENWICH	CRESTLINE	21.2	0	14.5	14.5	1.4057	0.1919	0.4198	0	31.3	31.3	16.8	1.9205	0.2309	0.5033	0.3148	
	CRESTLINE	GALION	3.3	0	28.3	28.3	0.1323	0.0186	0.0424	0	26.3	26.3	-1.8	0.1399	0.0182	0.0416	-0.0024	
	COLUMBUS	HOCKING	1	0	13.4	13.4	0.8535	0.0963	0.2446	0	9.5	9.5	-3.9	0.7812	0.0878	0.2422	-0.0723	
CR31	GALION	COLUMBUS	57.7	0	13.4	13.4	0.0000	0.0000	0.0000	0	7.5	7.5	-5.9	0.0000	0.0000	0.0000		
	GALION	MARION	22.5	0	18.6	18.6	1.5300	0.1816	0.4570	0	23.6	23.6	5	1.6218	0.1927	0.4844	0.0918	
	MARION	RIDGEWAY	23.2	0	16.1	16.1	0.2806	0.0292	0.0853	0	31.8	31.8	15.7	0.3573	0.0352	0.1025	0.0568	
	RIDGEWAY	SIDNEY	38.3	0	24.2	24.2	0.3515	0.0433	0.0973	0	31	31	6.6	0.3741	0.0461	0.1036	0.0227	
CR32	SIDNEY	SO. ANDERS	85.6	0	29.4	29.4	0.5682	0.0797	0.1617	0	26.7	26.7	-2.7	0.5544	0.0778	0.1578	-0.0137	
	S. ANDERSON	INDIANA POL	35.1	0	32	32	8.6074	0.9954	2.2795	0	25.7	25.7	-6.3	8.2132	0.5678	2.1755	-0.3942	
	INDIANA POL	AVON	12.3	0	26	26	0.4851	0.0608	0.1425	0	21.7	21.7	-4.3	0.4647	0.0582	0.1366	-0.0203	
	AVON	GREENCAST	27.5	0	23	23	0.4398	0.0376	0.1351	0	19.9	19.9	-3.1	0.4460	0.0358	0.1311	-0.0136	
CR33	GREENCAST	TERREHAUT	32	0	24.4	24.4	1.6935	0.1097	0.4116	0	19.9	19.9	-0.5	1.5874	0.1026	0.3858	-0.1061	
	TERREHAUT	SPRINGHAM	68.6	0	23.8	23.8	0.2412	0.0220	0.0622	0	16.1	16.1	-7.7	0.2226	0.0203	0.0575	-0.0185	
	SPRINGHAM	ST. ELMO	13.7	0	22.3	22.3	0.0000	0.0000	0.0000	0	14.1	14.1	-8.2	0.0000	0.0000	0.0000		
	ST. ELMO	E. ST. LOUIS	82.7	0	16	16	0.2920	0.0139	0.0801	0	9.1	9.1	-6.9	0.2494	0.0118	0.0685	-0.0426	
CR37	LANDOVER	ANACOSTIA	5.4	0	3.4	3.4	0.0000	0.0000	0.0000	0	9.1	9.1	5.7	0.0000	0.0000	0.0000		
	ANACOSTIA	VIRGINIA AVE	2.3	0	19.3	19.3	0.0000	0.0000	0.0000	0	28.6	28.6	9.3	0.0000	0.0000	0.0000		
	VIRGINIA AVE	POTOMAC	6	35	17.9	52.9	0.0000	0.0000	0.0000	35	18.6	63.6	10.7	0.0000	0.0000	0.0000		
	Cleveland OH	Vermillion OH	43	4	48.4	52.4	2.6175	0.2166	0.5934	4	24.4	28.4	-24	2.3162	0.1909	0.5245	-0.3013	
CR6	Vermillion OH	Oak Harbor O	4	4	48.3	52.3	2.1387	0.2712	0.5588	4	56.3	60.3	-12.1	3.0496	0.2572	0.5303	-0.1092	
	Oak Harbor OH	Arlene OH	24	4	48.6	52.6	0.6824	0.0853	0.1851	4	57.1	61.1	8.5	0.6880	0.0886	0.1923	0.0256	
	Arlene OH	Bueller IN	68	4	50.4	54.4	3.8531	0.3099	1.0266	4	43.8	47.8	-6.6	3.5538	0.4959	0.9986	-0.0993	
	Bueller IN	Elkhart IN	63	4	51.1	55.1	5.6424	0.5095	1.2820	4	40	44	-11.1	5.4037	0.4874	1.2267	-0.2387	
CR9	Kalamazoo MI	Elkhart IN	55	0	7	7	6.2903	0.4329	1.8724	0	6.3	6.3	-0.5	6.1771	0.4250	1.6434	-0.1132	
	Elkhart IN	Porter IN	61	4	53	57	5.9985	1.0170	2.3604	4	43.2	49.2	-7.8	9.7371	0.9901	2.2983	-0.2613	
	Porter IN	Control Pt 501	20	14	69.4	83.4	1.0119	0.0934	0.2499	14	88.7	82.7	-0.7	1.0104	0.0932	0.2495	-0.0015	
	Control Pt 501	Indiana Hbr IN	1	14	43.4	57.4	0.0000	0.0000	0.0000	14	36.5	70.5	13.1	0.0000	0.0000	0.0000		
CR12	Indiana Hbr IN	South Chicago	8	16	41.1	57.1	0.0000	0.0000	0.0000	16	49	63	7.9	0.0000	0.0000	0.0000		
	South Chicago	Suffern NY	28	58.9	5.1	64	0.0000	0.0000	0.0000	58.9	8.2	67.1	3.1	0.0000	0.0000	0.0000		
	Suffern NY	Campbell NY	35	13.4	4.7	18.1	0.0000	0.0000	0.0000	13.4	7.7	21.1	3	0.0000	0.0000	0.0000		
	Campbell NY	Port Jervis NY	30	13.4	7.9	21.3	0.0000	0.0000	0.0000	13.4	12	25.4	4.1	0.0000	0.0000	0.0000		
CR13	Port Jervis NY	Blaghamton N	126	0	7.9	7.9	0.0000	0.0000	0.0000	0	12	12	4.1	0.0000	0.0000	0.0000		
	Blaghamton N	Waverly NY	42	0	13	13	0.0944	0.0097	0.0285	0	19.9	19.9	6.9	0.1082	0.0111	0.0324	0.0138	
	Waverly NY	Coralog NY	36	0	16.4	16.4	0.0000	0.0000	0.0000	0	21.4	21.4	5	0.0000	0.0000	0.0000		
	Coralog NY	Buffalo NY	126	0	13.6	13.6	0.8080	0.0780	0.2460	0	20.6	20.6	7	0.8976	0.0866	0.2732	0.0894	
CR14	Harrisburg PA	Hagerstown P	74	0	11.2	11.2	8.5664	0.0396	0.1836	0	19.4	19.4	8.2	0.6454	0.0453	0.2091	0.0791	
	Rockville PA	Watsonstown P	64	0	5	5	0.0000	0.0000	0.0000	0	7	7	2	0.0000	0.0000	0.0000		
	Watsonstown P	Montgomery P	7	0	7.6	7.6	0.4356	0.0398	0.1400	0	6.9	6.9	-0.7	0.4258	0.0389	0.1369	-0.0098	
	Montgomery P	Linden PA No	22	0	3.3	3.3	0.0567	0.0045	0.0170	0	5	5	1.7	0.0607	0.0046	0.0162	0.0041	
CR39	Montgomery P	Linden PA So	22	0	4.2	4.2	0.0000	0.0000	0.0000	0	2	2	-2.2	0.0000	0.0000	0.0000		
	Linden PA So	Keating PA	39	0	7.4	7.4	0.4179	0.0180	0.1278	0	7.9	7.9	0.5	0.4252	0.0183	0.1300	0.0072	
	Keating PA	Ebenezer Jct N	149	0	4.2	4.2	0.8721	0.0666	0.2547	0	4.2	4.2	0	0.8721	0.0666	0.2547	0.0000	
	Ebenezer NY	Buffalo NY	6	0	0	0	0.0000	0.0000	0.0000	0	3.6	3.6	3.6	0.0000	0.0000	0.0000		

Table 3 - continued
CR Line Segments - Base Case and Post Acquisition Case

	Station	Station	Miles	Base Case						Post Acquisition Case							
				Psg	Frt	Total	Predicted	Predicted	Predicted	Psg	Frt	Total	Change	Predicted	Predicted	Predicted	Change in
				Trains	Trains	Trains	Accidents	Fatalities	Injuries	Trains	Trains	Trains	in	Accidents	Fatalities	Injuries	Accidents
				Day	Day	Day	Per Year	Per Year	Per Year	Day	Day	Day	Trains	Per Year	Per Year	Per Year	Per Year
CR15	Oak Island NJ	Aldene NJ	8	50	21.5	71.5	0.0000	0.0000	0.0000	50	12.5	62.5	-9	0.0000	0.0000	0.0000	
	Aldene NJ	Manville NJ	20	0	21.8	21.8	0.4428	0.0206	0.1162	0	12.8	12.8	-9	0.3922	0.0183	0.1029	-0.0506
	Manville NJ	Bethlehem PA	52	0	18.7	18.7	0.6342	0.0547	0.1895	0	17.4	17.4	-1.3	0.6230	0.0537	0.1862	-0.0112
CR16	Bethlehem PA	Allentown PA	3	0	17.2	17.2	0.0000	0.0000	0.0000	0	13.3	13.3	-3.9	0.0000	0.0000	0.0000	
	Allentown PA	Burn PA	3	0	24.9	24.9	0.0000	0.0000	0.0000	0	21.3	21.3	-3.6	0.0000	0.0000	0.0000	
CR17	Burn PA	Rdg Belt Jct P	37	0	36.4	36.4	2.9745	0.2404	0.7720	0	30.9	30.9	-5.5	2.8654	0.2312	0.7434	-0.1091
CR18	Rdg Belt Jct PA	WM Jct PA	4	0	31.2	31.2	0.8597	0.0461	0.1996	0	26.3	26.3	-4.9	0.8284	0.0442	0.1924	-0.0313
	WM Jct PA	Rutherford PA	45	0	42.4	42.4	0.0000	0.0000	0.0000	0	49.7	49.7	7.3	0.0000	0.0000	0.0000	
	Rutherford PA	Harrisburg PA	6	0	44.3	44.3	2.9293	0.1783	0.6707	0	57.9	57.9	13.6	3.1041	0.1894	0.7107	0.1748
CR19	West Falls PA	Abrams PA	14	0	17.3	17.3	0.2503	0.0042	0.0573	0	14	14	-3.3	0.2405	0.0040	0.0551	-0.0098
	Abrams PA	WM Jct. PA	39	0	25.1	25.1	0.2578	0.0229	0.0696	0	27.4	27.4	2.3	0.2617	0.0232	0.0707	0.0039
CR20	West Falls PA	Wayne Jct PA	4	0	7.3	7.3	0.0000	0.0000	0.0000	0	4	4	-3.3	0.0000	0.0000	0.0000	
	Zoo PA	Arsenal PA	2	0	5.4	5.4	0.0000	0.0000	0.0000	0	9.3	9.3	3.9	0.0000	0.0000	0.0000	
	Arsenal PA	Greenwich PA	3	0	5.4	5.4	0.0000	0.0000	0.0000	0	6.9	6.9	1.5	0.0000	0.0000	0.0000	
CR22	Marysville PA	Pitcairn PA	227	4	42.5	46.5	1.8320	0.1438	0.4905	4	42.8	46.8	0.3	1.8346	0.1440	0.4912	0.0027
	Pitcairn PA	Jacks Run PA	18	4	32.8	36.8	0.5704	0.0091	0.0974	4	36.6	40.6	3.8	0.5841	0.0093	0.0997	0.0138
CR23	Jacks Run PA	Conway East	16	4	50.4	54.4	0.3605	0.0378	0.0740	4	49.8	53.8	-0.6	0.3598	0.0378	0.0738	-0.0008
CR24	Conspitt Jct PA	Avonmre Coal	28	0	1.4	1.4	0.0000	0.0000	0.0000	0	2.9	2.9	1.5	0.0000	0.0000	0.0000	
	Avonmre Coal	Etna PA	44	0	0.6	0.6	0.1775	0.0115	0.0477	0	1.7	1.7	1.1	0.2132	0.0139	0.0572	0.0357
	Etna PA	Federal St PA	6	0	1.7	1.7	0.0000	0.0000	0.0000	0	2	2	0.3	0.0000	0.0000	0.0000	
CR25	Conway East P	Rochester PA	5	4	57.1	61.1	0.0000	0.0000	0.0000	4	48.7	52.7	-8.4	0.0000	0.0000	0.0000	
	Rochester PA	Alliance OH	57	2	37.9	39.9	1.4638	0.1045	0.3803	2	26.3	28.3	-11.6	1.3476	0.0960	0.3501	-0.1162
CR26	Alliance OH	White OH	46	2	26.4	28.4	2.4873	0.2071	0.6535	2	27.8	29.8	1.4	2.5156	0.2095	0.6609	0.0283
	White OH	Cleveland OH	11	2	12.5	14.5	0.0000	0.0000	0.0000	2	26.8	28.8	14.3	0.0000	0.0000	0.0000	
CR27	Alliance OH	Crestline OH	106	0	19.1	19.1	7.8161	0.7493	1.9882	0	6.6	6.6	-12.5	5.9815	0.5692	1.5195	-1.8346
CR34	Arline OH	River Rouge N	50	0	11.6	11.6	1.9439	0.1074	0.4314	0	14.5	14.5	2.9	2.0450	0.1132	0.4538	0.1012
	River Rouge M	W. Detroit MI	5	0	22.9	22.9	0.0000	0.0000	0.0000	0	25.6	25.6	2.7	0.0000	0.0000	0.0000	
	W. Detroit MI	North Yd MI	6	0	9.4	9.4	0.0000	0.0000	0.0000	0	12.1	12.1	2.7	0.0000	0.0000	0.0000	
CR35	West Detroit M	Jackson MI	74	8	2.9	10.9	1.5938	0.0885	0.3860	8	12.1	20.1	9.2	1.8419	0.1026	0.4461	0.2481
	Jackson MI	Kalamazoo M	67	8	5.4	13.4	1.9891	0.0742	0.4976	8	12	20	6.6	2.1931	0.0818	0.5483	0.2040
CR36	Columbus OH	Charleston W	185	0	4.1	4.1	1.5887	0.0914	0.4169	0	3.4	3.4	-0.7	1.5220	0.0876	0.3998	-0.0667
	Charleston W	Dickinson W	14	0	4.3	4.3	0.0767	0.0036	0.0211	0	4.6	4.6	0.3	0.0779	0.0037	0.0214	0.0012
	Dickinson W	Peters Jct W	41	0	1.6	1.6	0.3029	0.0167	0.0908	0	2.7	2.7	1.1	0.3409	0.0192	0.1018	0.0380
	Deepwater W	Fols Mine W	17	0	0.6	0.6	0.0516	0.0034	0.0153	0	2	2	1.4	0.0618	0.0043	0.0181	0.0102
CR38	Enola PA	Wago York H	18	0	19.3	19.3	0.5706	0.0404	0.1534	0	12.9	12.9	-6.4	0.5169	0.0366	0.1391	-0.0537
	Wago York Ha	Perryville PA	58	0	16	16	0.0000	0.0000	0.0000	0	14.1	14.1	-1.9	0.0000	0.0000	0.0000	
TOTAL							104.91	9.07	27.22					102.27	8.84	26.52	-2.63

Table 4
CSX Line Segments - Base Case and Post Acquisition Case

	Station	Station	Miles	Base Case						Post Acquisition Case							
				Pgr	Frt	Total	Predicted	Predicted	Predicted	Pgr	Frt	Total	Change	Predicted	Predicted	Predicted	Change in
				Trains	Trains	Trains	Accidents	Fatalities	Injuries	Trains	Trains	Trains	in	Accidents	Fatalities	Injuries	Accidents
				Day	Day	Day	Per Year	Per Year	Per Year	Day	Day	Day	Trains	Per Year	Per Year	Per Year	Per Year
CS1	RELAY	POINT OF ROCK	58	0	9.3	9.3	0.8555	0.0534	0.2419	0	9.2	9.2	-0.1	0.8532	0.0532	0.2413	-0.0023
CS2	BALTIMORE	RELAY	7	15.5	39.6	55.1	0.3349	0.0087	0.0826	15.5	42.7	58.2	3.1	0.3376	0.0088	0.0832	0.0026
	RELAY	JESSUP	7	15.5	33.1	48.6	0.2707	0.0263	0.0700	15.5	37	52.5	3.9	0.2751	0.0267	0.0711	0.0044
	JESSUP	ALEXANDRIA JCT	17	15.5	33.4	48.9	0.0000	0.0000	0.0000	15.5	37.1	52.6	3.7	0.0000	0.0000	0.0000	
	ALEXANDRIA	WASHINGTON	5	15.5	23.9	39.4	0.0000	0.0000	0.0000	15.5	30.8	46.3	6.9	0.0000	0.0000	0.0000	
CS3	WASHINGTON	POINT OF ROCK	43	14.4	23.8	38.2	0.8872	0.1046	0.2246	14.4	30.8	45.2	7	0.9043	0.1067	0.2289	0.0171
CS4	POINT OF ROCK	HARPERS FERRY	13	14.4	33.3	47.7	0.1648	0.0110	0.0532	14.4	41.6	56	8.3	0.1724	0.0115	0.0556	0.0076
	HARPERS FERRY	CHERRY RUN	32	7	33.3	40.3	0.2037	0.0272	0.0595	7	40.6	47.6	7.3	0.2127	0.0285	0.0622	0.0090
	CHERRY RUN	CUMBERLAND	65	2	29	31	0.4151	0.0240	0.1055	2	31	33	2	0.4212	0.0243	0.1071	0.0061
CS5	CUMBERLAND	SINNS	133	2	27.4	29.4	1.2131	0.0889	0.3418	2	32.5	34.5	5.1	1.2625	0.0926	0.3558	0.0494
	SINNS	RANKIN JCT	9	2	30.8	32.8	0.3728	0.0215	0.0639	2	40.2	42.2	9.4	0.3988	0.0230	0.0683	0.0260
	RANKIN JCT	NEW CASTLE	51	0	28.9	28.9	0.2989	0.0224	0.0695	0	38.3	38.3	9.4	0.3232	0.0242	0.0751	0.0243
	NEW CASTLE	YOUNGS TOWN	18.3	2	32.6	34.6	0.9172	0.1233	0.2616	2	39.6	41.6	7	0.9583	0.1288	0.2732	0.0411
CS6	GREENWICH	WILLIARD	11.6	2	32.5	34.5	0.5941	0.0933	0.1695	2	55.2	57.2	22.7	0.6733	0.1058	0.1920	0.0792
	WILLIARD	FOSTORIA	36.8	2	32.5	34.5	2.8714	0.3014	0.7674	2	54	56	21.5	3.2278	0.3392	0.8630	0.3564
	FOSTORIA	DESHLER	26	2	34	36	0.8268	0.1310	0.2347	2	37.9	39.9	3.9	0.8465	0.1342	0.2403	0.0197
	DESHLER	WILLOW CREEK	174	2	21.4	23.4	6.5055	0.8691	1.8425	2	47.7	49.7	26.3	7.7334	1.0346	2.1895	1.2279
	WILLOW CREEK	PINE JCT	12	2	20.1	22.1	1.1184	0.1280	0.3175	2	36.6	38.6	16.5	1.2538	0.1436	0.3558	0.1354
	PINE JCT	BARR YD	11	0	27.6	27.6	0.6281	0.0239	0.1325	0	33.3	33.3	5.7	0.6574	0.0250	0.1387	0.0292
CS7	DESHLER	TOLEDO	36	0	0.6	0.6	0.6301	0.0448	0.1499	0	14.2	14.2	13.6	1.3165	0.0934	0.3081	0.6864
CS8	DANVILLE	TERRE HAUTE	57	0	22.6	22.6	4.2649	0.3180	1.1625	0	23.9	23.9	1.3	4.3141	0.3218	1.1759	0.0492
	TERRE HAUTE	VINCENNES	54	0	22.6	22.6	4.6998	0.3759	1.3285	0	28.5	28.5	5.9	4.9723	0.3986	1.4058	0.2725
	VINCENNES	EVANSVILLE	53	0	22.3	22.3	4.4796	0.3123	1.2345	0	30.8	30.8	8.5	4.8356	0.3374	1.3326	0.3559
CS9	ALEXANDRIA	BENNING	6	0	18.7	18.7	0.0000	0.0000	0.0000	0	24.3	24.3	5.6	0.0000	0.0000	0.0000	
CS10	FREDERICKSBURG	POTOMOC YARD	49	22	16.3	38.3	0.1960	0.0278	0.0568	22	23.4	45.4	7.1	0.2050	0.0291	0.0595	0.0090
	DOSWELL	FREDERICKSBURG	37	14.5	16.2	30.7	0.0000	0.0000	0.0000	14.5	22.8	37.3	6.6	0.0000	0.0000	0.0000	
	RICHMOND	DOSWELL	24	14.5	17.8	32.3	1.4464	0.1701	0.3802	14.5	24.8	39.3	7	1.4936	0.1758	0.3927	0.0472
						TOTAL	34.20	3.31	9.35					37.65	3.67	10.28	3.45

Table 5
NS Line Segments - Base Case and Post Acquisition Case

	Station	Station	Miles	Base Case			Predicted Accidents Per Year	Predicted Fatalities Per Year	Predicted Injuries Per Year	Post Acquisition Case				Predicted Accidents Per Year	Predicted Fatalities Per Year	Predicted Injuries Per Year	Change in Accidents Per Year
				Pgr Trains Day	Frt Trains Day	Total Trains Day				Pgr Trains Day	Frt Trains Day	Total Trains Day	Change in Trains				
NS1	Hagerstown, M	Riverton Jct, V	59	0	11.3	11.3	0.8750	0.0930	0.2835	0	19.9	19.9	8.6	1.0254	0.1095	0.3318	0.1503
	Riverton Jct, VA	Roanoke, VA	181	0	3.9	3.9	0.2215	0.0226	0.0702	0	12.1	12.1	8.2	0.2894	0.0298	0.0918	0.0680
NS2	Riverton Jct, VA	Manassas, VA	51	0	11.3	11.3	1.2452	0.0948	0.3702	0	8.8	8.8	-2.5	1.1691	0.0885	0.3480	-0.0761
NS3	Buffalo FW, NY	Ashtabula, OH	128	0	13	13	2.7765	0.2460	0.7687	0	25.1	25.1	12.1	3.3024	0.2929	0.9136	0.5259
	Ashtabula, OH	Cleveland, OH	50	0	13	13	1.7730	0.1834	0.5227	0	35.2	35.2	22.2	2.2931	0.2385	0.6761	0.5201
NS4	Cleveland, OH	Vermillion, OH	37	0	13.5	13.5	3.4166	0.2440	0.9233	0	37.8	37.8	24.3	4.3460	0.3096	1.1739	0.9293
	Vermillion, OH	Bellevue, OH	26	0	15.6	15.6	0.9257	0.0983	0.2850	0	31.8	31.8	16.2	1.1150	0.1187	0.3430	0.1893
NS5	Bellevue, OH	Ft. Wayne, IN	120	0	23.9	23.9	9.6537	1.0256	2.8399	0	28.5	28.5	4.6	10.0856	1.0722	2.9671	0.4319
	Ft. Wayne, IN	Hammond, IN	129	0	8.6	8.6	19.8455	1.7655	5.6373	0	11.1	11.1	2.5	21.0834	1.8783	5.9879	1.2378
NS6	Hammond, IN	Calumet, IN	8	0	26.5	26.5	1.6950	0.0776	0.3973	0	12.8	12.8	-13.7	1.4666	0.0670	0.3441	-0.2284
	Ft. Wayne, IN	Muncie, IN	64	0	19.6	19.6	10.7615	0.8647	3.1388	0	15	15	-4.6	10.1540	0.8140	2.9613	-0.6075
NS7	Ft. Wayne, IN	Lafayette Jct, IN	115	0	20.2	20.2	13.7130	0.8667	3.6704	0	37.8	37.8	17.6	15.8223	1.0029	4.2364	2.1094
	Lafayette Jct, IN	Sidney, IL	71	0	22.7	22.7	3.4006	0.3245	0.9284	0	41.2	41.2	18.5	3.8964	0.3750	1.0669	0.4958
	Sidney, IL	Tolono, IL	10	0	21.3	21.3	1.0615	0.1303	0.3310	0	37.1	37.1	15.8	1.2097	0.1486	0.3771	0.1482
	Tolono, IL	Bement, IL	18	0	21.6	21.6	0.4388	0.0465	0.1331	0	35.4	35.4	13.8	0.4996	0.0529	0.1515	0.0608
	Bement, IL	Decatur, IL	20	0	26.3	26.3	2.2128	0.0896	0.5187	0	40.6	40.6	14.3	2.4289	0.0988	0.5697	0.2162
	Decatur, IL	Moberly, MO	209	0	10.8	10.8	4.8824	0.3683	1.3749	0	17.3	17.3	6.5	5.4935	0.4148	1.5458	0.6111
	Moberly, MO	CA Jct. MO	94	0	18.6	18.6	0.7210	0.0876	0.2308	0	25.9	25.9	7.3	0.7874	0.0957	0.2520	0.0663
NS8	CA Jct, MO	N. Kansas City	31	0	30	30	1.2658	0.1452	0.3734	0	31.3	31.3	1.3	1.2783	0.1467	0.3771	0.0125
	Columbus, OH	Bucyrus, OH	69	0	25.7	25.7	3.2421	0.3383	0.9439	0	31.6	31.6	5.9	3.4029	0.3560	0.9913	0.1607
	Bucyrus, OH	Bellevue, OH	34	0	26	26	1.0064	0.1181	0.3099	0	34.5	34.5	8.5	1.0826	0.1271	0.3332	0.0762
	Bellevue, OH	Sandusky Doc	15	0	1.4	1.4	0.4668	0.0368	0.1532	0	5.9	5.9	4.5	0.6299	0.0503	0.2061	0.1631
NS9	Alexandria, IN	Muncie, IN	16	0	2.6	2.6	2.0534	0.0991	0.5346	0	11.8	11.8	9.2	2.9327	0.1426	0.7613	0.8793
NS10	IC 95ST Chicag	Gibson City, IL	99	0	2	2	0.2578	0.0322	0.0803	0	5.2	5.2	3.2	0.3052	0.0389	0.0944	0.0474
	Gibson City, IL	Bement, IL	41	0	5.4	5.4	0.3311	0.0347	0.1055	0	7	7	1.6	0.3512	0.0368	0.1119	0.0201
	BEMENT, IL	Granite City, IL	106	0	9.8	9.8	4.0169	0.2794	1.0556	0	15.3	15.3	5.5	4.4710	0.3118	1.1729	0.4541
	Granite City, IL	TRRA Madison	6	0	18.9	18.9	0.0000	0.0000	0.0000	0	23.9	23.9	5	0.0000	0.0000	0.0000	
NS11	Elmore, WV	Deepwater, WV	60	0	0.3	0.3	0	0	0	0	2.3	2.3	2	0	0	0	0
	Deepwater, WV	Pinnacle Crk Jc	17	0	4.6	4.6	0	0	0	0	4.9	4.9	0.3	0	0	0	0
TOTAL							92.26	7.71	25.98					100.92	8.42	28.39	8.66

E) THE PROPOSED ACQUISITION - FRA's DETAILED REVIEW

1) Operating Practices Safety Findings

a) Accident and Incident Reporting Requirements

Neither the NS nor the CSX operating plans addresses measures each railroad will take to comply with the Railroad Accidents/Incidents regulations, 49 C.F.R. Part 225. Neither do they identify who will administer and oversee the mandatory monthly reporting requirements and the maintenance of an "Internal Control Plan." The operating plans do not set out the manner in which the railroads will inform former Conrail employees about procedures available to employees who perceive intimidation and harassment under Part 225. These elements are critical to ensure compliance with minimum safety standards.

b) Alcohol and Drug Use

Neither the NS nor the CSX operating plans addresses measures each railroad will take to comply with the Alcohol and Drug regulations, 49 C.F.R. Part 219. In particular, the operating plans are silent about carrying out their respective Post Accident Toxicological Testing programs and Random Drug and Alcohol Testing programs. Further, NS' operating plan does not address how it will extend FRA's Reasonable Cause Testing authority to include the acquired territories. Applicants must decide how to integrate the acquired territories with their current alcohol and drug programs, especially the CSAO territories.

c) Railroad Operating Rules

Neither the NS nor the CSX operating plans addresses measures each railroad will take to comply with the Railroad Operating Rules regulations, 49 C.F.R. Part 217. Currently, NS and CSX employ different operating rules, timetables, and timetable special instructions governing the movement of trains and engines over their respective territories. Moreover, neither Applicant identifies which set of operating rules will govern operations on CSAO or the Amtrak Northeast Corridor, which currently is governed by the NORAC rules. Each railroad must determine the type and quality of instruction and training that it intends to provide to former Conrail employees subject to Part 217 to ensure that these employees are conversant with the operating rules governing their assignments. This is especially critical on the Northeast Corridor where freight trains will occupy the same track segments as high speed passenger trains operating at speeds in excess of 125 mph.

d) Operational Tests and Inspections

Neither the NS nor the CSX operating plans addresses the manner in which the railroads will integrate former Conrail employees into their respective operational test and inspection programs, as required under 49 C.F.R. Part 29 217.9 and what operational test and inspection program will apply on the CSAO. This is especially important in view of the planned reduction in management employees responsible for implementing operational test and inspection programs. These officials perform a vital function in ensuring that employees are conversant with the operating rules governing the movement of trains or engines. Applicants must invest adequate resources in their respective operational testing programs by focusing on training and by instructing former CR employees on the meaning and application of operating rules.

e) Qualification and Certification of Locomotive Engineers

Neither the NS nor the CSX operating plans addresses measures each railroad will take to comply with Federal regulations governing the Qualification and Certification of Locomotive Engineers, 49 C.F.R. Part 240. Applicants must consider:

- (1) the assigned divisions and officials that will integrate the current engineer certification programs with the territories acquired
- (2) the timetable in which the railroads will file their engineer certification programs
- (3) the manner in which former Conrail locomotive engineers will be qualified and certified to operate on the acquired territories, including the CSAO.

Additionally, neither plan provides any information on how the railroads will carry out the Federal regulations governing train handling and air brake applications on acquired territories, including the CSAO and the Northeast Corridor. The railroads need to issue rules governing these operations and instruct employees who will be operating trains or engines in unfamiliar territory.

f) Hours of Service Laws

Neither the NS nor the CSX operating plans addresses measures each railroad will take to comply with the hours of service laws or the record keeping requirements set out in 49 C.F.R. Part 228. FRA believes there are three principal deficiencies that the Applicants must address before integration can be accomplished:

- (1) First, the railroads must demonstrate how they intend to comply with FRA's interpretations of the hours of service laws and record keeping regulations on the newly acquired territories. For example, the carriers must record the type and hours of work performed by covered service employees as defined under the statute and limit hours of service to periods prescribed by law.
- (2) Second, efforts to develop, implement and deploy an electronic hours of service record keeping system should be enunciated in the plan. CSX, for instance, has an authorized system in operation for its yard and train and engine employees.
- (3) Finally, the plans should describe any initiatives to centralize crew management functions performed on former Conrail territories. To illustrate, FRA has found that the crew management systems employed by Conrail and CSX are different and cannot be reconciled.

Applicants should articulate concrete ideas to rectify these shortcomings.

g) Yard Operations

Neither of the Applicants' operating plans describes how the railroads will train and instruct yard employees and train and service employees on the physical characteristics of former Conrail

yards and terminals. In light of the difficulties employees encountered in unfamiliar yard and terminals following the merger of the UP/SP, acquiring railroads should re-examine their respective plans and develop detailed programs ensuring that the employees responsible for yard or terminal operations are familiar with the rules governing these operations.

2) Motive Power And Equipment

a) General MP&E Concerns

FRA is concerned about the qualifications of the individuals that will be responsible for performing required inspections and tests of the equipment. Neither operating plan indicates how the railroads are planning to assimilate the employees they acquire into the railroad's corporate culture, nor is there any discussion regarding how new policies, procedures, and practices in the mechanical department will be implemented.

FRA is also concerned that the Applicants have enough individuals with adequate qualifications to perform train air brake tests, pre-departure inspections of freight cars, and daily locomotive inspections, as required by federal law.

The operating plans submitted by Applicants contain information about achieving efficient movement of freight traffic by "blocking" trains, and then changing blocks of cars, or "block swapping," at various locations. In this practice, freight cars that are destined for a common geographical destination are assembled together, or "blocked," and then added to or removed from trains (i.e., "block swapped") in the assembled "blocks" at various locations. This practice reduces the number of times cars have to be classified, enables trains to bypass traditional classification yards, and expedites the exchange of cars and/or entire train consists with connecting railroads. While FRA supports such efficiency enhancements to railroad freight operations, it is very concerned that such operations have the potential of compromising compliance with federally-mandated mechanical safety inspections of freight cars and train air brake tests which FRA cannot permit.

A pre-departure mechanical inspection pursuant to 49 C.F.R. 215.13 is required at each location where a freight car is placed in a train. Additionally, 49 C.F.R., 232.12(a)(1) requires a train to receive an initial terminal road train air brake test where the train consist is changed, other than by adding or removing a solid block of cars. In the operating plans, Applicants discuss locations where blocks of cars will be assembled, the routing of trains, and various locations where blocks of cars will be removed and/or added to trains. However, neither operating plan indicates a commitment, nor offers any provisions for performing the required pre-departure mechanical inspection of freight cars or initial terminal train air brake test on trains that have multiple blocks of cars added and/or removed.

b) MP&E Locomotive Inventory Concerns - CSX

The CSX operating plan states that, although the need for additional locomotives to handle traffic growth is anticipated, overall locomotive requirements can be reduced by 22 units, and that CSX anticipates a net locomotive reduction of 59 units. The operating plan proposes to accomplish this reduction with improved maintenance and equipment servicing practices, combined with

improved utilization of the locomotive fleet over more efficient routes. These statements must be clarified. There are a number of situations with severe safety consequences that can develop due to an inadequate number of locomotive units if traffic increases as anticipated. For example, CSX may elect to operate sub-standard or potentially defective equipment in order to meet the increased traffic demands. CSX may not be able to adhere to the statement they made on page 32 of their plan about retiring older and less reliable pieces of equipment to increase the overall efficiency of the combined fleet. Other potential consequences include: Hours of Service problems; the circumvention of required inspections; the operation of defective equipment; and the implied pressures from many sources that would be placed on mechanical and operating employees at all levels to cut corners and take chances to expedite delayed or potentially delayed train movements.

c) MP&E Locomotive Maintenance & Inspections Concerns - CSX

The CSX operating plan discloses an intention to install locomotive inspection pits at major fueling facilities on the acquired properties. These inspection pits would be used to perform lubrication and minor repairs while the locomotives are being fueled and serviced. Additionally, the plan indicates that these inspection pits would also be used to perform locomotive "periodic inspections."

Fueling facility inspection pits may have the potential for eliminating the need to send a locomotive to a major repair shop for minor repairs. However, FRA has a number of safety concerns related to this proposed activity, e.g., how far apart will the repairs and fueling take place; how will CSX guard against fuel residue being ignited by sparks; would this arrangement comply with OSHA regulations. FRA is also concerned over the proposal to perform "periodic inspections" at the proposed fueling facilities. First, FRA questions whether a proper thorough inspection and/or repair could take place at a major fueling facility. The primary purpose of modern main line fueling facilities is to expedite train movements. This would put severe time pressures on mechanical forces engaged in inspections and repairs, where thoroughness, not timeliness, is the primary purpose. Second, FRA is unclear whether "periodic inspections" could adequately be performed at the proposed locations of Buffalo and Albany, New York, and Indianapolis, Indiana. These locations are in "snow belt" regions where it is not unusual to have locomotives arrive at fueling locations with their trucks fully encapsulated in ice and snow. Such conditions make the performance of routine daily inspections difficult. They would make the performance of "periodic inspections" virtually impossible. We are also concerned as to whether CSX has given sufficient thought to providing for employee safety in the proposed fueling facility inspection pits. Severe weather conditions can contribute to unsafe working conditions in and around inspection pits that are unprotected from the elements. CSX must provide more details regarding the inspection pits and the environment where the proposed periodic inspections are to be performed.

d) MP&E Freight Car Inspections and Repairs Concerns - CSX

CSX has recently had problems related to proper securement of trailers and containers on flat cars (TOFC/COFC securement). Two CSX trains with improperly secured trailers have caused major collisions/derailments with Amtrak trains. One incident occurred on May 16, 1994, near Smithfield, North Carolina, resulting in one fatality, 29 injuries, and \$3.8 million in damages. A

similar incident took place just outside Washington, D.C. on July 8, 1997, where 3 people were injured. On July 13, 1997, CSX had a trailer fall off a train at Halethorpe, Maryland. CSX must state its intentions for resolving these TOFC/COFC securement problems, and provide the policies and procedures it plans to implement at loading facilities to be acquired from CR.

e) MP&E Other Concerns - CSX

FRA recently concluded a multi-disciplinary safety assessment of CSX. This assessment was not related to the proposed acquisition of CR. However, in the area of motive power and equipment, a number of system-wide major areas of safety concern were identified and documented. CSX is developing an action plan to specifically address these concerns, which is commendable. However, FRA believes that CSX should specifically address how it proposes to prevent such conditions from developing or occurring on the areas of CR it proposes to acquire.

f) MP&E Locomotive Inventory Concerns - NS

NS' operating plan projects the need of 268 fewer road locomotives and 22 fewer yard and local service locomotives, even though business is projected to increase. NS must provide more information regarding how it proposes to accomplish this reduction, if the projection for traffic increases is correct. A number of safety concerns arise should miscalculations in this area lead to shortages of motive power. Motive power shortages have the potential of causing: Hours of Service problems; operation of defective locomotives; and circumvention of required inspections.

g) MP&E Locomotive Maintenance & Inspections Concerns - NS

FRA is currently holding in excess of 1,000 potential violations of the federal power brake regulations that have been written against NS. Formal processing of these potential violations has been deferred, based on NS' agreement to submit a plan addressing these brake-related problems to FRA's satisfaction. In conjunction with these potential violations, NS has approached FRA about the possibility of moving freight cars with known air brake defects to repair locations of their choosing. This is not permitted under current law. To make a proper safety assessment, NS must show how it intends to keep these brake-related problems from developing and being magnified on the portions of CR it proposes to acquire.

3) Track And Structures

a) Structure Concerns - CSX

The Operating Plan submitted by CSX does not address the issue of bridge management, maintenance, and rehabilitation. The management of railroad bridges so as to ensure their integrity is vital to the safe and practical operation of the property to be acquired from CR, including a number of bridges that have finite economical and safe lives under current traffic levels. A majority were built between 1901 and 1930 (see Figure 1-3). With the increased traffic levels anticipated in the operating plan, their lifetimes may well be reduced. If traffic is increased, these bridges will require increased levels of repair, rehabilitation, or replacement as they continue to age and fatigue.

A primary defense against the risk of catastrophic bridge failure is a comprehensive and effective bridge inspection program. Such a program will detect and protect against the development of such a failure. Even when bridges are in optimal condition, a comprehensive inspection program is vital to safety, given the possibility of external damage or other unanticipated adverse conditions.

CR presently has 45 full-time Bridge Inspectors who are directly supervised by five Supervisors of Bridge Inspection. Supporting them is a system headquarters staff that includes a highly experienced Steel Bridge Rating Inspector, a Rating Engineer, and two Senior Structural Inspectors. These personnel are all under the direction of the Engineer of Structural Inspection and the Assistant Chief Engineer - Structures.

Conrail has a bridge inspection policy that requires every bridge to be inspected annually and every open-deck bridge and timber bridge to be inspected twice each year. Bridges with conditions requiring closer observation are programmed for even more frequent inspection. Those bridges, together with bridges programmed for capital program work, are placed on the list for the System Annual Inspection. This inspection is conducted by a Senior Structural Inspector together with the affected Division Engineer, division staff officers, and local structural supervisors.

All Conrail bridge inspections are recorded. The routine inspections are entered into a computer file. The System Annual Inspections are recorded in memo format. Conrail tracks the interval between inspections, flagging those that are reaching the limits of the policy. Until recently, CSX performed nearly all bridge inspections with local Bridge Supervisors, under the

Conrail Bridges by Year Constructed

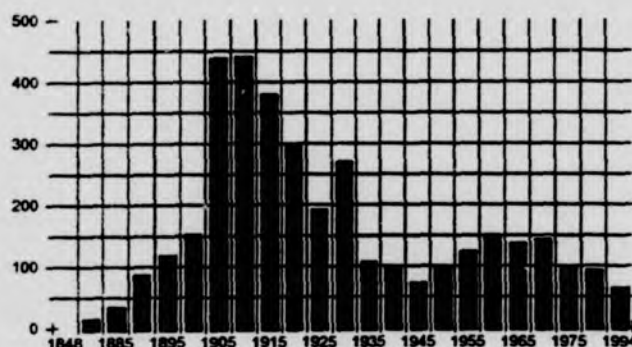


Figure 1-3

supervision of the District Bridge Engineers. Two System Bridge Inspectors were each equipped with hi-rail bridge inspection trucks equipped with multi-segment booms and buckets. These trucks were assigned to the inspection of major structures in conjunction with local forces.

Recently, CSX transferred some of the Bridge Supervisors to Bridge Inspector positions. The inspectors were given responsibility for all bridges in the territory formerly assigned to several Bridge Supervisors. The territories of the converted Supervisors were added to the responsibilities of adjoining Supervisors. The total number of Supervisors and Inspectors equals the previous number of Supervisors.

FRA has two concerns. First, CSX must address the need for accelerated bridge rehabilitation and renewal on the Conrail routes it proposes to acquire, taking into consideration the increased traffic levels projected for these routes may result; and, second, CSX must implement a bridge inspection program at least as effective as the current Conrail program to ensure that safety-critical conditions do not develop on the bridges to be acquired from Conrail.

b) Structure Concerns - NS

The operating plan submitted by NS does not discuss bridges under the heading of 12.7.1, "Program Maintenance, Track and Structures." However, in section 12.7.2, "Non-Program Maintenance, Track and Structures," NS proposes to place structural non-program maintenance under the respective Chief Engineers - Line Maintenance and their subordinate Division Engineers. Section 12.7.3, "Inspection, Track and Structures," of the operating plan, proposes to extend NS' system of bridge inspection by first line supervisors to the CR property it will acquire.

As is the case with CSX, the portion of CR to be acquired by NS has bridges that have finite economical and safe lives under current traffic levels. With the increased traffic levels anticipated in the NS plan, these lifetimes may well be reduced. If traffic is increased, these bridges will require increased levels of repair, rehabilitation, or replacement as they continue to age and fatigue.

The NS bridge inspection policy differs from CR's in that first-line supervisors and their employees perform nearly all NS bridge inspections. NS states in its Operating Plan that the advantage of this approach is that a supervisor is present to make immediate decisions concerning conditions revealed by the inspection.

Three bridges on routes sought by NS are projected to see increased levels of double-stack intermodal traffic. They are:

- The Southern Tier Line of the Albany Division was constructed by the former Erie Railroad in the 1840's. Several notable bridges are located on that line. Bridge 189.46 at Lanesboro, Pennsylvania carries two main tracks over Starrucca Creek on 17 stone arches with 50-foot spans and 100-foot elevations. The 1,040-foot-long bridge is one of the older structures on Conrail, having been built in 1848. It underwent a major rehabilitation by the Erie Lackawanna Railroad in the early 1960s, and is in generally good condition today. However, structures of this type require detailed attention from inspectors, including detecting, measuring and mapping deterioration of individual stones.

- Bridge 361.66 at Portage, New York carries 820 feet of single main track of the Southern Tier Line over the Genesee River on 10-deck girder spans and three pin-connected deck truss spans. The superstructure was built in 1903, but the towers supporting the viaduct were constructed in 1875. The entire bridge requires a high level of inspection and attention to enable it to safely carry its current levels of traffic. It is close to the limit of its useful life.
- The Pittsburgh Line of the Philadelphia Division crosses the Susquehanna River at Rockville, Pennsylvania on Bridge 110.36, a 17-span stone arch structure, 3,971 feet long, built in 1900. Regular inspection by Conrail detected a bulge in the south spandrel wall at pier 19, and Conrail began to arrange for a contractor to install a tieback system to restrain the wall movement. Several days before the contractor was to begin work, the wall failed and let four cars of coal fall into the Susquehanna River. This bridge, like Starrucca viaduct, receives detailed inspections to monitor the condition of individual stones that begin to show signs of distress. The failure of the bridge does not necessarily indicate a failure of the inspection program.

In light of the preceding, FRA has two safety concerns: first, NS must address the need for accelerated bridge rehabilitation and renewal on the CR routes it proposes to acquire to accommodate the increased traffic levels NS projects for these routes; and, second, NS must continue a bridge inspection program at least as effective as the current program on Conrail.

c) Structures - Other Safety Concerns

FRA has determined that CR has increased its original bridge capital program budget of \$16.236 million by \$1.3 million. Conrail had planned to place more emphasis on bridge rehabilitation rather than bridge replacement, although replacement work will continue at some level. The FRA is concerned that CSX and NS should make the necessary expenditures to keep up with the needed maintenance or replacement of Conrail's 16,000 bridges. Both CSX and NS must give careful consideration to this issue in their acquisition planning. Of further concern is how this issue will be addressed for the proposed CSAO.

d) Track Concerns - CSX

The CSX operating plan proposes to utilize Conrail roadway production gangs in southern areas in the winter months, and in northern areas in the summer months. However, projections show that 473 jobs in the maintenance of way area on CSX will be eliminated if the acquisition occurs. Most of these are roadway production forces. Further clarification is needed to determine whether a potential degradation of system-wide safety and in the CSAO areas could occur from these proposals.

Additionally, CSX's plan provides that fewer maintenance-of-way machines would be needed to maintain the railroad following the acquisition. FRA is concerned that sufficient maintenance equipment be available to maintain the expanded CSX system to the appropriate level of system-wide safety and in the CSAO areas.

The line segment from Northern Jersey Terminal to Albany, New York, has suffered recent rock slides. Conrail has made commitments to reinstall rock slide detection systems previously removed from certain locations. Conrail has also committed to install additional rock slide detection systems at sites identified by Conrail's contractors and State of New York geologists. This pledge includes installation of audible warning systems in the cabs of locomotives. CSX must honor these commitments.

e) Track Concerns - NS

The NS operating plan proposes to eliminate 473 jobs in the maintenance-of-way area, a number identical to the one in the CSX plan. Most of these are roadway production forces. Further clarification is needed to determine whether a potential degradation of system-wide safety and in the CSAOs could occur from this proposal.

f) Track - Other Safety Concerns

The operating plans of both the CSX and NS fail to mention any maintenance plans for secondary lines and smaller yard facilities which will be acquired. Additional information should be provided by CSX and NS which address the maintenance levels which are being proposed for these locations.

4) Signal And Train Control

a) Signal and Train Control (S&TC) Concerns - General

There are two signal and train control-related safety issues.

- (1) First is the absence of proposed Communications & Signal (C&S) budgets. Although budgets are simply financial planning guidelines, they reflect the mind-set and commitments of the organization preparing them. Without budget authorization, training, maintenance, capital improvements, and research and development projects and programs do not occur.
- (2) Second is the absence of any description of how the safety of operations will be maintained as existing signal systems are migrated to, or integrated with, acquired properties and line segment systems.

b) S&TC Concerns - Locomotive and Wayside Signal Equipment

My concern in this area focuses on incompatibilities in on-board locomotive Automatic Cab Signal/Automatic Train Control systems (ACS/ATC) between the motive power fleets of the three railroads involved in the proposed acquisition.

The combined locomotive fleets will consist of locomotives equipped with either a mixture of ACS/ATC systems or none at all:

- CSX is known to have about 70 locomotives equipped with ACS/ATC that are captive to its existing system.

- The NS locomotive fleet is presently non-equipped for ACS/ATC operations.
- CR has an extensive fleet of ACS/ATC-equipped locomotives.
- The CSX ACS/ATC system is incompatible with the CR ACS/ATC system.

Other aspects of this concern involve the proposed CSAOs, and Amtrak's Northeast Corridor (NEC). Locomotives operating in the CSAO and the NEC will need to be equipped with ACS/ATC compatible with the signal systems existing in these locales. Additionally, locomotives operating in the NEC will need to be equipped with Automatic Train Stop (ATS).

Given the fact that CSX and NS intend to distribute CR's fleet of locomotives between them, and that both also project post-acquisition net reductions in their respective locomotive fleets, the following safety concerns must be fully addressed.

- How do CSX and NS plan to allocate and distribute ACS/ATC-equipped locomotives over their respective portions of the acquired properties? To equip additional locomotives with ACS/ATC compatible with that in operation on the present CR lines would be expensive. If shortages of locomotives develop, CSX and NS may attempt to operate non-equipped locomotives in these former CR territories. What safeguards will be established to ensure that non-equipped locomotives will not be operated on former CR territories where ACS/ATC systems are in operation?
- What are the plans of CSX for integrating its ACS/ATC system with that of CR? Does it intend to convert CR's system to its own, or vice versa? Or does CSX intend to eliminate or reduce ACS/ATC territory on the acquired portions of CR and/or own its present system?
- NS presently does not operate ACS/ATC-equipped locomotives. Does it plan to equip its existing fleet, use only equipped locomotives obtained from CR, or take some other approach? Does NS intend to install ACS/ATC systems on all or portions of its current property? Does it intend to maintain the ACS/ATC systems presently in operation on the portions of CR it will acquire, or scale-back or eliminate these systems?
- How will CSX and NS ensure that only locomotives properly equipped with prescribed ACS/ATC/ATS systems will be allowed to operate in the NEC? What safeguards will be established to prevent non-equipped locomotives from being operated in the NEC should shortages of locomotives occur? Such shortages are a very real possibility in light of information provided in the Operating Plans submitted to the STB. The plans project increases in freight traffic, increases in the number of trains to be operated in the NEC, and decreases in the total number of locomotive units in the post-acquisition CSX and NS fleets.

c) S&TC Concerns - Locomotive and Wayside Signal Inconsistencies

The disparity between wayside signal aspects and indications on CSX, CR, and NS is a major safety concern to FRA. All railroads operating in the NEC are governed by the operating rules of the Northeast Operating Rules Advisory Committee (NORAC). These rules contain signal aspects and indications unique to the Corridor. There are inconsistencies between wayside signal aspects and indications already in existence in the NEC and on the three railroads involved in the proposed acquisitions. The situation may worsen following the proposed acquisition. Applicants must reveal how the railroads involved are planning to prevent, mitigate, and/or eliminate the disparities.

Some of the less complex examples of present disparities in the following Table 6 and the two "Notes" will serve to illustrate these concerns.

Table 6

Locomotive and Wayside Signal Inconsistencies

Railroad	Signal Aspect	Signal Indication	Information Conveyed
CSX	Yellow over Yellow	Advance Approach and Approach Slow	30 mph (former C&O) and 15 mph (former Family Lines)
	Yellow over Green	Approach Medium	30 mph
NS	Yellow over Yellow	Advance Approach	30 mph
	Yellow over Green	Approach Medium	40+ mph
CR/NORAC	Yellow over Yellow	Approach Slow	15 mph
	Yellow over Green	Approach Medium	30+ mph, except 45 mph, ATC-enforced
Proposed CSAO Areas	Same as CR	Same as CR	Same as CR

Note 1: CR signal aspects and operating rules provide for a "Limited Speed" of 45 mph, a "Medium Speed" of 30 mph, and a "Slow Speed" of 15 mph. Neither CSX nor NS aspects and rules provide for "Limited" or "Slow" speeds, and only CSX provides for "Medium" speed.

Note 2: CR cab signal (CS) and traffic control system (T'S) signals operate at 100 cycle frequencies. CSX's CS and T'S signal frequencies operate at 60 cycles. NS is not currently equipped for either method of train control

Presently, there is a conflict between CR wayside and cab signal aspects and indications on the NEC under NORAC operating rules. The same "Approach Medium" cab signal aspect is displayed for each of six different wayside signal aspects that convey six different indications.

Moreover, the present CR ATC system automatically enforces locomotive brake applications only at a speed in excess of 45 mph. Adoption of the proposed nine-aspect Automatic Civil Speed Enforcement System (ACSES) signaling system for the NEC will eliminate these inconsistencies. However, CSX, NS, and the operator of the CSAOs in the NEC must continue to cooperate with the development and implementation of ACSES.

d) S&TC Concerns - Standardization of Engineering Practices

Signaling practices and engineering standards are unique to each of the three railroads that are parties to the proposed acquisition. There are numerous practices, policies, standards, and signaling philosophies that are dissimilar between the three railroads. I am concerned that these items be thoroughly addressed to eliminate any possible misunderstandings that could create unsafe conditions.

With the proposed diversification of signal territories that will result from the acquisition, something seemingly as simple as making changes or alterations to signal plans could become a safety issue. For example, consider the addition or removal of wires and components from signal plans. The color red on one railroad's set of plans can indicate that the circuit component is to be removed. On another railroad, the same color can indicate the component is to be installed. This issue needs clarification as to how changes or additions to C&S plans will be standardized across the expanded CSX and NS systems, and on the CSAOs.

Neither CSX nor NS has submitted a Communications & Signal (C&S) migration plan. Such a plan is necessary to properly assess the safety implications of the proposed acquisition. A migration plan should set forth how the transition will be made from operations within the existing separate signal systems to operations within the merged signal systems. These plans should also address in detail how, in the long-term, the locomotive-borne and wayside signal systems will be standardized.

e) S&TC Concerns - Other

FRA is aware that, independent of the proposed acquisition, CR, CSX, and NS had joined together to propose a Positive Train Control (PTC) project on trackage they share between Harrisburg, Pennsylvania; Hagerstown, Maryland; and Manassas, Virginia. For Phase 1 of this project, the three carriers proposed to develop and install on one test locomotive, on-board devices that can be applied by railroads using a variety of signaling technologies. The Phase 1 contract was expected to be let in 1997. Phase 2 would involve the installation of the PTC system on the Harrisburg to Manassas corridor. Contracts for Phase 2 were expected to be let in late 1998 for installation during 1999. FRA has encouraged and supported this vital safety project, as well as PTC projects currently underway or planned on the properties of three other railroads. FRA is concerned that CSX and NS continue to move forward with the PTC project should their operating plans for acquisition of CR be approved. Clarification of the status of the PTC project is needed from CSX and NS, as the project is not addressed by the Operating Plans they submitted to the STB. This developing technology may become a critical link to a compatible, common command and control system for the merged companies.

Independent of the proposed acquisition, FRA Regional field personnel have concerns expressed to them by C&S maintenance forces of the three railroads involved. The concerns are that their current workload appears to be greater than allocated manpower can properly handle. FRA is concerned that C&S staff reductions proposed in the Operating Plan submitted by NS could have adverse safety implications. Unknown is whether CSX is contemplating similar reductions. The NS Operating Plan proposes to consolidate existing CR C&S seniority districts beyond their current 50-mile limits. CR C&S forces are already thinly placed. A post-acquisition expansion of their territory without an increase in manpower would spread these forces still further. The FRA is concerned that expansion of the seniority districts may stretch C&S forces beyond the point where they can accomplish their assigned work. The adverse safety implications that could result include inability to perform required safety-related tests and inspections and routine maintenance. If C&S forces cannot perform these functions thoroughly, competently, and within prescribed time frames, there will be adverse impacts on the safety of train operations. Moreover, it jeopardizes the personal safety of the C&S employees themselves. This stems from the human tendency to take "shortcuts" and to be less observant of one's surroundings when under pressure to "get the work done." Therefore, to make a proper safety assessment, CSX and NS must clarify their plans concerning post-acquisition C&S staffing levels, seniority districts, and workloads. This clarification should also specifically address C&S plans for the proposed CSAO Areas. In these Areas, system support provided under the CR management system will have to be rearranged. How do CSX and NS propose to accomplish this in a manner that will ensure safety?

5) Hazardous Materials

a) Hazardous Materials Safety Concerns - General

FRA's primary concern is with the potential for degradation of the current level of safety should hazardous-material related issues not be properly addressed by the parties. FRA is guided to fulfill all hazardous materials requirements as specified by the Research and Special Programs Administration (RSPA). FRA has identified five categories in which insufficient information pertaining to hazardous materials has been provided to enable a proper safety assessment of the proposed acquisition. Further information concerning these categories must be provided by CSX and NS so that a determination can be made regarding whether they are being given proper consideration. This concern is justified, given the volume and diversity of hazardous materials being transported by these carriers, and the extremely congested urban environment in which much of their hazardous materials traffic originates or terminates.

The five categories are:

- I. Hazardous materials programs
- II. Computer systems
- IV. Field inspections
- V. Education and training
- VI. Conrail Shared Assets Operating (CSAO) Areas.

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b) Hazardous Materials Programs

Conrail's hazardous materials organization is staffed by a Director of Hazardous Materials; four Hazardous Materials Field Service Managers, who have received extensive and comprehensive training; and 50 Hazmat Sentinels. Conrail's hazardous materials program is comprehensive and extensive. It consists of these elements:

- (1) Compliance Quality Inspections identify shipper preparation problems involving the transportation of hazardous materials.
- (2) The Transportation Incident Severity Index (TISI) was developed to identify the severity of every non-accident release of hazardous materials occurring on Conrail. Non-accident releases (NAR) are those caused by something other than a railroad accident (collision or derailment).
- (3) Hazardous Materials Public Education provides hazardous materials incident response education and training to fire, police, emergency medical services, and office of emergency management personnel in the areas served by CR.
- (4) CR's Hazardous Materials Response Team members, stationed at various locations throughout the CR system, are immediately dispatched to every on-line hazardous materials emergency situation to provide on-site expertise in handling incidents.
- (5) The Hazmat Sentinel Training Program provides ongoing training for a select group of non-agreement employees. Their advanced level of emergency management knowledge maximizes safety, coordination, and cooperation at hazardous materials incident sites.
- (6) CR's Customer Contact program involves formal contact with chemical shippers. These contacts include inspections of the preparation for car loading and the loading itself, follow-up on chemical releases to ensure proper determination of cause and to prevent recurrence, and conducting education and training of the shippers' employees, often on the premises of the company or plant.
- (7) CR's Hazardous Materials Training Partnership is an ongoing effort between the Association of American Railroads (AAR), Conrail, the New Jersey State Police Office of Emergency Management, and the New Jersey Fire Training Academy. Partnership efforts, focused on New Jersey because of its concentration of chemical shippers and receivers, include tank car incident-related training to fire departments and other emergency responders.
- (8) The Responsible CAER® Partnership is an internal advisory team of employees and supervisors at CR's Conway Yard, just outside of Pittsburgh, Pennsylvania. The team addresses regulatory and environmental issues at this major classification hub.

This program has effectively reduced recurring hazardous materials problems. Additionally, CR management has expanded the hazardous materials training of their employees, and fostered new partnerships with local communities throughout its system.

c) CSX Organization

The CSX field managers conduct in-house, train-the-trainer, hazardous materials training, and "community" training of local emergency responders, customers' employees, and others. In the past five years, the community training activities alone accounted for 400 classes with more than 14,000 participants. These efforts earned CSX the 1996 Transportation Community Awareness and Emergency Response (Transcaer) Achievement Award from the Chemical Manufacturers Association and the AAR.

d) The NS Hazardous Materials Program

The NS Hazardous Materials Program is staffed by a manager, three Industrial Hygienists, two hazardous materials specialists (one Principal Hazardous Materials Coordinator and one Transcaer and Training Coordinator), and ten Regional Environmental Operations Engineers. The program addresses four emergency action plans: prevention, preparedness, response, and remediation. The program includes field compliance audits of the entire system conducted by the manager and two hazardous materials specialists.

The hazardous materials team took note that hazardous materials issues were not discussed in the CSX Operating Plan. The NS Operating Plan states that "many" CR employees working in environmental and safety administration areas will be relocated to the NS' Safety and Environmental Department's headquarters in Roanoke, Virginia. FRA is concerned that neither CSX nor NS has made any specific proposal that addresses any commitment to, or specific aspects of, hazardous materials issues. FRA is further concerned that the centralization of former CR hazardous materials employees will result in fewer field observations and audits on the former CR territories. Additional information is needed from CSX and NS to address these issues in order to make a proper safety assessment.

e) CR Department

Commendably, CR has expanded its Hazardous Materials Department in the recent past and appears more active in day-to-day hazardous materials issues than CSX or NS. Indeed CR's program of initial action and aggressive pursuit of non-compliance issues has placed CR "ahead of the curve" in the pursuit of compliance with hazardous materials regulations. FRA is concerned that the CR hazardous materials program will suffer if the proposed acquisition is approved. In order to make its determination, it is vital for CSX and NS to elaborate on their materials safety policies, particularly as regards the adoption of "best practices" safety programs.

f) Computer Systems

When releases of hazardous materials occur, for whatever reason, it is imperative that proper information on the specific chemical or chemicals involved is immediately available. This information is vital to ensuring the safety of affected railroad employees, emergency responders, and the general public and to implementing safe and appropriate containment and remediation

measures. The source of this information is the documentation that accompanies each railroad shipment.

At one time shipment documentation originated with railroad freight agents. They would transmit the documentation to local freight train crews or to yard clerks. Clerks would prepare waybills for each car, and assemble them together with the manifest for each train. These documents were given to the conductor, who would deliver them to the yard clerk at the end of his run. In this manner, information on the content of each car in the train was immediately available to its crew.

Today, all major railroads in the United States use a computer-driven transportation control and communications system to oversee the movement and tracking of freight. CR and CSX have centralized Customer Service Centers (CSC). NS has part of its customer service function centralized, and is moving to centralize the rest. In addition, CSX's accounting and core computer operating systems differ from those of NS and CR.

At the CSX, the CSC is divided into two groups, Customer Support and Terminal Support. Customer Support is responsible for all contacts with customers. They also frequently have contact with CSX operating personnel pertaining to work orders. The Customer Support personnel perform the work historically performed by freight agents. Customer Support at CSX is divided into teams, or Service Lanes, which are geographical portions of the CSX system.

The CSX Terminal Support group is responsible for all functions and associated paperwork and electronic data related to the actual movement of the freight. These functions are those historically performed by yard personnel, and include yarding of trains, classification, preparation of consists, and video verification of train makeup.

Both groups are located in the CSX Jacksonville, Florida, CSC facility. They were relocated there from the old regional Transportation Service Centers between 1991 and 1993.

NS has within its Operations Department the Agency Operation Center, responsible for all waybilling and demurrage, and a separate National Customer Service Center, responsible for customer service and car tracing. NS' customer service function is organized into the more traditional commodity groups, unlike CSX's Service Lanes. NS' yard office functions are handled at decentralized locations throughout the NS system by the Transportation Department. However, efforts are underway to centralize these functions in Atlanta, Georgia. The NS' Accounting Department is responsible for all other revenue functions related to the movement of freight. NS is currently completing a major rewrite of its computerized operating system. The rewrite includes the implementation, over the next two to three years, of the Thoroughbred Yard Enterprise System (TYES), a train movement reporting and station inventory system that will enable centralization of the yard office functions. NS' Strategic Intermodal Management System (SIMS), the operating system for intermodal freight (trailers or containers on flat cars, TOFC or COFC) has been in operation for about one year. A recent review of SIMS by FRA personnel indicated problems with record availability to train crews concerning shipments of hazardous materials of less than 100 pounds.

CR bases its National Customer Support Center in Pittsburgh, Pennsylvania. At this location, clerical personnel make sure that train crews receive the required hazardous material shipping papers for cars in their trains. In addition, they monitor the trackside AELs for accuracy of train consists and verification of block make-ups. This includes assuring that hazardous materials cars in trains are located in the positions required by Federal regulations.

FRA is concerned about the lack of specific information in the Operating Plan submitted by CSX pertaining to the integration of its computer-based Customer Support System with CR's. Specifically, information is needed from CSX as to how it will ensure the availability and integrity of vital hazardous materials information to operating personnel during the transition.

FRA is also concerned about the statement in the NS' Operating Plan that it will eliminate CR's computerized Customer Support operating system and migrate those functions into its own. A number of aspects of NS' computer-based program are, themselves, in the early stages of implementation. NS must reveal specifically how it intends to implement its computer-based Customer Service programs fully and properly at the same time it is phasing out CR's. It also needs to know how NS intends to correct its SIMS problem, and prevent a recurrence of that type of TOFC/COFC problem on the acquired portions of CR.

Finally, NS must ensure the availability and integrity of vital hazardous materials information to operating personnel during the phase-out of CR's computer-based Customer Support system.

The Operating Plans of both CSX and NS propose to close the present CR Customer Support Center in Pittsburgh, Pennsylvania. Of the 547 current clerical positions, 147 will be abolished; 185 relocated to CSX's Jacksonville, Florida, facility during Year One; 15 relocated to NS' Atlanta, Georgia, facility during Year One; and 200 relocated to Atlanta by Year Two. In the past, CR itself eliminated clerical personnel whose duties included making sure train crews received hazardous material shipping papers for cars in their trains. This elimination resulted in a system-wide problem, whereby train crews and clerical personnel could not retrieve the required rail car's paper work containing hazardous materials information. Moreover, I am aware that the present workload at CR's Pittsburgh CSC is such that telephone calls often are greeted with voice mail messages or busy signals, or are just not answered.

In light of the foregoing, FRA is concerned that neither CSX nor NS has given proper thought to Customer Service Center staff levels. FRA is especially concerned that CSX is proposing an immediate reduction in such staff. The NS, while not proposing reductions in CSC forces, has not evidenced that it has carefully considered the present workload at the Pittsburgh Center. Specific information from CSX and NS on the justifications for their proposed staffing levels at their Customer Support Centers is necessary. Additionally, information is needed as to how CSX and NS will ensure timely availability of hazardous materials shipping papers to train crews, and availability of Support Center personnel to hazardous materials customers and others.

g) Inspections

Non-accident releases of hazardous materials (any unintentional release not the result of a railroad accident) are the largest single cause of the escape of hazardous materials from their packaging, and are the reason nearly 90 railroad workers a year are "splashed" with dangerous chemicals. Most often, NARs are caused by improperly secured valves or other closures or by overloading, operations typically beyond the direct control of a railroad. Nevertheless, 25% of the NARs happen on the tracks of the three railroads involved in this analysis. It is vital that the acquiring railroads and the CSAOs have a program in place to prevent train crew injuries; none has yet surfaced.

In addition to NARs, the most common hazardous materials-related defects on the three analyzed railroads include loose closures on tank cars (without demonstrable leaks as of the discovery of the defect), missing or improper placards and other emergency response markings, and erroneous hazardous materials shipping papers.

The best defense against any hazardous materials defect is a comprehensive safety plan, backed up by a sound inspection program. Such a program includes not only field inspections, but reviews of hazardous materials documentation to ensure it exists and is properly completed. Both the CSX and NS project increases in freight traffic volumes as well as the number of run-through trains and in block-swapping. However, both railroads project decreases in personnel traditionally responsible for the inspection of cars, for police and security protection, and for first-level supervision.

FRA is concerned that the traffic and operating projections of CSX and NS, expressed in their Operating Plans, are in conflict with their manpower projections. In order to make a proper hazardous materials safety assessment, additional information from CSX and NS is needed. This information needs to explain in detail how the carriers will be able to ensure required inspections of cars carrying hazardous materials will be performed. The information should include specifically the following:

- What inspection procedures will be for run-through trains at crew-change points, and at points where blocks of cars are added to and removed from trains.
- Which employees will be assigned to perform which inspection tasks, and an outline of the training they will receive to ensure they can perform their inspection duties thoroughly and knowledgeably.
- How the two railroads will prevent the pressure of keeping trains "on time" or "moving" from taking precedence over thorough and complete inspections.

Information going beyond just hazardous materials inspections is needed because most hazardous materials releases resulting from derailments caused by car defects are from defects in cars not carrying hazardous materials.

6) Dispatch Centers

a) Dispatch Centers Safety

Train dispatching is an essential element of the movement of trains, engines, and rolling equipment in a safe and efficient manner. Train dispatchers are responsible for regulating and controlling these operations in an assigned territory. Train dispatchers execute their tasks from a dispatch center. A railroad may centralize all dispatching operations in one center or designate such centers according to operating divisions. CSX has centralized its dispatching operations at one facility in Jacksonville, Florida, whereas Norfolk Southern and Conrail conduct their respective dispatching operations at division headquarters.

Neither NS' operating plan nor CSX's operating plan discusses measures to combat excess service performed by dispatchers or excessive assignments of dispatchers on their designated "off duty" days. FRA is concerned that overworked dispatchers at Conrail and CSX are already experiencing fatigue, which compromises railroad safety. FRA believes that the railroads need to promulgate initiatives reducing maximum dispatching workload capacities and minimizing violations of the Hours of Service laws for excess service performed.

b) Integration of Dispatching Control Systems

Neither the NS nor the CSX operating plans explains which dispatching system will be employed to move trains or engines on former CR territories. Currently, NS, CSX, and CR use computer-aided dispatching systems that are unique to their own rail operations. The railroads have not explained whether they intend to integrate CR computer-aided dispatching system with their respective systems or eliminate it altogether. Applicants must indicate which dispatching system or systems the railroads intend to use that will direct traffic on the acquired territories; and also how integration of systems will be accomplished in a programmed manner to minimize disruptions.

7) Highway-Rail Crossings

a) Highway-Rail Crossings - Background

The vast majority of deaths and injuries attributable to rail operations occur as a result of highway-railroad grade crossing collisions and trespass incidents. Although FRA is always concerned with rail line crossing safety, we have particularly concerned related to the potential for an increased number of these incidents.

b) Traffic Flow Changes

The proposed acquisition will change the traffic flow drastically in some areas. The CSX operating plan includes track rehabilitation route upgrades which will increase capacity and traffic on the line between Chicago, Illinois and Cleveland, Ohio, and increase speeds to 80 mph (FRA Class 5). Traffic density is expected to increase more than 100 percent in some areas. Studies indicate that incidents will increase with related traffic and speed. When assessing crossing safety, several issues need to be considered:

- Effect of increased train traffic/speeds/tracks on crossings
- Need to improve crossing and pedestrian warning devices
- Need for increased rail-safety (highway-rail crossing and trespasser) education (Operation Lifesaver)
- Crossing improvements on a corridor basis with emphasis on closures.

Neither carrier, NS or CSX, focuses on highway-rail crossing and trespass safety prevention issues and other such issues involving public safety and emergency response. Since the vast majority of rail operation deaths and injuries are attributable to and occur as a result of highway-rail crossing collisions and trespass incidents, it would seem appropriate that these issues be properly addressed in the operating plans and environmental documents of the two carriers.

The operating plans filed by CSX and NS do not address the grade crossing issue on a comprehensive basis. Of particular concern is the locations of a projected increase in rail traffic along certain segments of the current CR system and even where changes will occur on the current CSX and NS systems. This will have a direct and material impact on public safety in the communities through which the carriers will operate. It will also have a strong impact on the inventories and priority ratings of highway-rail crossing improvements projects at the state level. Obviously, obtaining up-to-date inventory data and correct incident data is very important. The inventory reporting is voluntary and we need a commitment from the acquiring railroads to keep the inventory up to date. It is this data that is used to determine the incident prediction and the hazard rankings for all crossings in a state, which is then used for the allocation of federal funds for crossing improvement projects with the goal of reducing incidents and saving lives.

Adequate arrangements should be made to address the issues of community awareness and public education in those locations where an increase in rail traffic will occur. Mechanisms should be in place to insure that adequate communication and coordination between the carriers, the states, the communities and the FRA occurs regarding the impacts of such increases on crossing inventory data and the priority rankings for crossing improvement projects.

Since highway rail crossing and trespasser prevention educational programs are so important to rail safety, NS' and CSX's level of educational service (including support for Operation Lifesaver) should be expanded to reflect the additional traffic resulting from the CR acquisition.

c) Area Specific Impacts

The STB has conducted special preliminary highway-rail grade crossing impact assessments in the communities of Wichita, Kansas, and Reno, Nevada, in the aftermath of the merger of the UP/SP, Finance Docket No. 32760. In the UP/SP merger, Wichita train traffic was estimated to increase by a factor of three. In Reno, the increase was estimated to be by a factor of two. Preliminary analyses from the US DOT's Office of Policy projects similar increases in train traffic following acquisition of CR for a number of communities in the states of Ohio, Illinois, Pennsylvania, Michigan, and Indiana. In order to make a proper safety assessment of the

proposed acquisition of CR, the CSX and NS both need to provide specific plans for assessing and mitigating the impact of projected significant increases in train movements through specific communities. These safety assessments should address not just the projected increase in train movements, but their time of day, their speed, the number of crossings simultaneously affected by one movement, the available alternatives for emergency vehicles when crossings are blocked by trains, school bus routes, and the normal pedestrian and motor vehicle traffic over each crossing.

Although CSX and NS indicate 20% and 18% decreases, respectively, in number of grade crossing collisions in 1996 as stated in their Environmental Impact Statement (EIS) filings⁴, there are a number of "high profile" locations where, due to substantial increases in train traffic, FRA has major concerns about increased exposure to collisions and degradation of safety as a result of the merged operations. CSX and NS used models to predict grade crossing risk which do not measure the effect of changing the number of trains per day; rather they address the effect of a steady state number of trains, and may understate risk.

There are no plans or analyses provided in the CSX and NS operating plan submissions that identify means to mitigate these community impact concerns via engineering projects with specific assignment of resources.

F) CONCLUSION

FRA's careful review of the impacts of mergers that have taken place in the recent past, has clearly revealed that mergers and acquisitions disrupt existing safety and operating patterns. Since these transactions are generally justified in significant part by cost savings, there is pressure to close redundant facilities and eliminate positions. This can lead to degradation of safety programs unless formal, written, systematic, detailed plans are prepared to assure that safety programs are continued and closely followed. Any less attention to safety can produce catastrophic results, both in terms of economic cost and, more importantly, loss of life.

Operating conditions differ across the very large territories covered by today's largest railroads. These operating conditions produce different needs. Conrail presents an example of the need for different approaches in different territories. Conrail's hazardous materials response team is perceived by the FRA to be larger and better trained than those on the acquiring railroads, not because Conrail has more hazardous materials releases but rather because, in the densely settled territory where Conrail operates, the consequences of a hazardous materials release may affect more people.

A similar situation prevails with regard to rules training and compliance. Many Conrail employees work on rail lines that host high-speed passenger trains and/or frequent commuter traffic. Other railroads are tenants on considerable portions of Conrail, and Conrail trains are

⁴Railroad Control Application, Volume 6A of 8, Finance Docket No.33388, 1997.

tenants on track owned by Amtrak, commuter railroad agencies, and other freight railroads. Conrail's divisional structure (versus centralized) of the rules and training organization was developed in response to a need to qualify train and engine (T&E) employees on many different rulebooks and to provide for compliance under many different sets of circumstances.

In their current configuration neither NS nor CSX meet these special requirements. It would not be acceptable for Conrail's special competence in these areas, built up in response to unique circumstances, to be weakened following the acquisition without providing for similar safety assurance by the acquiring railroads. Well-defined safety plans should be structured (containing detailed action items and schedules) to significantly mitigate the potential for critical loss of safety instructions, training and integration of personnel and information systems in the start-up of new train operations of the combined railroads.

There are lessons to be learned from the difficulties now being experienced by UP/SP and BNSF. Both have reduced their forces by several thousand employees each during the phase-in period of their mergers. It has been identified that the post-merger force reductions at UP/SP (on the order of 1,500 or more personnel) have led to the current service delays and disruptive congestion of lines in Texas, as well as increased exposure to incidents and injuries. The lessons are, in part, that safety considerations must be given at least equal weight with operating efficiency considerations in planning for merger. Railroads must also be cognizant of the potential for conflict among the varying safety cultures of the railroads that are being acquired and merged.

Special planning will be required in order to produce new operating companies that are free of disruption to services and safety hazards. Areas where large traffic increases are projected to occur must be specifically addressed. The concept of the Conrail Shared Assets Operations (CSAO) continues to evoke questions about safety inspection and maintenance commitments, as well as legal responsibility. These questions can be answered and the problems overcome with proper planning and execution.

Finally, FRA believes that merging railroads should carefully examine both the physical and cultural safety environments of the workplace. *FRA believes that railroads, in the context of any "mega-merger," should accomplish this examination by developing well defined safety plans that identify allocation of resources and schedules, i. e., Safety Integration Plans (SIP).* Of course, these plans must additionally be monitored over the specified period of the merger integration to ensure that the plans are fully executed.

A careful review of the operating plans filed in this case shows the need for much closer review of the safety programs of both Applicants. Such review should at least address those concerns I have identified above. More importantly, however, Applicants must produce and submit Safety Integration Plans that will assure the safe integration of the CR properties to be acquired by Applicants into their own operations, if the transaction is approved by the STB.

DISTRICT OF COLUMBIA) SS.

Verification

Edward R. English, being duly sworn, deposes and says that he is "Director of the Office of Safety Assurance & Compliance" at the Federal Railroad Administration (FRA), that he is qualified and authorized to submit this Verified statement, and that he has read the foregoing statement, knows the contents thereof, and that the same is true and correct.

Edward R. English
Edward R. English

10.17.97

Date

Subscribed and sworn to before me by Deborah K. McCallum

this 17TH Day of OCTOBER, 1997.

Deborah K. McCallum
Notary Public

My Commission expires: 1/6/2000

APPENDIX

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Safety Assurance and Compliance Program Report for CSX TRANSPORTATION, INC.

THE EXECUTIVE SUMMARY

Overview

PURPOSE FOR REPORT: This report highlights the findings of the Federal Railroad Administration⁵ (FRA) subsequent to a major safety assurance team inspection initiative conducted between July and September 1997 over the CSX Transportation, Incorporated (CSXT) system. It is organized into five chapters which specify FRA findings by functional area: *Signal and Train Control; Hazardous Materials; Operating Practices; Motive Power and Equipment; and, Track.*

TEAM REVIEW METHODOLOGY--THE S A C P APPROACH: To review the CSXT safety processes, FRA utilized a multi-discipline team audit strategy based upon the Safety Assurance and Compliance Program (SACP) model⁶. With SACP, the focus is on identifying and remedying root causes of safety concerns across an entire railroad system. Emphasis is on a collaborative approach to systemic fixes. The underpinnings of a successful SACP effort are full participation in the process by railroad labor, management, and FRA, in an atmosphere of openness and trust.

⁵ Throughout this report reference to "FRA" includes by inference all FRA state regulatory safety specialists that participated in the project with FRA personnel.

⁶ For a more complete description of SACP see the Report to Congress entitled "ENHANCING RAIL SAFETY NOW AND INTO THE 21st CENTURY" published in October 1996.

CSXT RESPONSE: The information in this report represents FRA findings during the audit period. CSXT and their rail labor leaders did not wait for FRA to issue a final report before they acted on findings. CSXT and their labor representatives, in cooperation with FRA, have initiated over 250 corrective projects addressing FRA concerns. In addition, 16 labor-management-FRA teams are functioning in a collaborative process through SACP to find permanent solutions to safety issues. FRA applauds the proactive response by CSXT managers and labor representatives to all our safety concerns and recommendations. Upon receipt of the final report, CSXT will supplement already ongoing activities to address any issues or concerns requiring additional focus.

It is this cooperative safety partnership, to which all parties have committed, that will ensure real and lasting safety improvements on CSXT as safety remedies are implemented.

The Need to Do More

BACKGROUND: In October 1995, the FRA initiated a SACP review of CSXT. Working with CSXT management and their rail labor organizations, we identified a number of safety concerns, including improving the quality of train brake inspections, and managing employee safety—especially bridge worker safety. CSXT responded with corrective actions which helped them maintain a good overall record of safety performance since that time.

RECENT INCIDENTS: Despite generally good safety performance since the initial SACP process in 1995, a series of five incidents this summer caused FRA to escalate its ongoing safety oversight of CSXT:

- One fatality and other employee injuries occurred when a CSXT freight train collided with the rear of another CSXT freight train in St. Albans, West Virginia.
- A CSXT freight train derailed 34 cars near Marianna, Florida, including 17 placarded hazardous materials tank cars (13 cars were loaded and 4 contained residue). Five loads leaked product resulting in a four hour evacuation of local citizens around the derailment site.

CSX Transportation, Incorporated
Safety Assurance Compliance Program Executive Summary

- A CSXT intermodal freight train with a shifted trailer on a flat car derailed near Rosslyn, Virginia and side-swiped a passing Amtrak passenger train. Fortunately no serious injuries were sustained although damage was extensive.
- A truck trailer loaded with waste paper fell off a CSXT flat car in Baltimore, Maryland, after an undesired emergency application of the air brakes. There were no injuries.
- An eastbound CSXT freight train with a shifted load side-swiped a passing westbound CSXT freight train in Lawrenceville, Illinois. Six cars derailed, including a placarded residue hazardous materials tank car which was punctured in the pile up and caught fire.

To stem this sudden trend, FRA immediately accelerated the magnitude of ongoing CSXT safety oversight. Large, multi-disciplinary teams were dispatched to examine every facet of CSXT's system operations. In all, over 75 FRA safety specialists from across the U.S., and state safety specialists from the States of Virginia, Florida, West Virginia, Illinois, and Ohio, provided comprehensive analysis of CSXT practices. FRA, railroad management, and labor representatives quickly established joint working groups which met initially in early July 1997. Those teams continue to meet today as they work to prioritize and resolve safety issues.

The Role of Safety Culture

RAILROAD SAFETY CULTURE: The ability to eliminate safety hazards and promote prevention of injuries, collisions, and derailments, is dependent upon an atmosphere of mutual trust, respect, and openness. Unfortunately, for decades the railroad industry has been characterized by a culture that engenders an adversarial relationship between management and labor rather than one of cooperation. Getting the job done without admitting a need for help is the standard, leading to reluctance to ever take "bad news to the boss." The significance of this culture as an impediment to maximizing safety performance is readily evident throughout the U.S. rail system. FRA has therefore made it a priority to include the issue of safety culture as part of all SACP efforts.

Based upon FRA observations and employee testimonials, CSXT, like most big railroads, is characterized in some quarters by an adversarial safety culture. Throughout this report, FRA identifies examples of this culture, instances in which line managers made decisions about train operations which compromised safety. Only through a true commitment to *safety first at every level in the organization* can a viable safety culture be developed and sustained.

Summary of Specific FRA Findings by Functional Area

The following section summarizes FRA's key findings during the audit period (more detailed discussion of each issue is provided in the report narrative).

Signals and Train Control

FRA findings revealed that CSXT needs to more effectively manage their signal and train control operations in the following areas:

- ✓ Staffing and Training
- ✓ Pole Line Maintenance
- ✓ Insulated Rail Joint Maintenance
- ✓ Preview and Visibility of Signals
- ✓ Circuit Plans
- ✓ Power and Hand-Operated Switches

FRA found a general lack of consistency in maintaining a comprehensive signal oversight program. According to employees and supervisors that FRA contacted, part of the problem may be associated with the level of staffing and training provided. For example:

- FRA inspectors repeatedly found instances in which supervisors had insufficient time to devote to their main objectives (supporting, coaching, mentoring and training signal employees) due to administrative duties.

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Safety Assurance Compliance Program Executive Summary

- These concerns were substantiated by the high defect ratios FRA encountered during inspections. FRA saw sections of right-of-way with poorly maintained pole line (wires with excessive slack, broken poles and cross arms, broken or loose insulators, wires lying on the ground, and overgrown vegetation interfering with wires).
- FRA also found insulated joints defective in a number of locations due to missing end posts and/or deteriorated insulation.
- A number of wayside signals and grade-crossing lights had poor preview and visibility to approaching trains.
- FRA documented instances where circuit plans were incorrect, incomplete, illegible or missing.
- FRA noted that many power and hand-operated switches were defective with loose and ineffective braces and fasteners, improper anchoring of the rail, and defective head block ties.

Operating Practices

FRA documented inadequacies in administration of operating practices requirements in the follow areas:

- ✓ Efficiency Testing
- ✓ Locomotive Engineer Certification
- ✓ Accident Incident Reporting
- ✓ Alcohol and Drug Testing
- ✓ Dispatching Concerns
- ✓ Crew Management Center

Operational Testing— CSXT's operational testing program, on paper, appears detailed and well conceived. However, it is the implementation of that program where FRA took exception. Specifically:

- There is little evidence that quality operational tests are conducted as required by Federal regulations and CSXT program parameters.

CSX Transportation, Incorporated
Safety Assurance Compliance Program Executive Summary

- CSXT management has generally not taken full advantage of this important tool as a means to identify additional safety opportunities to reduce the potential for human factors incidents.
- Employees do not normally get feedback on their test performance unless they fail the test. Such feedback is normally in the context of a disciplinary hearing. Little value results since the process becomes one promoting adversarial outcomes rather than a positive learning experience.
- Little training was provided to designated testing officers by CSXT to provide them a base upon which to build effective testing scenarios.
- Finally, there has been little quality testing of train dispatchers despite their critical safety role in the operation.

Crew Management— problems at CSXT's crew management center were identified early in the process. Specific issues included inefficiencies in crew calling which added to extended duty days and overall fatigue for operating crews. To illustrate the degree of the problem, FRA found an instance in which a computer glitch resulted in some employees being called every 20 minutes by the automated but malfunctioning system, thoroughly interrupting their rest period. In addition, FRA believes that the crew management center staff is regularly overwhelmed given the demands of the job. Service to employees suffers. The number of telephone lines available in the center needs also to be increased to provide more ready access to crew dispatchers.

Records Compliance— FRA's investigation revealed that CSXT is not efficiently managing all FRA required records. For example, accident/incident records for reportable employee injuries and illnesses, and rail equipment accidents and incidents, were lacking in some areas. FRA discovered in a "snapshot" review of records a total of 25 instances where reportable accidents and incidents had not been reported to FRA as required. The failure to report these incidents caused CSXT's overall safety numbers to be artificially low in that reporting period.

Likewise, CSXT was unable to provide an accurate list of certified engineers as required by the regulations. And, FRA documented instances where CSXT did not comply with all record keeping provisions of the Federal alcohol and drug testing protocol. Specifically, FRA found that CSXT improperly used Federal forms to conduct "for cause" testing under its collective bargaining agreement.

Hazardous Materials

FRA noted deficiencies in the following areas of CSXT's hazardous materials operations:

- ✓ Train Consist Accuracy
- ✓ TOFC/COFC Documentation
- ✓ Placard Compliance
- ✓ Training of Personnel

Examples:

- FRA noted three separate instances in which CSXT personnel knowingly ordered defective or non-compliant tank cars to be moved in violation of Federal regulations (individual civil prosecutive action is pending for involved individuals).
- Inaccurate train consists were encountered repeatedly by FRA inspectors. In addition, FRA noted a trend in which hazardous materials loads inside trailers-on-flat cars (TOFC) and containers-on-flat cars (COFC) were moved with insufficient or missing documentation.
- CSXT didn't have a consistent or standard methodology to ensure hazardous materials cars were properly placarded, or that missing, worn, or faded placards were replaced as needed en route.
- Finally, not all CSXT employees requiring hazardous materials training have been provided sufficient training to inspect and monitor hazardous materials shipments.

Track

A major portion of CSXT track is in good condition and fully compliant with Federal track safety standards. However, FRA found that CSXT lacks a fully consistent, sound track program across all parts of the system. Exceptions were noted by FRA in the following areas:

- ✓ Track Inspections
- ✓ Control of Water Saturation on Track Structures
- ✓ Vegetation Control
- ✓ Roadway Worker Protection Compliance
- ✓ Test Car Operation
- ✓ Procedure Manual
- ✓ Defective Rail Detection

FRA determined that some CSXT track inspections and maintenance goals are based solely on the minimum Federal standards rather than more comprehensive CSXT standards.

During inspections FRA found defects on main tracks, including overgrown vegetation, saturated subgrade, and defective rails. In 1996 there were 9 reportable main track derailments caused by defective rails. The Rivanna subdivision, in particular, has had four rail-caused derailments since the beginning of 1996.

FRA determined that while CSXT utilizes a track geometry testing car, the results produced are not always properly verified, interpreted, and corrected in the most effective way.

Finally, FRA believes CSXT's application of the Federal Roadway Worker Protection requirements needs more centralized oversight by engineering managers to minimize risks for employees working on or near the railroad rights of way.

Motive Power & Equipment

CSXT administration of maintenance programs for cars and locomotives is in need of more strict management oversight. Issues FRA encountered included:

- ✓ Locomotive Inspections
- ✓ TOFC/COFC Securement

CSXT's practice of inspecting locomotives on a 122-day cycle does not comply with requirements of the Federal regulations which specify that 92-day inspections be conducted. The quality of inspections also needs to be a recurrent subject of supervisory focus.

In terms of TOFC/COFC securement, FRA found CSXT's program lacking direction. Like many railroads, CSXT has contracted out most trailer/container loading to outside contractors. As a result, railroad oversight of quality control processes has diminished to the point where railroad follow up inspections are ineffectual. As a result, trailers are accepted on CSXT lines with little assurance that proper loading or securement steps have been taken.

Summary of General Conclusions

FRA identified several recurring themes during the audit period which CSXT and their employees must continue to address if they are to progress their safety program to the next level. Based upon comprehensive individual findings, FRA has defined several general conclusions about the CSXT safety program:

- **SAFETY "FIRST" IS NOT UNIVERSALLY OBSERVED**— FRA found an atmosphere on CSXT in which some CSXT field managers consistently failed to demonstrate full commitment to safety. Some front-line managers emphasize train operations over safety considerations. For example, FRA

CSX Transportation, Incorporated
Safety Assurance Compliance Program Executive Summary

witnessed two occasions in which locomotives were dispatched from repair facilities with known intermittent electrical ground faults. In another example, a leading tank car was dispatched from a terminal by a management official to avoid a delay in car transit⁷.

Such management actions have led some employees to doubt senior management claims that safety is first, foremost, and always. In fact, some CSXT employees told FRA inspectors that they believe they must involve FRA in order to ensure corrective action for identified safety hazards.

- **HARASSMENT AND INTIMIDATION ARE EVIDENT**— CSXT has not created a universal atmosphere where safety performance and risk reduction are rewarded. Many employees in various departments and locations reported to FRA inspectors that they feel harassed or intimidated when they raise safety concerns that might interfere with train operations. For example, FRA noted an instance where a locomotive was ordered out of a terminal without allowing a mechanic to finish a required daily inspection. The mechanic was ordered to allow the locomotive to depart by the operating supervisor or face consequences.

Open dialogue and common resolve to address safety hazards is jeopardized by this overriding theme. Many employees simply do not feel ownership in the safety program since being a safety advocate is not valued by some managers.

- **LACK OF COMMUNICATIONS FOLLOW THROUGH HURTS SAFETY**— CSXT's communications infrastructure is not sufficient to eliminate known safety hazards. For example, on October 9, 1997, near Savannah, Georgia, an Amtrak train collided with a "lowboy" truck trailer that lodged itself on the street crossing. Based on FRA's preliminary review, which is continuing with the National Transportation Safety Board, we learned that a local police officer notified the CSXT dispatching center almost 30 minutes prior to the collision that the truck was stuck. Despite the advance call, no warning was provided to the crew of the approaching Amtrak train resulting in the collision. The entire Amtrak train derailed with injuries to passengers and crew. Less than

⁷ FRA is processing individual liability cases against individuals engaged in willful violations.

12 hours after the incident, FRA Administrator Molitoris and CSXT President Pete Carpenter signed a comprehensive "Safety Action Agreement" undertaking measures designed to improve communication and eliminate such hazards.

Conclusion

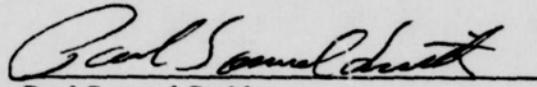
Over the years, CSXT has demonstrated an improving safety record and top level commitment to safety. The findings documented by the FRA teams during the August period serve as an indication that it is imperative that senior CSXT leadership build upon past successes while recognizing the need to move forward to address the shortfalls identified in this report.

Finally, FRA extends appreciation to all who participated with us throughout this safety review, especially the professional craft employees who took time to share with us their perspectives, concerns, and recommendations. In fact, it is clear that the employees who operate and maintain the railroad and equipment are the best group of safety consultants any railroad could have.

Federal Railroad Administration
October 16, 1997
Washington, D.C.

Certificate of Service

I hereby certify that on this day I have caused to be mailed to all Parties of Record in Finance Docket No. 33388 a copy of the foregoing Preliminary Comments of the U.S. Department of Transportation.

A handwritten signature in cursive script, reading "Paul Samuel Smith", written over a horizontal line.

Paul Samuel Smith

October 21, 1997

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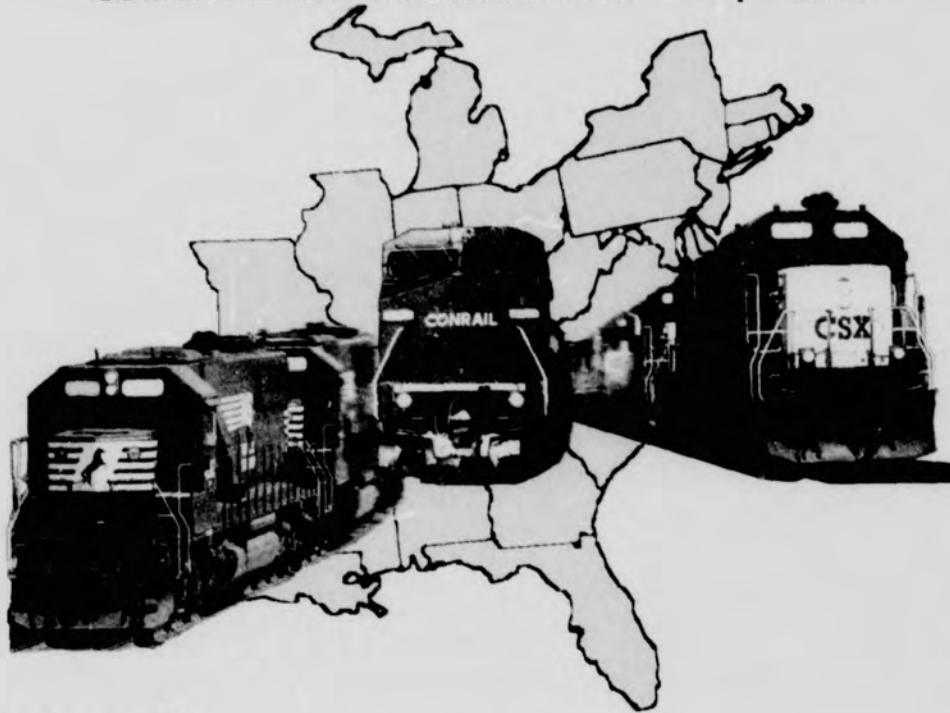
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Finance Docket No. 33388

"PROPOSED CONRAIL ACQUISITION"

**CSX Corporation and CSX Transportation, Inc.
Norfolk Southern Corporation and
Norfolk Southern Railway Company**

**Control and Operating Leases/Agreements
Conrail Inc. and Consolidated Rail Corporation**



Volume 3A

Chapter 5: State Settings, Impacts and Proposed Mitigation

Introduction

Alabama to Missouri

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SURFACE TRANSPORTATION BOARD
Finance Docket No. 33388

CSX Corporation and CSX Transportation, Inc.
Norfolk Southern Corporation and Norfolk Southern Railway Company
--Control and Operating Leases/Agreements--
Conrail Inc. and Consolidated Rail Corporation

GUIDE TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

This Draft Environmental Impact Statement (Draft EIS) evaluates the potential environmental effects that could result from the proposed Acquisition of Conrail Inc. and Consolidated Rail Corporation (Conrail) by CSX Corporation and CSX Transportation, Inc. (CSX) and Norfolk Southern Corporation and Norfolk Southern Railway Company (NS). The Surface Transportation Board's Section of Environmental Analysis (SEA) has prepared this document in accordance with the requirements of National Environmental Policy Act (NEPA), as amended (42 U.S.C. 4321), Council on Environmental Quality (CEQ) implementing NEPA, the Board's environmental rules (49 CFR Part 1105) and other applicable environmental statutes and regulations.

The Draft Environmental Impact Statement includes the following:

An **Executive Summary** which provides an overview and summary of the Draft EIS including and proposed mitigation.

Volume 1: Chapters 1 through 4

- Chapter 1 discusses the purpose and need for the project and sets forth the jurisdiction of the Surface Transportation Board (Board) and reviewing agencies. It also presents the parties to the proposed Acquisition, SEA's environmental review process and the agency coordination and public participation process.
- Chapter 2 describes the three railroads' existing network, the proposed Acquisition, alternatives considered, and related actions.
- Chapter 3 contains a description of the analysis methods and potential mitigation strategies.
- Chapter 4 presents system-wide and regional settings, potential effects of the proposed action, and measures to mitigate adverse effects. It also summarizes the No-Action alternative and discusses cumulative effects; the relationship between short-term uses of the environment and enhancement of long-term productivity; and irreversible and irretrievable commitments of resources.

Volume 2 (A through C): Safety Integration Plans

These volumes (2A through 2C) consist of the Applicants' Safety Integration Plans, Board Decision requiring these plans, and U.S. Department of Transportation comments on rail safety.

Volume 3: State Setting, Impacts, and Proposed Mitigation

- These two volumes (3A and 3B) consist of a series of sections which discuss the setting, impacts, and proposed mitigation by state. The potential impacts of individual segments, intermodal facilities, rail yards, new constructions, abandonments, and other types of action are part of this discussion.
- Volume 3A contains the states Alabama through Missouri.
- Volume 3B contains the states New Jersey through Washington, D.C.

Volume 4: Chapter 6 through 8 and References

- Chapter 6 describes SEA's agency coordination and public outreach efforts including the scoping process and document distribution.
- Chapter 7 presents SEA's preliminary mitigation recommendations to the Board.
- Chapter 8 contains a list of document preparers.

Volume 5: Appendices

- These three volumes (5A through 5C) contain the methods, extensive tables, and other pertinent data by discipline as well as public outreach and agency coordination documents and verified statements.
- Volume 5A contains the technical appendices.
- Volume 5B contains the public and agency correspondence, public outreach materials, and responses from other railroads.
- Volume 5C contains verified statements, relevant Board Decisions, Federal regulations, site visit summaries, and other pertinent information.

Volume 6: Proposed Abandonments

This volume provides detailed analysis and mitigation of the potential environmental impacts associated with the proposed abandonment of line segments and related salvage activities.

To assist the reader in the review of this document, a Glossary and List of Acronyms are included in front of each volume.

GLOSSARY

at-grade roadway crossing	The location where a local street or highway crosses railroad tracks at the same level or elevation.
attainment area	An area that meets National Ambient Air Quality Standards (NAAQS) specified under the Clean Air Act.
A-weighted Sound Level (dBA)	The most commonly used measure of noise, expressed in "A-weighted" decibels (dBA), is a single-number measure of sound severity that accounts for the various frequency components in a way that corresponds to human hearing.
ballast	Top surface of rail bed, usually composed of aggregate (i.e., small rocks and gravel).
Best Management Practices (BMPs)	Techniques recognized as very effective in providing environmental protection.
Board	Surface Transportation Board, the licensing agency for the proposed Conrail Acquisition.
borrow material	Earthen material used to fill depressions to create a level right-of-way.
branch line	A secondary line of railroad usually handling light volumes of traffic.
bulk train	Also known as a unit train. A complete train consisting of a single non-breakable commodity (such as coal, grain, semi-finished steel, sulfur, potash, or orange juice) with a single point of origin and destination.
consist	The make-up of a train, usually referring to the number of cars.
construction footprint	The area at a construction site subject to both permanent and temporary disturbances by equipment and personnel.
Class I Railroad	Railroads that exceed annual gross revenues of \$250 million, in 1991 dollars. The amount is indexed annually to reflect inflation. For 1996, the annual gross revenue was \$255 million.

Criteria of Effect	The Advisory Council on Historic Preservation's (ACHP) Criteria of Effect and Adverse Effect (35 CFR Part 800.9) provide the basis for determining potential effects on historic properties.
criteria pollutant	Any of six air emissions (lead, carbon dioxide, sulfur dioxide, nitrogen dioxide, ozone and particulate matter) regulated under the Clean Air Act, for which areas must meet national air quality standards.
cultural resource	Any prehistoric or historic district, site, building, structure, or object that warrants consideration for inclusion in the National Register of Historic Places (NRHP). For the purposes of this document, the term applies to any resource more than 50 years of age for which SEA gathered information to evaluate its significance.
Day-Night Sound (L_{dn})	One of the most widely accepted measures of cumulative noise exposure in residential areas. The Day-Night Sound Level (L_{dn}) is the A-weighted sound level, averaged over a 24-hour period, but with levels observed during the nighttime hours between 10 p.m. and 7 a.m., increased by 10 dBA to account for increased sensitivity at night.
dBA	Adjusted decibel level. A sound measurement that adjusts noise by filtering out certain frequencies to make it analogous to that perceived by the human ear. It applies what is known as an "A-weighting" scale to acoustical measurements.
decibel (dB)	A logarithmic scale that compresses the range of sound pressures audible to the human ear over a range from 0 to 140, where 0 decibels represents sound pressure corresponding to the threshold of human hearing, and 140 decibels corresponds to a sound pressure at which pain occurs. Sound pressure levels that people hear are measured in decibels, much like distances are measured in feet or yards.
deciduous	Any plant whose leaves are shed or fall off during certain seasons; usually used in reference to tree types.

dray	A local move of a trailer, truck, or container.
emergent species	An aquatic plant with vegetative growth mostly above the water.
endangered species	A species of plant or animal that is in danger of extinction throughout all or a significant portion of its range and is protected by state and/or federal laws.
failure mode and effects analysis (FMEA)	This analysis is a method of analyzing the causes and consequences of potential spills of stored and transported hazardous materials. This procedure helps reduce the risk of such spills by eliminating known causes.
fill	The term used by the United States Army Corps of Engineers that refers to the placement of suitable materials (e.g., soils, aggregates, concrete structures, etc.) within water resources under Corps jurisdiction.
flat yard	A system of relatively level tracks within defined limits for making up trains, storing cars, and other purposes which requires a locomotive to move cars (switch cars) from one track to another.
Flood Insurance Rate Maps	Maps available from the Federal Emergency Management Agency that delineate the land surface area of 100-year and 500-year flooding events.
floodplain	The lowlands adjoining inland and coastal waters and relatively flat areas and flood prone areas of offshore islands, including, at a minimum, that area inundated by a one percent (also known as a 100-year or Zone A floodplain) or greater chance of flood in any given year.
frog	A track structure used where two running rails intersect that permits wheels and wheel flanges on either rail to cross the other rail.
habitat	The place(s) where plant or animal species generally occur(s) including specific vegetation types, geologic features, and hydrologic features. The continued survival of that species depends upon the intrinsic resources of the habitat. Wildlife habitats are often further defined as places where species derive sustenance (foraging habitat) and reproduce (breeding habitat).

haulage right	The limited right of one railroad to operate trains over the designated lines of another railroad.
hazardous materials	Any material that poses a threat to human health and/or the environment. Typical hazardous substances are toxic, corrosive, ignitable, explosive, or chemically reactive.
highway/rail at-grade crossing	The location where a local street or highway crosses railroad tracks at the same level or elevation.
historic property	Any prehistoric or historic district, site, building, structure, or object that warrants consideration for inclusion in the National Register of Historic Places (NRHP). The term "eligible for inclusion in the NRHP" includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet NRHP listing criteria.
hump yard	A railroad classification yard in which the classification of cars is accomplished by pushing them over a summit, known as a "hump," beyond which they run by gravity.
interlocking	An arrangement of switch, lock, and signal appliances interconnected so that their movements succeed each other in a predetermined order, enabling a moving train to switch onto adjacent rails. It may be operated manually or automatically.
intermodal facility	A site or hub consisting of tracks, lifting equipment, paved areas, and a control point for the transfer (receiving, loading, unloading, and dispatching) of intermodal trailers and containers between rail and highway or rail and marine modes of transportation.
intermodal train	A train consisting or partially consisting of highway trailers and containers or marine containers being transported for the rail portion of a multimodal movement on a time-sensitive schedule; also referred to as a piggyback, TOFC (Trailer on Flat Car), COFC (Container on Flat Car), and double stacks (for containers only).

key routes	As defined by the Association of American Railroads (AAR), a key route is a track that carries an annual volume of 10,000 car loads or intermodal tank loads of any hazardous material. AAR has developed voluntary industry key route maintenance and equipment guidelines designed to address safety concerns in the rail transport of hazardous materials. For analysis purposes, SEA has used the term "major key route" to identify routes where the volume of hazardous materials carried on a route would double and exceed a volume of 20,000 carloads as a result of the proposed Conrail Acquisition.
key train	The Association of American Railroads (AAR) defines a key train as any train handling five or more carloads of poison inhalation hazard (PIH) materials or a combination of 20 or more carloads containing hazardous materials. Under AAR voluntary industry guidelines, railroads impose operating restrictions on key trains to ensure safe rail transport of these materials. These restrictions include maximum speeds, and meeting and passing procedures.
L_{dn}	Nighttime noise level (L_n) adjusted to account for the perception that a noise level at night is more bothersome than the same noise level would be during the day.
Level of Service (LOS)	Level of Service (rating A through F). A measure of the functionality of a highway or intersection that factors in vehicle delay, intersection capacity and effects to the street/highway network.
lift	A lift is defined as an intermodal trailer or container lifted onto or off of a rail car. For calculations, lifts are used to determine the number of trucks using intermodal facilities.
locomotive, road	One or more locomotives (or engines) designed to move trains between yards or other designated points.
locomotive, switching	A locomotive (or engine) used to switch cars in a yard, between industries, or in other areas where cars are sorted, spotted (placed at a shipper's facility), pulled (removed from a shipper's facility), and moved within a local area.

main line	The principle line or lines of a railway.
merchandise train	A train consisting of single and/or multiple car shipments of various commodities.
mitigation	Actions to prevent or lessen negative effects.
mobile source	A term used in reference to air quality meaning a source of air emissions that are not in a fixed location, such as a locomotive or automobile.
National Register	A listing of historic places maintained by the Secretary of the Interior.
National Wetlands Inventory	An inventory of wetland types in the United States compiled by the U.S. Fish and Wildlife Service.
noise	Any undesired sound or unwanted sound.
nonattainment	An area that does not meet standards specified under the Clean Air Act.
Non-point source discharge	Pollution not associated with a specific, fixed outfall location (e.g., sewer pipe), such as runoff from a construction site.
palustrine wetland	Non-tidal wetland dominated by trees, shrubs or persistent emergent vegetation. Includes wetlands traditionally classified as marshes, swamps, or bogs.
passby	The passing of a train past a specific reference point.
pick up	To add one or more cars to a train from an intermediate (non-yard) track designated for the storage of cars.
precursor	A term used in reference to air quality, meaning an initial ingredient contributing to a subsequent air quality pollutant.
prime farmland	Land defined by the Natural Resource Conservation Service (NRCS) as having the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops.
point source	A distinct stationary source of air or water pollution such as a factory or sewer pipes.

rail spur	A track that diverges from a main line, also known as a spur track or rail siding, which typically serves one or more industries.
rail yard	A location where rail cars are switched and stored.
railbanking	A set-aside of abandoned rail corridor for recreational and/or transportation uses, including reuse for rail.
receptor/receiver	A land use or facility where sensitivity to noise or vibration is considered.
right-of-way	The strip of land for which an entity (e.g., a railroad) has a property right to build, operate, and maintain a linear structure, such as a road, railroad or pipeline.
riparian	Relating to, living, or located on, or having access to, the bank of a natural water course, sometimes also a lake or tidewater.
riprap	A loose pile or layer of broken stones erected in water or on soft ground as a guard against erosion.
riverine wetland	All wetlands and deepwater habitats contained within a channel, either naturally or artificially created.
route miles	Distance calculated along a railroad's main and branch lines.
ruderal	An introduced plant community dominated by weed species, typically adapted to disturbed areas.
scrub-shrub	Areas dominated by woody vegetation less than 6 meters (20 feet) tall, which includes shrubs and young trees.
set out	To remove one or more cars from a train at an intermediate (non-yard) location such as a siding, interchange track, spur track, or other track designated for the storage of cars.
Section 106	Refers to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended through 1992 (16 U.S.C. 470). Section 106 requires a Federal agency head performing a Federal undertaking to take into account the undertaking's effects on historic properties.

sound	A physical disturbance in a medium (e.g., air) that is capable of being detected by the human ear.
Sound Exposure Level (SEL)	A quantitative measure of the noise exposure produced by a given noise event. The sound exposure level (SEL) is equivalent in magnitude to a reference signal with a duration of one second. The SEL accounts for both the magnitude and duration of the noise event and can be used to calculate the contribution of specific events to the overall noise environment. The SEL is representative of the total sound energy produced by the event at an observation point; it indicates the constant sound level with one second duration that corresponds to the same total sound energy as the given event.
take or taking	Refers to a removal of property, an acquisition of right-of-way, or a loss and/or degradation of species' habitat.
threatened	A species that is likely to become an endangered species within the foreseeable future throughout all or part of its range, and is protected by state and/or federal law.
trackage rights	The right or combination of rights of one railroad to operate over the designated trackage of another railroad including, in some cases, the right to operate trains over the designated trackage; the right to interchange with all carriers at all junctions; the right to build connections or additional tracks in order to access other shippers or carriers.
turnout	A track arrangement consisting of a switch and frog with connecting and operating parts, extending from the point of the switch to the frog, which enables engines and cars to pass from one track to another.
unit train	A train consisting of cars carrying a single commodity, e.g., a coal train (see also bulk train).
water resources	An all inclusive term that refers to many types of permanent and seasonally wet/dry surface water features including springs, creeks, streams, rivers, ponds, lakes, wetlands, canals, harbors, bays, sloughs, mudflats, and sewage-treatment and industrial waste ponds.

wetland

As defined by 40 CFR Part 230.3, wetlands are "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands generally include swamps, marshes, bogs, and similar areas.

wye track

A principal track and two connecting tracks arranged like the letter "Y" on which locomotives, cars and trains may be turned.

yard truck

Any truck that has delivery into a rail yard.

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LIST OF ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
ADT	Average Daily Traffic
AQCR(s)	Air Quality Control Region(s)
BIA	Bureau of Indian Affairs
BMPs	Best Management Practices
BN	Burlington Northern & Santa Fe Railroad Company
CAAA	Clean Air Act and Amendments
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	Code of Federal Regulations
CN	Canadian National
CO	Carbon Monoxide
COE	United States Army Corps of Engineers
CSX	CSX Transportation, Inc.
CTC	Centralized Traffic Control
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
db	Decibel
dBA	Decibels (of sound) A range
DOT	United States Department of Transportation
EA	Environmental Assessment
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps

FMEA	Failure Mode and Effects Analysis
FRA	Federal Railroad Administration
HC	Hydrocarbons (in air)
IC	Illinois Central
ICC	Interstate Commerce Commission (former licensing agency for the proposed Acquisition; Acquisition approval authority now with the Surface Transportation Board)
ISTEA	Intermodal Surface Transportation Efficiency Act
L_{dn}	Day-night equivalent sound level
L_{max}	Maximum sound level during train passby, dBA
LIRR	Long Island Rail Road
LOS	Level of Service
LUST	Leaking Underground Storage Tank
MARC	Maryland Rail Commuter
MNR	Metro North Railroad
MOU	Memorandum of Understanding
MP	Mile Post
MPH	Miles per Hour
NAAQS	National Ambient Air Quality Standards
NEC	Northeast Corridor
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966
NJT	New Jersey Transit
NO₂	Nitrogen dioxide
NO_x	Nitrogen oxides
NOAA	National Oceanic and Atmospheric Administration
NMFS	National Marine Fisheries Service
NPDES	National Pollution Discharge Elimination System

NPL	National Priorities List
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NS	Norfolk Southern Railway Company
NWI	National Wetlands Inventory
O₃	Ozone
OSHA	Occupational Safety and Health Administration
OTR	Ozone Transport Region
Pb	Lead
PDEA	Preliminary Draft Environmental Assessment
PM₁₀	Particulate Matter (under 10 microns in diameter)
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Information System
ROW	Right-of-Way
SEA	Section of Environmental Analysis
SEPTA	Southeast Pennsylvania Transit Authority
SCS	Soil Conservation Service (currently named Natural Resources Conservation Service, Division of United States Department of Agriculture)
SEL	Source sound exposure level at 100 feet, dBA
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan (for air quality)
SO₂	Sulfur dioxide
SO_x	Sulfur oxides
SPL	State Priority List
STATSGO	State Soil Geographic Database

STB	Surface Transportation Board
SWLF	State Inventory of Solid Waste Facilities
TRAA	Terminal Railroad Association of St. Louis
TSD	Treatment, Storage, or Disposal Sites
TSP	Total Suspended Particulates (particulate matter)
UP/SP	Union Pacific and Southern Pacific Railroad
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VISTA	VISTA Environmental Information, Inc.
VOC	Volatile organic compounds
VRE	Virginia Rail Express

Volume 3A

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CHAPTER 5

State Settings, Impacts and Proposed Mitigation

5.1 INTRODUCTION

The proposed Conrail Acquisition, if approved, would result in physical and operational changes in 24 states and Washington, D.C. These changes would include construction projects and rail line abandonments as well as changes to rail yards, rail segments, and intermodal facilities. Because of the broad geographic scope of the project, the environment and the human population could be affected on several levels: system-wide, regional, and local or site-specific.

Chapter 4 focused on system-wide and regional effects, which include safety, traffic and transportation systems, air quality, and energy usage. This chapter contains SEA's evaluation of local and site-specific environmental issues. These include noise, natural resources, cultural resources, land use/socioeconomics, environmental justice, and hazardous waste, as well as the site-specific effects on safety, traffic and transportation systems, and air quality.

Section 5.2 of this chapter provides an overview of the methods used for each impact analysis area. These methods are described in detail in Chapter 3, "Analysis Methods and Potential Mitigation Strategies." Section 5.3, "Summary of Impacts and Mitigation," presents, by state, summary tables of the impacts and mitigation for each type of action.

After Section 5.3, Sections 5-AL through 5-WV discuss settings, impacts, and proposed mitigation along rail line segments, at rail yards, intermodal facilities, proposed new construction, and rail line abandonments. These sections are organized alphabetically by state using postal code abbreviations. This state-by-state organization is designed to help readers to easily identify the effects of Acquisition-related changes to their community. Each state section begins with a broad overview of the geographic, economic, industrial and agricultural characteristics as they relate to railroad operations and facilities. In each state, a table summarizes the setting for rail line segments, rail yards, intermodal facilities, and new construction and proposed abandonments that meet or exceed the Board's thresholds for environmental analysis. (See Chapter 1, "Purpose of and Need for the Conrail Acquisition," for a detailed discussion of Board thresholds.) Then, for each technical area of analysis, SEA presents the results of its evaluation of potential environmental impacts resulting from

Acquisition-related activities and possible mitigation measures to reduce environmental impacts if warranted.

The Applicants provided information about the proposed physical and operational changes presented in this chapter. As part of the evaluation process, SEA reviewed and verified this information, supplemented it with additional technical analysis, consulted with appropriate state and local officials, and conducted site inspections. In some cases, information about the proposed physical and operational changes is based on conceptual information, as CSX and NS have not completed the detailed design for new facilities. Although CSX and NS are providing updates and additional information to SEA as design and engineering refinements are made, it is likely that final design will be completed only if the Board approves the proposed Conrail Acquisition. Therefore, SEA's analysis in this Draft EIS is based on the best information available at the time the analysis was completed. Where possible, SEA incorporated minor changes, design refinements and location shifts into the impact analysis.

5.2 SITE-SPECIFIC ANALYSIS APPROACH

For the site-specific analysis, SEA evaluated each Acquisition-related activity (changes in freight train traffic on existing rail line segments, changes in activity at rail yards and intermodal facilities, new construction, and proposed rail line abandonments) that meet or exceed the Board's thresholds for environmental analysis. SEA evaluated each activity according to the technical issue areas and methods described in Chapter 3, "Analysis Methods and Potential Mitigation Strategies." In addition, as a result of the scoping process, SEA expanded the Draft EIS analysis to include an evaluation of safety and transportation impacts for any rail segment with passenger service that would have an increase of one or more freight trains per day. SEA also decided to evaluate potential safety impacts for all rail segments used for hazardous materials transport.

SEA developed evaluation methods and criteria to determine if any impact was significant. Table 2-1 in Chapter 2 details the criteria of significance by issue area. For those activities SEA determined to have a significant adverse impact, SEA considered potential mitigation measures that could be applied to reduce the impact.

The following paragraphs briefly describe the technical methods and identify which of the proposed Acquisition-related activities/changes SEA evaluated. (See Table 5-1 for the activities evaluated by each technical area.) Chapter 3 and Appendices A through K provide a more detailed discussion of the technical analysis methods.

Table 5-1
Environmental Issues Studied by Activity Types

Issues	Operations on Rail Line Segments	Constructions	Operations at Intermodal Facilities	Operations at Rail Yards	Abandonments
Safety - Freight Rail Operation - Passenger Rail Operations - Roadway Crossings - Hazardous Materials Transport	▲ ▲ ▲ ▲	▲	▲ ▲	▲ ▲	▲
Traffic and Transportation - Passenger Rail Service - Roadway Crossing Delay - Roadway Capacity - Navigation	▲ ▲ ▲	▲	▲		▲ ▲ ▲
Energy	▲		▲	▲	▲
Air Quality	▲	▲	▲	▲	▲
Noise	▲	▲	▲	▲	
Cultural Resources		▲			▲
Hazardous Waste Sites		▲			▲
Natural Resources		▲			▲
Land Use/Socioeconomics		▲			▲
Environmental Justice	▲	▲	▲	▲	

Safety: Freight Rail Operations

For the freight rail safety analysis, SEA used a statistical method to predict potential changes in the frequency of accidents resulting from proposed Acquisition-related changes in rail operations. SEA evaluated rail line segments that meet or exceed the Board's thresholds for environmental analysis. In addition, SEA studied safety at intermodal facilities and rail yards on a system-wide basis. Using this approach, SEA analyzed potential safety impacts on freight rail operations by rail line segment in 12 states (Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New York, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia) and the District of Columbia.

For the safety analysis, SEA used data from the U.S. Department of Transportation (DOT), the Federal Railroad Administration (FRA) and the Association of American Railroads (AAR). As described further in Chapter 3, Section 3.2.1, "Methods of Freight Rail Safety Analysis," SEA estimated the change in accident frequency by calculating historic accident rates expressed in train accidents per million train miles (this is the standard measure the FRA employs to calculate accident statistics) and applying these rates to the proposed changes in rail operations. To determine the historic accident rate, SEA considered the number of main tracks, class of track, and signal system for each rail segment. Then, SEA applied these unit rates to the proposed rail operations on the rail line segments to determine the post-Acquisition accident rates. SEA considered mitigation for rail line segments with estimated significant safety impacts.

Safety: Passenger Rail Operations

SEA evaluated the potential for increased accidents between freight trains and passenger trains, considering both intercity and commuter trains. Since changes in the risks of passenger rail operations are directly related to changes in overall train activity, the safety analysis concentrated on rail line segments that would experience an increase in freight train traffic of one or more trains per day. Generally, changes at intermodal facilities, rail yards, new construction areas, or proposed rail line abandonments have no impact on passenger rail safety. Using this approach, SEA studied potential safety impacts to passenger rail operations by rail line segment in 20 states (Alabama, Delaware, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Virginia, and West Virginia) and the District of Columbia.

SEA used similar methods for the passenger rail safety analysis as were used for the freight rail safety analysis. Section 3.3.1, "Methods of Safety Analysis for Passenger Rail Operations," provides additional details on the methods. To determine the change in accident frequency, SEA first calculated the historic accident rate (number of annual train collisions) on rail line segments with passenger train activity. SEA then estimated the change in the annual passenger train accident rate on a train-mile basis as a result of a post-Acquisition increase in freight operations.

Safety: Highway/Rail At-Grade Crossings

Increased train activity could potentially affect the safety of roadway users at locations where railroads and roadways cross. SEA evaluated the accident potential along rail line segments at locations where railroad tracks cross roadways at the same elevation (at-grade crossings). SEA did not analyze grade-separated crossings (overpasses and underpasses) because these crossings eliminate the potential for train-vehicle accidents by physically separating the roadway from the railroad tracks. SEA analyzed highway/rail at-grade crossing safety on rail line segments that meet or exceed the Board's analysis threshold of eight additional freight trains per day. Using this approach, SEA studied potential safety impacts at highway/rail at-grade crossings in 11 states (Illinois, Indiana, Kentucky, Maryland, Michigan, New York, Ohio, Pennsylvania, Tennessee, Virginia and West Virginia).

For the safety analysis, SEA used highway/rail at-grade accident data from FRA databases. As further described in Section 3.4.1, "Methods of Safety Analysis for Highway/Rail At-Grade Crossings," SEA used standard FRA methods and formulas to estimate the pre- and post-Acquisition at-grade crossing train-vehicle accident risk. SEA applied the formulas using the characteristics of the highway/rail at-grade crossing and statistical information on historic accident experience at the crossing.

Safety: Rail Transport of Hazardous Materials

Safety issues for the rail transportation of hazardous materials are related to the rail shipment of the material from one point to another. SEA analyzed all rail line segments where the number of carloads containing hazardous material would increase, regardless of whether the Board's thresholds of environmental analysis were exceeded. Using this approach, SEA studied potential safety impacts to the transport of hazardous materials along rail line segments in 20 states (Alabama, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia) and the District of Columbia.

As described in Section 3.5.1, "Methods of Safety Analysis for Rail Transport of Hazardous Materials," SEA used historic information from the last five years to derive the probability of a hazardous materials release after the proposed Conrail Acquisition. This historic information had been reported by the rail roads to the U.S. Department of Transportation. SEA further reviewed railroad operating plans, Spill Prevention, Control, and Countermeasure (SPCC) plans, and hazardous materials handling plans to identify current hazardous materials handling procedures and procedures for responding to hazardous materials releases.

Transportation: Passenger Rail Service

SEA evaluated potential Acquisition-related effects on the ability of rail line segments to accommodate existing passenger rail service and reasonably foreseeable new or expanded passenger service. The analysis of passenger rail operations included both intercity and commuter rail service. SEA identified those rail line segments where freight operations share the line with passenger rail operations and would experience an increase of one or more freight trains per day. Using this approach, SEA analyzed potential impacts to passenger rail service on rail line segments in 24 states (Alabama, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Massachusetts, Maryland, Michigan, Mississippi, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Virginia, and West Virginia) and the District of Columbia.

For the analysis, SEA examined existing intercity and commuter rail schedules along with pre- and post-Acquisition railroad operating plans to assess the capacity of each affected rail line segment. As further explained in Section 3.6.1, "Methods for Passenger Rail Service Capability Analysis," SEA then determined the capability of the rail line segments to accommodate higher traffic volumes resulting from proposed Acquisition-related freight train increases.

Transportation: Highway/Rail At-Grade Crossing Delay

To analyze the effects of the proposed Conrail Acquisition on delays at existing highway/rail at-grade crossings, SEA identified at-grade crossings along rail line segments that would meet or exceed the Board's environmental analysis thresholds for air quality. SEA concluded that, for roadways with average daily traffic (ADT) volumes below 5,000 vehicles, relatively few drivers would experience the potential effect of increased train traffic and the associated additional vehicle delay would be minimal. For this reason, SEA did not include highway/rail at-grade crossings with daily traffic volumes below 5,000 vehicles in their impact analysis. SEA then calculated potential changes in vehicle delay at the remaining crossings where ADT volumes are 5,000 or greater. Using this approach, SEA analyzed highway/rail at-grade crossing delay in 13 states (Alabama, Georgia, Illinois, Indiana, Kentucky, Maryland, Michigan, New York, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia).

As defined in Section 3.7.1, "Methods for Highway/Rail At-Grade Crossing Delay," SEA calculated the crossing delay per stopped vehicle, the average delay for all vehicles, and the maximum vehicle queue for the highway/rail at-grade crossings identified for analysis. Together, these calculations express the potential effects of increased train traffic on vehicular delay at highway/rail at-grade crossings. SEA identified and evaluated mitigation measures where appropriate.

Transportation: Roadway Effects from Rail Facility Modifications

SEA evaluated the impact of additional truck traffic on the roadway system resulting from increased railroad activity at existing intermodal facilities, new intermodal facilities, and proposed rail line abandonments. SEA also evaluated the impact on highway/rail at-grade crossing delay and safety resulting from the construction of new rail line connections and proposed rail line abandonments. SEA identified the proposed Acquisition-related activities that would meet or exceed the Board's thresholds for environmental analysis as described in Section 3.8.1, "Methods for Determining Transportation Impacts from Increased Railroad Activities." Using this approach, SEA analyzed potential roadway effects at intermodal facilities, new constructions, and rail line abandonments in 13 states (Georgia, Illinois, Indiana, Kentucky, Louisiana, Maryland, Michigan, Missouri, New Jersey, New York, Ohio, Pennsylvania, and Tennessee).

As defined in Section 3.8.1, "Methods for Determining Transportation Impacts from Increased Railroad Activities," SEA examined traffic patterns on roadways surrounding intermodal facilities. SEA identified the major truck routes and calculated the expected increases in truck traffic resulting from Acquisition-related activities. The primary factor influencing potential impacts to the adjoining roadways is the percentage increase in average daily traffic resulting from additional truck traffic.

Section 3.7, "Transportation: Highway/Rail At-Grade Crossing Delay," discusses the procedures used for analyzing highway/rail at-grade crossing delay. SEA used the same methods for analyzing highway/rail at-grade crossing delay along new constructions as for analyzing highway/rail at-grade crossing delay resulting from increased freight train traffic on rail line segments. For proposed rail line abandonments, SEA evaluated the increase in truck trips to determine whether the additional truck trips would have a measurable impact on daily traffic patterns on nearby roads. SEA also considered the effects of eliminating highway/rail at-grade crossings.

Transportation: Navigation

To evaluate the potential effects of train traffic on water-borne shipping where interaction could occur, SEA reviewed proposed Acquisition-related activities on rail line segments, new constructions (rail line connections only), and rail line abandonments that meet or exceed the Board's thresholds for environmental analysis and involve movable bridges. SEA did not analyze intermodal facilities and rail yards because they do not directly relate to waterborne transportation activities. Using this approach, SEA analyzed the potential navigation impacts to bridges on rail line segments, new connection constructions, and proposed rail line abandonments in six states (Indiana, New Jersey, Ohio, Pennsylvania, Tennessee, and Virginia) and the District of Columbia.

SEA used data from the FRA to identify railroad bridges over navigable waterways. SEA verified the proposed railroad Operating Plans and coordinated the analysis with the Coast Guard district offices with jurisdiction over potentially affected areas. As stated in Section 3.9.1, "Methods for Evaluating Navigation Issues," waterborne navigation has the right-of-way in all instances. Therefore, any operating constraints resulting from post-Acquisition activities would be placed on the railroad and not on the waterborne users at movable bridges extending across navigable waterways.

Energy

The sources of change in energy efficiency include rail-to-truck diversions; truck-to-rail diversions; traffic rerouting; and changes in operations at rail yards and intermodal facilities. SEA assessed energy effects on a system-wide basis only. System-wide energy effects are presented in Section 4.11, "Energy."

Air Quality

Post-Acquisition operational changes could lead to an increase in air pollutant emissions. SEA analyzed the effects of the proposed Conrail Acquisition on air quality by evaluating rail line segments, rail yards, and intermodal facilities that would meet or exceed the Board's analysis thresholds for air quality. Although construction emissions (vehicle exhaust and fugitive dust emissions) generated by Acquisition-related construction projects and proposed rail line abandonments could occur, SEA did not analyze the effect of these emissions because they are expected to be relatively small and temporary. Using this approach, SEA analyzed potential air quality impacts by county in 18 states (Alabama, Delaware, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maryland, Michigan, Missouri, New Jersey, New York, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, and West Virginia) and the District of Columbia.

SEA evaluated county-wide emissions changes for nitrogen oxides (NO_x) in 98 counties and carbon monoxide (CO) three counties using the five-step process outlined in Section 3.11.1, "Methods for Air Quality Analysis." Emissions changes of all other air pollutants sulfur dioxide (SO₂), particulate matters (PM₁₀), volatile organic compounds (VOCs), and lead (Pb) from railroad activities did not exceed emissions screening levels for any county; therefore, SEA did not analyze them for any county or jurisdiction. After calculating the total emissions for individual counties that meet or exceed Board thresholds, SEA determined the significance of emissions increases in a given county. SEA considered three factors to determine significance: the absolute magnitude of increases, the relative percentage of increases compared with county-wide emissions from all sources, and the existing air quality status within the county.

Noise

To analyze the noise impacts of the proposed Conrail Acquisition, SEA evaluated rail line segments, rail yards, and intermodal facilities that would meet or exceed the Board's noise analysis thresholds. Although new construction projects and proposed rail line abandonments can result in noise increases, the noise effects would be temporary and therefore were not evaluated. Using this approach, SEA analyzed potential noise effects for rail line segments, rail yards, and intermodal facilities in 16 states (Delaware, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maryland, Michigan, Missouri, New Jersey, New York, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia) and the District of Columbia.

The noise analysis estimates the number of sensitive receptors that would be affected by noise levels of 65 dBA L_{dn} (A-weighted decibels day/night levels) or greater as a result of Acquisition-related activities. SEA determined receptors exposed to projected noise levels of 70 dBA L_{dn} or more, as well as a 5 dBA L_{dn} increase from wheel/rail and locomotive noise alone, to be subject to substantial noise impacts. Mitigation of such impacts using noise walls or other reasonable and feasible measures is being considered.

Noise impacts from train horns at highway/rail at-grade crossings cannot be mitigated at this time because of overriding safety issues. When the FRA "quiet zone" rules designed to mitigate train horn noise are finalized, communities may establish quiet zones as provided in those rules.

Cultural Resources

Cultural resources include historic and archaeological features. SEA determined that potential effects on cultural resources would most likely occur during new construction and proposed rail line abandonment activities. For this reason, SEA did not analyze changes on rail line segments, at intermodal facilities, or at rail yards. Using this approach, SEA analyzed potential impacts to cultural resources by site in eight states (Delaware, Illinois, Indiana, Maryland, Michigan, New Jersey, New York, and Ohio).

SEA conducted site visits, archival searches, and coordination with various State Historic Preservation Offices (SHPOs) to identify any historic or archaeological sites located in the site-specific project areas that are listed in or eligible for listing in the National Register of Historic Places. SEA used the "Criteria of Effect and Adverse Effect" (36 CFR 800.9) developed by the Advisory Council on Historic Preservation (ACHP) as the criteria for an adverse impact on historic properties. SEA also identified mitigation strategies to address adverse impacts on historic and archaeological resources.

SEA has initiated the Section 106 consultation process by sending letters to the State Historic Preservation Officer in each state potentially affected by the proposed Conrail Acquisition. In these letters, SEA has requested concurrence with the findings of the cultural resource analysis.

Appendix M contains the responses to these letters. For the Final EIS, SEA will update the summary of the Section 106 consultation process.

Hazardous Materials and Waste Sites

SEA identified potential impacts on hazardous waste sites for each location where proposed Acquisition-related construction or abandonment activities would take place. For this reason, SEA did not analyze changes on rail line segments, at intermodal facilities, or at rail yards. Using this approach, SEA analyzed potential impacts on hazardous waste sites and related environmental concerns by site in seven states (Illinois, Indiana, Maryland, Michigan, New Jersey, New York, and Ohio).

Hazardous waste sites are places where releases of hazardous materials have been reported to local, state, or Federal authorities. Related environmental concerns include facilities licensed to treat, store, or dispose of hazardous materials, leaking underground storage tanks (LUSTs), solid waste facilities and landfills (SWFs/LFs), and locations where SEA observed evidence of possible hazardous materials releases. Orphan sites are sites that could not be located because of inadequate location information. SEA obtained information on hazardous waste sites and related environmental concerns through database searches conducted by Environmental Data Resources, Inc. (EDR), site visits, and contact with local and state officials. Appendix H summarizes the EDR search results and provides the data sources for information on hazardous waste sites and related environmental concerns. Section 3.14.1, "Methods for Hazardous Materials Site Analysis," provides additional details of the analysis process. SEA also analyzed the potential environmental effects associated with the rail transportation of hazardous materials; these are discussed in Section 3.5, "Safety: Rail Transport of Hazardous Materials".

CSX and NS have detailed procedures and policies that would reduce or avoid impacts at locations where hazardous materials may be used or encountered. These procedures and policies reflect the railroads' intent to handle hazardous materials safely and comply with the regulatory requirements of Federal, state, and local agencies other than the Board. Therefore, additional mitigation measures generally are not needed. CSX and NS would address hazardous materials encountered or released during construction or abandonment activities as follows:

- CSX and NS would comply with applicable Federal, state and local regulations regarding the handling and disposal of any hazardous materials.
- Site clean-up and restoration would follow procedures in CSX and NS operating plans and applicable Federal and state regulations and guidelines. A general description of the allocation of responsibility for contaminated sites is provided in Appendix H.
- CSX and NS would transport hazardous materials in compliance with U.S. Department of Transportation Hazardous Materials Regulations (49 CFR Parts 171-174 and 177-179).

- In the event of an accidental spill of a hazardous material, CSX and NS would follow the appropriate response procedures outlined in their emergency response plans.

Natural Resources

Natural Resources include water resources, wetlands, biological resources, and habitats. SEA determined that the potential for impacts to water resources, wetlands, and biological resources would most likely be associated with site-specific projects related to the proposed abandonment of rail lines and construction of new rail line connections, rail yards, and intermodal facilities. SEA determined that operational changes, such as increases or decreases in the number of trains on rail line segments, have little direct effect on natural resources. Using this approach, potential impacts to natural resources were analyzed by site in seven states (Illinois, Indiana, Maryland, Michigan, New Jersey, New York, and Ohio).

As described further in Section 3.15.1, "Methods for Natural Resources Analysis," SEA reviewed the potential effects of the proposed Conrail Acquisition on water resources, wetlands, and biological resources by conducting site visits, scientific literature research, and agency consultation. SEA assessed potential impacts to Federally-listed threatened and endangered species; protected wildlife habitats and migration corridors; wildlife refuges and sanctuaries; national, state and/or local parks or forests; and protected unique or critical habitats. SEA also noted the potential need for Federal permits and additional coordination with appropriate regulatory and review agencies. SEA evaluated potential mitigation measures as part of the impact analysis.

Land Use and Socioeconomics

For the land use/socioeconomics analysis, SEA evaluated changes in the physical environment as a result of the proposed Conrail Acquisition. The issues included consistency with current land use plans and existing Coastal Zone Management plans, potential effects on prime farmland, and suitability of abandoned rights-of-way for alternative public uses. SEA determined that potential land use/socioeconomic effects would most likely result from the construction of new rail line connections or proposed rail line abandonments. For this reason, SEA did not analyze changes on rail line segments, at intermodal facilities, or at rail yards. Using this approach, SEA analyzed potential effects on land use/socioeconomic conditions by site in seven states (Illinois, Indiana, Maryland, Michigan, New Jersey, New York, and Ohio).

Initially, SEA conducted site visits and contacted local agencies to verify existing land use descriptions. SEA also collected information on prime farmland, coastal zone management, and American Indian reservations. As described further in Section 3.16.1, "Land Use/Socioeconomics Methodology," the analysis included a comparison of proposed Acquisition-related activities with local land use plans, identification of effects on prime farmland, and determination of consistency with Coastal Zone Management Plans. SEA

evaluated whether businesses and residences would be displaced, and identified whether construction projects or proposed rail line abandonments would occur on Indian reservations. For rail line abandonments, SEA evaluated alternative public uses for abandoned rights-of-way, and identified alternative modes for the transportation of goods and services that currently use the rail segments proposed for abandonment. For locations where significant impacts could occur, SEA evaluated mitigation strategies that could be implemented by CSX, NS, or local jurisdictions.

Environmental Justice

SEA investigated whether the proposed Conrail Acquisition would result in disproportionately high and adverse impacts on minority and low-income populations. The environmental justice analysis encompassed a wide range of environmental concerns, including safety, transportation, air quality, noise, cultural resources, hazardous waste sites, natural resources, and land use/socioeconomics. Because these environmental issues are involved with proposed changes in rail line segments, intermodal facilities, rail yards, and new constructions and proposed rail line abandonments, SEA evaluated all of the various proposed Acquisition-related activities that meet or exceed the Board's thresholds for environmental analysis. Using this approach, SEA analyzed potential environmental justice effects by site in 18 states (Alabama, Connecticut, Delaware, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maryland, Michigan, Missouri, New Jersey, New York, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia) and the District of Columbia.

Section 3.17.1, "Environmental Justice Analysis," describes additional details of analysis procedures for environmental justice. In general, SEA developed a six-step process to evaluate potential environmental justice impacts, which involved the following elements:

1. Identifying the potential health and environmental effects of the proposed acquisition.
2. Determining whether these potential effects might occur in minority or low-income communities.
3. Assessing whether potential effects in minority or low-income communities could be "high" and "adverse."
4. Determining whether potentially high and adverse effects "disproportionately affect" minority or low-income communities (in other words, whether such effects would be predominantly borne, more severely or in greater magnitude, in a minority or low-income community).
5. If so, consulting with the affected minority or low-income community about alternatives to the proposed Acquisition (including disapproving the Acquisition) and potential mitigation measures.

6. Identifying potential mitigation measures and alternatives to avoid or reduce the disproportionate effect.

5.3 SUMMARY OF IMPACTS AND MITIGATION

This section presents an alphabetical listing, by state, of the potential impacts and preliminary proposed mitigation action. Table 5-2 identifies these summary impacts warranting mitigation action. These site-specific potential impacts are listed for the applicable states. No mitigation is recommended in the states of Connecticut, Massachusetts, Rhode Island, and West Virginia.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
ALABAMA					
Safety	C-267: Decatur - Black Creek	Rail Line Segment	Jefferson, Blount, Cullman, Morgan	Hazardous Materials Transport: A major key route.	Hazardous Materials Transport: Develop a Hazardous Materials Emergency Response Plan.
	C-268: Black Creek - Birmingham	Rail Line Segment	Jefferson, Tuscaloosa	Hazardous Materials Transport: A major key route.	Hazardous Materials Transport: Develop a Hazardous Materials Emergency Response Plan.
	C-269: Birmingham - Parkwood	Rail Line Segment	Jefferson, Shelby	Hazardous Materials Transport: A major key route.	Hazardous Materials Transport: Develop a Hazardous Materials Emergency Response Plan.
	C-270: Parkwood - Montgomery	Rail Line Segment	Shelby, Chilton, Autauga, Elmore, Montgomery	Hazardous Materials Transport: A new and major key route.	Hazardous Materials Transport: Implement AAR guidelines and develop a Hazardous Materials Emergency Response Plan.
	C-271: Montgomery - Flematon	Rail Line Segment	Montgomery, Lowndes, Butler, Conecuh, Escambia	Hazardous Materials Transport: A new and major key route.	Hazardous Materials Transport: Implement AAR guidelines and develop a Hazardous Materials Emergency Response Plan.
	C-356: Lagrange, GA - Montgomery	Rail Line Segment	Chambers, Lee, Macon, Montgomery	Hazardous Materials Transport: A new and major key route.	Hazardous Materials Transport: Implement AAR guidelines and develop a Hazardous Materials Emergency Response Plan.
	C-373: Nashville, TN - Stevenson, AL	Rail Line Segment	Jackson	Hazardous Materials Transport: A new and major key route.	Hazardous Materials Transport: Develop Hazardous Materials Emergency Response Plan.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
ALABAMA (Continued)					
Safety	C-376: Lagrange, GA - Parkwood, AL	Rail Line Segment	Jefferson, Shelby, Talladega, Clay, Randolph, Chambers	<i>Hazardous Materials Transport:</i> A new and major key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan.
	C-380: Thomasville, GA - Montgomery, AL	Rail Line Segment	Houston, Dale, Pike, Montgomery	<i>Hazardous Materials Transport:</i> A new key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines.
	C-386: Flomaton - Mobile	Rail Line Segment	Escambia, Baldwin, Mobile	<i>Hazardous Materials Transport:</i> A major key route.	<i>Hazardous Materials Transport:</i> Develop Hazardous Materials Emergency Response Plan.
	C-387: Mobile, AL - New Orleans, LA	Rail Line Segment	Mobile	<i>Hazardous Materials Transport:</i> A major key route.	<i>Hazardous Materials Transport:</i> Develop Hazardous Materials Emergency Response Plan.
DELAWARE					
Safety	C-201: Wilmere - Baltimore	Rail Line Segment	New Castle	<i>Highway/Rail At-Grade Crossing Safety:</i> N. College Street at Newark New London/W. Main Streets at Newark	<i>Highway/Rail At-Grade Crossing Safety:</i> Consult with community, DELDOT, and University of Delaware to address safety concerns.
Cultural Resources	N/A: Shellpot Bridge	Construction	New Castle	Rehabilitation of historic bridge at Wilmington.	NS shall complete Section 106 process prior to start of construction.
FLORIDA					
Safety	C-403: Winston - Plant City	Rail Line Segment	Hillsborough	<i>Hazardous Materials Transport:</i> A new key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
GEORGIA					
Safety	C-295: Corbin, KY - Cartersville, GA	Rail Line Segment	Bartow, Gordon, Murray	<i>Hazardous Materials Transport: A new key route.</i>	<i>Hazardous Materials Transport: Implement AAR guidelines.</i>
	C-298: Manchester - Waycross	Rail Line Segment	Meriwether, Talbot, Taylor, Macon, Doodly, Crisp, Wilcox, Turner, Ben Hill, Irwin, Coffee, Bacon, Ware	<i>Hazardous Materials Transport: A major key route.</i>	<i>Hazardous Materials Transport: Develop Hazardous Materials Emergency Response Plan.</i>
	C-345: Yemassee, SC - Savannah, GA	Rail Line Segment	Chatham	<i>Hazardous Materials Transport: A new key route.</i>	<i>Hazardous Materials Transport: Implement AAR guidelines.</i>
	C-346: Savannah - Jessup	Rail Line Segment		<i>Passenger Rail Safety: Increase in risk for passenger train accidents.</i>	<i>Passenger Rail Safety: Freight train moving in the same or opposite direction would be clear of the track at least 15 minutes before and after the expected arrival of passenger train at any point.</i>
	C-347: Jessup - Waycross	Rail Line Segment	Ware, Pierce, Wayne	<i>Hazardous Materials Transport: A new key route.</i>	<i>Hazardous Materials Transport: Implement AAR guidelines.</i>
	C-353: Greenwood, SC - Athens	Rail Line Segment	Clarke, Elbert, Madison	<i>Hazardous Materials Transport: A major key route.</i>	<i>Hazardous Materials Transport: Develop Hazardous Materials Emergency Response Plan.</i>
	C-354: Athens - Atlanta	Rail Line Segment	Clarke, Barrow, Gwinnett, De Kalb, Fulton	<i>Hazardous Materials Transport: A major key route.</i>	<i>Hazardous Materials Transport: Develop Hazardous Materials Emergency Response Plan.</i>
	C-355: Atlanta - Lagrange	Rail Line Segment	Troup	<i>Hazardous Materials Transport: A new and major key route.</i>	<i>Hazardous Materials Transport: Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan.</i>

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
GEORGIA (Continued)					
Safety	C-356: Lagrange, GA - Montgomery, AL	Rail Line Segment	Fulton, Coweta, Troup	Hazardous Materials Transport: A new and major key route.	Hazardous Materials Transport: Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan.
	C-376: Lagrange, GA - Parkwood, AL	Rail Line Segment	Troup, Meriwether	Hazardous Materials Transport: A new and major key route.	Hazardous Materials Transport: Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan.
	C-377: Manchester - Lagrange	Rail Line Segment	Troup, Meriwether	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.
	C-380: Thomasville - Montgomery, AL	Rail Line Segment	Thomas, Grady, Decatur, Seminole, Early	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.
ILLINOIS					
Safety	N-045: Lafayette Jct., IN - Tilton, IL	Rail Line Segment	Vermilion	Hazardous Materials Transport: A major key route. Highway/Rail At-Grade Crossing Safety: Campbell Crossing/TR 450	Hazardous Materials Transport: Develop a Hazardous Materials Emergency Response Plan. Highway/Rail At-Grade Crossing Safety: Upgrade existing safety devices.
	NC-02: Sidney Connection	Construction	Champaign	Hazardous Materials Transport	NS shall provide (upon request) copies of Hazardous Materials Emergency Response Plan and training for local community.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
ILLINOIS (Continued)					
Transportation	C-010: Barr Yard - Blue Island Junction	Rail Line Segment	Cook	Highway/Rail At-Grade Crossing Delay: Dixie Highway Broadway Street - 135 th Street at Calumet Park.	Highway/Rail At-Grade Crossing Delay: Railroad shall consult with the County, ILDOT, and community regarding grade separations.
	C-011: Blue Island, Jct. - 59 th Street	Rail Line Segment	Cook	Highway/Rail At-Grade Crossing Delay: 95 th Street at Evergreen Park.	Highway/Rail At-Grade Crossing Delay: Railroad shall consult with the County, ILDOT, and community regarding grade separations.
Cultural Resources	CC-01: 75 th Street SW, Chicago Connection	Construction	Cook	Interlocking Tower (impact not determined yet).	Railroad to complete Section 106 process before any steps to alter integrity of the tower.
	CC-02: Exermont Connection	Construction	St. Clair	Cahokia Mounds Historic Site (impact not determined yet).	Railroad to complete Section 106 process before construction or modification or new connection.
Natural Resources	NC-02: Sidney Connection	Construction	Champaign	Potential impact from right-of-way maintenance activities.	NS shall use only EPA-approved herbicides during right-of-way maintenance.
Landuse	NC-03: Tolono Connection	Construction	Champaign	Impact only if construction is outside the existing right-of-way.	Railroad not to disturb Daggy Street or residential properties.
Environmental Justice	CM-02: 59 th Street, Chicago	Intermodal Facility	Cook	Minority population Truck route impact.	Railroad shall coordinate mitigation strategies with the local community.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
ILLINOIS (Continued)					
Environmental Justice	C-010: Barr Yard - Blue Island Jct.	Rail Line Segment	Cook	Minority population Highway/Rail At-Grade Crossing Delay. Noise.	Railroad shall coordinate mitigation strategies with the local communities.
	N-045: Lafayette, IN - Tilton, IL	Rail Line Segment	Vermilion	Minority and low-income population: Hazardous Materials Transport. Highway/Rail At-Grade Crossing Safety, Noise	Railroad shall coordinate mitigation strategies with the local communities.
Community	N/A: Chicago	Intermodal	Cook	Traffic and Noise at 59 th Street Facility	CSX shall consult with community and agree on mitigation.
INDIANA					
Safety	C-025: Vincennes - Evansville	Rail Line Segment	Knox, Vanderburgh	<i>Hazardous Materials Transport: A major key route.</i> <i>Highway/Rail At-Grade Crossing Safety: Hart Street (Knox) S. 15th Street (Knox) Ohio Street (Vanderburgh)</i>	<i>Hazardous Materials Transport: Develop Hazardous Materials Emergency Response Plan.</i> <i>Highway/Rail At-Grade Crossing Safety: Upgrade existing safety devices.</i>
	C-027: Willow Creek - Pine Jct.	Rail Line Segment	Lake, Porter	<i>Hazardous Materials Transport: A major key route.</i> <i>Highway/Rail At-Grade Crossing Safety: Countyline Road (Lake) Hobart Road (Lake) Lake Street (Lake) Clark Road (Lake)</i>	<i>Hazardous Materials Transport: Develop Hazardous Materials Emergency Response Plan.</i> <i>Highway/Rail At-Grade Crossing Safety: Upgrade existing safety devices.</i>

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
INDIANA (Continued)					
Safety	C-066: Deshler, OH - Willow Creek, IN	Rail Line Segment	De Kalb, Elkhart, Kosciusko, La Porte, Marshall, Noble, Porter, St. Joseph	<i>Hazardous Materials Transport:</i> A major key route. <i>Highway/Rail At-Grade Crossing Safety:</i> Seventh Street (Kosciusko) Huntington Street (Kosciusko) Main Street (Kosciusko) 900 North Street (Porter)	<i>Hazardous Materials Transport:</i> Develop Hazardous Materials Emergency Response Plan. <i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices.
	C-693: Willow Creek - Ivanhoe	Rail Line Segment	Porter, Lake	<i>Hazardous Materials Transport:</i> A new key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines.
	N-040: Alexandria - Muncie	Rail Line Segment	Delaware, Madison	<i>Highway/Rail At-Grade Crossing Safety:</i> CR 100E (Madison)	<i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices.
	N-041: Butler - Ft. Wayne	Rail Line Segment	Allen, De Kalb	<i>Hazardous Materials Transport:</i> A new and major key route. <i>Highway/Rail At-Grade Crossing Safety:</i> Esteila Avenue (Allen) Anthony Boulevard (Allen) Notestine Road (Allen)	<i>Hazardous Materials Transport:</i> Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan. <i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
INDIANA (Continued)					
Safety	N-042: CP 501 - Indiana Harbor	Rail Line Segment	Lake	<i>Freight Rail Operations:</i> Increase in accident frequency.	<i>Freight Rail Operations:</i> Increase rail flaw inspection frequency and provide annual training for equipment inspectors.
	N-044: Ft. Wayne - Peru	Rail Line Segment	Allen, Huntington, Miami, Wabash	<i>Hazardous Materials Transport:</i> A major key route. <i>Highway/Rail At-Grade Crossing Safety:</i> Engle Road (Allen) Briant Street (Huntington) Olive Street (Wabash) Wolf Road (Wabash)	<i>Hazardous Materials Transport:</i> Develop Hazardous Materials Emergency Response Plan. <i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices.
	N-045: Lafayette, IN - Tilton, IL	Rail Line Segment	Fountain, Tippecanoe, Warren	<i>Hazardous Materials Transport:</i> A major key route. <i>Highway/Rail At-Grade Crossing Safety:</i> 7 th Street (Tippecanoe) Romig Street (Tippecanoe) Smith Street (Tippecanoe) Greenbush Street (Tippecanoe) 4 th Street (US 231) (Tippecanoe)	<i>Hazardous Materials Transport:</i> Develop Hazardous Materials Emergency Response Plan. <i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
INDIANA (Continued)					
Safety	N-046: Peru - Lafayette	Rail Line Segment	Carroll, Cass, Miami, Tippecanoe	<p><i>Hazardous Materials Transport:</i> A major key route.</p> <p><i>Highway/Rail At-Grade Crossing Safety:</i> <u>Carroll</u> Washington Street/CR 100E Meridian Line</p> <p><u>Cass</u> 18th Street Cedar Street</p> <p><u>Tippecanoe</u> 18th Street CR 900N CR 900N CR500E Greenbush Street Union Street 17th and Salem Street</p>	<p><i>Hazardous Materials Transport:</i> Develop Hazardous Materials Emergency Response Plan.</p> <p><i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices.</p>
	N-497: Kalamazoo, MI - Porter, IN	Rail Line Segment	Porter, La Porte	<i>Passenger Rail Safety:</i> Increase in risk for passenger train accidents.	<i>Passenger Rail Safety:</i> If dispatched by NS, freight train moving in the same or opposite direction would be clear of the track at least 15 minutes before and after the expected arrival of passenger train at any point.
	CC-05: Willow Creek Connection	Construction	Porter	Hazardous Materials Transport	CSX shall provide (upon request) copies of Hazardous Materials Emergency Response Plan and training for local community.
	NC-04: Alexandria Connection	Construction	Madison	Hazardous Materials Transport	NS shall provide (upon request) copies of Hazardous Materials Emergency Response Plan and training for local community.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
INDIANA (Continued)					
Transportation	C-025: Vincennes - Evansville	Rail Line Segment	Gibson, Knox, Vanderburgh	Highway/Rail At-Grade Crossing Delay: W. Maryland Street (Vanderburgh) W. Franklin Street (Vanderburgh) Ohio Street (Vanderburgh)	Increase train speed by 5 mph at W. Maryland Street. Railroad shall consult with the community and develop mitigation.
	C-066: Deshler, OH - Willow Creek, IN	Rail Line Segment	De Kalb, Elkhart, Kosciusko, La Porte, Marshall, Noble, Porter, St. Joseph	Highway/Rail At-Grade Crossing Delay: Randolph Street (De Kalb)	Railroad shall consult with the community/INDOT regarding grade separation.
	N-040: Alexandria - Muncie	Rail Line Segment	Delaware, Madison	Highway/Rail At-Grade Crossing Delay: State Route 9 (Madison) Harrison Street (Madison)	Railroad shall consult with the community and develop mitigation.
	N-045: Lafayette, IN - Tilton, IL	Rail Line Segment	Tippecanoe	Highway/Rail At-Grade Crossing Delay: Ferry Street Main Street Columbia Street South Street (SR 26) 9 th Street 4 th Street (US 231)	Railroad shall consult with community on interim mitigation plan until Lafayette Bypass is implemented.
	N-046: Peru - Lafayette	Rail Line Segment	Carroll, Cass, Miami, Tippecanoe	Highway/Rail At-Grade Crossing Delay: Underwood Street (Tippecanoe) 18 th Street (Tippecanoe) 17 th and Salem Streets (Tippecanoe) Union Street (Tippecanoe)	Railroad shall consult with community on interim mitigation plan until Lafayette Bypass is implemented.
Noise	CC-05: Willow Creek Connection	Construction	Porter	Wheel squeal noise.	If wheel squeal occurs CSX shall use rail lubrication.
Natural Resources	CC-05: Willow Creek Connection	Construction	Porter	Potential impacts of right-of-way maintenance activities.	CSX shall use only EPA-approved herbicides during right-of-way maintenance.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
INDIANA (Continued)					
Environmental Justice	NC-04: Alexandria Connection	Construction	Madison	Potential impacts of right-of-way maintenance activities.	NS shall use only EPA-approved herbicides during right-of-way maintenance.
	C-027: Willow Creek - Pine Jet.	Rail Line Segment	Lake, Porter	Low income and minority population: Hazardous Material Transportation Transportation/Safety Noise	Railroad shall coordinate mitigation strategies with the local communities.
	N-041: Butler - Ft. Wayne	Rail Line Segment	Allen, De Kalb	Low income population: Hazardous Material Transportation Transportation/Safety Noise	Railroad shall coordinate mitigation strategies with the local communities.
	N-045: Lafayette, IN - Tilton, IL	Rail Line Segment	Fountain, Tippecanoe, Warren	Low income and minority population: Hazardous Material Transportation Transportation/Safety Noise	Railroad shall coordinate mitigation strategies with the local communities.
Community	Lafayette	Rail Line Segment	Tippecanoe	Traffic delay and safety at 10 Highway/Rail At-Grade Crossings.	NS shall consult with the City and IDOT on interim mitigation plan.
	Muncie	Rail Line Segment	Delaware	Blocking Highway/Rail At-Grade Crossings.	NS shall consult with community on rail traffic holding practices.
	Four City Consortium	Rail Line Segment	Lake	Traffic delay at Highway/Rail At-Grade Crossings.	CSX and NS shall consult with the consortium and IDOT to address traffic delay and safety concerns.
KENTUCKY					
Safety	C-021: Evansville, IN - Amqui, IN	Rail Line Segment	Christian, Henderson, Hopkins, Todd, Webster	Highway/Rail At-Grade Crossing Safety: West Center Street (Hopkins) West Noel Street (Hopkins) West Dixon Street (Webster)	Highway/Rail At-Grade Crossing Safety: Upgrade existing safety devices.

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Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
KENTUCKY (Continued)					
Safety	C-287: Latonia - Anchorage	Rail Line Segment	Kenton, Boone, Grant, Owen, Carroll, Henry, Oldham, Jefferson	Hazardous Materials Transport: Major key route.	Hazardous Materials Transport: Develop a Hazardous Materials Emergency Response Plan.
	C-288: Anchorage - Louisville	Rail Line Segment	Jefferson	Hazardous Materials Transport: Major key route.	Hazardous Materials Transport: Develop a Hazardous Materials Emergency Response Plan.
	C-289: Louisville, KY - Amqui, TN	Rail Line Segment	Jefferson, Bullitt, Hardin, Hart, Barrn, Edmonson, Warren, Simpson	Hazardous Materials Transport: Major key route.	Hazardous Materials Transport: Develop a Hazardous Materials Emergency Response Plan.
	C-291: Covington - Latonia	Rail Line Segment	Boone, Kenton	Hazardous Materials Transport: Major key route.	Hazardous Materials Transport: Develop a Hazardous Materials Emergency Response Plan.
	C-292: Latonia - Winchester	Rail Line Segment	Kenton, Pendleton, Harrison, Bourbon, Clark	Hazardous Materials Transport: New key route.	Hazardous Materials Transport: Implement AAR guidelines.
	C-293: Winchester - Sinks	Rail Line Segment	Clark, Madison, Rockcastle	Hazardous Materials Transport: New key route.	Hazardous Materials Transport: Implement AAR guidelines.
	C-294: Sinks - Corbin	Rail Line Segment	Laurel, Whitley	Hazardous Materials Transport: New key route.	Hazardous Materials Transport: Implement AAR guidelines.
	C-295: Corbin, KY - Cartersville, GA	Rail Line Segment	Knox, Whitley	Hazardous Materials Transport: New key route.	Hazardous Materials Transport: Implement AAR guidelines.
	C-617: N. Hazard - Duane	Rail Line Segment	Perry	Hazardous Materials Transport: New key route.	Hazardous Materials Transport: Implement AAR guidelines.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
KENTUCKY (Continued)					
Transportation	C-021: Evansville, IN - Amqui, TN	Rail Line Segment	Christian, Henderson, Hopkins, Todd, Webster	Highway/Rail At-Grade Crossing Delay: West Noel Street (Hopkins) E. 9 th Street (Christian)	Highway/Rail At-Grade Crossing Delay: Railroad consult with the community/KYDOT regarding grade separation.
LOUISIANA					
Safety	C-387: Mobile, AL - New Orleans, LA	Rail Line Segment	St. Bernard	Hazardous Materials Transport: A major key route.	Hazardous Materials Transport: Develop a Hazardous Materials Emergency Response Plan.
MARYLAND					
Safety	C-003: Washington D.C. - Pt. Of Rocks, MD	Rail Line Segment	Frederick, Montgomery	Passenger Rail Safety: Increase in risk for passenger train accidents.	Passenger Rail Safety: Freight train moving in the same or opposite direction would be clear of the track at least 15 minutes before and after the expected arrival of passenger train at any point.
	C-031: Alexandria Jct., MD - Washington, D.C.	Rail Line Segment	Prince Georges	Hazardous Materials Transport: A new key route.	Implement AAR guidelines.
	C-034: Jessup - Alexandria Jct.	Rail Line Segment	Anne Arunde ^l , Howard, Prince Georges	Hazardous Materials Transport: A major key route.	Hazardous Materials Transport: Develop Hazardous Materials Emergency Response Plan.
	C-037: Relay - Jessup	Rail Line Segment	Anne Arundel, Baltimore, Howard	Hazardous Materials Transport: A major key route.	Hazardous Materials Transport: Develop Hazardous Materials Emergency Response Plan.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
MARYLAND (Continued)					
Safety	N-091: Harrisburg, PA - Riverton Jct., VA	Rail Line Segment	Washington	Highway/Rail At-Grade Crossing Safety: Lappans Road Riff Church Road Shawley Drive	Highway/Rail At-Grade Crossing Safety: Upgrade existing safety devices.
Transportation	C-030: Alexandria Jct., MD - Benning, D.C.	Rail Line Segment	Prince Georges	Highway/Rail At-Grade Crossing Delay: Decatur Street at Hyattsville Upshur Street at Bladensburg Annapolis Road at Bladensburg	Highway/Rail At-Grade Crossing Delay: Increase train speed.
	C-032: Baltimore - Relay	Rail Line Segment	Baltimore City, Baltimore	Highway/Rail At-Grade Crossing Delay: Hollins Ferry Road	Highway/Rail At-Grade Crossing Delay: Increase train speed.
Environmental Justice	C-030: Alexandria Jct., MD - Benning, D.C.	Rail Line Segment	Prince Georges	Minority population: Transportation (Highway/Rail At-Grade crossing delay)	Railroad shall coordinate mitigation strategies with the local communities.
	C-031: Alexandria Jct., MD - Washington, D.C.	Rail Line Segment	Prince Georges	Minority Population: Hazardous Materials Transport	Railroad shall coordinate mitigation strategies with the local communities.
	C-032: Baltimore - Relay	Rail Line Segment	Baltimore, Baltimore City	Minority population: Transportation (Highway/Rail At-Grade Crossing Delay)	Railroad shall coordinate mitigation strategies with the local communities.
MICHIGAN					
Safety	C-040: Carleton, MI - Toledo, OH	Rail Line Segment	Monroe	Hazardous Materials Transport: A major key route.	Hazardous Materials Transport: Develop Hazardous Materials Emergency Response Plan.
	C-214: Detroit - Plymouth	Rail Line Segment	Wayne	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
MICHIGAN (Continued)					
Safety	N-120: Jackson - Kalamazoo	Rail Line Segment	Kalamazoo, Calhoun, Jackson	<i>Passenger Rail Safety:</i> Increase in risk for passenger train accidents.	<i>Passenger Rail Safety:</i> Freight train moving in the same or opposite direction would be clear of the track at least 15 minutes before and after the expected arrival of passenger train at any point.
	N-121: West Detroit - Jackson	Rail Line Segment	Jackson, Washtenaw, Wayne	<i>Highway/Rail At-Grade Crossing Safety:</i> Forrest Street (Washtenaw) Beech Daly Drive (Wayne) <i>Passenger Rail Safety:</i> Increase in risk for passenger train accidents.	<i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices. <i>Passenger Rail Safety:</i> Freight train moving in the same or opposite direction would be clear of the track at least 15 minutes before and after the expected arrival of passenger train at any point.
	N-497: Kalamazoo, MI - Porter, IN	Rail Line Segment	Berrien, Cass Van Buren, Kalamazoo	<i>Passenger Rail Safety:</i> Increase in risk for passenger train accidents.	<i>Passenger Rail Safety:</i> If dispatched by NS, freight train moving in the same or opposite direction would be clear of the track at least 15 minutes before and after the expected arrival of passenger train at any point.
	S-020: Carleton - Ecorse	Rail Line Segment	Monroe, Wayne	<i>Highway/Rail At-Grade Crossing Safety:</i> Pennsylvania Road (Wayne)	<i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices.
Noise	S-020: Carleton - Ecorse	Rail Line Segment	Monroe, Wayne	Exceeds 70 dBA L_{dn} at 100 feet from the tracks and an increase of at least 5 dBA.	Railroad shall coordinate mitigation strategies with the local community.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
MISSISSIPPI					
Safety	C-387: Mobile, AL - New Orleans, LA	Rail Line Segment	Hancock, Harrison, Jackson	Hazardous Materials Transport: A major key route.	Hazardous Materials Transport: Develop a Hazardous Materials Emergency Response Plan.
MISSOURI					
Safety	N-478: Moberly - CA Jct.	Rail Line Segment	Ray, Carroll, Charlton, Randolph	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.
NEW JERSEY					
Safety	C-769: Trenton - Port Reading	Rail Line Segment	Mercer, Somerset	Hazardous Materials Transport: A new and major key route.	Hazardous Materials Transport: Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan.
	S-032: PN - Bayway	Rail Line Segment	Union, Essex	Hazardous Materials Transport: A major key route.	Hazardous Materials Transport: Develop Hazardous Materials Emergency Response Plan.
	S-211: Nave - N. Bergen	Rail Line Segment	Hudson	Hazardous Materials Transport: A new and major key route.	Hazardous Materials Transport: Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan.
	S-233: Frankfort Jct., PA - Camden, NJ	Rail Line Segment	Camden	Hazardous Materials Transport: A new key route	Hazardous Materials Transport: Implement AAR guidelines.
NEW YORK					
Safety	C-052: CP Sycamore - Black Rock	Rail Line Segment	Erie	Hazardous Materials Transport: A new and major key route.	Hazardous Materials Transport: Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
NEW YORK (Continued)					
Safety	N-061: Ebenezer - Buffalo	Rail Line Segment	Erie	<i>Hazardous Materials Transport:</i> A new key route.	<i>Hazardous Materials Transport:</i> implement AAR guidelines.
	N-062: Suffren - Campbell Hall	Rail Line Segment	Orange, Rockland	<i>Hazardous Materials Transport:</i> A new key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines.
	N-063: Campbell Hall - Port Jervis	Rail Line Segment	Orange	<i>Hazardous Materials Transport:</i> A new key route. <i>Passenger Rail Safety:</i> Increase in risk for passenger train accidents.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines. <i>Passenger Rail Safety:</i> Freight train moving in the same or opposite direction would be clear of the track at least 15 minutes before and after the expected arrival of passenger train at any point
	N-065: Corning - Buffalo	Rail Line Segment	Erie, Wyoming, Allegany, Steuben, Livingston	<i>Hazardous Materials Transport:</i> A new key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines.
	N-070: Buffalo FW, NY - Ashtabula, OH	Rail Line Segment	Chataqua, Erie	<i>Highway/Rail At-Grade Crossing Safety:</i> Loomis Street (Chataqua) <i>Hazardous Materials Transport:</i> A new and major key route.	<i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices. <i>Hazardous Materials Transport:</i> Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan.
	N-245: Port Jervis - Binghamton	Rail Line Segment	Broome, Delaware, Sullivan, Orange	<i>Hazardous Materials Transport:</i> A new key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines.
	N-246: Binghamton - Waverly	Rail Line Segment	Tioga, Broome	<i>Hazardous Materials Transport:</i> A new key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
NEW YORK (Continued)					
Safety	N-247: Waverly - Corning	Rail Line Segment	Chemung, Steuben, Tioga	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.
NORTH CAROLINA					
Safety	C-103: S. Richmond, VA - Weldon, NC	Rail Line Segment	Northampton	Passenger Rail Safety: Increase in risk for passenger train accidents.	Passenger Rail Safety: Freight train moving in the same or opposite direction would be clear of the track at least 15 minutes before and after the expected arrival of passenger train at any point.
	C-334: Weldon - Rocky Mountain	Rail Line Segment	Northampton, Halifax, Nash, Edgecomb	Passenger Rail Safety: Increase in risk for passenger train accidents.	Passenger Rail Safety: Freight train moving in the same or opposite direction would be clear of the track at least 15 minutes before and after the expected arrival of passenger train at any point.
	C-339: Pembroke, NC - Dillon, SC	Rail Line Segment	Robeson	Hazardous Materials Transport: A new key route.	Implement AAR guidelines.
	C-350: Hamlet - Monroe	Rail Line Segment	Union, Anson, Richmond	Hazardous Materials Transport: A major key route.	Develop Hazardous Materials Emergency Response Plan.
Safety	C-351: Monroe, NC - Clinton, SC	Rail Line Segment	Union	Hazardous Materials Transport: A major key route.	Develop Hazardous Materials Emergency Response Plan.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
NORTH CAROLINA (Continued)					
Safety	C-357: Hamlet, NC - McBee, SC	Rail Line Segment	Richmond	<i>Hazardous Materials Transport: A new key route.</i>	Implement AAR guidelines.
	N-360: Salisbury - Asheville	Rail Line Segment	Rowan, Iredell, Catawba, Berke, McDowell, Buncombe	<i>Hazardous Materials Transport: A new key route.</i>	Implement AAR guidelines.
	N-361: Asheville, NC - Leadvale, TN	Rail Line Segment	Madison, Buncombe	<i>Hazardous Materials Transport: A new key route.</i>	Implement AAR guidelines.
OHIO					
Safety	C-040: Carleton, MI - Toledo, OH	Rail Line Segment	Lucas	<i>Hazardous Materials Transport: A major key route.</i> <i>Highway/Rail At-Grade Crossing Safety: Conneau Street (Lucas).</i>	<i>Hazardous Materials Transport: Develop Hazardous Materials Emergency Response Plan.</i> <i>Highway/Rail At-Grade Crossing Safety: Upgrade existing safety devices.</i>

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
OHIO (Continued)					
Safety	C-061: Berea - Greenwich	Rail Line Segment	Cuyahoga, Huron, Lorain	<p><i>Highway/Rail At-Grade Crossing Safety:</i> Pitts Road (Lorain)</p> <p><i>Hazardous Materials Transport:</i> A major key route.</p> <p><i>Freight Rail Operations:</i> Increase of accident frequency.</p>	<p><i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices.</p> <p><i>Hazardous Materials Transport:</i> Develop Hazardous Materials Emergency Response Plan.</p> <p><i>Freight Rail Operations:</i> Increase rail flaw inspection frequency and provide annual training for equipment inspectors.</p>
	C-064: Crestline - Bucyrus	Rail Line Segment	Crawford	<p><i>Highway/Rail At-Grade Crossing Safety:</i> Biddle Road (Crawford)</p>	<p><i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices.</p>
	C-065: Deshler - Toledo	Rail Line Segment	Henry, Wood	<p><i>Hazardous Materials Transport:</i> A major key route.</p> <p><i>Highway/Rail At-Grade Crossing Safety:</i> <u>Henry County</u> Main Street North Street <u>Wood County</u> Range Line Road Washington Street Middletown Pike Roachton Road Eckel Road W. Boundary St. Bates Road </p>	<p><i>Hazardous Materials Transport:</i> Develop Hazardous Materials Emergency Response Plan.</p> <p><i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade the existing safety devices.</p>

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
OHIO (Continued)					
Safety	C-066: Deshler, OH - Willow Creek, IN	Rail Line Segment	Defiance, Henry	<i>Hazardous Materials Transport:</i> A major key route. <i>Highway/Rail At-Grade Crossing Safety:</i> Jackson Street (Defiance).	<i>Hazardous Materials Transport:</i> Develop Hazardous Materials Emergency Response Plan. <i>Highway/Rail At-Grade Crossing:</i> Upgrade existing safety devices.
	C-067: Greenwich - Crestline	Rail Line Segment	Crawford, Huron, Richland	<i>Highway/Rail At-Grade Crossing Safety:</i> Baseline Road (Richland) Main Street (Richland)	<i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices.
	C-068: Greenwich - Willard	Rail Line Segment	Huron	<i>Hazardous Materials Transport:</i> A major key route. <i>Freight Rail Operations:</i> Increase in accident frequency.	<i>Hazardous Materials Transport:</i> Develop Hazardous Materials Emergency Response Plan. <i>Freight Rail Operations:</i> Increase rail flaw inspection frequency and provide annual training for equipment inspectors.
	C-069: Marcy - Short	Rail Line Segment	Cuyahoga	<i>Hazardous Materials Transport:</i> A new and major key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan.
	C-070: Marion - Fostoria	Rail Line Segment	Seneca, Wyandot, Marion, Wood	<i>Highway/Rail At-Grade Crossing Safety:</i> Main Street (Seneca) TWP 0180 (Seneca) <i>Hazardous Materials Transport:</i> A new and major key route.	<i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices. <i>Hazardous Materials Transport:</i> Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
OHIO (Continued)					
Safety	C-071: Marion - Ridgeway	Rail Line Segment	Hardin, Marion	Highway/Rail At-Grade Crossing Safety: Section Street (Marion) Marsh Road (Hardin)	Highway/Rail At-Grade Crossing Safety: Upgrade existing safety devices.
	C-072: Mayfield - Marcy	Rail Line Segment	Cuyahoga	Hazardous Materials Transport: A new and major key route.	Hazardous Materials Transport: Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan.
	C-073: Quaker - Mayfield	Rail Line Segment	Cuyahoga	Hazardous Materials Transport: A new and major key route.	Hazardous Materials Transport: Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan.
	C-074: Short - Berea	Rail Line Segment	Cuyahoga	Hazardous Materials Transport: A new and major key route.	Hazardous Materials Transport: Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan.
	C-075: Willard - Fostoria	Rail Line Segment	Huron, Seneca	Highway/Rail At-Grade Crossing Safety: Gillick Road (Seneca) Morrison Road (Seneca) Hazardous Materials Transport: A major key route. Freight Rail Operations: Increase in accident frequency.	Highway/Rail At-Grade Crossing Safety: Upgrade existing safety devices. Hazardous Materials Transport: Develop Hazardous Materials Emergency Response Plan. Freight Rail Operations: Increase rail flaw inspection frequency and provide annual training for equipment inspectors.
	C-081: New Castle, PA - Youngstown, OH	Rail Line Segment	Mahoning	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
OHIO (Continued)					
Safety	C-206: Fostoria - Deshler	Rail Line Segment	Henry, Wood, Hancock	<i>Hazardous Materials Transport:</i> A major key route.	<i>Hazardous Materials Transport:</i> Develop Hazardous Materials Emergency Response Plan.
	C-228: Fostoria - Toledo	Rail Line Segment	Wood	<i>Hazardous Materials Transport:</i> A new and major key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan.
	C-229: Columbus - Marion	Rail Line Segment	Marion, Delaware, Franklin	<i>Hazardous Materials Transport:</i> A new key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines.
	C-695: CP Maumee - Oak	Rail Line Segment	Wood, Lucas	<i>Hazardous Materials Transport:</i> A new and major key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan.
	N-070: Buffalo, NY - Ashtabula, OH	Rail Line Segment	Ashtabula	<i>Hazardous Materials Transport:</i> A new and major key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan.
	N-071: Bellevue - Bucyrus	Rail Line Segment	Crawford, Sandusky, Seneca	<i>Highway/Rail At-Grade Crossing Safety:</i> Chatfield (Crawford)	<i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices.
	N-072: Vermilion - Bellevue	Rail Line Segment	Huron, Erie, Sandusky	<i>Hazardous Materials Transport:</i> A new key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines.
	N-073: Fairgrounds (Columbus) - Bucyrus	Rail Line Segment	Crawford, Delaware, Franklin, Marion	<i>Highway/Rail At-Grade Crossing Safety:</i> Berlin Station Road (Delaware) Galion-Marseilles (Marion) Likens Street (Marion) Scott TWP Road-190 (Marion)	<i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
OHIO (Continued)					
Safety	N-075: Ashtabula - Cleveland	Rail Line Segment	Cuyahoga, Lake, Ashtabula	<p><i>Highway/Rail At-Grade Crossing Safety:</i> Walter Main Road (Ashtabula)</p> <p><i>Hazardous Materials Transport:</i> A new and major key route.</p>	<p><i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices.</p> <p><i>Hazardous Materials Transport:</i> Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan.</p>
	N-077: Oak Harbor to Miami	Rail Line Segment	Lucas, Ottawa, Wood	<i>Freight Rail Operations:</i> Increase in accident frequency.	<i>Freight Rail Operations:</i> Increase rail flaw inspection frequency and provide annual training for equipment inspectors.
	N-079: Oak Harbor - Bellevue	Rail Line Segment	Huron, Ottawa, Sandusky	<p><i>Hazardous Materials Transport:</i> A new key route.</p> <p><i>Highway/Rail At-Grade Crossing Safety:</i> Kilbourne Street (Sandusky) FRA ID 473680 (Street name unknown) (Sandusky) CR 292 (Sandusky) CR 175 (Sandusky)</p>	<p><i>Hazardous Materials Transport:</i> Implement AAR guidelines.</p> <p><i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices.</p>
	N-080: Cleveland - Vermilion	Rail Line Segment	Cuyahoga, Erie, Lorain	<p><i>Hazardous Materials Transport:</i> A new and major key route.</p> <p><i>Highway/Rail At-Grade Crossing Safety:</i> Kansas Avenue (Lorain)</p>	<p><i>Hazardous Materials Transport:</i> Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan.</p> <p><i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices.</p>
	N-081: White - Cleveland	Rail Line Segment	Cuyahoga	<i>Hazardous Materials Transport:</i> A major key route.	<i>Hazardous Materials Transport:</i> Develop Hazardous Materials Emergency Response Plan.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
OHIO (Continued)					
Safety	N-082: Youngstown - Ashtabula	Rail Line Segment	Ashtabula, Mahoning, Trumbull	<i>Hazardous Materials Transport:</i> A new key route. <i>Highway/Rail At-Grade Crossing Safety:</i> Bradley-Brownlee Road (Trumbull) Warren Sharon Road (Trumbull)	<i>Hazardous Materials Transport:</i> Implement AAR guidelines. <i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices.
	N-085: Bellevue - Sandusky Docks	Rail Line Segment	Erie, Huron	<i>Highway/Rail At-Grade Crossing Safety:</i> Skadden/CR42 (Erie)	<i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices.
	N-086: Miami - Airline	Rail Line Segment	Lucas	<i>Freight Rail Operations:</i> Increase in accident frequency.	<i>Freight Rail Operations:</i> Increase rail flaw inspection frequency and provide annual training for equipment inspectors
	N-095: Rochester, PA - Youngstown, OH	Rail Line Segment	Mahoning	<i>Hazardous Materials Transport:</i> A new key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines.
	CC-06: Greenwich Connection	Construction	Huron	Hazardous Materials Transport	CSX shall provide (upon request) copies of Hazardous Materials Emergency Response Plan and training for local community.
	CC-07: Crestline Connection	Construction	Crawford	Hazardous Materials Transport	CSX shall provide (upon request) copies of Hazardous Materials Emergency Response Plan and training for local community.
	CC-08: Sidney Connection	Construction	Shelby	Hazardous Materials Transport	CSX shall provide (upon request) copies of Hazardous Materials Emergency Response Plan and training for local community.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
OHIO (Continued)					
Safety	NC-11: Bucyrus Connection	Construction	Crawford	Hazardous Materials Transport.	NS shall provide (upon request) copies of Hazardous Materials Emergency Response Plan and training for local community.
Transportation	C-061: Berea - Greenwich	Rail Line Segment	Cuyahoga, Lorain, Huron	Highway/Rail At-Grade Crossing Delay: Main Street (Lorain).	Highway/Rail At-Grade Crossing Delay: Increase train speed.
	C-063: Cincinnati - Hamilton	Rail Line Segment	Butler, Hamilton	Highway/Rail At-Grade Crossing Delay: Winton Road (Hamilton) Mitchell Avenue (Hamilton) Township Avenue (Hamilton) Vine Street (Butler)	Highway/Rail At-Grade Crossing: Railroad consult with community and develop mitigation.
	C-074: Short - Berea	Rail Line Segment	Cuyahoga	Highway/Rail At-Grade Crossing Delay: Hummel Road Engle Road	Highway/Rail At-Grade Crossing Delay: Increase train speed.
	NC-13: Oak Harbor Connection	Construction	Ottawa	Safety and Traffic: Vertical alignment of new at-grade crossing.	NS shall raise elevation at Toussaint-Portage Road and install two quadrant gate.
	NC-14: Vermilion Connection	Construction	Erie	Safety and Traffic: Vertical alignment of new at-grade crossing.	NS shall raise elevation of Corn Road.
Noise	C-061: Berea - Greenwich	Rail Line Segment	Cuyahoga, Lorain, Huron	Exceeds 70 dBA L_{dn} at 100 feet from the tracks and an increase of at least 5 dBA.	Railroad shall coordinate mitigation strategies with the local community.
	C-065: Deshler - Toledo	Rail Line Segment	Henry, Wood	Exceeds 70 dBA L_{dn} at 100 feet from the tracks and an increase of at least 5 dBA.	Railroad shall coordinate mitigation strategies with the local community.
	C-072: Mayfield - Marcy	Rail Line Segment	Cuyahoga	Exceeds 70 dBA L_{dn} at 100 feet from the tracks and an increase of at least 5 dBA.	Railroad shall coordinate mitigation strategies with the local community.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
OHIO (Continued)					
Noise	C-073: Quaker - Mayfield	Rail Line Segment	Cuyahoga	Exceeds 70 dBA L_{dn} at 100 feet from the tracks and an increase of at least 5 dBA.	Railroad shall coordinate mitigation strategies with the local community.
	C-074: Short - Berea	Rail Line Segment	Cuyahoga	Exceeds 70 dBA L_{dn} at 100 feet from the tracks and an increase of at least 5 dBA.	Railroad shall coordinate mitigation strategies with the local community.
	N-079: Oak Harbor - Bellevue	Rail Line Segment	Huron, Ottawa, Sandusky	Exceeds dBA L_{dn} at 100 feet from the tracks and an increase of at least 5 dBA.	Railroad shall coordinate mitigation strategies with the local community.
	CC-06: Greenwich Connection	Construction	Huron	Wheel squeal noise.	If wheel squeal occurs CSX shall use rail lubrication.
Cultural Resources	CR-03: Collinwood Yard, Cleveland	Construction	Cuyahoga	Acquisition and probable destruction of 4 to 9 extant historic district contributors.	Railroad to complete HABS documentation no later than 180 days following Board decision.
	NA-04: Toledo Pivot Bridge, Toledo	Abandonment	Lucas	Destruction of the Wheeling & Lake Erie Swing Bridge.	Railroad to complete HABS documentation before initiating any construction or removal activities.
Natural Resources	CC-06: Greenwich Connection	Construction	Huron	Potential impacts from right-of-way maintenance activities.	CSX shall use only EPA-approved herbicides during right-of-way maintenance.
	CC-07: Crestline Connection	Construction	Crawford	Potential impacts from right-of-way maintenance activities.	CSX shall use only EPA-approved herbicides during right-of-way maintenance.
	CC-08: Sidney Connection	Construction	Shelby	Potential impacts from right-of-way maintenance activities.	CSX shall use only EPA-approved herbicides during right-of-way maintenance.
	NC-11: Bucyrus Connection	Construction	Crawford	Potential impacts from right-of-way maintenance activities.	NS shall use only EPA-approved herbicides during right-of-way maintenance.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
OHIO (Continued)					
Natural Resources	NC-14: Vermilion Connection	Construction	Erie	Potential effect on endangered Indiana Bat.	NS shall, in consultation with US Fish and Wildlife Service, conduct survey prior to initiating construction to determine potential presence of endangered Indiana Bat.
Environmental Justice	C-072: Mayfield - Marcy	Rail Line Segment	Cuyahoga	Low income population: Hazardous Materials Transportation Noise	Railroad shall coordinate mitigation strategies with the local communities.
	C-073: Quaker - Mayfield	Rail Line Segment	Cuyahoga	Minority and low income population: Hazardous Materials Transportation Noise	Railroad shall coordinate mitigation strategies with the local communities.
	N-075: Cleveland - Ashtabula	Rail Line Segment	Ashtabula, Cuyahoga, Lake	Minority population: Hazardous Materials Transportation Noise	Railroad shall coordinate mitigation strategies with the local communities.
	N-081: White - Cleveland	Rail Line Segment	Cuyahoga	Minority and low income population: Hazardous Materials Transportation Noise	Railroad shall coordinate mitigation strategies with the local communities.
	N-082: Youngstown - Ashtabula	Rail Line Segment	Ashtabula, Mahoning, Trumbull	Minority and low income population: Hazardous Material Transportation Noise	Railroad shall coordinate mitigation strategies with the local communities.
	N-086: Miami - Airline	Rail Line Segment	Lucas	Minority and low income population: Transportation/Freight Rail Operations Safety	Railroad shall coordinate mitigation strategies with the local communities.
Community	Western Cleveland Suburbs	Rail Line Segment	Cuyahoga	Traffic delay and safety at Highway/Rail At-Grade Crossings.	NS shall consult with affected communities on routing plans and improvements.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
OHIO (Continued)					
Community	Cleveland	Rail Line Segment	Cuyahoga	Increased rail traffic.	CSX and NS shall consult with affected communities on routing plans and mitigation measures.
PENNSYLVANIA					
Safety	C-081: Newcastle, PA - Youngstown, OH	Rail Line Segment	Lawrence	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.
	C-766: West Falls-CP Newtown Jet	Rail Line Segment	Philadelphia	Hazardous Materials Transport: A new and major key route. Highway/Rail At-Grade Crossing Safety: Increase in accidents at : Bradley-Brownlee Road (Trumbull) Warren Sharon Road (Trumbull)	Hazardous Materials Transport: Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan. Highway/Rail At-Grade Crossing Safety: Upgrade existing safety devices.
	N-070: Buffalo FW, NY - Ashtabula, OH	Rail Line Segment	Erie	Hazardous Materials Transport: A new and major key route. Highway/Rail At-Grade Crossing Safety: Increase in accidents at : Peach Street Cherry Street Raspberry Street Lucas Street	Hazardous Materials Transport: Implement AAR guidelines and develop Hazardous Materials Emergency Response Plan. Highway/Rail At-Grade Crossing Safety: Upgrade existing safety devices at Lucas Street. Relocation to CSX corridor for the other crossings.
	N-099: Harrisburg-Rutherford	Rail Line Segment	Dauphin	Freight Rail Operations: Increase in accident frequency.	Freight Rail Operations: Increase rail flaw inspection frequency and to provide annual training for equipment inspectors

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
PENNSYLVANIA (Continued)					
Safety	N-091: Harrisburg, PA - Riverton Jct, VA	Rail Line Segment	Cumberland, Dauphin, Franklin, York	<i>Highway/Rail At-Grade Crossing Safety:</i> York Road (Cumberland) Criswall (Cumberland) Mill (Cumberland) Guilford Springs Road (Franklin) Hayes Road (Franklin)	<i>Highway/Rail At-Grade Crossing Safety:</i> Upgrade existing safety devices.
	N-095: Rochester, PA - Youngstown, OH	Rail Line Segment	Lawrence	<i>Hazardous Materials Transport:</i> A new key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines.
	N-203: Bethlehem-Allentown	Rail Line Segment	Lehigh, Northampton	<i>Hazardous Materials Transport:</i> A new key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines.
	N-216: Reading-Reading Belt Jct.	Rail Line Segment	Berks, Montgomery, Philadelphia	<i>Hazardous Materials Transport:</i> A new key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines.
	N-245: Port Jervis, NY - Binghamton, NY	Rail Line Segment	Broome, Delaware, Sullivan, Orange	<i>Hazardous Materials Transport:</i> A new key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines.
	S-232: Park Jct. - Frankford Jct.	Rail Line Segment	Philadelphia	<i>Hazardous Materials Transport:</i> A new key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines.
	S-233: Frankford Jct., PA - Camden, NJ	Rail Line Segment	Philadelphia	<i>Hazardous Materials Transport:</i> A new key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines.
Transportation	C-033: Cumberland, MD - Sinns, PA	Rail Line Segment	Allegheny, Bedford, Fayette, Somerset, Westmoreland	<i>Highway/Rail At-Grade Crossing Delay:</i> Main Street (Westmoreland)	<i>Highway/Rail At-Grade Crossing Delay:</i> Railroad consult with the community and develop mitigation.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
PENNSYLVANIA (Continued)					
Transportation	N-070: Ashtabula, OH - Buffalo, NY	Rail Line Segment	Erie	Highway/Rail At-Grade Crossing Delays: Peach Street Sassafras Street Cherry Street Liberty Street Raspberry Street	Highway/Rail At-Grade Crossing Delays: Relocate NS trains to CSX corridor.
Environmental Justice	N-090: Harrisburg-Rutherford	Rail Line Segment	Dauphin	Low Income Population: Transportation/Freight Rail Operation	Railroad shall coordinate mitigation strategies with the local communities.
Community	Erie	Rail Line Segment	Erie	Traffic delay and safety on 19 th street.	NS shall reroute train traffic as indicated in proposed mitigation plans.
SOUTH CAROLINA					
Safety	C-339: Pembroke, NC - Dillon, SC	Rail Line Segment	Dillon	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.
	C-341: Florence - Lane	Rail Line Segment	Williamsburg, Florence	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.
	C-343: St. Stephens - Ashely Jct.	Rail Line Segment	Berkeley	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.
	C-344: Ashely Jct. - Yemassee	Rail Line Segment	Colleton, Charleston, Hampton	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.
	C-345: Yemassee, SC - Savannah, GA	Rail Line Segment	Jasper, Hampton	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.
	C-351: Monroe, NC - Clinton, SC	Rail Line Segment	Lancaster, York, Chester, Union, New Berry, Laurens	Hazardous Materials Transport: A major key route.	Hazardous Materials Transport: Develop Hazardous Materials Emergency Response Plan.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
SOUTH CAROLINA (Continued)					
Safety	C-352: Clinton - Greenwood	Rail Line Segment	Laurens, Greenwood	Hazardous Materials Transport: A major key route.	Hazardous Materials Transport: Develop Hazardous Materials Emergency Response Plan.
	C-353: Greenwood, SC - Athens, GA	Rail Line Segment	Abbeville, Greenwood	Hazardous Materials Transport: A major key route.	Hazardous Materials Transport: Develop Hazardous Materials Emergency Response Plan.
	C-357: Hamlet, NC - McBee, SC	Rail Line Segment	Chesterfield	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.
	C-358: McBee - Columbia	Rail Line Segment	Chesterfield, Kershaw, Richland	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.
	C-359: Columbia - Fairfax	Rail Line Segment	Lexington, Orangeburg	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.
TENNESSEE					
Safety	C-289: Louisville, KY - Amqui, TN	Rail Line Segment	Sumner, Davidson	Hazardous Materials Transport: A major key route.	Hazardous Materials Transport: Develop Hazardous Materials Emergency Response Plan.
	C-295: Corbin, KY - Cartersville, GA	Rail Line Segment	Campbell, Anderson, Knox, Blount, Monroe, McMinn, Polk	Hazardous Materials Transport: New key route.	Hazardous Materials Transport: Implement AAR guidelines.
	C-373: Nashville, TN - Stevenson, AL	Rail Line Segment	Davidson, Rutherford, Bedford, Moore, Franklin	Hazardous Materials Transport: A major key route.	Hazardous Materials Transport: Develop Hazardous Materials Emergency Response Plan.
	N-361: Asheville, NC - Leadvale, TN	Rail Line Segment	Cocke	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.
	N-392: New Line - Leadvale	Rail Line Segment	Cocke, Jefferson	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
TENNESSEE (Continued)					
Safety	N-399: Bulls Gap - Frisco	Rail Line Segment	Hawkins, Hablen	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.
	N-406: Frisco - Kingsport	Rail Line Segment	Sullivan	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.
VIRGINIA					
Safety	C-101: Fredericksburg - Potomac Yard	Rail Line Segment	Stafford, Prince William, Fairfax, Alexandria City, Arlington, Fredericksburg City	Passenger Rail Safety: Increase in risk for passenger train accidents.	Passenger Rail Safety: Freight train moving in the same or opposite direction would be clear of the track at least 15 minutes before and after the expected arrival of passenger train at any point.
	C-103: S. Richmond, VA - Weldon, NC	Rail Line Segment	Greensville, Sussex, Dinwiddie, Chesterfield, Colonial Heights City, Petersburg City, Prince George, Richmond City	Passenger Rail Safety: Increase in risk for passenger train accidents.	Passenger Rail Safety: Freight train moving in the same or opposite direction would be clear of the track at least 15 minutes before and after the expected arrival of passenger train at any point.
	N-315: Alexandria - Manassas	Rail Line Segment	Fairfax, Prince William	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.
	N-432: Poe ML - Petersburg	Rail Line Segment	Prince George	Hazardous Materials Transport: A new key route.	Hazardous Materials Transport: Implement AAR guidelines.
	N-091: Harrisburg, PA - Riverton Jct, VA	Rail Line Segment	Clarke, Warren	Highway/Rail At-Grade Crossing Safety: SR 7 (Clarke) Rockland Road (Warren)	Highway/Rail At-Grade Crossing Safety: Upgrade existing safety devices.

Table 5-2 Summary of Impacts Warranting Mitigation By State

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact	Preliminary Recommended Mitigation
WASHINGTON, D.C.					
Safety	C-003: Washington D.C. - Pt. Of Rocks, MD	Rail Line Segment	District of Columbia	<i>Passenger Rail Safety:</i> Increase in risk for passenger train accidents.	<i>Passenger Rail Safety:</i> Freight train moving in the same or opposite direction would be clear of the track at least 15 minutes before and after the expected arrival of passenger train at any point.
	C-031: Alexandria Jct, MD - Washington D.C	Rail Line Segment	District of Columbia	<i>Hazardous Materials Transport:</i> New key route.	<i>Hazardous Materials Transport:</i> Implement AAR guidelines.
Environmental Justice	C-030: Alexandria Jct., MD - Benning, D.C.	Rail Line Segment	District of Columbia	Minority Population: Transportation/Highway/Rail At-Grade Crossing Delay	Railroad shall coordinate mitigation strategies with the local communities.
	C-031: Alexandria Jct., MD - Washington D.C.	Rail Line Segment	District of Columbia	Minority Population: Hazardous Material Transportation	Railroad shall coordinate mitigation strategies with the local communities.

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5-AL ALABAMA

This section provides background information for resources in Alabama. Tables list the proposed Conrail Acquisition-related activities in Alabama that meet or exceed the Board's thresholds for environmental analysis. This section also presents the various technical analyses conducted for these activities in Alabama. The analyses highlight the potential environmental impacts and proposed mitigation actions that SEA recommends as part of the Draft EIS study.

5-AL.1 ALABAMA SETTING

Alabama is a southeastern state located east of the Mississippi River. Principal products of Alabama include goods such as metals, chemicals, textiles, cotton, chickens, cattle, coal, cement, stone, and petroleum. Railroads provide a means of transportation for many of these products to be distributed and other products to be imported to Alabama.

Transportation Facilities

Alabama's major interstate highways include I-65, a north/south facility; I-59, a north/south facility; and I-20, an east/west facility. These interstates serve cities such as Birmingham, Mobile, Gadsden, Decatur and Montgomery. Alabama's major port is the Port of Mobile, located on the Gulf of Mexico.

Railroad Facilities

Alabama has 21 railroads covering a total of approximately 3,351 route miles. Five Class I railroads serve Alabama, two of which are CSX and NS. Burlington Northern Santa Fe Railway Company, Illinois Central Railroad Company, and Kansas City Southern Railway Company are the other Class I Railroads in the state. Of the total 3,351 route miles:

CSX operates 1,216 route miles in Alabama, which is 36 percent of the state's total rail miles.

NS operates 1,416 route miles in Alabama, which is 42 percent of the state's total rail miles.

These two railroads serve cities such as Birmingham, Sheffield, Decatur, Gadsburg, Montgomery, and Mobile. CSX has rail yards located in Birmingham (Boyles), Decatur, Gadsburg, Montgomery, and Mobile (Sibert). CSX operates an intermodal facility in Mobile and serves the Port of Mobile. Major NS rail classification yards are located in Birmingham and Sheffield.

Intercity Passenger and Commuter Rail Services

Amtrak uses track owned by CSX and NS to provide daily intercity rail passenger service to Birmingham. Amtrak also services the Mobile, Anniston, and Tuscaloosa stations. There is no commuter rail service in Alabama.

5-AL.2 PROPOSED CONRAIL ACQUISITION ACTIVITIES IN ALABAMA

In the Operating Plans submitted to the Board, the Applicants indicate that they would reroute rail movements to more efficient routes. The Applicants also indicate that the routes would improve customer service, on-time performance, and car utilization. Alabama shippers would be able to extend their single-line market reach via CSX and NS into the northeast and midwest.

The proposed Conrail Acquisition-related activities that meet or exceed the Board's thresholds for environmental analysis in Alabama include increased train activity on the NS line between North Yard, east of Birmingham and Attalla in Etowah County and increased rail car handling at the CSX Boyles Yard in Jefferson County.

In Alabama, the proposed activities at CSX's intermodal facility does not meet or exceed the Board's thresholds for environmental analysis. There are no new connections, or rail line abandonments proposed in Alabama. Tables 5-AL-1 and 5-AL-2 show rail line segments and rail yards in Alabama that required environmental analysis. Following these tables are brief descriptions of the activities, where appropriate. Figure 5-AL-1, provided at the end of this state discussion, shows the activities in Alabama related to the proposed Conrail Acquisition. In addition to those segments meeting Board thresholds for environmental analysis, the figure shows segments SEA analyzed for other areas.

Table 5-AL-1
Alabama Rail Line Segments which Meet or Exceed Board Environmental Thresholds

Site ID	From	To	Description	Length in miles	County	Setting
N-001	Norris Yard, AL	Attalla, AL	NS Alabama Division, Line - Birmingham to Chattanooga	7	Etowah	Commercial/Residential
				27	St. Clair	Industrial/Commercial/Residential
				14	Jefferson	Industrial/Commercial

N = NS

Rail Yards

Boyles Yard (Jefferson County, AL) (CSX). Boyles rail yard is located in Birmingham in Jefferson County. The yard is located near Cedar and Seaboard Roads.

Table 5-AL-2
Alabama Rail Yards which Meet or Exceed Board Environmental Thresholds

Site ID	Location	County	Facility	Description	Setting
CY-01	Birmingham	Jefferson	Boyles	Increase of 196 rail cars	Urban/Industrial

5-AL.3 ALABAMA SUMMARY OF ANALYSIS

Based on the nature of the proposed Conrail Acquisition-related activities in Alabama that meet or exceed the Board's thresholds for environmental analysis and the scope for the Draft EIS, SEA determined that a site-specific analysis did not apply for the following technical areas:

- Transportation (Roadway Effects from Rail Facility Modifications; Navigation).
- Energy.
- Noise.
- Cultural Resources.
- Hazardous Materials and Waste Sites.

- Natural Resources.
- Land Use/Socioeconomics.

Details of the environmental analysis for Alabama follow.

5-AL.4 ALABAMA SAFETY: PASSENGER RAIL OPERATIONS

In Alabama, passenger trains share certain tracks with freight trains. SEA evaluated the potential for increased accidents between freight trains and passenger trains, for both intercity and commuter trains. Because changes in the frequency of rail accidents are directly related to changes in overall train activity, SEA's analysis concentrated on rail line segments carrying both passenger and freight trains that would experience an increase in freight train traffic of one or more trains per day.

In Chapter 4, "System-Wide and Regional Setting, Impacts and Proposed Mitigation," SEA addresses the issue of potential increased risk to passenger train operations associated with the proposed Conrail Acquisition. System-wide, SEA identified 197 freight rail line segments that also carry passenger trains. Of these, SEA analyzed 93 rail line segments that would experience an increase of one or more freight trains per day resulting from the proposed Acquisition. Two of these rail line segments are located in Alabama; these rail line segments are both on the Amtrak/Sunset Limited passenger train routes.

The Federal Railroad Administration (FRA) requires reports from railroads concerning all train accidents resulting in personal injury or causing property damage greater than \$6,300 (1996 FRA reporting threshold). FRA requires the same reporting for passenger train accidents. A nationwide average of fewer than 200 passenger train accidents per year (for both Amtrak intercity and urban area commuter trains) has occurred over the last three years. Most of these accidents were relatively minor and rarely involved any fatalities, but because the safety of passengers as well as property is frequently involved, their occurrence is of serious concern.

Given the limited number of passenger rail accidents, SEA was unable to accurately predict the severity, location, or timing of actual accidents. SEA therefore focused on estimating the potential risks of an accident. In this safety analysis, SEA used increased freight activity on rail line segments to estimate the changes in passenger train accident risks. To assess significance, SEA first determined whether the proposed Acquisition-related change in the projected accident rate was greater than an annual increase of 25 percent. SEA then determined if the predicted accident frequency was less than one accident in 150 years. Thus, SEA determined an impact to be significant if the projected annual increase in accidents was greater than 25 percent and the frequency was less than one accident in 150 years.

5-AL.4.1 Summary of Potential Effects and Preliminary Recommended Mitigation

The pre-Acquisition accident interval for each rail line segment is shown in Table 5-AL-3. Accidents pose potential threats to passengers on the train; therefore, for each rail line segment, risk is expressed as the expected interval between events over the length of the rail line segment. Table 5-AL-3 shows the expected change in years between accidents for the individual rail line segments.

Table 5-AL-3
Estimated Change in Years Between Accidents for Passenger Rail Operations

Site ID	From	To	Miles in State	Pre-Acquisition Accident Interval *	Post-Acquisition Accident Interval *
C-385	Pensacola, FL	Flomaton, AL	2	1,418	1,242
C-387	Mobile, AL	New Orleans, LA	30	307	279

* Accident intervals show years between accidents.

Based on information the railroads provided and SEA's independent analysis, SEA determined that the increased risk on these two rail line segments did not exceed SEA's criteria for significance. As a result, SEA does not propose mitigation.

5-AL.5 ALABAMA SAFETY: RAIL TRANSPORT OF HAZARDOUS MATERIALS

The primary concern with the rail transportation of hazardous materials is a spill or accidental release resulting from a train accident. SEA analyzed all rail line segments where the number of car loads containing hazardous materials would increase as a result of the proposed Acquisition. This resulted in SEA evaluating rail line segments that were below the Board's thresholds for environmental analysis.

The Association of American Railroads (AAR), in conjunction with the Chemical Manufacturer's Association (CMA), developed standards and practices to manage the risk of a hazardous material spill that the railroads have adopted. The practices include identifying "key routes" as those rail lines that handle in excess of 10,000 car loads of hazardous material each year. Key trains are trains with at least five car loads of poison inhalation hazard (PIH) material, or 20 car loads of other hazardous material. Key trains are restricted to 50 miles per hour maximum authorized speed and normally operate on Class 2 track or better. The AAR key route practices include special train handling procedures and extra inspection and special actions whenever wayside detectors indicate potential concerns. The standards and practices for key routes are shown in AAR Circular No. OT-55-B. A copy of this Circular is included in Attachment 10 of Appendix B, "Safety."

5-AL.5.1 Rail Line Segment Analysis

As a result of the proposed Conrail Acquisition, the railroads would change the routing of many car loads of hazardous material. The designation of key routes would change as the railroads shift hazardous material traffic from one rail line to another. In addition, certain rail line segments that are currently key routes would carry increased volumes of cars containing hazardous material.

SEA applied two different criteria to determine if the effects of rerouting hazardous material car loads are potentially significant:

1. The volume of hazardous materials transported on a rail line would be 10,000 or more car loads per year. The Acquisition-related change in volume of hazardous material car loads would upgrade a rail line segment to a key route designation.
2. The volume of hazardous material car loads doubles, and exceeds 20,000 or more car loads per year. SEA has termed rail line segments which meet these criteria a "major key route."

Rail line segments that would meet the first criteria are considered "key routes" and warrant the base level mitigation. Rail line segments that meet the second criteria are considered "major key routes" and warrant expanded mitigation. Depending on the individual circumstances, a rail line segment could meet both criteria and therefore warrant both the base level and the expanded mitigation.

5-AL.5.2 Summary of Potential Effects and Preliminary Recommended Mitigation

Potential Effects. Based on the information provided by the Applicants and SEA's independent analysis, SEA determined that 11 rail line segments in Alabama carrying increased amounts of hazardous material are of potential concern. Table 5-AL-4 shows these rail line segments, indicates the estimated annual car loads of hazardous material for both pre- and post-Acquisition, and identifies the key route status of each. SEA determined that five rail line segments currently carry less than 10,000 car loads of hazardous material per year but would increase to at least 10,000 car loads per year due to the proposed Acquisition. A total of ten routes would at least double the volume of hazardous material transported, resulting in 20,000 or more car loads per year. Four routes meet both of these significance thresholds.

Table 5-AL-4
Rail Line Segments with Significant Increases in Annual Hazardous Material Car Loads

Site ID	Between	And	Miles in State	Estimated Annual Car Loads		Significance Thresholds	
				Pre-Acquisition	Post-Acquisition	New Key Route	Major Key Routes
C-267	Decatur, AL	Black Creek, AL	89	22,000	47,000		X
C-268	Black Creek, AL	Birmingham, AL	5	22,000	47,000		X
C-269	Birmingham, AL	Parkwood, AL	12	15,000	59,000		X
C-270	Parkwood, AL	Montgomery, AL	87	5,000	39,000	X	X
C-271	Montgomery, AL	Flomaton, AL	110	3,000	64,000	X	X
C-356	Lagrange, GA	Montgomery, AL	93	2,000	42,000	X	X
C-373	Nashville, TN	Stevenson, AL	10	22,000	47,000		X
C-376	Lagrange, GA	Parkwood, AL	132	9,000	20,000	X	X
C-380	Thomasville, GA	Montgomery, AL	135	2,000	10,000	X	
C-386	Flomaton, AL	Mobile, AL	59	46,000	96,000		X
C-387	Mobile, AL	New Orleans, LA	30	44,000	88,000		X

Preliminary Mitigation Recommendation. SEA recommends requiring CSX to bring the rail line segments into compliance with AAR key route standards and practices for those segments that would become a new key route.

For the ten segments in Table 5-AL-4 identified as major key routes, where the volume of hazardous material car loads would at least double and exceed 20,000 car loads, SEA recommends that CSX develop a Hazardous Materials Emergency Response Plan to contain and minimize the potential effects of any accidents or incidents. SEA will further recommend that CSX conduct hazardous materials accident simulations with the voluntary participation of emergency service providers along the rail line segments at least once every two years. Participants in these plans include county and municipal government, local fire departments, and medical and other emergency response teams.

5-AL.6 ALABAMA TRANSPORTATION: PASSENGER RAIL SERVICE

In Alabama, passenger trains share certain tracks with freight trains. SEA evaluated potential Acquisition-related effects on the ability of rail line segments to accommodate existing passenger rail service, both intercity and commuter rail, and reasonably foreseeable new or expanded passenger service. SEA identified those rail line segments that carry both freight and passenger trains and would experience an increase of one or more freight trains per day.

Amtrak

Amtrak's Southern Crescent between New York City, New York and New Orleans, Louisiana currently provides service to the Birmingham area on an NS line. Amtrak's Sunset Limited between Orlando, Florida and Los Angeles, California currently provides tri-weekly service on CSX rail lines to points including Mobile, Atmore, Anniston, and Tuscaloosa. Section 4.7.1, "Intercity Passenger Rail Service," discusses intercity passenger rail service effects.

Commuter Rail

No commuter rail service exists in Alabama.

Future Services Under Study

The Southern Rail Rapid Transit Commission is investigating service along the Gulf Coast between Mobile, Alabama, and New Orleans, Louisiana. There is no funded capital operating plan, other than for studies, or operating agreement with CSX for expansion of passenger service between Mobile and New Orleans. Passenger service on this regional route is discussed in Section 4.3.7, "Transportation: Passenger Rail Service."

5-AL.6.1 Summary of Potential Effects and Preliminary Recommended Mitigation

Because there is no existing commuter rail service in Alabama, SEA has determined there will be no adverse effects and no mitigation is required.

5-AL.7 ALABAMA TRANSPORTATION: ROADWAY CROSSING DELAY

In order to analyze the effects of the proposed Conrail Acquisition on the roadway system at existing highway/rail at-grade crossings, SEA identified the crossings on rail line segments that would exceed the Board's environmental analysis thresholds for air quality. SEA then calculated potential changes in vehicle delay at these crossings where average daily traffic (ADT) volumes are 5,000 or greater. SEA concluded that the potential effect of increased train traffic for highways with ADT volumes below 5,000 would be experienced by very few drivers and the additional vehicular delay would be minimal. The description of levels of service and criteria

of significance have been addressed in Chapter 3, "Analysis Methods and Potential Mitigation Strategies," and Appendix C, "Traffic and Transportation."

5-AL.7.1 County Analysis

Two counties in Alabama have highway/rail at-grade crossings for which SEA performed vehicle delay calculations. Table 5-AL-5, provided at the end of this state discussion, contains a summary of these results.

Etowah County

The single crossing analyzed in Etowah County would have a minimal increase in crossing delay per stopped vehicle with level of service B under post-Acquisition conditions. The maximum vehicle queue would not increase.

Jefferson County

The single crossing analyzed in Jefferson County would have a minimal increase in crossing delay per stopped vehicle. The level of service would remain at A. The maximum vehicle queue would not increase.

5-AL.7.2 Summary of Potential Effects and Preliminary Recommended Mitigation

It is SEA's preliminary determination that the proposed Conrail Acquisition would have no significant effect on vehicle delay at rail/highway at-grade crossings in Alabama. Therefore, SEA does not propose mitigation.

5-AL.8 ALABAMA AIR QUALITY

This section summarizes the change in air pollutant emissions that would result from the proposed Acquisition-related operational changes in the state of Alabama. The primary air pollutant emission sources from trains and related activities include locomotive emissions on rail line segments, at rail yards, and at intermodal facilities. In addition to locomotive emissions, SEA evaluated emissions from other sources at intermodal facilities (idling trucks, lift cranes, etc.), motor vehicles idling near at-grade crossings, and decreases in truck emissions due to truck-to-rail freight diversions.

To analyze the air quality effects of the proposed Acquisition, SEA evaluated rail line segments, rail yards, and intermodal facilities that would meet or exceed the Board's thresholds for environmental analysis defined in Chapter 2, "Proposed Action and Alternatives." See Chapter 3, "Analysis Methods and Potential Mitigation Strategies," for additional information and a

summary of the air quality analysis methodology. Appendix E, "Air Quality," contains a detailed description of methodology and detailed tables of results.

SEA addressed air pollutant emissions for sulfur dioxide (SO₂), volatile organic compounds (VOCs), particulate matter (PM), lead (Pb), nitrogen oxides (NO_x) and carbon monoxide (CO). SEA determined that emissions for SO₂, VOCs, PM and Pb would not exceed the emission screening thresholds for environmental analysis in any county. However, SEA found that these thresholds would be exceeded for NO_x in various counties in 17 states, and CO in three counties in two states (IL and OH). NO_x air pollutant emissions may affect a region's ability to attain the National Ambient Air Quality Standards for ozone. CO emissions may affect a local area's ability to attain the National Ambient Air Quality Standards for CO.

One NS rail line segment exceeded the Board's threshold for air quality analysis in Alabama. Table 5-AL-6 shows the air quality evaluation process that was followed. SEA identified two counties in Alabama which include this rail facility. For these counties, SEA summed air emissions increases from changes on rail line segments and other activities and compared them to the air emission screening level that would require a permit if the source were a stationary source (rather than a mobile source, such as trains, trucks, and other vehicles).

Table 5-AL-6
Alabama Counties Evaluated in Air Quality Analysis

Counties Exceeding the Board's Activity Thresholds	O₃ Status *	Exceeds Emissions Screening Level Before Netting	Exceeds Emissions Screening Level After Netting	Exceeds 1% of County Emissions
Etowah	A	No	-	-
Jefferson	N (Marginal)	No	-	-

* A = Attainment Area, N = Nonattainment Area, as defined in the Clean Air Act.

The emissions estimates presented in Appendix E, "Air Quality," show that the increased county-wide air pollutant emissions from the facilities described above did not exceed the emissions screening level used to trigger a more detailed emissions netting analysis.

5-AL.8.1 Potential Effects and Preliminary Recommended Mitigation

While there are localized increases in emissions in some counties, the increases are not likely to affect compliance with air quality standards. Therefore, SEA has determined that air quality will not be significantly affected and no mitigation is necessary. See system-wide and regional discussion in Section 4.12 "Air Quality."

5-AL.9 ALABAMA ENVIRONMENTAL JUSTICE

As part of its analysis, SEA examined activities associated with the proposed Conrail Acquisition for environmental justice impacts (disproportionately high and adverse impacts to minority and low-income populations) in accordance with Executive Order 12898. As described in the Environmental Justice Methodology in Chapter 3, "Analysis Methods and Potential Mitigation Strategies," SEA first categorized the nature of the populations in areas where Acquisition-related activities are proposed. SEA determined whether the population in such areas met the following environmental justice thresholds: (1) greater than 50 percent of the population is minority or low-income, or (2) the minority or low-income population percentage is 10 percent greater than the minority or low-income population percentage in the county.

Next, SEA ascertained whether this population fell within an area of potential effect. SEA defined a typical zone on either side of a rail line segment or proposed construction site, or bordering a railroad intermodal facility or rail yard, as an area of potential effect. In general, the extent of an area of potential effect may vary depending on the nature of the changes in rail activity associated with it, but such areas typically extend 400 to 1500 feet out from the rail line segment or facility being analyzed.

SEA then evaluated these areas of potential effect for proposed Acquisition-related activities that would meet or exceed the Board's thresholds for environmental analysis. In this analysis, SEA evaluated potential impacts on safety, transportation, air quality, noise, cultural resources, hazardous waste sites, hazardous materials transport, natural resources, and land use/socioeconomic effects. SEA also visited the sites of proposed construction for new rail line connections, rail line segments, intermodal facilities, and rail yards.

SEA developed and executed expanded public outreach efforts for those jurisdictions that met both SEA's thresholds for environmental justice and the Board's thresholds for environmental significance. SEA designed the public outreach process to seek widespread notice and dissemination of SEA's environmental impact analysis; provide additional opportunities for community input to the NEPA process; solicit information about cumulative effects in minority and low-income communities; and allow minority and low-income communities to assist in fashioning appropriate alternatives and mitigation measures. SEA is placing additional copies of the Draft EIS in jurisdictions with high proportions of minority and low-income populations that do not have significant environmental impacts which could result from the proposed Acquisition.

This section presents the results of those evaluations and analysis. A complete list of all the sites analyzed for environmental justice impacts is presented in Appendix K.

5-AL.9.1 Alabama Environmental Justice Setting

There are no new constructions or increases in truck traffic at intermodal facilities in the state of Alabama as part of the proposed Conrail Acquisition.

Rail Yards

One rail yard in Alabama would exceed the Board's thresholds for environmental analysis because of proposed increases in railcars handled per day, resulting from the proposed Conrail Acquisition. The Boyles Yard is located north of Birmingham in Jefferson County, Alabama. Table 5-AL-7 presents the existing minority and low-income composition of the area of potential effect surrounding this rail yard.

Table 5-AL-7
Alabama Environmental Justice Site Summary for Rail Yards

Area of Potential Effect	Total Population	Total Minority Percentage	Total Low-Income Percentage	Population of Concern	
				Minority Population	Low-Income Population
Jefferson County	651,525	36.1%	16.0%	NA	
Boyles (CY-01)	2,068	95.4%	52.6%	Yes	Yes

Rail Line Segments

Table 5-AL-8 presents the existing minority and low-income population composition of the area of potential effect surrounding the Norris Yard to Attalla rail line segment in Alabama, which meets the environmental justice population thresholds.

Table 5-AL-8
Alabama Environmental Justice Summary for Rail Line Segments

Area of Potential Effect	Total Population	Total Minority Percentage	Total Low-Income Percentage	Population of Concern	
				Minority Population	Low-Income Population
Etowah, Jefferson, St. Clair Counties	801,374	31.8%	16.0%	NA	
Norris Yd - Attalla (N-001)	3,664	44.6%	24.5%	Yes	No

5-AL.9.2 Summary of Potential Effects and Preliminary Recommended Mitigation

Based on currently available information and after reviewing the findings of each of the resource analyses (noise, air quality, transportation, etc.), SEA identified no significant environmental effects at the Boyles Rail yard (CY-01) or along the NS rail line segment between Norris Yard - Attalla (N-001) within Alabama. Therefore, SEA has made a preliminary determination that no environmental justice effects would occur in Alabama as a result of the proposed Conrail Acquisition, and no mitigation would be necessary.

5-AL.10 ALABAMA CUMULATIVE EFFECTS

Within the State of Alabama, the Applicants propose the following activities that meet or exceed the Board's thresholds for environmental analysis: increased rail traffic along one rail line segment and increased rail car handling at one existing CSX rail yard.

Cumulative Effects Findings

As discussed in Chapter 6, "Agency Coordination and Public Outreach," SEA conducted extensive scoping and data collection for this Draft EIS. At this point in its investigation, SEA is unaware of any activities that would require a cumulative effects analysis. Therefore, based on its independent analysis and all information available to date, SEA has made a preliminary conclusion that there would be no significant cumulative effects associated with the proposed Acquisition in the State of Alabama.

Cumulative Effects Mitigation Measures

Due to a lack of cumulative effects, no mitigation measures are necessary.