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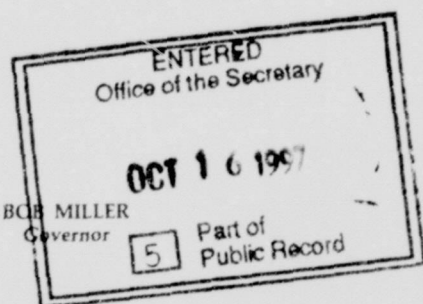
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BOB MILLER  
Governor



STATE OF NEVADA  
EXECUTIVE CHAMBER

Capitol Complex  
Carson City, Nevada 89710



October 10, 1997

Office of the Secretary  
Case Control Unit  
Surface Transportation Board  
1925 K Street, NW, Room 700  
Washington, D.C. 20423-0001

Attention: Ms. Elaine K. Kaiser  
Chief, Section of Environmental Analysis  
Environmental Filing - Reno

Dear Ms. Kaiser:

Thank you for the opportunity to comment on the UP/SP Merger Finance Docket No. 32760, Preliminary Mitigation Plan for Reno. As you know, I have previously commented on various aspects of the train merger, and I maintain the concerns mentioned in the past. Increased train traffic from the merger will create further delays threatening the health and safety of those who need immediate assistance from emergency medical teams, police, fire crews, etc. The greater probability of pedestrian accidents and derailments is also significant.

While there is no dispute over the harmful effects of increased traffic, there are many views on how to mitigate these effects. I would like to thank the Surface Transportation Board (STB) for convening a Mitigation Task Force to pinpoint the best methods of minimizing the effects of the merger. When properly mitigated, the increased rail service through Reno will be an enhancement to Northern Nevada's economy. In fact, there are ways to mitigate the new traffic that will benefit everyone affected. I am pleased that the STB has given all interested parties an opportunity to explore a win/win outcome.

The Preliminary Mitigation Plan (PMP), however, falls short of creating a positive situation for everyone. In fact, my concerns about the public's safety have not been appeased. The primary mitigation feature in the PMP increases train speed from 20 mph to 30 mph. Consequently, delays at train crossings would diminish from 3.4 to 2.8 minutes per train. This 33% savings is overestimated and does little, if anything, to relieve delays caused by the merger.

Ms. Elaine K. Kaiser  
October 10, 1997  
Page 2

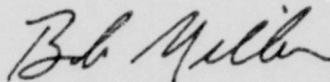
A study conducted by the Section on Environmental Analysis (SEA) earlier this year revealed as many as 30 percent of the trains already travel faster than 20 miles per hour. Since the current speed limit is 20 miles per hour, this study shows either a gross error in the data on which the PMP benefits are based, or it shows that 30 miles per hour is not as far from the status quo as presumed. Furthermore, there was no account taken for the expected lengthening of trains.

The results of the ten-month study are too variable. Not only is the benefit of increasing the speed unknown, there is no guarantee that the Union Pacific will indeed travel at faster speeds.

Most frustrating is the fact that many mitigation options such as grade separations were simply discarded by the SEA. The PMP was designed to be the product of the Mitigation Task Force; however, no one on the task force agreed to discontinue consideration of grade separations. A more thorough, conclusive examination of mitigating the train merger is necessary. Relief must be given to the longer delays at the train crossings, which are the result of the train merger.

Again, I would like to thank the STB for examining the mitigation options. This search, however, needs to be exhaustive. It would be futile to implement a plan like the PMP that is highly based on presumptions and variables.

Sincerely,

A handwritten signature in cursive script, appearing to read "Bob Miller".

BOB MILLER  
Governor

BM/tc

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## **UP/SP Merger—Reno Mitigation Study**

Reno, Nevada—February 1998

# **Final Mitigation Plan**

**Surface Transportation Board  
Section of Environmental Analysis  
Issue Date: February 11, 1998  
Comment Due Date: March 12, 1998**





*SURFACE TRANSPORTATION BOARD*  
*Washington, DC 20423*

*Section of Environmental Analysis*

February 9, 1998

Re: Finance Docket No. 32760, Union Pacific/Southern Pacific Merger; Issuance of Reno Mitigation Study Final Mitigation Plan

To: **Interested Parties**

The Section of Environmental Analysis (SEA) is pleased to provide you with the attached Final Mitigation Plan (FMP) for the City of Reno, NV and Washoe County. The FMP was prepared by SEA as part of the ongoing Reno mitigation study ordered by the Surface Transportation Board (Board) as a condition of its August 12, 1996 approval of the Union Pacific/Southern Pacific (UP/SP) merger.

The FMP contains SEA's proposed recommendations at this time for additional mitigation to address the potential effects of increased train traffic through Reno as a result of the UP/SP merger. The FMP also contains comments from over 530 commenters on the Preliminary Mitigation Plan (issued in September 1997), SEA's responses to those comments, and additional technical analysis conducted by SEA. SEA invites public review and comment on the FMP during a 30-day review period, which will end on March 12, 1998. Copies of the FMP have been distributed to interested parties, and have also been placed in the Reno and Sparks branches of the Washoe County Public Library.

SEA will consider all timely comments on the FMP before making final recommendations to the Board. After full consideration of the PMP, the FMP, all public comments, and SEA's final recommendations, the Board will issue a final decision imposing additional specific mitigation measures for Reno and Washoe County that it deems to be appropriate.

Individuals who wish to file a comment may submit one original; government agencies and businesses are asked to submit an original plus 10 copies. To be considered, comments should be submitted in writing no later than March 12, 1998 to the address listed below:

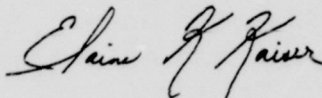
Office of the Secretary  
Case Control Unit - Room 715  
Finance Docket No. 32760  
Surface Transportation Board  
1925 K Street NW  
Washington DC 20423-0001

In the lower left-hand corner of the envelope indicate:

Attention: Elaine K. Kaiser  
Chief, Section of Environmental Analysis  
Environmental Filing - Reno

Thank you for your continued interest and participation in the mitigation study.

Sincerely,

A handwritten signature in cursive script, appearing to read "Elaine K. Kaiser".

Elaine K. Kaiser  
Chief, Section of Environmental Analysis

FOR FURTHER INFORMATION CONTACT: Harold McNulty, Section of Environmental Analysis, Room 500, Surface Transportation Board, 1925 K Street NW, Washington DC 20423, (202) 565-1539, TDD for the hearing impaired: (202) 565-1695.

## EXECUTIVE SUMMARY

This report is the Final Mitigation Plan (FMP) for the Union Pacific (UP) and Southern Pacific (SP) merger Reno Mitigation Study. This FMP was prepared by the Surface Transportation Board's (Board) Section of Environmental Analysis (SEA). Based on further analysis and review of the comments received on the Preliminary Mitigation Plan (PMP), SEA is recommending tailored mitigation measures in addition to those already imposed by the Board in its decision approving the merger. SEA's recommended mitigation measures in this FMP include those in the PMP and additional measures regarding safety and mitigation enforcement.

SEA is issuing the FMP for public review and written comments, which are to be submitted by March 12, 1998. SEA will consider all comments on the FMP before making its final recommendations to the Board. Based on full consideration of the PMP, the FMP, all public comments, and SEA's final recommendations, the Board will issue a final decision imposing additional specific mitigation measures that it deems to be appropriate. That decision is expected to be issued in March/April 1998.

## BACKGROUND

After conducting an extensive Environmental Assessment (EA) and a Post-EA, the Board approved the UP/SP merger in its Decision No. 44 (see Exhibit A), which imposed conditions on UP to mitigate potential system-wide and corridor-specific environmental impacts, including potential environmental impacts in Reno and Washoe County. The Board imposed mitigation measures addressing safety, hazardous materials, emergency response, air quality, and noise.

The National Environmental Policy Act of 1969 (NEPA) at 42 U.S.C. 4321 et seq., requires federal agencies to "the fullest extent possible" to consider the environmental consequences of "major federal actions significantly affecting the quality of the human environment." (42 U.S.C. 4332(2)(C)) The Council on Environmental Quality (CEQ) has promulgated regulations establishing a general framework for federal agency compliance with NEPA (40 CFR 1500-1508). Under CEQ's rules, where there may be significant environmental effects, agencies are to prepare environmental assessments (EAs) which are defined as "concise public document[s]," that "[b]riefly provide sufficient evidence and analysis for determining" whether the proposed agency action will significantly affect the environment (40 CFR 1508.9). An EA that concludes with a "finding of no significant impact" (FONSI) provides the basis for a decision not to prepare an Environmental Impact Statement (EIS).

The Board's environmental regulations call for preparation of an EA in railroad merger cases (49 CFR 1105.6(b)(4)). The EA is prepared by the agency's environmental staff (SEA) usually with the assistance of an independent third-party contractor. The EA is based on the information supplied by applicants; comments from interested parties, environmental agencies, and officials; and the results of independent verification and analysis by SEA.



SEA only prepares an EIS where its analysis reveals that, even with environmental mitigating conditions, the proposal may result in a significant impact on the environment. Where an EA is prepared, the Board, in rendering its final decision, considers the EA, public comments on the EA, and any post-EA recommendations of SEA.

SEA issued a five-volume EA for the UP/SP merger on April 12, 1996. SEA received numerous comments (including comments filed by the City of Reno), and as a result, SEA undertook additional environmental analysis addressing the comments, and issued a detailed Post EA (June 24, 1996) which further refined the mitigation SEA had recommended in the EA.

SEA recommended certain general and regional mitigation measures pertaining to Reno and other areas potentially affected by increased rail traffic as a result of the merger. Although SEA concluded that, overall, the merger would result in several environmental benefits, it also concluded that, absent appropriate environmental mitigation, the merger could have potential adverse environmental effects regarding safety, air quality, noise, and transportation of hazardous materials. Accordingly, SEA proposed extensive mitigation measures addressing those environmental concerns. SEA concluded that, with these mitigation measures, the merger would not significantly affect the quality of the human environment on a system-wide, region-wide, or local basis and that an EIS was not required.

Despite this extensive process, SEA determined that a further 18-month study should be undertaken to develop additional mitigation for Reno, Nevada and Wichita, Kansas and that during the study period, UP/SP should be permitted to add only an average of two additional daily freight trains to the affected rail line segments, to essentially preserve the environmental status quo.

After extensively considering the various environmental issues, the Board imposed in Decision No. 44 all of the mitigation measures proposed by SEA including those applicable to Reno. The Board also adopted SEA's recommendation for a further mitigation study for Reno and the related stay of traffic increases to permit the agency to develop "specifically-tailored mitigation plans" for that city. The Board agreed with SEA that, with this environmental mitigation, there would be no significant adverse impact on the environment and that an EIS was therefore unnecessary.

The Board specifically determined in Decision No. 44 that the mitigation study would not address preexisting conditions in Reno, which included construction of hotels, casinos, and other tourist-related businesses adjacent to the rail line in Reno. On April 15, 1997 in Decision No. 71, the Board provided further clarification on the type of mitigation to be considered (See Exhibit B and Section 2.4).

Based on the Board's direction, SEA has been conducting the Reno Mitigation Study since September 1996. In this mitigation study, SEA has conducted further focused environmental analysis beyond what was done in the EA and Post EA, has more specifically studied the localized potential environmental effects of the merger-related increased train traffic, and has analyzed potential options to mitigate these environmental effects. SEA's technical analysis of the potential environmental



impacts in Reno and Washoe County and development of recommended focused mitigation measures have been both extensive and comprehensive. The results are summarized below.

As part of the mitigation study, SEA collected data, identified possible mitigation options, developed evaluation criteria, and conducted public outreach to identify the community's key issues and concerns. On September 15, 1997, SEA issued for public review and comment the PMP, which evaluated potential merger-related environmental impacts and proposed additional mitigation measures that would further reduce or eliminate those impacts. SEA considered and reviewed comments on the PMP from more than 500 commenters, including elected officials, public agencies, businesses, and individuals. SEA also conducted additional analysis of possible environmental impacts and developed additional potential mitigation in preparing this FMP. SEA has summarized the comments received and provided its response to them in Section 3 of this FMP.

## METHODOLOGY

SEA has taken a comprehensive and hard look at all environmental issues pertaining to the potential environmental impacts of the UP/SP merger on Reno and Washoe County. As noted below, SEA conducted extensive technical studies and public outreach as part of its process. (See Section 1.4 for a detailed discussion of SEA's public outreach process.)

For the Reno Mitigation Study, SEA conducted more than 60 consultations with agencies, associations, businesses, railroad representatives, and elected officials to obtain their views and compile relevant information. SEA also conducted four public meetings and held eight monthly meetings with the Reno Mitigation Task Force to obtain community input. In addition, numerous site visits were conducted to observe field conditions, including a mile-by-mile examination of the railroad right-of-way in much of western Nevada and eastern California.

Highly valuable and representative information for analysis of potential environmental impacts was gathered during the field work that occurred following the early-1997 floods in northern California. Because of the floods, UP had to close, on an emergency basis, the Feather River rail route between January 6 and March 4, 1997 and increase the number of trains passing through Reno.<sup>1</sup> This provided SEA with an opportunity to actually observe and assess the effects of train traffic at a level (approximately 20 freight trains per day) approaching that projected to exist under post-merger conditions.

During the increased train activity in Reno and Washoe County, SEA conducted a 24 hour-per-day survey of train traffic through Reno on the UP/SP mainline from 7 a.m. on Monday, February 3, 1997 through 7 a.m. on Monday, February 10, 1997. During this period, SEA also measured train noise and speed and counted vehicular traffic crossing the tracks on Keystone, Arlington, Sierra, Virginia, and Center streets. Pedestrians blocked by trains were also counted for these five streets. SEA then identified the relationships between number of trains, train speeds, train

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<sup>1</sup> Condition 22(a)(4) of Decision No. 44 provided that the train cap of two additional trains did not apply to emergency trains operated under detour authority, for snow removal, fire, and other natural disaster purposes.

lengths, crossing gate down times, vehicular traffic flows and delay at crossings, and air emissions from waiting vehicles.

In the PMP, SEA provided extensive analysis of the potential environmental and safety impacts related to the increased train traffic through Reno caused by the merger. Topics analyzed included traffic delay, pedestrian safety, emergency vehicle access, train-vehicle accidents, derailments/hazardous materials spills/water quality, location-specific train operations (such as at Woodland Avenue), Native American issues, biological resources, noise levels, vibration, and air quality.

As part of the preparation of this FMP and in response to public comments on the PMP, SEA conducted expanded technical analysis in the following areas:

- Feasibility and safety of increased train speeds.
- Public safety issues related to potential emergency vehicle blockage.
- Review of the City of Reno's and the Nevadans for Fast and Responsible Action's analyses regarding traffic delay, noise/vibration, and air quality.
- Hazardous materials and derailment analyses, including:
  - ▶ Possible effects of the merger-related increase in the transport of hazardous and toxic materials on endangered and threatened species (cui-ui and Lahontan cutthroat trout) in Pyramid Lake, and in the Truckee River and its tributaries in the event of a release.
  - ▶ Possible effects of the merger-related increase in the transport of hazardous and toxic materials on drinking water intake locations along the Truckee River in the event of a release.
  - ▶ Possible effects of the merger-related increase in the transport of hazardous and toxic materials on the population in Reno in the event of a release.
  - ▶ Analysis of applicable hazardous materials and emergency response plans.
- A more extensive review of the system-wide safety mitigation measures and their direct applicability to Reno (e.g., area contingency plans and ongoing track improvements).
- Enforcement and oversight procedures for mitigation measures.

In developing additional focused environmental mitigation recommendations for Reno and Washoe County, SEA considered numerous factors, including public comments, the results of the further environmental impact analysis, SEA's evaluation of possible additional mitigation options, and the scope of the Board's authority to impose conditions.

The Board has broad authority to impose mitigating conditions. However, as a government agency, the Board's authority is not limitless. Any environmental mitigation conditions must be: (1) reasonable, (2) directly related to the action proposed for approval, and (3) supported by the information developed during the environmental analysis. It is the Board's policy to require mitigation only for those potential impacts that would result from a proposed merger or acquisition (e.g., the environmental effects of changes in rail traffic).

In considering specific potential mitigation in the PMP and FMP, SEA assessed the following factors:

- Is it consistent with the Board's directives in Decision No. 44 and Decision No. 71?
- Does it apply directly to the potential environmental impacts of the merger-related increase in trains on existing right-of-way in Reno and Washoe County?
- Is it effective in achieving an appropriate degree of mitigation for Reno and Washoe County while protecting public health and safety?
- Is the degree of mitigation tailored to the degree of potential environmental impacts from the merger-related increase in train traffic?
- Does it unduly interfere with UP's right to conduct its business and provide rail freight service to its customers?

### **PROPOSED MITIGATION MEASURES**

A summary of SEA's recommended mitigation measures follows. A detailed discussion of these measures is contained in Section 2.

#### **Measures to Reduce Traffic Delay**

An important concern related to merger-related train traffic identified during the PMP and FMP process was the potential blocking of vehicle traffic, especially emergency vehicles, at grade crossings in Reno. More trains mean longer total gate down time, and longer total delay for vehicles waiting to cross the tracks. SEA determined in the PMP that the most effective way to alleviate this potential environmental impact would be to increase the speed of the trains as they travel through Reno. SEA continues to believe that a relatively modest increase in speed of the trains, from 20 mph to 30 mph, would reduce total vehicle waiting time to below pre-merger levels, which would also mean fewer emissions from idling vehicles sitting at the crossings. Total daily pre-merger vehicular traffic delay at grade crossings in Reno is 189 hours. Total daily post-merger delay without mitigation would be 373 hours. As noted in the PMP, with average train speeds increased to 27.5 mph, the total daily vehicular delay would be 154 hours, which is 35 hours less than pre-merger delay. These benefits would be greater with the proposed 30 mph average train speeds. In fact, SEA analysis shows that reduction of vehicular traffic delay to exactly pre-merger levels would occur with an average train speed of 24.3 mph. Therefore, SEA believes that selection of the 30 mph average would assure that the full benefits are achieved.

A number of parties questioned the safety, feasibility, and enforceability of increased train speeds in their comments on the PMP. In response, SEA notes that the Federal Railroad Administration (FRA) has established criteria for rail facilities for trains traveling at various speeds. UP, like any other railroad, would have to meet the applicable FRA standards to increase train speeds in Reno. The proposal to increase train speed is considered safe as long as FRA standards are met.



The proposed average speed of 30 mph is not unusual for urban areas in the United States. For instance, in Fullerton, California and Springfield, Illinois, trains travel at 50 mph. In West Palm Beach, Florida, trains travel through 25 crossings in 3 miles (11 of which are within a one-mile stretch in the downtown region) at 45 mph. Trains presently travel at 40 mph through Fresno, Modesto, and Riverside, California.

For trains to travel at 30 mph in Reno, UP would be required to install, at an estimated cost of approximately \$7 million, new track switches and a Centralized Traffic Control (CTC) system in the Reno/Sparks area. This would help keep the tracks clear so trains could begin accelerating immediately after leaving the Sparks Rail Yard. Also, UP has submitted a verified statement confirming that, with the above improvements, UP could increase train speeds and maintain an average speed of 30 mph.

To assure that UP actually would operate trains at the increased speeds, SEA has proposed a mitigation measure that requires UP to report monthly to the Board on the actual speeds of all trains through Reno and to provide copies of these reports to the City of Reno and Washoe County. Furthermore, SEA recommends that the existing traffic cap continue until the necessary improvements have been made to allow for the increased speeds. SEA also notes that, if an interested party demonstrates to the Board that UP is not in substantial compliance with the 30 mph average speed requirement, the Board could decide to reexamine the increased train speed mitigation measures and reconsider the issue of requiring vehicular grade separation(s), if warranted.

SEA concludes that increasing the train speeds would be feasible and safe. Moreover, with the increased train speeds and SEA's additional mitigation measures, SEA also concludes that no grade separation is warranted in Reno. (See Section 2.7.)

### **Measures to Improve Vehicle/Pedestrian Safety**

For grade crossings with flashing lights and gates, as is the case for all grade crossings in Reno, extensive FRA studies have shown that the total number of train-vehicle accidents is not affected by train speeds. However, FRA studies show that the severity of an accident could increase when a train is traveling at 30 mph versus 20 mph. For this reason, SEA in this FMP is recommending several additional measures to improve vehicle and pedestrian safety in downtown Reno. Those measures, which are described in detail in Section 2 of this FMP, include:

- Constructing two pedestrian overpasses or underpasses in the downtown area (at Virginia and Sierra streets) to reduce the number of pedestrians crossing the tracks at-grade.
- Installing "four-quadrant" gates at nine crossings in Reno to help prevent drivers from trying to go around the gates and beat the train through the crossing.
- Installing pedestrian crossing gate "skirts" and electronic warning signs at six locations to help prevent pedestrians from ducking under the gate and trying to beat the train through the crossing.
- Providing rail safety education programs and materials for students, downtown employees, and visitors.

## **Measures to Reduce Emergency Vehicle Delay**

SEA fully recognizes the importance of emergency vehicle access. Emergency response in Reno differs among police, fire, and emergency medical services. Fire trucks usually respond from a known location (i.e., a fire station), while police and emergency medical units are roaming and not stationed at one location.

In Reno, fire stations, and hospitals exist on both sides of the railroad tracks. In addition, two major streets provide vehicular grade separations from the trains and are located at either side of downtown Reno (2nd Street and Wells Avenue). Furthermore, the central firehouse and the Washoe Medical Center, both located on the south side of the tracks, are within 2,500 feet of the existing Wells Avenue grade separation.

SEA's studies determined that the merger-related increase in train traffic would increase total gate down time by less than 1 percent at any grade crossing (with increased train speeds), which is a minor change from pre-merger conditions. Under pre-merger conditions, grade crossings would be blocked 3 percent of the time. Under post-merger conditions with increased train speeds, blockage would rise to 3.8 percent, only a 0.8 percent increase. Thus, increasing train speeds would result in downtown grade crossings being clear 96.2 percent of the time over a 24-hour period.

Nevertheless, SEA recognizes that even one blockage of an emergency vehicle might present a life-threatening situation. Therefore, in addition to increased train speeds, SEA is recommending that the Board require UP to install cameras along the rail line in Reno to provide video displays in an emergency communications center. SEA is also proposing that the Board require UP to install electronic displays in the communications center showing the location of UP's trains in Reno. These displays would allow emergency vehicle dispatchers to monitor train locations and advise emergency vehicles on which routes are clear. SEA also recommends that the Board require UP to maintain this equipment and provide training to local dispatchers.

## **Measures to Mitigate and Plan for Hazardous Materials Spills**

In response to issues raised by parties submitting comments to the PMP, SEA has conducted additional analysis of the potential for an accident involving spills of hazardous materials. The expanded analysis examined possible contamination of the Truckee River, with potential impacts on drinking water supplies and endangered or threatened species in the waterways of the region, as well as possible impacts on the human population of Reno resulting from a hazardous spill or release in the downtown area. SEA's additional analysis is detailed in Section 4 of this FMP.

SEA's extensive study concluded that the probability of a train accident resulting in a hazardous materials release into the river with the potential for a major adverse effect on aquatic life (e.g., the endangered cui-ui or the threatened Lahontan cutthroat trout) or on its habitat would be very remote, estimated at one event every 232 years post-merger, for a major spill scenario between Wadsworth and Reno. If the probability of a major adverse effect is adjusted to reflect the portion



of the year the cui-ui spend in the river spawning or in the prespawning aggregate (i.e., from February through July, or 50 percent of the year), the years between potential major effects would be increased by a factor of two. Therefore, the probability of a train accident resulting in a release of hazardous materials into the river with the potential to affect the fish during their prespawning or spawning period would be likely to occur once every 464 years, post-merger.

SEA's hazardous material release assessment suggested that the probability of a train accident resulting in a hazardous materials release into the Truckee River within the geographical limits of the water supply intakes would be once every 208 years post-merger. This analysis included release of any quantity, small or large, of hazardous materials. Thus, the likelihood of a train accident resulting in a hazardous materials release of such magnitude that it would adversely affect the water supply would actually be less often than once every 208 years, post-merger.

The probability of a train accident resulting in a hazardous materials release in the population area of Reno-Sparks is estimated to be once every 315 years, post-merger. This analysis included the release of any quantity of material, small or large, of hazardous materials. Thus, the likelihood of a train accident resulting in a hazardous materials release of such a magnitude that it would adversely affect human health would actually be less often than once every 315 years.

In Decision No. 44, the Board already imposed system-wide mitigation measures that include: formula-based standards for track inspection, adoption of UP's existing tank car inspection programs, signs at grade crossings with a toll-free number to call if signal crossing devices malfunction, a toll-free number for Reno emergency response forces to call UP supervisors in the event of an emergency, hazardous materials and emergency response plans, redistribution of UP personnel to respond to hazardous materials emergencies, adoption of UP's training program for community and emergency response personnel, and use of head-hardened rail on curves in mountainous territory.

To add to that mitigation, SEA proposes for Reno that UP be required to install three additional train defect detectors along the railway through Washoe County: (1) an additional hot box detector, which detects hot locomotive and car wheel bearings, (2) an additional high, wide, shifted load detector, which detects loads or other items that protrude from the top or side of a train, and (3) an additional dragging equipment detector, which detects loose or broken components or other objects hanging from the bottom of a locomotive or car.

SEA also proposes that the Board require UP to establish a Community Advisory Panel consisting of community representatives, including Native Americans, who are willing to work with UP management on a regular basis to review safety, environment, and health issues associated with rail operations, particularly as they relate to the transport of hazardous materials. SEA also recommends that the Board require UP to complete its portion of the hazardous materials Area Contingency Plan by the end of 1998, and that, as part of this planning process, UP be required to work with the U.S. Fish and Wildlife Service (USFWS) and Native Americans in the Marble Bluff area to assure placement of response equipment (e.g., booms, absorbent pads, pumps, generators, hoses, etc.) in this sensitive area. Upon completion by UP of these contingency planning elements,

SEA recommends that they be presented to the Truckee River Corridor Area Contingency Plan Working Group for integration into a unified Contingency Plan.

SEA believes that the Reno-specific mitigation measures proposed in the FMP and the system-wide mitigation measures previously imposed by the Board would adequately mitigate potential environmental impacts resulting from transporting hazardous materials through Reno. SEA notes, however, that risk of a spill can never be totally eliminated in any environment, whether in the Reno area or elsewhere.

### **Measures to Address Train Horn Noise**

Most noise generated by rail operations in Reno comes from locomotive horns, which are vital safety equipment used to warn drivers and pedestrians that a train is approaching. The Board noted in Decision No. 44 that "[a]ny attempt to significantly reduce noise levels at grade crossings would jeopardize safety, which we consider to be of paramount importance." The conflict between safety and noise impacts was addressed in recently passed Federal legislation that directs the Secretary of the Department of Transportation to produce regulations relating to noise and rail safety measures. Although not yet released, the regulations are expected to provide the opportunity to establish a "quiet zone" where train engineers would not sound their horns. However, FRA has indicated it is unlikely to produce quiet zone regulations before 1999. Until quiet zone regulations and other alternatives to train horns are adopted, train horns must be sounded to foster public safety.

Therefore, SEA recommends that the Board require UP to contact and work with the City of Reno and FRA to determine the feasibility of a quiet zone in Reno once FRA quiet zone regulations are finalized. SEA notes that installation of four-quadrant gates proposed as mitigation in this FMP could set the foundation for a potential quiet zone in downtown Reno.

### **Certification, Compliance, and Ongoing Oversight**

SEA recommends that the Board require UP to certify to the Board completion of specific physical mitigation measures that it requires UP to undertake in Reno once the measures are installed. These measures include the necessary capital improvements for increased train speeds, the four quadrant gates, the pedestrian signs and gate "skirts," and the additional train defect detection devices (hot box, dragging equipment, and high, wide, shifted load detectors). SEA further recommends that the Board require that: (1) each certification be made within two weeks of the date of compliance for that mitigation measure, and (2) copies of these compliance reports be provided to the City of Reno and Washoe County.

Also, SEA believes that the Board should continue to impose on UP the current cap of 14.7 daily freight trains through Reno until each of these physical mitigation measures are installed. UP currently provides quarterly reports to the Board. SEA recommends that the Board require UP's future quarterly reports to include the status of compliance with the environmental mitigation measures pertaining to Reno and Washoe County for the duration of the Board's oversight proceeding. Copies of these reports should also be provided to the City of Reno and Washoe County.



Finally, SEA recommends that the Board impose a condition making it clear that, if there is a material change in the facts or circumstances upon which the Board relied in developing localized mitigation measures for Reno, the Board, upon petition by any party who demonstrates such material change, may review the final mitigation measures, if warranted.

## **CONCLUSION**

The City of Reno will experience an additional 11.3 trains per day (for a total of 24 trains per day) traveling through downtown as a result of the UP/SP merger. SEA notes that merger-related increase in traffic here would merely bring traffic back to its level in the 1980s. In the late 1940s, traffic levels were as high as 40 trains per day.

The extensive analysis conducted by SEA since issuance of the PMP confirms that the potential environmental effects in Reno and Washoe County of the merger-related increase in freight train traffic will not be significant with SEA's recommended mitigation and the mitigation previously imposed. In response to comments on the PMP and in an effort to further address localized and unique issues in the City of Reno and Washoe County, SEA is recommending 25 mitigation measures in addition to those already imposed in Decision No. 44. With the mitigation measures in Decision No. 44 and these 25 additional measures, SEA concludes that no further mitigation is required.

The Board does not impose mitigation to remedy preexisting environmental impacts unless the applicant and the affected community reach agreement on how to fund any option to mitigate these preexisting environmental impacts. Accordingly, SEA believes that some of the environmental concerns identified in the City of Reno could most effectively be resolved through mutually-acceptable agreements achieved following negotiations among the applicant, the locally affected community, and the appropriate government agencies. These negotiated solutions may go beyond what the Board might otherwise be able to impose or has been recommended by SEA in this FMP. Therefore, SEA encourages these parties to review the analysis and mitigation presented in this FMP and seek negotiated solutions.

## **PUBLIC COMMENT ON THE FINAL MITIGATION PLAN**

SEA emphasizes that the mitigation measures in this FMP are SEA's recommendations based on the information available at this time, and SEA invites public review and comment on them. SEA encourages broad participation in the review and comment of this FMP, and will carefully evaluate all comments received before making its final recommendations to the Board. Based on the PMP, FMP, SEA's final recommendations, and public input, the Board will issue a decision on what additional mitigation measures to impose upon UP in Reno in addition to those imposed in Decision No. 44. The Board expects to issue its decision in March/April 1998.



Interested agencies and individuals can submit written comments by March 12, 1998 to:

Office of the Secretary  
Case Control Unit  
Finance Docket No. 32760  
Surface Transportation Board  
1925 K Street NW, Room 700  
Washington, D.C. 20423-0001

Attention: Elaine K. Kaiser  
Chief, Section of Environmental Analysis  
Environmental Filing - Reno

Comments must be received by March 12, 1998 to be considered by SEA and the Board. Government agencies and businesses are asked to supply an original plus 10 copies. Citizens may submit one copy of their comments.

#### **ACKNOWLEDGMENTS**

At this time, SEA wishes to thank Federal, state, regional, county, city, and local agencies and elected officials, UP representatives, members and alternates on the Reno Mitigation Task Force, and interested citizens who devoted time and effort to work with SEA in the Reno Mitigation Study process.

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Exhibit B	Surface Transportation Board's Decision No. 71
Exhibit C	Recent Reno City Council Actions Regarding UP/SP Merger Mitigation Options
List of Preparers	

## APPENDICES

Vols. 1 and 2	Comments Received on the Reno Preliminary Mitigation Plan
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## **Section 1**

### **INTRODUCTION AND STUDY BACKGROUND**

#### **1.1 Overview of Final Mitigation Plan**

This report is the Final Mitigation Plan (FMP) for the Union Pacific (UP) and Southern Pacific (SP) merger Reno Mitigation Study. It presents a brief history and background of the mitigation study, summarizes the comments received on the Preliminary Mitigation Plan (PMP), provides responses to the summarized comments, and includes updated technical analysis where appropriate. In this FMP, the Surface Transportation Board's (Board) Section of Environmental Analysis (SEA) recommends 25 additional localized mitigation measures in Reno beyond those already imposed by the Board as part of its merger approval.

SEA and its independent third-party contractor, which operated under SEA's direction, supervision, and control, conducted the Reno Mitigation Study in three phases. During Phase 1, SEA collected necessary data, identified preliminary mitigation options, developed evaluation criteria, and conducted public outreach activities to identify key issues and concerns. During Phase 2, SEA evaluated potential merger-related environmental impacts and preliminary mitigation options and prepared the PMP for public review. During Phase 3, SEA considered public comments on the PMP and prepared this FMP.

SEA is issuing this FMP for public review and comment, and will consider all comments on it before making final recommendations to the Board. Based on its consideration of the PMP, FMP, SEA's final recommendations, and the public comments, the Board will issue a decision determining what additional environmental mitigation measures to impose on UP for Reno. The Board expects to issue its decision in March/April 1998.

#### **1.2 Study Background**

On November 30, 1995, the Union Pacific Railroad Company (UP) and the Southern Pacific Transportation Company (SP) applied to the former Interstate Commerce Commission (ICC) for authority to merge their operations into a single railroad. The merger proposed the creation of a single rail system with 34,000 miles of track in 24 states, an action that would greatly affect the distribution of rail traffic in the Western United States. A primary objective of the merger was to create a rail carrier that would be more competitive and efficient, resulting in benefits to shippers and the public.

As part of its merger application, UP/SP identified several operational improvements of the merger, including:

- Improved, direct routes through major rail corridors.
- Consolidation of redundant rail line segments and facilities.
- Capital investment to improve system capacity and efficiency.



- Increased efficiency of rail yards and intermodal facilities.
- Reduced shipping of rail cars and improved shipping times.

In its decision, the Board considered these anticipated merger benefits.

In December 1995, Congress abolished the ICC and transferred certain of its railroad functions, including the regulation of mergers, to the Board, an independent regulatory agency housed within the Department of Transportation. The Board approves railroad mergers that are in the public interest, pursuant to 49 U.S.C. §11324-25 (formerly 49 U.S.C. § 11143-47). SEA is responsible for the environmental review of all mergers, including the UP/SP merger. SEA reviews each merger application separately and makes its environmental recommendations to the Board based on the specific circumstances of each case.

In compliance with the Board's environmental rules, 49 CFR 1105.6(b)(4)(1996), SEA issued on April 12, 1996 a comprehensive, five-volume Environmental Assessment (EA) of the proposed UP/SP merger, which was distributed in 35 states, the District of Columbia, and Canada to approximately 1,600 interested parties for review and comment. SEA received approximately 160 comments following issuance of the EA. To address those comments, and other environmental comments received throughout the environmental review process, SEA performed additional environmental analysis, which culminated in a detailed post environmental assessment (Post EA) issued on June 24, 1996. In the Post EA, SEA refined the discussion and the mitigation recommended in the EA.

On August 12, 1996, the Board issued its written decision (Decision No. 44) approving the merger (see Exhibit A). The decision gave extensive consideration to environmental issues and imposed the mitigation measures recommended in the Post EA. The Board agreed that these environmental conditions, including those applicable to the City of Reno and Washoe County, would adequately mitigate the potential environmental impacts identified during the environmental review process. The Board concluded that the environmental mitigation conditions proposed by SEA address the potential environmental impacts associated with the merger and ensure there will be no significant environmental effects. Therefore, the Board concluded that an Environmental Impact Statement was not required. However, in an effort to further address local conditions and community concerns, the Board required that a mitigation study be conducted to develop additional mitigation measures focused on localized environmental issues unique to Reno. Pending completion of the mitigation study, the Board limited freight rail traffic increases through Reno to an average of two additional trains per day.

In Decision No. 44, the Board imposed system-wide and corridor-specific mitigation conditions on UP. These mitigation measures were developed to mitigate potential system-wide and corridor-specific environmental impacts, including potential environmental impacts in Reno and Washoe County. The mitigation measures address safety, hazardous materials/emergency response, air quality, and noise and are contained as part of Decision No. 44.

### **1.3 Focus of the Mitigation Study**

The Reno Mitigation Study examines options to further mitigate (reduce or lessen) potential environmental impacts of increased train traffic associated with the merger of Union Pacific (UP) and Southern Pacific (SP) railroads on the existing rail line through the City of Reno and Washoe County. The Board imposed numerous environmental mitigation measures that apply to Reno as part of the merger approval, and the purpose of the mitigation study is to determine whether additional mitigation measures are warranted.

### **1.4 Public Outreach and Public Review Process**

The mitigation study process has included consultation with the City of Reno, Washoe County, the Nevada Governor's Office, community leaders, the public, Native American tribes, the Federal Railroad Administration (the Federal agency with primary responsibility and expertise for railroad safety matters), the U.S. Fish and Wildlife Service, other appropriate agencies, and UP. SEA also established a diverse 19-member Task Force representing various community interests to provide input to the study. The Task Force met eight times during the mitigation study. The study also involved extensive on-site studies by SEA.

Prior to merger approval and during the mitigation study, the City Council of Reno took several actions regarding railroad activities. Initially, in actions taken on March 12, 1996 prior to the merger approval, the Reno City Council expressed support for the railroad to be rerouted to the I-80 corridor. Later in the study process, the City focused on a proposal to construct a depressed railway. At its February 18, 1997 meeting, the Reno City Council directed the City Manager to negotiate with UP representatives emphasizing the downtown depressed railway as the City's primary objective and to pursue all forms of funding sources. The City Council further directed that the City's litigation with the Board be continued and that the I-80 Corridor not be ruled out. On June 17, 1997, the City passed Resolution 5368 declaring the depressed railway project as a priority for the City of Reno. (Exhibit C provides recent Reno City Council actions regarding UP/SP merger and mitigation options.)

The following summarizes SEA's public outreach during the mitigation study. At the start of the study in October 1996, SEA held a series of introductory meetings with elected officials, community business leaders, and City, County, and State agencies. During these meetings, SEA distributed an information packet containing background information about the study and its purpose.

SEA held two open houses and public meetings in Reno on February 13, 1997 to allow for public review of preliminary mitigation options and maps illustrating the study area. Two meetings were conducted at different times to maximize attendance by local residents, recognizing that Reno's tourist and gaming industries operate 24 hours a day. At the meetings, SEA made presentations detailing the history of the UP/SP merger, the role of the Board, an overview of railroad operations nationwide and locally, the process for Phase 1 and Phase 2 of the mitigation study, and opportunities for public participation in the study.



Approximately 175 people attended the public meetings. SEA answered questions and heard comments from those present. SEA provided comment sheets so anyone interested could submit written comments to the Board. SEA incorporated these public comments into the public meeting summary, which was distributed to state and local officials as well as to members of the Reno Mitigation Study Task Force.

SEA issued the Preliminary Mitigation Plan (PMP) on September 15, 1997. The PMP provided SEA's preliminary suggestions for localized mitigation measures for public review and comment. The PMP was distributed to approximately 150 interested parties, and approximately 270 other parties received notice of the availability of the PMP. The public review period of the PMP was scheduled to end on October 16, 1997, but SEA actually considered comments that were received by or on October 23, 1997. As discussed in Section 3, SEA received comments from more than 530 commenters on the PMP during the review period (see Appendices, Volumes 1 and 2).

SEA conducted three meetings to provide the opportunity for public comment on the PMP. The meetings consisted of a Task Force meeting on October 8, 1997 and two public meetings on October 9, 1997. (Transcripts of these meetings are provided in the Appendices, Volumes 1 and 2). Approximately 64 people attended the Task Force meeting, and 283 people attended the public meetings.

Prior to the public meetings SEA placed two display ads in the *Reno Gazette-Journal* and a notice in the Federal Register. The noticing also included a press release detailing the release of the PMP and the upcoming meetings. At the meetings, SEA distributed a summary of Frequently Asked Questions for public information.

Over the course of the mitigation study, SEA wrote several letters to the editor of the *Reno Gazette-Journal* in an effort to keep the public informed of SEA's activities and the progress of the study. These letters were published March 28, April 28, September 11, and October 10, 1997.

This document constitutes the Final Mitigation Plan (FMP). The FMP is being distributed for public review and comment for 30 days. The FMP includes changes to the PMP based on public comments received on the PMP. After review of the comments, SEA will make its final recommendations. The Board will consider the PMP, the FMP, SEA's final recommendations, and all public comments before it makes its decision on what additional mitigation to impose for Reno. The Board's decision is scheduled for March/April 1998.

### **1.5 Public Comment on the Final Mitigation Plan**

SEA encourages broad participation in the review and comment of this FMP. Interested agencies and individuals can submit written comments by March 12, 1998 to:

Office of the Secretary  
Case Control Unit  
Finance Docket No. 32760  
Surface Transportation Board  
1925 K Street NW, Room 700  
Washington, D.C. 20423-0001

Attention: Elaine K. Kaiser  
Chief, Section of Environmental Analysis  
Environmental Filing - Reno

Comments must be received by March 12, 1998 to be considered by SEA and the Board. Government agencies and businesses are asked to supply an original plus 10 copies. Citizens may submit one copy of their comments.

## **Section 2**

### **RECOMMENDED MITIGATION MEASURES**

#### **2.1 Introduction**

The purpose of Section 2 is to provide a comprehensive listing of the final mitigation measures for Reno proposed by the Section of Environmental Analysis (SEA) based on all of the information available at this time, and the rationale supporting these measures. In determining the proposed final mitigation measures, SEA has reviewed and considered all of the comments received on the Preliminary Mitigation Plan (PMP).

In reviewing the comments, SEA determined that certain key issues merited a closer and expanded evaluation by SEA. These issues include:

- Feasibility and safety of increased train speeds.
- Public safety issues related to potential emergency vehicle blockage.
- Review of the City of Reno's and the Nevadans for Fast and Responsible Action's analyses regarding traffic delay, noise/vibration, and air quality.
- Hazardous materials and derailment analyses, including:
  - ▶ Possible effects of the merger-related increase in the transport of hazardous and toxic materials on endangered and threatened species (cui-ui and Lahontan cutthroat trout) in Pyramid Lake, and in the Truckee River and its tributaries in the event of a release.
  - ▶ Possible effects of the merger-related increase in the transport of hazardous and toxic materials on drinking water intake locations along the Truckee River in the event of a release.
  - ▶ Possible effects of the merger-related increase in the transport of hazardous and toxic materials on the population in Reno in the event of a release.
  - ▶ Analysis of applicable hazardous materials and emergency response plans.
- A more extensive review of the system-wide safety mitigation measures and their direct applicability to Reno (e.g., area contingency plans and ongoing track improvements).
- Enforcement and oversight procedures for mitigation measures.

The following pages describe SEA's recommended mitigation measures and the underlying bases for the recommendations. Section 3 contains a summary of the major comments received on the PMP. Responses to public comments are provided in Section 2 if the topic involves a specific mitigation measure and are provided in Section 3 if the topic involves a more general subject that is not directly applicable to specific mitigation measures.

#### **2.2 Surface Transportation Board Jurisdiction**

The Board has jurisdiction over certain surface transportation and economic regulatory matters (primarily rail), including proposed railroad mergers, rail line abandonments, and new rail construction. The Board has broad authority to determine whether or not conditions are required in



railroad merger cases and to shape conditions under 49 U.S.C. §11324(c). However, the Board's power to impose conditions is not limitless. To survive judicial review, the record must support the imposition of the condition at issue. Moreover, there must be a sufficient nexus between the condition imposed and the proposed merger, and the conditions must be reasonable. The agency's consistent policy is to mitigate only those potential environmental impacts that directly result from the merger, which in Reno is an increase of 11.3 trains per day, for a total of 24 freight trains (see Section 2.3 below). The Board (like the ICC) has not imposed mitigation measures that might make the quality of life in a particular community better by remedying preexisting conditions that are not a direct result of the licensing of the merger before the Board. In Decision No. 44 approving the merger, the Board specifically determined that the scope of the mitigation study would not include the mitigation of conditions resulting from preexisting conditions associated with construction of hotels, casinos, and other tourist-related businesses adjacent to the rail line in Reno.

### 2.3 Merger-Related Train Operating Changes

In Decision No. 44, the Board directed SEA to evaluate the potential environmental impacts associated with the merger-related increase in train traffic levels in Reno and Washoe County. Under the merger, freight train traffic through Reno is projected to increase by 11.3 trains per day in the Year 2000. This increase includes 7.3 UP trains and 4 Burlington Northern/Santa Fe (BN/SF) trains.<sup>1</sup> Table 2.3-1 shows the Year 1995 and anticipated Year 2000 freight train levels through Reno, excluding Amtrak service.<sup>2</sup> As shown, a daily average of 12.7 freight trains passed through Reno in 1995. With the merger, in the Year 2000 the average number of daily through freight trains is expected to increase from 12.7 to 24.0 trains per day. SEA notes that merger-related increase in train traffic here would merely bring traffic back to its level in the 1980s. In the late 1940s, traffic levels were as high as 40 trains per day.

Table 2.3-1 Average Daily Freight Train Volumes Through Reno (1995 and Projected Future Year 2000)			
Source of Train	Number of Freight Trains		
	1995 [1]	Projected for Five Years Following UP/SP Merger [2]	Increase
Burlington Northern/Santa Fe	0.0	4.0	4.0
Union Pacific/Southern Pacific	12.7	20.0	7.3
<b>Daily Total</b>	<b>12.7</b>	<b>24.0</b>	<b>11.3</b>

Notes: [1] Based on train statistics provided by UP/SP.

[2] Based on UP/SP Operating Plan and verified statements filed with the Board, 1995 and 1996.

The projected train levels of 24 freight trains per day are based on the UP/SP operating plan and its verified statements filed with the Board, which were independently reviewed and evaluated by SEA. In its public comments on the PMP and in other information distributed by the City of

<sup>1</sup> Under the merger, BN/SF has trackage rights on the rail line through Reno.

<sup>2</sup> Amtrak train operations are not under the jurisdiction of the Board and are not a subject of this study.

Reno, reference is made to 38 trains per day and potential impacts subsequent to the Year 2000. However, the City of Reno's projected 38 daily trains assume 22 (rather than 12.7) daily trains as the baseline, and the City's 38 train per day figure projects train levels beyond the Year 2000. SEA notes that the Year 1995 average daily freight train level was 12.7, and the average daily traffic for eight months in the Year 1996 was 10.8 trains.<sup>3</sup>

SEA's responsibility is to study the environmental effects of the merger. The Board generally looks at a minimum three-year traffic projection (see Section 3.2). UP provided a five-year traffic projection as part of its merger application.<sup>4</sup> Based on its experience in rail mergers, SEA has found that train traffic projections beyond a five-year period are speculative, at best. Beyond the five-year period, a number of factors external to the merger of the railroad corporations can affect train levels (e.g., regional and national economic conditions, business decisions by shippers and other railroads, etc.). Moreover, this five-year period is consistent with the National Environmental Policy Act (NEPA) which requires evaluation of the indirect effects of the project "in time or farther removed in distance, but are **still reasonably foreseeable**" (40 CFR 1508.8) (emphasis added). Therefore, looking beyond a five-year period is neither warranted nor required by law.

In these circumstances, SEA has continued to use UP's independently verified train projections as the basis for its analysis. SEA believes these projections to be a reasonable estimate of the foreseeable future of merger-related train traffic levels. As discussed previously, SEA notes that the merger-related increase in train traffic here would merely bring traffic back to its level in the 1980s.

## **2.4 Recommended Mitigation Measures**

On April 15, 1997 in Decision No. 71 (see Appendix B), the Board clarified that two tiers of mitigation measures will be considered in developing final mitigation measures for Reno. Specifically, the final environmental mitigation will include, in addition to the mitigation that has already been imposed: (1) Tier 1, or baseline mitigation, which the Board will require UP to implement and entirely fund, and (2) Tier 2 alternative mitigation measures that might be a more far-reaching solution for all concerned but that will be binding only if there is a voluntary agreement by UP and other interested parties to share costs or expend greater resources. This FMP discusses both Tier 1 and Tier 2 mitigation measures. However, because no voluntary agreements for Tier 2 mitigation options have been reached to date, all of the mitigation recommended here is Tier 1, i.e., mitigation to ameliorate the effects of increased train traffic resulting from the merger. UP would be required to implement and entirely fund this recommended Tier 1 mitigation.

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<sup>3</sup> See Section 4.4.5 in the Preliminary Mitigation Plan

<sup>4</sup> UP provided a five-year train traffic projection as part of its merger application; other merger applications have provided only three-year projections.



## **2.4.1 Increased Train Speed**

### **Mitigation Measure Requirements**

There are two major ways to reduce vehicular traffic delay and associated air emissions in Reno: (1) increasing trains speeds, and (2) rail/highway grade separations. SEA proposes that the Board require UP to fully fund and implement necessary operating changes and capital improvements (e.g., Centralized Traffic Control, track reconfiguration, and track improvements) to enable trains to operate between Sutro Street and Keystone Avenue in Reno at an average speed of 30 miles per hour. SEA proposes that UP then be required to operate, and require BN/SF to operate, all trains over this rail line segment at an average speed of 30 miles per hour, consistent with safe operating practices dictated by conditions present at the time. To assure compliance with the increased train speed condition, SEA further recommends that the Board impose a condition requiring UP to provide monthly reports to the Board, with copies to Reno and Washoe County, containing information for actual average train speeds. This proposed condition further states that "if an interested party demonstrates to the Board that UP is not in substantial compliance with the 30 mph average speed requirement, the Board may reexamine the increased train speed mitigation requirement and reconsider the issue of requiring vehicular grade separation(s), if warranted." Also, SEA recommends that the current train level cap of 14.7 on the average number of daily freight trains through Reno remain in effect until 30 days following UP certification that it has made the necessary installations needed to allow the railroad to operate at increased trains speeds.

### **Mitigation Benefits**

The current speed limit for trains between Keystone Avenue in Reno and the Sparks Yard is 20 mph. In the absence of the rail operating and capital improvements proposed in SEA's recommended mitigation measure, UP is currently operating at or near its 20 mph limit, resulting in the current levels of vehicular traffic delay and air emissions from delayed vehicles at rail crossings in Reno. Increasing train speeds by 10 mph would offer several major benefits related to potential impacts from merger-related increases in the number of trains. With increased train speeds:

- Total vehicular traffic delay at 13 grade crossings in Reno would be reduced to less than pre-merger levels. Total daily pre-merger vehicular traffic delay at the 13 grade crossings in Reno is 189 hours.<sup>5</sup> Total daily post-merger delay without increased train speeds would be 373 hours. As noted in the PMP, with an increase in average train speeds to 27.5 mph, the total daily vehicular delay would be 154 hours, which is 35 hours less than pre-merger delay and 219 hours less than post-merger, unmitigated delay.
- Idling vehicle air emissions would be reduced to less than pre-merger levels.
- Vehicular traffic delay, idling vehicle air emissions, and emergency vehicle wait time per each train blockage would be reduced in Reno at 13 grade crossings—not just one or two as would be the case with additional grade-separated crossings.

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<sup>5</sup> One total hour of vehicular traffic delay is equal to 30 vehicles stopped for an average of two minutes, 60 vehicles stopped for an average of one minute, etc.

- Vehicular traffic delay, idling vehicle air emissions, and emergency vehicle wait time per each train blockage would be reduced at major downtown streets (e.g., Virginia and Sierra streets) where grade separations are not practical.

SEA notes that the benefits identified above for this mitigation measure actually assume a 27.5 mph average rather than 30 mph, so that at 30 mph, the benefits would be greater. SEA also notes that reduction of vehicular traffic delay to exactly pre-merger levels would occur with an average train speed of 24.3 mph. SEA has selected the 30 mph average to assure that the full benefits are achieved.

### **Train-Vehicle and Train-Pedestrian Accidents**

According to the Federal Railroad Administration (FRA), the Federal agency with primary expertise and jurisdiction in railroad safety, with adequate warning devices at crossings, the number of train-vehicle accidents is not a function of train speeds. In addition, FRA regulations (49 CFR 234.225) require a minimum of 20 seconds warning time before the grade crossing is occupied by a train, regardless of the train speed. Thus, actual warning time at 30 mph would be no less than the warning time for the current 20 mph speed. UP's current practice in Reno is to provide warning a few seconds longer than 20 seconds in advance of the train.

However, according to FRA data, if a train-vehicle accident does occur, it is likely to be more severe with increased train speeds.<sup>6</sup> Moreover, downtown Reno experiences high levels of pedestrian activity. SEA is therefore proposing a number of additional mitigation measures for Reno grade crossings to reduce the likelihood of train-vehicle or train-pedestrian accidents with increased train speeds. These additional safety-related mitigation measures include:

- Four-quadrant gates (at nine locations).
- Pedestrian grade separations at Virginia and Sierra streets.
- Pedestrian crossing gate "skirts" and electronic warning signs for pedestrians (at six locations).
- Safety training programs for students and downtown employees.
- Installation by UP of a Centralized Traffic Control (CTC) system in Reno for train operations.
- Installation of additional train defect detection devices.

These mitigation measures are described in more detail below.

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<sup>6</sup> Unpublished graph depicting Actual 1975-1995 Train Speed vs Severity of Highway/Rail Grade Crossing Accidents, entitled "Figure 3.2 Fatalities on Autos Struck by Train," presented by Federal Railroad Administration, Deputy Associate Administrator for Safety, Grady Cothen at a meeting held July 16, 1997 with SEA staff and study team.



## **Federal and State Safety Regulations**

FRA has issued substantive safety regulations in more than 20 subject areas, and it enforces DOT hazardous materials regulations for rail facilities and operations. FRA regulations (49 CFR 200-268 (1996)) cover such topics as operating rules and procedures; track safety standards and safe track speeds; train crew hours of service; accident reporting; inspection and testing of train cars, locomotives, and railroad signals; licensing of engineers; and drug and alcohol testing of employees.

Federal regulations for state safety participation, 49 CFR 212 (1996), establish standards and procedures for state participation in investigative and surveillance activities under the Federal railroad safety laws and regulations. The principal role of state safety participation programs is to provide an enhanced investigative and surveillance capability through participation of state agencies in safety compliance inspections. The Nevada Public Utilities Commission (NPUC), formerly the Nevada Public Service Commission, participates in investigative and surveillance activities with respect to particular rules, regulations, orders, or standards issued under the regulatory authority of the Federal Railroad Safety Act of 1970.

Based on a review of Federal rail safety regulations, SEA notes that there are no special restrictions on operating trains through urban or heavily populated regions. Rather, compliance with applicable regulations allows railroads to legally operate the number of trains needed to carry properly documented freight, including hazardous materials, on any line in its system. Regulations do not control the choice of railroad operating speed; rather, the railroad chooses it. The railroad must, however, maintain the appropriate FRA track class for a selected speed. Thus, UP can operate at 30 mph or higher through Reno so long as it complies with FRA regulations. If the railroad is in compliance with these regulations, an operating speed of 30 mph or greater is considered safe by FRA.

SEA notes that the existing track through downtown Reno appears to conform to at least FRA Class 3 standards, thus permitting freight trains to legally operate up to 40 mph. UP has selected its current 20 mph limit due to the existing track configuration in its Sparks Yard and its current train control procedures. To operate at increased train speeds, UP would need to make changes to its control system (i.e., installation of Centralized Traffic Control) and to its track configuration (e.g., in the Sparks Yard). SEA is recommending that these improvements be required of UP, as discussed earlier.

## **Reasonableness of Increased Train Speeds**

Operating at 30 mph or faster through heavily populated areas having many highway/railway grade crossings is not unusual, as shown in Table 2.4-1. Moreover, 30 mph is a fairly low speed for freight trains that routinely operate in the 60 to 70 mph speed range. Thus, 30 mph operations would not appear to stretch the technological or safety limits of freight train operations in Reno. SEA therefore concludes that operation at 30 mph would be a reasonable authorized speed through Reno, assuming all FRA requirements are met.

**Table 2.4-1  
Railroad Speed Limits Through Selected Urban Areas**

Railroad	Location	Freight Max Speed	Crossings per Distance
Union Pacific / Southern Pacific	Salem, Oregon	35	20 in 2.4 miles
	Eugene, Oregon	30	9 in 1 mile and 11 in 1.2 miles
	Redding, California	45	5 in 0.8 miles
	Red Bluff, California	45	5 in 1 mile
	Berkeley, California	45	4 in 0.6 miles or 6 in 1.1 miles
	Tulare, California	35	9 in 4 miles
	Fresno, California	40	11 in 8 miles
	Merced, California	40	6 in 3 miles
	Modesto, California	40	8 in 2 miles
	Stockton, California (diamond *)	35	20 in 6 miles
	Oxnard, California	40	7 in 2 miles
	Tucson, Arizona	40	5 in 0.5 miles and 4 in 0.4 miles
	Ontario, California (diamond *)	30	7 in 2 miles
	Pomona, California	60	12 in 2.3 miles
	Santa Fe Springs, California	50	11 in 4.7 miles
Burlington Northern / Santa Fe	Fullerton to Placentia, California	50	17 in 7 miles
	Riverside, California	40	9 in 2 miles
Norfolk Southern	Cleveland / Lakewood, Ohio	35	33 in 3 miles
	Fort Wayne, Indiana	40	7 in 5 miles
	Charlottesville, Virginia	50	2 in 0.5 miles
	Columbia, South Carolina	49	3 in 1 mile
	Springfield, Illinois	50	16 in 2 miles
Conrail	Detroit, Michigan (Ecorse-Rouge)	40	4 in 2 miles
	Battle Creek, Michigan	40	3 in 1 mile
CSX	Richmond, Virginia	60	2 in 0.5 miles
	Fort Lauderdale, Florida	45	2 in 2 miles
Florida East Coast	West Palm Beach, Florida	45	11 in 1 mile or 25 in 3 miles
	Fort Lauderdale, Florida	45	12 in 2 miles

Notes: \* A diamond consists of an at-grade intersection of two rail lines.

Source: SEA

## 2.4.2 Compliance with Increased Train Speed Requirement

Some public comments on the PMP questioned UP's ability to maintain a 30 mph average speed between Keystone Avenue and the Sparks Yard. In Reno, a westbound grade of approximately 1 percent (one foot of vertical rise for every 100 feet of horizontal distance) exists through the City. Trains stop at the Sparks Rail Yard to change crews, so westbound trains departing the Yard would require enough horsepower to accelerate from zero to 30 mph within about one mile on a 1 percent grade. Because eastbound trains run through Reno on a descending grade, maintaining 30 mph would be easily accomplished.

UP provided to SEA a Train Performance Simulation (TPS) for a 7,000 ton train leaving the Sparks Yard.<sup>7</sup> The TPS shows that westbound trains can accelerate from zero to 30 mph within about one-half mile from the Yard. Thus, accelerating to 30 mph would not be a technical problem, but rather a matter of each train having sufficient horsepower.

In addition, under current practices, speed on Sparks Yard turnouts (commonly referred to as switches) is limited to 10 mph and the full length of the train must pass through a turnout before the train can go faster. For example, a westbound 5,000-foot train is limited to 10 mph until the end of the train passes through the westernmost yard turnout on its route out of the yard. This places the head end of the train almost to Sage Street, about halfway to downtown Reno, before it can accelerate above 10 mph.

SEA's proposed mitigation measure, however, would require installation of new turnouts and a Centralized Traffic Control (CTC) system. UP's October 15, 1997 verified statement noted that, with track improvements and implementation of CTC, UP could maintain 30 mph on a consistent basis for the rail segment. UP stated that installation of CTC would enable clear routes with no delay upon arrival and departure. With the new turnouts, a train could immediately begin to accelerate to 30 mph from the moment it begins to leave the yard.

For these reasons, SEA concludes that increased trains speeds are reasonable and feasible. SEA therefore recommends that the Board require UP to make the necessary operating changes and capital improvements, such as Centralized Traffic Control (CTC), track reconfiguration, and track rehabilitation, as appropriate in the Reno/Sparks, Nevada area, to enable trains to maintain an average speed of 30 mph for all freight trains, consistent with safe operating practices dictated by conditions present at the time each train operates between Sutro Street and Keystone Avenue. The requirement to maintain an average 30 mph speed excludes the following types of train movements: (1) snow removal; (2) on-track maintenance of way equipment; (3) maintenance of way trains, including, but not limited to those checking track geometry and/or rail grinding, rail hauling, vegetation control, and ballast hauling; (4) local and industry switching trains; (5) wreck removal trains; and (6) trains operated to provide emergency services.

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<sup>7</sup> TPS uses input describing the physical characteristics of the route (i.e. grades, curvature, speed limits, etc.) and train makeup (number of locomotives, horsepower per locomotive, tonnage being pulled, etc.) to determine the running speed, acceleration, deceleration, and braking performance of a train.



It is UP's operating policy throughout its system to operate trains at the maximum authorized speed, consistent with safety requirements, and UP trains its locomotive engineers to do so. Because of this policy, SEA is satisfied that train speeds through Reno could average 30 mph, following the necessary capital and operating changes to the rail line. Some trains likely would operate at slightly higher or lower speeds, as was observed during the February train survey in Reno. Variation in a 30 mph speed would not violate FRA rules, however, because, to operate at 30 mph, track must be maintained to FRA Track Safety Standards for Class 3, which allows speeds of 40 mph. In addition, FRA regulations recognize that train speeds will vary. For example, FRA regulations (49 CFR 229.117) require locomotive speed recorders to be "accurate within  $\pm 3$  miles per hour of actual speed at speeds of 10 to 30 miles per hour and accurate within  $\pm 5$  miles per hour at speeds above 30 miles per hour."

SEA is recommending additional mitigation to assure continued compliance with the increased train speed mitigation measure. Specifically, SEA recommends that UP be required to install a CTC system that would provide the capability to automatically monitor and report on train speeds. Furthermore, SEA proposes that the Board require UP to provide a report to the Board on a monthly basis containing: (1) the speed of each train subject to the mitigation measure, and (2) the monthly average speed of all trains subject to the mitigation measure. Copies of the report would also be provided to the City of Reno and Washoe County.

Finally, SEA recommends that the Board impose a condition specifically stating that, if an interested party demonstrates to the Board that UP is not in substantial compliance with the 30 mph average speed requirement, the Board may reexamine the increased train speed mitigation measure and reconsider the issue of requiring vehicular grade separation(s), if warranted. (See additional discussion of grade separations in Section 2.7.)

#### **2.4.3 Four-quadrant Crossing Gates at Nine Locations**

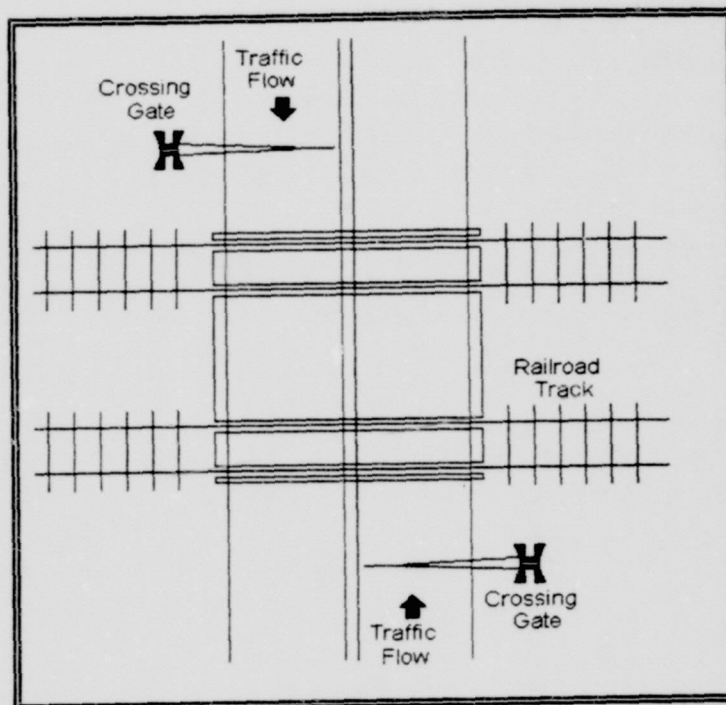
As an additional safety mitigation measure, SEA recommends that the Board require UP to install four-quadrant crossing gates at rail-highway crossings at Sutro, Lake, Virginia, West, Arlington, Ralston, Washington, Vine, and Keystone streets. Unlike two-quadrant gates, four-quadrant gates prevent drivers from going around the crossing gates that are in the right-side (through) traffic lanes by placing additional gates in the (left) oncoming lanes. Figure 2.4-1 shows two-quadrant gates, and Figure 2.4-2 shows four-quadrant gates.

An estimated 15 percent of train-vehicle accidents result from drivers going around crossing gates.<sup>8</sup> Installation of four-quadrant gates at the nine two-way streets identified above is designed to reduce train-vehicle accidents by preventing drivers from going around the current two-quadrant gates at these nine locations.<sup>9</sup>

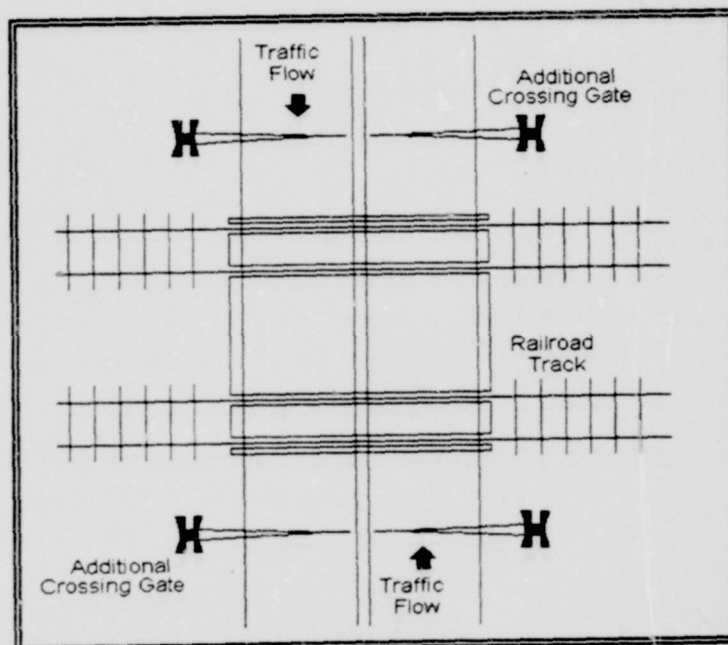
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<sup>8</sup> Federal Railroad Administration, *Nationwide Study of Train Whistle Ban*, April 1995, pg. 45.

<sup>9</sup> Two-quadrant gates already exist on one-way streets, preventing drivers from driving around the gates.



**Figure 2.4-1**  
Drawing of Two-quadrant Gates



**Figure 2.4-2**  
Drawing of Four-quadrant Gates

Using FRA-published accident formulas,<sup>10</sup> projected accident rates for the 16 grade crossings in Reno are one accident every 15 months for pre-merger conditions and one accident every 13 months for unmitigated post-merger conditions. An assumed 15 percent reduction in this rate (resulting from the four-quadrant gates) would yield one accident every 14 months. Since this rate includes both vehicles and pedestrians, the proposed required mitigation measures described below for pedestrian grade separations, warning signs, and pedestrian gate skirts would provide for additional decreases in accident rates. In addition, SEA is proposing additional safety training and education as discussed in Section 2.4.6. SEA concludes that its proposed mitigation measures would effectively reduce the vehicle-train accident rates to levels approaching pre-merger.

#### **2.4.4 Pedestrian Grade Separations at Virginia and Sierra Streets**

Downtown Reno casino activities and special events create concerns regarding pedestrians and train safety. Some events attract large numbers of people. According to the Reno Police Department, intoxication is sometimes a problem. Special events almost every weekend during the summer with up to 100,000 attendees place a major burden on local public safety officials. Local officials are concerned about trains operating with these crowds present. Pedestrian accidents may also result from pedestrian failure to heed warning lights, barriers, and warning sounds.

In response, SEA recommends that the Board require UP to construct a pedestrian underpass or overpass at two locations: Virginia Street and Sierra Street. These streets were selected because nearly 90 percent of all downtown pedestrians delayed by trains are on these two streets.<sup>11</sup>

A pedestrian overpass has been constructed and is scheduled to open at Virginia Street leading from the second floor of Fitzgeralds casino north over the tracks to Third Street. This overpass provides an option for pedestrians on Virginia Street to cross over the tracks while a train is passing through downtown Reno, but access on the south side of the tracks to the pedestrian overpass is not directly available from street level but only through the casino. Given the existence of this new pedestrian overcrossing, SEA invites comments from the City of Reno and the public regarding SEA's recommendation for a pedestrian grade separation at Virginia Street. SEA will make a final determination on this issue after the comments are received.

#### **2.4.5 Pedestrian Crossing Gate "Skirts" and Electronic Warning Signs for Pedestrians at Six Locations**

FRA regulations require a minimum of 20 seconds' warning time for both pedestrians and vehicles (regardless of train speed). Even so, as additional warning and protection for pedestrians, SEA recommends that the Board require UP to install devices known as pedestrian crossing gate

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<sup>10</sup> Described in *Summary of the DOT Rail-Highway Crossing Resource Allocation Procedure-Revised*, the methodology uses a set of three equations that produce an estimate of accidents for an individual grade crossing based upon the specific characteristics of that crossing (see Section 6.2.4 of the PMP).

<sup>11</sup> See Section 6.2.2 and train survey data in Appendix G of the PMP.



"skirts" on pedestrian crossing gates, as well as electronic warning signs, at Lake, Center, Virginia, Sierra, West, and Arlington streets. Figure 2.4-3 shows a pedestrian crossing gate skirt. The electronic signs would be designed and constructed so they are clearly visible and easily read by pedestrians.



**Figure 2.4-3**  
**Pedestrian Gate "Skirt"**

#### **2.4.6 Enhanced Rail Safety Educational Programs**

As an adjunct to these physical improvements for safety (pedestrian grade separations, additional pedestrian and vehicular gates, and signs), SEA recommends that the Board require UP to augment its safety training programs for drivers and pedestrians by:

- Increasing its participation in the "Operation Lifesaver" Program in Reno and Washoe County.
- Supplementing existing school educational programs in Reno and Washoe County (e.g., driver's training, and US DOT's "Moving Kids Safely" Program).
- Establishing a rail safety education program for employees in downtown Reno.

During the comment period on the PMP, the City of Reno asked that train safety education also be provided to downtown Reno visitors. SEA therefore recommends that UP be required to provide rail safety education videos to Reno downtown hotels/casinos for their use.

#### **2.4.7 Emergency Vehicle Access**

A major concern expressed by the City of Reno and local providers of emergency services (fire, police, and medical) is potential blockage of emergency vehicles. Emergency response in Reno

differs among police, fire, and emergency medical services. Fire trucks usually respond from a known location (i.e., a fire station), while police and emergency medical units are field-based, and not stationed at one location.

In Reno, fire stations, and hospitals exist on both sides of the railroad tracks. In addition, two major streets provide vehicular grade separations from the trains and are located at either side of downtown Reno (2nd Street and Wells Avenue). Furthermore, the central fire house and the Washoe Medical Center, both located on the south side of the tracks are within 2,500 feet of the existing Wells Avenue grade separation (See Figure 2.4-4).

**Emergency Dispatch Center:** The City's emergency communications center is responsible for receiving 911 emergency calls and for dispatching police and fire units. It is up to field personnel to notify the dispatch center when they are not available for response, or when their route is blocked. The dispatcher must enter this information into the computer so that the response order can be revised.

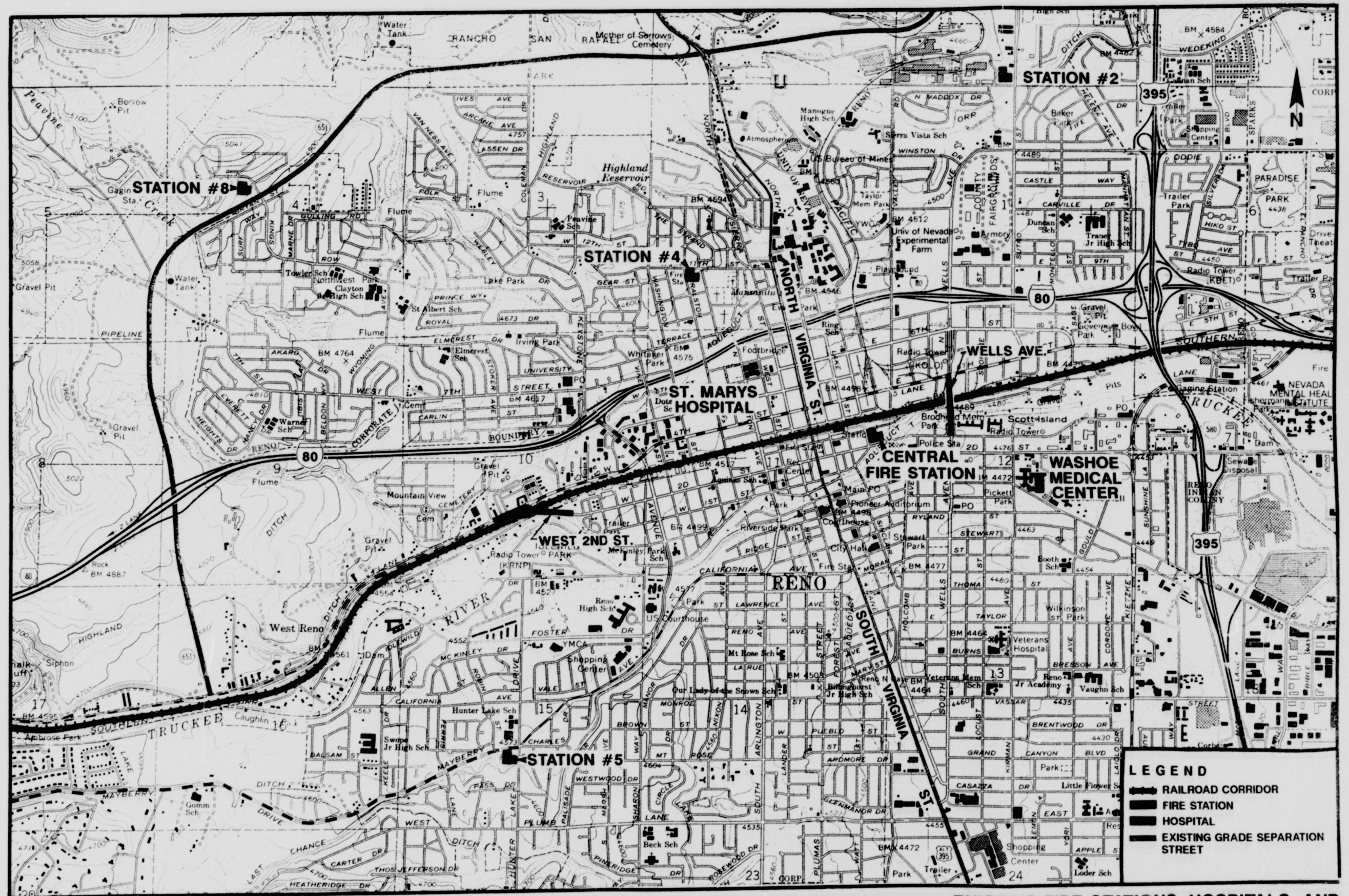
**Fire Department:** The distribution of fire stations around the City appears to provide good coverage. Stations are located on both sides of the tracks. The fire department estimates that they have approximately 3,700 emergency response situations annually that require emergency vehicles to cross the tracks, representing an average of about 10 crossing per day. The City's goal is to have a response time of four minutes. Actual response time is more in the range of five minutes.

**Police Department:** The City is divided into three police areas: north, south, and central with each area containing several districts. The central or downtown police area (districts 21, 22, 24, and 25) is most affected by train traffic because it is bisected by the tracks.

**Emergency Medical Services:** The Regional Emergency Medical Services Authority (REMSA), a private service provider operating under a franchise agreement with the City, provides emergency medical services in Reno. Somewhat like police units, REMSA units are roving and not based in stations. By contract, REMSA units must achieve a response time of eight minutes or less for 90 percent of their calls, or the contract can be terminated. Concerns have been raised that increased train traffic levels would jeopardize the REMSA units' ability to meet response time criteria.

SEA fully acknowledges the importance of emergency vehicle access. SEA notes that emergency vehicles will be stopped by trains only when the gates at the crossings are down. The average gate down time per train for both pre- and post-merger levels is estimated at 3.4 minutes. With increased train speeds, the average gate down time per train is estimated at approximately 2.28 minutes. Thus, at any one crossing under pre-merger conditions, the average daily gate down time would be 3.4 minutes per train times 12.7 trains, or 42.9 minutes per day, representing 3.0 percent of a 24-hour day. For post-merger conditions, the average daily gate down time (with increased train speeds) would be 2.28 minutes per train times 24 trains, or 54.8 minutes, representing 3.8 percent of a 24-hour day.





EXISTING FIRE STATIONS, HOSPITALS, AND  
RAIL/HIGHWAY GRADE SEPARATIONS



Therefore, the percentage of a day that the gate is down at any one grade crossing in Reno would increase by less than 1 percent (0.8 percent) from pre- to post-merger conditions (with increased train speeds).<sup>12</sup> In other words, SEA's recommended mitigation would result in downtown grade crossings being clear 96.2 percent of the time over a 24-hour period.

In addition to increased train speeds, SEA recommends that the Board, subject to written agreement to UP from the City of Reno, require UP to install and maintain, in an emergency communications center (or in another location if desired by the City), color displays coordinated with the UP signal system circuitry. These displays would show the location of each train present on the rail line segment from the west side of the Sparks Yard to approximately Woodland Avenue on the west side of Reno.

In addition, SEA recommends that the Board require UP to install and maintain television cameras over or near the rail line, along with corresponding video monitors in the emergency communications center. The monitors would continuously show real-time conditions on the right-of-way through downtown Reno in the area bounded by and including the grade crossings at Keystone Avenue and Lake Street. This measure would also be subject to written agreement to UP from the City of Reno.

The City of Reno Fire Marshall has expressed some reservations about both the train location and the cameras/video monitors mitigation measures, including concerns about the time constraints on the dispatchers and the need for training and equipment maintenance. SEA recommends that the Board require UP to provide training to local dispatchers on the use of this equipment and that UP be required to maintain the equipment. Should the City still find these mitigation measures undesirable, then it can refuse to concur with them and the measures would not be implemented.

#### **2.4.8 Installation of Additional Train Defect Detection Equipment, Implementation of a Community Advisory Panel, and Completion of UP's Portion of an Area Contingency Plan**

An issue that received major attention in the public comments on the PMP was the transport by UP of hazardous materials. At the request of the U. S. Fish and Wildlife Service (USFWS) and in response to the numerous comments on this subject, SEA has expanded its analysis of this issue beyond that contained in the PMP. The expanded analysis is contained in Section 4 of this document.

The overall objectives for the hazardous materials evaluation were to evaluate the potential impacts of the rail merger in terms of additional or incremental human health and environmental risks. For the purposes of this evaluation, risk was defined as the probability that an adverse effect or undesirable event will occur. The evaluation performed specifically addressed the increase, if

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<sup>12</sup> The percentage increase is 2.7 percent if train speeds are not increased, illustrating an additional benefit of the increased-train-speed mitigation measure.

any, the rail merger may cause to the existing risk of adverse impacts. The evaluation provided a description of the risk attributable to the rail merger.

The expanded technical analysis included:

- An environmental assessment of the project corridor to determine conditions relevant to potential risks for humans and biological resources.
- A determination of the probability of hazardous material release for specific types of commodities and portions of the rail corridor.
- An evaluation of chemical and physical properties of individual hazardous commodities to identify potential impacts or effects if a release occurs.
- A review of emergency response measures and plans to minimize the potential consequences of a release.
- An evaluation of potential hazardous material release/impact scenarios including releases to the Truckee River potentially affecting protected fish species or the potable water supply, and releases potentially affecting humans in the Reno/Sparks area.
- A discussion of mitigation measures.

An environmental survey of the project corridor was performed to observe and define track conditions, signaling and train defect detection devices relevant to hazardous material releases, and conditions posing potential risks to biological resources. An analysis of topography along the rail corridor was used to refine hazardous material release estimates. A flow characterization was used to evaluate potential fate and transport of contaminants and evaluate spawning/habitat requirements for aquatic species of concern (the cui-ui and Lahontan cutthroat trout).

Lists of hazardous material commodities transported through the Reno corridor were obtained from the results of a four-month survey performed by UP (May 1-August 31, 1997), a one-week survey performed by UP (October 16-24, 1997), and a one-day survey reported by Carr (1996). These lists were used to identify specific chemicals of concern based on physical state (solid, liquid, or gas), quantities transported, potential fate and transport of commodities released to air or water, and the potential for adverse effects on humans (toxicity through ingestion or inhalation, or flammable hazard) or aquatic organisms (toxicity or food chain effects) if a release were to occur.

SEA's analysis of mitigation for incremental risk associated with increased transport of hazardous material commodities subsequent to the merger included an evaluation of physical actions taken to decrease the likelihood of a release (e.g., track improvements and presence of train defect detection and grade crossing warning devices), and emergency response capabilities to reduce potential consequences following a potential release. The evaluation included a survey of the rail right-of-way, a survey and review of train defect detection devices, and a review of existing contingency plans and plans currently under development. SEA also reviewed previous and anticipated future hazardous materials training and planning activities.



## **Evaluation of Specific Release/Impact Scenarios**

To address specific concerns relating to potential impacts associated with a hazardous material release, SEA evaluated three release/impact scenarios. These included: a hazardous material release to the Truckee River potentially affecting protected fish species, a hazardous material release potentially affecting the potable water supply, and a hazardous material release potentially affecting humans in the Reno/Sparks area.

### **Cui-ui and Lahontan Cutthroat Trout**

For the hazard/risk mitigation evaluation, SEA considered the potential impacts of a hazardous materials release on two species of threatened and endangered fish in the Truckee River, the cui-ui and the Lahontan cutthroat trout. The potential impacts of different types of hazardous materials on fish survival, reproduction, or habitat, and factors that mitigate potential risks to these fish species were evaluated. Four types of potential impacts from a hazardous materials release to the Truckee River were evaluated, addressing potential effects on: (1) cui-ui habitat, (2) cui-ui prespawning aggregate, (3) cui-ui adults and progeny during the spawning period, and (4) fish within Pyramid Lake (both species).

To evaluate the likelihood of a major adverse effect for any of these four cases, a reasonable worst case spill scenario from a train accident was evaluated for the section of track that runs from the vicinity of Wadsworth (where the river turns away from the tracks and flows in a northerly direction to Pyramid Lake) to the Sparks railyard just east of Reno (MP 247 to MP 275). Although cui-ui and Lahontan cutthroat trout do not typically occur in this part of the river, it is an area of potential habitat. In addition, it is the area where a spill could be of most concern because of the short downstream travel time of materials to the fish spawning grounds below Wadsworth, and to Pyramid Lake. Moreover, a release to this section of the river from a train accident would be more difficult to intercept or impede due to the diminishing availability of infrastructure and response resources farther downstream below the major population centers of Reno and Sparks.

The results of this analysis suggest that the probability of a train accident resulting in a hazardous materials release into the river with the potential for a major adverse effect on aquatic life (e.g., the endangered cui-ui or the threatened Lahontan cutthroat trout) or on its habitat is estimated at one event every 376 years pre-merger and one event every 232 years post-merger, for a major spill scenario between Wadsworth and Reno. If the probability of a major adverse effect is adjusted to reflect the portion of the year the cui-ui spend in the river spawning or in the prespawning aggregate (i.e., from February through July, or 50 percent of the year), the years between potential major effects would be increased by a factor of two. Therefore, the probability of a train accident resulting in a release of hazardous materials into the river with the potential to affect the fish during their prespawning or spawning period would be likely to occur once every 464 years, post-merger.

Thus, the likelihood of major adverse effect on the endangered cui-ui, the threatened Lahontan cutthroat trout, or the habitat of these fish, resulting from the release of a hazardous commodity to the Truckee River from a rail accident downstream from Reno appears to be very



remote, either before or after the UP/SP merger. A hazardous materials spill that entered the Truckee River would have to travel several miles downstream to the area below Wadsworth to affect current cui-ui spawning habitat. For contaminants that are not persistent in the environment, acute effects on cui-ui adults, eggs, or larvae in the Truckee River would only occur during the prespawning, spawning and emergence period lasting approximately 6 months during high flow in the spring and early summer. In general, the fish are likely to be most susceptible at this time due to their occurrence in relatively shallow water (0.8 to 4 feet deep), the presence of sensitive life stages, and the aggregation of large numbers of individuals in a relatively small and confined area. In addition, high flows increase the likelihood of a hazardous materials release moving rapidly downriver.

Based on historical evidence, river flow will not be sufficient to support spawning every year. However, given current and anticipated management practices that are intended to increase the availability of water for spawning, for the purposes of this evaluation, fish are presumed to potentially utilize the lower Truckee River every year for spawning. Nevertheless, no more than 50 percent of the adult female breeding population would appear to be in the river in any given year. For the remainder of the year, the fish inhabit deeper water in Pyramid Lake. A large dilution of contaminants would also occur upon mixing within Pyramid Lake, further decreasing the likelihood of major exposure.

### **Impacts to the Potable Water Supply**

The probability of a hazardous materials release affecting the water supply was evaluated by considering the release of a hazardous material commodity along the track length from above Truckee to near the Reno potable water intakes (MP 195.2 to MP 240).

SEA's hazardous material release assessment suggested that the probability of a train accident resulting in a hazardous materials release into the Truckee River within the geographical limits of the water supply intakes would be once every 333 years pre-merger, and once every 208 years post-merger. This analysis included release of any quantity, small or large, of hazardous materials. Thus, the likelihood of a train accident resulting in a hazardous materials release of such magnitude that it would adversely affect the water supply would actually be less often than once every 208 years, post-merger.

In addition, mitigation measures in the form of contingency plans to limit consequences subsequent to a spill provide additional protection to the area water supply. Given the low likelihood of an event affecting the water supply and the presence of contingency plans, potential impacts to the area's water supply constitute a very small incremental risk for post-merger conditions.

### **Impacts to the Potentially Exposed Population in Reno/Sparks**

The probability of a train accident resulting in a hazardous materials release affecting the potentially exposed population of Reno/Sparks was evaluated by considering the release of a hazardous material commodity between the western limits of the City of Reno and the eastern limits of the City of Sparks (MP 240 to MP 247).

SEA's analysis shows that the estimated probability of a train accident resulting in a hazardous materials release for this segment is once every 523 years pre-merger, and once every 315 years post-merger. This analysis included the release of any quantity of material, small or large, of hazardous materials. Thus, the likelihood of a train accident resulting in a hazardous materials release of such a magnitude that it would adversely affect human health would actually be less often than once every 315 years, post-merger.

A release in Reno or Sparks would require an immediate response from a trained, equipped, and qualified spill response team. Area HazMat teams have prepared contingency plans that are disaster-specific. These plans will be periodically reviewed and updated to address the spill response for each of the major commodities transported by rail. These contingency plans identify responsibilities for communicating with other agencies, the media, and the public, in addition to advance coordination of people, transportation, equipment, supplies, and laboratory facilities. Access routes to the potential spill site(s) have also been determined.

### **Hazardous Materials Mitigation Measures**

System-wide mitigation measures to provide critical protection in the areas of derailments/hazardous materials spills/water quality have already been imposed on UP in the Board's Decision No. 44 and include:

- Formula-based standards for track inspection.
- Adoption of UP's existing tank car inspection programs.
- Signs at grade crossings with a toll-free number to call if signal crossing devices malfunction.
- Provision of UP's toll-free numbers for emergency response forces to call.
- Hazardous materials and emergency response plans.
- Redistribution of UP personnel to respond to hazardous materials emergencies.
- Adoption of UP's training program for community and emergency response personnel.
- Use of head-hardened rail on curves in mountainous territory.

As described above, the Federal agency primarily responsible for railroad safety is FRA, which has issued substantive safety regulations in more than 20 subject areas. Most of these rules specifically address one of three major elements of the railroad system: the rolling equipment, the track and signal system over which it operates, and the rules for conducting rail operations. These regulations have evolved and been updated over the last 100 years so as to implement the latest technology and improved safety practices known. It is through FRA's enforcement of these regulations that safety is assured for railroad employees and the public.

The Department of Transportation (DOT) prescribes and FRA enforces the standards for the safe transportation of hazardous materials. These materials are defined as "a substance or material which the Secretary of Transportation has determined to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce."



UP has developed its own specific instructions regarding hazardous materials, which are contained in UP's booklet, *Instructions for Handling Hazardous Materials*. UP employees must have a copy of, be familiar with, and comply with the instructions when working on UP property. Briefly, these instructions require that each car (or block of cars) containing hazardous materials has the proper documentation, including identification of the material and an emergency response telephone number. Hazardous materials cars display placards (a special sign) and/or other markings. These placards use words, numbers, symbols, and colors to indicate the type of material by DOT hazard class. Hazardous materials cars must be inspected for mechanical condition and leakage before they are accepted from a shipper, and once accepted, the rail cars must be moved promptly, usually within 48 hours. The location in a train of hazardous materials cars is also regulated, and cars containing incompatible commodities are not to be located next to each other.

Under current UP procedures, a train carrying specified numbers of loaded rail cars, trailers, and containers of hazardous materials are designated by UP as a "key train" and are subject to special operating practices. Key trains contain five or more tank cars containing environmentally sensitive chemicals or inhalation hazardous materials, or a combination of both, or 20 or more loaded cars carrying hazardous materials shipments. These trains are limited to a length of 6,000 feet or 100 cars, a maximum speed of 50 mph and, when practical, do not use siding tracks.

UP also has specialized equipment for detection of potential train-related problems or defects along the rail line in the Reno and Washoe County area. Railroads use a number of devices to enhance operational safety, including track-side detectors that are designed to identify various types of potential trouble. The detectors are automated, and when unsafe conditions are sensed, the detector equipment alerts either the train engineer or the dispatcher, and the engineer stops the train. Common types of detectors include:

- Hot box detectors, which detect hot locomotive and car wheel bearings.
- Dragging equipment detectors, which detect loose or broken components or other objects hanging from the bottom of a locomotive or car.
- High, wide, shifted load detectors, which detect loads or other items that protrude from the top or side of a train.
- Slide fence detectors, which detect materials that slide from a hillside toward the rail line.

Based on a review of UP's track diagrams and on-site inspections, the UP/SP mainline tracks through Washoe County have multiple detectors. For both the eastbound and westbound tracks west of Reno, dragging equipment detectors exist at Mile Posts (MP) 206 (Truckee, CA), 212.5, 220, 224 (about 19 miles west of Reno), 235 and 240 (about three miles west of Reno). For the single track east of Reno, dragging equipment detectors exist at MP 251.6 and 270.5. Intervals between dragging equipment detectors on either side of the Sparks Yard therefore range from five to 10 miles.

Hot box detectors exist at MP 270.5 and 251.6 for the single-track rail line east of the Sparks Yard. For the double-track rail line west of Reno, hot box detectors exist on the eastbound track at MP 206 (Truckee, CA), MP 224 (about 19 miles west of Reno), and MP 240 (about three miles west of Reno). For the westbound track, hot box detectors exist at MP 206 (Truckee), and MP 223.9



(about 19 miles west of Reno). Thus, hot box detectors exist for eastbound trains at intervals of less than 20 miles. Except for the 27.7-mile interval between MP 251.6 and 223.9, hot box intervals for westbound trains are also less than 20 miles.

High, wide, shifted load detectors exist on both tracks at MP 231.8 and on the single track at MP 260.5. Given that all trains stop at the Sparks Yard to change crews, the probability of discovering train-related problems or defects is increased due to the proximity of stopped trains to yard personnel, supervision, and mechanical forces.

UP has placed slide warning fences at six locations between Truckee, California and Fernley, Nevada to warn of earth/rock slides. The fences extend up to 1/2 mile in length. The wire fence is connected to the railroad signals and therefore acts as a warning device. If a line in the slide warning fence is broken (e.g., by sliding rock or earth), railroad signals near the tracks will indicate that the trains should stop, providing train engineers advance warning to stop the train prior to meeting an obstruction of the tracks by a rock or earth slide.

Based on its extensive analysis, SEA believes that the system-wide mitigation measures imposed in Decision No. 44 provide a high level of protection from hazardous materials events in the Reno and surrounding area. Moreover, UP has sophisticated detection equipment (hot box, dragging equipment, and high, wide, shifted load detectors) throughout the Reno area.

In order to augment the mitigation imposed in Decision No. 44, however, SEA recommends that the Board require UP to install two additional train defect detectors along the railway through Washoe County: (1) an additional hot box detector, which detects hot locomotive and car wheel bearings, (2) an additional high, wide, shifted load detector, which detects loads or other items that protrude from the top or side of a train, and (3) an additional dragging equipment detector at MP 230. SEA believes these additional measures would be appropriate to provide optimum detection capability in the Reno area.

The system-wide mitigation measures already imposed in conjunction with SEA's preliminary proposal for additional detection equipment also will offer protection for the Truckee River and Pyramid Lake, for the local water quality and water supply in Reno and the surrounding area, for the cui-ui and Lahontan cutthroat trout (Federally listed endangered or threatened species), and for the population in Reno and the surrounding area.

SEA also proposes that UP be required to establish a Community Advisory Panel, consisting of representatives of the community, including Native Americans, who are willing to work with UP management on a regular basis to review safety, environment, and health issues associated with rail operations, particularly as they relate to the transport of hazardous materials.

Finally, SEA recommends that the Board require UP to complete its portion of the hazardous materials Area Contingency Plan within the calendar year 1998. UP's portion of this plan should include:

- A geographic description of the railroad right-of-way presenting proximity to resources at potential risk, including comprehensive right-of-way maps.
- Emergency procedures to be taken at various levels within the organization to assure a response appropriate to the conditions and magnitude of the accident.
- Emergency contacts and communications.
- Response levels, roles, and equipment.
- Safety requirements, including site safety plans, personal protective equipment, medical surveillance.
- Necessary training.

As part of this planning process and at the request of the USFWS, SEA recommends that the Board require UP to work with the USFWS and Native Americans in the Marble Bluff area to assure placement of response equipment (e.g., booms, absorbent pads, pumps, generators, hoses, etc.) in this sensitive area. Upon completion by UP of these contingency planning elements, SEA recommends that they be presented to the Truckee River Corridor Area Contingency Plan Working Group for integration into a unified Contingency Plan.

#### **2.4.9 Noise Mitigation**

For the Reno Mitigation Study, noise is a distinct and separate area of environmental concern because of its paramount role in providing for public safety. The overwhelming majority of noise generated by rail operations in Reno emanates from warning horns located on the locomotives. The Board addressed the public safety implications of the train horn noise in its Decision No. 44. Specifically, the Board noted that "[a]ny attempt significantly to reduce noise levels at grade crossings would jeopardize safety, which we consider to be of paramount importance."

The conflict between safety and noise impacts was recognized in the recently passed Federal legislation entitled the Swift Act (49 U.S.C. §20153). This act directs the Secretary of the Department of Transportation (DOT) to promulgate regulations relating to noise and rail safety measures at highway-rail at-grade crossings. Although the regulations have yet to be promulgated, it is anticipated that they will include a provision to establish a "quiet zone" within which train horns would not need to be sounded. However, at this time, no legal requirements exist for the establishment of quiet zones.

FRA is the Federal agency within DOT responsible for train horn requirements. FRA has noted that it is unlikely to have "quiet zone" regulations in place before 1999. Until the new regulations related to "quiet zones" and other alternatives to train horns are promulgated and adopted, train horns must be sounded to ensure public safety.

When the new regulations go into effect, Federal law will preempt current State and local requirements regarding train horns. The new regulations would most likely seek to establish a system or procedures for local traffic control or law enforcement authority to provide supplementary safety measures that can be used in lieu of the train horn. Under the Federal regulations, once adopted, officials within Reno and Washoe County may have some authority over the sounding of the horn. While there is no authority for establishing "quiet zones" at this time, FRA's regulations could alleviate noise concerns in Reno if and when the regulations become effective.

The U.S. Department of Transportation stated in its comments on the PMP:

"We also appreciate the difficulties facing the SEA and the Board on this subject: the most noteworthy source of train noise in Reno is required to continue in the interests of safety. In these circumstances DOT believes that the STB should not now reach a final decision on this point, but should retain jurisdiction of at least this aspect of the instant proceeding until FRA completes its impending rulemaking. Once FRA has assessed the evidence, arguments, and alternatives relating to the creation of quiet zones, its final decision should clarify the extent to which such zones may be available to mitigate the noise at issue here. At that time, SEA can assess the costs and effectiveness of any options provided for establishing quiet zones in the subject communities and make recommendations to the Board. Since the noise impacts at issue are a direct consequence of the merger, assuming the actions required to implement quiet zones meet the standards established in Decision 44, UP should be responsible for funding such improvements, unless the costs of such modifications unduly interfere with UP's right to conduct business and provide rail freight service to its customers. Although the Department understands the desire of the Board, UP, and the communities to resolve this issue expeditiously, the fact that the Board retained oversight of the entire proceeding for five years indicates that in a matter of this complexity, a rapid resolution of all problems is not always possible."

SEA recommends that the Board require UP to contact and work with the City of Reno and FRA to determine the feasibility of a quiet zone in Reno once FRA quiet zone regulations have been finalized. SEA notes that the locations of four-quadrant crossing gates stipulated in this FMP could establish the foundation for the potential implementation of a quiet zone in downtown Reno.

#### **2.4.10 Discontinued Use of the Addition of "Helper" Locomotives in the Woodland Avenue Area — Notice of New Access Road to Area Residents and Businesses**

At the initiation of the mitigation study, Woodland Avenue, which crosses the tracks at-grade, was the only access road to the relatively new development that exists south of the tracks off of Woodland Avenue. Blockage of emergency vehicle access to this area has been identified as a community concern.



A road that runs parallel to and south of the tracks connects Woodland Avenue with Mayberry Drive to the east, and Mayberry Drive passes under the railroad. The road parallel to the rail line has recently been widened and paved, and the gate that formerly prohibited its use has been opened. This recent improvement provides emergency vehicle access via Mayberry Drive to the Woodland Avenue area if Woodland Avenue is blocked by a train.

Another problem in the Woodland area was UP/SP's prior practice of adding "helper" locomotives to trains to provide additional power for the train to travel over Donner Pass. At times, this practice blocked the Woodland Avenue crossing as the train was stopped to add the "helper" engine, creating additional vehicular traffic delay and emergency access concerns. UP has recently discontinued the practice of adding "helper" locomotives in the Woodland area. SEA proposes that the Board require UP to permanently cease adding "helper" locomotives in the Woodland Avenue area.

Washoe County requested in its comments on the PMP that the residents and businesses in the Woodland Avenue area south of the rail line be notified of the emergency access route now available should the railroad crossing be blocked. SEA concurs and recommends that the Board require UP to notify area residents and business of the presence of the new access route in the Woodland area.

#### **2.4.11 Prehistoric and Historic Survey for Pedestrian Underpasses, Monitoring During Construction for Archaeological Resources, and Consultation with Native Americans**

SEA proposes that the Board require that, prior to construction of a pedestrian underpass at either Virginia or Sierra streets, UP shall conduct a survey of potential historic and prehistoric resources in consultation with the Nevada State Historic Preservation Office (SHPO). If any such resources are discovered during construction, UP should be required to cease construction and consult with the SHPO. SEA also proposes that the Board require that prior to construction of a pedestrian underpass at either Virginia or Sierra streets, UP should be required to consult with Native American interests regarding possible impacts to Native American resources from underground construction. If any such resources are discovered during construction, UP should be required to immediately stop construction and consult with Native American interests and the SHPO.

#### **2.4.12 Certification, Compliance, and Ongoing Oversight**

SEA recommends the Board require UP to certify to the Board completion of specific physical mitigation measures once the measures are installed. These measures include the necessary capital improvements for increased train speeds, the four quadrant gates, the pedestrian signs and gate "skirts," and the additional train defect detection devices (hot box detector and high, wide, shifted load detector). SEA recommends that the Board require each certification be made within two weeks of the date of compliance for that mitigation measure, and SEA suggests that the Board require that copies of compliance reports be provided to the City of Reno and Washoe County.

SEA also recommends that the Board continue to impose on UP the current cap of 14.7 daily freight trains through Reno until these physical installations are made. SEA further recommends that the Board require that UP's quarterly reports to the Board include the status of compliance with the environmental mitigation measures pertaining to Reno and Washoe County for the duration of the Board's oversight proceeding. Copies of these reports should be required to be provided to the City of Reno and Washoe County.

Finally, SEA recommends that the Board impose a condition specifically stating that, if there is a material change in the facts or circumstances upon which the Board relied in developing localized mitigation measures for Reno, the Board, upon application by any party who demonstrates such material changes, may review the adequacy of its final mitigation measures, if warranted.

#### **2.4.13 Air Quality Mitigation**

As noted above, the proposed increased train speed mitigation measure would reduce emissions from idling vehicles delayed at the crossings in Reno to below pre-merger levels. Emissions will still occur from the locomotives for the 24 trains per day expected under post-merger conditions, which includes both the pre-merger and the post-merger trains. These projected emissions include 37 tons (about 1/4 of 1 percent of the Washoe County inventory) of volatile organic compounds (VOCs); 832 tons (3 percent of the Washoe County inventory) of nitrogen oxides ( $\text{NO}_x$ ); 5.6 tons (1/7 of 1 percent of the Truckee Meadows inventory) of particulate matter (PM); and 48.5 tons (1/12 of 1 percent of the Washoe County inventory) of carbon monoxide (CO).

System-wide air quality measures have already been imposed on UP in Decision No. 44. These measures, which would reduce the level of emissions from the locomotives as they pass through Reno, include:

- Use of throttle modulation.
- Use of dynamic braking.
- Increased use of pacing and coasting trains.
- Isolation of unneeded horsepower.
- Shutting down locomotives when not in use for more than an hour at temperatures above 40° F.
- Maintenance and upgrading of SP locomotives to UP standards.
- Closing of boxcar doors to decrease wind resistance.
- Conversion of all locomotives to South Coast Air Quality Management District (SCAQMD) standards for visible smoke reduction.
- Utilization of newly manufactured or rebuilt locomotives under EPA rules that are more fuel efficient and produce fewer emissions and assignment of these locomotives on a priority basis to specific corridors, including the Reno corridor.

SEA concludes that the increased train speed mitigation and the already imposed system-wide air quality mitigation in Decision No. 44 would positively affect Truckee Meadows air quality and largely offset the emissions increase associated with the merger.

In December 1997, EPA promulgated emission standards and emission testing procedures for locomotives that are similar in some respects to the emission standards for heavy-duty, on-highway truck engines. Under the standards, locomotive engines must meet emission limits for HC, CO, NO<sub>x</sub>, PM, and exhaust opacity beginning in January 2000. Application of these standards will provide additional air quality emission reductions in addition to the reduction that would occur with increased train speeds and with the system-wide mitigation measures already imposed by the Board.

## 2.5 Summary of SEA's Recommended Mitigation Measures

Based on SEA's technical analysis, its evaluation of public comments, and its review of the full public record, SEA recommends to the Board that it require UP to implement and fully fund the mitigation measures shown in Table 2.5-1.

<b>Table 2.5-1</b> <b>Recommended Tier 1 (Fully Funded by UP) Mitigation Measures</b> <b>for Consideration by the Board and Public</b>		
<b>Mitigation Measure</b>	<b>Proposed Board Conditions</b>	<b>Purpose</b>
<b>Railroad Improvements to Increase Train Speeds</b>	1. UP shall make the necessary operating changes and capital improvements, such as Centralized Traffic Control (CTC), track reconfiguration, and track rehabilitation, as appropriate in the Reno/Sparks, Nevada area, to enable trains to operate as described in Condition No. 2 below.	<ul style="list-style-type: none"> <li>• To reduce total vehicular traffic delay to below pre-merger levels.</li> <li>• To further reduce air emissions from delayed vehicles.</li> <li>• To improve emergency vehicle response capability.</li> </ul>
<b>Requirement for Increased Train Speed</b>	2. UP shall maintain an <b>average</b> speed of 30 mph for all freight trains, <b>consistent with safe operating practices dictated by conditions present at the time each train operates</b> between Sutro Street and Keystone Avenue. The requirement to maintain an average 30 mph speed excludes the following types of train movements: (1) snow removal; (2) on-track maintenance of way equipment; (3) maintenance of way trains, including, but not limited to those checking track geometry and/or rail grinding, rail hauling, vegetation control, and ballast hauling; (4) local and industry switching trains; (5) wreck removal trains; and (6) trains operated to provide emergency services.	



**Table 2.5-i**  
**Recommended Tier 1 (Fully Funded by UP) Mitigation Measures**  
**for Consideration by the Board and Public**

Mitigation Measure	Proposed Board Conditions	Purpose
<b>Train Speed Enforcement</b>	<p>3. UP shall provide a report to the Board on a monthly basis containing: (1) the speed of each train subject to Condition No. 2, and (2) the monthly average speed of all trains subject to Condition No. 2. Copies of the report shall also be provided to the City of Reno and Washoe County.</p> <p>If an interested party demonstrates to the Board that UP is not in substantial compliance with Condition No. 2, the Board may reexamine Condition No. 2 and reconsider the issue of requiring vehicular grade separation(s), if warranted.</p>	<ul style="list-style-type: none"> <li>To assure compliance with Condition No. 2</li> </ul>
<b>Four-quadrant Crossing Gates at Nine Locations</b>	<p>4. UP shall install, operate, and maintain four-quadrant crossing gates at rail-highway crossings at Sutro, Lake, Virginia, West, Arlington, Ralston, Washington, Vine, and Keystone streets.</p>	<ul style="list-style-type: none"> <li>To reduce the risk of train-vehicle accidents.</li> </ul>
<b>Construction of a Pedestrian Grade Separation at Virginia Street</b>	<p>5. UP shall construct a pedestrian overpass or underpass at Virginia Street with street level access on both sides of the tracks.</p>	<ul style="list-style-type: none"> <li>To reduce the risk of train-pedestrian accidents and enhance pedestrian safety.</li> </ul>
<b>Construction of a Pedestrian Grade Separation at Sierra Street</b>	<p>6. UP shall construct a pedestrian overpass or underpass at Sierra Street with street level access on both sides of the tracks.</p>	
<b>Pedestrian Crossing Gate "Skirts" at Six Locations</b>	<p>7. UP shall install and maintain devices known as pedestrian crossing gate "skirts" on pedestrian crossing gates at Lake, Center, Virginia, Sierra, West, and Arlington streets.</p>	
<b>Electronic Warning Signs for Pedestrians at Six Locations</b>	<p>8. UP shall install, operate, and maintain electronic warning signs for pedestrians at Lake, Center, Virginia, Sierra, West, and Arlington streets. These signs shall be designed and constructed so they are clearly visible and easily read by pedestrians.</p>	

**Table 2.5-1**  
**Recommended Tier 1 (Fully Funded by UP) Mitigation Measures**  
**for Consideration by the Board and Public**

Mitigation Measure	Proposed Board Conditions	Purpose
<b>Enhanced Rail Safety Educational Programs</b>	<p>9. UP shall augment its safety training programs for drivers and pedestrians by:</p> <ul style="list-style-type: none"> <li>Increasing its participation in the "Operation Lifesaver" Program.</li> <li>Supplementing existing school educational programs in Reno and Washoe County (e.g., driver's training, U.S. DOT's "Moving Kids Safely" Program).</li> <li>Establishing a rail safety education program for employees in downtown Reno.</li> <li>Providing rail safety education videos to Reno downtown hotels/casinos for their use.</li> </ul>	<ul style="list-style-type: none"> <li>To reduce the risk of train-vehicle and train-pedestrian accidents.</li> </ul>
<b>Train Location Color Displays</b>	<p>10. Subject to written agreement by the City of Reno, UP shall install and maintain in the new City of Reno emergency communications center (or another location if desired by the City) color displays coordinated with the UP signal system circuitry showing the location of each train present on the rail line segment from approximately MP 245 on the west side of the Sparks Yard to MP 238 (approximately Woodland Avenue) on the west side of Reno.</p>	<ul style="list-style-type: none"> <li>To improve emergency vehicle response capability.</li> </ul>
<b>Cameras and Video Monitors Showing Rail Line</b>	<p>11. Subject to written agreement by the City of Reno, UP shall install and maintain television cameras over or near the rail line, along with corresponding video monitors at the same emergency communications center location. The monitoring will continuously show real-time conditions on the right-of-way through downtown Reno in the area bounded by and including the grade crossings at Keystone and Lake streets.</p>	
<b>Training for Use of the Video Displays and Cameras</b>	<p>12. Subject to written agreement by the City of Reno, UP shall provide training for dispatchers on the use of the train location color video displays, the cameras, and the video monitors showing the rail line.</p>	

**Table 2.5-1  
Recommended Tier 1 (Fully Funded by UP) Mitigation Measures  
for Consideration by the Board and Public**

Mitigation Measure	Proposed Board Conditions	Purpose
Installation of a High, Wide, Shifted Load Detector at MP 240	13. UP shall install, operate, and maintain a high, wide, shifted load detector at MP 240 for both mainline tracks.	<ul style="list-style-type: none"> <li>To supplement the already imposed, comprehensive hazardous materials mitigation measures and provide additional preventive measures for hazardous materials incidents.</li> <li>To further protect the Truckee River and Reno's water supply.</li> <li>To further protect threatened and endangered species in the Truckee River.</li> <li>To further protect the population of Reno and Washoe County.</li> </ul>
Installation of a Hot Box Detector at MP 240 and Dragging Equipment Detector at MP 230	14. UP shall install, operate, and maintain an additional hot box detector on the westbound track at MP 240 and an additional dragging equipment detector on the westbound track at MP 230.	
Area Contingency Plan	<p>15. UP shall complete its portion of the hazardous materials Area Contingency Plan within the calendar year 1998. UP's portion of this plan should include:</p> <ul style="list-style-type: none"> <li>A geographic description of the railroad right-of-way showing proximity to resources at potential risk, including comprehensive right-of-way maps.</li> <li>Emergency procedures to be taken to assure a response appropriate to the conditions and magnitude of the accident.</li> <li>Emergency contacts and communications.</li> <li>Response levels, roles, and equipment.</li> <li>Safety requirements, including site safety plans, personal protective equipment, and medical surveillance.</li> <li>Necessary training.</li> </ul> <p>UP shall work with the USFWS and Native Americans in the Marble Bluff area regarding placement of emergency response equipment (e.g., booms, absorbent pads, pumps, generators, hoses, etc.) in this sensitive area.</p> <p>UP shall present this plan to the Truckee River Corridor Area Contingency Plan Working Group for integration into the Area Contingency Plan.</p>	



**Table 2.5-1**  
**Recommended Tier 1 (Fully Funded by UP) Mitigation Measures**  
**for Consideration by the Board and Public**

Mitigation Measure	Proposed Board Conditions	Purpose
<b>Establishment of a Community Advisory Panel</b>	16. UP shall establish a Community Advisory Panel consisting of representatives of the Reno/Sparks/Washoe County community, including Native Americans, who are willing to work with UP management on a regular basis to review safety, environmental and health issues associated with rail operations, particularly as they relate to the transport of hazardous materials.	<ul style="list-style-type: none"> <li>To promote additional communication and exchange of information regarding UP rail operations and the transport and handling of hazardous materials in particular.</li> </ul>
<b>Quiet Zone Feasibility Review</b>	17. UP shall consult and work with the City of Reno and FRA to determine the feasibility of a quiet zone in Reno when FRA quiet zone regulations are finalized.	<ul style="list-style-type: none"> <li>To ensure full consideration of a possible quiet zone in Reno.</li> </ul>
<b>Discontinued Use of the Addition of "Helper" Locomotives in Woodland Avenue Area</b>	18. UP shall discontinue the practice of adding "helper" locomotives in the Woodland Avenue area.	<ul style="list-style-type: none"> <li>To improve emergency vehicle response capability.</li> <li>To reduce vehicular delay at Woodland Avenue.</li> </ul>
<b>Notice of the Emergency Access Road to Residents and Businesses South of Rail Line in Woodland Avenue Area</b>	19. UP shall provide written notice to the owners and tenants of businesses and residences south of the rail line off of Woodland Avenue of the existence of the improved emergency access road paralleling the rail line between Woodland Avenue and Mayberry Drive.	<ul style="list-style-type: none"> <li>To notify businesses and residences of the emergency access road for Woodland Avenue area.</li> </ul>
<b>Prehistoric and Historic Survey for Pedestrian Underpass(es) and Monitoring During Construction for Archeological Resources</b>	20. Prior to construction of a pedestrian grade separation at Virginia and Sierra streets, UP shall conduct a survey of potential historic and prehistoric resources in consultation with the Nevada State Historic Preservation Office (SHPO). If any such resources are discovered during construction, UP shall cease construction and consult with the SHPO.	<ul style="list-style-type: none"> <li>To protect historic and prehistoric resources.</li> </ul>
<b>Consultation with Native Americans</b>	21. Prior to construction of a pedestrian grade separation at Virginia and Sierra streets, UP shall consult with Native American interests regarding possible impacts to Native American resources from underground construction. If any such resources are discovered during construction, UP shall immediately stop construction and consult with Native American interests and the SHPO.	

<b>Table 2.5-1</b> <b>Recommended Tier 1 (Fully Funded by UP) Mitigation Measures</b> <b>for Consideration by the Board and Public</b>		
<b>Mitigation Measure</b>	<b>Proposed Board Conditions</b>	<b>Purpose</b>
<b>Certification to the Board and Notice to the City of Reno and Washoe County of UP's Compliance with Certain Installation Requirements</b>	22. When compliance has been completed for each of the installations required in Condition Nos. 1, 4, 7, 8, 13, and 14 above, UP shall certify such completion to the Board, with copies to the City of Reno and Washoe County. Each certification shall be made by UP within two weeks of the date of compliance for each condition. The current train level cap of 14.7 on the average number of daily freight trains through Reno shall remain until 30 days after the required certification reports have been received.	<ul style="list-style-type: none"> <li>To ensure that UP has complied with the mitigation measures prior to the lifting of the train cap.</li> </ul>
<b>City of Reno Agreements</b>	23. Should the City of Reno not provide written agreements to UP for any of the Condition Nos. 10, 11, or 12 within 90 days following the Board's final decision, UP shall notify the Board in writing and upon receipt of such notice, UP would thereby be relieved of compliance with the condition(s) for which City agreement is withheld.	<ul style="list-style-type: none"> <li>To remove the subject mitigation requirements of UP if the City of Reno does not provide written agreement within a reasonable period of time.</li> </ul>
<b>Environmental Mitigation Status in Quarterly Reports</b>	24. UP's quarterly reports to the Board shall include the status of compliance with the environmental mitigation measures pertaining to Reno and Washoe County for the duration of the Board's oversight proceeding (Finance Docket No. 32760, Sub-No. 21). Copies of these reports shall also be provided to the City of Reno and Washoe County.	<ul style="list-style-type: none"> <li>To assure continued monitoring and review of the status of the environmental mitigation measures.</li> </ul>
<b>Review of Mitigation Measures if Warranted</b>	25. If there is a material change in the facts or circumstances upon which the Board relied in developing localized mitigation measures for Reno, the Board, upon petition by any party who demonstrates such material changes, may review the final mitigation measures, if warranted.	<ul style="list-style-type: none"> <li>To provide the opportunity to review the adequacy of these localized mitigation measures for Reno, if necessary.</li> </ul>

## 2.6 Rail Operations Safety

FRA issued on September 10, 1997 a press release and a summary report on the Safety Assurance Assessment of the UP that was conducted between August 23 and September 10, 1997. FRA Administrator Jolene M. Molitoris announced at that time that UP will take immediate action to remedy a fundamental breakdown in the railroad's ability to effectively implement basic railroad operating procedures and practices essential to safe railroad operations. As of February 5, 1998, FRA had not published the final report on the UP Safety Assurance Assessment.

The Safety Assurance Assessment process that FRA follows includes a total review of a railroad to determine systemic causes of safety problems. Once agreement is reached on the problems found, the railroad is required to develop an Action Plan with the participation of railroad's work force and FRA. The Action Plan includes a description of what will be done to correct the problems, along with an established schedule for completion. FRA will then return to the railroad and verify that the agreed-to Action Plan has been implemented.

Concerning UP, FRA found numerous problems, including crew fatigue, inability of supervisors to monitor employees, supervisor training deficiencies, heavy dispatcher workload, lack of employee training, allegations of employee harassment, defective locomotives, and lack of worker participation in problem solving. FRA is awaiting the final Action Plan and will enforce its implementation. FRA reported that UP has already taken action on many of the recommendations cited in the Safety Assurance Assessment Report.

SEA has followed closely the developments resulting from FRA's action on the UP. SEA staff have been briefed by senior FRA representatives, have remained in contact with FRA staff members regarding progress, and have received additional concerns on the rail operations safety issue via a filing by FRA in the pending Conrail acquisition proceeding (Docket No. 33388). SEA believes FRA has the expertise and authority to assure that UP will operate in a safe manner, and that any merger-related safety concerns FRA has regarding UP's operations in Reno will be addressed. UP's compliance with FRA's process and FRA's enforcement activities should assure rail operations safety in Reno.

## **2.7 SEA's Evaluation of Grade Separations and Depressed Railway**

Several commenters suggest that SEA did not sufficiently evaluate ("take a hard look at") grade separations or the depressed railway. For example, the City of Reno stated:

"The PMP states that NEPA requires that agencies take a 'hard look' at environmental consequences of their decisions and that this directive served as SEA's guide in conducting this mitigation study. The City can only interpret this statement to mean that SEA took a 'hard look' at the increased speed mitigation option, and the other mitigation options received a 'softer', less discerning 'look'. This is evidenced by the lack of specific analysis reported on both grade separations and the depressed railway mitigation options."

The above comments raise two critical issues: (1) Did SEA take a hard look at vehicular grade separations or the depressed railway in the PMP? and (2) Why didn't SEA recommend vehicular grade separations or the depressed railway as part of the Tier 1 mitigation in the PMP?



### 2.7.1 "Hard Look" at Grade Separations

In response to the Board's direction in Decision No. 44, SEA conducted a comprehensive evaluation of grade separations, including a detailed review of various numbers and locations of potential grade separations. Section 7 of the PMP evaluates numerous mitigation options in detail. With regard to vehicular grade separations, SEA directs the reader's attention to Section 7.2.2 of the PMP (pages 7-13 through 7-31), Section 8.5.2 (page 8-23), and Appendices S, T, U, and V, all of which include a detailed and extensive analysis of vehicular grade separations.

Section 7.2.2 of the PMP includes:

- A summary of street design standards, including City of Reno street standards. (These standards are further discussed in detail in Appendix S of the PMP.)
- A description of the process used by SEA to select possible locations for vehicular grade separations for study.
- A description and analysis for each of the seven possible grade separation locations as identified by SEA, including:
  - The general street setting, including generalized land uses and other features (e.g., crossing of the Truckee River, access to I-80).
  - The roadway configuration and abutting properties, including number of lanes, sidewalks, parking, roadway configurations, and more detailed land-use information.
  - The proposed configuration of the grade separation (as shown on the conceptual engineering drawings contained in Appendix U).
- Cost estimates for each of the possible seven grade separations, including potential construction and real estate costs.
- An analysis of the degree to which each potential grade separation provides mitigation in terms of:
  - Reduced traffic delay.
  - Reduced accident rates.
  - Reduced noise impacts.
- Tables and a detailed discussion of the property impacts (i.e., full and partial acquisitions and long-term impaired access) associated with each possible grade separation.
- A detailed discussion of potential impacts to utilities.
- A detailed discussion of potential impacts to traffic during construction.
- A review of possible additional impacts, including impacts from groundwater or on historic and prehistoric resources.

Table 2.7-1 summarizes some of SEA's data and findings as contained in Section 7.2.2 of the PMP. Appendix S of the PMP includes a detailed review of roadway design standards and their applicability in Reno. Appendix T provides a photographic inventory along with relevant data (traffic counts, access to I-80, river crossing) for all grade crossings in Reno. These data were used by SEA as an initial screen to select seven candidate locations for grade separations. SEA notes that the City did not provide any comments on feasible or preferred locations for grade separations, despite repeated requests from SEA for such feedback.

**Table 2.7-1**  
**Data Summary Table—Reno Grade Separations**

Location	Total Hours of Delay per Day				Total Accidents per Year				Capital Cost: (\$millions)	Potential Property Impacts (number of parcels)			
	Pre-merger 12.7 Trains	Post-merger 24 Trains			Pre-merger 12.7 Trains	Post-merger 24 Trains				Full Acquisition	Partial Acquisition	Impaired Access	Total Number of Affected Properties
		Without Grade Separation	With Grade Separation	Difference		Without Grade Separation	With Grade Separation	Difference					
Keystone	189	373	294	79	0.795	0.952	0.891	0.061	24.9	7	6	10	23
Ralston	189	373	364	9	0.795	0.952	0.918	0.034	16.6	1	8	15	29
Arlington	189	373	348	25	0.795	0.952	0.768	0.184	23.4	6	5	8	14
Lake	189	373	352	21	0.795	0.952	0.837	0.115	24.7	5	8	6	19
Evans	[a]				[a]				19.9	6	8	15	29
Valley	[a]				[a]				19.8	3	8	2	13
Sutro	189	373	344	29	0.795	0.952	0.899	0.053	16.2-15.7	3-4	7-7	7-6	18

Notes: [a] Reduction of delay and accidents by a highway/rail grade separation at Evans and Valley would depend on the amount of traffic diverted. If the street would carry traffic similar to Lake, the delay would be about the same as the projected result for the highway/rail grade separation at Lake.

Source: Preliminary Mitigation Plan

Appendix U of the PMP contains geometric layouts (engineering drawings on an aerial base) for grade separations at the seven locations. These drawings show the possible grade separation and roadway layouts, necessary property acquisitions, and a typical cross section for the grade separations. These conceptual drawings were used along with unit cost and real estate information to develop cost estimates for the possible grade separations, and these costs are presented in Appendix V.

### **2.7.2 Reasons that SEA Does Not Recommend Vehicular Grade Separations as Tier 1 Mitigation**

During the preparation of the PMP, SEA sought input from the Reno Mitigation Task Force regarding possible appropriate location(s) for grade separations in Reno. Task Force members, including those from the City of Reno, responded that they could not comment on grade separations given the guidance from the Reno City Council to consider the depressed railway option as the City's primary objective. They did, however, suggest that SEA review potential environmental impacts of grade separations.

In the absence of any input from the Task Force or the City of Reno, SEA selected seven possible locations for grade separations, developed conceptual engineering designs and capital costs, and provided an analysis of the benefits and impacts of the grade separation options in the PMP for public review and comment.

SEA's reasons for the exclusion of grade separations from Tier 1 mitigation in this FMP are summarized below:

- Increasing train speeds to an average of 30 mph would decrease vehicular traffic delay to below pre-merger levels.
- The cumulative total reduction in traffic delay from all seven potential grade separations would be less than that achieved from increased train speeds. For example, even the most effective grade separation in terms of traffic delay reduction, at Keystone Avenue, provides only one-third of the traffic delay benefit achieved with increased train speeds.
- Each of the possible seven grade separations would have major property impacts, when applying Reno city street standards that include such elements as street widths, fire access requirements, and clearances. (See Table 2.7-1 above and Tables 7.2.2.5a, b, and c on pages 7-25 and 7-26 in the PMP.)
- Emergency vehicle response conditions do not warrant a grade-separated crossing because there are hospitals on each side of the tracks, fire stations are located on both sides of the tracks, and emergency vehicles are roaming on the streets and can be dispatched from both sides of the tracks.
- Two major streets provide vehicular grade separations from the trains and are located at either side of downtown Reno (2nd Street and Wells Avenue).
- The central firehouse and the Washoe Medical Center, both located on the south side of the tracks are within 2,500 feet of the existing Wells Avenue grade separation.



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- SEA's studies determined that the merger-related increase in train traffic would increase total gate down time by less than 1 percent at any grade crossing (with increased train speeds), which is considered a minor change from pre-merger conditions. With SEA's recommended mitigation, downtown grade crossings would be clear 96.2 percent of the time over a 24-hour period.

SEA therefore concludes, based on information available at this time, that a grade separation is not warranted if SEA's recommended mitigation measures are imposed. SEA's proposed increased train speed mitigation would reduce traffic delay to below pre-merger levels for 13 grade crossings in Reno. Also, potential grade separations would involve major property impacts and would provide minimal traffic delay reductions and only at the location of the grade separation. Moreover, hospitals and fire stations already exist on both sides of the tracks.

However, if the Board wants to give additional consideration to grade separations, SEA has summarized the pros and cons of seven possible grade separations in Reno. Table 2.7-2 provides a summary of relevant characteristics for the seven potential grade separations in Reno. Information is provided for traffic delay reductions, Truckee River crossing, access to I-80, possible accident reduction, proximity to emergency facilities and downtown Reno, property impacts, average daily traffic (ADT), number of street lanes, and estimated capital cost for construction of the grade separations. This table also includes symbols [●, ◐, ○] showing the relative pros and cons for each grade separation characteristic. The characteristics marked with an ● have more benefits and fewer drawbacks than do the characteristics marked with an ○.

The table shows that it is difficult to prioritize the potential benefits of grade separations. Each of the potential grade separations offers benefits in one or more categories but has drawbacks in other areas. For example, a grade separation at Keystone Avenue would provide the highest level of benefits for traffic-related categories (i.e., reduced traffic delay and air emissions, crossing of the Truckee River, connection to I-80), but a Keystone Avenue grade separation would involve major short-term and long-term impacts on adjacent properties, would involve the relocation of a major street (Fourth Street), and would be the most costly of the options. In addition, Keystone Avenue is located further from downtown Reno than some other options.

If emergency vehicle access to hospitals or fire stations is deemed to be of highest priority, a grade separation at Arlington, Lake, Evans, or Valley, would be more beneficial. These locations are closer to the heart of downtown Reno. However, these separations would not provide the same levels of traffic delay and air emission reductions that would be provided by a grade separation at Keystone Avenue.

Table 2.7-2

## Summary Characteristics of Potential Highway/Rail Grade Separations in Reno

Potential Grade Crossing	Daily Delay -- Hours Saved [1]	Crosses Truckee River [2]	Connects to I-80 [4]	Crosses I-80 [3]	Annual Accidents Avoided [5]	Proximity in miles[6]			Total Properties Affected[7]		ADT	Existing Traffic Lanes	Capital Costs (\$millions)
						Hospital	Fire Station	Downtown [8]	Full & Partial Takes	Impaired Access			
Keystone	● 79	● yes	● yes	● yes	○ 0.061	● 0.73	● 0.99	● 0.68	○ 13	● 10	22,100	4	\$24.9
Ralston	○ 9	- no	- no	● yes	○ 0.034	● 0.41	● 0.68	● 0.35	● 9	○ 15	3,785	2	\$16.6
Arlington	○ 25	● yes	- no	- no	● 0.184	● 0.27	● 0.52	● 0.23	○ 11	● 8	8,415	4	\$23.4
Lake	○ 21	● yes	- no	- no	● 0.115	● 0.59	● 0.16	● 0.14	○ 13	● 6	7,575	4	\$24.7
Evans	○ [10]	● yes[9]	- no	● yes	● [10]	● 0.70	● 0.09	● 0.23	○ 14	○ 15	1,880	2	\$19.9
Valley	○ [10]	● yes[9]	- no	● yes	● [10]	● 0.81	● 0.20	● 0.34	○ 11	● 2	4,860	2	\$19.8
Sutro (Option 1)	○ 29	● yes	- no	● yes	○ 0.053	○ 1.33	● 0.72	● 0.86	● 10	● 7	11,700	4	\$16.2
Sutro (Option 2)	○ 29	● yes	- no	● yes	○ 0.053	○ 1.33	● 0.72	● 0.86	○ 11	● 6	11,700	4	\$15.7

Notes: These 3 symbols -- ●, ●, ○ -- show the relative pros and cons for each grade separation characteristic. The characteristics marked with an ● have more benefits and fewer drawbacks than do the characteristics marked with an ○.

[1] Delay Hours Saved: ● = 61-90, ● = 31-60, ○ = 0-30

[2] Crosses Truckee River: ● = yes, - = no

[3] Crosses I-80: ● = yes, - = no

[4] Connects to I-80: ● = yes, - = no

[5] Accidents Avoided: ● = 0.141-0.210, ● = 0.071-0.140, ○ = 0-0.070

[6] Proximity in miles: ● = 0-0.50, ● = 0.51-1.00, ○ = 1.01-1.50; Distances are measured parallel and perpendicular to the railroad tracks to reflect how the distance would be traveled.

[7] Total Properties Affected: ● = 0-5, ● = 6-10, ○ = 11-15

[8] Downtown is defined as measured from the intersection of Virginia Street and the railroad tracks.

[9] Kuenzli St. and 2nd St. would be direct river crossings for Valley Road and Lake St. would be the nearby river crossing for Evans Ave.

[10] Reduction of delay and accidents by a highway/rail grade separation at Evans and Valley would depend on the amount of traffic diverted. If the street would carry traffic similar to Lake, the delay would be about the same as the projected result for the highway/rail grade separation at Lake.



As noted, SEA concludes that with its recommended mitigation measures, a grade separation(s) is not warranted. However, if the Board wishes to give additional consideration to a potential grade separation, SEA has identified possible candidate locations: Keystone Avenue, Arlir gton Avenue, Evans Avenue, or Valley Street. In assessing these four possible locations, SEA notes that Evans Avenue would offer the following benefits: (1) it would provide immediate access to the central fire station, (2) it is proximate to downtown Reno, (3) it does not currently cross the tracks, so construction of a grade separation would not interfere with current traffic, (4) it has received approval from the Nevada Public Utilities Commission for an at-grade crossing, and (5) it is preferred by the Nevada Department of Transportation (NDOT) as a grade-separated crossing rather than an at-grade crossing.<sup>13</sup>

In a January 21, 1998 letter, the City of Reno states that application of the Conrail Draft EIS significance criteria would lead to the conclusion that grade separated crossings are required in Reno. SEA notes that this is not the case. Specifically, with the application of the level of service criteria in the Conrail Draft EIS to grade crossings in Reno, no grade crossing approaches the levels required in the Conrail Draft EIS to be considered for a grade separated crossing. (Please see Section 3.20.2.)

### **2.7.3 "Hard Look" at Depressed Railway**

Section 7 of the PMP evaluated numerous mitigation options in detail. With regard to the depressed railway, SEA directs the reader's attention to Section 7.2.3 of the PMP (pages 7-32 through 7-42), Section 8.5.1 (page 8-22), and Appendix W, all of which include a detailed and extensive analysis of the depressed railway option.

Section 7.2.3 in the PMP includes:

- A detailed description of the depressed railway option.
- Cost estimates for the depressed railway option.
- An analysis of the degree to which the depressed railway provides mitigation in terms of:
  - ▶ Reduced traffic delay.
  - ▶ Reduced accidents rates.
  - ▶ Improved air quality.
  - ▶ Improved pedestrian safety.
  - ▶ Improved emergency vehicle access.
  - ▶ Reduced noise impacts.
- A discussion of potential impacts to traffic during construction.
- A review of possible additional impacts, including noise, dust, vibration, prehistoric and historic resource impacts during construction.
- A review of possible impacts to underground utilities.

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<sup>13</sup> A letter from Jim Gallegos Chief Safety Engineer, NDOT to Elaine K. Kaiser, Chief, SEA, dated October 14, 1997 states, "The City obtained permission from the PSC, to open an at-grade crossing at this location [Evans Ave]. A grade separation is not proposed [by SEA] for this location. If a grade separation is not built, an at-grade crossing should not be opened." (See FMP Appendix).

- A review of potential impacts to structures adjacent to the depressed railway.
- A review of construction methods for the depressed railway.
- A review of possible groundwater and stormwater discharge impacts.
- Potential property impacts.
- Specific impacts, particularly in the Keystone Avenue area.
- Recommendations for additional reviews.

A detailed review of the noted sections of the PMP clearly demonstrates that SEA did perform detailed analyses in the PMP of both the grade-separation and depressed railway alternatives. SEA therefore disagrees with the City's assertion that:

"SEA took a 'hard look' at the increased speed mitigation option, and the other mitigation options received a 'softer', less discerning 'look'. This is evidenced by the lack of specific analysis reported on both grade separations and the depressed railway mitigation options."

#### **2.7.4 Reasons that SEA Does Not Recommend the Depressed Railway as Tier 1 Mitigation**

SEA states in the PMP its reasons for not including the depressed railway as a Tier 1 mitigation measure. On page 8-23, SEA notes:

"In evaluating the potential benefits of the depressed railway, SEA has been aware that such a mitigation measure would not only further reduce potential environmental impacts directly related to the merger, but also preexisting conditions. Studies conducted separately by the City and UP demonstrate that in Reno, casinos and hotels have developed next to the existing UP (formerly SP) tracks for several decades.

"It is recognized that a depressed railway would bestow substantial benefits on the City as well as private property owners in the area of the existing track. A depressed railway would also benefit the railroad, which has offered to pay \$35 million of the estimated \$183 million cost of the depressed railway. But since it is undisputed that the conflict between rail operations and adjacent land uses predates this merger, SEA does not believe it would be appropriate to require UP alone to absorb the extensive costs associated with implementing a depressed railway.

"Construction of a depressed railway also would involve its own potential environmental impacts. The impacts during construction have been noted as a concern of local businesses. Section 7 discusses the potential secondary impacts that have been identified to date (e.g., construction, groundwater, and emergency vehicle access).

"SEA encourages the parties to continue negotiations with respect to the depressed railway in the hope that a mutually acceptable agreement can be reached for a depressed railway, if appropriate."

As part of the preparation of this FMP, SEA has considered this issue further, and SEA continues not to recommend the depressed railway as a Tier 1 mitigation measure for the reasons stated above.

## **2.8 Possible Tier 2 Mitigation Measures**

Each of the Tier 2 mitigation measures described below would require voluntary participation, shared funding, and a mutual binding agreement by UP and the interested parties, such as the City of Reno and Washoe County. The Tier 2 measures that SEA has identified are expected to offer far-reaching, long-term benefits by reducing conflicts and impacts resulting from existing land uses and pre-merger train traffic. SEA believes these measures could have a benefit for the long-term economic development of Reno and Washoe County and the efficiency of railroad operations in the county, but the Board does not have authority to require UP to pay the entire cost of such improvements. SEA encourages interested parties to continue constructive discussions and explore the possibilities described here. Section 9 of the PMP reviews possible funding for these measures.

### **2.8.1 Depressed Railway**

The City of Reno has strongly advocated the construction of the depressed railway. In fact, recently the City and UP jointly studied the feasibility of this option as part of their private negotiations. The City has stated its views that a depressed railway would substantially alleviate a variety of delay, safety (both pedestrian and vehicular), noise, emergency response, and air quality problems that currently exist in Reno.

In evaluating the potential benefits of the depressed railway, SEA has determined that such a mitigation measure would not only further reduce potential environmental impacts directly related to the merger, but also preexisting conditions. Studies conducted separately by the City and UP demonstrate that in Reno, casinos and hotels have developed next to the existing UP (formerly SP) tracks for several decades.

It is recognized that a depressed railway would bestow substantial benefits on the City as well as private property owners in the area of the existing track. A depressed railway would also benefit the railroad, but since it is undisputed that the conflict between rail operations and adjacent land uses predate this merger, SEA does not believe it would be appropriate to require UP alone to absorb the extensive costs associated with implementing a depressed railway.

Construction of a depressed railway also would involve its own potential environmental impacts. The impacts during construction have been noted as a concern of local businesses.



If the parties support this option, SEA encourages them to continue negotiations with respect to the depressed railway in the hope that they can reach a mutually acceptable agreement.

### **2.8.2 Rail/Highway Grade Separations**

Section 2.7 discusses SEA's position regarding the provision of Rail/Highway grade separations as Tier 1 mitigation. While SEA does not believe that rail/highway grade separation is warranted as Tier 1 mitigation, if SEA's recommended mitigation measures are imposed, rail/highway grade separations could be developed as Tier 2 mitigation, if the parties could resolve the potential adverse effects of separated crossings and reach agreement regarding costs and other issues.

### **2.8.3 Elevated Railway**

An elevated railway is another potential Tier 2 mitigation option. Letters of opposition to this option were received from the UP and the downtown business interests, and the City raised concerns about potential adverse environmental impacts associated with an elevated railway in Reno. These parties raised the following issues: the visual barrier that would be created by an aerial structure through the downtown and the associated division of the City, possible derailments and spills of hazardous materials from the elevated trains, and the need to demolish existing structures over the tracks. As with the depressed railway, a shoofly track would be needed during construction.

### **2.8.4 I-80 Bypass**

The City of Reno initially requested that consideration be given to a bypass whereby the UP tracks would be relocated out of the downtown area on a new rail line running south of I-80. However, there is no support in the Board's precedent for requiring a railroad seeking merger authority to construct a new railroad line to bypass a city. Nonetheless, private parties could decide to pursue and fund an I-80 bypass. This would require that the parties seek authority to construct and operate from the Board. At that time, the Board would undertake the appropriate environmental review for a bypass alternative.

### **2.8.5 Grade Crossing Safety Measures (Vehicular)**

#### **Street Median Barriers**

Street median barriers could also be installed at two-way streets in Reno, preventing drivers from going around the railroad crossing gates. However, these barriers would reduce the width of the street traffic lanes and could introduce access problems from adjoining land uses. Moreover, these barriers would not be needed if the four-quadrant gates proposed as Tier 1 mitigation for Board consideration are implemented.

## **Conversion of Existing Two-Way Streets to One-Way**

Conversion of two-way streets to one-way streets (with two-quadrant gates on the near side of the rail line) would also prevent driving around closed gates. While such conversions would serve to improve rail crossing safety, they would have more far-reaching implications for downtown traffic circulation and businesses. Therefore, such a strategy should be part of a broader transportation, land use, and property access planning process for the areas surrounding the grade crossings.

The use of one-way streets in couplets (pairs of one-way streets) was reviewed in Reno during a 1995 analysis of downtown traffic and parking.<sup>14</sup> In addition to permitting more secure two-quadrant gates, a main advantage of one-way streets is to reduce traffic conflict, thereby increasing intersection capacity without the disruption of physically widening streets. However, the 1995 report stated that one-way streets can confuse motorists, especially visitors, who constitute a significant proportion of drivers. Additionally, one-way streets can frustrate local motorists by requiring a more circuitous route. Local businesses may also oppose one-way streets because of potential access problems.

Strictly from the standpoint of railroad/highway safety, SEA's proposed four-quadrant gates Tier 1 mitigation measure would eliminate the need for conversion to one-way streets. Therefore, SEA does not recommend conversion of any streets in Reno to one-way streets.

### **2.8.6 Grade Crossing Safety Measures (Pedestrians)**

#### **Crossing Guards**

Tier 1 mitigation measures recommended by SEA include pedestrian gate skirts, electronic warning signs, and actual pedestrian/rail grade separations, all in addition to the existing pedestrian warning signals and gates that currently exist at the heavily-used pedestrian crossings in Reno. Given this extensive mitigation and the ongoing costs associated with crossing guards, SEA believes that use of crossing guards to enhance pedestrian safety should be considered solely as a Tier 2 mitigation measure, to be added only if other parties are willing to share the costs.

### **2.8.7 Air Quality Measures**

#### **Optional Air Quality Measures**

SEA notes that, in addition to the proposed increased train speed mitigation, the system-wide air quality measures already imposed by the Board in Decision No. 44, and the recently promulgated EPA locomotive emission standards, there are potential additional air quality mitigation strategies, such as: concentrating operation of new EPA-certified low-emission locomotives in Reno, early

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<sup>14</sup> *Reno Downtown Traffic/Parking Study, Final Report*. Prepared for the Reno Redevelopment Agency by Barton-Aschman Associates, Inc.; Strategic Project Management; and Lumos & Associates, Inc., December 1995, pp. 24, 27.

introduction of low-emission locomotives, diesel engine modifications, improved diesel fuels, diesel exhaust treatment, and use of alternative fuels.

### Offsetting the Increase in Locomotive Emissions

Offsetting the increase in locomotive emissions would not directly mitigate effects of the increased train levels, so it is not proposed as a Tier 1 mitigation measure here. However, as with all Tier 2 mitigation options, any memoranda of agreement between UP and the City regarding any air quality mitigation measures would certainly be considered by the Board, as was done in Truckee, California for its air quality mitigation agreement.

Table 2.8-1 provides a summary list of possible Tier 2 mitigation measures.

<b>Table 2.8-1</b> <b>Measures Identified as Potential Tier 2 Mitigation</b>	
<b>Mitigation Measures</b>	<b>Comments</b>
Depressed Railway	<ul style="list-style-type: none"> <li>• Would reduce potential environmental impacts related to the merger, but also those related to preexisting conditions.</li> <li>• Rail impacts on surrounding land uses predate the merger, so it would not be appropriate to require UP alone to absorb extensive costs of a depressed railway.</li> <li>• Casinos and hotels have consistently built their facilities next to the existing UP (formerly SP) tracks.</li> <li>• Impact of rail operations has been a matter of local concern for decades. In a 1980 ballot measure, the citizens of Reno voted down a bond issue for construction of a depressed railway through downtown Reno.</li> <li>• Would bestow substantial benefits on the City as well as private property owners in the area of the existing track.</li> <li>• Would benefit the railroad.</li> <li>• Would involve secondary environmental impacts (e.g., construction, groundwater, emergency vehicle access).</li> <li>• Cannot equate benefits of a depressed railway to potential merger-related impacts only.</li> <li>• SEA urges the parties to continue negotiations with respect to the depressed railway, if appropriate.</li> <li>• If a mutually acceptable agreement is reached for a depressed railway, SEA could recommend that the Board impose an obligation upon UP to comply with such agreement.</li> </ul>



**Table 2.8-1**  
**Measures Identified as Potential Tier 2 Mitigation**

Mitigation Measures	Comments
Rail/highway Grade Separations	<ul style="list-style-type: none"> <li>Increasing train speeds to an average of 30 mph decreases vehicular traffic delay to below pre-merger levels.</li> <li>The cumulative total reduction in traffic delay from all seven grade separations is less than that achieved from increased trains speeds. For example, even the most effective grade separation in terms of traffic delay reduction, at Keystone Avenue, provides only one-third of the traffic delay benefit achieved with increased train speeds.</li> <li>All of the possible grade separations would have major property impacts, when applying Reno city street standards (see Table 2.6-1 above and Tables 7.2.2.5a, b, and c on pages 7-25 and 7-26 in the PMP).</li> <li>Emergency vehicle response conditions do not warrant a grade-separated crossing because hospitals and fire stations are located on both sides of the tracks and emergency vehicles can be and are dispatched from both sides of the tracks.</li> <li>Two major streets provide vehicular grade separations from the trains and are located at either side of downtown Reno (2nd Street and Wells Avenue), and the central fire house and the Washoe Medical Center, both located on the south side of the tracks are within 2,500 feet of the existing Wells Avenue grade separation.</li> <li>SEA's studies determined that the merger-related increase in train traffic will increase total gate down time by less than 1 percent at any grade crossing (with increased train speeds), which is considered a minor change from pre-merger conditions.</li> <li>SEA concludes that with increased train speeds and additional safety mitigation measures recommended in this FMP, a grade separation is not warranted as a Tier 1 mitigation measure.</li> </ul>
Elevated Railway	<ul style="list-style-type: none"> <li>Downtown business interests and the City have raised concerns about potential adverse environmental impacts associated with an elevated railway in Reno, including the visual barrier that would be created, the associated division of the City, possible derailments and spills of hazardous materials from elevated trains, and the need to demolish existing structures over the tracks.</li> <li>As with the depressed railway, a shoofly track would be needed to allow construction.</li> </ul>
I-80 Bypass	<ul style="list-style-type: none"> <li>No support in the Board's precedent or case law for requiring a railroad seeking merger authority to construct a new railroad line to bypass a City.</li> <li>No source of funding.</li> <li>Questionable feasibility.</li> <li>The City has indicated that, while it does not want to drop the bypass from consideration, the depressed railway is a priority in Reno.</li> <li>Private parties could pursue and fund an I-80 bypass. Doing so would require seeking appropriate authority to construct and operate from the Board. At that time, the Board would undertake the environmental review that was warranted for a bypass alternative.</li> </ul>

**Table 2.8-1  
Measures Identified as Potential Tier 2 Mitigation**

Mitigation Measures	Comments
Grade Crossing Safety Measures (Vehicular)	
<ul style="list-style-type: none"> <li>• Street Median Barriers</li> </ul>	<ul style="list-style-type: none"> <li>• Would reduce the width of the street traffic lanes and could introduce access problems from adjoining land uses.</li> <li>• Would not be needed with four-quadrant gates (proposed as Tier 1 mitigation).</li> </ul>
<ul style="list-style-type: none"> <li>• Conversion of Existing Two-way Streets to One-way</li> </ul>	<ul style="list-style-type: none"> <li>• Far-reaching implications for downtown traffic circulation and businesses.</li> <li>• Should be part of a broader transportation, land use, and property access planning process for the areas surrounding the grade crossings.</li> <li>• One-way street couplets (pairs of one-way streets) were reviewed during a 1995 analysis of downtown traffic and parking as means to reduce traffic conflict and increase intersection capacity. Study notes that one-way streets offer some advantages but can confuse motorists, especially visitors, and can be frustrating to local motorists.</li> <li>• Local businesses may also oppose one-way streets because of potential access problems.</li> <li>• Four-quadrant gates proposed as Tier 1 mitigation eliminate advantages from the standpoint of railroad/highway safety.</li> </ul>
Grade Crossing Safety Measures (Pedestrians)	
<ul style="list-style-type: none"> <li>• Crossing Guards</li> </ul>	<ul style="list-style-type: none"> <li>• Proposed Tier 1 mitigation measures include pedestrian crossing gate skirts, electronic warning signs, and pedestrian/rail grade separations, all in addition to the pedestrian warning signals and gates that currently exist at the heavily-used pedestrian crossings in Reno.</li> <li>• Would entail unnecessary ongoing costs.</li> </ul>
Air Quality Measures	
<ul style="list-style-type: none"> <li>• Concentrating Operation of New EPA-certified Low-emission Locomotives in Reno</li> <li>• Early Introduction of Low-emission Locomotives</li> <li>• Diesel Engine Modifications</li> <li>• Improved Diesel Fuels</li> <li>• Diesel Exhaust After Treatment</li> <li>• Use of Alternative Fuels</li> </ul>	<ul style="list-style-type: none"> <li>• Other system-wide mitigation measures that are already imposed by the Board, the recent EPA locomotive emission standards, and the increased train speeds mitigation measure would largely offset potential impacts.</li> </ul>

<b>Table 2.8-1</b> <b>Measures Identified as Potential Tier 2 Mitigation</b>	
<b>Mitigation Measures</b>	<b>Comments</b>
<ul style="list-style-type: none"> <li>• Offsetting the Increase in Locomotive Emissions</li> </ul>	<ul style="list-style-type: none"> <li>• Would not directly mitigate effects of the increased train levels.</li> <li>• Goes beyond authority of the Board and requires voluntary compliance, e.g., Truckee Memorandum of Understanding (MOU).</li> <li>• Other system-wide mitigation measures that are already imposed appear to mitigate impacts.</li> </ul>

In conclusion, SEA would certainly review and consider any of the above Tier 2 mitigation measures if they were agreed upon voluntarily and became part of a memorandum of understanding between UP and appropriate interested parties.



## **Section 3**

### **PUBLIC COMMENTS AND RESPONSES**

In this section, SEA provides written responses to comments received from the public on the Preliminary Mitigation Plan (PMP), which was issued September 15, 1997. SEA has reviewed and considered all public comments during the preparation of this Final Mitigation Plan (FMP).

SEA received comments from more than 530 commenters, including elected officials, public agencies, organizations, businesses, and individuals. The public review period of the PMP was scheduled to end on October 16, 1997, but SEA actually considered comments that were received by or on October 23, 1997. SEA received comments on the PMP in a number of forms:

- Letters, reports, and post cards sent to the Surface Transportation Board and comment sheets submitted at public meetings (428 submittals).
- A transcript of that portion of the Reno City Council meeting held on October 7, 1997 regarding the PMP (16 speakers).
- A transcript of the Reno Mitigation Task Force meeting on October 8, 1997 (10 speakers).
- Transcripts of the two public meetings held in the Reno City Council Chambers in the afternoon and evening of October 9, 1997 (77 speakers).

Public comments received are summarized in the following section under 38 subject areas. Each subject area contains a summary of comments regarding that subject, which at times includes actual quotations. This summary is then followed with SEA's responses to the comments. The 38 subject areas are shown in Table 3-1. Not all comments are quoted in Section 3. Rather, representative comments for the 38 subject areas are either quoted or summarized. The full set of comments can be found in the two-volume FMP Appendix.

At times, responses are provided in Section 2 of this FMP for those subject areas directly related to SEA's proposed mitigation measures. References are provided in Section 3 to applicable responses in Section 2.

#### **3.1 Preexisting Conditions**

##### **3.1.1 Summary of Comments**

A number of parties commented on the issue of preexisting conditions. A majority of those commenters stated that SEA's position regarding preexisting conditions (i.e., that SEA cannot mitigate conditions resulting from previous development of tourist-oriented businesses near the railroad right-of-way) is too limiting. A typical comment was that it does not matter who came first, the city or the railroad; what matters is the way things are now.

**Table 3-1**  
**Comment Summary and Responses Subject Areas**

<b>Section No.</b>	<b>Subject Area</b>
3.1	Preexisting Conditions
3.2	Five Year Time-Frame
3.3	Train Projections
3.4	Port of Oakland Expansion
3.5	Train Length
3.6	Cap on Number or Length of Trains
3.7	Observed Speeds Higher than 20 mph
3.8	Can UP Maintain Train Speeds of 30 mph?
3.9	How Will Speed be Enforced?
3.10	Safety of Increased Train Speeds
3.11	Public Safety, Pedestrians & Vehicular Accidents
3.12	How Will Mitigation be Enforced?
3.13	"Hard Look" at Grade Separations & Street Closures
3.14	UP's Safety Record & FRA Review
3.15	Hazardous Materials, Water Quality, Natural Resources
3.16	Coordination with U.S. Fish and Wildlife Service
3.17	Native American Consultation
3.18	Use of 1995 Vehicular Traffic as Baseline
3.19	Use of Year 2000, 2007, 2015 Vehicular Traffic
3.20	Vehicular Traffic Delay
3.21	Emergency Vehicle Blockage
3.22	Air Quality Issues
3.23	Noise Issues
3.24	Adequacy of PMP
3.25	An EIS is Needed
3.26	Mitigation Issues
3.27	Economic Impacts
3.28	Depressed Railway
3.29	UP Should Pay More or its "Fair Share"
3.30	I-80 Bypass Option
3.31	Using Right-of-Way for Intended Purpose Mitigation Study is Poor Public Policy & Bad Precedent
3.32	Comments on UP
3.33	Comments on City of Reno
3.34	Comments on the Potential for SEA and/or Consultant Bias
3.35	Task Force Process
3.36	General Comments on SEA
3.37	Nuclear Shipments
3.38	No Incentive for UP to Negotiate

From Bob Webb, Community Coordinator with the Washoe County Department of Community Development: "The Board of County Commissioners feels that the exclusion of preexisting conditions from the Reno Mitigation Study is inadequate and does not recognize current conditions within Reno and Washoe County."

Speaking at a meeting of the Reno Mitigation Study Task Force, Task Force member Bill Osgood stated:

"Taking off on that, we as a downtown business association join with the City in really appealing Decision 44 and the criteria that this entire study has been made on, that preexisting conditions resulting from development of hotels and other tourist-oriented business gives a very unreal picture of the environment that is attempting to be mitigated on.

"It basically takes the uniqueness of Reno as a full service destination resort and obviates it for purposes of this study. And yet, we find in the study there are some elements that take preexisting conditions that are there regarding vehicles, access.

"If it wasn't for the development of preexisting conditions, they wouldn't even be there, and yet, they're considered in the study. There's some areas when it's put in the study, some areas when it's not in the study, and that's just, you know, incongruous that it's basically there.

"It's got to be one way or the other. What are the real conditions, not based on a Decision 44, that is really there, because we in the community are going to have the impact."

From Reno citizen M. Lee Dazey of Citizen Alert: "To merely address the number of trains in isolation of the environment and the community in which the trains will move is irresponsible and leads us to believe that this Board is more concerned with cutting costs to U.P. rather than costs to the taxpayers, who would have to pay to clean up a nuclear spill. It's a plain case of corporate welfare."

From Reno citizen Martha B. Gould: "First I wish to point out that there have been comments made in letters to the editor and by the Union Pacific that in the 1950s and in the 1960s there were more trains coming through the City of Reno than there will be based on this merger. In the 1950s there was no interstate highway network. Therefore more freight was carried by rail. In addition, Reno was a vastly different city with considerably less foot and vehicle traffic. Nor did the freight trains carry the many different toxic materials that freight trains carry today. I am not interested in the past. Not the past of 40 years ago or even 10 or 15 years ago. I am only interested in the present and the future of my City and its quality of life."



Many parties, however, noted that as many as 40 trains per day traveled through Reno in years past, and the city decided to approve development near the railway without accounting for the possibility of increased rail activity in the future. On this subject Union Pacific (UP) Railroad noted: "Imposing any mitigation cost on the railroad—much less the increased costs that Reno will demand—under the extraordinary circumstances of Reno's recent history is especially unfair. Less than 20 years ago, at a time when SP was operating more than 24 trains per day through Reno, and Reno expected that number to increase, SP agreed to participate in the funding of a depressed trainway. SP was to pay approximately 5 percent of the costs, and Reno the remainder. But Reno voters overwhelmingly rejected a bond issue to fund Reno's share of the trainway. In the face of this vote, Reno and its business interests proceeded with extensive casino and hotel development near the tracks, creating and intensifying the conflicts between urban development and rail operations that the PMP addresses. After creating these conflicts, Reno and the business interests now demand that UP/SP pay to resolve them."

From Reno citizen Martha Bridgman: "The citizens were fully aware of the placement of the railroad tracks in the Reno/Sparks communities, as the tracks were in place before there ever was a 'city.' Yet the community leaders have allowed building up to the very boundary of what land is controlled by the railroads and then call foul when the railroad wants to carry on the business that enabled Reno and Sparks to prosper in the first place. It seems there is something wrong with this picture. Did the Railroad ever intimate to the community that it would cease or reduce rail traffic as the community grew? Did the Railroad ever say it would give up the right to do business within its right of way because the town was allowed to grow too close to the tracks? . . . The cities of Reno and Sparks have buried their heads in the sand when it comes to taking responsibility for this situation. The cities should have never allowed growth so close to Railroad property."

Other commenters noted that property owners have developed near the railway, as well as the city, resulting in the conditions that exist today. A typical comment was this by private citizen Charley Lits: "[The City] allowed the casinos to build on both sides of the Union Pacific tracks. Now they expect the railroad to pay for Reno city council's corrupted decisions . . ."

In general, comments on the preexisting conditions argument were about evenly split between those who felt that the Board should consider and compensate for conditions as they stand today, regardless of who came first, and those who said the City is responsible for the creating the problems related to downtown vehicular and pedestrian traffic flows and rail traffic.

### **3.1.2 Response to Comments**

In its Decision No. 44, the Surface Transportation Board specifically directed "that the studies will focus only on the mitigation of the environmental effects of additional rail traffic through Reno and Wichita resulting from the merger. Mitigation of conditions resulting from the preexisting development of hotels, casinos, and other tourist-oriented businesses on both sides of the existing SP rail line in Reno, or the preexisting switching operations that are a primary source of the congestion associated with the existing UP line in Wichita, are not within the scope of the studies."

SEA has stated throughout the Reno Mitigation Study process that the purpose of the study is to evaluate potential environmental impacts in Reno and Washoe County from the increase in train traffic levels associated with the merger and to recommend to the Board measures to mitigate these potential environmental impacts. SEA has kept its focus on this purpose during the course of the Reno Mitigation study.

Explicit in this purpose and in the Board's study directives is the requirement to evaluate only potential impacts associated with the merger, which is the action before the Board. The Board's exclusion of preexisting conditions from the analysis is fully consistent with SEA's stated study purpose.

During this study, significant public debate has occurred and reports have been written regarding such matters as "who was in Reno first, the railroad or the City?" "who is responsible for development near the rail line, the City or the Railroad?" and "who is to blame for railroad issues?" SEA has noted these arguments, but has focused strictly on an evaluation of potential environmental impacts from the merger-related increase in train levels and the possible mitigation measures for these potential impacts. To do this, SEA has identified the foreseeable future and has evaluated and compared conditions both with and without the merger. SEA notes that this is the appropriate and typical procedure for project analysis under the National Environmental Policy Act (NEPA). The "who came first, who is responsible for development, and who is to blame" arguments are unrelated to this analysis.

Under NEPA and the Council on Environmental Quality (CEQ) implementing regulations, SEA is required to evaluate the environmental consequences of the merger (40 CFR 1502.16). In this document, SEA is acting pursuant to the Board's direction to develop further mitigation measures to reduce the environmental impacts of the merger. Environmental impacts, direct and indirect, are those caused by the merger (40 CFR 1508.8(a) and (b)). The existence of rail traffic prior to the merger is not an impact of the merger. Similarly, the environmental consequences of rail traffic in Reno that existed prior to the merger are not impacts of the merger. Pursuant to the Board's direction, SEA's analysis and mitigation measure are directed toward alleviating cumulative impacts that result from increased train traffic levels associated with the merger (40 CFR 1508.7).

### **3.2 Five-Year Time Frame**

#### **3.2.1 Summary of Comments**

Many parties expressed concern that the five-year projections of train traffic through Reno were insufficient to accurately assess the impact of increased train traffic in future years. The concerns were often related to other factors that may increase train traffic through Reno, such as the expansion of the Port of Oakland. Several commenters noted that the five-year window ended in the Year 2000, less than three years after the merger was approved, and said the projection should be updated for the Reno Mitigation Study. The vast majority of the comments on this issue were one or two sentences long, such as a concern expressed by private citizen Louise Greenhouse: "The five-year study is too short. The greater impact will be in the years to come." Or this, from private



citizen Frank Partlow: "The study's fatal data flaw is its failure to estimate traffic beyond a contrived five-year horizon. Twenty speeding trains have one impact. Forty, which is not an unreasonable longer term estimate, create vastly expanded analytical potentialities which this study entirely and conveniently ignores."

A few commenters expanded on the issue. From John Frankovich, Reno Task Force member representing Nevadans for Fast and Responsible Action and a private attorney who has lived in Reno for 40 years: "The PMP is based on the fundamental assumption that in the Year 2000 there will be an average of 25 trains through Reno [each day]. This number was provided by the Railroad, which has an incentive to understate the impacts of the merger. The Railroad indicated that projections beyond five years are 'speculative.' However, the Year 2000 is only two years away. Thus, at the very least, the Railroad should provide an updated evaluation of its projected number of trains over the next five years. That information is undoubtedly readily available."

Several commenters on this issue asked that the Board consider other factors that may increase train traffic far beyond the 12 extra trains per day projected by UP. Commenting on overall "PMP Limitations," private citizen Daryl Drake wrote: "Is the STB justified in not considering the potential traffic increases because the increases cannot be 'reasonably projected' that far out or because major traffic increases from the [Port of Oakland's Joint Intermodal Facility] are not expected within the five-year window anyway?"

One commenter, Jack Lorbeer of the Regional Transportation Commission (RTC), acknowledged that projection beyond five years is speculative, but said it should be done anyway. "We at the RTC project traffic and other transportation issues in the Year 2015. We all know it's speculative, [but] a model is basically a tool that you use to project and to basically try to predict what you can."

The City of Reno commented: "The STB does not provide the basis of the statement they generally look at projections of 3 years in railroad mergers. A 3-year or 5-year projection period is completely inadequate to provide a basis for meaningful impact assessment based on a merger projected to breathe life into a failing SP system for years to come. The City requests that 10-year and 20-year projection periods be analyzed in the FMP, which is representative of sound business practice of any major corporation in the U.S. today."

### **3.2.2 Response to Comments**

In assessing rail traffic projections, the Board generally looks at projections of three years in railroad mergers. In this case, UP provided five-year projections, stating that this represents UP's projections for the reasonably foreseeable future for a combined UP/SP system. Therefore, SEA used the five-year projections in this case.

Many factors will affect the determination of how many trains will travel through Reno in the future. These include: the state of the nation's economy; the ability of rail freight to compete with trucks; maintenance and upgrades of rail lines; the success of the planned expansion at the Port



of Oakland; and the ability of the integrated railroad system to safely accommodate increased traffic, not only on the main lines but also in train yards and intermodal facilities. With so many variables affecting the determination of total train traffic density, it is virtually impossible to predict train traffic with any accuracy beyond five years. It is even more difficult to calculate the number of increased trains at six or more years into the future that would be solely the result of the UP/SP merger. Any estimate by SEA of rail traffic in Reno past the five-year study window would be far too speculative, and would be legally unsupportable. Therefore, SEA concludes that the five-year time frame is accurate and sufficient.

### **3.3 Train Projections**

#### **3.3.1 Summary of Comments**

One of the City of Reno's prime concerns was the estimate of the number of trains that will travel through Reno in future years. The City believes the number of future trains will be significantly higher than estimates used by SEA in its analysis. The City repeatedly publicized its projection that 38 trains per day will travel through Reno in the near future; many other commenters also used that number as the accurate projection, though several were apparently not aware that SEA had received from UP and that SEA had independently verified a much lower number. The City stated:

"Throughout the PMP, clear mandates of the STB's Decision No. 44 are completely ignored by SEA, while other mandates of the STB's Decision No. 44 are steadfastly embraced. The Port of Oakland expansion, benefits of UP's extensive expansions at the Roseville Yard, the UP's own statement that the Central Corridor is their 'premier route,' and UP's Sierra Nevada tunnel expansion must be fully studied in order to adequately calculate the increased rail traffic the Reno/Sparks/Truckee Meadows area will experience as documented in the UP's July 1, 1997 filing entitled 'Applicants Report on Merger and Condition implementation' (STB, 1997c).

"The City continues to believe a realistic number of through freight trains per day, which should have been used for the analysis on the PMP and the EA is thirty eight (38), based on current levels of operations reported by Barton-Aschman et al., 1996; Nolte et al., 1996, and is apportioned as follows:

"22.0 historical freight trains per day assumed to be an accurate baseline condition;  
6.0 Feather River Route Freight Trains per day;  
6.0 Burlington Northern/Santa Fe (BN/SF) settlement agreement trains per day;  
2.0 Amtrak Trains per day (especially if Amtrak begins to carry freight); and  
2.0 Local movement trains per day.

"This represents an increase of 24.2 trains per day (175 percent increase in the number of trains over existing train traffic)."

Several commenters stated that the projection of train runs through Reno in the future should be updated. John Frankovich, representing the Nevadans for Fast and Responsible Action (NFRA) on the Reno Mitigation Study Task Force, stated: "NFRA also has a concern about the number of projected trains upon which the entire analysis in the PMP is based. The twenty-five (25) trains per day is an average number based on the Railroad's calculations for the year 2000. Initially, this was a five-year projection between 1995 and the year 2000. However, 2000 is only a little more than two years away. Therefore, the Railroad should provide an updated analysis of the number of trains projected through the year 2003. In addition, any evaluation of the further train traffic through the Reno area should consider the impacts of the Port of Oakland Project which is currently under construction and scheduled to be completed by 2002."

Many commenters noted that the number of trains running through Reno in the past was substantially higher than the number SEA or the City of Reno projects for the future. Reno citizen Frank Napierski, president of NAPZ Drayage and a regular attendee at Reno Mitigation Study Task Force meetings, stated: "Historically train traffic through the area has fluctuated from highs during the Second World War of over 50 trains a day to a low of 12.7 trains a day just before the merger. When a railroad serves an area for over one hundred years, that area must have come to expect fluctuations in rail traffic. Additionally, since 30 trains was common until the mid 1980's, the generally accepted number of 24 trains a day within the next few years is not, in reality, an increase at all. Since mitigation for real problems that could be caused by this merger should be based on reality, and the reality is that this merger will not be increasing the train traffic through Reno, the 'additional' impact to Reno does not exist."

### **3.3.2 Response to Comments**

The City of Reno maintains that the realistic number of trains that should have been used in the PMP analysis is 38. This number was presented in a report to the City of Reno by Nolte et al., 1966, and (as cited by the City) Barton-Aschman et al., 1966. (It should be noted that Barton Aschman's role in these studies was related to highway traffic analysis. Barton Aschman had no responsibility for the derivation or verification of the railroad traffic projections.) The following paragraphs explain why SEA took a different approach than that used in the Nolte report.

#### **Time Period of Traffic Projections**

The projected daily average of 38 trains contained in the Nolte Report is for the Year 2015; the projected daily average of 24 trains contained in the PMP is for the Year 2000. Thus, the two projections differ in terms of assumptions and approaches.

An associated issue raised by the two projections is the appropriate period for analysis. SEA's responsibility is to study the environmental effects of the merger. The Board generally looks at a three-year traffic projection (see Section 3.2). UP provided a five-year traffic projection as part of its merger application. Based on its experience in rail mergers, the Board's Section of Environmental Analysis (SEA) has found that train traffic projections beyond a five-year period are speculative, at best. Moreover, this five-year period is consistent with the National Environmental

Policy Act (NEPA) which requires evaluation of the indirect effects of the project "in time or farther removed in distance, but are still reasonably foreseeable" (40 CFR 1508.8) Therefore, looking beyond a five-year period is neither warranted nor required by law.

However, SEA recommends Condition No. 25 which states that "if there is a material change in the facts or circumstances upon which the Board relied in developing localized mitigation measures for Reno, the Board, upon petition by any party who demonstrates such material changes, may review the final mitigation measures, if warranted."

### **Historical Train Numbers**

The number presented by the UP for the pre-merger traffic level through Reno is 12.7 trains. As an interim condition to the merger, a cap of two trains, bringing the total to 14.7 trains, was imposed by the Board for the 18-month Reno Mitigation Study. Eight months of data collected in 1996, and reported in the PMP, show an average of 10.8 trains a day through Reno. This average is below the cap limit and below the pre-merger number of 12.7 trains presented in the UP operating plan. Thus, the train volumes through Reno have not even reached the pre-merger base traffic levels.

### **Feather River Trains**

The Nolte report makes reference to six Feather River Route trains that will travel through Reno. The report does not provide the origin of these trains. However, it appears that the report assumes that these six trains are rerouted from the Feather River Route to the route through Reno. This assumption is incorrect. The UP traffic modeling projects the traffic flows on the Feather River Route and the route through Reno. Therefore, all traffic for the Central Corridor was split, according to the operating plan, between the Feather River Route and the Reno Route. From this, the number of trains on each route was determined. Further reallocation of trains between the two routes is not valid because the model has already accounted for the split of traffic.

### **Burlington Northern/Santa Fe Trains**

The Nolte report indicates that the Burlington Northern/Santa Fe will operate six trains through Reno as a result of UP/SP/BN/SF Settlement Agreement. Six BN/SF trains per day is highly speculative; a much more likely number is four or fewer trains per day.

During the development of the Environmental Assessment for the proposed UP/SP merger, the BN/SF submitted a verified statement by Neil D. Owen in its "Comments on the Primary Application" (BN/SF-1), on December 21, 1995. This statement addressed estimated train counts that would result from the settlement agreement. The statement indicates that between Weso (a junction located east of Winnemucca, NV) and Sacramento by way of Reno, BN/SF anticipates operating four daily trains through Reno. Mr. Owen also stated that additional intermodal trains may operate as traffic warrants on the Central Corridor via Reno.



During the SEA data collection effort in Reno conducted February 3 through 10, 1997, the SEA team noticed that BN/SF was operating manifest trains through Reno. These trains were shorter than the typical UP manifest trains. Some trains were as short as two or three cars. In other instances BN/SF locomotives were observed with no cars.

Currently, BN/SF manifest trains are routed on the Feather River Route, which facilitates connections with BN/SF I-5 Corridor trains at Portola, CA. Further, BN/SF has informed UP that its intermodal trains will not be operated through Reno, but will use BN/SF routes through Texas and Arizona because of track capacity improvements.

The events described above exemplify the fluidity of train operations. In recognition of this fluidity, this FMP continues to recognize the operation of four BN/SF freight trains through Reno even though none are currently operating. Under these circumstances, it is highly unlikely that a third daily train pair (trains five and six) will be added for the foreseeable future.

### **Amtrak**

Amtrak train operations are not under the jurisdiction of the Board. Therefore, Amtrak trains are not included in the average daily through freight train counts contained in the PMP. The City comments make reference to Amtrak freight service. As an opportunity for revenue enhancement, Amtrak is seeking ways to increase its express service. Under this concept, express cars are coupled to passenger trains. Express cars could be added or dropped from the passenger trains at stations along its route. Amtrak cannot, by law, operate freight trains such as those operated by UP or any other freight railroad.

### **Local Trains**

Local trains are not counted as a part of merger-related through train counts. In Reno, local switching has little effect because most industry is located east of Reno in the Sparks area. A local switcher operates about three times a week through downtown Reno. No local switching takes place in the downtown Reno area between Lake Street and Keystone Avenue.

### **Traffic Projection Methodology**

Please see Section 2.3 for a discussion of merger-related train projections. The Nolte report did not include a description regarding the railroad traffic projection methodology. Therefore, SEA has no further comments on the Nolte methodology.

### 3.4 Port of Oakland Expansion

#### 3.4.1 Summary of Comments

The City of Reno provided extensive comments on the issue of the proposed Port of Oakland expansions; other comments addressed the issue as well, though not nearly to the depth as the City. The City stated:

"The Port of Oakland (the 'Port'), California is proposing to develop a major new intermodal transportation center on bayfront land formerly owned by the U.S. Navy, Navy Supply Center. Summit/Lynch Consulting Engineers formed a team in July 1994 and started work on the *Oakland Joint Intermodal Terminal (JIT) Operational Analysis Report* which was issued in January 1995. Team members included Frederic R. Harris, Inc. and F. E. Jordan Assoc., Inc. The report was cooperatively produced by the Port, UP, SP, and shipping lines and their agents. This UP supported document indicates that provides 'projects [sic] of intermodal volumes to the year 2002 and beyond [2020] (Summit, 1995: 10).'

"This internationally significant project will have a major effect on the future freight train traffic traveling through Reno. This facility, known as the Joint Intermodal Facility (JIT) will combine existing UP and SP intermodal operations in a modern 200-acre state-of-the-art intermodal facility including several maritime berths which will accommodate deep draft container ships, and a multi-facility rail yard with capabilities to process 42 double stack trains over 8 miles of loading tracks with a 1.6 million annual container capacity, when it is completed in 2005 (*Journal of Commerce*, April 30, 1997. 'Waterfront Facelift Gives the Port a New Look.' p. 1). In fact, a memorandum of understanding was executed in April 1994 between the Port and both the UP and SP railroads to facilitate construction of the \$80 million joint intermodal terminal (*San Francisco Chronicle*, April 6, 1994, 'Oakland Port Project.' p. C2).

"Completion of the Port expansion will more than triple the Port's capacity to handle maritime cargo. The Port is aggressively pursuing the construction of these facilities to maintain its position as one of the major west coast port facilities, along with Los Angeles/Long Beach and Seattle, to accommodate the exponential growth in Pacific Rim shipping traffic.

"To further document the significance of the Port's expansion project, the State of California Employment Development Department, Labor Market Information Division has projected that 5,000 new transportation jobs, primarily attributable to the Port expansion plans, will be added to Alameda County by the year 2001 (EDD, 1994). The majority of these jobs will be in container repair and leasing, trucking, warehousing, freight forwarding and container crane operations.

"The JIT project is to be constructed in three phases, with phase 1, which is currently ongoing, to include dredging of the bay from 38 feet to 42 feet deep to accommodate deep draft container ships. A majority of this dredging has been completed, with the entire project scheduled to be completed in 2005 (42 feet to 50 feet). It is clear that the project is on fast track, in order to maximize the Port's competitive edge against other west coast facilities (Len Cardoia, personal communication, March 5, 1997).

"Chief Executive Officer Dick Davidson has stated that the UP-SP merger was the 'only way UP can fill gaps in our system between Texas and California, Los Angeles and Oakland—or improve the efficiency between the California ports and the Mississippi River gateways' (official UP World Wide Web Site—Union Pacific 1996 Annual Report—The Merger of Union Pacific & Southern Pacific).

"Reno requests that the Port expansion project be given a fully evaluated 'hard look' by SEA, and factored into the model that calculated system-wide rail traffic distribution, to establish a realistic future rail traffic project for daily through trains in Reno."

### **3.4.2 Response to Comments**

Government officials and citizens commented that the FMP should address the additional train traffic through Reno that would be caused by the planned construction of the Joint Intermodal Terminal (JIT) at the Port of Oakland. The JIT terminal would be a major expansion project for the Port and would provide additional capacity for the transfer of containers between intermodal trains, trucks and ships.

The JIT project is not a part of the UP/SP merger and no major expansion of the Port of Oakland rail intermodal facilities is scheduled before the Year 2000, the end of the Reno Mitigation Study projection period. Moreover, the proposed changes to this intermodal facility are still in the planning stages and the effects on train traffic levels in Reno are not reasonably foreseeable.

The JIT is planned for construction in two separate development programs, Phase 1 and Phase 2. Phase 1 is further subdivided into the 'initial construction phase' (initial Phase 1a) and Phase 1 build-out. The initial Phase 1a construction is an intermodal facility that is planned for use by the Burlington Northern/Santa Fe (BN/SF). This will enable the direct routing of BN/SF intermodal trains into the Port of Oakland rather than operating from Richmond as is the current practice. The initial Phase 1a facility is modest, consisting of no more than four tracks, each averaging about 3,000 feet. In effect, this facility will replace Richmond for the Oakland bound BN/SF intermodal traffic. During the same time, the existing UP intermodal yard will be closed and all UP/SP intermodal operations will be consolidated at the present Oakland SP intermodal yard. The initial Phase 1a intermodal facility is scheduled to be operational in February 1999. These BN/SF and UP/SP interim operational arrangements will serve the Port until the completion of the Phase 1 build-out program, scheduled for completion no earlier than the Year 2002.



Although no definitive traffic studies have been completed, it can be argued that intermodal train traffic through Reno could actually decrease during the initial Phase 1a period. For the first time, the BN/SF will have direct access to the Port of Oakland and will be able to compete with UP/SP on an equal basis. And, because the initial Phase 1a period has no net expansion of facilities, the UP/SP and BN/SF will compete for the same traffic base. It can be expected that BN/SF will attract intermodal traffic from the UP/SP because of its enhanced competitive position at Oakland. Further, BN/SF has mentioned its intention to route intermodal trains over its own tracks through Arizona and Texas rather than use UP/SP settlement agreement trackage rights over the Central Corridor through Reno. For these reasons, it is unlikely that intermodal traffic serving the Port of Oakland that is routed through Reno will increase during the initial Phase 1a period. It is more likely that this intermodal traffic would actually decrease during the initial Phase 1a period.

There is no firm construction schedule for the Phase 2 development program. Phase 2 is the full build-out of the JIT to its maximum capacity. Construction of Phase 2 is dependent on traffic and economic growth. In addition, Oakland is currently dredging its ship channel to 42 feet; however, to be fully competitive with the other major west coast intermodal ports, Oakland must dredge its ship channel to 50 feet. This is because a 50-foot channel is required to handle the new generation of large container ships. The 50-foot dredging project is scheduled for completion in 2005, although permits have not yet been acquired.

As seen in the overall JIT construction schedule, the first element of the first development program, initial Phase 1a, is scheduled for operations in February 1999. This is within SEA's five-year analysis period which ends at the year 2000. The initial Phase 1a construction, however, is not an expansion of facilities, but a replacement of capacity lost with the closure of the UP intermodal facility. The Phase 1 build-out is presently scheduled for 2002, and it is very unlikely that this expansion could be accelerated and take place in the 11 months between February 1999 and January 2000. In addition, the construction of Phase 2, the full JIT build-out, is unscheduled and is dependent on economic conditions beyond the year 2002. Thus the JIT program is not part of the UP/SP merger application and the JIT impacts will occur beyond SEA's study period. Accordingly, no further consideration is appropriate.

### **3.5 Train Length**

#### **3.5.1 Summary of Comments**

Several parties submitted comments addressing the length of trains running through Reno in the future. While most of those expressed general concern that longer trains could cancel the mitigating effect of increased train speeds through Reno, a few commenters specifically addressed technical issues related to train lengths, such as the use of "Distributed Power," which allows longer trains by placing locomotives at different locations along the train, rather than only at the front of the train.

## **Future Trains Lengths**

A few parties made specific comments about the length of trains traveling through Reno in the future. Many of those were mentioned in the context of the average number of trains per day traveling through Reno as it relates to total crossing gate down time: longer trains mean more down time, more vehicle traffic delay and emergency vehicle blockage.

Nevada Governor Bob Miller stated: "Furthermore, there was no account taken for the expected lengthening of trains."

Thomas and Priscilla Bauer commented: "The anticipated increase in rail traffic will cause unpleasant situations in Reno that [we] find absolutely unacceptable. (1) Longer trains. We understand that some of these trains will be up to 6500 feet long! This would block all 10 major crossings at the same time! (2) More trains. This would increase air pollution tremendously, both from the trains themselves and the enormous increase of idling automobiles waiting at blocked intersections. Noise pollution would also increase and create additional disturbance to both our residents and tourists."

## **Distributed Power and Train Lengths**

Guy Zewadski, a railroad engineer and public commenter at the October 8, 1997 Task Force Meeting, stated that with distributed power the railroad can run trains two or three times as long as the 5,000-foot average, and that in actuality there is no physical limitation on the train length.

According to Carl Bradley, Superintendent of the Roseville Service Unit for Union Pacific Railroad: "One of Union Pacific's engineers said that Union Pacific is training its engineers to use Distributed Power, with locomotives spaced throughout the train, to run trains two to three times longer than we run today. We do use Distributed Power to run trains up to 135 cars long out on the plains, but that will not happen through Reno because of the grades over Donner Pass. Union Pacific has been using Distributed Power on most trains through Reno for months. The train lengths have not changed and will not change, because we don't want the trains to be too heavy for the mountain grades. Also, many of our sidings and yard tracks in this corridor do not have the capacity to handle longer trains. The only thing we are doing differently is that we are using newer locomotives—the most modern power on the Union Pacific system—which are equipped for Distributed Power operation. These locomotives have the lowest emissions of any engines on our system."

Jerry Lang, the Acting Director of Transportation under Carl Bradley, clarified how the Union Pacific Railroad is using distributed power. A distributed power unit, or DPU, is an engine added to the rear end of a train for added power on steep grades. Currently, DPUs help replace helper units located in Colfax and Truckee, thus distributing manpower and engine resources throughout the system.

### **3.5.2 Response to Comments**

#### **Future Train Lengths**

Based on all the information available to SEA, the average length of future trains within the study merger time frame is not expected to be longer than projected by UP. UP's train projections, as verified by SEA, show an anticipated train length average of 4,300 feet. To be conservative, SEA's vehicular traffic delay analysis used an average of 4,600 feet per train, which was the average length of the 140 trains that passed through Reno during SEA's train survey week of February 3, 1997. (See Section 5.3 of the PMP). Figure 3.5-1 illustrates the distribution of lengths for the observed 140 freight trains.

As noted during the survey, some trains were 6,500 feet long or longer. However, this fact does not mean that the average length will be 6,500 feet per train. Only two of 140 trains were that long during the week of February 3, 1997, and that included every train on the UP system crossing the Sierra Nevada, because the Feather River rail line was closed. During that week, one train was 6,615 feet long and one was 6,698 feet long—1.4 percent of the total. This low percentage cannot be used as a basis to suggest that the average length will be 6,500 feet long.

#### **Distributed Power**

As noted in the comments by the UP in Section 3.5.1 above, distributed power is currently used on freight trains through Reno and is not anticipated to have an effect on the length of the trains, given the difficulty of traversing the grades over Donner Pass.

### **3.6 Cap on Number or Length of Trains**

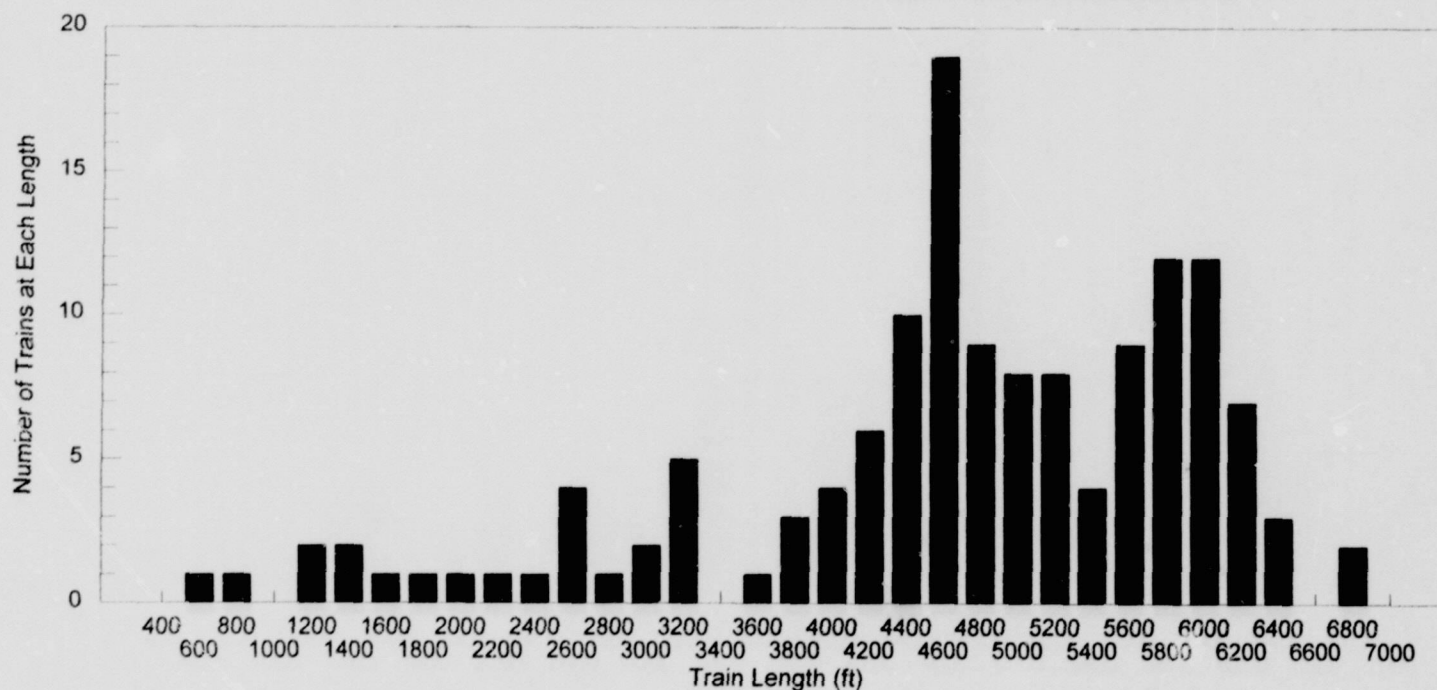
#### **3.6.1 Summary of Comments**

Numerous parties submitted comments on the issue of imposing a cap on the number or length of trains running through Reno. Many citizen commenters said the present level of traffic is already intolerable, and any increase will have significant safety or "quality of life" (traffic delay, noise, etc.) impacts. Some comments from agencies and citizens were more specific, such as from the City of Reno, which noted several times that decreasing the number or length of trains going through Reno would provide the same benefits as speeding up the trains through Reno. The City stated:

"Of the options SEA reviewed, increased speed is the only 'train operational change' listed. There is nothing mentioned about shortening train lengths by 50 percent or reducing the number of trains by 50 percent even though Appendix E of the PMP incorrectly states this is discussed in PMP Section 'in 7-1.'



**Figure 3.5-1. Train Length in Data Base**  
200-Foot Length Intervals, Train Observations at Arlington Street (2/3/97 - 2/9/97)



Average length = 4,568 feet; median length = 4,673 feet.

"As is clearly demonstrated by the above passages, SEA understands the relationship between train frequency, speed, and length, and increased traffic delay time in Reno. The only question left to ask is: If the STB can order UP to operate at a particular speed, why won't they order UP to operate less or shorter trains also? It is easily understood by the City that manipulating any one of the above variables (50 percent less trains [frequency], 50 percent faster trains [speed], or 50 percent shorter trains) can accomplish essentially the same outcome, 50 percent less delay time. SEA must take a 'hard look' at these operational change as well as speed.

"As with Comment #67.1 above, SEA notes 'those that reduce the amount of time the trains block the crossings' and just two paragraphs later the discussion only addresses speed. The City can offer a suggestion: 'those' which were forgotten in SEA analysis are frequency (50 percent less trains) and length (50 percent shorter trains) which can accomplish basically the same outcome, 50 percent less delay time.

"The PMP text notes that there are two types of mitigation measures which would decrease or eliminate railroad related vehicular and pedestrian delay; 1) elimination of at-grade crossings and 2) reducing the time that at-grade crossings are blocked. Using this rationale SEA must equally investigate all railroad operational factors that result in delay time, including train speed, train length and the number of trains. SEA chose to evaluate only the potentially mitigating affects [sic] of increasing the speed of trains through the downtown core to reduce total vehicular and pedestrian delay time. Manipulation of either of the two other identified operational factors (train length and/or the number of trains) would result in identical reductions in delay time, while at the same time reducing impacts to public safety, noise, and air quality."

Speaking at a meeting of the Reno Mitigation Study Task Force, Task Force member Steve Bradhurst stated: "[W]hat I'm hearing is what's important is to keep the system moving, even through it may bring the community to its knees . . . [Y]ou said you're not interested in a cap, and I'm saying that if you were to take a look at what this community could sustain, what it could accommodate by way of rail traffic, you may find that there is a limit. It may be that 70, 80, 90 trains a day brings everything to a grinding halt and has a significant adverse impact to the community. But what I'm hearing from you is, well, we don't want to put a cap on a community because if we do that, we'll be looking at other communities, and our primary objective here is to make sure the system operates and is healthy."

### **3.6.2 Response to Comments**

Traditionally, the Board does not dictate the number or length of trains. As part of Decision No. 44, however, the Board placed limits during the 18-month mitigation study period on the increase in the number of freight trains allowed through Reno to ensure that the environmental status quo would be preserved in Reno pending the determination of the further additional mitigation measures required. The limit imposed by the Board during the study restricts the daily average count

to 14.7 freight trains per day. This daily average limit represents the 1995 baseline average of 12.7 trains per day plus an average of two additional freight trains. It does not include Amtrak operations, local switching trains, "helper" locomotive units, or the operation of emergency trains.

The Board permitted UP to add only an average of two additional freight trains a day to the affected rail line segment, because this increase is below the threshold level for environmental analysis in the Board's environmental regulations. For air quality nonattainment areas such as Reno, the Board's environmental rules permit railroads to operate up to three additional trains per day.

The rail traffic through Reno is a vital link in the overall rail system in the United States. Placing a permanent cap on the number or length of trains going through Reno would have ripple effects throughout the entire system, and could lead to gridlock of rail traffic. Railroads are an integral part of the economic system in this country, and are a large factor in achieving the standard of living that Americans enjoy, as are highway, airway, and waterway carriers. Decreasing the traffic in one region on one carrier will merely shift traffic to another region or carrier, or act to place a restriction on the economy. It is well settled that Congress made clear that railroads must have the flexibility to operate their systems as business demands, providing all safety regulations are satisfied.

SEA is satisfied that UP's five-year train projections represent the reasonably foreseeable future under the merger. (See Section 2.3.) SEA, therefore, concludes that a permanent traffic cap on the number of trains is not warranted. However, SEA recommends Condition No. 25 which states that "if there is a material change in the facts or circumstances upon which the Board relied in developing localized mitigation measures for Reno, the Board, upon petition by any party who demonstrates such material changes, may review the final mitigation measures, if warranted."

### **3.7 Observed Speeds Higher than 20 mph**

#### **3.7.1 Summary of Comments**

Some parties submitted comments about observations showing that trains through Reno were already traveling faster than 20 miles per hour, the current limit. Several asserted that the speed data and/or methodology SEA used in its analysis were inaccurate, and therefore the calculation of benefit provided by increasing trains speeds through Reno was also inaccurate. The City of Reno was especially concerned that its observations showed that many more trains were traveling over the present 20 mph limit than SEA estimated from its observations. The City also asserted that gate equipment was updated since SEA made its observations.

#### **Accuracy of Speed Data**

Bob Miller, Governor of the State of Nevada, stated: "A study conducted by the Section on Environmental Analysis (SEA) earlier this year revealed as many as 30 percent of the trains already travel faster than 20 miles per hour, this study shows either a gross error in the data on which the benefits are based, or it shows that 30 miles per hour is not as far from the status quo as presumed."



In the October 8, 1997 Task Force Meeting, the City of Reno's environmental consultant, Mark Demuth, stressed that the database given to him for analysis is either incorrect or UP is exceeding posted speed limits 38 percent of the time. He went on to say that the entire report hinges on either a correct or incorrect set of assumptions. Mr. Demuth believes that increasing the speed by 10 mph is questionable when the speed is already above the 20 mph speed limit. Furthermore, Mr. Demuth highlighted concerns over the variation in train speeds in the database and the 27 percent of data consisting of trains over 20 mph.

### **Adequacy of Study Methods**

Of the few comments submitted on this issue, the following three quotations are representative. The City of Reno stated:

"As noted in the PMP (1997:7-5): 'Variations in the gate time data resulted in a few trains with calculated speeds higher than the UP established limit of 20 mph, and these are considered to be anomalies in the survey data.' The City noted that 38 percent of all calculated speeds are higher than the UP established limit of 20 mph (see Figure 1). This was confirmed by Gui Shearin of DCCo [De Leuw, Cather & Company] at the October 8, 1997, Task Force meeting when he stated that his own database indicated 27 percent of the speeds were above 21 mph.

"The City is critically concerned that although SEA has stated that '... NEPA ... served as SEA's guide in conducting the Reno Mitigation Study ...' (STB, 1997d:ES - 2), it would appear that this most basic of scientific data required for the reliable and valid determination of impacts and subsequent mitigation is seriously flawed, lacking '... the professional integrity including scientific integrity, of the discussions and analyses ...' required under CEQ regulations (40 CFR 1502.24). How can the City and the citizens of Reno trust an agency's 'hard look' when the data presented is questionable at best."

Also, at the October 8, 1997 Task Force Meeting, Mark Demuth stated: "I guess we are asking the question, and we're certainly very eager to have you answer it right now, is what part of these assumptions are wrong, [and] what parts are correct? Everything in the entire report hinges on this one thing. Only if the speed is the way it is during that period of time does everything else calculate out. So if this is not the speed and our assumption's incorrect and what was done in this report is based on those incorrect assumptions, then the benefits that are calculated later on would have the same type of error."

James Rogers of Harrah's stated: "In our reading of the PMP, at best the only factor which is mitigated is traffic delay. The City's response raises serious questions as to the scientific integrity of even the traffic delays. Since this appears to be the keystone upon which all the other mitigation is premised, if this is flawed, it would appear to Harrah's that the rest of the report must be flawed and that a critical look must be taken by the STB during the time between the closing of the

comment period and issuing of the Final Mitigation Plan ('FMP'). Additionally, it not only does not mitigate any safety issues, it creates safety issues."

### Use of 10 mph Increase

The City of Reno also stated: "The above two passages appear to indicate that the inflated calculated speeds were then increased by 10 mph for each event. There is no explanation if train events already exceeding 20 mph were capped at 30 mph or, for the purposes of SEA's analysis, allowed to increase above 30 mph. Again, this data can not [sic] be used for any subsequent speed increase analyses when the inflated calculated speed error is now compounded by the inflated 10 mph speed increase. The City has requested the FRA expressly respond to this phenomenon. SEA must also provide a detailed explanation in the FMP."

### Radar Gun Speeds

The City of Reno stated: "It should be noted that only four train event speeds were determined by radar gun corresponding to data SEA collected in February. Events #4 & #31 on Virginia Street: at 17 mph & 20 mph respectively on radar gun; and Events #37 & #38 on Vine Street: at 18 mph & 22 mph respectively on radar gun. As indicated in Table 4 below, there appears to be no correlation between the speeds recorded by radar gun and the calculated speeds by SEA (see Speed Calculation Comment #22.1 on page 2-22 of this comment document, relative to Data Collection Comment #2 1.1 on page 2-20 of this comment document)."

#### EXCERPTED FROM PRELIMINARY MITIGATION PLAN

Table 4 Train Speed Measurements				
Location	Date	Time	Speed (mph) radar gun	Speed (mph) calculated
Virginia Street	2/3/97	10:46	17	18.8
Virginia Street	2/4/97	10:45	20	NA*
Washington	2/4/97	14:07	18	18.2
Washington	2/4/97	15:03	22	18.7

\* This train event is an Amtrak train and was not used in the SEA calculated speed/delay model.

Source: STB, 1997d: Table 5.3.2- 1, Appendix G

### Train Speed Distribution

Also in the October Task Force Meeting, Mark Demuth of the City of Reno and Gui Shearin, SEA's consultant, discussed the distribution of train speeds during the February 1997 train survey. Mr. Demuth asked why he had calculated more trains over the 20 mph threshold than did Mr. Shearin. Mr. Shearin stated that his train speed data showed 27 percent of the trains traveling 21 mph or over. Mr. Demuth said that his data showed 37 percent of the trains going 20 mph or over.

## **Status of Gate Equipment during Survey Week**

Mr. Demuth suggested that, because the crossing gate trigger mechanisms were based on distance and not speed at the time of the field study, the data are erroneous. The Arlington crossing was noted to have longer gate down times than the remaining downtown crossings, and Mr. Demuth suggested that all the crossing gate trigger mechanisms in downtown Reno were replaced to the speed evaluator type after the February study period.

## **Understanding of Model Calibration Procedures**

Also, at the October Task Force Meeting, Mr. Demuth stated: "[Y]our data was so wrong that you did not use your data and you went to and timed every single event from the videotape?" Mr. Demuth concluded: "[C]learly your methodologies are not clear from this document and there are things that have happened in the methodology that are not stated correctly in the document, because everything is dependent on speed. Don't you feel there's some obligation that the speed section be as clear and simple of a process as possible?"

## **PMP Description of Higher Speed Trains**

Mr. Demuth also inquired about the variation in train speeds in the database and how SEA's consultant De Leuw, Cather & Company came up with 27 percent of the data over 20 mph and not 38 percent.

### **3.7.2 Response to Comments**

#### **Accuracy of Speed Data**

The City has commented on calculated train speeds above 20 mph for the February 1997 train survey. Two factors account for SEA's calculation of speeds over 20 mph: (1) trains actually going faster than 20 mph, and (2) refinements to nine data entries that were made by SEA.

Based on SEA's review of the data, about 25 percent of the 140 observed freight trains were likely going 21 mph or faster through downtown. Two of the 140 trains (1 percent) appeared to exceed 25 mph (i.e., about 27 mph). There are some probable explanations for trains traveling faster than 20 mph. Trains can and do increase speeds once the front end of the train passes through downtown. Therefore, long trains that are accelerating could be measured at a speed faster than 20 mph at some crossings. Also, variability around the UP established speed limit is expected, even if the trains were not increasing speed.

SEA did refine nine gate down times, or 1.3 percent of the 700 February 1997 freight train observations contained in the data set that was provided to the City of Reno in March 1997. Five of these nine refinements were made on the basis of comparing gate closed times at the five surveyed streets for the same train and adjusting an interior street entry that appeared to be inconsistent with the other gate down times.



The other four refinements were made after SEA computed train speeds for the 700 observations. As part of its review, SEA carefully examined trains computed to be traveling over 30 mph. Upon inspection, SEA noted that, in each case, the speed for a given train at one crossing was highly inconsistent with the computed speeds for the other crossings. The four refined gate times were for relatively short trains of between 420 and 2480 feet in length. Because shorter trains have smaller gate closed times, a minor error in a recorded gate closed time has a disproportionate effect on the calculated train speed. Refining each of these four data points to be consistent with other street observations for the same train produced a more plausible description of the correct speed for that train.

Thus, if the City were to use the original database, excluding these nine observations, along with the gate time constants from the PMP (Table 6.2.1-1 on p. 6-3) to calculate speeds for non-overlap freight trains, the City's calculations should be the same as those calculated by SEA. The nine adjustments were fully appropriate to eliminate nine clearly implausible entries in the database. Moreover, the adjusted values constituted only a small fraction (1.3 percent) of the database and had only negligible effects on SEA's delay calculation, while creating a more likely description of these nine gate time observations.

SEA has concluded that its calculations are reasonable estimates of the speeds of UP trains during the week of February 3, 1997 and that UP was operating some trains at speeds somewhat higher than 20 mph.

Regarding the effectiveness of increasing train speeds, SEA notes that a much higher portion of vehicular traffic delay is caused by slow-moving trains than by faster trains. Thus, increasing the speeds of the slower trains is substantially more effective at reducing vehicular traffic delay than is increasing the speeds of the faster trains.

More important, SEA has found that an average speed of 24.3 mph for all trains would reduce post-merger delay to the pre-merger level. An average speed of 27.5 mph by trains would yield the vehicular delay savings documented in the PMP.

Finally, SEA recommends Condition No. 3 to assure compliance with the increased train speed mitigation. (See Section 2.5)

### **Adequacy of Study Methods**

SEA believes that its approach to estimating speed and delay is scientifically accurate and sufficient. For example, to ensure accuracy of the data during the calibration of the delay model, video tapes were systematically reviewed resulting in a delay model that was calibrated to within 2 percent of the observed delay for the major train events on most downtown streets (Center Street was calibrated to within 5 percent.) SEA deems this level of accuracy as high, especially for a traffic model.

The City suggests that variations in the average gate activation times yield calculations of train speeds that are not accurate and that should therefore not form the basis for estimating changes in delay with increased train speeds. The suggestion is also made by the City of Reno that use of calculated speeds invalidates SEA's analysis and conclusions. In response, SEA notes:

1. Since the PMP, SEA has calculated pre-merger and post-merger traffic delay independently of the estimated train speeds. SEA instead used the observed gate down times from the database for the unmitigated case and used a constant, uniform speed for the post-merger mitigated case. This separate, independent analysis corroborated the delay reduction benefits (previously estimated in the PMP for a 10-mph speed increase) with a uniform speed of 27.5 mph for all post-merger trains. Section 3.20 discusses this subject further.
2. The City assumes that the gate activation times during the February 3 survey week varied with train speed. This was not the case. As explained below under "Gate Time Upgraded After Survey Week," the gate equipment was upgraded on January 16, 1997, to give a constant gate time regardless of train speed.
3. The delay model included all 700 train observations, taking advantage of repeated observations of trains to average out any estimation errors to a level that is insignificant for the analysis and its conclusions.
4. The prior subsection discusses the calculation of train speeds over 20 mph and notes the reasons for these observations and calculations.

### **Use of 10 mph Increase**

Because of the minimal delay reduction benefits from increasing speeds of trains traveling at 20 mph or higher, SEA did not initially cap the speed at 30 mph. In response to the City comments on the PMP, SEA computed an additional case with a 10 mph increase for all train and a cap of 30 mph. The result was generally equivalent to the speed mitigation documented in the PMP, with post-merger delay traffic estimated to be 30 hours less per day than pre-merger conditions (as compared to 35 hours in the PMP).

SEA notes that the benefits identified in the PMP would be realized with an average train speed of 27.5 mph. SEA also computed a case with all 24 post-merger trains running at 30 mph through downtown Reno. The resulting traffic delay was 55 hours less per day than pre-merger conditions documented in the PMP.

### **Radar Gun Speeds**

Because Washington Street was not one of the five streets surveyed during February 1997, Virginia Street was the only street for which there were both directly observed train data and a radar gun reading. For the Virginia Street observation (train #18), the radar gun speed was 17 mph and the speed calculated from the database observation was 17.1 mph. Comparing the Washington Street

radar gun readings with the average speeds calculated over five streets from the database for trains #37 and #38, the observed (calculated) speeds were 18 (17.9) mph and 22 (20.7) mph, respectively. The sample is very small, but the agreement is good.

### **Train Speed Distribution**

At the October Task Force Meeting, Mark Demuth of the City of Reno and Gui Shearin, SEA's consultant, discussed the distribution of train speeds during the February 1997 train survey. Mr. Demuth asked why he had calculated more trains over the 20 mph threshold than did Mr. Shearin. Mr. Shearin stated that his train speed data showed 27 percent of the trains traveling 21 mph or over. Mr. Demuth said that his data showed 37 percent of the trains going 20 mph or over.

The difference appears simply to be two different ways of summarizing the data. As noted in the transcript of the October Task Force Meeting, the PMP database of calculated trains speeds contained 27 percent of the trains traveling 21 mph or over. This statistic is not inconsistent with the City's statement that 37 percent of the trains were calculated to be traveling 20 mph or over, given that approximately 10 percent of the trains were calculated to be traveling between 20.0 and 21.0 mph.

### **Status of Gate Equipment During Survey Week**

According to telephone conversations with Richard Stevens of the UP on March 20 and 24, 1997, UP changed the gate equipment to the speed evaluator type for all of the downtown Reno crossings on January 16, 1997. Thus, all crossings were set prior to the February train survey to give a constant warning time independent of train speed. There were subsequent problems with the gate equipment at Arlington Street that caused it to give gate times higher than normal for this type of equipment. The UP traced the problem to a faulty setup and corrected the problem after the February train survey.

### **Model Calibration Procedures**

SEA offers the following clarification regarding calibration and modeling procedures. The primary conclusion of SEA's delay analysis is that the traffic delay that would be caused by the addition of 11.3 daily freight trains through Reno can be mitigated to a delay level better than that caused by 12.7 pre-merger freight trains if trains are operated at an average speed of 27.5 mph. SEA has verified this conclusion independently of any calculation of the initial speed of the trains and has matched the results documented in the PMP. As in the PMP, the initial delay for 12.7 trains was calculated from the gate closed times in the database.



## **PMP Description of Higher Speed Trains**

The City has observed that any speed over 20 mph is "high." As discussed in the first subsection of Section 3.7.2, there were trains during the week of February 3, 1997, that were going faster than 20 mph. SFA concluded that about 25 percent of the freight trains were likely going 21 mph or faster, but that only 1 percent were traveling over 25 mph. The remaining scatter in the computed speeds was the "few" high train speeds referred to in the PMP.

### **3.8 Can UP Maintain Train Speeds of 30 mph?**

#### **3.8.1 Summary of Comments**

Several commenters, including the City of Reno and others, raised the question of whether UP can maintain train speeds of 30 mph. The City of Reno stated:

"The PMP has introduced 'increased train speeds' as the principal mitigation measure. Speed has always been treated as an operational characteristic of the vehicles as well as trains and it is not an appropriate measure of mitigation. Speed by nature is not a constant parameter. It could change due to several factors which are not controllable. Factors such as acceleration, deceleration, horsepower, grade, trailing tonnage, stopping distance, weather, and emergency situations such as right-of-way trespass<sup>18</sup> could affect the speed (Hunter, 1997) (see a memorandum from Gary V. Hunter to Steve Varela in Appendix F of this comment document). It is, therefore, a stochastic factor. The City's field observations, as well as the PMP itself indicates great variation in speed (from 5 mph to over 30 mph) during the video taping and SEA field survey.

"Assuming a 30 mph speed as a 'required' mitigation measure is therefore not a realistic solution. There is no guarantee that speed will be '...consistently maintained... [for] all trains through downtown Reno at 30 mph' (STB, 1997d:8 - 6). The City believes that a probalistic model needs to be developed to identify the speed distribution over time (under various environmental conditions) and establish the randomness of this parameter.

"Increasing speed, if it happens, may improve the total delay, but the occurrence of that is not by any means under control. Increased train speed may also have other traffic-related impacts at at-grade crossings that are near signalized intersection and signal preemption are [sic] in effect. The PMP needs to consider a comprehensive and detailed analysis of preemption conditions at those locations and include the impact of increased speed on preemption strategies. With increased speed, more time may need to be given to motorists to clear the track environment prior to train arrival."

The City's footnote for the preceding passage stated: "<sup>18</sup>The right-of-way though fenced is not secured and does allow for trespasses in a poorly illuminated environment where trains pass through a building that forms a tunnel limiting visibility with a mixture of neon lights or no light at all contributing to very poor visibility."

At the final Reno Mitigation Task Force meeting, Gui Shearin of De Leuw Cather & Company, the independent third-party contractor, suggested that the limited speed of trains through Reno "is not a matter of power. It's a matter of track geometry and signaling that causes them to be going slowly in the first place, and operating procedures, too." Craig Wesner of the Nevada Public Utilities Commission (NPUC), formerly the Nevada Public Service Commission (NPSC), responded to this statement stating:

"It might help as an independent individual other than the railroad to verify that your [Gui Shearin's] statement is correct, that it's not power, it's the track geometry and track structure. We at the PSC, PUC now, have looked into that fact and have been talking to railroad engineers that operate the trains through Reno, and our analysis of that is that most trains that operate through Reno now can operate at 30 miles per hour with current power configurations. It's the signaling system and the constraints in the yard that cause them to not operate that speed . . . I've heard this discussed numerous times here at this table, and there seems to be some concern, or at least my impression is that there's some unwillingness to accept what information is being provided out. I'm just trying to say, look, I'm an independent party here that looked into this issue and found and verified the information that is being passed out, so I'm just trying to help. I'm not trying to create any more controversy."

In written comments, Task Force member John Frankovich, representing Nevadans for Fast and Responsible Action, stated:

"In addition, the speed of trains cannot be adequately controlled. Many factors will affect the speed of trains through the Reno area, including pedestrian and vehicle congestion, weather, train weight, train length and the subjective perception of the train engineer. Thus, it does not appear that an increase in the speed limit will result in permanent or effective mitigation.

"While the Railroad has indicated that it believes it can increase the speed of trains, it has provided no substantiation. The PMP does not provide for any consequences for the failure to maintain the increase speed. At the very least, the PMP should be modified to provide for additional mitigation in the event that an increase in the speed either cannot be obtained or is not an effective mitigation."

### **3.8.2 Response to Comments**

SEA has a verified statement from UP that provides documentation that train speeds can be maintained at an average of 30 mph on a consistent basis for the rail segment. Section 2.4.1 summarizes SEA's proposed increased train speed mitigation measure and documents the feasibility and benefits of the increased train speed mitigation. SEA has also proposed mitigation to assure compliance with the increased train speed requirement. (See Section 2.4.2)

## **3.9 How Will Speed be Enforced?**

### **3.9.1 Summary of Comments**

Several parties, mostly representing the city or some other governmental agency, expressed concern about whether and how the 30 mph minimum speed limit would be enforced. Nevada Governor Bob Miller stated: "Not only are the benefits of increasing speed unknown, there is no guarantee that the Union Pacific will indeed travel at faster speeds." Reno Mayor Jeff Griffin asked: "Is it [the City's] obligation to make sure they are going 30 miles an hour, or is it a hoped for upper limit, or what?"

John Frankovich, who represented the Nevadans for Fast and Responsible Action on the Reno Mitigation Study Task Force, stated: "An increased speed of trains is simply not enforceable. Many factors will affect the ability of a train to obtain the speed necessary to achieve the limited mitigation benefits set forth in the PMP. It will be virtually impossible for any independent entity to effectively monitor the speed of trains through Reno. In addition, there is no penalty or other enforcement mechanisms set forth in the PMP in the event that the proposed train speeds cannot be attained."

Mr. Frankovich added: "The PMP does not provide for any consequences for the failure to maintain the increased speed. At the very least, the PMP should be modified to provide for additional mitigation in the event that an increase in speed either cannot be obtained or is not an effective mitigation."

### **3.9.2 Response to Comments**

To assure compliance with the increased train speed requirement, SEA has proposed the following measure pertaining to enforcement: UP shall provide a report to the Board on a monthly basis containing: (1) the speed of each train subject to Condition No. 2 (see Table 2.5-1), and (2) the monthly average speed of all trains subject to Condition No. 2. Copies of the report shall also be provided to the City of Reno and Washoe County. If an interested party demonstrates to the Board that UP is not in substantial compliance with Condition No. 2, the Board may reexamine Condition No. 2 and reconsider the issue of requiring vehicular grade separation(s), if warranted.



### **3.10 Safety of Increased Train Speeds**

#### **3.10.1 Summary of Comments**

Several commenters, including Senators Richard Bryan and Harry Reid, Chairman Arlan Melendez of the Reno-Sparks Indian Colony, the City of Reno and some private citizens, questioned the safety of increased train speed. The City of Reno stated:

"SEA knowingly acknowledges that severe, increasingly fatal accidents are more likely to occur with increased speed and still has recommended a mitigation measure that increases the speed of trains through the downtown area of the City from 20 mph to 30 mph. The City is outraged by the fact that SEA has recommended a mitigation measure that will have implications to the health, safety, and welfare of Reno's citizens and tourists.

"It has certainly been the Reno City Council's, the City Manager's, the staff's, and the citizen's (who spoke out at the October 9, 1997 STB public meetings) position that increasing the speed of trains would exacerbate an existing problem (i.e., create additional impacts) and then by definition would not mitigate impacts of the merger. As with all potential mitigation that would increase one impact to potentially offset another the City would not consider the proposal mitigation."

Chairman Melendez stated: "The report largely ignores public health and safety issues. These impacts may be more severe with the increased train speeds recommended in the report."

Addressing the proposal to increase train speed through Reno, Reno City Councilor Dave Aiazzi wrote:

"Two things come to mind:

- "1. This is not required in the [PMP], just suggested. That being the case, no mitigation is involved.
- "2. If the concept of increasing speed to increase safety is going to be the national norm, perhaps we should increase the speed limit in school zones to 45 mph. According to [the PMP], there will be fewer accidents (by the way, there will be more fatalities, but that's apparently okay)."

Speaking at an October 7, 1997 Reno City Council meeting, Reno Mayor Jeff Griffin stated: "I'm more concerned about derailment. I'm more concerned about one of those propane tanks or sulfuric acid tank cars. And my concern is that if we've got a hot box [and] this thing is moving at twice the speed that it potentially was before, the reaction time is obviously cut in half, the ability to actually slow this monster down. I would imagine it is a little bit geometric in the sense that slowing down [something] that's that massive and [has] that momentum at 30 [mph] is considerably

longer than it is at 15 [mph] . . . I would think if a train derailed, you're going to be in a lot worse shape at 30 [mph] that you would be at 10 or 20 [mph]."

Jim Gallegos of the Nevada Department of Transportation stated:

"The train speed is regulated by the class of track as determined by the Railroad. Since the State does not regulate train speeds, our comments have been restricted to operation of existing warning devices and other human factors.

"The approach speeds of the trains provide the necessary warning time for higher speeds. According to the UPRR, the proposed circuitry has already been installed for all crossings impacted by the higher speeds. The automatic warning devices compensate for changes in speed. Traffic signal preempt timing is automatically adjusted for those traffic signals close to the tracks.

"Reaction time for vehicle and pedestrian trespassers (those who choose to violate the warning devices) will be reduced. Preventing the opportunity for these occurrences is addressed in other areas of the plan."

A typical citizen comment on the issue was this, from 45-year Reno resident Betty Collins: "The idea of bigger and faster trains is frightening . . . With tourists going across the tracks, there is a very great added danger with trains going faster."

Reno citizen Phillip J. Wendt stated: "The speed limit in Reno school zones is 15 mph. It is difficult to get your car to creep that slow. Expecting a train to creep under 20 mph is dumb. Of course we now hear from Reno management that at 30 mph we have high speed trains racing through Reno. That is really stretching it. Reno does have a major downtown problem, but it is not the trains. The railroad has been a good neighbor. The problem downtown is the bums and the panhandlers that consistently harass and abuse the tourists by asking for money. (These people are not to be confused with true homeless people that deserve help.) These bums do this intentionally for a living. They are a major problem for Reno and the casinos."

Rich Vitali, a Reno Mitigation Study Task Force member representing the River Banks Home Owners Association, stated: "Just on the speed issue, I had the same questions that have been raised so I won't raise those, but on the page that talks about traffic delay, the statement's made that 30 miles an hour is reasonable through Reno. I'm just interested to know, is that based on the opinion of consultants? Is that based on an operating manual? Is it based on railroad safety? I just don't understand who made that determination."

On January 21, 1998, the City of Reno submitted a comment letter on the PMP regarding the application of Conrail Draft EIS evaluation criteria to the Reno Mitigation Study. The City stated:

"SEA's criteria for mitigation via "increasing train speed" in the Conrail Draft EIS is given as:

"Where local operating conditions allow for increased train speeds without compromising safety. . . SEA recommends that the Board impose on any decision approving the proposed Conrail Acquisition a condition requiring the acquiring railroad to implement the necessary physical and operating improvements to increase train speeds . . ." [emphasis added] (Conrail Draft EIS, Vol. 4, chapter/page 7-5)

"It appears that the SEA's safety/increased speed criteria in the Conrail Draft EIS would be inconsistent to SEA's criteria used in the Reno PMP. For example, SEA concedes that "accidents are likely to be more severe with increased train speeds." However, SEA has recommended increased speed through downtown Reno as mandatory mitigation in the PMP. Please refer to Figure 7.2.1-2 which shows that anticipated fatality rates (number of fatalities per accident) increase as train speeds increase (Reno PMP, page 7-10 and page 8-8). The City submits that the proposed train speed increase in downtown Reno does compromise safety.

"The City respectfully requests that this criteria be used to determine the feasibility of increased train speed through downtown Reno as a mitigation measure. Specifically, a critical element of the Reno FMP must include a determination of whether an increase in train speed through downtown Reno can occur without compromising safety."

### **3.10.2 Response to Comments**

As noted, FRA establishes the required conditions to assure safe operations at various train speeds. SEA believes that, if FRA requirements are met and SEA's additional mitigation measures are implemented, train speeds can be safely increased to an average of 30 mph through downtown Reno. In addition to the increased train speed mitigation measure, SEA recommends the following safety-related mitigation measures:

- Four-quadrant gates (at nine locations).
- Pedestrian grade separations at Virginia and Sierra streets.
- Pedestrian crossing gate "skirts" and electronic warning signs for pedestrians (at six locations).
- Safety training programs for students and downtown employees.
- Installation by UP of a Centralized Traffic Control (CTC) system in Reno for train operations.
- Installation of additional train defect detection devices.



SEA believes the addition of these specific mitigation measures would lessen the safety concerns associated with an increase in train speeds to a reasonable 30 mph in Reno. Please also see Section 2.4.1 of the FMP for additional discussion of vehicle-train accidents, vehicle-pedestrian accidents, the requirements for train warning devices and the 20-second minimum advance warning, other applicable safety regulations, track classifications, train speeds in other communities, the overall reasonableness of a 30 mph train speed in Reno, and the benefits associated with increased train speeds.

### **3.11 Public Safety — Pedestrians and Vehicular Accidents**

#### **3.11.1 Summary of Comments**

A number of parties commented on the safety of at-grade pedestrian and vehicle crossings over the UP tracks in Reno. Specific topics included: the yearly pedestrian counts used in the PMP analysis; pedestrian behavior at grade crossings; vehicle driver behavior at grade crossings; whether enforcement may be necessary to achieve mitigation benefits; constraints and limitations of PMP safety measures; the danger to public transportation (Citifare) and school buses when crossing tracks; the increased number and speed of trains will significantly increase the risk of an accident because of the large numbers of tourists in the area; the need for maintenance of safety-related equipment; the need for more crossing gates and pedestrian separations; and the need for grade separations or the depressed railway to ensure safety.

Senator Harry Reid noted: "The safest way to accommodate the merger is to depress the tracks through downtown Reno, yet the plan does not address this proposal. The increase in the number of trains and the speed with which they may operate could significantly increase the number of vehicular and pedestrian accidents."

#### **Pedestrian Crossing Locations**

The City of Reno stated: "It is unclear from this general explanation of pedestrian counts in February 1997 how SEA complied with Decision No. 44, Condition 22c 'It shall include a final mitigation plan based on a further study of the railway, highway and pedestrian traffic flows and associated environmental effects on Reno' [emphasis added] (STB, 1997d:Appendix A, p. 16). An explanation how this data was interpolated into pedestrian counts for an entire year in Reno is needed in the FMP."

#### **Pedestrian Behavior at Grade Crossings**

The City of Reno stated:

"As a scheduled agenda item at the Reno Mitigation Task Force Meeting #5 held May 14, 1997, Anita Boucher, State of Nevada Railroad Safety Coordinator (Safety Engineering Division, Nevada Department of Transportation [NDOT]) conducted a presentation to the entire task force on pedestrian behavior at at-grade crossings to

emphasize the necessity of train horns in downtown Reno, she stated 'if there is a problem at a crossing, the engineer must blow his horn, regardless [of any whistle ban which may be in place]'. NDOT studied the City's Virginia Street crossing video tapes for a period of one week of events in February 1997. Ms. Boucher found that in 121 times out of 165 train events, a train horn would have to be blown (73.3 percent of the time) due to intrusions onto the right-of-way, a total of 1,350 pedestrian intrusions in the week studied. The City would offer that these results clearly indicate more than 'a number of violations of pedestrian crossing gates' or as Ms. Boucher notes in her data:

- “• pedestrians lift gate arms;
- pedestrians stand on opposing tracks;
- pedestrians walk down the middle of the roadway;
- pedestrians in roadway on wrong side of gate arm;
- pedestrians walk around gate arm after it is down;
- pedestrians lift gate arms;
- pedestrians run to get across tracks;
- pedestrians run in front of train (2nd closest call); and
- pedestrians walk under gate arm (closest call).”

In a related comment the City stated: “The City would like to thank Ms. Boucher and her staff for their work on this study, as it is the only known survey of pedestrian behavior in downtown Reno which should and must be fully evaluated by SEA as part of their ‘hard look.’”

Rosalind Knapp of the U.S. Department of Transportation stated, “Crowds at periodic special events downtown would exacerbate possible safety impacts.”

A number of individuals stressed that more or longer or faster trains would only make the already dangerous situation in the Reno/Sparks area worse. The Reno/Sparks Chamber of Commerce stated that Reno is unique for a small city because the influx of tourists effectively increases the population.

### **Vehicle Driver Behavior at Grade Crossings**

The City of Reno stated: “At the . . . Reno Mitigation Task Force Meeting #5 held May 14, 1997, Anita Boucher, State of Nevada Railroad Safety Coordinator (Safety Engineering Division, Nevada Department of Transportation [NDOT]) while making her presentation to the entire task force, noted a total of 144 vehicular intrusions in the week studied, including ‘a gate arm resting on the roof of car.’ There is no discussion of this data in the PMP nor is there any quantification of these numbers versus pre-merger.”

## **Enforcement to Achieve Mitigation Benefits**

According to Jim Gallegos, Chief Safety Engineer with NDOT, enforcement of the following safety measures would be critical to make them effective. Gallegos stated:

- “• Train location video displays

“Video displays and detection may ultimately facilitate signal coordination which could reduce congestion and related traffic crashes. The displays could also warn pedestrians of the oncoming trains in some areas. However, without enforcement, the safety benefits may not be achieved.

- “• Cameras and Monitors showing Rail Line

“These devices could be utilized to enforce right-of-way violations. Enabling legislation will be required but has been successful in Southern California. Providing lighting and signing to dissuade trespassers should also be considered. Again, without enforcement pedestrians will continue to take risks in front of oncoming trains.”

In the Special Session of the October 7, 1997 Reno City Council Meeting, Deputy City Attorney Merri Belaustegui expressed the need for SEA to make provisions for monitoring and maintaining the monitors highlighted above and related equipment training.

## **Comments on PMP Safety Measures**

Jim Gallegos, Chief Safety Engineer with NDOT, highlighted concerns and presented ideas on various PMP measures:

- “• Four-Quadrant Crossing Gates at Nine Locations

“The proposed FRA criteria for four quadrant gates include median barriers. Median barriers were not proposed by the City since traffic flow on Third St. and Commercial Row will be inhibited, to the detriment of casinos and their valet parking services. Additionally, the proposed FRA regulations preclude four-quadrant gates when preemption for traffic signals exists. The regulations do allow for regular gates with median barriers. This will be less expensive and require no additional maintenance.

“The concept of preventing vehicles from bypassing the warning devices is good but four quadrant gates are not acceptable in many of the suggested locations.



“• Pedestrian Crossing Gate Skirts

“The pedestrian gates were installed under the Railroad Safety Program. Like all material installed under this program, NDOT maintains authority over the use and disposal of the property. The skirts will add weight that could run down the emergency battery system in the gates. Battery operation is required by the FRA, which would be extremely expensive with heavy gates. Pedestrians ride the gates when they ascend. There is space for pedestrians to walk between the gates and the fence. Gates only serve as a warning, not a blockade. The skirts will not improve this. The bizarre pedestrian behavior, captured on video and presented to the STB, demonstrated that skirts will be ineffective. Educational billboards and active enforcement are more likely to have an impact.

“• Electronic Warning Signs for Pedestrians

“This is an enhancement for pedestrian safety but will have a minimal impact on pedestrian behavior.

“• Pedestrian Grade Separations

“It is questionable whether the available right-of-way will allow for the construction of ‘effective’ overpass or underpass pedestrian facilities at the suggested locations. Escalators and elevators would be required to meet ADA requirements. Proper design and location will encourage pedestrian use only by restricting access to the roadway.”

Merri Belaustegui, the City of Reno’s Deputy City Attorney, also expressed concern about whether the underpasses would be effective if located in the mid block. Attorney Belaustegui likewise questioned whether pedestrian gate skirts would be effective in keeping pedestrians from going under the pedestrian gates because it left room to crawl under.

### **Potential Bus Safety Issues**

Jack Lorbeer of the Regional Transportation Commission expressed concern with the number of Citifare buses that cross the tracks already and the effect of increased train speed. He stated that some buses have been hit by the crossing gates because the buses could not accelerate quickly enough to avoid the gates. One individual also expressed a similar concern about school buses.

### **Maintenance**

Bob Webb with the Washoe County Department of Community Development stated: “The Preliminary Mitigation Plan inadequately addresses public safety, specifically with regard to response for maintenance and preventive maintenance.”

### **Need More Crossing Gates, Pedestrian Separations**

Some individuals expressed support for installing more crossing gates or for building pedestrian grade separations to improve safety.

### **Need Grade Separations or Depressed Railway for Safety**

Some individuals expressed support for grade separations or a depressed railway downtown to improve pedestrian and vehicular safety.

## **3.11.2 Response to Comments**

### **Pedestrian Crossing Locations**

On the basis of almost 90 percent of the delayed pedestrian movements occurring at Virginia and Sierra Streets, SEA concludes that these are the primary streets of concern. SEA concludes that the survey of pedestrians delayed by trains during the seven-day, 24 hours per day survey in February 1997 is sufficient to determine the primary pedestrian crossing locations and their relative use by pedestrians. The primary crossing locations were further confirmed from site inspections and review of local land use that generates pedestrian flows.

### **Pedestrian and Tourist Behavior at Grade Crossings**

Special events held in the downtown central business district create additional concerns regarding pedestrian/train safety. These events attract large numbers of people. According to the Reno Police Department, intoxication is sometimes a problem. There are special events almost every weekend throughout the summer. Up to 100,000 people have attended "Hot August Nights" in the past, and, according to the Reno Police Department, the event places a major burden on local public safety officials. Local officials are concerned with trains operating with these crowds present. Pedestrian accidents may also result from pedestrian failure to heed warning lights, barriers, and warning sounds.

SEA acknowledges that pedestrians sometimes enter the right of way at the downtown crossings. SEA has addressed this problem by recommending mitigation that would provide warning and information and would deter pedestrians from entering the right-of-way in front of trains. For example, SEA is proposing pedestrian grade separations at Virginia and Sierra Streets specifically to provide pedestrians a means to cross the tracks safely when a train is present. SEA's recommendation for four-quadrant gates would further improve pedestrian safety at nine locations, including Virginia and Sierra streets. Electronic signs would additionally warn pedestrians of the oncoming trains. SEA proposes electronic warning signs together with skirts on pedestrian crossing gates at four more streets to enhance pedestrian safety. Together with the recommended rail safety education programs, SEA concludes that these measures would adequately mitigate any increased hazard to pedestrians crossing the tracks in downtown Reno.

Although FRA has no quantitative methodology for evaluating pedestrian accident potential, SEA concludes that its proposed mitigation measures would reduce the pedestrian hazard to pre-merger levels. Train speed is also not a factor in the expected accident rate for crossings that have gates and flashing warning devices, as exist at all Reno public crossings. Warning devices supply a minimum 20-second warning regardless of the train speed. SEA notes that its proposed measures will not fully eliminate the potential conflict between Reno pedestrians and trains that exists in downtown Reno as a result of the preexisting proximity of the railroad and downtown development. For additional discussion of the safety of increased train speeds, please see Section 2.4.1 of the FMP.

### **Vehicle Driver Behavior at Grade Crossings**

SEA has addressed the issue of potential vehicle crossing accidents by analyzing the change in accident potential for all of the Reno crossings and by proposing additional appropriate mitigation. The FRA accident prediction methodology that SEA used takes into account vehicle traffic volumes, the amount and distribution of train traffic, crossing protection, crossing accident history, and other factors. Based on FRA findings, about 15 percent of the vehicle-train accidents occur from drivers driving around the gates. SEA has proposed four-quadrant gates at the nine two-way traffic locations in the downtown area. These four-quadrant gates will reduce the potential for vehicle accidents at nine crossings.

### **Enforcement to Achieve Mitigation Benefits**

SEA notes that public safety enforcement normally is the responsibility of the City. SEA's proposed video displays and monitors are currently planned to improve the City's emergency vehicle dispatching. In addition, per the request of the City of Reno, SEA has introduced in this FMP the requirement that UP have the responsibility for the equipment maintenance and staff training for use of the video displays and monitors.

### **Comments on PMP Safety Measures**

With respect to four-quadrant gates, the "proposed FRA criteria and regulations" referred to by NDOT were developed for application in Florida, which wanted a unique set of criteria for its own railroad "quiet zone" program. FRA has not yet proposed final regulations for nationwide application; and such nationwide regulations are likely to differ from those proposed strictly for Florida.

Based on recent discussions with FRA, the regulations are not likely to deter the combination of four-quadrant gates and traffic signal preemption, nor is FRA likely to require median barriers with four-quadrant gates. In fact, traffic signal preemption and four-quadrant gates are complementary measures. Furthermore, four-quadrant gates actually obviate the need for a median barrier, the purpose of which is to prevent motorists from driving around two-quadrant gates.

With respect to pedestrian crossing gate skirts, the additional weight added by the pedestrian skirt is not significant. What requires power and electrical current is the torque required to rotate



the gates. The gates have adjustable counterweights which are set to almost balance the gates on their pivots. With the addition of the pedestrian skirts, the counterweights can be adjusted to effectively eliminate any increase in required torque.

Each railroad has its own standards for the amount of battery backup for grade crossing warning device operation in case of power failure. Typical reserve is eight to 72 hours, and the reserve battery capacity is based on the expected number of times that the gates are expected to be operated within that time period. There is a low-level ambient current draw for the operation of the track circuits and equipment that detect the train, plus short duration peak power draws to operate the gates, bells and flashing lights. How much additional current would be needed due to the heavier gates depends on the amount of traffic and the relative amounts of current used during the ambient and operating times, and the relative amounts of current needed for the opening and closing of the gates with respect to the operation of the flashing lights and bells. Whatever additional current reserve is needed, if any, can be easily added with additional batteries.

SEA believes that providing pedestrians with the alternative of crossing the tracks via a pedestrian grade separation would result in an improvement in the right-of-way violations by pedestrians. The gates and signs are meant as warnings and incentives to change behavior, but admittedly cannot force a behavior change. However, this mitigation would clearly be a deterrent, e.g., by forcing adults to crawl under the pedestrian skirt as opposed to ducking under it.

### **Potential Bus Safety Issues**

SEA can appreciate the potential safety concerns of having buses cross in front of trains. The increased number of trains will increase the frequency of buses approaching a crossing with oncoming trains. The proposed increased train speed will not, however, reduce the gate warning time before arrival of a train. Therefore, if buses are currently having problems clearing gate in advance of trains, bus crossing procedures should be evaluated. The minimum 20-second warning (regardless of train speed or crossing location) is uniform throughout Reno, Washoe County, and the nation.

SEA also notes that the proposed speed mitigation will reduce overall delay and bus delay as well to below pre-merger conditions. These benefits apply to school buses as well. SEA concludes that its proposed mitigation measures would effectively reduce the vehicle-train accident rates to levels approaching pre-merger.

### **Maintenance**

The merger conditions do address maintenance. In accordance with Decision No. 44 and its own procedures, the UP is conducting an extensive track rehabilitation and maintenance program between Roseville and Reno. Tie replacement and rail renewal are ongoing. In addition, the UP is replacing wooden ties with concrete ties in critical sections. SEA has not observed "rotten ties," and, based on SEA's field observations, none are currently visible in the corridor except on an abandoned right of way.

## **Need More Crossing Gates, Pedestrian Separations**

SEA concurs with this comment and is recommending the installation of four-quadrant gates at the nine two-way streets downtown. The additional gates will reduce the post-merger accident rate for Reno to 0.8715/yr, which is 9.6 percent above the pre-merger rate, or one additional accident every 13 years. Likewise, SEA is proposing pedestrian grade separations for Virginia and Sierra Streets, which have most of the pedestrian traffic in the downtown.

## **Need Grade Separations or Depressed Railway for Safety**

SEA has extensively evaluated train speed safety and grade separations and the depressed railway option. Please see sections 2.4.2 and 2.7 of the FMP.

### **3.12 How Will Mitigation be Enforced?**

#### **3.12.1 Summary of Comments**

Several parties expressed general concern about how additional mitigation measures established for Reno would be enforced. Mark Demuth, who advises the City of Reno on environmental issues, expressed concern that reporting requirements for transport of hazardous materials are not enforced. Speaking at a Reno City Council meeting, Demuth said UP frequently has "a difficulty telling us what's even on their trains, let alone where they're placed, and though you might have requirements that suggest certain things [about how to mitigate potential safety hazards], whether they are being complied with, we are not aware of that."

Speaking at a Reno Task Force meeting, Task Force member Paula Berkley, representing Native American interests, stated: "The hazardous materials, the mitigation in that was to improve the rail quality and increase the inspections. We don't know how many train tracks are going to be improved, how many inspections are going to occur, or what would happen if they didn't."

At the same meeting, United Transportation Union state legislative director Jack Feters stated: "Who makes sure that they comply? Do they fill out a piece of paper and say, oh, yeah, we've complied? Who's going to say, well, let's take a look and let's see if you actually did comply with all this stuff?"

Speaking at a public meeting held to take comments on the PMP, retired truck driver Hugo Hernandez stated: "This Board has not proposed any type of fines . . . How are you going to police this? Are you going to have police watchdogs giving them tickets every time they go over the speed limit or any time they have a bad placard or something that's not right on the rails? Are you going to stop them and fine them on the spot and dead line them like you do trucks?"

In written comments, Task Force member Richard Vitali, representing River Banks West homeowners, stated: "Regardless of the mitigation measures ordered by the STB, the PMP is

seriously lacking in an ability to enforce those measures. Without such enforcement, why would the railroad adhere to the mitigation measures?"

### **3.12.2 Response to Comments**

SEA has recommended several additional mitigation measures to ensure enforcement. Please see Sections 2.4.2, 2.4.13, and 2.5. In addition, to provide the opportunity to review the adequacy of these localized mitigation measures for Reno, SEA has recommended the following condition:

"If there is a material change in the facts or circumstances upon which the Board relied in developing localized mitigation measures for Reno, the Board, upon petition by any party who demonstrates such material changes, may review the final mitigation measures, if warranted."

### **3.13 "Hard Look" at Grade Separations and Street Closures**

#### **3.13.1 Summary of Comments**

Several commenters expressed concern about the adequacy of SEA's review of grade separations and the fact that SEA's preliminary recommendations in the PMP did not include any vehicular grade separations.

#### **"Hard Look" in PMP**

The City of Reno stated: "The PMP states that NEPA requires that agencies take a 'hard look' at environmental consequences of their decisions and that this directive served as SEA's guide in conducting this mitigation study. The City can only interpret this statement to mean that SEA took a 'hard look' at the increased speed mitigation option, and the other mitigation options received a 'softer', less discerning 'look'. This is evidenced by the lack of specific analysis reported on both grade separations and the depressed railway mitigation options . . ."

#### **Decision No. 44 Requires Grade Separations**

The City of Reno stated:

"SEA has completely ignored a critical mandate contained in Decision No. 44, which states:

"The sole purpose of the mitigation studies will be to arrive at specifically tailored mitigation plans that will ensure that localized environmental issues unique to these two communities are effectively addressed. For example, with respect to vehicular and pedestrian safety, SEA has determined that separated grade crossings and pedestrian overpasses and/or underpasses will be needed to address safety concerns on the existing rail lines in Reno and Wichita. Accordingly, the studies will identify



the appropriate number and precise location of highway/rail grade separations and rail pedestrian grade separations in Reno and Wichita.”

The City noted that Appendix B in the PMP contains “a handout distributed by SEA to Task Force members expressly stating that the mitigation study goals include ‘identify[ing] the number and precise location of highway/rail grade separations and rail pedestrian grade separations.’ No ‘if warranted’ disclaimer is included in either Decision No. 44 or the documents distributed by SEA during the Task Force process. Clearly, the PMP fails to address a mandatory directive of the STB, and this oversight must be corrected in the FMP.”

Speaking at an October 7, 1997 meeting of the Reno City Council, City Councilor Pierre Hascheff stated that according to Decision No. 44, “studies will identify the appropriate number and precise locations of grade separations and pedestrian grade separations in the City of Reno and then also there must have been some other studies with grade crossings, etc.”

### **City of Reno's Position on Grade Separations**

The City stated it has not taken a position for or against grade separations, but rather has stated: “The City must first know the impacts to the resources prior to determining the necessary and appropriate mitigation. It is difficult and unreasonable to request the City’s opinion regarding specific mitigation options when a complete impact analysis has not yet been set forth . . .”

The City also stated: “SEA concedes train horns could be eliminated with grade separations due to the elimination of the FRA requirement for horn sounding at that particular grade separated crossing. Unfortunately, SEA does not offer this option or any combination of the grade separations at any of the roadways in either Reno or any crossing in Washoe County. The City requests that this option be given equal consideration (i.e., a ‘hard look’) and analysis in the FMP and recommended as Tier I mitigation.”

Reno citizen Frank Napierski, who is president of NAPZ Drayage and a regular attendee of the Reno Mitigation Study Task Force meetings, stated: “The City of Reno refused, and I was at the meetings so I know, they refused to give any help whatsoever to the Surface Transportation Board in evaluating undercrossings or overcrossings. Now I’m listening today to kind of a two-faced, in my opinion, people saying, ‘Hey, you people didn’t do what you were mandated to do.’ Well, that’s bull.”

Bob Starzel of Union Pacific Railroad stated:

“The STB will not have before it a basis upon which to order a priority of underpasses or overpasses to determine what it is that the community wants, and they have before them the stated opposition from the city to anything other than a depressed trainway and no facts to assist them from the City in setting out which would be advantageous, overpasses, underpasses.

"So we think it is improper for there to be any consideration of underpasses or overpasses. And indeed for those who argued that this is a way for the City to obtain leverage on the railroad, to make it more costly by inserting the requirements for underpasses or overpasses is more than improper, I believe it's unlawful."

### **If Grade Crossings are Proposed, Other Streets Should be Closed**

The Nevada Department of Transportation stated that "whenever grade separations are constructed, they should occur with the closure of adjacent crossings. The possibility of closures is never mentioned in the study. In the past, the City was reluctant to close even the least used crossing. The national policies all indicate closure of crossings that are close together with low ADT. Crossings suggested for closure in the City of Reno include:

Sage Street (1,500 ADT)	Needs to be closed if the Sutro Grade Separation is constructed.
Washington Street (2,000 ADT)	Likely candidates for closure if grade separations are constructed at Keystone Avenue and Arlington Street."
Ralston Street (4,000 ADT)	
West Street	

### **Underpasses not Effective. Implement the Depressed Railway.**

John Frankovich of Nevadans for Fast and Responsible Action stated: "The PMP concludes that underpasses will not provide effective mitigation of the merger impacts. At the public hearings on the PMP, it was indicated that the merger impacts would not be fully mitigated even if seven (7) separate underpasses were required. It would therefore appear that the only effective mitigation for the merger is to depress the tracks; this measure should be ordered by the STB even though depressing the tracks will also mitigate pre-merger conditions. The STB should be more concerned about mitigating the merger impacts and preserving the Reno community than not providing mitigation of pre-merger conditions."

### **Reasons Not Clear for not Recommending Grade Separations**

Governor Bob Miller stated: "Most frustrating is the fact that many mitigation options such as grade separations were simply discarded by the SEA. The PMP was designed to be the product of the Mitigation Task Force; however, no one on the task force agreed to discontinue consideration of grade separations."

The City of Reno stated: "The PMP's approach appears to be that when typical construction project impacts such as dust noise and potential prehistoric and historic resource clearances are present, these impacts are used as an excuse to justify the discontinuance of that 'hard look' and 'need for further study', such is the case with grade separations and the depressed railway. Ironically, a 'no further study required' determination was made by SEA relating to the building of pedestrian overpasses which would have the identical dust/noise and potential prehistoric and

historic resource clearances (the identical basis for 'needing further study' determinations by SEA for grade separations and the depressed railway)."

Jack Lorbeer, a Task Force member and planner for the Regional Transportation Commission's (RTC) Planning Department, stated: "We feel that grade separations need to be [studied] more in depth and not just eliminated because of the cost figure. We are very concerned that just because we may have an expensive grade separation or one grade separation may be more expensive than another, than that should not be eliminated."

Gregory H. Krause, Planning Manager for the RTC, added: "RTC staff, as part of the Mitigation Task Force, feels strongly that the PMP removes viable mitigating measures such as grade separations from serious consideration. The installation of grade separations can reduce delay and increase safety by eliminating train/vehicle conflicts."

### **Provide Grade Separations Where Sight Distance Problems Exist**

The Regional Transportation Commission suggested that grade separations should be evaluated where sight distance problems exist, e.g., at Center and Lake streets.

#### **Others**

Thomas Johnson, a citizen and long time resident of Reno, stated that the Railroad owns the right-of-way and "[w]e cross the railroad at their convenience. If we want to cross the railroad, it's up to us to build the crossings, it's not up to the railroad."

Other commenters, including Scott Hutcherson of Eagle-Picher Minerals, Greg Nova of the Federal Highway Administration and F.M. Ivan, stated that two or three grade separations should be built (e.g., at Keystone, Arlington, and Evans). Another citizen, John Pedersen, said the City should have built separations earlier.

### **3.13.2 Response to Comments**

SEA has conducted extensive evaluation of grade separations. Please see Section 2.7 of this FMP. SEA is not proposing street closures as mitigation, given the effectiveness of the proposed mitigation measures and the need for such proposed closures to be part of a local integrated land use, traffic, and circulation plan.

## **3.14 UP's Safety Record and FRA Review**

### **3.14.1 Summary of Comments**

Many parties commented on the recent announcement by the Federal Railroad Administration that it is investigating UP's operations because of several recent derailments and accidents, some involving fatalities. The City and a few other commenters said the FRA's review



must be included in the FMP, and the Board must account for FRA's conclusions when it approves the Reno-specific mitigation measures next year. Several citizens commented on alleged drug and alcohol use by UP employees; others asserted that UP tracks and equipment are in disrepair. Several mentioned a derailment in California that destroyed fish and wildlife along many miles of a major river, while others noted the possibility of the same thing happening near Reno.

### **FRA's Assessment of UP**

The City of Reno stated:

"SEA states that the FRA is conducting a safety review which includes the rail line through both the Reno/Sparks/Truckee Meadows area and the larger Washoe County area. The City is unaware of the scope and extent of this safety review because SEA addresses this critical issue with only one line of text in the PMP without any explanation. SEA does not mention or address any of the serious safety issues and problems that caused the safety review in the first place. This is another example of how SEA and its environmental consultants are bias [sic] towards the UP and do not provide an adequate analysis of this issue. The City has directly requested the FRA to include the Reno/Sparks/Truckee Meadows area in its in-depth study of UP operations. To date, the City has not received a response.

"UP had a fundamental breakdown in basic railroad operating procedures and practices, essential to a safe operation.

"Recent history of Union Pacific demands further research.

"Together the FRA report and the Good Neighbor Project report paint a picture of a railroad which is careless and unrestrained. The way that Union Pacific operates its railroad, especially the way it treats its workers, put [sic] the rail workers at risk as well as the people who live near the tracks "

Many commenters discussed newspaper articles that described FRA's recent UP Safety Assurance Assessment and the possible relationship of its safety record to the merger. Their concerns included recent UP train accidents and resultant fatalities and injuries, safety violations, a 57 percent defective locomotive rate, fatigued and stressed employees, railroad car tracking problems, harassment and intimidation of employees, and management deficiencies.

Speaking at an October 7 meeting of the Reno City Council, City Councilor Bill Newberg stated: "[T]here's been a lot of attention, especially nationally now with the *Wall Street Journal* bringing this about, with the Union Pacific's safety problems and the handling of the merger . . . [T]hey had cut through the muscle I think at this point, and they're having a lot of difficulty to the point of where they don't know where all the cars are, they don't know what cars are on what siding, so you don't actually know what product would be at what siding."

A Union Pacific representative described the action being taken as a result of FRA's findings in the evening public meeting on October 9, 1997. Robert Starzel of UP stated: "But overall, the safety record of railroads has been very strong, and the Union Pacific's safety record has been among the best. In this decade there has been an improvement year after year on a 20 percent compounded average trend. And this year, 1997, is no different. We are going to have that same level of improvement in this year over 1996 that we had in the years prior." Henry Garell, Reno citizen, doubted Mr. Starzel's statement, because "if this 20 percent improvement per year continues there would be zero accidents" four years from the inception of the merger.

### **Employee Issues Related to UP Safety**

A few individuals commented that employees are professional, conscientious and well qualified and contribute positively to UP's safety; two of the commenters, both private citizens, noted that train employees are only as good as the trains they operate.

Two individuals, Jack Feters, the state legislative director for the United Transportation Union, and David Cameron of the International Brotherhood of Teamsters, commented that UP downsizing has contributed to their poor safety record.

### **UP Track and Equipment Maintenance**

Reno citizen William B. Kohlmoos stated: "The most serious problem you have, which could easily lead to a derailment, a major wreck, and release of hazardous material is total lack of maintenance on large sections of your main line." Kohlmoos submitted several photographs showing what he stated were "rotted ties and missing spikes . . . on a down-grade, high speed, mainline curve several miles from Reno."

Reno citizen Harold Francis stated: "The Union Pacific has always been a well-managed railroad, with excellent track and roadbed, and all down through the years the motive power has been in top condition to expedite their great freight business."

Two individuals, Richard Snow and James Kemsey of the Citizen's Advisory Board, provided testimony alleging that violations, of both Federal regulations and Association of American Railroad certifications (covering freight car brake components), are routinely occurring, which could lead to a derailment or collision.

### **UP, Pittsburg, California 9/13/97 Train Derailment**

Two commenters, Jack Campbell and Bob Sandufan, discussed the reported four-hour delay of the UP in notifying emergency response personnel about the derailment of cars containing explosives as an example of a lack of concern by the railroad for public safety.

## **Hazardous Materials Safety Issues**

The City of Reno and one individual referenced the findings of the July 27, 1997 "Good Neighbor Project, Hazardous Materials on Rails" report. David Cameron of the International Brotherhood of Teamsters discussed the findings extensively, including UP's recent hazardous materials release history, downsizing of the UP work force, the lack of cooperation with local emergency response planners, and the results of an equipment inspection in Fort Worth, Texas, which found a 40 percent freight car defect ratio.

### **3.14.2 Response to Comments**

Please see Sections 2.4.1, 2.4.8, 2.6 which provide responses to this subject area. Responses to the more detailed comments are provided below.

SEA was not aware that Reno/Washoe County had requested the FRA to include the Reno/Sparks/Truckee Meadows area in its Safety Assurance Assessment of UP. As stated on page 6-21 of the PMP, it was SEA's understanding that the FRA was looking at systemic safety issues on the UP railroad in its Safety Assurance Assessment. Specifically, SEA understood that FRA was investigating UP's dispatching practices and engineer fatigue, which affect all of the main lines of the UP Railroad. SEA did not address any of the issues reported by the FRA during its September 10, 1997 press conference because of the preliminary nature of the information provided at that press conference and the requirement to publish the Reno/Washoe County PMP by September 15, 1997.

### **Employee Issues Related to UP Safety**

Three individuals testified that in their opinion UP employees were professional in carrying out their responsibilities. One individual testified that drug use is rampant on the railroad. FRA's latest available report, which covers 1994-95, on random and reasonable cause drug test results for the railroad industry indicates that the positive test rate of employees is approximately 1 percent. In those two years, a total of 88,123 employees were tested, subject to FRA regulations, and a total of 870 were found positive. Further, the FRA has a comprehensive drug and alcohol regulation requiring post-accident, testing for cause, and pre-employment testing for all employees.

Two individuals testified that the UP has downsized to the point where they do not have enough employees to operate the railroad safely. FRA findings in its Safety Assurance Assessment of UP to date indicate that some officers do not have time to conduct meaningful operational tests; that hazardous billing staff was inadequate; and that there were insufficient Crew Management System personnel. According to FRA, these are the systemic safety issues that UP has agreed to correct in its Action Plan.



## **UP Track and Equipment Maintenance**

Two commenters presented testimony suggesting that the tracks approaching Reno were unsafe. One of the individuals presented photographs and the other referenced a videotape highlighting rotting ties and unsafe conditions. The Federal Railroad Administration (FRA) is the Federal agency with plenary authority over the safety of the railroad industry. Accordingly, the FRA is the appropriate agency to assure that UP is adhering to the minimum track safety standards that it has promulgated.

FRA has a comprehensive set of regulations addressing the structural requirements of track. In general, the higher the speed of the trains, the more stringent are the geometrical track requirements of the regulations. The regulations require, for main track carrying passenger trains, that UP inspectors must inspect the track twice a week to determine compliance with FRA regulations. If inspection records are faulty or defects are found by FRA or State inspectors, UP would be liable for significant monetary penalties for each defect found. As a matter of information, FRA regulations permit one or more ties to be split, broken, or deteriorated in a 39-foot rail segment as long as other standards are maintained. Accordingly the presence of an occasional rotted tie or raised spike does not automatically denote an unsafe track condition in noncompliance with Federal regulations.

Two commenters also provided testimony that UP is routinely replacing brake valve components in violation of Federal regulations by using potentially faulty reconditioned brake valve components. As explained above, FRA is the Federal agency with plenary authority over the safety of the railroad industry. Accordingly, FRA is the appropriate agency to assure that UP is adhering to the minimum mechanical safety standards that it has promulgated.

FRA has a comprehensive set of regulations requiring the periodic testing of all pneumatic brake equipment on freight cars and locomotives. Valves and components must be replaced with certified components when found defective during testing or when components have failed during train brake inspections. Also, as explained above, if inspection records are faulty or defects are found by FRA or State inspectors, UP would be liable for significant monetary penalties for each defect found.

## **UP, Pittsburg, California 9/13/97 Train Derailment**

Testimony was provided that indicated that the UP delayed reporting a derailed freight car containing Class I explosives to Pittsburg, California local emergency response personnel for four hours after a derailment. The connotation of the comments was that UP would intentionally withhold safety concerns from the public. The facts of the accident, as reported by the California Public Utilities Commission, indicate that the UP train was involved in a derailment while picking up 17 cars in East Pittsburg, California on a privately owned industrial track. Two cars of scrap and one car of Class I explosives derailed during the switching move because of a split track switch. The cars derailed, but remained upright and the derailment occurred at 5:50 p.m. The Sheriff's office was notified at approximately 8:25 p.m. and an evacuation was ordered at 10:00 p.m.

The California Public Utilities Commission investigated this accident, and it will decide whether UP did not respond appropriately to this derailment.

### **Hazardous Materials Safety Issues**

Two commenters referenced the July 27, 1997 Good Neighbor Project, Hazardous Materials on Rails report. One of the commenters paraphrased the report regarding UP's failure to provide information regarding the shipment of hazardous materials, and the results of inspection reports and environmental audits. He further stated that local officials have a lot of problems getting this information when preparing emergency response plans. SEA agrees that certain information is critical to emergency response planning. Among the several system-wide mitigation measures imposed on UP via Decision No. 44 was a provision to develop hazardous materials and emergency response plans, which would include the types and quantities of materials traversing Reno and Washoe County. Additionally, SEA proposes in Section 2.4.8 of the FMP that UP establish a Community Advisory Panel to review safety, environment, and health issues associated with rail operations, particularly as they relate to the transport of hazardous materials.

This same commenter referenced another portion of the report indicating that the rail car-to-employee shipment ratio on UP went from 85:1 in 1985 to 170:1 in 1995. SEA does not dispute these statistics. The implication by the commenter was that these statistics represent an unsafe environment due to downsizing of railroad personnel.

With regard to safety on the UP railroad, the FRA is the agency with primary expertise and jurisdiction. It has issued regulations to assure safe operation on all railroads as described in the Reno/Washoe County PMP on page 4-1. As recently publicized, the FRA routinely monitors all aspects of railroad operations, including employee stress and fatigue. When railroads are found to be in violation of Federal regulations or are permitting unsafe practices, the FRA implements corrective action, including monetary fines if necessary. As a matter of information, railroads have increased employee productivity through mechanization of track and equipment maintenance functions, labor agreements reducing crew sizes, and automating office functions, as other industries have.

The commenter testified that in the four years prior to the UP/SP merger, the two railroads averaged around 400 chemical release incidents per year. He stated that the UP alone had 28 train accidents that spilled or released hazardous materials into the environment. Again, SEA does not dispute these statistics. The same section of the report states that UP hazardous materials shipments have increased from nearly 350,000 to 450,000 between 1993 and 1996, with nearly a 50 percent decrease in derailments involving hazardous materials during the same period.

Railroads are required to report all chemical releases, regardless of amount or cause, to the U.S. Department of Transportation. Statistically, approximately 90 percent of these releases are less than 100 pounds, gallons, or cubic feet of material. SEA addresses the Reno/Washoe County accident statistics and the proposed mitigation measures for hazardous materials in Sections 2.4.8 and 4 of this FMP.



The commenter referenced another section of the report that stated that almost 40 percent of cars inspected in Fort Worth Texas in February 1995 were defective. SEA does not dispute these statistics. These cars were identified as the result of an FRA inspection activity. This function is the responsibility of the FRA, and as stated previously, when railroads are found in violation of Federal regulations the agency responsible (FRA) must and does take appropriate corrective action.

### **3.15 Hazardous Materials, Water Quality, Natural Resources**

#### **3.15.1 Summary of Comments**

Few topics drew more comments than the issue of hazardous materials and its possible impacts on water quality and biological resources in the Reno area. Most of those focused on the merger-related increase in transport of hazardous and toxic materials and its possible effects on: endangered and threatened species, such as cui-ui and Lahontan cutthroat trout, in Pyramid Lake, the Truckee River and its tributaries; drinking water intakes along the Truckee River; and on the human population of the greater Reno area. Several parties, primarily the City of Reno, commented on whether the system-wide mitigation measures ordered by the Board when the merger was approved, such as area contingency plans and ongoing track improvement, are applicable to the Reno area.

Native American tribal officials especially focused on these issues. Craig C. Downes, Environmental Director for the Pyramid Lake Paiute Tribe (PLPT), stated:

"We note the error to exclude from consideration Pyramid Lake for its distance of 15 miles from the railroad, while only considering ecosystems within 5 miles. The effects of a toxic spill could easily extend to the Lake from an even much greater distance than either of the above.

"Concerning the endangered Cui-ui and threatened Lahontan Cutthroat Trout, the recovery program for these two species involve the whole Truckee River, as the plan is for their eventual restoration at spawning sites throughout the Truckee. This is directly related to the Pyramid Lake fish populations. In this regard, and also since Pyramid Lake is the ultimate destination for Truckee waters, at least in their original natural course, is a definite oversight not to have involved the PLPT, its environmental, water resources, and fisheries department, in this major environmental-affecting merger of two railroads, which will approximately double the traffic on the railroad and greatly increase risk of toxic spills.

"We consider the HAZMAT spill response to be inadequate. This needs to be much more concrete so spills will not end up poisoning the Pyramid waters and ecosystem. The endangered Cui-ui is endemic to Pyramid Lake and the lower Truckee. A toxic spill could easily lead to the extinction of this rare species. This species is culturally very important to the Pyramid Lake Paiute Tribe, was one of their chief staples, and the tribe was named for the fish, i.e., the 'Cui-ui eaters.' To treat this increased



likelihood of exterminating this species lightly is to disregard issues that touch on the very cultural identity of the tribe. Were hazardous material to reach the delta where the Truckee River joins Pyramid Lake and the Cui-ui do their spawning, the species could be effectively prevented from reproducing and driven into extinction.

"We are also concerned about your treatment of the Lahontan Cutthroat Trout and how the increased chance of toxic spill jeopardizes its future survival. It is a very important source of livelihood for the tribe, and the fact that it also occupies other parts of the West in no way abridges its local ecological and cultural significance and the obligation for the federal government to fend for the population."

Bob Webb, Community Coordinator for the Washoe County Department of Economic Development, recommended several specific actions he believes would improve the effectiveness of the mitigation measures proposed in the PMP:

"Develop a plan to respond to HAZMAT spills/accidents in or near Gerlach.

"Develop a plan to address the impacts of spills and leaks of HAZMAT along railroad tracks and in railroad yards (e.g., catch basins).

"Develop a plan to address train derailment and/or HAZMAT spills in the proximity of the Truckee River (includes control of train speeds and location of appropriate spill containment equipment in the Truckee Meadows).

"The system-wide mitigation measures numbered A1, A2, A7, and A12 in Decision No. 44 address safety and potential HAZMAT spills. According to the PMP, SEA believes that these system wide mitigation measures 'provide a high level of protection from hazardous materials events in the Reno and surrounding area.' However, in order to augment these system wide measures, Tier 1 mitigation measures 13 and 14 would require SP to install additional high, wide, shifted load detectors and a hot box detector at milepost 40 (about three miles west of Reno). These additional measures would provide 'optimum detection capability' in the Reno area.

"The PMP does not indicate whether any of the system wide measures have been implemented in the Truckee Meadows. The PMP does not address mitigation measures for potential contamination of surface and/or ground water through normal operations along the rail lines nor at the railroad yards in Sparks. Additionally, the PMP does not evaluate the Feather River route and any potential HAZMAT occurrences in the vicinity of Gerlach."

Speaking at a meeting of the Reno Task Force, Webb added that SEA should pay special attention to how a toxic spill into the Truckee River would affect drinking and irrigating water supplies. He also recommended that SEA specify in the FMP the track inspection requirements for

the railway along the river, as well as identify exact track segments that will be upgraded to a higher track classification, and require UP to beef up its spill reporting procedures beyond what is required in the Code of Federal Regulations (CFR). He stated: "Right now, the reporting requirements in the CFR are pretty lax and I don't think really adequately address the safety concerns of the City dealing with potential spills in the river."

Speaking at the City Council meeting, Mark Demuth, environmental consultant for the City of Reno, expressed concern about SEA's spill evaluation methodology, which uses 200 feet as the distance a toxic spill could travel from its point of origin, which he stated should perhaps be invalid in the steep Truckee River canyon, where spills could flow downhill for much farther than 200 feet.

Also, at the City Council meeting, City Council member Candice Pearce stated: "My other question is, how in the world can you ignore a negotiated settlement [the Truckee-Carson-Pyramid Lake Water Rights Settlement Act of 1990 (see 3.17.2)] that has taken the amount of time this has taken and had taken Congress and everybody else in the world to get it done, how do you just ignore the quality of our water? This isn't like the Sacramento River or something; I mean, this is the Truckee River, and we've gone through millions of dollars and years and years of negotiations, and it's a very tenuous situation with the Native Americans, and they have the right to set the quality. And the railroad may want to fight with us, but I don't think they're on real good grounds with the Native Americans. I mean, when is somebody going to sit down and be realistic about what we have at risk."

At the same meeting, City Council member Tom Herndon stated: "I don't see anything in my reading of the [PMP] that covered the actual makeup of the trains. The reason that's important is that in a crash, when this thing compresses, if there are empty cars in the middle of that train with heavy cars behind them, they tend to get popped out, if you will, in any sort of emergency stop. And I didn't see anything that would require the railroad to put all the empty cars on the back of the train and then take the extra step of them having to sort it out wherever they're doing their switching, rather than just putting them wherever it's convenient for them in their operation and distribution. And it seems to be that if we're going to address safety in mitigation, that would be a factor, a large factor."

Among private citizens: many commenters were concerned with the possibility of toxic spills contaminating the Truckee River; many were concerned that spills of gaseous poisons could harm people in or near Reno; and several specifically mentioned the possibility of a spill of nuclear waste material turning downtown Reno into a wasteland. A few citizens specifically mentioned a report by the Good Neighbor Project, entitled "Hazardous Materials on the Rails, A Case Study of the Union Pacific Railroad, The Nation's Largest Chemical Hauler," which named Reno as the most at-risk urban area in the nation for a major hazardous materials accident.

A few private citizens submitted detailed comments on hazardous materials issues, such as this, from Lawrence Torango:

"The potential impact on human life and property caused by delays of emergency vehicles, collisions between trains and other vehicles or pedestrians, pale in significance with the potential of a derailment anywhere in downtown Reno or in a place that results in the contamination of the area's drinking water. In a worst case scenario, a derailment during a special event, the cost in human lives could be in the thousands of casualties. Any scenario that impacts the almost \$1 billion dollar a year gaming industry in this area, which is the mainstay of the downtown portion of Reno, would be an economic disaster seriously affecting the lives of thousands of people.

"As for toxic spills, the water system that supports the local and tourist population of this area is a closed system. For example, the toxic contamination that occurred near Shasta Lake several years ago was eventually flushed into the Pacific Ocean. Were a similar spill to happen here, the contaminants would end up in Pyramid Lake, in the farm fields of Fallon and in the Stillwater refuge. There is no flushing action available, it is a closed system.

"The report findings on derailments, summarized on pages 8-13 through 8-17 with specifics in Appendix N, does not, in my opinion, give the issue of major accidents the importance it deserves. According to the data in the report, the conclusions of the computer models (please see my summary statements on computer models) consistently state that the increased traffic will have a serious effect on the expected frequency of these disasters. Unfortunately the statistics are related to esoteric time frames of 'once every 77.3 years.' The authors then attempt to blow off the problem with statements such as 'Thus, while the likelihood of a spill or river contamination is increased for post-merger condition, the probabilities are still remote.' (page 8-15 third paragraph).

"Statistics and probabilities can be a very dangerous thing and this is a classic example of misuse. To really evaluate the increased danger to the population of this area we need to know the likelihood of an accident happening over the next 5, 10, 15 and 20 years pre- and post-merger. The railroad has been operating for a number of years now and that has to be factored into the algorithms.

"Another important item in the evaluation is the potential cost in human lives and property for each instance. A problem involving hundreds or thousands of people once every 77 years is much more important than a problem involving 1 or 2 people a year. This is especially true when the greatest factor in the relatively minor problems are associated with stupidity on the part of the injured party, such as ignoring warning signals, ducking under or going around barricades, etc."

Speaking at a meeting of the Reno Mitigation Study Task Force, Frank Napierski, president of NAPZ Drayage and a regular attendee of the Task Force meetings, stated: "I want you to know I understand, and I think most people do, that you've got a hard decision to make, which way to go



on HazMat. It's safer on the train, whether it's Feather River or here. If you decide to kill Californians instead of us, I'd love it, but we've got to make that decision."

Mr. Napierski also stated: "But Union Pacific is one of the smartest railroads. They are a survivor and they do it well. That says to me they are a safe railroad. You can say whatever you want about the local conditions, but we're talking about something for 150 or 200 years."

The City stated SEA's conclusions in the area of possible impact from hazardous materials spills were not accurate because the third party consultant who produced the PMP had previously worked for UP. The City specifically stated:

"The City, on the other hand, has no financial relationship with the author of the above referenced unpublished study, *Development of an Integrated Computer Platform for the Evaluation of Containment Mitigation Scenarios along the Truckee River: Risk of Transporting Hazardous Substances Adjacent to the Truckee River* by University of Nevada, Reno, Geological Engineering Professor and statistician James R. Carr, Ph.D., P.E. (commissioned by and independently completed for Sierra Pacific Power Company) estimated that a rail accident that spilled hazardous substances into the Truckee River could happen once every 53.1 years (Carr, 1996:26). [sic] The study was based the [sic] 1996 rail traffic of 14 trains per day; however, based on the UP's proposed 25 trains per day or the City estimate of approximately 35 trains per day, thereby increasing [sic] the statistical certainty of contaminating the Truckee River every 29.4 years and 21.0 years respectively [sic] (Carr, 1996:19, 29, 30) (see Table 9 below for a complete summary of Carr's [1996] findings). Risks of accidents increased with steeper grades, stronger curves, and higher trains speeds. All these factors are most prevalent in the upper Truckee River canyon between Truckee, California, and Verdi, Nevada, where the probability of a spill is therefore greatest (Carr, 1996:18, 19, 21).

"Initially when Carr's report was released, UP embraced the report claiming the railroad industry's superior safety in transporting hazardous materials, as evidenced by the July 28, 1996, article entitled *Rail study: River spill odds fairly low*: 'There is no accepted method that we are aware of to accurately predict any future event, certainly including the possibility of toxic spill into the Truckee River,' said Mike Furtney, Southern Pacific spokesman. 'But having said that, we are impressed by the positive nature of UNR's statistics.' (July 28, 1996:Cl)."

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*EXCERPTED FROM CITY OF RENO COMMENTS*

Table 9		
Summary of Findings from <i>Risk of Transporting Hazardous Substances Adjacent to the Truckee River</i> (Carr, 1996)		
TYPE OF RISK/ No. of Trains per Day	Truckee River upstream of CA/NV border from MP 106-228	Truckee River downstream of CA/NV border form MP 229-257
	Truckee River entirety from MP 106-257	
Maximum Absolute Risk (minimum) = rail cars carrying hazardous substances (for N freight trains per day) have a statistical certainty of an accident/event every		
N = 14 freight trains/day (Carr, 1996:19-20)	2.6 years <sup>6</sup> or 944 days	3.5 years <sup>6</sup> or 1,300 days
	1.5 years <sup>7</sup>	
N = 25 freight trains/day (Carr, 1996:29-30; Tables A-1 & A-2)	1.4 years <sup>8</sup> or 523 days	2.0 years <sup>8</sup> or 723 days
	304 days <sup>7</sup>	
N = 35 freight trains/day (Carr, 1996:19, 30; Table A.2)	374 days	1.4 years <sup>7</sup> or 516 days
	217 days <sup>7</sup>	

<sup>6</sup> 1 event in 944 days ÷ 365 days/year = 1 event in 2.6 yrs.  
1 event in 1,300 days ÷ 365 days/year = 1 event in 3.5 yrs.

<sup>7</sup> The probability (actual risk) to the Truckee River upstream of CA/NV border OR probability (risk actual) to the Truckee River downstream of CA/NV border EQUALS the total probability (total risk) to the entire Truckee river LESS the probability (actual risk) of the outcomes common to both events. In this case the two events are mutually exclusive and equal zero.

$$P(A \cup B) = P(A) + P(B) - P(A \cap B) = P(A) + P(B) - 0 = P(A) + P(B)$$

$$P(\text{entire Truckee River}) = P(\text{upstream}) + P(\text{downstream}) = 1/(944 \text{ days}) + 1/(1,300 \text{ days}) = 1/547 \text{ days or } 1 \text{ event in } 547 \text{ days} \div 365 \text{ days/year} = 1 \text{ event in } 1.5 \text{ yrs.}$$

$$1/(523 \text{ days}) + 1/(723 \text{ days}) = 1/304 \text{ days or } 1 \text{ event in } 304 \text{ days}$$

$$1/(374 \text{ days}) + 1/(516 \text{ days}) = 1/217 \text{ days or } 1 \text{ event in } 217 \text{ days}$$

$$1/(80.8 \text{ yrs.}) + 1/(154.75 \text{ yrs.}) = 1/53.1 \text{ yrs. or } 1 \text{ event in } 53.1 \text{ yrs.}$$

$$1/(44.7 \text{ yrs.}) + 1/(86.1 \text{ yrs.}) = 1/29.4 \text{ yrs. or } 1 \text{ event in } 29.4 \text{ yrs.}$$

$$1/(32.0 \text{ yrs.}) + 1/(61.4 \text{ yrs.}) = 1/21.0 \text{ yrs. or } 1 \text{ event in } 21.0 \text{ yrs.}$$

$$[1/(80.8 \text{ yrs.}) + 1/(45.2 \text{ yrs.})] + [1/(154.75 \text{ yrs.}) + 1/(93.0 \text{ yrs.}) + 1/(383.5 \text{ yrs.})] = 1/18.4 \text{ yrs. or } 1 \text{ event in } 18.4 \text{ yrs.}$$

$$[1/(44.7 \text{ yrs.}) + 1/(45.2 \text{ yrs.})] + [1/(86.1 \text{ yrs.}) + 1/(93.0 \text{ yrs.}) + 1/(383.5 \text{ yrs.})] = 1/14.4 \text{ yrs. or } 1 \text{ event in } 14.4 \text{ yrs.}$$

$$[1/(32.0 \text{ yrs.}) + 1/(45.2 \text{ yrs.})] + [1/(61.4 \text{ yrs.}) + 1/(93.0 \text{ yrs.}) + 1/(383.5 \text{ yrs.})] = 1/11.0 \text{ yrs. or } 1 \text{ event in } 12.0 \text{ yrs.}$$

<sup>8</sup> 1 ÷ P(.0019118) = 1 event in 523 days ÷ 365 days/year = 1 event in 1.4 yrs.

1 ÷ P(.0013833) = 1 event in 723 days ÷ 365 days/year = 1 event in 2.0 yrs.

1 ÷ P(.0019367) = 1 event in 516 days ÷ 365 days/year = 1 event in 1.4 yrs.



**EXCERPTED FROM CITY OF RENO COMMENTS**

Table 9		
Summary of Findings from Risk of Transporting Hazardous Substances Adjacent to the Truckee River (Carr, 1996)		
TYPE OF RISK/ No. of Trains per Day	Truckee River upstream of CA/NV border from MP 106-228	Truckee River downstream of CA/NV border form MP 229-257
	Truckee River entirety from MP 106-257	
Actual Values of Risk or Relative Risk (maximum) = rail cars carrying hazardous substances (for N freight trains per day) (base upon the probability of breach could be 3.2% (CA) and 2.3% (NV) of the accidents/events) have a statistical certainty of contaminating the Truckee River (including location and severity) every		
N = 14 freight trains/day (Carr, 1996:26)	80.8 years or 29,500 days	154.75 years or 56,522 days
	53.1 years <sup>7</sup>	
N = 25 freight trains/day (Carr, 1996:29-30; Tables A-1 & A-2)	44.7 years <sup>9</sup> or 16,344 days	86.1 years <sup>9</sup> or 31,435 days
	29.4 years <sup>6</sup>	
N = 35 freight trains/day (Carr, 1996:19, 30; Table A.2)	32.0 years <sup>9</sup> or 11,688 days	61.4 years <sup>9</sup> or 22,435 days
	21.0 years <sup>7</sup>	
Actual Values of Risk or Relative Risk (maximum) = trucks carrying hazardous substances by highway (base upon the probability of breach could be 1.4% of the accidents/events) have a statistical certainty of contaminating the Truckee River (including location and severity) every		
Interstate 80 (I-80) (Carr, 1996:28)	45.2 years or 16,492 days	93.0 years or 33,982.7 days
U.S. Hwy 395 (US-395) (Carr, 1996:28)		383.5 years or 140,058.8 days

<sup>9</sup> 1 event in 532 days + 0.032 = 1 event in 16,344 days + 365 days/year = 1 event in 44.7 yrs.  
 1 event in 723 days + 0.023 = 1 event in 31,435 days + 365 days/year = 1 event in 86.1 yrs.  
 1 event in 374 days + 0.032 = 1 event in 11,688 days + 365 days/year = 1 event in 32.0 yrs.  
 1 event in 516 days + 0.023 = 1 event in 22,435 days + 365 days/year = 1 event in 61.4 yrs.

# EXCERPTED FROM CITY OF RENO COMMENTS

Table 9		
Summary of Findings from Risk of Transporting Hazardous Substances Adjacent to the Truckee River (Carr, 1996)		
TYPE OF RISK/ No. of Trains per Day	Truckee River upstream of CA/NV border from MP 106-228	Truckee River downstream of CA/NV border form MP 229-257
	Truckee River entirety from MP 106-257	
<b>Total Risk</b> (cumulative) = rail cars carrying hazardous substances (for N freight trains per day) (based upon the probability [actual risk] of rail [P(A)]) OR trucks carrying hazardous substances on I-80 (based upon the probability [actual risk] of I-80 [P(B)]) OR trucks carrying hazardous substances on US-395 (based upon the probability [actual risk] of US-395 [P(C)]) have a statistical certainty of contaminating the Truckee River (including location and severity) every		
N = 14 freight trains/day (Carr, 1996:39)	29.0 years <sup>10</sup>	50.5 years <sup>10</sup>
	18.4 years <sup>7</sup>	
N = 25 freight trains/day	22.5 years <sup>10</sup>	40.0 years <sup>10</sup>
	14.4 years <sup>7</sup>	
N = 35 freight trains/day	18.7 years <sup>10</sup>	33.7 years <sup>10</sup>
	12.0 years <sup>7</sup>	

Source: Adapted from Carr, 1996

<sup>10</sup> The probability (actual risk) to the Truckee River upstream of CA/NV border from rail OR probability (actual risk) to the Truckee River upstream of CA/NV border from trucks on I-80 EQUALS the total probability (total risk) to the entire Truckee river LESS the probability (actual risk) of outcomes common to both. In this case the two events are mutually exclusive and equal zero.

$$P(A \cup B) = P(A) + P(B) - P(A \cap B) = P(A) + P(B) - 0 = P(A) + P(B)$$

$$P(\text{entire Truckee River}) = P(\text{upstream}) + P(I-80) = 1/(89.8 \text{ yrs.}) + 1/(45.2 \text{ yrs.}) = 1/29.0 \text{ yrs. or 1 event in 29.0 yrs.}$$

$$1/(44.7 \text{ yrs.}) + 1/(45.2 \text{ yrs.}) = 1/22.5 \text{ yrs. or 1 event in 22.5 yrs.}$$

$$1/(32.0 \text{ yrs.}) + 1/(45.2 \text{ yrs.}) = 1/18.7 \text{ yrs. or 1 event in 18.7 yrs.}$$

The probability (actual risk) to the Truckee River upstream of CA/NV border from rail OR probability (actual risk) to the Truckee River upstream of CA/NV border from trucks on I-80 OR probability (actual risk) to the Truckee River upstream of CA/NV border from trucks on US-395 EQUALS the total probability (total risk) to the entire Truckee river LESS the probability (actual risk) of outcomes common to any events. In this case the three events are mutually exclusive and equal zero.

$$P(\text{entire Truckee River}) = P(\text{downstream}) + P(I-80) + P(US-395) = 1/(154.75 \text{ yrs.}) + 1/(93.0 \text{ yrs.}) + 1/(383.5 \text{ yrs.}) = 1/50.5 \text{ yrs. or 1 event in 50.5 yrs.}$$

$$1/(86.1 \text{ yrs.}) + 1/(93.0 \text{ yrs.}) + 1/(383.5 \text{ yrs.}) = 1/40.0 \text{ yrs. or 1 event in 40.0 yrs.}$$

$$1/(61.4 \text{ yrs.}) + 1/(93.0 \text{ yrs.}) + 1/(383 \text{ yrs.}) = 1/33.7 \text{ yrs. or 1 event in 33.7 yrs.}$$

The City clarified in a footnote:

"The reported [sic] noted that the likelihood of a toxic spill was once every 80.8 years along the Truckee River above the California-Nevada border and once every 154.75 years below the border. With respect to interpreting the probability of occurrence, the author noted that 'There are people who have lived on the Mississippi River for 30 years who have been through five 100-year floods.' The most likely substances in a spill, listed in decreasing order included: (1) sulfuric acid; (2) phosphoric acid, diesel fuel, ammonium nitrate; (3) anhydrous ammonia; (4) sodium hydroxide; and (5) butyl ether. Other likely substances of equal but lesser [sic] likelihood included butane, calcium carbide, carbon disulfide, methyl alcohol, methyl ether, naphtha potassium, hydroxide and propane. In a related incident, on July 14, 1991, seven cars of a slow Southern Pacific Railroad train derailed near Dunsmuir, California, dumping 19,000 gallons of a fungicide and herbicide (Vapam or metam sodium) into the Upper Sacramento River. The river carried the chemicals into Lake Shasta, located nearly 40 miles downstream. According to the California Department of Fish and Game, that spill virtually killed all aquatic animals and thousands of plants along the river's 37-mile course. More than 1 million fish were killed, including 275,000 wild trout. Also killed along the river were as many as 250,000 willows and 300,000 cottonwoods, which would not regrow for 14-16 years."

The City also stated: "Determination of the 'affected environment' required 'description of environment of the area(s) to be affected or created by the alternatives' (40 CFR 1502.15) including a biological assessment of the Truckee River (see Section 3.8 - Biological Resources on page 3 - 25 of this comment document for detailed comments from the City)."

The City concluded: "Throughout the Reno mitigation Study process, the City requested that SEA put the issue of endangered species inhabiting the Truckee River (the endangered cui-ui and the threatened Lahontan cutthroat trout [LCT]) on the Reno Mitigation Task Force agenda so that this critical issue could be publicly studied and reasonable mitigation solutions could be discussed. SEA failed to honor this request."

The US Department of Transportation recommended that UP, the City and the County work together to develop effective means to respond to hazardous waste spills. The Department stated: "Although the increased risk is still slight, the potential risk to endangered fish species and other impacts of a release lead the Department to suggest that the City of Reno and Washoe County join with the UP as participants in 'Operation Respond.' This FRA program is designed to reduce the impact of accidental releases of hazardous materials through an improved information system, which provides fire and police officials quick, accurate information on the correct contents of rail and motor vehicles, as well as information on emergency procedures. FRA will provide technical assistance to the parties in this area, as needed."



Larry S. Farr, Fire Marshal for the City of Reno, stated:

"Potential hazardous materials spills along the Truckee River corridor are not adequately identified. Again, without properly identifying the impact a mitigation cannot be recommended. However, I do believe the Railroad should develop a comprehensive contingency plan to provide drinking water to the City of Reno. The plan should identify the feasibility of constructing an emergency pipeline from the Boca reservoir to Reno. The plan should identify the route, pipe size, pump size, number and locations of pumps, construction time and cost. The cost to develop a contingency plan is small and is sound emergency planning.

"The contingency plan is a must, since we know it is only a matter of time before there is a hazardous material spill on the Truckee River corridor.

"The railroad should also be required to provide hazardous material emergency response equipment, in addition to the training they are offering. When a hazardous material spill does occur, it will be the fire department responding and trying to mitigate the danger."

David R. Cowperwaite of the Nevada Department of Conservation and Natural Resources, Division of Environmental Protection, added: "The Division in conjunction with the US EPA and the State of California have been cooperating in the development of a spill contingency plan for the Truckee River. The Surface Transportation Board is reminded that increased rail traffic on the corridor will substantially expand the potential for spills into the Truckee River. The river is very important to Northern Nevada, since it is the prime drinking water source for the Reno metro area. In addition, lowering the railroad tracks will likely encounter polluted groundwater in the affected corridor."

### **3.15.2 Response to Comments**

In response to public and agency comments on the PMP, SEA has conducted an expanded analysis of the potential risks of hazardous materials transport. Please see Section 2.4.8 and Section 4 of this FMP.

Many of the comments compare Professor Carr's and SEA's analysis regarding the potential for a hazardous materials spill and the associated effects. The principal differences between SEA's analysis, as presented in Section 4 of this FMP, and Professor Carr's analysis relate to the estimates of the conditional probability of contamination, i.e., how often a hazardous materials release would enter the river if a release were to occur. Professor Carr's method was very conservative, assuming a very high likelihood of contamination regardless of the size or type of release.

SEA's method, as described in detail in Section 4, takes advantage of large databases, namely the FRA accident/incident data and the HMIRS (Hazardous Materials Incident Reporting System), in conjunction with detailed terrain data for the corridor. This information was used to build a more

detailed estimate than was done earlier of the potential for contamination if a release were to occur resulting from a train accident. Based on these extensive data, SEA includes in its evaluation not only the likelihood of a train incident, but also such factors as the distance that rail cars are likely to travel in the event of an incident, the likelihood that a train incident would actually result in a spill, and the likelihood that such a spill would enter the river, taking into account the distance from the rail line to the river, the topography between the rail line and river, and the likely size of the spill. Because SEA's analysis is more detailed and therefore more representative, SEA is relying on its own methodology and analysis, not on Professor Carr's. However, SEA notes that it used some of Professor Carr's information where appropriate.

### **3.16 Coordination with U.S. Fish and Wildlife Service**

#### **3.16.1 Summary of Comments**

Several commenters raised questions about SEA's consultation with the U.S. Fish and Wildlife Service (USFWS).

The City of Reno stated: "It would appear that the public who has indicated this is a priority environmental concern for the community will have no opportunity to evaluate that consultation process prior to the end of the comment period. This is unacceptable to the citizens of Reno and the City. The adequacy of the proposed 'mitigation' cannot be evaluated without the complete consultation process of the USFWS."

The City also stated: "Nonetheless, on June 17, 1997 (prior to SEA's abrupt cancellation of the August and September Task Force meetings) SEA sent a letter request to the Nevada office of the U.S. Fish and Wildlife Service seeking their concurrence in SEA's conclusion that 'The UP/SP railroad merger-related train traffic increases through Reno and Washoe County would have a negligible impact on the cui-ui or the Lahontan cutthroat trout . . .' SEA did not invite the public, including the Native Americans, to participate in this process. Please refer to the June 17, 1997 letter from Elaine Kaiser, Chief, Section of Environmental Analysis, to the USFWS, as well as all other correspondence related to this matter placed in the record by the City, as set forth in Appendix F of this comment document."

In addition the City noted:

"The USFWS agreed with SEA via its July 9, 1997 informal consultation process (File No. 1-5-97-1-28 1). This informal consultation finding was not forwarded by SEA to the City until August 18, 1997. In their informal consultation, the USFWS concluded:

"Based upon the information provided in [SEA's] letter, UP/SP Progress reports . . . and the discussions with Harold McNulty of the Section of Environmental Analysis the [Fish and Wildlife] Service concurs that the increased traffic from the UP/SP merger is not likely

to adversely affect the cui-ui and LCT as long as the train safety improvements are continued and the emergency response plan is implemented as needed. Therefore, formal consultation pursuant to section 7 of the [Endangered Species] Act is not required.'

"A review of SEA's request to the USFWS reveals that certain misleading information was given to the USFWS to consider. This misleading information was in the form of an incomplete summary of a study conducted by James Carr, Ph.D., P.E., of the University of Nevada, Reno. SEA reported that based upon Dr. Carr's findings, the probability (risk) of a contamination event in the Truckee River was once in every 154.15 years. This finding was not based on the increased train traffic (post merger 24 trains per day per UP), but rather it was based upon existing baseline train traffic (14.7 trains per day) and only the Nevada portion of the Truckee River. In a September 2, 1997 letter to the City, Dr. Carr verified that the summary information from his report provided by SEA to the USFWS was in fact misleading (see Appendix F of this comment document for a complete copy of Dr. Carr's letter)."

The City of Reno also noted:

"The City met with the USFWS - Nevada office on August 26, 1997 to discuss these concerns. The City provided the USFWS with the full text of Dr. Carr's report (not previously provided by SEA) and asked the USFWS to request that SEA authorize a formal consultation under Section 7 of the Endangered Species Act (ESA). On August 29, 1997 the Reno-Sparks Indian Colony forwarded a similar request to the USFWS.

"On September 8, 1997, the City Attorney's Office was copied with a letter from USFWS to SEA reiterating that the City had provided information to them which had not previously been provided by SEA. Further, the USFWS pointed out the discrepancies in the statistics provided by SEA. The USFWS concluded '[b]ased on our receipt of Dr. Carr's report, our conversation with your staff, and the impending report that you will provide to explain your assessment of the likelihood of a hazardous spill occurring, we recommend an exchange of information detailing your interpretation of this additional information and how that interpretation coincides with earlier information present and our 'not likely to adversely affect' determination.

"On October 7, 1997, the City Attorney's Office was copied with a letter to USFWS from SEA requesting re-initiation of the informal consultation process based upon information not previously provided to USFWS.

"The City also informed U.S. Secretary of Transportation Rodney Slater, Senators Reid and Bryan, and Representatives Gibbons and Ensign of these serious environmental concerns. Senators Reid and Bryan have sent letters to the STB and



to CEQ expressly requesting their oversight on these important environmental issues in the Truckee Meadows. All correspondence referenced in this comment appears in Appendix F of this comment document."

### **3.16.2 Response to Comments**

The USFWS has identified two species of concern in the study area: (1) the federally listed endangered fish, the cui-ui (*Chasmistes cujus*) and (2) the threatened Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*, also known as *Salmo clarki henshawi*), which inhabit Pyramid Lake, a tributary of the Truckee River. In response to this concern, SEA prepared a technical memorandum documenting the status and locations of Lahontan cutthroat trout and cui-ui. The memorandum is attached as Appendix P of the PMP.

SEA has conducted extensive consultation with the USFWS. This consultation followed standard procedures for federal agencies to consult with each other. The consultation process began during preparation of the Environmental Assessment on the UP/SP merger. SEA submitted formal requests on January 29, 1996, to the USFWS and the Nevada Department of Conservation and Natural Resources for input regarding endangered species. These agencies did not submit any comments to SEA during the environmental review period for the overall merger. SEA also transmitted an information package to the nine area offices of the Bureau of Indian Affairs (BIA). SEA also consulted with Native American representatives regarding the issue. (See Section 3.17.)

SEA also conducted additional consultation with the USFWS during preparation of the PMP. During the PMP process in a June 17, 1997 letter, SEA submitted information to the USFWS seeking concurrence that merger related train traffic increases would have a minimal impact on the cui-ui or the Lahontan cutthroat trout. The USFWS agreed with SEA in a letter dated July 9, 1997, which they issued as part of the informal consultation process (File No. 1-5-97-1-281). The USFWS concluded:

"Based upon the information provided in (SEA's) letter, UP/SP progress reports . . . , and the discussions with Harold McNulty of the Section Environmental Analysis, the (Fish and Wildlife) Service concurs that the increased traffic from the UP/SP merger is not likely to adversely affect the cui-ui and LCT as long as the train safety improvements are continued and the emergency response plan is implemented as needed. Therefore, formal consultation pursuant to section 7 of the (Endangered Species) Act is not required."

After the July 9 letter, SEA determined that the information supplied to the USFWS was based on existing baseline train traffic and not on the increased post-merger train traffic. In addition, Dr. Carr wrote a letter to the City objecting to SEA's use of data contained in a report he prepared. On August 26, 1997, the City met with the USFWS to discuss the City's concerns.

On September 8, 1997, the USFWS wrote a letter to SEA reiterating that the City had provided information to them that was not previously provided by SEA. The USFWS also pointed out the discrepancies in the statistics provided by SEA.

Based on these factors, SEA conducted its own independent analysis of derailments and potential impacts on endangered species, and this information was provided in the PMP. On September 18, 1997, SEA staff met with the USFWS to review SEA's independent analysis provided in the PMP. At that meeting USFWS staff requested additional areas for analysis in the Final Mitigation Plan. Based on this meeting, SEA agreed to expand the analysis and the expanded analysis is contained in Section 4 of this FMP.

On October 7, 1997, SEA wrote a letter to the USFWS formally requesting re-initiation of the informal consultation process with the USFWS. As part of the additional analysis, SEA conducted two field visits with the USFWS (on October 23, 1997 and November 21, 1997) to review various technical issues. In late December 1997 and early January 1998, SEA conducted additional consultations with USFWS regarding SEA's expanded analysis of hazardous materials risk and mitigation. USFWS then requested refinements to the information on the potential risks to the species of concern in the Truckee River.

Section 4 of the FMP includes SEA's substantial expanded analysis of the potential hazardous materials risks and mitigation, including all information requested by USFWS. Overall, SEA's technical analysis has been expanded from the PMP to include:

- An environmental assessment of the project corridor to determine conditions relevant to potential risks for humans and biological resources.
- A determination of the probability of hazardous material release for specific types of commodities and portions of the rail corridor.
- An evaluation of chemical and physical properties of individual hazardous commodities to identify potential impacts or effects if a release occurs.
- A review of emergency response measures and plans to minimize the potential consequences of a release.
- An evaluation of potential hazardous material release/impact scenarios including releases to the Truckee River potentially affecting protected fish species or the potable water supply, and releases potentially affecting humans in the Reno/Sparks area.
- A discussion of mitigation measures.

This FMP is being provided to the USFWS and the public so that all parties have an opportunity to review and comment on SEA's proposed additional mitigation measures and hazardous materials analysis.

### 3.17 Native American Consultation

#### 3.17.1 Summary of Comments

The Reno-Sparks Indian Colony Tribal Council, the Pyramid Lake Paiute Tribe (PLPT), the City of Reno and two private citizens expressed concern about the Native American consultation process. All the comments state that SEA and the Board should have consulted directly with the tribes before producing the EA, as well as the PMP.

Arlan Melendez, Tribal Chairman of the Reno-Sparks Indian Colony, stated:

"The Board issued its Environmental Assessment on the merger and did not even bother to include the Reno-Sparks Indian Colony on the service list. The Board did not bother to even send us a copy of the document, though they provided the other local governments and other organizations a copy.

"We are also very disappointed that the Surface Transportation Board issued its decision not to prepare an environmental impact statement on the merger--and in fact issued its decision to approve the merger--before it initiated any consultation whatsoever with our tribal government. Not only is this inconsiderate treatment of the original inhabitants of this valley, it is a clear violation of the federal trust obligation the federal agency owed to our Tribe and a clear violation of National Environmental Policy Act which mandates early consultation with affected Indian tribes.

"Tomorrow we will file our amicus brief in support of the City of Reno in their challenge to the Board's decision in Federal Circuit Court in Washington, D.C. We point out in our amicus brief that the Board has violated our rights by failing to consult with our Tribe and by not preparing an EIS on this major federal action.

"President Clinton and all three branches of the Federal Government acknowledge that the Federal-Tribal relationship is 'Government to Government.' Why is this concept so difficult for the Surface Transportation Board to understand? Our Tribe is not just an 'interest group' on this matter. We are a sovereign government with recognized rights under the United States Constitution.

"We object to the Board beginning its consultation with our Tribe after it has approved the merger and made the decision to not prepare an EIS. It is like inviting us to the treaty making after the document is signed.

"July 10, 1997 consultation was inadequate and was conducted by consultants. This was the first attempt at tribal consultation and occurred nearly one year after the Board approved the merger. It should have occurred at the front-end of the process before the environmental assessment was hurried through.



"The report makes it appear that the Colony would be opposed to depressing the railroad tracks downtown because of potential cultural impacts. That is not the case. The Colony supports the City's efforts to seek depressed trackage."

The Pyramid Lake Paiute Tribe stated:

"We feel that insufficient attention has been given to the Truckee River below the Reno-Sparks area and ask that the Pyramid Lake Paiute Tribe be given more opportunity to work with you on developing better alternatives, including the possibility of disapproving the merger. We are particularly concerned that PLPT was not contacted for the Environmental Assessment of April, 1996. There are many points we would like to have raised on this important step which affects the future of lower Truckee River waters and the Pyramid Lake. We note the error to exclude from consideration Pyramid Lake for its distance of 15 miles from the railroad, while only considering ecosystems within 5 miles. The effects of a toxic spill could easily extend to the Lake from even much greater distances than either of the above.

"Concerning the endangered Cui-ui and the threatened Lahontan Cutthroat Trout, the recovery programs for these two species involve the whole Truckee River, as the plan is for their eventual restoration at spawning sites throughout the Truckee. This is directly related to the Pyramid Lake fish populations. In this regard, and also since Pyramid Lake is the ultimate downstream destination for Truckee water, at least in their original natural course, it is a definite oversight not to have involved the PLPT, its environmental, water resources, and fisheries departments, in this major environmental-affecting merger of the two railroads, which will approximately double the traffic on the railroad and greatly increase risk of toxic spills.

"We consider the HAZMAT spill response to be inadequate. This needs to be much more concrete so that spills will not end up poisoning the Pyramid waters and ecosystem. The endangered Cui-ui is endemic to Pyramid Lake and the lower Truckee. A toxic spill could conceivably lead to the extinction of this rare and unusual species. This species is culturally very important to the Pyramid Lake Paiute tribe, was one of the chief staples, and the tribe was named for the fish, i.e., the 'Cui-ui eaters'. To treat the increased likelihood of exterminating this species lightly is to disregard issues that touch on the very cultural identity of the tribe. Were hazardous materials to reach the delta where the Truckee joins the Pyramid Lake and the Cui-ui do their current spawning, the species could be effectively prevented from reproducing and driven to extinction."

The City of Reno stated: "SEA indicates that they have consulted with all potentially affected Native American representatives as part of preparation of the PMP. Required consultation was never conducted during the EA and Post EA NEPA process, and as evidenced in the PMP, has not been completed during the preparation of the PMP. All attempts to conduct Native American consultation were initiated following completion of the EA NEPA process which is a violation of

NEPA. It is the City's understanding that only one meeting was held with Reno-Sparks Indian Colony and no direct meetings or contacts have been completed with the Washoe or Paiute Nations. The City requests that SEA officially start the Native American consultation process and complete the process like all other Federal, state, and local agencies are required to do."

The City also stated: "The referenced July 10, 1997 consultation with the Reno-Sparks Indian Colony, was not 'formal' consultation, and was conducted many months after the completion of the NEPA process which is a violation of NEPA."

The City added: "SEA states grade separations or a depressed railway have adverse impact on historic and cultural resources and if these options are used, more consultation is required with Native Americans. This statement is entirely without basis. Only upon survey of cultural resources and completion of the Section 106 consultation provision of the National Historic Preservation Act (NHPA), would a determination of significance be completed and resources determined eligible to the National Register of Historic Places (NRHP). If disturbance was unavoidable, the resource could require mitigation upon completion of the 106 consultation process. The likelihood of encountering cultural materials associated with construction cannot be determined at the time, and should not be used as a factor to discount the feasibility of this or any mitigation option."

Reno citizen Elmer Rusco stated: "You should know that the Pyramid Lake Tribe is a semi-sovereign entity within the American governmental system. Only part of its authority to govern comes from the American government, and its status as a government with which the United States government deals on a government-to-government basis is acknowledged by the President and Congress. In other words, it is not just another group or person which might have an interest in these matters."

### **3.17.2 Response to Comments**

The following response documents SEA's consultation process with Native American interests. During the preparation of the Environmental Assessment (EA) and Post EA, SEA relied on the Bureau of Indian Affairs (BIA) for consultation on the potential impacts on lands governed by Native American tribes. SEA sent consultation letters to BIA area leaders in Phoenix, AZ; Sacramento, CA; Minneapolis, MN; Billings, MT; Albuquerque, NM; Gallup, NM; Anadarko, OK; Muskogee, OK; Portland, OR; Aberdeen, SD; and Arlington, VA. As shown in Appendix D of the EA, SEA solicited comments from the BIA on several general environmental issues, and specifically asked for comments on "impacts to American Indian populations, lands and culture," and "information on sensitive resources."

Following normal Board procedures, the EA was distributed to all area offices of the BIA for their review and comment. In addition, the Post EA was distributed to 31 Native American tribes, including to Arlan Melendez, Director of the Reno-Sparks Indian Colony, also seeking comment. SEA also conducted extensive consultation with local, county, and state governments.



During preparation of the PMP, SEA conducted site visits to the Reno area, including a meeting in October 1996 with Paula Berkley, representing the Reno-Sparks Indian Colony. In December 1996, SEA established the advisory Reno Mitigation Task Force, which included Paula Berkley as a representative for American Indians. Ms. Berkley attended most Task Force meetings. Arlan D. Melendez, Chair of the Reno-Sparks Colony, was Ms. Berkley's alternate on the Task Force. Both Mr. Melendez and Ms. Berkeley received materials distributed to the Task Force. In addition, SEA added to its study team a subcontractor from the Reno area, Mary Rusco, to address Native American issues. Ms. Rusco is an archeologist with extensive experience consulting with Native American Tribes in Nevada on proposed development projects.

In May 1997, SEA sent letters to the chairs of the Native American councils in the Reno area (Reno-Sparks Indian Colony, Pyramid Lake Paiute, and Washoe Tribal) offering an opportunity to consult regarding Native American issues. Of the three tribal representatives, Mr. Melendez attended a July 1997 meeting and advised SEA that he had consulted with Mervin Wright, Jr., Tribal Chair of the Pyramid Lake Paiute Tribe.

During these consultations, Native American representatives raised a number of environmental issues. Those issues are listed on page 6-33 through 6-35 of the PMP, and were addressed in the PMP. The FMP contains further discussion of issues related to potential impact on Native American lands, people, and culture, especially as related to endangered/threatened species issues (see Section 2.4.8 and Section 4). The PMP was distributed via certified U.S. mail or Federal Express overnight delivery to all 31 tribes on the Post EA distribution list. One tribe in the Reno region, the Carson Colony Council in Carson City, declined receipt of the PMP; and another, the Yomba Tribal Council in Austin, NV, did not receive its copy because it had apparently moved its headquarters. SEA contacted the U.S. Postal Service and was told that there was no forwarding address on file for the tribe.

SEA acknowledges that Native American tribal governments have considerable authority with respect to protecting the waterways in western Nevada. The Truckee-Carson-Pyramid Lake Water Rights Settlement Act of 1990 settled many disputes involving water rights in the region, and contained numerous provisions designed to further protect endangered or threatened species and Native American cultural resources.

Some commenters expressed concern that Native American cultural or historical resources would be harmed if the depressed trainway option were constructed. SEA also notes the support of the Reno-Sparks Indian Colony for the depressed trainway option. If parties agree to move forward with the depressed trainway, the applicable permitting and regulatory agencies must approve the project and this approval process would include appropriate environmental review. The applicable agency would consider Native American and cultural/historical resource issues during that environmental review.

In public comments made to SEA in October 1997, Tribal Chairman Arlan Melendez noted that the Reno-Sparks Indian Colony was filing an amicus brief in support of the City of Reno's



challenge to the Board decision. This challenge is currently in Federal Circuit Court. SEA notes that this amicus brief was filed and was not accepted by the court.

### **3.18 Use of 1995 Vehicular Traffic as Baseline**

#### **3.18.1 Summary of Comments**

A few commenters, primarily the City of Reno, expressed concern about the number of trains through Reno used by SEA as the baseline of its projections for train traffic through Reno in the future. The City was especially concerned with the figure used for representing "pre-merger" traffic levels. The City stated: "SEA would have you believe that somehow the pre-merger conditions are the year 2000 vehicular traffic. How can this be pre-merger? It is the City's understanding that pre-merger would have to be some time prior to August 12, 1996, when the STB approved the UP/SP merger. Post-merger would have to some time after September 12, 1996, the merger consummation date. The entire PMP and all of its analyses are missing comparisons between the 'pre-merger existing environmental conditions' with 1995 vehicle traffic (ADT) and 12.7 through freight trains per day and the post-merger conditions with year 2000 vehicle traffic (ADT) and 24.0 through freight trains per day."

Addressing text on pages 6-3 and 6-4 of the PMP, the City also stated:

"The above passages are a few of the many examples of SEA's use and mis-use of the terms 'pre-merger conditions' and 'post-merger condition.' It should be noted that the difference between SEA's pre-merger traffic delay based upon the year 1995 and the year 2000 represents a 14 percent inflation of the actual pre-merger traffic. The City offers the following information which is part of the record (see Appendix A of this comment document) from the Reno Mitigation Task Force meeting held June 11, 1997:

"Though we do not have complete methodologies or assumptions from De Leuw, Cather & Company, based upon our initial analysis of the data presented by Gui Sheerin [sic] at the June 11, 1997 Task Force meeting [see handouts in Appendix B of this comment document], we have documented the following discrepancies in their methodology:

- pre-merger actually represent the cumulative affects [sic] of the environment with the no action alternative (no merger) [year 2000 vehicle traffic (ADT) and 12.7 through freight trains per day].
- post-merger represent the proposed action as defined by UP (the fully implemented merger) [year 2000 vehicle traffic (ADT) and 24.0 through freight trains per day].
- All analyses are missing items labeled pre-merger existing environment conditions in 1995 [year 1995 vehicle traffic (ADT) and 12.7 through freight trains per day].

"Please refer to the June 20, 1997 letter to Elaine Kaiser, Chief, Section of Environmental Analysis from Charles McNeely, City Manager for the City, placed in the record by the City on August 8, 1997 as set forth in Appendix A of this comment document."

The City also stated: "SEA has assumed year 2000 traffic as the baseline condition (pre-merger) and therefore no analysis has been done for conditions prior to year 2000 (year 1995). The City understands that '[f]or purposes of comparison, the SEA study team has provided an evaluation of potential traffic delay impacts using 1995 vehicular traffic with pre-merger train levels and Year 2000 vehicular traffic with post-merger train levels. This analysis is contained in Appendix J of the PMP' (STB, 1997d:6-4). Unfortunately, SEA does not provide the actual traffic counts, only summary delay information, which is then not used. The differences is [sic] significant (14 percent). As the City does not have access to the traffic counts used by SEA to determine these delays, replication of the SEA study team's work is not possible."

### **3.18.2 Response to Comments**

The City suggests that vehicular traffic delay at the crossings resulting from the merger-related increase on trains should be calculated using Year 1995 vehicular traffic levels and the pre-merger train counts of 12.7 and that this traffic delay should be compared against the Year 2000 vehicular traffic levels and the post-merger train counts of 24 trains. (The City also states that additional future years should be evaluated, which is responded to in Sections 3.2 and 3.19.)

Conducting an evaluation using 1995 traffic data would have the effect of attributing vehicular traffic increases between 1995 and 2000 to rail activities. Such an approach would imply that the merger of UP and SP is responsible for the growth of vehicular traffic on Reno streets between the Years 1995 and 2000, and SEA rejects this implication. Those vehicular traffic increases are not attributable to the merger, and such an approach would artificially exaggerate potential post-merger impacts with no rational basis for comparison.

More appropriately, SEA compares vehicular traffic delay using Year 2000 vehicular traffic with and without the merger trains (i.e., with 12.7 pre-merger trains and 24 post-merger trains). SEA's approach is fully consistent with the common practice under NEPA of evaluating impacts with and without the project—in this case, with pre-merger and post-merger trains—so that actual impacts attributable to the project can be identified. This standard practice under NEPA appropriately isolates the effects of the project from those of other factors in the same environment (40 CFR 1508.7).

### **3.19 Use of Year 2000, 2007, 2015 Vehicular Traffic**

#### **3.19.1 Summary of Comments**

Several parties state that SEA must project train traffic and other data out as far as the year 2015, rather than to just the year 2000. In addition to asking for an extended study time-frame, the City of Reno notes that its estimates for traffic flows in the Year 2000 differ significantly from SEA's. Other parties state that traffic impacts will increase greatly in the early part of the 21st century.

#### **Year 2000 Traffic**

The City of Reno stated: "Table 5 below, is a comparison between traffic volume for year 2000 as forecasted by the SEA study team in the PMP and forecast completed by Meyer, Mohaddes Associates (MMA). The differences, although not large, are significant and need to be identified and discussed." (See Table 5 on following page.)

#### **Traffic Impacts in Future Years**

According to Reno citizen Frank Turek: "As to traffic impact considerations, such impacts could easily become double, triple, or even quadruple in fifteen years' time, over and above what will be felt over the next four years."

#### **Train and Vehicular Traffic Beyond Year 2000**

Jack Lorbeer, a principal planner with the Reno area Regional Transportation Commission, was concerned that the PMP forecast data for both train and vehicular traffic only goes to the year 2000. Another individual, Reno citizen Gene Gardella, expressed the same concern.



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Table 5			
Comparison Between Traffic Volume for year 2000			
Rail Crossing Location	PMP Traffic Volume Year 2000	MMA Traffic Volume Year 2000	Difference
Keystone	28,017	24,300	3,717
Vine	3,946	4,600	-654
Washington	1,891	2,100	-209
Ralston	3,654	4,200	-546
Arlington	9,254	16,700	-7,446
West	4,783	3,500	1,283
Sierra	20,982	21,700	-718
Virginia	13,551	15,400	-849
Center	14,351	12,800	1,551
Lake	8,069	8,300	-231
Evans	---	13,380	-13,380
Morrill	515	300	215
Sutro	12,051	12,900	-849
TOTAL	121,064	140,180	-19,116

Source: MMA, 1997; STB, 1997d: Table 6.2.1-2

### **3.19.2 Response to Comments**

#### **Year 2000 Traffic**

There are several important differences between the PMP traffic figures and the City's traffic figures for Year 2000, as follows:

- The City assumed 80 percent more traffic crossing the tracks on Arlington Avenue than did the PMP. This factor was based on the City's assumption that Arlington Avenue traffic in 1995 was 80 percent higher than NDOT's count, resulting in about 5,000 more vehicles per day crossing the tracks in the downtown than counted by NDOT.
- By adding a new crossing at Evans Avenue and by escalating traffic on all other streets at 2 percent per year, the City arrived at a total screenline traffic across the tracks that was 19,000 ADT higher than PMP traffic in 2000.
- The City's traffic growth rate between 1995 and 2000 was 4 percent per year, which was greater than both the RTC traffic data given as its source and the growth rate stated by the City of Reno of 2 percent per year. The RTC data projected traffic growth of less than 1 percent per year between 1997 and 2007. (The PMP used an average growth rate of 1.8 percent per year between 1995 and 2000.)

Thus the City's assumption of higher 1995 traffic on Arlington Avenue and a much higher growth rate were the main factors leading to about 19,000 more ADT in the City's projection compared with the traffic used by SEA in the PMP. The City's Year 2000 projection assumed traffic growth of over 25 percent from the NDOT 1995 counts.

#### **Traffic Impacts in Future Years**

One comment received anticipates a traffic growth rate far greater than even that assumed by the City and suggests that traffic may quadruple. The City assumed a traffic growth of 1 percent per year after the Year 2000, equivalent to a traffic growth of about 16 percent between 2000 and 2015. SEA used a growth rate of 1.8 percent per year, equivalent to a traffic growth of 31 percent between 2000 and 2015. Either set of growth assumptions would lead to a traffic growth of around 40 percent between 1995 and 2015, but neither SEA nor the City have projected that traffic will quadruple.

#### **Train and Vehicle Traffic Beyond Year 2000**

Sections 3.2 and 3.3 discuss the reasons for limiting the time frame for train traffic projections to five years. Section 3.18 discusses the reasons for use of the Year 2000 vehicular traffic to evaluate potential delay impacts both with and without the merger train traffic.

### 3.20 Vehicular Traffic Delay

#### 3.20.1 Summary of Comments

Numerous comments concerned vehicular traffic delay caused by merger-related train traffic. The City of Reno focused its comments on SEA's methodology and calculation of total crossing gate down time. The City suggests that SEA did not account for the delay caused by the fact that vehicles will back up behind the crossing gates enough that traffic will also back up at nearby major street or highway intersections, leading to longer clearing times at those intersections.

#### Data Verification Activities

The City of Reno expressed concern on how the February 1997 train survey data were verified. The City commented on the limitations, discrepancies, and methods involved with verifying and finalizing the data for the five grade crossings studied (Center, Arlington, Sierra, Virginia, and Keystone) as part of the February 1997 train survey. The City of Reno stated:

"As set forth in a report from Mark A. Demuth of *The Environmental Team* to Merri Belaustegui-Trafficanti, Deputy City Attorney, the following validity and reliability information was noted during the data verification activities (DVAs) which began on Friday, February 28, 1997, at DCCo's office in San Francisco by Dave Mansen and David Tait from DCCo, D. Patrick Jumper from UP, and Mark A. Demuth from *The Environmental Team* representing the City:

"The initial DVAs included verifying the correlation between the observed train events and the actual consists provided by UP, as well as noting gate down times which appeared by inspection to be unwarrantedly high or low. These suspect times were verified by viewing and timing the gate from the tapes; corrections were made as noted . . .

"The final activity of the data validation was to create event records for missing events which could be created from the tapes. Data forms were completed and the records added noting the observation was from video tape."

Others stated their opinion that the mitigation measures recommended in the PMP would do little to reduce potential vehicle delay, and that only construction of grade-separations would effectively mitigate this impact. While some commenters said they are already often delayed, nearly an equal number said the delay has never been a problem. A few commenters asked whether UP could avoid moving trains through Reno during the morning and evening rush hour. Two commenters stated that their only route out of their neighborhood was often blocked, and they could not get information on when it would clear.



## City of Reno and NFRA Traffic Delay Calculations

The City of Reno and SEA employed different assumptions to arrive at delay projections. The City of Reno stated: "Increased traffic delay time: Idling vehicle delay time will more than double from 188 hours to 473 hours."

Bob Burn of Nevadans for Fast and Responsible Action (NFRA) stated: "These Reports show discrepancies and inaccuracies in the analyses and methodologies utilized in the PMP. Specifically, these Reports indicate that the post-merger conditions have been under estimated in the PMP, and, therefore, the proposed mitigation will not be effective or otherwise mitigate the merger impacts. These Reports indicate that the vehicle delay time in the post-merger condition will be substantially greater than set forth in the PMP, that the increased air pollution will exceed acceptable limits, that the noise impacts will be significantly greater, that more emergency calls will be disrupted or delayed and that the number of accidents will increase."

A few other individuals raised questions on the validity of the vehicle traffic delay numbers and the methodology used.

### Delay from Overflow Through Signalized Intersections

The City of Reno suggested that SEA did not include the traffic delay from the overflow through adjacent signalized intersections. The City stated:

"The methodology used, in general, is not quite clear. However, it seems that the delay methodology calculates only the following two components of vehicular delay:

- "• Delay during the blockage of grade crossing by train (down time of the gate) and
- Delay during the dissipation time.

"However, there is a third component of the delay that the report has not included in its delay calculation methodology. This component is the delay as a result of the overflow of the stopped vehicles into adjacent signalized intersections (see Figure 2, for a graphical representation of delay components).

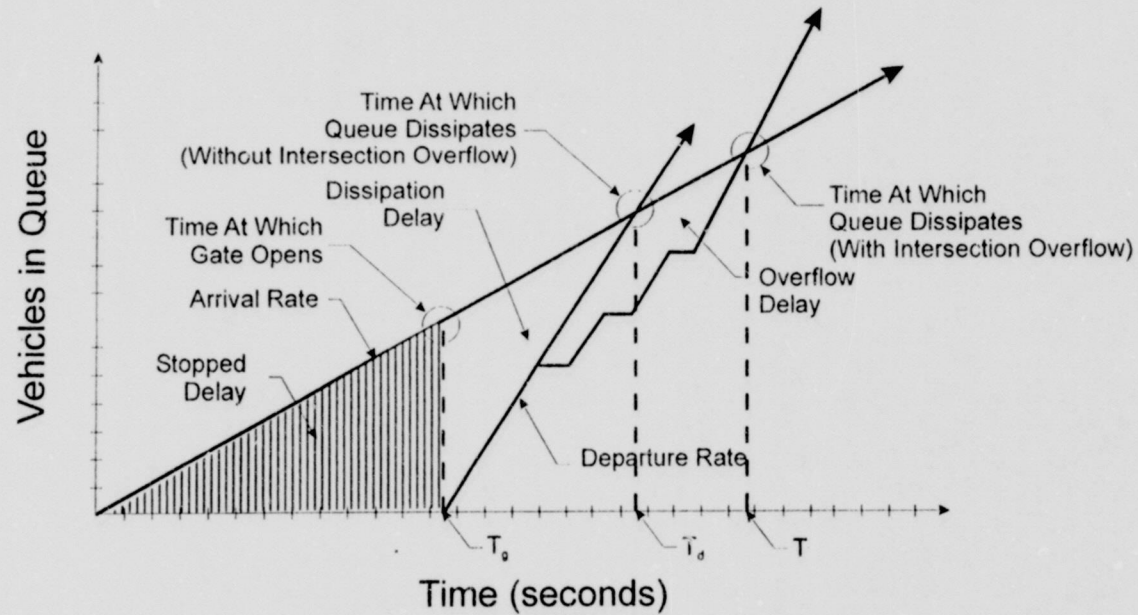
"This added delay will be developed while vehicles are waiting for the queue to clear the intersection. MMA's analysis indicated that the overflow would occur for the following intersections:

- "• 2nd Street / Virginia Street;
- 2nd Street / Center Street;
- Commercial Row / Sutro Street;
- 4th Street / Sierra Street; and
- 4th Street / Virginia Street.

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City of Reno: □ Comments

Figure 2



**Meyer, Mohades Associates, Inc.**  
Traffic Engineering • Transportation Planning

**UP/SP RAILROAD DELAY STUDY**  
COMPONENTS OF TOTAL DELAY

October 7, 1997

"MMA's analysis showed that the sum of total delay for Virginia, Center, Sutro and Sierra crossings, as a result of this overflow component increased by approximately 30 percent for 1995 (12.7 trains) and 40 percent and 49 percent for 2000 (12.7 trains) and 2000 (24 trains), respectively."

### **Delay Methodology**

Rich Vitali, who represented the River Banks Home Owners' association on the Reno Mitigation Study Task Force, questioned how waiting time would be cut by a third when train length is doubled and train speed is increased.

According to Nevada Governor Bob Miller: "My concerns about public safety have not been appeased. The primary mitigation feature in the PMP increases train speed from 20 mph to 30 mph. Consequently, delays at train crossings would diminish from 3.4 to 2.8 minutes per train. This 33% savings is overestimated and does little, if anything, to relieve delays caused by the merger."

Another individual, Lawrence J. Torango, stated: "I have this nagging thought in the back of my head the authors of the report use the computer simulations to justify predetermined outcomes, not raise the confidence of the outcomes. In essence, I have the feeling the use of computer models was an attempt to gain credibility."

The City of Reno stated:

"The SEA study team's model calibration has been based on the February 1997 survey and field observations. Particularly, the gate down time is a function of the train speeds at various occasions which might have been greater than 20 mph (see Speed Calculation Comment #22.1 on page 2 - 22 of this comment document, relative to Data Collection Comment #21.1 on page 2 - 20 of this comment document). MMA's analyses are based on a 20 mph train speed and an average train length of 6,500 feet.

"The SEA study team has assumed a uniform vehicular arrival during the day and ignored the heavy traffic volumes during the AM and PM peak hours. Furthermore, the distribution of train arrivals during the day is not clear. These two factors combined will have a significant impact on total calculated delay."

The City also stated:

"A comparison of delay measures between the PMP findings and MMA's analysis is shown below in Table 6.



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Table 6						
Comparison of Delay Measures						
Delay Measures	1995 Traffic		2000 Traffic			
	12.7 Trains		PMP		MMA	
	PMP	MMA	12.7 Trains	24.0 Trains	12.7 Trains	24.0 Trains
Total daily number of vehicles crossing tracks at-grade:						
• PMP has assumed 16 locations	113,700		124,400			
• MMA has assumed 13 locations		115,200			140,200	
<b>Total daily hours of delay</b>	<b>166</b>	<b>188</b>	<b>189</b>	<b>373</b>	<b>250</b>	<b>473</b>
Total number of vehicles delayed by trains (cars in queue)		4,542	5,740	11,130	5,574	10,534

Source: MMA, 1997; STB, 1997d: Table 7.2.1-1

"As shown by SEA, the total daily pre-merger vehicle delay (year 1995 not year 2000) is estimated at 166 hours, while the total post-merger vehicle delay is projected to be 373 hours, an increase of 207 hours of delay. MMA indicates a higher increase between pre-merger and post-merger of 307 hours of delay with the inclusion of the overflow component.

"It should be noted that the PMP also reports the misleading calculation of average delay per vehicles [across all vehicles], resulting in an absurdly low delay in all cases (see Table 7 below). This has been easily explained by the City, as in the case where one car arrives exactly as the gates begin to come down and the other car arrives just before the gates begin to go up. The first car waits for 5 minutes and the second car waits for 1 minute, yet the 'average delay per vehicle' is 3 minutes. Clearly the citizens of Reno realize this is not a true picture of the delay in Reno. Only total daily hours of delay are meaningful."

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<b>Table 7</b>			
<b>Simplified Delay Statistics for 16 Grade Crossings in Reno</b>			
	Pre-merger	Unmitigated Post-merger	Increased Speed 30 mph Post-merger
Gate down time	3.38	3.45	2.28
Delay per vehicle	1.98	2.01	1.27

Source: STB, 1997d: 7 - 7, Table 7.2.1-1

**Traffic Delay a Concern**

Overall, several individuals were concerned with train delay and the inconvenience of stopped trains. Some were also concerned about the frequency of stopped trains and the associated delay, especially during the peak hours of downtown vehicular traffic.

Paul Larson commented: "One last thing. For 17 years I have been late to work because they always send a train right at rush hour, eight in the morning, five in the afternoon. Can't they possibly reschedule that, give us a 15 minute leeway. Because people are going to get killed trying to beat that train so they don't lose their job, okay. I'm serious. That's going to cost people their lives sometime."

**Traffic Delay Not a Concern**

There were many comments stating that the delay caused by train traffic, even if the train traffic increases, is not a big concern in Reno. Reno citizen Carl Carter stated: "I have lived in Reno for over 45 years, most of that time, working within one block of the railroad tracks. To my best recollection I've never had a problem waiting for a train. Maybe 10 minutes at the most, and that waiting for Amtrak to load and unload."

Alan Crawley stated: "Well, it shows in here that it is two hours and 35 minutes out of a day that we're going to take up the crossings here in Reno. So that leaves 21 hours and 25 minutes that everything is going to be open and free."

Bill Newman stated: "I have lived by Idlewild Park for years. I grew up here. And I'm familiar with the trains. How many times do you cross the railroad tracks? Once, twice a day? Three, four, five minutes there is the max you sit and watch the train go by."

John Wright stated: "My wife works downtown. She is an employee of Washoe County and works at the courthouse. Our home is on the other side of the tracks from her work. Each working day, we cross the railroad tracks a minimum of six times. During each week, we may have to wait one or two times for a train to clear a grade crossing. The longest delay we have had for a 'real' train was slightly more than three minutes. The actual longest delay was a 'phantom' train that the city council and Mayor presented to us more than a year ago. That train lasted for eight and a half minutes. It only existed in the minds of our elected officials, but we were prevented from crossing tracks during our 'rush' hour. That action took a lot of heat and only showed us how silly our city government is and the fear they are trying to create in the minds of the citizenry."

Kaylene Wood, a private citizen, echoed this same opinion.

### **Blocking of Only Exit a Problem**

One individual questioned how single-point-access residential areas can communicate with railroad dispatchers to avoid delay when entering or exiting their communities. Juanita Cox stated: "I have called a number of times to ask when the train is going to stop blocking my only exit, to have the dispatcher tell me that they cannot communicate with the train while it is in the canyon. How is this going to change with the greater traffic?"

### **Application of Conrail Draft EIS Criteria**

On January 21, 1998, the City of Reno submitted a letter regarding application of significance criteria contained in the Conrail Draft Environmental Impact Statement (DEIS) to the Reno Mitigation Study. The City stated in this letter:

"The City of Reno ('The City') has on numerous occasions (both orally and in written form) requested from SEA criteria for assessing all potentially significant impacts with particular emphasis on traffic at highway/rail at-grade crossings which would require mitigation. The City has often noted that the increase in average delay per stopped vehicle is one such criteria which must be considered by SEA. Further, the Level of Service (LOS) as defined by the Transportation Research Board's Highway Capacity Manual (1994) should also be considered.

"SEA defined traffic delay significance criteria in the Conrail Draft EIS as follows:

"...SEA established criteria for assessing potentially significant impacts on traffic delay at highway/rail at-grade crossings . . . For average delay for all vehicles, SEA considered the impact significant if the post-Acquisition traffic level of service at a highway/rail at-grade crossing would be a Level of Service (LOS) "E" or "F" regardless of the pre-Acquisition LOS, or would decline from a pre-Acquisition LOS of "C" or better to a post-Acquisition LOS of "D." (Conrail EIS Vol. 4, chapter/page 7-4 to 7-5).



"The City's October 16, 1997 comments to the PMP incorporated by reference Appendix D, a lengthy report completed by Meyer, Mohaddes Associates, Inc., in 1997, entitled *UP/SP Railroad Merger Impact Analysis: Traffic/Delay Analysis*. This study specifically analyzed the LOS changes in Reno. Table 1 below summarizes the changes in LOS for the City of Reno pre-Merger and post-Merger.

"Applying SEA's definition of significant impacts on traffic at highway/rail at-grade crossings (set forth in the Conrail Draft EIS), it would appear that 10 out of 12 of the downtown Reno at-grade crossings will qualify as significantly impacted by the Merger which must be mitigated by the UP/SP. The City respectfully requests that identical criteria be critically evaluated by SEA for each grade crossing in the Reno mitigation study.

*EXCERPTED FROM CITY OF RENO COMMENTS*

<p>Table 1 Comparison Between Pre-Merger Post-Merger Level of Service at 12 Downtown At-grade Crossings</p>			
Rail Crossing Location	Pre-Merger 1995 LOS with 12.7 trains/day	Level of Service 2000 LOS with 24.0 trains/day	Level of Service
Keystone	C	D	SIGNIFICANT
Vine	C	D	SIGNIFICANT
Washington	C	D	SIGNIFICANT
Ralston	C	D	SIGNIFICANT
Arlington	C	D	SIGNIFICANT
West	C	D	SIGNIFICANT
Sierra	D	D	SIGNIFICANT
Virginia	C	D	SIGNIFICANT
Center	D	E	SIGNIFICANT
Lake	C	D	SIGNIFICANT
Morrill	D	D	SIGNIFICANT
Sutro	C	D	SIGNIFICANT

Source: MMA, 1997; Figure 4-16; Figure 4-20.

"Additionally, many of the criteria for significance established by the STB in the Conrail Draft EIS for safety, energy, air quality, noise, cultural resources, hazardous waste, natural resources and land use/socioeconomics differ markedly from those employed in the Reno Preliminary Mitigation Plan (PMP). The City respectfully requests that these differences be explained in detail in the Reno Final Mitigation Plan (FMP).

## Mitigation of Significant Impacts

The City's letter goes on to state, "SEA states in the Conrail Draft EIS:

"...[SEA] developed three criteria to identify the highway/rail at-grade crossings where a separated grade crossing appears warranted. SEA's preliminary determination is that a separated grade crossing may be warranted if each of the following criteria is met:

1. Acquisition-related train traffic would increase by at least eight trains per day.
2. Estimated post-Acquisition roadway traffic LOS would fall to an "E" or "F" because of increased post-Acquisition train traffic.
3. Sufficient increase in train speeds needed to mitigate Acquisition-related traffic delay impact would not be feasible. (Conrail Draft EIS Vol. 4, chapter/page 7-6 to 7-7)

"The City submits that had this same criteria been applied to the Reno PMP, SEPARATED GRADE CROSSINGS WOULD BE WARRANTED TO MITIGATE SIGNIFICANT IMPACTS FROM THE INCREASED MERGER RELATED TRAIN TRAFFIC UNDER REQUIRED MITIGATION.

"For instance, the City will experience at least an 11.3 train per day post-Merger increase in train traffic (Reno PMP page 4-5) with roadway traffic LOS falling to an LOS "E" (Center Street) because of increased post-Merger train traffic (Reno PMP Comments, Appendix D, Figure 4-16 and Figure 4-20). Further, sufficient increase in train speeds is not feasible under SEA's criteria that anticipated fatality rates (number of fatalities per accident) increase as train speeds increase thus compromising safety (Reno PMP, page 7-10 and page 8-8).

"Because SEA's new criteria was only recently disclosed to the public via the Conrail Draft EIS, the City requests that the above discrepancies between the Conrail Draft EIS and the Reno PMP be thoroughly discussed in a response letter to the City prior to the issuance of the Reno FMP. Specifically, the discussion should include the criteria for determining significance; the establishment of 10 out of 12 of Reno's at-grade crossings as significantly impacted; the establishment that increased train speed through downtown Reno would compromise safety; the establishment of 1 out of the 10 significantly impacted at-grade crossings meets the criteria for a separated grade crossing; and that the other 9 out of 10 significantly impacted at-grade crossings, in the absence of a separated grade crossing, would still be problematic and require further mitigation to bring the level of impact to pre-merger conditions."

### **3.20.2 Response to Comments**

There were five major reasons why the City's delay results or methodology description differed from SEA's:

1. The City used 1995 as a base year instead of 2000, leading to delay caused by Reno vehicular traffic growth being attributed to the merger.
2. The City used a higher vehicular traffic estimate for vehicles crossing the tracks, with an assumed 4 percent annual growth rate between 1995 and 2000. SEA's analysis of the available traffic data and projections does not support this high traffic growth rate.
3. The City used an average train length of 6,500 feet instead of the current average of about 4,600 feet. Less than 2 percent of the 140 freight trains observed during the week of 2/3/97 were as long as 6,500 feet.
4. The City suggests that SEA did not account for the delay caused by vehicles that would back up behind the crossing gates enough to affect nearby major street or highway intersections, causing longer clearing times at those intersections. However, SEA's analysis did account for this component of delay.
5. Rather than using UP's verified estimate of 24 trains per day, the City often assumed that as many as 38 trains per day would travel through Reno as a result of the merger. The City's higher estimate is unsupported by the verified UP rail traffic projections that SEA used in developing its vehicular traffic delay estimates.

As the following shows, SEA does not concur with the City of Reno's methodology and consequently its higher vehicular traffic delay results.

#### **Data Verification Activities Relating to Seven Day Train Survey**

SEA has engaged in careful data verification activities, including spot checks of various data, to assure the accuracy and validity of SEA's seven-day, 24 hour per day train survey that occurred in February 1997 (see Section 3.7.2). SEA is therefore convinced that the data used in its traffic delay model are therefore both accurate and valid.

#### **City of Reno and NFRA Traffic Delay Calculations**

A major difference between the delay projections by the City and those in the PMP appears to be the assumptions that the City employed. To confirm this statement, SEA applied the City of Reno's higher Year 2000 traffic volumes, and the vehicular traffic delay results are very similar: 240 hours of delay with 12.7 trains in 2000 compared with 250 hours for the City, and 473 hours of delay with 24.0 trains in 2000 compared with an identical 473 hours for the City. There are some minor



street-to-street differences, but these appear to result from different procedures for modeling individual streets as well as different model structures.

SEA believes use of its Year 2000 traffic distribution, discussed in Section 3.19.2, is appropriate because it assumes a reasonable growth rate in the short run: 1.8 percent per year, instead of the 4 percent per year assumed by the City in its analysis.

But use of the City's own traffic projections does not affect SEA's conclusion in both the PMP and this FMP that a modest increase in train speed would mitigate the potential traffic delay impacts of the merger. Using the City's Year 2000 traffic distribution, SEA determined that an increase of trains speeds by 10 mph would reduce the expected post-merger traffic delay down to 199 hours per day, 40 to 50 hours less than the pre-merger conditions.

Reasons to not use 1995 traffic as a baseline are discussed in Section 3.18.2. The primary reason is that the comparison of 1995 and 2000 is not appropriate, because Reno's anticipated vehicular traffic growth is not part of the merger-related impacts. Hence the City's statement that delay time will more than double from 188 hours to 473 hours is not persuasive. However, even using City traffic levels, increased train speeds would reduce vehicular traffic delay to below pre-merger levels.

NFRA statements regarding inaccuracies in delay, effectiveness of mitigation, air pollution, noise impacts, emergency response, and accidents are based on assumptions about increased vehicular traffic levels with which SEA disagrees. Moreover, they assume that UP is responsible for vehicular traffic growth in Reno, which is not the case.

### **Delay from Overflow Through Signalized Intersections**

The City assumed that SEA did not include the traffic delay from the overflow through adjacent signalized intersections. However, SEA did include this component of delay, though it used different procedures than employed by the City's consultant. Specifically, delay from the overflow was included through a calibration of the effective queue dissipation rates (Table 6.2.1-1 in the PMP). These rates were established by SEA on a street-by-street basis from videotape and field observations by observing how many cars were in a total queue and how long it took all of the cars to cross the tracks after the gates went up. The dissipation rates used by SEA accounted for cars caught upstream in the queue by signals as well as cars in the queue that are delayed trying to cross the tracks by the backup of cars from downstream signals. These dissipation rates were lower (and therefore more conservative) than those used in the City's analysis and effectively captured the overflow delay.

### **Delay Methodology**

SEA addresses many of the City's delay methodology comments in previous sections, e.g., please see Section 3.7.2 for responses on the use of speed in the delay methodology. The discussion of additional comments follows in the order of the comment summaries above.

In terms of Governor Miller's statement, the savings in total delay from unmitigated to mitigated post-merger would be 59 percent (from 373 hours to 154 hours of delay).

As discussed in Section 3.7.2, gate activation time is not a function of train speed as assumed by the City. And as discussed in Section 3.5.2, the City's assumption of an average train length of 6,500 feet is not realistic and serves to exaggerate the delay. SEA notes that the City has misinterpreted SEA's statement about uniform vehicle arrivals. The delay equations utilized by both SEA and the City were derived assuming uniform vehicle arrivals. SEA simulated vehicle arrivals by 15-minute intervals, which is more detailed than the City's use of peak and off-peak periods. SEA likewise used the train arrivals exactly as they were recorded during the seven-day survey period in February 1997. As discussed at the beginning of this section, the most likely reason for differences in delay calculations using SEA's and the City's procedures is the choice of assumptions, particularly about traffic.

Regarding the City's comment about average delay being misleading, SEA offers the following clarification. Mathematically, the total delay and the average delay are related by the total number of vehicles delayed. The average delay is the only number that corresponds to the driver's experience of train delay.

### **Traffic Delay a Concern**

Trains do pass through Reno during the rush hours, and SEA's proposed increased train speed mitigation measure would provide the most benefit during these peak traffic periods. Both the total hours of delay and the average delay per delayed vehicle would be reduced with the increased train speed mitigation. This mitigation measure would also obviate the need for trains to stop or even slow down due to train traffic congestion and signaling problems, thus reducing the delay from stopped trains. Finally, it should be noted that with the installation of Centralized Traffic Control by UP, trains that needed to be stopped could be stopped outside of the busy portion of Reno.

### **Traffic Delay Not a Concern**

A number of people indicated that delay from the railroad is not a problem in Reno. Clearly there is a range of perceptions about the importance of traffic delay associated with crossing the tracks.

### **Blocking of Only Exit**

The crossings with low traffic volumes outside the Reno City limits have much higher train speeds that minimize the gate closed time in comparison to the downtown crossings. The much lower vehicular traffic volumes at those crossing outside the city core also minimize the comparative exposure and delay. Consequently, no mitigation is proposed for low volume crossings with the exception of Woodland Avenue, which had a problem with stopped trains.

## Application of Conrail Draft EIS Criteria

The Conrail Draft EIS analyzes railroad grade crossing level of service (LOS) as if the crossings were signalized intersections (p. 3-18, DEIS, Finance Docket No. 33388, "Proposed Conrail Acquisition"). The delay criteria for signalized intersections are defined by the *Highway Capacity Manual* in terms of average stopped delay per vehicle as shown in Table 3.20-1.

Table 3.20-1 Level of Service Definition	
Level of Service	Stopped Delay per Vehicle (sec)
A	$\leq 5.0$
B	$> 5.0$ and $\leq 15.0$
C	$> 15.0$ and $\leq 25.0$
D	$> 25.0$ and $\leq 40.0$
E	$> 40.0$ and $\leq 60.0$
F	$> 60.0$
Source: <i>Highway Capacity Manual, Special Report 209, Third Edition</i> , Transportation Research Board, National Research Council, Washington, D.C., 1994. p. 9-6:9-7.	

As requested in the City of Reno's January 21, 1998 letter, SEA has applied the Conrail Draft EIS level of service criteria to the grade crossings in Reno. Table 3.20-2 provides the results of SEA's application. Vehicular traffic data in the table are from the PMP (p. 6-5) and are based on NDOT 1995 traffic counts, and, at some locations, from the FRA data base, plus growth rates from RTC's regional traffic model. Traffic delay values in Table 3.20-2 are from the PMP, pages 6-7, 6-8, and 7-6.

Using the Conrail Draft EIS approach, SEA calculated the delay per vehicle by dividing daily vehicular traffic delay by the daily vehicular traffic. SEA then classified this delay per vehicle using the Conrail Draft EIS level of service criteria (Table 3.20-1) as contained in the *Highway Capacity Manual* (see Table 3.20-1).

As shown in the Table 3.20-2, using the Conrail Draft EIS criteria, the railroad crossing level of service for grade crossing in Reno under post-merger conditions without mitigation would be no worse than LOS B or C. With SEA's proposed increased train speed mitigation measure, the levels of service at Reno grade crossings would be A or B at all streets, the same as with pre-merger conditions.

Because the City of Reno's letter refers to arterial levels of service calculated in the peak periods, SEA also applied the Conrail Draft EIS level of service approach to the p.m. peak hour. Crossing levels of service were found to be either A or B with the post-merger number of trains.



**Table 3.20-2**  
**Application of Conrail Draft EIS Level of Service Criteria to Reno At-grade Rail Crossings**

STREET	YEAR 2000 VEHICULAR TRAFFIC [1]	TRAFFIC DELAY (in Hours)			DELAY PER VEHICLE (in Seconds)			LEVEL OF SERVICE (using Conrail DEIS Definition) [8]		
		Pre-Merger [2]	Post-Merger Unmitigated [3]	Post-Merger with Increased Train Speeds [4]	Pre- Merger [5]	Post-Merger Unmitigated [6]	Post-Merger with Increased Train Speeds [7]	Pre- Merger	Post-Merger Unmitigated	Post-Merger with Increased Train Speeds
Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H	Column I	Column J	Column K
Woodland	1,616	0.40	0.77	0.77	0.9	1.7	1.7	A	A	A
Stagg	32	0.0078	0.0148	0.0148	0.9	1.6	1.6	A	A	A
Del Curto	140	0.0338	0.0641	0.0641	0.9	1.6	1.6	A	A	A
Keystone	28,017	40.94	79.47	36.04	5.3	10.2	4.6	B	B	A
Vine	3,946	5.17	10.24	4.16	4.7	9.3	3.8	A	B	A
Washington	1,891	2.22	4.41	1.79	4.2	8.4	3.4	A	B	A
Ralston	3,654	4.71	9.33	3.79	4.6	9.2	3.7	A	B	A
Arlington	9,254	12.64	25.01	10.17	4.9	9.7	4.0	A	B	A
West	4,783	6.60	13.06	5.31	5.0	9.8	4.0	A	B	A
Sierra	20,982	39.67	79.71	31.11	6.8	13.7	5.3	B	B	B
Virginia	13,551	30.04	58.19	23.86	8.0	15.5	6.3	B	C	B
Center	14,351	19.72	38.70	15.62	4.9	9.7	3.9	A	B	A
Lake	8,069	10.63	21.05	8.55	4.7	9.4	3.8	A	B	A
Morril	515	0.44	0.85	0.39	3.1	5.9	2.7	A	B	A
Sutro	12,051	14.37	29.17	11.09	4.3	8.7	3.3	A	B	A
Sage	1,545	1.34	2.60	1.19	3.1	6.1	2.8	A	B	A
<b>Total</b>	<b>124,399</b>	<b>188.95</b>	<b>372.63</b>	<b>153.91</b>	<b>5.5</b>	<b>10.8</b>	<b>4.5</b>	<b>B</b>	<b>B</b>	<b>A</b>

Notes:

- [1] Year 2000 traffic as shown in Preliminary Mitigation Plan (PMP), pg.6-5 and is based on Year 1995 traffic data from NDOT and FRA, with growth rates from RTC's regional traffic model.
- [2] See Figure 6.2.1-1, PMP, pg. 6-7. Assumes Year 2000 vehicular traffic and 12.7 freight trains per day.
- [3] See Figure 6.2.2-2, PMP, pg. 6-8. Assumes Year 2000 vehicular traffic and 24.0 freight trains per day, with no mitigation.
- [4] See Figure 7.2.1-1, PMP, pg. 7-6. Assumes Year 2000 vehicular traffic and 24.0 freight trains per day with an average speed of 27.5 mph.
- [5] (Column C / Column B) \* 3,600 seconds per hour.
- [6] (Column D / Column B) \* 3,600 seconds per hour.
- [7] (Column E / Column B) \* 3,600 seconds per hour.
- [8] Conrail Draft EIS Defined the railroad crossing level of service (LOS) using criteria from the *Highway Capacity Manual, Special Report 209, Third Edition*, Transportation Research Board, 1994. The LOS is defined as the stopped delay per vehicle in seconds as follows: LOS A is  $\leq 5.0$  sec.; LOS B is  $> 5.0$  and  $\leq 15.0$  sec.; LOS C is  $> 15$  and  $\leq 25.0$  sec.; LOS D is  $> 25$  and  $\leq 40$  sec.; LOS E is  $> 40$  and  $\leq 60$  sec.; and LOS F is  $> 60$  sec.

In the Conrail Draft EIS, SEA considered an impact to be potentially "significant if the increase in average delay per vehicle results in (1) a post-Acquisition [merger] level of service E and F regardless of the pre-Acquisition [merger] condition, or (2) a reduction from pre-Acquisition [merger] level-of-service C or better to a post-Acquisition [merger] level of service D" (p. 3-19, DEIS, Finance Docket No. 33388, "Proposed Conrail Acquisition"). As shown on Table 3.20-2, none of the Reno crossings meets these criteria for potential significance.

In its calculations, the City also used 1995 traffic with the pre-merger number of trains and year 2000 traffic with the post-merger number of trains. SEA finds this approach to be inappropriate, as explained in Section 3.18.2.

Another difference between SEA's analysis and the City of Reno's is that the City reported arterial level of service, not level of service at the grade crossing as defined by SEA in the Conrail Draft EIS. Arterial level of service is based on the travel speed throughout the street and is not specifically focused on the grade crossing.

The City of Reno states in its January 21, 1998 letter that application of the Conrail Draft EIS significance criteria would lead to the conclusion that grade separated crossings are required in Reno. But, as described above, this clearly is not the case. Finally, it should be noted that in the Conrail Draft EIS, grade separations were recommended only in those instances where increases in train speed were found to be not practical. In this case, of course SEA believes that increased train speeds would be safe and would entirely mitigate the potential adverse impacts of the increased train traffic on vehicular delay at the grade crossing in Reno. (See Section 2.4.1.)

The City of Reno letter of January 21, 1998 also addresses significance criteria for other topics. As the Conrail Draft EIS and the Reno PMP and FMP show, the criteria for significance are not inconsistent. The significance criteria for cultural resources, hazardous waste, natural resources and land use/socioeconomics used in the Conrail Draft EIS are irrelevant to the Reno Mitigation Study, because those issues apply only to constructions or abandonments of rail lines, neither of which are at issue here. Energy was handled on a system-wide basis in both the Conrail Draft EIS and the UP/SP merger EA and Post EA. In both cases, SEA's analysis looked at whether there would be system-wide net increases or decreases in diesel fuel consumption.

Similarly, in the two cases, SEA applied the thresholds in its environmental rules in assessing air quality and noise. Regarding noise, SEA has taken the same approach in both cases, concluding that the primary source of railroad noise is from the sounding of the locomotive horns which cannot be mitigated because of safety concerns. With respect to air quality, SEA conducted a system-wide and county-wide analysis in each case to determine the net changes in air quality that would result from the proposal before it. (Compare PMP/FMP analysis with Conrail Draft EIS volume 1, p. 3-29.)

The Board's environmental rules do not specifically contain significance criteria relating to safety issues such as hazardous materials transport, highway/rail at-grade crossings, and rail freight train safety. SEA developed appropriate significance criteria to guide its analysis of these issues in



the Conrail Draft EIS. Those criteria had not been developed when the EA, Post EA or PMP were issued in the UP/SP merger case and therefore could not have been used in those documents.

While the Conrail Draft EIS was issued prior to this FMP, SEA sees no reason why those criteria should be applied in the Reno Mitigation Study at this late date. As the record in the UP/SP merger case and this ongoing mitigation study show, SEA has done an exhaustive analysis of safety issues. Moreover, the environmental record before the Board indicates that with the system-wide mitigation from Decision No. 44 and the localized mitigation recommended in the FMP, there will be no potential significant impacts on safety or any other environmental issue resulting from the UP/SP merger in Reno or anywhere else.

Because safety has been thoroughly studied in the EA, post EA, PMP, and again in this FMP, no practical purpose would be served by now applying in this case the significance criteria utilized in the Conrail Draft EIS. Rather, SEA already has done at least as much analysis of safety-related matters along the UP rail line passing through Reno as it would have done had the significance criteria in the Conrail Draft EIS been used in the Reno Mitigation Study.

SEA refers the reader to the extensive safety-related sections of the 5-volume EA, the Post EA, the PMP, and the FMP for SEA's evaluation of potential safety issues associated with highway/rail at-grade crossings, rail freight train safety, and hazardous materials transport. In particular, SEA has provided a specifically tailored evaluation of the potential risks and appropriate mitigation measures related to hazardous materials transport along the rail line through Reno. This hazardous materials analysis is comprehensive in its evaluation of the risks associated with potential impacts to aquatic life, potable water, and the population in the Reno/Sparks area (e.g., see sections 2.4.8 and 4 of this FMP).

SEA notes that, had the Conrail Draft EIS criteria been applied to the Reno Mitigation Study, the significance criteria would have been exceeded in only one instance, that of hazardous materials transport with respect to "Key Route" designations. However, the recommended measures in this FMP to mitigate environmental impacts related to the transportation of hazardous materials well exceed those recommended in the Conrail Draft EIS.

### **3.21 Emergency Vehicle Blockage**

#### **3.21.1 Summary of Comments**

The potential for emergency vehicle blockage by trains passing through Reno was a major concern raised by a large number of commenters. Some of the key comments are provided below.

#### **Relation of Train Counts to Emergency Vehicle Access**

The PMP sets forth a measure of impact of average daily gate down time per crossing on major crossings. On this approach, the City of Reno stated: "SEA uses the measure of impact of an average daily gate down time per crossing on major crossings. The City does not consider this



appropriate. If the existing potential for blocked emergency response vehicles is 12 times a day under current conditions, then the post-merger 24 times a day is a 100 percent increase in blockage. The fact that the current 12 blockages total 42.9 minutes per day compared to the mitigated 24 blockages totaling 54.8 minutes or 27 percent increase is not comparable, as each emergency response which is blocked must be either reassigned or re-routed—emergency vehicles do not wait at crossings during an emergency response.”

The City of Reno also stated: “SEA concedes that increasing the speed of trains still leaves the problem of increased numbers of trains going through town which will continue to delay tourists, residents, and emergency vehicles. If the UP doubles the number of trains a day through Reno, then the number of times emergency vehicles would be blocked increases proportionally.”

UP noted: “Using the PMP’s conservative calculations, total ‘gate down’ time after a 10 mph average speed increase will grow by less than 3/4 of a percentage point, which does not justify imposing millions of dollars in costs on the railroad. The City’s claim that total ‘gate down’ time is irrelevant to emergency vehicles, and that only train counts matter, is demonstrably wrong, because the question is how frequently an emergency vehicle will encounter a blocked crossing (an event that can be avoided entirely with new monitoring equipment prescribed in the PMP). Under Reno’s logic, the problem would be virtually solved if UP/SP and BN/SF combined all their trains into one long train each way per day, no matter how long it blocks crossings.”

### **Use of Gate Down Time As a Measure**

The City stated that 564 police calls, 168 ambulance calls, and 108 fire calls will be delayed per year by the increased train traffic through Reno.

The City also stated:

“SEA concludes the gate down time analysis does not accurately reflect actual emergency delays based upon several reasons. The City believes that because the analysis does not accurately reflect actual emergency delays, the impacts are even greater and must be analyzed and additional mitigation offered.

“The information on the facilities is partially accurate, the PMP fails to indicate that five of the fire station districts are bisected by the railroad tracks, as well all downtown fires require assistance from fire stations located on both sides of the tracks. For example, on September 30, 1997, a 3-alarm fire broke out at the El Dorado casino/hotel which is located immediately north of the railroad tracks (see the Reno Gazette-Journal newspaper articles about the fire contained in Appendix E of this comment document). Six fire stations (three of the stations are located on the south side of the tracks) were required to respond. In addition, the Reno Fire Department (RFD) had to contact the UP to prohibit any trains from entering the downtown area for the remainder of the evening because fire trucks were parked within the UP right-of-way and fire hoses were draped across the tracks because of

a fire hydrant located on the south side of the tracks. The RFD could not have contained the blaze without the assistance from all six fire stations. If the El Dorado casino/hotel fire started while a train was blocking traffic, equipment and fire fighters from three of the fire stations located on the south side of the tracks would of [sic] experienced 3 to 5 minute response delays which would have caused possibly a loss of life and additional property damage at the El Dorado casino/hotel.

"Second, SEA concludes the gate down time analysis does not accurately reflect actual emergency delays because emergency runs are at random times and every rail crossing blockage does not necessarily delay emergency vehicles. According to a survey conducted in February of 1997 by the City, emergency delays occurred 70 times in 28 days.<sup>4</sup> Table 8 and Figure 3 below indicates the number of delays experienced by each emergency service provider during February 1997:

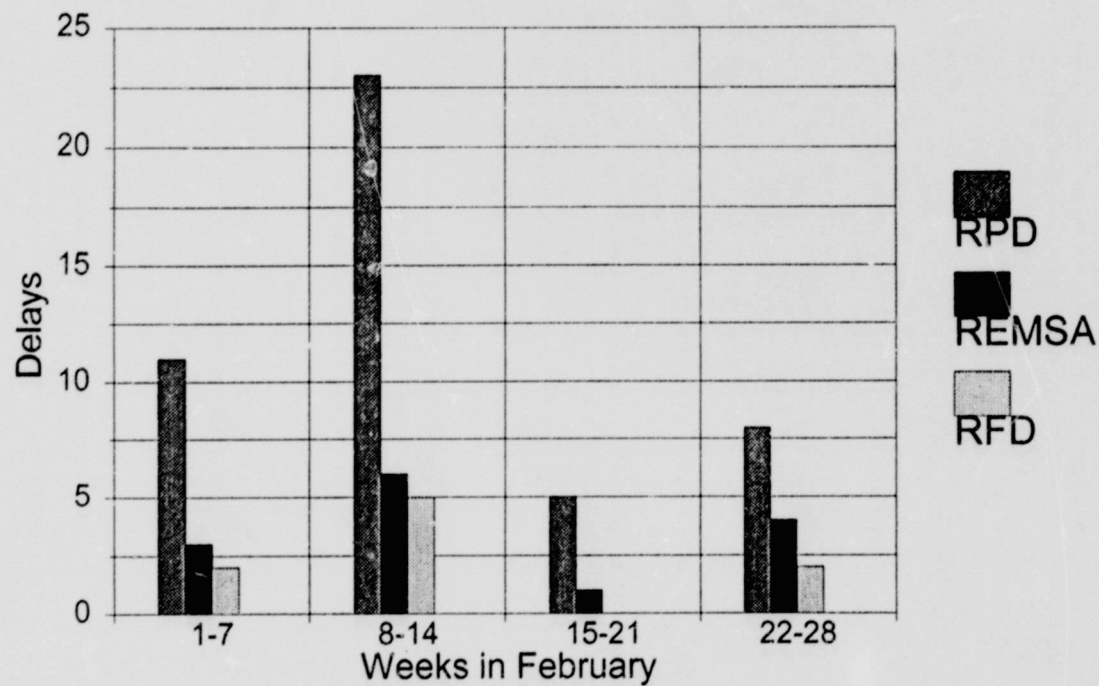
*EXCERPTED FROM CITY OF RENO COMMENTS*

<b>Table 8</b>	
<b>Summary of Emergency Calls Delayed</b>	
<b>Emergency Service Provider</b>	<b>Number of Calls</b>
Reno Police Department	47
REMSA	14
Reno Fire Department	9

Source: City of Reno, 1997

"The third reason that SEA concludes the gate down time analysis does not accurately reflect actual emergency delays is that emergency vehicle drivers are likely to be 'aggressive' in seeking unblocked rail crossings and not being hampered by traffic (and train) restrictions. This does not acknowledge that most fire equipment cannot maneuver out of traffic at a blocked rail crossing. SEA must acknowledge this fact and recommend mitigation measures to mitigate these impacts.

**Figure 3**  
Emergency Vehicle Delays - Feb 1997





The City clarified in their footnote: "In a memo dated January 7, 1997, from Charles McNeely, City Manager, City of Reno to Reno Police Department (RPD), Reno Fire Department (RFD), REMSA, and Regional Transportation Commission as well as other agency [sic], the City asked each agency to maintain records of delays of day-to-day delivery of services during the month of February. The RPD and RFD data were collected by the emergency dispatchers when a call was re-assigned due to a blockage at a crossing which was judged to delay the call."

Larry Farr, Fire Marshall for the City of Reno, stated that delays to fire trucks are most important because of their first responder status.

### **Train Blocking Large Number of Crossings**

Eric Seltzer, Reno citizen and Vice President of Toppo Manufacturing Corporation, stated:

"I am writing to voice my concerns over your recent recommendations for handling the increased rail traffic through Reno due to this merger, it seems to only address the immediate safety concerns at each grade level crossing, but it doesn't address the larger issue of blocked crossings through a fairly large downtown city area.

"The blocking of our major north-south streets through downtown Reno could cause critical delays for safety vehicles such as ambulances, fire trucks, and police cars. I have sat for 10 minutes or more many times as it is, I can't imagine how bad it's going to get with increased rail traffic caused by this merger."

### **Increase Delays to Emergency Vehicles, Access to Hospitals**

Jeff Bills, the President and CEO of St. Mary's Health Network, stated:

"We consider the Preliminary Mitigation Plan (PMP) to be woefully deficient in the area, among others, of safe and predictable access to the physician and emergency room service which we provide twenty four hours per day.

"Daily, lives are saved when critically ill patients arrive at our emergency room doors in time for our doctors and nurses to administer their vital skills. Many of these patients are delivered by ambulances but there are a significant number who arrive in private vehicles.

"The PMP does not provide a realistic solution to the very real issues surrounding access to hospitals and other services provided in and near downtown Reno. Longer trains will be a reality. Increased numbers of trains will also be a reality. Faster trains will be achievable only if safety and power conditions permit, which under even the most ideal conditions will not be achieved by every train. Therefore,

increased numbers of blocked crossings will be a reality, as will increased duration of blocked crossing times.

"This will, then, result in difficulties for ambulances, even with the video displays which are suggested to be located in the emergency dispatch center. It will also result in greater difficulties for those private vehicles attempting to reach the hospital in time to prevent stroke or heart damage or to deliver a baby in a safe, clean environment. Further, those physicians who have been called to the hospital to provide the expertise to save their patients' lives and health will be impacted in their journeys to the hospital."

Joe Bohl, with the Northern Nevada Center for Independent Living, stated: "I feel the increased speed and the number of trains through our valley is a threat to people in general, locals and visitors the same. I for one often take people with disabilities on social/recreational outings in our downtown area, faster and more trains is a hindrance. The safety issue alone, the response time of police and ambulance calls is an inconvenience."

### **Health/Safety Considerations Not a Concern; Services on Both Sides of Tracks Built for Less Money**

Brandon Kincannon, a Reno citizen, stated: "As for health and safety considerations, I believe there are none. Passing trains don't contribute to disease and I have never heard of an emergency vehicle waiting for a train to pass."

John and Pat Wright, Reno citizens, stated: "If the City of Reno was truly concerned about public safety as they are claiming to be, it seems to me that first they should fully fund the fire department and the police department as budgeted by the fire chief and chief of police. We haven't had a fully funded police department in many years, yet this merger is a threat to our public safety. More smokescreen and rhetoric. The City of Reno has hospital facilities on both sides of the tracks. We have fire stations on both sides of the tracks. We have police officers assigned to both sides of the tracks. We have ambulances scattered all over the city. Where is the threat to public safety?"

Reno citizen Bill Newman stated: "The City of Reno has got brochures, everyone is bringing these brochures to the meeting. I also have the paper for this morning's thing with the city manager talking about injured children from Verdi and Sparks. First of all, you just come down Interstate 80 and go right off to St. Mary's Hospital. Sparks has their own hospital. This is just a ploy."

Reno citizen Charles Albright stated: "If the city is 'concerned' about safety, build a much cheaper costing EMT, Police Fire [sic] station on the other side of the tracks."

Sparks citizen Terry Frank stated: "I think the railroad should be allowed to run longer, faster trains. Fire trucks and ambulances should be stationed on both sides of the tracks. Why should the public suffer, because of those [expletive]birds at City Hall. When things get tight, get

panicky and cut the fire dept.? If it weren't for the railroads, Reno would probably be just a wide spot on the road."

Reno citizen Evelyn Scott stated: "They complain about the emergency vehicles. We have them on both sides of the track. We have a hospital on the north side of the tracks and we have a hospital on the south side of the tracks. And we have fire departments on both sides. We have REMSA on both sides of the tracks. And there's so much scare tactics going on that I think it's totally ridiculous."

### **Safety and Effectiveness of Increased Train Speeds**

Patrick Smith, President of the Regional Emergency Medical Services Authority, stated:

"The Regional Emergency Medical Services Authority (REMSA) is dismayed and disappointed at the Surface Transportation Board's Section of Environmental Analysis (SEA's) 'Union Pacific - Reno Preliminary Mitigation Plan', specifically regarding emergency responses.

"The proposed mitigation of speeding up trains and installing a video monitoring system to alert emergency crews that trains are approaching is extremely short sighted, dangerous to both the public and emergency responding crews, and ignores long-term uncertainties of train frequency and length. This proposal assures nothing for the public's health and safety. No one can predict when and where emergencies will occur, how many trains will pass through Reno over the next five, ten, or twenty years, how long those trains will be, or how many emergency responses and real people's lives will be adversely affected.

"Our collective focus should not be to 'mitigate', but rather to 'eliminate' wherever possible the problems created by the merger, especially where human life, suffering, and safety are involved. The old saying in medicine 'that an ounce of prevention is worth a pound of cure' is quite applicable here."

Larry S. Farr, Fire Marshal of the City of Reno, stated: "My primary concern is public safety. In the report, on page 6-15, there are six bullet points that are identified as 'potential impacts . . . on emergency vehicle response'. Bullet points one and six are impacts, the rest are general statements that seem to be made to justify the reports [sic] findings. The real impact of emergency vehicle response is not identified. The real impact is, the Reno Fire Department currently has approximately 3,700 emergency service calls that require emergency vehicles to cross the railroad tracks. Those calls for service are currently impacted by an average of twelve trains daily. The merger will impact those calls by twenty-four trains per day average. Train speed is not going to mitigate the impact of the frequency of trains versus emergency calls for service. Additionally, vehicle gridlock created by railroad crossings being blocked by a passing train has not be [sic] examined. The impact of vehicle gridlock on emergency vehicles responding, happens on both sides



of the railroad tracks and hampers quick response whether or not emergency vehicle [sic] must cross the tracks."

### **Grade Separations or Depressed Railway Would Help**

Gregory H. Krause, Planning Manager for the Regional Transportation Commission, stated: "Concerns over emergency vehicle access with additional train traffic are important. The PMP identifies actions such as more aggressive behavior by emergency vehicle drivers, the random nature of emergency calls, and emergency operators already having plans in place avoid trains [sic]. The PMP does not mention real solutions to emergency access, such as the benefit of additional grade separations, so that there would be no chance that emergency vehicles would be delayed by train traffic even on a random basis."

A number of individuals expressed support for grade separations or a depressed trainway to help relieve potential problems, including emergency response.

### **Mitigation Needed for Stag, Del Curto, and Canal**

Bob Webb, Community Coordinator for the Washoe County Department of Economic Development, stated:

"The PMP should provide specific mitigation measures to provide for emergency access to the residential communities serviced by the following roads: Stag Lane, Del Curto Lane, and Canal Road. The PMP does not evaluate emergency access for either Stag Lane or Canal Road. Although the PMP does evaluate emergency access for Del Curto Lane, the plan does not provide costs nor alternatives to provide emergency access to that area. Additionally, the conclusion of the PMP to not mandate the construction of an emergency access route for the Del Curto Lane area is unacceptable.

"The Washoe County Sheriff's Office has reviewed the Preliminary Mitigation Plan and considered the impact the proposed merger and mitigation measures may have on the community we serve and on our delivery of services.

"The Sheriff's Office provides police services to residences on Del Curto Lane. The increased train traffic at this crossing caused by the merger will delay non-emergency and emergency responses into this area. The Sheriff's Office feels that crossing delays at Del Curto caused by the merger need to be mitigated, however, the Sheriff's Office takes no position on which mitigation measure should be implemented at this crossing."

### **Mitigation Needed to Respond to Train Emergency in Downtown**

Robert Bergdahl, a private citizen, stated: "I see nothing in any report or plan which specifies equipment, personnel, and procedures for such emergencies. These should be in place before any changes to the present volume of traffic or to the configuration of routes are made."

### **Mitigation Needed Downtown for Emergency Response or Prisoner Transfer**

Franklin Barnes, Captain, Patrol Division Commander of the Washoe County Sheriff's Office, stated: "The Sheriff's Office is a second responder to emergencies in the City of Reno, assisting the Reno Police Department on critical incidents or major criminal events. The Sheriff's Office transports approximately 30-50 prisoners every day to three downtown locations, the Washoe County District Courthouse, Reno Justice Court, and Reno Municipal Court. The Sheriff's Office feels the increased crossing delays need to be mitigated so as not to delay emergency responses or the transport of prisoners."

### **Video Monitors and Train Displays not Helpful, Uncertain Effect**

Larry Farr, Reno Fire Marshal, stated:

"The installation of video monitors and train displays in the dispatch center does nothing but add work and confusion to the process of dispatching emergency vehicles. There are all sorts of issues related to this proposal, not the least of which is additional training and or staff required to properly use the system and the most important; [sic] will it work and add to longer and or [sic] incorrect dispatches.

"Video monitors and train displays are not mitigation. They are, additional costs to the City of Reno and confusion for those trying to dispatch emergency vehicles."

#### **3.21.2 Response to Comments**

In Section 6.2.3 of the PMP, SEA provided a comprehensive review of the effects of merger-related increased train traffic on emergency response in Reno. In this FMP, specifically in Section 2.4.7, SEA discusses emergency vehicle access and recommends additional mitigation measures to address emergency response issues. The following responses address individual public comments made on the PMP.

### **Relation of Train Counts to Emergency Vehicle Access**

The probability of any emergency vehicle being delayed is the probability that its desired crossing will be blocked if it has to cross the railroad. Because train arrivals are random, that probability is the percentage of the time that the crossing is blocked by trains. A given crossing is

projected to be blocked by freight trains 3.0 percent of the day for pre-merger conditions. In the mitigated (increased train speeds) post-merger conditions, this percentage changes to 3.8 percent, a 0.8 percent increase over pre-merger conditions. Regardless of how emergency response calls are generally distributed over time, the expected chance of delay from freight trains for a given emergency response would be 3.0 percent under pre-merger and 3.8 percent under mitigated post-merger conditions. The fact that emergency vehicles may be rerouted upon finding a blocked crossing does not change the probability of finding a blocked crossing. Figure 3.21-1 illustrates the change in gate blockage time and probability of delay or reassignment to emergency vehicles.

### **Use of Gate Down Time As a Measure**

Please see Section 2.4.7 for a discussion of emergency vehicle access. As noted in that section, emergency vehicles will be stopped by trains only when the gates at the crossings are down. The average gate down time per train for both pre- and post-merger levels is estimated at 3.4 minutes. With increased train speeds, the average gate down time per train is estimated at approximately 2.28 minutes. Thus, at any one crossing under pre-merger conditions, the average daily gate down time would be 3.4 minutes per train times 12.7 trains, or 42.9 minutes per day, representing 3.0 percent of a 24-hour day. For post-merger conditions, the average daily gate down time (with increased train speeds) would be 2.28 minutes per train times 24 trains, or 54.8 minutes, representing 3.8 percent of a 24-hour day.

Using these figures and the Reno Fire Department's estimate of 3,700 calls per year that cross the tracks, SEA estimates that approximately 110 fire vehicles per year may encounter a train at an at-grade rail crossing under pre-merger conditions (3.0 percent X 3,700), and approximately 140 fire vehicles per year may encounter a train at a crossing per under post-merger conditions (with SEA's proposed increased train speed mitigation -- 3.8 percent X 3,700). This represents an increase of approximately 30 additional fire vehicles per year, or less than three additional vehicles per month increase. In response to this potential increase, SEA has proposed that the Board require UP to install train location monitors and camera equipment showing the rail right-of-way to assist the emergency dispatchers (see Section 2.4.7).

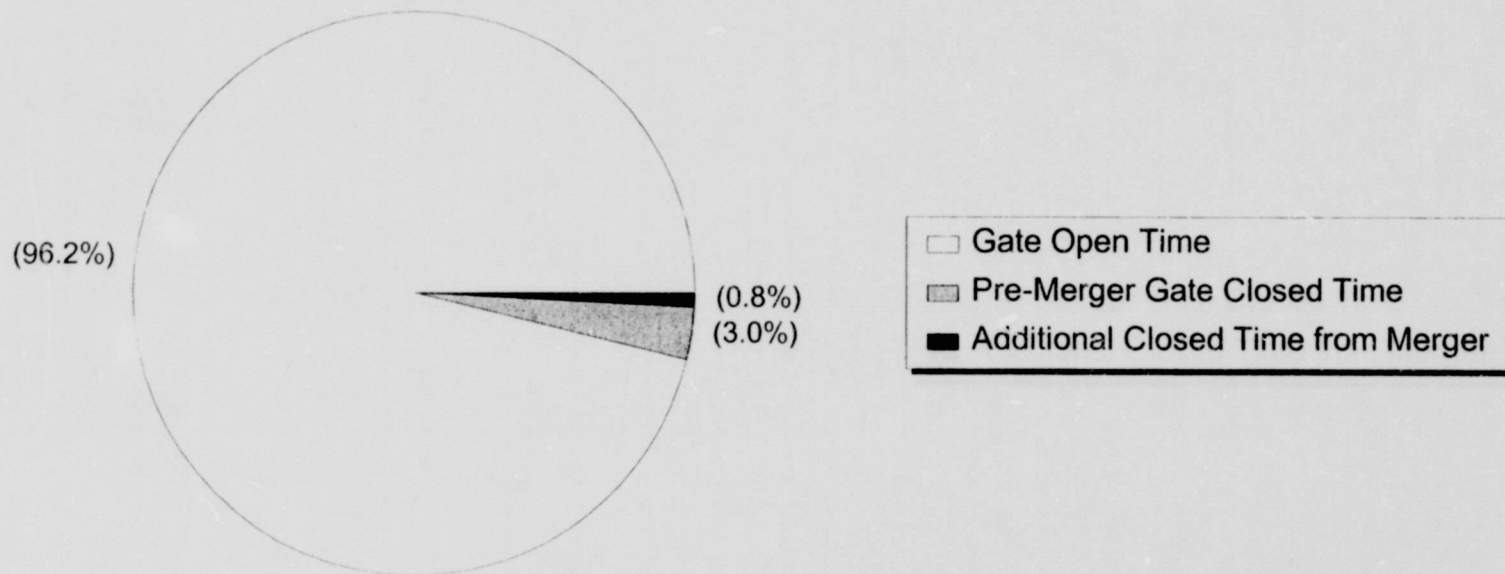
SEA notes that the estimated annual 110 fire vehicles encountering trains under pre-merger conditions represents approximately 9.2 fire vehicles per month, which is similar to the City's nine vehicles recorded as stopped during the month of February 1997 (See City's Table 9). SEA notes that, during the full month of February, UP was running more trains than the 12.7 pre-merger levels. Thus, fewer fire trucks were stopped during this month than would have been expected using this prediction methodology.

Finally, should a fire truck be caught in traffic, it would experience what happens to non-emergency vehicles during a gate closure. With increased train speeds, the delay would be less than post-merger conditions, given that the gate would be down for a shorter time period for any given train, and that the overall traffic delay for trapped vehicles would be reduced to below pre-merger levels.



### Figure 3.21-1. Gate Closed Time Over 24 Hours

% Closed = Probability of Delay or Reassignment of Emergency Vehicles in 24 Hours



### **Train Blocking Large Number of Crossings**

The proposed train speed mitigation would have the effect of clearing an average train out of the downtown area more quickly than under pre-merger conditions. Total and average vehicle delay would likewise drop to levels lower than pre-merger. SEA's proposed train location monitoring system would help emergency vehicles find an open crossing more easily than under pre-merger conditions. All of these actions would reduce the potential effects of additional trains.

### **Increase Delays to Emergency Vehicles, Access to Hospitals**

The first response provided in this Section 3.21.2 addresses emergency vehicle response delays. Vehicular delays for motorists, whether medical personnel or those seeking medical assistance, would be lower under mitigated (increased train speed) post-merger conditions than under pre-merger conditions, because these delays are similar to the general traffic delays.

### **Health/Safety not a Concern. Services on Both Sides of Tracks or Built for Less Money**

The public commenters who feel that no serious health or safety problems exist in Reno, because of the existing infrastructure, demonstrate the varied local opinions on this subject.

### **Safety and Effectiveness of Increased Train Speeds**

SEA's proposed speed mitigation would be effective in reducing potential traffic delay, increased crossing blockage, and associated emergency response delays from the expected increase of 11.3 freight trains. The time frame of SEA's analysis is explained in Section 3.2.2.

Responses provided in the first three subsections of this Section 3.21.2 apply to the Fire Department's comment. In particular, the gate down time measure was shown to be a conservative measure of the frequency of delay to emergency vehicles dispatched by the Fire Department. SEA does not believe that the recommended use of increased train frequency as a sole measure of impact would be appropriate. Train speed increases were found to be an effective mitigation, especially for reducing gridlock to pre-merger levels.

### **Grade Separations or Depressed Railway Would Help**

The PMP did evaluate the effect of grade separations and a depressed railway on emergency response, e.g., Section 7.3. The FMP provides additional discussion in Section 2.7. As described in the PMP, grade separations would improve vehicle safety at individual crossings. SEA, however, did not find grade separations or the depressed railway as appropriate mitigation (See Section 2.7 of this FMP).

### **Mitigation Needed for Stag, Del Curto, and Canal**

The railroad crossings were reviewed in the PMP. All have relatively high train speeds and low traffic volumes. Stag and Del Curto have train speed limits of 40 mph while Canal Road has a 60 mph train speed limit. Projected traffic volumes are less than 200 vehicles per day for Del Curto and Canal, while Stag is estimated at less than 50 vehicles per day and appears to be a private crossing. Although all three roadways are the sole access route across the railroad for some people, the degree of potential impact is much less than many urban situations reviewed because of relatively low blockage times (gate down times less than two minutes on the average) and relatively few households served. The probability of a crossing being blocked for an emergency vehicle would increase from 1.6 percent to 2.7 percent for Stag and Del Curto, and from 1.1 percent to 2.0 percent for Canal. The same probabilities also apply to the possible delay of non-emergency vehicles. The overall probabilities of delay remain very low even with the higher train traffic. Consequently, emergency access or other mitigation is not recommended for Stag Lane, Del Curto Lane, and Canal Road.

### **Mitigation Needed to Respond to Train Emergency in Downtown**

Please see Section 2.4.8 and Section 4 of this FMP.

### **Mitigation Needed Downtown for Emergency Response or Prisoner Transfer**

The statistics discussed at the beginning of Section 3.21.2 for emergency response apply to the backup service by the Sheriff. Transport of prisoners would be subject to general traffic delay, for which SEA's proposed mitigation would improve the post-merger conditions to better than pre-merger conditions.

### **Video Monitors and Train Displays not Helpful, Uncertain Effect**

Assuming the City agrees to accept the equipment, SEA recommends in this FMP that the Board require UP to provide training and to maintain the equipment (see Section 2.4.7).

## **3.22 Air Quality Issues**

### **3.22.1 Summary of Comments**

Numerous parties submitted comments concerning the impact the UP/SP merger will have on air quality in the Reno area. Most of the comments on this topic were general in nature, but a few commenters discussed other specific related issues, such as: whether the PMP does or should address the air quality of the entire Truckee Meadows area, as well as the Reno air basin; whether the Storey County "Buffer Zone Source" should be included in the analysis; whether the Sparks switchyard should be included in merger-related emissions; whether STB is subject to general



conformity; general refutation of PMP emissions estimates; the impact of train speed on emissions; other sources of pollutants are much larger and much more significant than merger-related sources; and that insufficient attention was paid to locomotive emissions and mitigation options.

### **General Air Quality Concern**

Several individuals stated they are concerned about the impact increased emissions from trains and vehicles may have on the quality of life. Another individual expressed concern about the impact of emissions on the forests and wanted to see a study performed to address this concern.

Martha Gould, Reno citizen, stated: "Within the City of Reno additional train traffic will impact traffic flow, causing additional delays with traffic sitting idle, and pouring additional pollutants into our air. As we do not yet meet federal air quality standards, this will further exacerbate the problem. Perhaps Union Pacific plans on paying whatever fines are leveled against the City and the County."

Bob Webb of the County Department of Community Development stated:

"And they specifically talked about . . . system-wide mitigation measures, particularly for the newer engines, and they feel that those mitigation measures, if applied, would adequately address the concerns of nitrogen oxide contamination.

"I talked to Brian Jennison, who's the air quality officer for Washoe County, and he specifically brought up nitrogen oxides from locomotives, and he and staff looked at the PMP. They're not making formal comments because they feel that the mitigation measures proposed both in Reno and system wide, based on the models that are contained in the report, are adequate and use the standards that they would use."

### **Area of Analysis: Truckee Meadows Non-attainment Area vs. Washoe County**

Mr. Webb also stated that according to Dr. Jennison (Air Quality Officer for the Washoe County District Health Department): "The railroad currently represents between 4 and 5 percent of the total inventory of oxides of nitrogen in Washoe County. If the Union Pacific Railroad increases the number of trains in the Truckee Meadows (Reno, Sparks and south Washoe County), there will be a concentration of the impacts of emissions from locomotives in the area where the majority of our citizens live."

The City of Reno stated:

"The PMP notes that the freight traffic on the existing U. S. Weather River route, passing through northern Washoe County will decrease, but the emissions from these

trains will not affect the location where ozone violations were measured, in the Reno/Sparks/Truckee Meadows area.

"SEA's statement provides the proper logic for focusing attention regarding the NO<sub>x</sub> emissions increases caused by the merger on the Truckee Meadows basin rather than the entire county. This statement makes the conclusion in page 6 - 55, paragraph 3 of the PMP irrelevant. That conclusion states that since county-wide NO<sub>x</sub> emissions increases are about 1.5 percent of the inventory, '... the SEA study team believes that the NO<sub>x</sub> increase resulting from the increased levels of through train traffic due to the merger is unlikely, by itself, to result in a change from attainment to nonattainment.

"In fact, the NO<sub>x</sub> emissions increase in the Truckee Meadows relative to the total inventory is provided in Air Sciences Inc. (ASI), recently released report in Table 3.10 (ASI, 1997) summarized in Table 11 below.

*EXCERPTED FROM CITY OF RENO COMMENTS*

<b>Table 11</b>				
<b>Net NO<sub>x</sub> Emissions Increase (tons per year)</b>				
<b>Trains / Day</b>	<b>1995</b>	<b>2000</b>	<b>2007</b>	<b>2015</b>
12.7	0	—	—	—
24.0	—	390	390	68
36.0	—	805	805	320

Source: ASI, 1997: Table 3.10

"These tables demonstrate that at 24 trains per day through Truckee Meadows there is an expected 5 percent increase in Truckee Meadows NO<sub>x</sub> inventory and with 36 trains per day there is an expected 10 percent increase in the inventory. These are significant emissions increases in the basin where the ozone violations were measured."

The City also stated: "The table title indicates these are Washoe County emissions. However, they appear as Truckee Meadows emissions. The pre-merger locomotive NO<sub>x</sub> emissions of 443.4 tons per year in this table appear to be representative of the Truckee Meadows locomotive

emissions (see WCAQMD, 1996b:Table 4-19, Southern Pacific Transportation Freight Train emissions of 449 tons per year). Furthermore, the county-wide NO<sub>x</sub> emissions have already been listed in the PMP, Table 6.2.11-3 as 929 tons per year. The post-merger emissions of 838 tons per year are similar to those in ASI's Table 3.9 at 829 tons NO<sub>x</sub> per year for Truckee Meadows (ASI, 1997)."

The City added: "The pre-merger Truckee Meadows locomotive CO emissions (16.1 tons per year) are low by a factor of at least 3. For a comparison (see Table 4-19 of WCAQMD, 1996b) where Truckee Meadows CO emissions from freight trains are 57 tons per year. Alternatively, note from the PMP Table 6.2.11-4 that the ratio of CO to NO<sub>x</sub> emissions per unit of fuel consumed is 0.13. This same ratio must hold for the annual emissions of the two pollutants as both are based on the same amount of fuel burned. Thirteen percent (13 percent) of 443.4 tons per year of NO<sub>x</sub> is equal to 56 tons per year of CO. With this error corrected, the Table 6.2.11-6 CO total resulting from the merger will be larger by about 40 tons per year (a total of 77 tons per year)."

### **Buffer Zone Emissions**

The City of Reno stated: "Current diesel emissions of NO<sub>x</sub> in Washoe County are 929 tons per year. In the PMP this quantity is incorrectly compared to a total of 27,261 tons per year. The correct number (subtracting out the Storey County 'Buffer Zone Source' of 13,351 tons per year, as shown in WCAQMD-B, Table 1-2) is 13,910 tons per year (also see WCAQMD, 1996a: 'Maintenance Plan', Table 3, Total NO<sub>x</sub>). The county-wide locomotive emissions are 6.7 percent of the county total. This is a significant contribution to the county inventory."

### **Inclusion of Sparks Switchyard**

The City also stated: "The PMP states that the Sparks switchyard operations are not associated with the merger. In fact, if the increase in freight trains through the Reno/Sparks/Truckee Meadows area increases the switchyard activity levels, then the increase in switchyard activities and associated air emissions are an effect of the merger, just as the increase in emissions due to vehicle delays is an effect of the merger. The Sparks rail yard impacts from increased traffic must be given a 'hard look' in the FMP."

### **General Conformity**

The City added: "Contrary to the PMP, the STB is subject to general conformity as discussed in ASI's recently released report (ASI, 1997:Sect. 5). The STB's ability to limit freight train traffic through Truckee Meadows during the mitigation study period (see STB, 1996c:222) is evidence of the STB's program control over railroad emissions."



## PMP Emissions Estimates

The City of Reno noted: "The City would submit the following CO emissions increases in the Truckee Meadows relative to the total inventory as provided in Air Sciences Inc. (ASI), recently released report in Table 3.8 (ASI, 1997) summarized in Table 12 below."

### EXCERPTED FROM CITY OF RENO COMMENTS

Table 12				
Net CO Emissions Increase (tons per year)				
Trains / Day	1995	2000	2007	2015
12.7	0	—	—	—
24.0	—	68	66	72
36.0	—	144	138	147

Source: ASI, 1997: Table 3.8

Bob Webb of the County Department of Community Development stated that according to Dr. Jennison (Air Quality Officer for the Washoe County District Health Department): "Washoe County District Health Department would like to see an air quality model run to characterize the possible impacts of the increase in oxides of nitrogen. This model would preferably be included as part of an EIS on the merger."

The City of Reno stated: "Carbon Monoxide (CO) will increase by 68 tons per year and Nitrogen Oxides (NO<sub>x</sub>) by 390 tons."

The City also stated: "The City [of Reno] has reviewed SEA's methodology for estimating emissions from vehicles and concurs with the methodology. Unfortunately, since the emissions calculations are dependent upon the average daily total hours of delay, total daily delay hours, and the number of vehicles delayed, the City would dispute the results of the vehicles emissions studied based upon substandard delay data as well as any mitigation gained by the increased speed of trains using the same inferior delay data."

### Impact of Train Speed on Emissions

Lawrence Torango, private citizen, stated:

"Air quality is a big issue. The topology of the Truckee Meadows area is naturally conducive to bad air because it is a relatively small valley surrounded by mountains. Unfortunately there are no mitigation measures associated with this issue. The voluminous statistics and numbers presented by the authors of the report are, in my mind, suspect due to the problem of associating an increase in speed of 20 mph to 30 mph as a constant. While the report devotes lots of words to the possibilities of many solutions it reaches no conclusions. In fact, it appears to deliberately misrepresent the problem with statements such as: 'At the County Level, the analysis shows that, under both pre- and post-merger conditions, locomotive emissions heavily outweigh vehicular emissions. However, total emissions generated by the increase in freight trains associated with the merger are quite small when compared with the total emissions inventory for the County.' (page 6-55 paragraph 3)

"In this case they were talking about a 1.5% increase for the whole Washoe County. Anyway you look at that, it is a big increase in air pollution. If this were some other industry moving into the area, this alone should be a show stopper. In any case, this is another indication of the author's attempt to rationalize biased results."

Kevin Weiske asked: "Does a train traveling at a higher rate of speed actually burn and emit less fuel or emissions?"

### **Other Sources of Pollutants Larger than Merger-Related Sources**

An individual stated that the pollution from automobiles waiting at the traffic signals in Reno was greater than emissions coming from vehicles waiting at railroad crossings.

Frederick Clayton stated: "Exhaust emissions: a railroad spokesman has been heard to say that highway diversion of this additional [rail] traffic would put 27,000 more trucks on the highways every year. My thinking is that this would produce far more additional exhaust pollution . . . than the additional trains."

### **Locomotive Emissions and Mitigation Options**

Gregory Krause of the Regional Transportation Commission stated: "The air quality portion of the PMP admits the small but a significant rise in post merger emissions from additional train traffic. However, the mitigation measures contained in the report discuss 'options,' not commitments, by the railroad to convert to cleaner burning locomotives. There is no cost associated with this conversion and no commitment from the railroad to change to different locomotives. As a primary air quality modeling agency, RTC staff is concerned about any increase in emissions that are not fully mitigated through a dedicated process paid for by the merging companies."

Bob Webb of the County Department of Community Development stated that according to Dr. Jennison (Air Quality Officer for the Washoe County District Health Department):

If additional train traffic is approved as part of the merger and Reno Mitigation Study, then mitigation measures should be enacted which will require the Union Pacific Railroad to only use their most modern and 'cleanest' locomotives in the Truckee Meadows area (Reno, Sparks, and south Washoe County)."

Craig Wesner of the Nevada Public Utilities Commission stated:

"As far as the air quality issues go, it doesn't appear to me that the proposed mitigation plan addressed pollution, particularly to the Reno area. In other words, it looked at accumulation of pollution, addition of pollution due to locomotives, increased locomotives in Reno, but used a system-wide mitigation to handle those problems.

"And I'm not sure that really mitigates the emission problems in Reno, and I think that you ought to be looking at maybe some pollution trading or trying to look at some other pollution sources to improve to come back to zero.

"It only looked at . . . some improvements to locomotives, some throttle modulation, which I don't think is going to be in an issue that's going to help Reno, particularly with the train speeds at 30 miles an hour. I think you're going to see additional increased pollution from locomotives trying to get up to 30 miles an hour before they hit town."

### **3.22.2 Response to Comments**

#### **General Air Quality Concern**

SEA has analyzed carefully the potential increase in emissions from trains and vehicles and has concluded that this increase is unlikely, by itself, to result in a change from attainment to nonattainment of federal ambient air quality standards. See PMP Section 6.2.11, p. 6-55.

In the PMP, SEA calculates that, without mitigation, NO<sub>x</sub> emissions would increase by approximately 395 tons per year in Washoe County in 2000 due to the merger. This is an increase of about 1.5 percent of the Washoe County emissions inventory. While the increase in emissions is not negligible, SEA concludes that this increase is unlikely, by itself, to impact the attainment status of the county (see PMP, p. 6-55).

SEA did not analyze the potential impact of merger-related emissions on forests in the PMP. However, since the majority of the forests are primarily upwind of the Reno area, SEA believes that forests are unlikely to be significantly affected.



### **Area of Analysis: Truckee Meadows Non-attainment Area vs. Washoe County**

The pre-merger locomotive NO<sub>x</sub> emissions for the entire county are 929 tons per year, as shown in Table 4-19 of the "Washoe County, Nevada, Ozone Non-Attainment Area, 1993 Emission Inventory of Ozone Precursors." The PMP restates this in Table 6.2.11-3. Of this total amount, the Washoe County inventory attributes 449.3 tons to the freight trains passing along the old SP line, which is the rail line that passes through Reno. In Table 6.2.11-5, the PMP estimates 443.4 tons of NO<sub>x</sub> attributable to the pre-merger SP line from the east Washoe County border to the west County border, and this 443.4 tons value closely matches the Washoe County inventory value of 449.3 tons.

Emissions estimates were calculated by SEA for the old SP line in Reno and Washoe County (i.e., for the SP line all the way through the county from the east county border to the state line). Emission estimates were not calculated by SEA for the Pyramid Lake/Feather River line.

The geographic limits of the Truckee Meadows air basin are smaller than Washoe County. Therefore, SEA's calculated emission values were for that portion (approximately 1/3) of the old SP line within the Truckee Meadows air basin, which includes approximately 12 miles out of 42 miles of old SP line within Washoe County.

Similarly, to calculate pre-merger locomotive CO emissions in Truckee Meadows, SEA multiplied the 126.7 tons NO<sub>x</sub> per day increase by the 0.13 ratio of NO<sub>x</sub> to CO mentioned in the City's comment (actually, the ratio is 0.127) to obtain a value of 16.1 tons of locomotive CO emissions per year shown in Table 6.2.11-6 of the PMP. Calculations of both pollutants are based on fuel consumption estimates provided by UP, and EPA-approved emission factors.

SEA concludes that the merger would result in an emissions increase of approximately 395 tons of NO<sub>x</sub> per year in Washoe County and 33 tons of CO per year in the Truckee Meadows air basin (see PMP Tables 6.2.11-5 and 6.2.11-6). SEA acknowledges that locomotive emissions would be concentrated along the rail line, rather than distributed throughout the County. However, of the 395 tons NO<sub>x</sub> increase per year shown in the PMP, only 112 tons of this increase would occur within the Truckee Meadows air basin, where most of the Washoe County population is concentrated. Again, this is because the length of the old SP line within Truckee Meadows is only about one-third of the entire SP line from the east county border to the west county border.

### **Buffer Zone Emissions**

SEA concurs with the comment that the Storey County buffer zone NO<sub>x</sub> emissions constitute a major portion of the total emissions inventory for the Washoe County ozone nonattainment area. However, because ozone is a transport pollutant, EPA guidance documents require that large emissions sources close to the nonattainment area boundary be included in emission inventories for that nonattainment area. The Storey County buffer zone emissions are correctly included in the

emissions inventory for the Washoe County nonattainment area, and SEA believes that the official emissions inventory is the proper basis for comparison.

### **Inclusion of Sparks Switchyard**

SEA concurs with the comment that the UP/SP merger could affect switching operations at Sparks. However, the UP/SP operating plans call for an increase of only 15 cars switched per day, a relatively small increase compared to current levels. Further, the 1993 Washoe County emission inventory estimates that yard locomotives contribute 20.8 tons per year to the NO<sub>x</sub> inventory (versus 929 tons per year from line-haul freight activity). Therefore, SEA believes that the potential merger-related change in these emissions is negligible.

### **General Conformity**

The Federal Clean Air Act (CAA) requires states to adopt State Implementation Plans (SIPs) for implementation, maintenance and enforcement of the National Ambient Air Quality Standards (NAAQS) at 42 U.S.C. §7410(a)(2)(A). In 1997, Congress amended the CAA to require Federal agencies to determine whether proposed activities conformed to the SIPs (42 U.S.C. §7506). See, generally, Environmental Defense Fund v. EPA, 82 F.3d 454 (D.C. Cir. 1996) (Defense Fund). EPA has adopted rules for making such "conformity determinations." (40 CFR 51.) EPA's conformity rules apply, however, only to the actions that the Federal agency "can practically control and will maintain control over due to a continuing program responsibility . . ." 40 CFR 51.852, Defense Fund, 82 F. 3d at 463-464. As the court noted in Defense Fund, other Federal actions are exempt from compliance.

In the Post EA, SEA found that "[t]he Board has no ongoing enforcement authority in air quality matters," and that accordingly, the conformity guidelines under the CAA do not apply. See Post EA, Volume 2, Appendix A, at AG-225 (J.A. \_\_), and Post EA, Volume 1, at 4-18 (J.A. \_\_). The Board adopted SEA's position. The Board noted that, while EPA filed a comment concerning the EA and Post EA addressing clean air matters, EPA did not object to or even mention SEA's clear determination that the CAA conformity guidelines do not apply in this case. (Decision No. 44, at 224 and note 273.) The Board specifically adopted SEA's reasoning that the conformity guidelines do not apply because the Board does not maintain program control over railroad emissions as part of its continuing responsibilities. The Board's program responsibilities relate to financial transactions, rates and line abandonments of rail carriers, and not to assuring that rail operations are conducted so as to minimize adverse impacts on air quality.

Although the conformity guidelines do not apply, the Board has already imposed several broad and substantial conditions relative to air quality in Decision No. 44. In addition, SEA's proposed increased train speed mitigation would reduce emissions from idling vehicles to less than pre-merger levels.

## **PMP Emissions Estimates**

SEA has reviewed the report developed by Air Sciences, Inc. (ASI) entitled "Analysis of Air Emission Increases Resulting From the Union Pacific and Southern Pacific Railroad Merger and Effects on the Management of the Air Resource of the Truckee Meadows Nonattainment Area" and concludes that ASI's NO<sub>x</sub> emissions estimates for Truckee Meadows are overstated because they are derived from the Washoe County emissions inventory, which does not account for the fact that only a portion of the SP line in Washoe County is within Truckee Meadows.

SEA did not perform regional airshed modeling for the Reno Mitigation Study because of the relatively small size of the emissions increase.

## **Impact of Train Speed on Emissions**

UP provided fuel consumption estimates to SEA for air quality analysis for various average speeds. Based on these estimates, the impact of the different speeds on fuel economy and on locomotive emissions is negligible within the speed ranges analyzed in the PMP.

The PMP compares the estimated merger-related emissions impacts to the Washoe County and Truckee Meadows inventories as a gauge of the significance of the increase. Each pollutant was compared to the nonattainment area inventory pertinent to that pollutant (e.g., Washoe County for NO<sub>x</sub> since it is an ozone precursor, and Truckee Meadows for CO). This comparison allows SEA to evaluate the potential impact of the merger on the air quality attainment status of Washoe County.

## **Other Sources of Pollutants are Larger than Merger-Related Sources**

SEA did not analyze the emissions implications of the tradeoffs between truck and rail freight in the Reno area for the PMP. SEA did not analyze the air quality impacts of the traffic signals throughout Reno in the PMP, since this is not directly related to the merger.

## **Locomotive Emissions and Mitigation Options**

SEA's mitigation plan for locomotives requires UP/SP to comply with the South Coast Air Quality Management District's standards for visible smoke reduction. These regulations prohibit excessively smoking locomotives from operating through Washoe County. The mitigation plan also recognizes that EPA locomotive emissions standards will become effective beginning in 2000. These emissions standards will substantially reduce NO<sub>x</sub> emissions from UP's locomotives, and the cost of meeting the standards will be borne by UP.



As noted, system-wide air quality measures have already been imposed on UP in Decision No. 44. These measures, which reduce the level of emissions from the locomotives as they pass through Reno, include:

- Use of throttle modulation.
- Use of dynamic braking.
- Increased use of pacing and coasting trains.
- Isolation of unneeded horsepower.
- Shutting down locomotives when not in use for more than an hour at temperatures above 40° F.
- Maintenance and upgrading of SP locomotives to UP standards.
- Closing of boxcar doors to decrease wind resistance.
- Conversion of all locomotives to South Coast Air Quality Management District (SCAQMD) standards for visible smoke reduction.
- Utilization of newly manufactured or rebuilt locomotive under EPA rules that are more fuel efficient and produce less emissions and assignment of these locomotives on a priority basis to specific corridors, including the Reno corridor.

SEA believes these system-wide mitigation measures will positively affect Truckee Meadows air quality, and help to offset the emissions increase associated with the merger. For additional discussion of the air quality, see Section 2.4.13.

### **3.23 Noise Issues**

#### **3.23.1 Summary of Comments**

##### **Noise Increase**

A large number of individuals expressed concern with the expected noise increase from post-merger train operations. They highlighted that the existing train noise and horn noise are already annoying and train operations should not be allowed to increase. Some individuals specifically questioned the validity of STB's 3 dB Ldn increase significance threshold.

Thomas L. Melancon, a Reno citizen, stated: "Six years ago, the train whistles were infrequent enough to be 'quaint.' More recently, they are becoming 'tiresome.' If the number of trains increases to 25 a day, the noise will be intolerable."

According to the City of Reno: "A total of 118 homes, 185 apartment units, 1,136 hotel rooms, and 1 church will be impacted by train whistles noise; interior noise levels in hotel rooms would increase by 2.7 dB, aggravating the existing unacceptable condition; the increased number of train [sic] is expected to cause a 90 percent increase in awakening."

Reno citizens David and Dina Fiore stated: "As homeowners across the Truckee River from the tracks west of West McCarran (Edgewater Subdivision), we are very concerned that the impact the increased rail traffic will have on those of us who live near the tracks is not being adequately assessed and mitigated. Our concerns are primarily centered around the noise from the trains - the impact this will have on our family's ability to sleep at night, to relax, and to enjoy our home . . ."

Bob Webb, Washoe County Department of Community Development, noted: "I should note that no noise analysis was conducted in the Verdi area, though even if such analysis was done it is likely that the PMP recommendations would remain the same."

### **Definition of Noise-Sensitive Receptors**

The City of Reno stated:

"SEA notes definition of sensitive noise receptors but no hotels are listed as requested by the City (Appendix E of the PMP says this was addressed, but it is not). SEA offers no explanation why hotels are not included and in fact never raise [sic] the issue except in Appendix E of the PMP.

"However, based upon the noise contours Brown-Buntin Associates, Inc. has prepared (BBA, 1997), it appears that the PMP significantly understates the number of people and hotel rooms affected by both pre- and post-merger railroad operation noise exceeding 65 dB Ldn. Thus, the change in noise level, whatever its magnitude, could still impact a significant number of residents and hotel guests."

### **Noise Attenuation Rates**

The City of Reno questioned the validity of the attenuation rate used in estimating noise levels and stated that the measured noise attenuation rate was different from previous methods and theoretical approaches (from BBA report).

### **Noise Prediction Model**

The City of Reno suggested that the PMP noise contours in the downtown area are generalized and not representative of all of the downtown area due to various conditions of shielding and lack of shielding. The City thinks that using a specific computer noise model (Environmental Noise Model) is more definitive than the PMP method.

### **Assumed Day/Night Split for Train Operations**

The City of Reno stated that SEA needs to provide the assumed day/night split for rail operations and the rationale for it.

## **Effect of Speed Increase on Noise**

The City of Reno expressed concerns with the horn noise levels with an increase in railroad speed. They indicated that although the speed increases and the train passing time is reduced, the train horn may start 'blowing' earlier in its approach to the grade crossing. Bruce MacKay with the Elgin Hotel stated: "Noise considerations—if we do increase the speed of the trains and the trains are required to give a 20-second warning prior to reaching a crossing, . . . they will have to give that warning much further away from the crossing. Probably what that's going to end up [happening] is that you'll have a continuous horn from west of Keystone on an eastbound train all the way through downtown, which obviously is going to increase the decibel level throughout the entire area. Also, . . . the study indicates that we're anticipating an increase in the average decibels of 2.7, I believe, which is below the 3 dB level [threshold]; however, with the number of trains, if we only had an increase of one or two trains a day, that's going to increase and it may push it over the 3 dB level."

Ron Paletta, Reno citizen and a locomotive engineer, responded: "Not true. We are required to blow one-quarter mile approximately from the crossing until we foul the crossing. Therefore, increasing the speed, obviously you are not going to blow the whistle that long."

## **Depressed Rail Would Reduce Noise**

Two individuals, John Evanoff and Evelyn Summers, commented that noise would be reduced if the rail line was depressed in downtown Reno.

## **Why Not Use Noise Barriers?**

One individual thought that noise could be reduced if noise barriers (sound walls) were constructed in some areas. The Fiore (noted above) stated: "Looking for a long-term solution, we believe that soundwalls should seriously be considered for the tracks near neighborhoods like ours. We understand that sound walls are not inexpensive when done correctly (and what point is there in not doing them correctly?), but as a long-term solution we believe they would be cost effective."

## **Why Not Use Stationary (Positioned at Grade Crossing) Horns**

One individual, Thomas L. Melancon, mentioned that stationary horns at some grade crossings could lead to overall noise reduction.

## **Automated Horns and/or Directional Horns**

A few individuals saw possible noise reduction if engines could have automated or directional horns. The Fiore stated: "At the very least, we would like to suggest that 'automated horns' be added to the trains so that the engineers are not over-using the horns (something that seems to be occurring recently)."



## **Nighttime Operations**

Two individuals stated that limiting the nighttime operation would reduce the noise levels during sleeping hours. The Fiores stated:

"Also, we would like to suggest that Union Pacific makes an effort to limit the train traffic at night, perhaps between 10 pm and 6 am."

## **Grade Separated Crossings or Quiet Zone**

Several individuals expressed the need to eliminate horn blowing at grade crossings to create quiet zones, but the US Department of Transportation (DOT) noted that eliminating horns could create serious safety concerns. DOT stated:

"The SEA quotes the Board's view, expressed in Decision No. 44, that 'any attempt significantly to reduce noise levels at grade crossings would jeopardize safety, which we consider to be of paramount importance.' PMP at 8-28. As a consequence, the SEA did not seek to reduce merger-related noise impacts because of any decrease in the sounding of horns would lead to an increase in safety risk. DOT agrees that a reduction in this particular noise, whether in loudness or duration, may have a negative impact on safety under existing circumstances.

"We also appreciate the difficulties facing the SEA and the Board on this subject. The most noteworthy source of train noise in Reno is required to continue in the interest of safety. In these circumstances DOT believes that the STB should not now reach a final decision on this point, but should retain jurisdiction of at least this aspect of the instant proceeding until FRA completes its impending rulemaking. Once FRA has assessed the evidence, arguments, and alternatives relating to the creation of quiet zones, its final decision should clarify the extent to which such zones may be available to mitigate the noise at issue here. At that time, SEA can assess the cost and effectiveness of any options provided for establishing quiet zones in the subject communities and make recommendations to the Board. Since the noise impacts at issue are a direct consequence of the merger, assuming the actions required to implement quiet zones meet the standards established in Decision 44, UP should be responsible for funding such improvements, unless the cost of such modifications unduly interferes with UP's right to conduct business and provide rail freight service to its customers. PMP at 8-3. Although the Department understands the desire of the Board, the UP, and the communities to resolve this issue expeditiously, the fact that the Board retained oversight of the entire proceeding for five years indicates that in a matter of this complexity, a rapid resolution of all problems is not always possible."

## **Vibration**

A few individuals expressed concern over vibration levels from increased train activity. The vibration levels are not expected to increase; therefore, the concern is with the frequency of vibration. There are several mines within a hundred yards of the tracks, and many old historical structures made of concrete and stone will be adversely affected.

The Railroad Noise/Vibration Assessment Report, UP/SP Merger (10/97) prepared by BBA states that "vibration from train passages is not expected to be significant in terms of the criteria used by the Federal Transit Administration." (Pages nine and 15 of BBA Report)

### **3.23.2 Response to Comments**

#### **Noise Increase**

The Board's regulations require identification of sensitive receptors within areas that would experience increases under the following criteria:

- An incremental increase in noise levels of 3 dB (Ldn) or more, or
- An increase to a noise level of 65 dB Ldn or greater.

Based on an increase in the number of trains from pre- and post-merger levels, the potential increase in train noise is projected to be 2.7 dB Ldn. Consequently, no exceedence of the Board's criterion of a 3 dB or greater increase is projected for Reno and Washoe County.

In response to a concerned commenter, the Verdi area was not addressed for noise impacts because it was outside of the specified study area.

#### **Definition of Noise-Sensitive Receptors**

The Board regulations provide examples of sensitive receptors, which are: "schools, libraries, hospitals, residences, retirement communities, and nursing homes." Although the Board regulations do not specifically identify hotels and hotel rooms as sensitive receptors, the PMP report includes hotels and casino parcels as noise-sensitive receptors (see Table 6.2.9-3 in the PMP). The PMP does not identify individual hotel rooms for each of the hotel parcels.

#### **Noise Attenuation Rates**

Actually, the difference between SEA's and BBA's methods is not just the attenuation rate. SEA's method used the actual Sound Exposure Level (SEL) values measured at a particular site as well as the measured attenuation rate at that site. This was done to account for the different manner in which horns are sounded as trains pass by the measurement site. The distances to the 65 dB Ldn contour reported by SEA were actually measured at each site.

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Some attenuation rate values (actually, the associated distance to the 65 dB Ldn contour) were discounted where after inspection they were determined not to be representative of the site. Non-representative SEL values were determined by comparing the resulting distances to the 65 dB Ldn contour with each other for consistency and reasonableness. If the distances did not appear to be consistent or reasonable, time histories of horn soundings were examined to verify SEL values associated with only horn soundings at each measurement location.

### **Noise Prediction Model**

The PMP noise contours do take into account shielding, since the measurements upon which the contours are based take into account various effects, including shielding and reflections. A total of 15 horn sounding SEL values were collected in shielded areas: North Virginia Street, South Virginia Street, and North Washington Street. While contour distances could have been developed separately for each of these areas, the amount of variation in SEL values indicated that they were all reasonably representative of urban building shielding areas. Consequently, data collected from these areas were used to represent the downtown areas where there is shielding (and reflections) due to buildings, and then those results were applied over the represented area. Variation in these measured data reflect the variability of the actual events and conditions (such as eastbound versus westbound trains, and actual acoustic variations in train events). The empirically derived existing impacts (noise contours) were then adjusted using proposed increases in rail activity. SEA believes that the empirical approach used by SEA, where actual measured distances to the 65 dB contour line were used, is representative of the actual horn operation variation and site conditions.

### **Day/Night Split for Train Operations**

The day/night split used for pre- and post-merger noise analysis was based on an existing weekly operations schedule provided by De Leuw Cather and Company.

### **Noise Effects of Increased Train Speeds**

Recent grade crossing horn noise measurements do not indicate any relationship between horn noise level and train speed. Therefore, the speed increase mitigation measure should not increase noise levels near grade crossings.

### **Depressed Rail Would Reduce Noise**

A depressed railway from Keystone to Sutro would eliminate the need for horn sounding in that area. A depressed railway would reduce noise impacts to 62 properties (i.e., this would result in protecting 33 properties), which include many hotels and casinos.

## **Why not use Noise Barriers?**

Noise barriers are effective for reducing wheel/rail noise that reaches the community. Because train horn noise is the dominant noise source, noise barriers would be useful only in those areas where horn noise is not present. An analysis was conducted using the Geographic Information System to determine whether noise barriers would be effective for affected locations in the study area.

## **Stationary (Positioned at Grade Crossing) Horns**

The Federal Railroad Administration (FRA) and UP have been assessing the viability of alternative local grade crossing warning devices, such as locating a horn or loudspeaker at the grade crossing. The benefit of such a device would be to limit the extent of the affected community. Currently, train horns are sounded 1/4 mile from a grade crossing, resulting in noise exposure to residences in a fairly large area. Since the sole purpose of the horn is to warn motorists and others at the crossing, a device that delivers horn noise only to the area at or near the crossing is preferable.

The FRA has tested a prototype automated horn system (AHS) designed to increase the warning effectiveness at grade crossings while minimizing community noise impact. The system consists of a single electronic horn placed directly at a grade crossing and directed along approaching roadways. Since the horn is located at the grade crossing, the community noise exposure due to horn noise on a moving train is eliminated. The directivity of the system results in sound levels that are higher directly in front of the horn and lower to the rear and the sides. Consequently, not only is the area of community impact reduced, but the horn is more effective because of its greater audibility to motorists farther down the road.

However, FRA has not reached any conclusions regarding the effectiveness of automated horns. In its latest published report (DOT/FRA/ORD-93/25, *Study of the Acoustic Characteristics of Railroad Horn Systems*, July 1993), FRA states that: "the data from tests conducted will be used in later reports to (1) determine the effectiveness of railroad horn systems in penetrating a vehicle warning a motorist of the impending arrival of a train."

If the AHS were used at all of the grade crossings listed in Table 7.1 of the PMP, the number of affected receptors would be reduced to 39 properties. The approximate cost of an AHS installation at a grade crossing is \$12,000 to \$15,000. The range in cost depends on whether or not the road is two lanes or a divided highway; this affects the complexity of the installation. This cost assumes that the crossing is state-of-the-art with appropriate circuitry for the AHS.

## **Automated Horns and/or Directional Horns**

Train horn types include the three-chime (i.e., three discrete tones) Leslie and five-chime Nathan. One of the Leslie horns, the RSL-3L-RF (used on the Union Pacific GE Dash-8 locomotive) is more efficient toward the sides and rear of the engine than the front. The sound level measured

in front of the engine is approximately 6 dB lower than that at the sides and 8 dB lower than that measured at the rear, because of its physical location on the roof of the locomotive. Therefore, in order to meet the FRA's requirement of 96 dB measured at 100 feet in front of the engine, this particular horn produces 102 dB at the sides and 104 dB at the rear of the engine. Clearly, if the goal is to direct as much sound energy to the front of the engine as possible, this particular horn design is not optimal. This example shows that mitigation might be achieved by assessment and modification of the horn designs. However, this modification would have to take into account possible noise impacts to the crew located in the locomotive cab as well. This issue is being studied by FRA for possible future regulatory requirements. Reducing horn noise at the source can be cost-effective even if a large number of locomotives are involved. There are an estimated 23,000 locomotives in the U.S.; a fraction of this number is Dash 8 locomotives. The cost associated with this mitigation option would include the redesign and installation of the horn system and was not quantified as part of this study.

### **Nighttime Operations**

While restricted nighttime operations would reduce noise levels during the nighttime hours in Reno, railroad operations are conducted on a system-wide basis 24 hours per day. Accordingly, time restrictions on train operations in one specific location could disrupt efficient and timely rail operations. Because of the nature of interstate rail operations, this is not a practical, or reasonable measure.

### **Grade Crossings and Quiet Zones**

Please see Section 2.4.9 for a discussion of noise safety issues and "quiet zones," which may be applicable to such areas as Del Curto.

### **Vibration**

Ground-borne vibration levels expected from individual freight train pass-bys are expected to be substantially below cosmetic damage criteria, which are lower than structural damage criteria. It is very unlikely that vibration levels would exceed any damage criterion, and it is thus unlikely that freight train activity at any level will cause damage to buildings in Reno.

Existing vibration impact criteria assess the potential impact of vibration levels at a sensitive receptor for a single event only, so an increase in the number of freight trains does not affect the vibration levels per event nor the likelihood of exceedence of the single-event criterion. Stated differently, there are no impact guidelines that assess potential vibration impacts on the basis of increases or decreases in number of train operations (also see BBA report).



### 3.24 Adequacy of PMP

#### 3.24.1 Summary of Comments

A number of parties commented on the adequacy of the PMP. Most parties commented that SEA used incomplete or improper analysis or data in the PMP to assess impacts. The City of Reno raised many concerns about the adequacy of the data and field work conducted to reach the proposed mitigation measures in the PMP. The City of Reno stated: "Appendix E of the PMP (ostensibly) lists all of the issues raised (and a number of items are indicated as discussed). To the contrary, they are not . . . Table 3 below indicates a number of issues identified from Appendix E of the PMP, which are either not discussed as indicated or indicated 'comment noted.' "

The City also noted: "These items were raised in 38 requests by the City in numerous correspondence placed in the record by the City on August 8, 1997 as set forth in Appendix A of this comment document and have not been addressed, resolved or mitigated to levels below significant."

The City stated: "SEA has stated that the Post EA is a complete analysis sufficient to reach a FONSI [finding of no significant impact] determination. Thus, a mitigation study appears to be an undefined attempt to support a previously reached FONSI conclusion, rather than a scientific study based upon established NEPA procedures to resolve identified serious environmental impacts in the Reno / Sparks / Truckee Meadows area resulting from the merger."

The City also stated: "Section 5.3.1 (Methodology) of the PMP attempts to summarize the methodology employed to conduct the train and traffic survey, with the summary on Page 5 - 7, paragraph 5 indicating an average train length of 4,600 feet. The survey data actually indicates a mean length in feet of 4,600 with a S.D. [Standard Deviation] of  $\pm 1,283$  feet and a  $\pm 1$  S.D. range of 3,317 feet to 5,883 feet, a minimum of 420 feet, and a maximum of 6,698. This range of lengths should be included and analyzed in the PMP. Figure 4 indicates the differences in distribution of the UP's projected average as indicated on the PMP's Table 4.4.1-1 and the actual distribution of the survey data trains."

Conversely, the City indicated that the PMP contained information and analysis that were improperly included in the document, especially any mention of private negotiations on further mitigation measures.

The City stated: "SEA's reference to perceived details of private negotiations, and speculation as to the status of such negotiations, are inappropriate and have no place in a federally mandated environmental mitigation study. SEA does not set forth their authority for discussing the perceived details of private negotiations, nor does SEA explain why such information is useful or relevant to the STB mandated environmental (vs. economic) mitigation study. Further, SEA can only, at best, speculate as to the status of private negotiations between the City and the UP because it is not a participant in those negotiations. Any reference to details of private negotiations between UP and the City must be deleted in the FMP."

*EXCERPTED FROM CITY OF RENO COMMENTS*

Table 3				
Summary of Key Issues not Discussed in PMP as Indicated				
Key Issue Area	Topic	Sub-Topic	Specific Comment / Question / or Issue	Discussed in PMP Section
Environmental Impacts	Safety	Emergency Response Delays	What will happen with emergency services and public transportation access for people living downtown?	6.2.1 & 6.2.3
			The Old Reno Casino has fire truck access problems.	7.2.3
	Air Quality		What are the air quality impacts of increased train traffic?	6.2.11 & 7.2.1
	Noise		The rumbling of the trains (especially those traveling at slow speeds) and train horns are both a source of annoyance, especially during evening hours; can train horn noise be mitigated?	6.2.9 & 7.2.6
			Noise from train horns affects residents along the tracks, especially in the Verdi area	6.2.9
	Water Quality		What steps has UP taken regarding the potential for future flooding? What impact will FEMA regulations have on the integrity of railbed in the Truckee River canyons?	Beyond scope of study
	Native American Issues		The City supports complete involvement and consultation with Native Americans during the study; the Reno-Sparks Indian Colony plans to join the City of Reno's lawsuit;	6.2.7
Other Potential Impacts	Biological Resources		SEA should provide information regarding consultation with US Fish and Wildlife Service (USFWS) regarding endangered species	6.2.8
	Problems in Surrounding Areas		None of the mitigation options seems to address blocked access to the 27 residences in the West St. via Del Curto neighborhood	7.2.6
Train Operations	Increased Train Numbers		Although in the past there were more trains coming through Reno and no complaints, it should be noted that Reno was much smaller then, with less pedestrian and vehicle traffic, and freight trains did not carry the toxic materials they carry today.	Comment noted

**EXCERPTED FROM CITY OF RENO COMMENTS**

Table 3				
Summary of Key Issues not Discussed in PMP as Indicated				
Key Issue Area	Topic	Sub-Topic	Specific Comment / Question / or Issue	Discussed in PMP Section
Train Operations (Cont'd).	Projections		What is meant by "Future" projections?	4.4
			What assurances does the City have that train traffic will not increase after 5 years?	4.4.1
			How many other towns have similar problems because of the merger?	Beyond scope of study
Involved Parties	Union Pacific/ City of Reno Relations		According to city staff, "UP has reportedly attempted to meet privately with downtown businesses to 'buy them off'" and the City objects to this.	2.9
			The City requested that UP provide detailed information to the task force regarding compensation and fees paid to third-party contractors and related issues regarding other contracts and limitations imposed by the Board	2.6.1
	Third Party Contractor		The City has stated there may be a potential conflict of interest regarding SEA's independent third-party contractor and/or its subcontractors;	2.6.1
			The City requested that the third-party contractor project director discuss with the task force and provide detailed information concerning potential conflicts of interest of all parties involved in the Board's environmental investigation in connection with the preparation of the EA, the Post-EA, and/or the Reno Mitigation Plan	2.6.1
Mitigation Study	Methodology & Process	NEPA Study Scheduling	The City of Reno submitted the following comments on methodology and study process. • Determination of the "affected environment" requires "description of environment of the area(s) to be affected or created by the alternatives" (§ 1502.15) et al.	Comment noted
		Historical Data/ Preexisting Conditions	The UP submitted a study and letter indicating that development patterns allowed by the City have contributed to the existing land use and train conflicts, long before the merger. The UP letter notes that the City of Reno voted down the funding of a depressed railway in 1980.	3



**EXCERPTED FROM CITY OF RENO COMMENTS**

**Table 3**

**Summary of Key Issues not Discussed in PMP as Indicated**

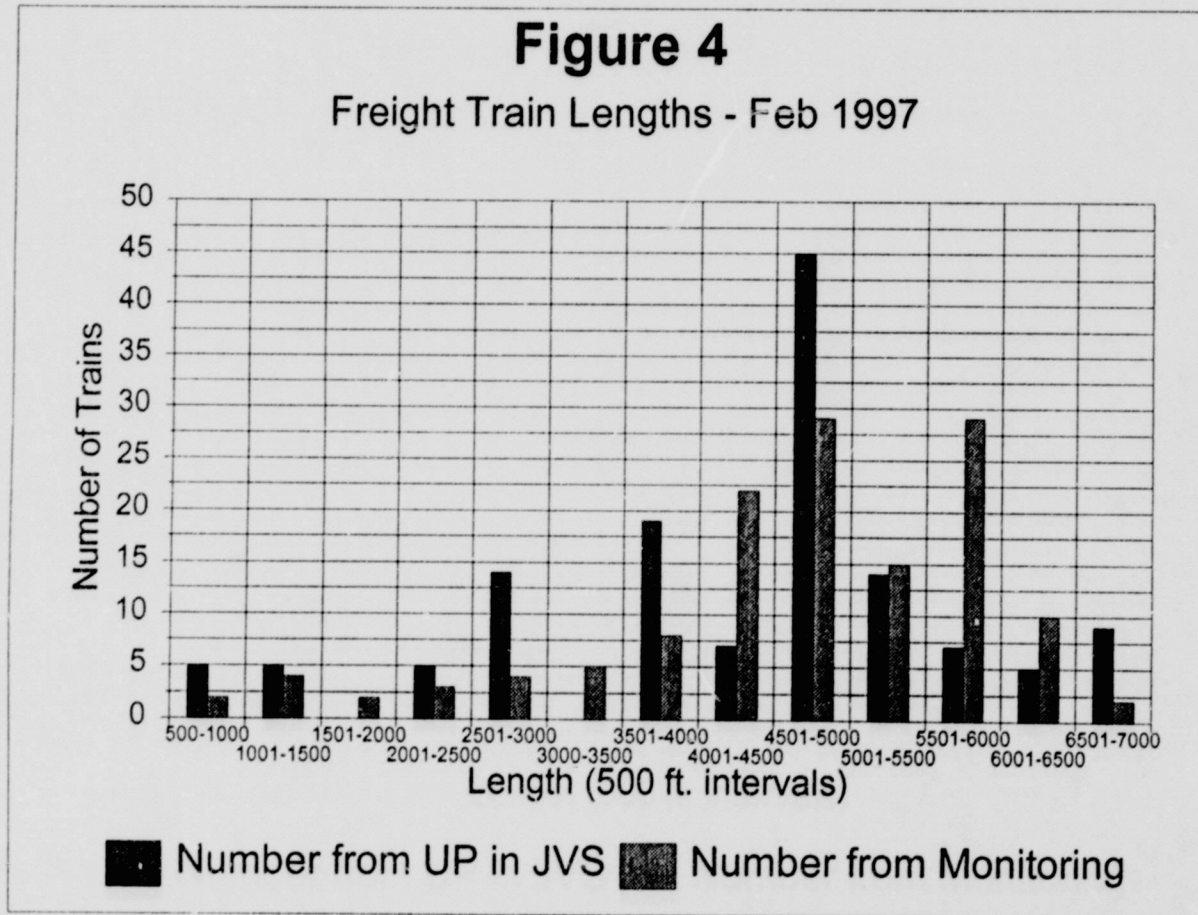
<i>Key Issue Area</i>	<i>Topic</i>	<i>Sub-Topic</i>	<i>Specific Comment / Question / or Issue</i>	<i>Discussed in PMP Section</i>
Mitigation Study (Cont'd)	Study Data	Trains	If the study investigates the effective mitigation potential of manipulation of train speed, in 7.1 a similar evaluation of the manipulation of train numbers per day and length of trains should also be performed	
		Noise	That is the Board's definition of noise receptors? It seems the Board uses a very narrow definition; noise receptors analysis should include consideration of hotels and other commercial properties adjacent to UP's trackage in Reno	6.2.9
			Night-weighted averages are not relevant in Reno because it is a 24-hour/day city	6.2.9
			The sensitive receptor inventory should be provided for review	6.2.9
	Public Involvement/ Public Review Schedule		The mitigation study and task force schedule should be extended up to 90 days; can sea recommend to the Board that the study schedule be extended?	2.7.2
		Task Force	The City stated its view that "The mission of the task force should be to ensure that all adverse impacts associated with the merger are mitigated to less than significant levels, and that mitigation proposals do not in and of themselves create additional adverse impacts.	2.7.2
			The City wrote a letter stating their view that the task force meetings seem to focus on mitigation options and do not include full discussion of possible merger-related environmental impacts in Reno;	2.7.2
Board Jurisdiction			Can the Board control train speed? Length of trains? Numbers of cars?	2.2
			Can the Board impose further caps or limitations on the number of trains as a long-term solution?	2.2
Mitigation	Evaluation Criteria		The City should look ahead 20-40 years when thinking about mitigation options	Comment noted
	Impacts of Mitigation		Consider time and costs necessary to build various mitigation options; some parties noted that five years of construction is "unthinkable"	7 & 8

*EXCERPTED FROM CITY OF RENO COMMENTS*

Table 3				
Summary of Key Issues not Discussed in PMP as Indicated				
Key Issue Area	Topic	Sub-Topic	Specific Comment / Question / or Issue	Discussed in PMP Section
Mitigation (Cont'd.)	Mitigation Options	City Preference	In task force meetings, the City stated that underpass/overpass mitigation options are unacceptable and the City expressed reservations about speeding up the trains.	2.8
		Depressed Rail Corridor	Are there examples of successful uses of depressed corridor in other cities?	Beyond study scope
			Can all of the traffic be rerouted to the Feather River route during construction? What factors determine the maximum capacity of the Feather River route, and what is required to increase the capacity if necessary?	Beyond study scope
		Options for Mitigating Noise Impacts	Noise impacts can be mitigated by creating sound buffers	7.2.6
		Scheduling Trains	Decrease number of trains at night	8
			Noted in the study a system should be provided which alerts emergency responder dispatch centers as to when trains are on the tracks	7.26
		Grade separations	Underpasses, such as the one on W. Second St., make people feel "trapped" and "at-risk"	Comment noted
			Underpasses should be built at the following streets one at a time to avoid inconvenience" Keystone, Arlington, Washington, Ralston, and Evans	Comment noted

Source: STB, 1997d: Appendix E

EXCERPTED FROM CITY OF RENO COMMENTS





The City added: "When SEA initiated a series of meetings with separate, private business interests and citizens in Reno, Nevada on October 22, 23 and 24, 1996, SEA expressly requested that the City representatives be excluded from the meetings. However, 16 out of the 17 groups with scheduled meetings with SEA invited representatives of the City to attend the private meetings (see summaries of these meeting as set forth in Appendix B of this comment document). During 16 of the meetings that the City representatives attended, SEA repeatedly expressed their opinion as to the benefits of individual, private negotiations with the UP. For example, Ms. Elaine Kaiser extensively repeated the details of the private negotiations between the Town of Truckee, California and UP wherein the UP agreed to purchase obsolete wood burning stoves in an effort to help resolve air quality issues resulting from increased train traffic through the Town of Truckee, California. Again, speculation on the merits of private negotiations are inappropriate in a federally mandated environmental mitigation study. SEA does not set forth their authority to discuss private negotiations, nor does SEA explain why such information is useful or relevant to an STB mandated environmental mitigation study."

The City also feels that discussion of existing safety devices in the PMP Section entitled "Evaluation of Potential Environmental Impacts" was not proper.

The City stated: "The PMP documents the location of the existing railroad accident prevention equipment, including hot box detectors, high wide shift load detectors and dragging equipment detectors. The discussion of 'existing' railroad accident prevention equipment is not appropriate in Section 6 (Evaluation of Potential Environmental Impacts) of the PMP and provides no meaningful analysis of potential environmental impacts. The City requests that the applicability of this information be substantiated, or the referenced statement removed from the FMP."

Numerous commenters stated that the PMP does not adequately address health, safety and environmental issues. U.S. Senator Richard Bryan stated:

"The draft recommendations do little to address the safety, environmental, and economic impacts of the Union Pacific/Southern Pacific merger in downtown Reno. Simply increasing train speeds, constructing more gates and building a few pedestrian overpasses is not the kind of mitigation Reno City leaders believe will adequately address the impacts of the merger.

"The Board's proposed mitigation plan ignores the Union Pacific Railroad's responsibility to mitigate the impacts of its merger, and leaves the City of Reno with the difficult, and expensive, task of dealing with the expected dramatic increases in train traffic. In addition to the obvious inconvenience to citizens trying to drive across town, the increased trains will have serious impacts on air quality and noise, and will complicate and delay the community's ability to respond to police, fire, and medical emergencies. The Board's mitigation plan insufficiently addresses each of these areas of concern.

"I urge the Board to reconsider its proposed mitigation plan, and to develop a plan that is more sensitive to the needs of the local community. The City of Reno is willing to work with the railroad and the Board to develop an alternative that adequately mitigates the burden placed on the City by the merger, but the extremely low baseline measure suggested in the Board's draft report, a mitigation that is even lower than previously offered by the railroad, seriously compromises the City's ability to negotiate a more beneficial agreement with the railroad.

"The Board's draft proposal is seriously deficient, and needs drastic improvement before it even comes close to mitigating the consequences of the merger to the citizens of Reno."

U.S. Senator Harry Reid stated:

"While I appreciate the STB's review of the potential impact resulting from the Union Pacific/Southern Pacific merger, I believe a more thorough [sic], specifically an Environmental Impact Statement, is not only warranted, but necessary.

"The broad array of citizens who testified at last week's hearing in Reno is strong evidence of the serious concern that Nevadans' [sic] have about the ramification of this merger. While we all appreciate the hard work that went into the drafting the 'Preliminary Mitigation Plan,' it insufficiently addresses the many environmental problems facing Reno as a result of this merger. Additionally, it sends the wrong message to the principals negotiating the financing of the mitigation necessary to accommodate this merger.

"While there are a myriad of environmental impacts in need of greater attention, I encourage the STB to include in its consideration of the following points as it finalizes this plan:

- "The safest way to accommodate this merger is to depress the tracks through downtown Reno, yet the plan does not address this proposal.
- "The increase in the number of trains and speed with which the [sic] may operate could significantly increase the number of vehicular and pedestrian accidents.
- "Absent proper planning, the longer operating trains running through Reno could hinder the ability of emergency vehicles (e.g., ambulances, fire engines, police) to respond to emergencies.
- "Efforts to comply with Clean Air regulations will be undermined as a result of the increased train traffic and longer trains.
- "In light of the proximity of the train tracks to the Truckee River, Union Pacific's plan to transport hazardous waste through the region must be given strictest scrutiny.

"I recognize the limitations of the STB. That said, I believe that it could do more to examine the many environmental issues raised by this merger. I understand that the STB is unable to impose mitigation requirements on any party other than the railroad and that, under your charter, you are unable to impose requirements or costs for any mitigation other than the incremental difference in trains before and after the merger.

"In most circumstances, I would agree that this approach is appropriate. In this instance, it is obvious that the City of Reno is dealing with an aggregate problem, rather than an incremental one. The city is facing environmental and quality of life problems that are more than the sum of a handful of additional trains. Without further mitigation, the train traffic goes beyond a tipping point . . . "

Nevada Governor Bob Miller stated:

"Increased train traffic from the merger will create further delays threatening the health and safety of those who need immediate assistance from emergency medical teams, police, fire crews, etc. The greater probability of pedestrian accidents and derailments is also significant.

"While there is no dispute over the harmful effects of increased traffic, there are many views on how to mitigate these effects. I would like to thank the Surface Transportation Board (STB) for convening a Mitigation Task Force to pinpoint the best methods of minimizing the effects of the merger. When properly mitigated, the increased rail service through Reno will be an enhancement to Northern Nevada's economy. In fact, there are ways to mitigate the new traffic that will benefit everyone affected. I am pleased that the STB has given all interested parties an opportunity to explore a win/win outcome.

"The Preliminary Mitigation Plan (PMP), however, falls short of creating a positive situation for everyone . . . A more thorough, conclusive examination of mitigating the train merger is necessary. Relief must be given to the longer delays at the train crossings, which are the result of the train merger."

The City of Reno stated: "As established in this comment document and demonstrated in SEA's PMP, public health and safety concerns have been largely ignored by SEA. For example, SEA concedes (STB, 1997d:7 - 10, 8 - 8) that 'accidents are likely to be more severe with increased train speeds. Specifically, Figure 7.2.1-2 [of the PMP] shows that anticipated fatality rates (number of fatalities per accident), increase as train speeds increase.'"

Several commenters said SEA did not follow the requirements of NEPA during preparation of the PMP.



The City stated: "The primary measure proposed in the PMP to mitigate vehicular and pedestrian delay, increasing train speed in the downtown core from 20 mph to 30 mph, is an operational change which amends an important component of the proposed action, as evaluated in the EA and Post EA, in accordance with the requirements of NEPA. Part 1502.9(c)(1) of Chapter 40 of the Code of Federal Regulations, requires supplemental NEPA documentation when the lead agency makes substantial changes in the proposed action that are relevant to environmental concerns, and/or there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its [sic] impacts. Based on these procedural NEPA requirements, the City requests that Post EA be revised to reflect the operational changes recommended for the proposed action and recirculate the Supplemental EA for public review and comment."

Paul Lamboley, an attorney in Washington, D.C. hired to represent the City before the Board, stated the PMP would unlawfully delegate "environmental investigation and documentation responsibilities under NEPA" to the railroad. Lamboley added: "It is now painfully evident that because of the unstructured, ad hoc nature of the Reno Mitigation Study to date, the parties and the Board are no closer to a rational, responsible approach to mitigation of the significant adverse impacts to public health, safety and environment in the City of Reno. Surely, the PMP cannot be fairly construed as reducing or minimizing the significance of the impacts to support the [finding of no significant impact] determination as anticipated in Decision No. 44. Indeed, the proposed increase in train speed, which was not subject to serious review by the Study Task Force, creates more problems than it remedies."

The City also stated that SEA used incorrect assumptions or an incorrect baseline in the PMP: "The PMP attempts to provide information on daily freight train data through the City, based on 1996 UP operational data. Four months, or 30 percent of the baseline data has not been provided by UP, making the information suspect and statistically invalid. The four months of missing train data could easily skew the information on the number of trains per day, making the documented data meaningless. The City requests that the missing daily train data be provided by and incorporated into the FMP, or a disclaimer inserted indicating that the data is incomplete and that UP is unable to accurately keep track of its own train counts."

The City added: "Current information pertaining to construction activities associated with the Roseville rail yard (California) and Sierra Nevada tunnel expansion is not documented in the PMP. Without this information, the 'gradual rate of increase' statement is unreasonable and made without any basis. The City requests that this information be provided in the FMP."

The City also stated: "SEA notes that the City questioned why there were differences in information being disclosed to Wichita than to Reno throughout the task force process. SEA responds to this inquiry by stating that 'the studies have different issues and somewhat different schedules.' In fact, both the Reno PMP and the Wichita PMP were issued by SEA on the same day, September 15, 1997. Further, of the 11 mitigation measures required of UP for Wichita, 7 of these measures were identical to those required of UP for Reno (see Table 2 below)."

*EXCERPTED FROM CITY OF RENO COMMENTS*

Table 2		
Comparison of Wichita vs. Reno Mitigation Measures		
Wichita Mitigation	as compared to	Reno Mitigation
1. Improved tracks and a centralized train control system that would allow increased train speeds and a requirement to operate at those higher speeds.		1. UP shall make the necessary operating changes and capital improvements...to enable trains to operate over the rail line segment [through Reno]. UP shall then operate, and require BN/SF to operate, all trains over the described rail line segment at a speed of 30 mph consistent with safe operating practices dictated by conditions present at the time each train traverses the segment.
2. Elimination of crew changes for through trains in Wichita.		4. UP shall discontinue the practice of adding "helper" locomotives in Woodland Ave. area.
3. Installation of a communications system to inform the emergency dispatch center of train locations on UP rail line.		2 and 3. Subject to City agreement, UP shall install color video displays coordinated with the UP signal system circuitry showing location of each train present on the rail line segment.
7. School safety education program conducted twice a year.		6. Enhanced rail safety program. Supplementing existing school educational programs.
8. Rail safety information to employers employees, and residents adjacent to the UP rail line.		6. Establishing a safety training program for Reno's downtown employees.
9. Train detectors to identify potential problems and reduce risk of derailment.		13 and 14. Installation of a high, wide, shifted load detector and installation of a hot box detector at MP 240.
10. Establishment of a community advisory panel.		15. Establishment of a community advisory panel.
11. Quarterly monitoring reports to be submitted to the City of Wichita and Sedwick County.		17. Quarterly monitoring reports provided to City of Reno and Washoe County.

Sources: STB, 1997d; 1997e

The City also stated: "Almost every concern raised by the citizens of the Reno / Sparks / Truckee Meadows area were not addressed in the Tier 1 (required) mitigation for the UP. Rather, the concerns raised were summarily addressed as Tier 2, (or shared funding) mitigation. Please refer specifically to the City's summary of issues and concerns, with supporting letter requests, placed in the record throughout the task force process and again placed in the record by the City on August 8, 1997 as set forth in Appendix A of this comment document."

Several other commenters requested that their comments on the PMP be considered during preparation of the FMP and in formation of SEA's final recommendations. Jeff K. Bills, president and CEO of Saint Mary's Health Network, stated: "We urge you to revisit the PMP and address the concerns of this community. There is every indication in the PMP that these concerns have been ignored."

The US Department of Transportation stated: "The Department is concerned about a number of issues that have been raised about the accuracy of the analysis on which the choice of mitigation measures is based and on the adequacy of the coordination process that was used in preparing the PMP. We believe that in a matter where such serious public health and safety concerns are raised, a careful review of the study, including the adequacy of the limited observations conducted to predict the potential health, safety, and delay impacts, and a broader examination of mitigation options is warranted. We urge that SEA address the issues raised to assure the citizens of Reno that the UP/SP merger will not cause them harm."

UP and some private citizens said the PMP was more than adequate. Ray Bacon of the Nevada Manufacturing Association stated: "We believe STB did a good job of dealing with facts and reasonable resolution ideas for the UP/Reno situation. The merger did not create the fundamental problem. Reno has ignored the RR issue for decades. It is not reasonable to lay the burden for resolution on the UP. We support the STB Mitigation Plan."

### **3.24.2 Response to Comments**

Various parties have stated that the PMP is adequate. Others have commented on the alleged inadequacies of the scope of the study, data, and proposed mitigation. SEA disagrees. During the Reno Mitigation Study, SEA conducted extensive analysis of the potential environmental and safety impacts related to the increased train traffic through Reno caused by the merger. Topics analyzed included traffic delay, pedestrian safety, emergency vehicle access, train-vehicle accidents, derailments/hazardous materials spills/water quality, location-specific train operations (such as at Woodland Avenue), Native American issues, biological resources, noise levels, vibration and air quality. The analysis included observation for 24 hours per day for seven days during a period of high rail traffic through the city, as well as a mile-by-mile examination of the railroad's right-of-way in much of western Nevada and the Donner Pass area from the summit to the Nevada State line. SEA has never conducted a more thorough examination of any other rail mainline section for any other environmental study, including for any previous Environmental Impact Statement.



NEPA does not require that all experts agree on any particular issue. Nor does the Act require that all controversial issues be resolved through the environmental review process. Section 102(2)(B) requires federal agencies to "develop methods and procedures" to ensure that unquantified environmental amenities and values will be given appropriate consideration in decision making, along with economic and technical considerations. NEPA also states in Section 102(2)(C) that environmental documents "shall accompany the [federal agency] proposal through the existing agency review processes," meaning that the Board is required only to "give consideration" to environmental issues in its decision making process.

In previous 9<sup>th</sup> Circuit Court of Appeals cases on this issue, the court ruled, "NEPA does not require that we decide whether an [environmental document] is based on the best scientific methodology available, nor does NEPA require us to resolve disagreements among various scientists as to methodology" (Friends of Endangered Species, Inc. v. Jantzen, 760 F.2d 976, 986 (9<sup>th</sup> Cir. 1985)). Rather, the courts "defer to agency expertise on questions of methodologies unless the agency has completely failed to address some factor, consideration of which was essential to a truly informed decision whether or not to prepare an EIS" (N. Am. Wild Sheep v. United States Dep't. of Agric., 681 F.2d 1172, 1178 (9<sup>th</sup> Cir. 1982)). Courts do "not second guess methodological choices made by an agency in its area of expertise" (Inland Empire Public Lands Council v. Schultz, 992 F.2d 977 (9<sup>th</sup> Cir. 1993)).

The City stated that the mitigation study appears to be an attempt to support a previously reached FONSI conclusion, rather than a scientific study based on established NEPA procedures. SEA disagrees with this assertion. While the Board appropriately made a FONSI in Decision No. 44, the Board decided that SEA should conduct a further, more fine-tuned mitigation study for Reno to develop additional mitigation for that City to add to the mitigation that had already been imposed. The City did not explain why it believes the PMP was not a "scientific study." The City's basis for challenging SEA's approach seems to be based primarily on the fact that the City does not agree with SEA's conclusions.

The City also asserted that SEA must analyze a range of train lengths within the standard deviation. SEA did analyze the entire range of train lengths, from 420 feet to 6,698 feet, observed during its week-long survey in February 1997. Please see Section 3.5.2 of this FMP.

The City did not cite any case law or regulation that support its assertion that SEA "improperly included" discussion of the status of private negotiations in the PMP. SEA considers this clearly relevant information. SEA is unaware of any restrictions on summarizing that information. Standard policy of the Board and SEA is to strongly encourage parties to reach voluntary agreements whenever possible. Such private negotiations have proved beneficial in many previous cases before the Board, and the Board and SEA will continue to encourage such negotiation in the future.

Similarly, the City did not cite any case law or regulation to support its argument that SEA "improperly included" discussion of existing railroad accident prevention equipment in the PMP. To the contrary, discussion of UP's existing train detection equipment clearly is relevant to SEA taking a "hard look" at safety concerns and evaluating if additional equipment is needed.

Regarding Table 3 in the City's comments, SEA believes that the topics are addressed in the PMP as noted in the table and in some cases further addressed in this FMP.

Senator Bryan asserts that the PMP is inadequate because it "ignores the Union Pacific Railroad's responsibility to mitigate the impacts of its merger, and leaves the City of Reno with the difficult, and expensive, task of dealing with the expected dramatic increases in train traffic." The City's attorney in Washington, D.C., Paul Lambole, made a similar assertion, saying the PMP would unlawfully delegate "environmental investigation and documentation responsibilities under NEPA" to the railroad. SEA believes that the Tier 1 mitigation it is recommending is appropriate under these circumstances. Moreover, UP will have the responsibility, both financially and operationally, for implementation and financing all Tier 1 mitigation measures mitigating the impacts of the increased train traffic through Reno related to the merger. Senator Bryan also stated that the "extremely low baseline measures" in the PMP "seriously compromise the City's ability to negotiate a more beneficial agreement with the railroad." This assertion, which was repeated by the City and others, is addressed in Section 3.38 of this FMP.

Mr. Lambole also asserted that SEA's recommendation to increase train speed through Reno "creates more problems than it remedies." Mr. Lambole did not detail these alleged problems, so SEA cannot specifically respond to his assertion. However, SEA has conducted a very thorough analysis of its recommendations and believes that the increased train speed will effectively mitigate the problem of traffic delay, without creating additional impacts requiring further mitigation. (See Section 2.4.)

Nevada Governor Bob Miller asserted that "A more thorough, conclusive examination of mitigating the train merger is necessary. Relief must be given to the longer delays at the train crossings, which are the result of the train merger." However, traffic delay was given a very thorough examination in PMP Section 6.2.1, and in this FMP, and the mitigation measure recommended by SEA to alleviate traffic delay is extensively discussed in Section 7.2.1 of the PMP and in Section 2 of this FMP.

Similarly, the City asserted that SEA "largely ignored" public health and safety concerns in Reno during preparation of the PMP. In fact, public health and safety concerns were the major focus of the PMP and this FMP, as shown in the discussions in Sections 6, 7 and 8 of the PMP, and in Sections 2 and 4 of this FMP. Many of the recommended mitigation measures are intended to improve public safety and health.



At the request of SEA, UP again researched the SP data regarding train counts for the month of March 1996. UP informed SEA that this data is not readily available, but could be retrieved from extensive back-up computer tapes if necessary. SEA determined that the eight months of data provided in the PMP are sufficient to provide a reasonable analysis of the statistical variation in the number of trains over an extended period of time.

The City also objected to the fact that many of the mitigation measures recommended to address local impacts in Wichita, Kansas were also recommended for Reno. SEA made those recommendations for both cities because they would be effective for both cities.

The U.S. Department of Transportation made reference to the "limited observations" conducted for the PMP analysis. In fact, SEA conducted more direct observation for the Reno PMP and FMP than it has for any environmental study it has ever conducted. Observations included, but were not limited to: a four-month survey performed by UP (May through August 1997), a one-week inventory of rail car traffic performed by UP (October 16-24, 1997), a one-day survey reported by Carr (1996), and a one-week, 24 hours per day, on-site study of train and vehicular traffic in February of 1997 when train traffic was higher than normal because of a washout on an alternate route. Finally, SEA verified and relied on the UP train traffic studies that are based on a one-year (1995) evaluation of every train car moved on the combined UP/SP system.

In conclusion, SEA emphasizes that the mitigation measures in this FMP are SEA's recommendations at this time, and SEA invites public review and comment. SEA encourages broad participation in the review and comment of this FMP, and will carefully evaluate all comments received before making its final recommendations to the Board. Based on the PMP, FMP, SEA's final recommendations, and public input, the Board will issue a decision on what additional mitigation measures to impose upon UP in Reno in addition to those imposed in Decision No. 44.

### **3.25 An EIS is needed**

#### **3.25.1 Summary of Comments**

More than one hundred commenters, including the City of Reno, stated that SEA/STB should conduct a full Environmental Impact Statement (EIS) for the Reno Mitigation Study. The vast majority of those were one or two-sentence statements, such as comments made by private citizen Martha B. Gould: "Union Pacific has a responsibility to this community, and to all communities that will be impacted by this merger, to honestly address mitigation by doing a full Environmental Impact Statement, and then, and only then, sitting down with all interested parties to address mitigation in an honest and forthright fashion." A large number of those comments came on a form cut out of a Reno newspaper, which had also suggested what citizens should tell the Board. Most of those forms were submitted with nearly identical language requesting an EIS, demanding construction of the depressed trainway and asserting that UP should pay more or its "fair share" of the costs of the depressed trainway. Three private citizens expressly stated that an EIS is not needed.



In requesting and EIS for the Reno Mitigation Study, the City of Reno stated: "SEA staff member and study director Harold McNulty stated at the SEA public hearings held in Reno on October 9, 1997 that SEA has studied the rail line through Reno 'more thoroughly' than any study has ever been done on any stretch of any other rail line and that 'we've gone far beyond the EIS process'. The City, and the numerous citizens who presented testimony at the public hearings, emphatically disagree that this mitigation study has gone 'far beyond' the EIS process as evidenced by the facts and scientific evidence presented for consideration in this comment document. A full EIS, following established NEPA procedures, and based upon sound scientific data, must be conducted by SEA rather than this undefined mitigation study which appears to reach conclusions contrary to sound scientific evidence, common sense and logical [sic] itself."

Other commenters did not mention the need for an EIS for the Reno Mitigation Study, but rather stated that the Board should have conducted an EIS before approving the merger. U.S. Senator Harry Reid stated:

"It is difficult to overestimate the significance of this merger. There is a lot at stake. While the railroad stands to realize significant profits and growth, it also assumes a new, and arguably greater, responsibility to this community. To the extent that problems involving health, safety and the environment arise as the result of this merger, they have a responsibility to participate in resolving them.

"I believe the STB must take a closer examination of the many health, safety and environmental issues necessarily associated with this merger. I believe a thorough review vis-a-vis an Environmental Impact Statement is necessary and [I] strongly encourage the STB to require such an examination. The Board has a responsibility to protect the interests of this community. In my capacity as the U. S. Senator who represents this community, I intend to do my best to ensure the STB meets this responsibility."

The City of Reno stated:

"As the very nature of an EA is to determine the necessity of an EIS due to the significance of the impacts of the action, the City finds it difficult to reconcile the STB's opposition to the preparation of an EIS for the Reno / Sparks / Truckee Meadows area in the face of overwhelming evidence of significant impact on the human environment. On the other hand, the STB predetermined the need for an EIS in the CSX Corporation and CSX Transportation, Inc., Norfolk Southern Corporation and Norfolk Southern Railway Company—Control and Operating/Agreements—Conrail, Inc. and Consolidated Rail Corporation (STB Finance Docket No. 33388) as demonstrated by the STB's statement in the July 7, 1997 Federal Register:

... [t]o evaluate and consider the potential environmental impacts that may result from the proposed transaction, the Board's Section of

Environmental Analysis (SEA) will prepare an environmental impact statement (EIS) [emphasis added] (62 FR 36332).'

"The statement itself indicates both SEA's and the STB's current lack of knowledge of environmental impacts that may result from the proposed Conrail transaction. The Reno / Sparks / Truckee Meadows area deserves this same consideration."

The City continued: "Throughout the PMP, clear mandates of the STB's Decision No. 44 are completely ignored by SEA, while other mandates of the STB's Decision No. 44 are steadfastly embraced. An EIS is necessary for the Reno / Sparks / Truckee Meadows area to insure that all alternatives, including relocation of the right-of-way, are fully considered. Please refer to the STB's Decision No. 9, issued June 11, 1997 in F.D. No. 33388 ordering a systemwide EIS for the recent merger application of CSX/Norfolk Southern/Conrail."

The City added: "SEA notes that no EIS is needed for the Reno / Sparks / Truckee Meadows area because mitigation measures imposed are 'far-reaching and comprehensive.' Yet the entire PMP reiterates that only Tier 2 mitigation is 'far-reaching' (which is not mandatory nor recommended for Board approval), as indicated above by merely 2 of the nearly 15 references to Tier 2 mitigation's 'far-reaching and comprehensive' benefits. Either the EIS is not needed because mitigation is 'far-reaching' or it is needed because this PMP does not provide those 'far-reaching and comprehensive' mitigation measures."

David Cameron of the International Brotherhood of Teamsters stated: "The Teamsters Union, representing 2,626 workers at Union Pacific companies, agrees with the civic and community leaders of Reno, Nevada who have decried this Preliminary Mitigation Plan as inadequate and that it opens a floodgate to serious environmental problems for the City. We believe that your agency made a very serious mistake when you permitted the merger between Union Pacific and Southern Pacific to go forward without an Environmental Impact Statement (EIS). We all know that this merger will significantly increase the amount of freight traffic going through downtown. What we do not know—because there was no EIS—is how much of this traffic is likely to be hazardous substances, possibly even nuclear waste."

### **3.25.2 Response to Comments**

Because the review and approval of the merger is a Federal action, the proposed merger is subject to the environmental review requirements described in the National Environmental Policy Act (NEPA). The Surface Transportation Board has adopted environmental rules consistent with NEPA to guide its environmental review of proposed mergers (49 CFR 1105). The Board's Section of Environmental Analysis (SEA) is responsible for the environmental review of the UP/SP merger.



Following the environmental guidelines of the Council on Environmental Quality and the Board, SEA prepared an environmental assessment (EA) to evaluate the potential impacts of the proposed merger.

Section 2.3 of the PMP, Environmental Review Process, notes, "In compliance with the Board's environmental rules [49 CFR 1105.6(b)(4)], SEA prepared a comprehensive environmental assessment (EA) of the proposed merger, which included an extensive public outreach program." SEA established a toll-free environmental hotline; prepared and distributed fact sheets and information packets about the merger; notified more than 500 Federal, state, and local agencies; and conducted phone consultations and more than 150 site visits. On April 12, 1996, SEA issued the EA and a press release announcing availability of the EA for public review and comment.

SEA then reviewed the public comments and performed additional environmental analyses in response to the comments received. SEA published the results in a detailed post environmental assessment (Post EA) issued on June 24, 1996. In the Post EA, SEA revised its recommended conditions for the Board's approval of the proposed merger. On July 3, 1996, the Board voted unanimously to approve the UP/SP merger, subject to various conditions and mitigation measures.

Section 2.4 of the PMP, Merger Conditions and Mitigation Measures, notes, "In its August 12, 1996 written decision approving the merger (cited as Finance Docket No. 32760, Decision No. 44) the Board imposed system-wide and corridor-specific mitigation conditions on UP." These measures were developed to mitigate potential system-wide and corridor-specific environmental impacts throughout the UP system, including environmental impacts on Reno.

The system-wide mitigation measures address safety, hazardous materials/emergency response, air quality, and noise. System-wide and corridor-specific mitigation measures are listed in the PMP on pages 12-14 of Appendix A. In addition, Condition No. 22 pertains specifically to Reno. Condition No. 22 directed SEA to conduct an 18-month study to develop a specifically tailored mitigation plan that further addresses the environmental effects of the merger-related increase in rail traffic on the existing UP right-of-way through the City of Reno. Condition No. 22 also required UP to limit train traffic through Reno to an average of two additional freight trains per day during the mitigation study period.

In Decision No. 44, the Board reaffirmed that no Environmental Impact Statement (EIS) is required for the UP/SP merger and did not order one for the Reno Mitigation Study. As the Board explained, its environmental rules provide that an EA is normally sufficient in railroad merger proceedings to permit the agency to take a "hard look" at the proposed action as required by NEPA. (49 CFR 1105.6(b)(4)) The Board compiled a very extensive and comprehensive EA and post EA, and those documents and Decision No. 44 thoroughly demonstrate that the Board took the hard look and properly identified environmental issues as NEPA requires. Thus, no EIS was required. Reno previously filed a mandamus petition in a United States district court seeking to force the Board to prepare an EIS for Reno in this case. The court dismissed for lack of jurisdiction in City of Reno v. STB, No. CV-N-96-441-HAM (RAM) on September 17, 1996. Reno has appealed that decisions



to the Ninth Circuit in No. 97-15562, City of Reno v. STB (pending). Reno has also requested an EIS for the Reno Mitigation Study in its pending appeal of Decision No. 44 (No. 961373 et al., Western Coal Traffic League v. STB).

The Board did not admit that the impact on the environment was substantial by the very act of instituting its special study to develop further mitigation for the Reno region. It may be that without the substantial mitigation that the Board has already imposed and without such further mitigation as it may impose following completion of the Reno Mitigation Study, the impacts on Reno could be substantial. But the fact that the Board undertook this additional study to fine-tune mitigation for potential impacts in the Reno area is not an admission that those potential impacts cannot be adequately mitigated.

Moreover, when the Board made its FONSI in Decision No. 44, it already had sufficient information to know that the impact of the merger on the broad area (including Reno) served by these carriers (UP and SP) would not be severe because it could be successfully mitigated to insubstantial levels. As the Board noted there, Reno has grown up around this rail line, and over the years the City has permitted casino and other entertainment industry development immediately abutting the railroad right-of-way. The Board noted the agency's long-standing policy of not imposing merger conditions to attempt to rectify preexisting conditions, but only to mitigate potential merger impacts. The Board explained that the merger will merely result in increased train traffic over an existing main line and that any additional impacts caused by the merger on Reno's environmental problems in the area of pedestrian safety, air pollution, and noise can effectively be addressed with conditions. The fact that an EIS is being prepared for the Conrail merger does not mean that an EIS is required in this case.

SEA evaluates each merger application on its own merits. In the case of the Conrail merger, SEA staff concluded an EIS should be prepared because the impacts would be concentrated in the highly populated Northeastern US region, and because of the potential of the merger to impact Amtrak service and commuter service, especially on the Northeast Corridor. The record was not comparable here.

Finally, SEA notes that the extensive environmental and exhaustive analysis of Reno in both the EA and Post EA and now this PMP and FMP go far beyond the analysis conducted for a typical EIS. SEA has conducted a comprehensive 18-month fine-tuned study evaluating the potential impacts of the merger in Reno. As part of this study, SEA will have examined UP's, formerly SP's, mainline segment in Western Nevada and Eastern California more thoroughly than it has ever examined any mainline segment for any past environmental study.

### 3.26 Mitigation Issues

#### 3.26.1 Summary of Comments

Numerous parties either proposed new mitigation measures or commented on the mitigation measures proposed in the PMP. The City of Reno proposed several new mitigation measures.

The City stated: "SEA concludes that because the City has recently widened and paved the access road that parallels the tracks, there is no need for UP to mitigate the impacts that have been identified in the Woodland Avenue area, which involve providing a secondary emergency access. The road that runs parallel to and south of the tracks connecting Woodland Avenue with Mayberry Drive has recently been paved but is not a public access road, nor has it been constructed to City standards. Only the Fire Department personnel control access and access which is not guaranteed on a permanent basis. SEA must require UP to obtain a permanent access and make necessary improvements to mitigate the freight trains blocking school buses in the morning and residents throughout the day. This impact needs to be addressed in the FMP and mitigation offered to alleviate the impacts."

The City added: "To mitigate this safety impact, the UP must be responsible for the installation of at-grade safety features at all at-grade crossings in the downtown area or eliminate the need for pedestrians to cross the tracks at-grade by constructing the depressed railway option."

Sparks citizen T. W. Irwin recommended: "Move large rail traffic to the northern portion of the County with new tracks, paralleling the tracks located in the Black Rock Desert, thence over the Sierra (maybe through Henness Pass or similar route). This would also bypass the City of Truckee, (who must be troubled with the same issue) and divert the major (hazardous materials, etc.) traffic away from the water supply (the Truckee River) of Reno and environs. This is a very expensive but in a long term 20-50 years probably makes more sense than other solutions. The existing road bed could be retained and used by Amtrak and for local railroad distribution."

T.W. Irwin also recommended: "Elevate the railway through the City. This would be the least expensive but does little to ameliorate the problems associated with the solution proposed by burying the railbed. Other than the noise and the greater havoc from a major derailment I suggest this would be better in all respects than depressing the railbed."

Bob Webb, Community Coordinator for the Washoe County Department of Community Development, stated: "No time limit is provided in the PMP for the Union Pacific Railroad to complete its inspection of railroad tracks and railroad crossings within Washoe County. Additionally, the PMP should contain specific mitigation measures requiring the Union Pacific Railroad to repair any noted deficiencies within a specified time period. The PMP should include a specific mitigation measure to inform residences and businesses on the south side of the railroad tracks serviced by Woodland Avenue of the emergency access route available should the railroad crossing be blocked."

Mr. Webb also stated: "An additional reason to not proceed with increased train traffic through Reno and Washoe County, and to illustrate the inadequacy of the PMP mitigation measures, is that the PMP does not take into account that the existing rail system is inadequate for present levels of train traffic. The evidence shown in the video (taken along the railroad tracks from the Nevada State line toward Reno) highlights rotting railroad ties and totally unsafe conditions next to our water supply. The Southern Pacific Railroad knew that it was financially in trouble, so they were not making adequate repairs nor were they improving their system because they were short of cash flow. The Board of County Commissioners is opposed to expanding the train traffic levels on a system that is already inadequate for its current train traffic loads."

Speaking at a meeting of the Reno Mitigation Study Task Force, Task Force member Steve Bradhurst said the Board should establish an upper limit on the number of trains passing through Reno in the future. Bradhurst stated:

"[T]he analogy might be a human being. We can take 70 degree temperatures, we can take a hundred degree temperatures. There comes a point when you can't take it anymore and our quality of life goes down very quickly when you get up to 110, 120, and then beyond that we have a slowdown and we actually have paralysis.

"So the problem I see is that here we have no analysis in terms of what's the worst case, that is, what can the system bear here in the Truckee Meadows. And so the way I have read this is after a period of time we could see 50, 60, 70 trains.

"There is nothing here that says there's a limit to the number of trains that comes through the Truckee Meadows, and I think we're doing a great disservice to the community as well as the Surface Transportation Board by not telling that there is a limit to how much the community can withstand.

"So the first thing I would do with an analysis like this would be to say on the outside it appears from the data we've collected that you would have total paralysis or you'd have significant impact to the community if you had X number of trains coming through the community."

A few other commenters stated that further mitigation is needed, but did not propose specific new measures. Task Force member Paula Berkley suggested that SEA craft a new mitigation measure that would kick in once a certain level of train traffic is reached in Reno. "Maybe you could put something to the effect that if it got to be 40 trains a day, the railroad should additionally mitigate that in some form or fashion," Berkley stated at a Task Force meeting. Nevadans for Fast and Responsible Action made a similar suggestion: "Assuming that the number of trains through the Reno area cannot be restricted, the Mitigation Plan should require additional mitigation if and when the number of trains through the Reno area does increase. This would at least give this community the opportunity to survive in the event that there is a significant increase in the number of trains through Reno."



The City of Reno also stated that several proposed mitigation measures are too vague to be effective. The City stated: "This [referring to the pedestrian grade separations] is the most undefined of all the Tier I proposed mitigation. SEA says if UP can get the Fitzgerald property to agree to modify the jointly funded overpass to feed pedestrians to the street, then that will suffice (at a cost of \$800,000) for Virginia Street. If not, another \$2.5 million pedestrian underpass or overpass is required on Virginia. UP must also build a pedestrian underpass or overpass costing \$2.4 million on Sierra Street. Initial reaction from Fitzgerald's management indicate no interest in any type of joint 'public access', and for that matter any additional use of their property between Virginia and Sierra for any additional pedestrian overpass."

The City added: "SEA suggests a 'reasonable' mitigation measure to educate the drivers and prospective drivers in the Reno / Sparks / Truckee Meadows area by recommending enhanced rail safety program which would educate the area's youth (through drivers training programs) and the employees who work in downtown Reno. However, this program would **not** reach out to the hundreds of thousands of tourists who visit downtown Reno (Reno is a major tourist destination) throughout the year. This mitigation measure would not serve to mitigate safety impacts associated with tourists visiting the downtown area and crossing the numerous at-grade intersections that traverse downtown Reno."

The City stated: "SEA notes adding a hot box and a high, wide load detector at MP 240 would provide some mitigation. The City would note that MP 240 is 11 miles downstream of the California/Nevada border, 3 miles from the Keystone Avenue crossing. Clearly as indicated from the work of Carr (1996) the greatest risk to the Truckee River exists upstream of the California/Nevada border. It is therefore questionable the true benefit of this mitigation measure."

The City continued: "SEA's suggestion that the formation of a 'Community Advisory Panel' would somehow mitigate the increased risk of contamination to the Truckee River is without basis and appears to be an appeasement policy with little to offer the ecosystem or habitat which could be impacted by the increased number of trains."

James Rogers of Harrah's Reno stated: "The primary mitigation proposed by the PMP is to increase the speed of the trains which now go through Reno as well as those trains which will go through Reno once the merger is put into full effect by 10 miles an hour. Harrah's appreciates the efforts which have been put in by a great number of interests in trying to reach the appropriate mitigation for the impacts of the merger. Harrah's has followed closely with great interest the efforts. After hearing of the various solutions, relocation of the tracks to I-80, grade separations and a depressed railway, the proposed mitigation of increasing train speed seems to be somewhat meager and ineffective."

The City also often questioned the analysis that led to the mitigation measures, including the balancing of costs versus benefits.

The City stated:

"SEA is stating that they are not proposing any mitigation at Del Curto because of issues involving costs and impacts to parkland and/or the Truckee River which must not be factors when mitigating the additional impacts created by the merger. There are other streets constructed through parklands in Reno including roads through Idlewild Park located across the Truckee River from the neighborhood off of Del Curto. In addition, there are several bridges recently constructed over the Truckee River that were constructed without impacts to the River, the most recent example involving the bridge on White Fir Street off of Woodland Avenue. Therefore, the argument involving costs and impacts to parklands and/or the Truckee River are inaccurate or unacceptable. Costs is not an issue. Feasibility is. SEA must evaluate either a secondary access road or a bridge and upgrading the existing at-grade crossing at Del Curto.

"Please note that SEA has indicated 'economic' factors (ostensibly cost) are not part of the mitigation study as mandated under Decision No. 44."

The City added: "The PMP's assumption here is that any type of mitigation for noise would be based upon change or reduction of the noise source. The City acknowledges that 'to alter noise would jeopardize safety which is of paramount importance', but there are other ways, including other mitigation options, to mitigate the increased number of sensitive receptors exposed to post-merger noise which must be given a 'hard look' by SEA."

The City also stated: "The PMP has ignored the analysis of levels of service under various scenarios. Level of service for roadways that cross the railroad tracks is an indication of the operating condition of the facility at pre-merger and post-merger conditions. This index could be later used in establishing a threshold for implementation of the mitigation measures, such as grade separation improvements."

The City also stated: "SEA says they recommend 'numerous general and regional mitigation measures' addressing safety, hazardous materials, air quality and noise that pertains to Reno. The City requests specific mitigation measures to mitigate specific merger related impacts in Reno."

The City also stated: "According to the PMP, UP is required to install, with the concurrence of the City, displays and video monitors in Reno's future central emergency dispatch facility at a cost of \$300,000 which depicts the approach or presence of a train. However, this mitigation does not include any provisions to maintain, educate, train, or staff the video monitors. The City does not have the financial resources to maintain, educate, train, and staff this equipment. In addition, the City does not and will not accept the additional liability of managing the risks associated with monitoring the increase in trains which is a safety mitigation 'requirement' to be completed by UP. This is solely the responsibility of the UP and must be addressed by SEA."



The City also stated: "The estimated cost for four-quadrant gates at the seven identified streets is \$1.21 million which is the only required mitigation. The median barriers for the seven identified streets is \$0.7 million and gate violation enforcement cameras at the seven identified crossings is \$1.4 million which are not required mitigation. The PMP needs to consider a comprehensive and detailed analysis of preemption conditions at Virginia and Sutro Streets of the seven locations and include the impact of increased speed and four-quadrant gates on preemption strategies. With increased speed, more time may need to be given to motorists to clear the track environment prior to train arrival."

The City also stated: "The depressed railway is provided a cursory discussion (a 'soft look') emphasizing the property acquisition costs as the main impact of the mitigation. When justly compensated, land used in a project is typically not considered an impact. The depressed railway receives only the most basic of evaluations—then it is summarily dismissed. Table 13 [on following page], provides a comparison of each mitigation option and the degree to which the mitigation measure would reduce potential environmental impacts (decreased) and introduce potential environmental impacts (increased) from post-merger increase in freight train traffic."

The City also stated: "First, system-wide and corridor specific mitigation measures imposed in Decision No. 44 are measures that are required to be implemented throughout the country and can not be considered as mitigation to offset the specific merger-related impacts in the Reno / Sparks / Truckee Meadows area without absolute quantifiable results. Certain presumed benefits of these systemwide and corridor specific mitigation measures may not produce the offsetting benefits equally throughout the country or corridor, and therefore may actually provide no benefit to Washoe County, the location of the impact."

Franklin N. Barnes, Captain and Patrol Division Commander for the Washoe County Sheriff's Office, questioned the accuracy of the description of one mitigation measure, and recommended improvements. He stated:

"The increased train traffic at [the Woodland Avenue] crossing caused by the merger will delay non-emergency and emergency responses into this area. Table 7.3.1, page 7-65, shows the proposed mitigation measure of widening, paving, and dedicating an existing road south of the tracks has already been implemented. I inspected the site and found that this is inaccurate. The existing paved one lane access road that is south of the tracks, runs parallel to Superior Mini-Storage, and connects White Fir Street to Mayberry Drive has not been widened. Signs are still in place at it's [sic] intersection with White Fir that show it as one way [sic] street. Signs are still in place at it's [sic] intersection with Mayberry Drive that indicated wrong way do not enter. The gates are open and unlocked, but still in place at each end of this road and could be closed and locked without notice by malicious third parties.



**EXCERPTED FROM CITY OF RENO COMMENTS**

Table 13				
Mitigation Measures which would Reduce Environmental Impacts (↓ decreased) and Introduce Potential Environmental Impacts (↑ increased) from Post-merger Increase in Freight Train Traffic				
Resources Impacts ↓ decreased or Impacts ↑ increased	Post-merger			
	Unmitigated	Increased Speed 30 mph	Grade Separation(s)	Depressed Railway
Traffic Delay	↑ delay	↓ delay	↓ delay	↓ delay
Safety - Pedestrians	↑ frequency	↑ frequency	↓ frequency	↓ frequency
Safety - Emergency Vehicle Access	↑ blockages	↑ blockages <sup>17</sup>	↓ blockages	↓ blockages
Safety - Train/Vehicle Accidents	↑ frequency	↑ frequency ↓ severity	↓ frequency	↓ frequency
Safety - Derailment/Spills	↑ frequency	↑ frequency ↓ severity	↑ frequency	↑ frequency
Biological Resources	↑ risk	↑ risk	↑ risk	↑ risk
Noise/vibration	↑ noise ↑ vibration	↑ noise ↓ vibration	↓ noise	↓ noise
Air Quality - Trains	↑ NO <sub>x</sub> (+395 tons)	↑ NO <sub>x</sub> (+388 tons)	↓ NO <sub>x</sub>	↓ NO <sub>x</sub> (+394 tons)
Air Quality - Vehicles	↑ CO (+33.5 tons)	↑ CO (+10.8 tons)	↓ CO	↓ CO (-1.5 tons)
Property/Land Use	NA	NA	none if compensated	none if compensated

Source: Adapted from STB, 1997d

<sup>17</sup>SEA uses a measure of impact of average daily gate down time per crossing on major crossings. Please see Section 3.1 of this comment document. The City of Reno does not consider this measure appropriate, when dealing with public health and safety.

"The intersection of this access road with Mayberry Drive is not easily visible to east bound traffic because Mayberry Drive curves, goes down under the railroad track. The road design or configuration and the bridge abutments cause the poor visibility. At night, the visibility is worse because there is no street light at this intersection.

"The point at which this access road intersects with Mayberry Drive is a location that has been flooded and closed due to high water during times of heavy rainfall. If such flooding occurs, then the only access will be by way of the Woodland Avenue crossing.

"The Sheriff's Office recommends the following immediate actions be taken for this access road provided it is a dedicated road:

"Current signs be removed and replaced with signs indicating a narrow one lane road.

"Removal of the gates at each end.

"The Sheriff's Office recommends the following additions to the proposed mitigation measure of widening and paving of the existing road:

"Installation of a sign on east bound Mayberry Drive at least 100 feet or more west of the intersection of the access road, warning of a 'T' intersection.

"Installation of a street light at the intersection of the access road and Mayberry Drive."

### **3.26.2 Response to Comments**

SEA has reviewed all comments to the PMP and has addressed those comments in this FMP. SEA has chosen to recommend some new mitigation measures based on comments received on the PMP. See Chapter 2 for a summary of SEA's proposed recommended mitigation measures. See also Sections 2.7, 2.8.1, 2.8.2, and 2.8.4 for a review of SEA's extensive analysis of the grade separation, depressed railway, and I-80 bypass options.

With regard to the access road off of Woodland Ave., SEA notes that this road is on a City of Reno easement, and street signage and lighting would be the responsibility of the City. SEA is recommending that the Board require UP to notify area residents and business of the presence of the new access route in the Woodland area and to permanently cease adding "helper" locomotives in the Woodland Avenue area, which in the past caused vehicular traffic delay at Woodland Ave.

### 3.27 Economic Impacts

#### 3.27.1 Summary of Comments

Many parties commented on the effects the merger-related train traffic will have on the local economy in Reno, especially as related to the city's tourism business. The City of Reno especially emphasized that the PMP did not address the effect of the merger and the proposed mitigation measures would have on the tourism industry in Reno.

The City stated: "SEA failed to conduct an economic analysis outlining decreased performances of the entire downtown area which will occur even after implementation of the mitigation measures identified in the PMP. Some of these impacts will occur due to restricted access and impaired utilization which will financially affect the downtown casinos and businesses. SEA does not address the fact that downtown casinos and businesses represent a major source of funding for cultural activities, parks, schools, police and fire protection, and other services offered by the City and if casinos and businesses located downtown are financially affected, so are the financial resources that help to fund those services. The City requests that SEA address the implications if all of the mitigation measures are not complied with due to the fact that many of the measures are self regulating. The City requests that the FMP address these economic issues."

Addressing the PMP at an October 7 meeting of the Reno City Council, Reno City Council member Tom Herndon stated: "There is nothing in there that deals with our economy, specifically the part of the environment, and one of the things that clearly sets us apart, for instance from Wichita, is our 24-hour tourism. And there's nothing in there to address the economic impact of any sort of accident on that 35 percent of our economy . . . I believe it would be affecting home values and the equity of everyone within miles around, and to me that is a huge environmental impact that is not only possible but quite likely at some point to happen."

The Washoe County Department of Community Development stated: "There are serious and real economic damages resulting from increased train traffic through Reno and Washoe County that need to be mitigated, whether through the Reno Mitigation Study process or outside of the process, but in some definitive manner." Added James D. Rogers, Senior Vice President and General Manager of Harrah's Reno: "It seems illogical to indicate that grade separations or a depressed railway would not be considered because of cost, yet the economic cost to the City of Reno occasioned by increased train traffic was not part of the analysis."

Reno citizen Richard Vitali, who was a member of the Reno Mitigation Task Force, stated: "Economic Analysis - This is one of the most disturbing inconsistencies in the entire process. The PMP is abundantly clear that economic burden on the railroad was a primary reason not to consider grade separations or a depressed railway. However, when Reno sought the inclusion of the negative impacts on the City as a factor during the Task Force meetings, it was told this would mitigate pre-merger conditions and therefore would not be considered. The logic in this thought process escapes me."



Added John Frankovich, a Task Force alternate representing Nevadans for Fast and Responsible Action: "The PMP acknowledges that it has not evaluated the impacts that the merger will have on the tourism industry. This is an unfair and unreasonable limitation in the scope of the PMP. The tourism industry is the principal industry which supports the economic viability of this community. The Railroad has no right to materially injure or otherwise impact any community's principal industry. The Reno economy should not be sacrificed for the greater good of the Railroad system."

One commenter, Reno citizen Daryl Drake, discussed in detail the issue of liability as related to impacts on the local economy: "Page 6-59 of the PMP asserts that 'Railroad profitability is not germane to the environmental review process and is clearly beyond the Board's directive for this study.' I do not disagree with this premise; however, dismissing this aspect of the issue should not relieve STB of the responsibility for measuring the damages to incidental business activity and mitigating such damages fairly, even if the damages exceed the net benefit to UP. If the damages are not readily apparent, as in this case, should there not be reservations for future liability? If there are mutual beneficiaries to the mitigation, such as capacity improvements, should they not, by all rights, be compelled to participate in the improvements as well?"

Another Reno citizen, Lawrence Torango, commented on the potential economic impact caused by a derailment or other accident: "The potential economic impact of any kind of disaster affecting the tourist population or [Reno's drinking] water sources are enormous. There is no reference at all in the [PMP] that even addresses this problem."

At the Task Force meeting, member Bill Osgood, representing the Reno Downtown Business Association, noted: "We have a very real opportunity for a recession in a macro-economy right here in the Truckee Meadows if our major tourist industry is severely damaged and impacted by the increased train traffic from this and the uncertainties that it really causes for investment."

### **3.27.2 Response to Comments**

Some comments on the PMP suggested that the mitigation study should evaluate the impacts of the increased train activity on the tourism industry and downtown businesses. NEPA and other federal laws or regulations contain some reference to the requirements for Environmental Impact Statements and to a lesser extent for Environmental Assessments, but neither NEPA nor any other law or regulation address the requirements for documents such as the PMP. However, SEA conducted extensive analysis of the potential environmental impacts (such as traffic delay, pedestrian safety, emergency vehicle access, noise/vibration, and air quality) that could directly affect the economic conditions in Reno and Washoe County. That analysis can be found in Section 6 of the PMP; potential mitigation measures to reduce those impacts are discussed in Section 7 of the PMP, and preliminary recommended mitigation measures funded by UP to address those impacts are provided in Section 8. This FMP further supplements the analysis in some cases. Public comments during the study process often stated that SEA should use UP's profitability as a criterion for

evaluation of potential mitigation measures. Railroad profitability is not germane to the environmental review process and is clearly beyond the Board's directive for this study.

### **3.28 Depressed Railway**

#### **3.28.1 Summary of Comments**

Parties submitted more comments on the depressed railway option than on any other issue. An extensive number of private citizens submitted nearly identical comments "demanding" that the depressed railway be built at UP's expense, or urging the Board to make the depressed railway a required mitigation measure, with most using a form cut out of a Reno newspaper and copying language recommended by the newspaper editorial board. Of all the public citizen comments on the issue, a sizable majority said UP should pay the entire cost of constructing the depressed railway; several commenters said the City and the casino owners should pay for the depressed railway; and a few said UP, the City, and casino owners should split the cost. Many citizens said they are in favor of the depressed railway but gave no opinion on who should pay for it, while many others, like Robert W. Adams, said UP should "negotiate with the City and pay its fair share of the cost of the railway plan." A few citizens said the depressed railway should not be built because the cost is too high; a few others rejected the option because they felt it would harm the environment more than it would help.

Reno citizen Virginia Akridge stated:

"There are also many financial concerns on the part of Reno residents. In a city as small as this there is no tax base to support an expenditure of the size required to depress the tracks. We believe the only solution is to depress the tracks. In light of the large number of pedestrians strolling in our downtown area twenty four hours a day, the issue of safety needs to be addressed as well as the impact on emergency services possibly being held up at the crossing in a life or death situation or a serious fire.

"The railroads must be required to fund the major portion of the necessary construction, in the same way any other private enterprise that is looking to expand must find a way to pay for it. It is ludicrous to ask the taxpayer to pay the cost of a deal that will net the railroads more profit per year than the entire five-year budget of this small city."

From Reno City Councilor Dave Aiazzi: "All we are asking the STB to do is to require [UP] to help pay for mitigation of the increased traffic. What should the mitigation be? A very good question but one which was answered months ago. Union Pacific and the City of Reno BOTH agree that the best solution is to depress the railway through the Reno area. I understand that this report was started long before we agreed to this and it is my hope that the STB thanks the authors and shelves this report. Since everyone concerned has agreed to the solution, I would urge the STB to



step in and help us come to an agreement as to how this already agreed to solution can be carried out."

Patrick Smith, President of Reno Emergency Medical Services Authority (REMSA), stated: "We believe the SEA could and 'must' propose a depressed railway through the Reno area. We believe this option is not in conflict with meeting the Board's directives above. A depressed railway clearly solves the majority of 'merger related' problems confronting the community. This requirement would not be in conflict with the SEA's mission especially considering the city's willingness to fund a share of the cost. The city's funding offer for a depressed railway frees the SEA from the pre-existing, pre-merger development restriction and should allow full consideration of this better option for the community and the railroad."

The City criticized SEA for not properly considering the depressed railway option in the PMP as a Tier 1 mitigation measure. The City stated: "The City finds SEA's explanation and history of the depressed railway lacking factual analysis. During the February 13, 1997 STB Public meetings, UP presented a model of the depressed railway and made statements to the public and the media touting the benefits of the depressed railway. Due to UP's January 31, 1997 proposal to provide the depressed railway at no cost to the City, the City Council subsequently (Feb 18, 1997) directed the City Manager to emphasize the depressed railway as **the City's primary objective**. UP has strongly advocated the construction of depressed railway as demonstrated by UP's lobbying efforts the week of March 17-21, 1997, when UP again presented its model of the depressed train and lobbied state legislators for a week regarding funding options."

The City also stated: "SEA discusses the temporary 'shoofly' proposed by UP under the heading of maintenance of vehicular and train traffic during construction, but fails to note that re-routing of traffic to the Feather River route is feasible, just as re-routing of traffic from the Feather River route to the central corridor when the Feather River route was closed for repairs."

The City added: "SEA says 'several potential environmental impacts' from constructing a depressed railway exist. The City believes this statement is misleading and incorrect—these are not potential environmental impacts, they are normal, temporary construction impacts which are mitigated through existing City permitting processes and required Washoe County Health Department Air Quality Construction Permits . . ."

The City also stated: "The depressed railway actually has the potential to offset the impacts of the proposed 24 trains as well as any future increase in freight train traffic, as well as incidental pre-existing traffic. The secondary mitigation effects of the depressed railway do not diminish the fact that the depressed railway is by definition traffic mitigation: . . . *[r]educing or eliminating the impact over time by preservation and maintenance operations during the life of the action . . .* [emphasis added by the City] (40 CFR 1508.20)."



The City also stated: "SEA concedes that implementation of the depressed railway option would remove the potential conflicts between the trains and pedestrian resulting in a substantial reduction in pedestrian safety concerns. The secondary mitigation effects of the depressed railway do not diminish the fact that the depressed railway is by definition safety mitigation [*r*]educing or eliminating] the impact over time by preservation and maintenance operations during the life of the action . . . (40 CFR 1508.20)."

The City repeated the above comment several times, substituting the impact area identified in the first sentence with other impact areas, saying the depressed railway:

- "would eliminate any blockage of emergency vehicles. . ."
- "would reduce the projected post-merger total train-vehicle accidents. . ."
- "mitigates noise on surrounding sensitive receptors. . ."
- "is by definition air quality mitigation. . ."

### **3.28.2 Response to Comments**

SEA did take a hard look at the depressed railway option in the PMP and further discussion is provided in Sections 2.7.3, 2.7.4, and 2.8.1 of this FMP. While construction of the depressed railway would mitigate many of the identified impacts of increased rail traffic through Reno caused by the merger, it would do much more to alleviate the existing impacts caused by development of properties near the rail right-of-way. As stated previously and based on Decision No. 44, STB cannot require UP to mitigate conditions resulting from the existing development of hotels, casinos, and other tourist-oriented businesses on both sides of the existing Southern Pacific line in Reno. The City of Reno and the railroad have coexisted for more than 100 years. The City of Reno was aware when it allowed development near the railroad right-of-way that as many as 40 trains per day ran through Reno in years past, and that the railroad could again achieve that level of traffic. The City was not influenced by the proximity of the railroad when it allowed new development. The Board has no authority to revisit previous decisions by a local government and modify local planning decisions.

STB has authority to impose conditions that would mitigate the impacts of the increased train traffic caused by the merger, but its authority is not without limit, and all conditions imposed must be reasonable. At an estimated cost of \$182.63 million, requiring UP to pay the entire cost of the depressed railway would not meet the standard of reasonableness. In addition, construction of the depressed railway would create its own impacts, which some local businesses have noted as a concern.

Because no party disputes the fact that the conflict between rail operations and adjacent land uses pre-dates the merger, SEA does not believe that requiring UP alone to absorb the costs of constructing the depressed railway is appropriate. Nevertheless, the Board strongly encourages the parties to meet and negotiate privately on further mitigation measures for the City of Reno, including financing the depressed railway option if that is desired. Nothing in any Board decision or directive

prevents the construction of the depressed railway, providing parties can arrange voluntary agreements on terms and financing.

### **3.29 UP Should Pay More or its "Fair Share"**

#### **3.29.1 Summary of Comments**

While most commenters were referring to the depressed railway option when they asserted that UP should pay more or its fair share of mitigation measures, numerous other parties stated that UP should pay more or its fair share, but did not refer to any specific mitigation measure. Of those, many seemed to be referring to all costs associated with the merger application and mitigation measures, such as paying for production of a full Environmental Impact Statement and any separated grade crossings.

A typical citizen response was this, by C. D. Boatwright: "The Union Pacific should negotiate with the city and pay its fair share." Dozens of other citizens made nearly identical comments. Another citizen, Elizabeth M. Collins, Ph.D, stated: "What is this? Union Pacific can spend \$5.4 billion to buy Southern Pacific, but can't add 1.5% to that cost to provide Reno with adequate safety? Would the merger have failed if the final price had been \$5.5 billion?" Stated Elizabeth Gledhill, Citizen Alert Board Member: "UP should honor its original offer to depress the tracks 'at no cost to the City of Reno.'"

UP stated: "[A]lthough funding of rail-highway projects is governed by constitutional, statutory and regulatory law that limits railroad exposure and recognizes the benefits of such investments flow mainly to the public, the policy direction reflected in the mitigation studies would impose the costs on the part that receives very few benefits—UP/SP. This is fundamentally unfair and of dubious legality."

Several private citizens backed the railroad's position, including Bernie Christensen, who stated: "Last year, the Railroad offered a good solution, which included a series of underpasses and overpasses. If Reno had accepted this plan they would be better off than they ever have been.... The Railroad has been generous in their offers to mitigate the impact of more trains running through Reno. Reno, on the other hand, wants to strangle the Goose that laid out the town in the first place, and has been laying the Golden Eggs since 1868."

#### **3.29.2 Response to Comments**

The Board, through its Decision No. 71, indicated it will decide what mitigation is mandatory because of the increased rail traffic resulting from the merger; and the Board will require UP to solely and fully fund that required mitigation, defined as Tier 1, baseline or mandatory mitigation. The Board, however, cannot decide what UP or others should pay as part of private negotiations, or as part of a broader voluntary mitigation package.

The Board has determined it has no authority to require UP to pay the cost of measures that would mitigate the impact of preexisting conditions. Parties are free to negotiate privately to arrange funding for more far-reaching Tier 2 mitigation measures, or any other further measure that would mitigate the impacts of merger-related rail traffic, and the Board encourages such negotiations.

### **3.30 I-80 Bypass Option**

#### **3.30.1 Summary of Comments**

Some parties addressed proposals that would bypass train traffic around Reno, either on a new bypass constructed along the I-80 corridor or along an existing route along the Feather River. Several parties noted that if the I-80 bypass option was constructed, UP could sell its downtown right-of-way, which would substantially offset the costs of constructing the bypass.

Reno citizen and professional engineer Roy Hibdon stated: "The City of Reno should not cave in to the STB or the Railroad in accepting the 'lowering of the tracks' in a channel in the existing right-of-way. The City should stick to its original stance on relocating the railroad as earlier proposed. The cost difference should not be used as a reason to choose the trench over relocation. There are many reasons to justify relocation as the best choice, other than initial capital cost. Granted the railroad was probably here first and the City grew up around it. However, the City should aggressively pursue 'Relocation' as the preferred choice. The City of Elko had a vision of 'Relocation' several years ago and aggressively pursued it to completion, and successfully. Fighting never resolves anything. Creativity and resolve to pursue what's best for the City should be the overriding goal to achieve."

Other comments on the issue by private citizens were similar in nature, such as this from Reno citizen Rosemary Lamberson: "I think the railroad is going to quadruple the train traffic through Reno. They should move the tracks by Hwy. 80." Reno citizen John R. Pierce succinctly stated: "Get the tracks out of the downtown area." Pastor Robert Owens stated: "We need to go back and get an EIS and say let's go look at the I-80 option and get the trains out of downtown." A few specifically favored the bypass option over the more popular depressed trainway option, mostly because of the impacts that construction of the depressed trainway would have on downtown traffic flows. Stated Reno citizen Bill Newman: "You would have a huge nightmare. Just look at the nightmare we have on Virginia Street, or repaving of Wells." Others stated the opposite, saying they were against the bypass option and in favor of the depressed trainway.

Reno citizen Lawrence Torango wrote extensively on the I-80 bypass proposal, even offering an analysis on routing and engineering of the bypass. He stated: "I believe there is one consensus that can be agreed upon by all parties. The City of Reno and the railroad have a long history of contention. There have been studies and proposals over many years that have tried to do something about the problems created when a city grows up around the railroad tracks. There is only one long term solution that will improve the situation without creating headaches. That is to move the tracks



to the freeway. It will certainly be the most expensive, but it is also the most practical and best long term solution."

The City of Reno stated: "When discussing re-routing, SEA only discussed I-80, not the Feather River Route. The issue involving safety with hazardous commodities associated with the I-80 reroute option was not addressed in the PMP and the City requests that this issue be given equal analysis and consideration in the FMP."

Reno citizen David-Kim Simpson asked: "Why can't the northern branch of the railroad track running from Winnemucca to Gerlach to Herlong be used for the extra freight trains?"

### **3.30.2 Response to Comments**

The City of Reno and others have requested that the Board consider construction of a new rail line that would bypass the City as a potential mitigation measure. However, the Board has no authority under federal law to require a railroad seeking authority to merge to construct a new railway to bypass a city. Private parties could decide to pursue and fund a bypass option. If the parties did agree on such a proposal, the Board would consider an application for authority to construct the new line. At that time, the Board would undertake the appropriate environmental review for a bypass proposal.

SEA did not consider a mitigation measure that would direct UP to alter its operations so all hazardous material would be transported through the Feather River route because that route is generally considered riskier due to the curvature of the tracks and frequent washouts along the route. It should be noted that routing of all hazardous materials over any other route would involve the movement of such commodities through other cities and towns.

### **3.31 Using Right-of-way for Intended Purpose. Mitigation Study is Poor Public Policy and Bad Precedent**

#### **3.31.1 Summary of Comments**

Union Pacific commented that the mitigation study is not required by environmental law. UP notes that the merger-related increase in trains is within the range of daily variation in train frequency on many of UP/SP's mainline tracks.

UP noted: "Although the National Environmental Policy Act ('NEPA') was adopted in 1971, neither the ICC nor the Board has ever before concluded that changes in the number of trains on an existing railroad line require mitigation of conflicts between rail operations and the highways and related development that has surrounded the nation's railroads." UP argued that a change in the number of trains that maintains the status quo, continues existing operations, or merely restores pre-existing conditions does not require mitigation even when that change causes adverse environmental effects.

UP also stated: "By its terms, [STB] Decision No. 44 relieves UP/SP of all responsibility for pre-merger development, yet the PMP does not recognize Reno's responsibility for development and places all responsibility for mitigation on the railroad. At the very least, UP/SP should not be allocated any greater responsibility for financing mitigation of Reno's development impacts than the PMP proposes."

### **3.31.2 Response to Comments**

Contrary to UP's claims, the Board did not exceed its authority in imposing a condition instituting this Reno Mitigation Study. The authority of the Board to impose conditions governing the merger transaction is found in 49 U.S.C. §11324(c). In addition to that statutory provision, which gives the Board broad discretion to shape reasonable conditions in railroad merger cases, the rail transportation policy articulated in 49 U.S.C. §10101 (8) states: "[I]t is the policy of the United States Government to operate such activities without detriment to the public health and safety." As an overlay to those statutory provisions, Section 101(b) of the National Environmental Policy Act of 1969 (42 U.S.C. §4321) provides that the Federal Government has the continuing responsibility to use all practicable means to assure safe and healthful surroundings and to attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable or unintended consequences. The NEPA implementing regulations, in 40 CFR 1505.3(a), direct Federal agencies to "include appropriate [mitigation] conditions in grants, permits or other approvals."

The UP response suggests that the law does not require the imposition of mitigation when "a railroad intends to use an existing rail line in the manner originally intended and as the railroad is free to use it without federal review."<sup>1</sup> This statement is not applicable to the circumstances presented. Here, the Board had before it an application for merger, the approval of which was subject to reasonable conditions to be imposed by the Board. Under NEPA, the Board was obligated to evaluate the potential environmental impacts of the action for which its approval was sought. To fulfill its obligations under NEPA, the Board, in its Decision No. 44, properly: (1) imposed system-wide and regional mitigation measures pertaining to Reno and other areas potentially affected by increased rail traffic as a result of the merger, and (2) instituted this mitigation study for Reno to develop localized mitigation to add to the mitigation that had already been imposed. As the Board specifically made clear in Decision No. 44, the agency's intent properly has been to mitigate the potential environmental impacts directly related to the merger, not to mitigate preexisting conditions.

The Board's conditions (and SEA's recommendations in this FMP) do not deprive the railroad of beneficial use of its property and do not constitute an improper or inappropriate infringement upon the use of private property. Nor do the conditions constitute an inappropriate imposition upon the railroad's right to engage in its legitimate business activities.

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<sup>1</sup>Page 3 of comments of Union Pacific Railroad Company and Southern Pacific Railroad Transportation Company on the Reno Preliminary Mitigation Plan dated 16 October, 1997.

Potential adverse impacts identified by SEA would result from the merger. The mitigation measures imposed and recommended are specifically tailored to the nature and intensity of the potential impacts identified during SEA's environmental review and are calculated to reduce or eliminate such impacts to the extent that the Board and SEA consider reasonable and appropriate. Because there is a clear nexus between the potential impacts in question and the mitigation measures that have been imposed and recommended, the conditions are a legitimate exercise of the Board's conditioning power in this railroad merger case.

Finally, UP suggests that neither the ICC nor the Board have previously required mitigation as a result of an increase in the number of trains. In fact, however, this proceeding is entirely consistent with prior merger cases, where the agency has imposed conditions affecting a railroad's operations, where appropriate.

In short, SEA believes that the agency's environmental review process has been fully within the law and appropriate for this case.

### **3.32 Comments on UP**

#### **3.32.1 Summary of Comments**

Many parties submitted general comments about Union Pacific that did not address any aspect of the PMP, the merger, or the matter before the Board. Many were critical of UP, but nearly an equal number were supportive. Several commenters addressed UP's history, both in Reno and throughout its service territory, while several others commented on railroad operations and business practices.

Private citizen Glenn Gierzycki stated: "I believe the railroad has the right to conduct its business as it sees fit without catering to the whims of Reno. The railroad has served the United States well for over 130 years. The line through Reno is a vital piece of our nation's transportation system. Suggestions such as limiting the number of trains through the city is untenable and would have far reaching effects across the U.S. A free society must let market forces dictate how much traffic the railroad can carry." Private citizen Ed Foster stated: "UP owns the tracks, always has! After reviewing the measures planned by UP it's my opinion that the City of Reno should let UP do what they plan. UP doesn't tell the City what to do. Good luck UP!"

Others criticized UP's "attitude" during negotiations with Reno, such as this from private citizen Morton Spar: "I think [UP vice president Robert] Starzel's hard ball attitude and threat to discontinue the rail line were hostile and counterproductive." Private citizen Robert Bamford stated: "It is obvious that UP is more concerned with profit than [with] Reno.... Reno needs to take a stand for its economic and environmental future." Stated Elizabeth Collins, Ph.D: "Not so many years ago, large corporations prided themselves for being good citizens. Evidently, Union Pacific has decided that greed is a more desirable image." Private citizen James Grogan stated: "Union Pacific



is the [money] maker—Reno is the victim.” From Reno citizen Mo Harun: “Reno always gets the shaft! Let’s stop the R.R. from stepping on us. We have a beautiful city.”

### **3.32.2 Response to Comments**

SEA has read all comments on UP’s business practices or pre-merger operations, and appreciates the effort of parties who took the time to submit their concerns. However, some of these comments represent personal opinions and do not address any aspect of the UP/SP merger or the mitigation study in Reno, and therefore do not require a response by SEA. Comments on specific aspects of UP’s operations and business practices that are germane to the merger and the Reno Mitigation Study, such as hazardous materials handling and general safety procedures, are addressed in the various sections of this FMP.

## **3.33 Comments on City of Reno**

### **3.33.1 Summary of Comments**

Many parties submitted general comments criticizing Reno’s city governmental officials. A representative comment for this area was this, from Reno citizen Gene Bridgman: “I think the city of Reno officials are a bunch of hypocrites and liars. They are causing a big smoke screen to the residents [of Reno] to try and cause problems for the Union Pacific R.R. UP has done more than they should have already.... They are a good neighbor for Reno.” Another came from Reno citizen Lawrence Mock, Jr., who took aim at the City’s media campaign concerning the PMP: “The City of Reno is totally wrong, on this issue.... Reno’s newspaper ads are false and a waste of my tax dollars.”

Several commenters especially criticized past planning decisions by the city that allowed massive development near the UP trainway, without accounting for conflicts with rail traffic. Stated Reno citizen John Eck: “The railroad should not be penalized for the City of Reno’s refusal to act or use good judgement in the past.” Reno citizen Russ Fromherz stated: “The City of Reno fathers are real ‘asses’ in their stonewall approach to this problem. The railroad didn’t create this problem, the Reno Fathers did, with ‘NO PLANNING.’ Take responsibility Reno, don’t pass the buck.”

Several parties implied that past poor planning decisions resulted from collusion between city officials and casino owners. A typical comment in this area came from Reno citizen Charley Lits: “It is clear to me, that the City of Reno and the Reno mayor are owned, lock, stock, and barrel by the casino industry, i.e., corrupt.”

### **3.33.2 Response to Comments**

SEA has read all comments addressing the internal politics and attitude of Reno’s City government and appreciates the effort of parties who took the time to submit their concerns. While some of those comments are germane to the issues discussed in the PMP, most of the comments

represent personal opinions and are not related to the merger, the Reno Mitigation Study, or any matter before the Board and thus SEA commenting on them would be inappropriate. Comments that were germane to the proceeding are addressed in other sections of this FMP.

### **3.34 Comments on the Potential for SEA and/or Consultant Bias**

#### **3.34.1 Summary of Comments**

Numerous parties made comments implying that SEA and/or the Board are biased towards the railroads, with some implying that the Board was "bought and paid for" when Congress created the Board and abolished its predecessor agency, the Interstate Commerce Commission.

The City stated: "The City would question the scientific independence of the SEA study team performing the above referenced 'likelihood' study as DCCO [De Leuw, Cather & Company] admittedly has worked for UP and other railroads prior to this 'third party independent study.'"

The City added: "The City made an appropriate and reasonable request for disclosure of the financial compensation being paid to SEA's retained independent contractor, [DCCO].... This information is again requested in order to ascertain any conflict of interest which may exist."

Reno Mayor Jeff Griffin stated: "I believe the Surface Transportation Board in this case has acted as a lobbying group for America's railroads. Their obligation is to America's citizens, not to the industry they're supposed to regulate. And [the PMP] seems to me to indicate how we can help this railroad make this merger work. That is not, in my view certainly, what their obligation is. Their obligation is to the citizens of this country and particularly to the citizens of the City of Reno."

The City also stated that because the PMP did not mention the FRA's review of UP's safety procedures (which was announced five days before the PMP was released), "This is another example of how SEA and its environmental consultants are bias [sic] towards the UP and do not provide an adequate analysis of this issue."

One commenter, Washington, D.C. attorney Paul Lamboley, who represents the City of Reno before the Board, implied that because the Board would not reveal how much the contractor producing the PMP is being paid, there are grounds for accusing the contractor of bias. Speaking to a meeting of the Reno City Council, Lamboley stated: "As part of what we think is appropriate supervision, one would ask and think that the question could be answered: 'Well, what are these people being paid, and how are they being paid, and what's the basis for the compensation?' The response to that question that we posed in the fall [of 1996] came the first part of January [1997], and that was, 'We don't get into those things. We can't tell you what they're being paid because we are not involved in the compensation of a third-party consultant.'"

Reno Mitigation Study Task Force member John Frankovich stated: "At the beginning of the Task Force process, I was optimistic that it would result in substantive mitigation of the Railroad

Merger impacts on this community. I thought that SEA through De Leuw, Cather & Company would undertake an independent review of the merger impacts and recommend effective and permanent mitigations. As the process unfolded, it became apparent to me that it was being controlled by the Railroad. The PMP is demonstrable evidence of the Railroad influence."

A typical private citizen comment on the issue was this by Elizabeth Gledhill: "Who is going to monitor the STB?" Another example is a statement by William Biesler: "This is an environmental nightmare. We ask the Surface Transportation Board to protect us, not just the monopoly railroad, which appears to have control of your Environmental Analysis Section." Another citizen, Paul Etxeberria, was even more blunt; in a letter to SEA about mitigation costs being shifted from UP to taxpayers, he stated: "And of course many others will get their share of the greed pie. Are you among them?" Martha Scott Pruter stated: "The STB has no regard for safety and is only a lobby for U.P."

Reno citizen David-Kim Simpson asked: "Why was it necessary to abolish the Interstate Commerce Commission and replace it with the new Surface Transportation Board? As it stands now, it seems that the STB should be put back under the jurisdiction of the Justice Department as the previous ICC was."

From private citizen Mike Zielinski: "Back in 1995, when Congress abolished the Interstate Commerce Commission, there was a debate whether to give oversight for the merger to the Justice Department and its anti-trust division or to give that oversight to the Surface Transportation Board. Mr. Drew Lewis, who was at that time the CEO of Union Pacific Railroad, hired 63 lobbyists in Washington to do a full court press on the government to guarantee that oversight of the merger would be given to the STB. And one of the strong incentives he had for doing that was that the Justice Department anti-trust division had referred to this proposed merger as the most anti-competitive merger in the history of the railroads here in the United States."

Harry L. York, C.E.O. of the Greater Reno-Sparks Chamber of Commerce and a member of the Reno Mitigation Study Task Force, stated: "In the fall of 1996, the Chamber, like many other organizations and individuals, were eager to participate in the Surface Transportation Board's Reno Mitigation Study Overview. But it did not take long for the Chamber and other Reno Mitigation Study Task Force participants to see this process was going nowhere. This STB team was not a group from Washington, 'here to help us,' but rather a group of former railroad employees and individuals who previously had and maybe currently have contracts with the railroad. They were here to protect the railroad. Anyone could see the 'train was coming,' and the Reno Sparks area was going to be 'railroaded.'"

### **3.34.2 Response to Comments**

The Reno Mitigation Study is being conducted by SEA with the assistance of an independent third-party contractor. The President's Council on Environmental Quality regulations, 40 CFR 1506.5(c)(1996), allow a Federal agency to select a contractor to prepare an environmental



document, provided that: (1) the contractor is selected solely by the lead agency, (2) the contractor has no conflict of interest, (3) the contractor executes a disclosure statement prepared by the lead agency specifying that the contractor has no financial or other interest in the outcome of the project, (4) the responsible federal official furnishes guidance and participates in the preparation of the document, (5) the responsible federal official independently evaluates the document prior to approval, and (6) the responsible federal official is responsible for the scope and content of the document. SEA has applied these standards to its independent contractor in the preparation of the Preliminary and Final Mitigation Plans.

Counsel for the City of Reno, Mr. Paul Lamboley, noted that use of a third-party contractor is within the law and is standard practice when he stated: "The independent consultants are authorized by law to be engaged by an agency. The independent consultants are generally engaged by the agency, presumed to work under the direction and supervision of that agency, but frequently the resources available to fund that independent consultant for environmental investigation is paid for by the applicant. [That's] not much different than, perhaps, you're familiar with in our gaming investigations. Licensee holders must as a part of their application fee fund the investigation of their background. Similarly, the use of an environmental investigative third party consultant is authorized by law, was engaged in this case by the board, [and] the railroad pays the fees."

Neither Mr. Lamboley nor any other commenter has shown that there has been anything improper about the third party contractor process here. SEA notes that the contractor's scope of work, approach, and activities have been and continue to be under the sole supervision, direction, and control of SEA. SEA's involvement, oversight, guidance, and participation in the development of the PMP and FMP have been extensive, including frequent meetings, briefings, and discussions concerning the methodology, data collection, analyses, and recommendations contained in the PMP and FMP. Further, SEA independently reviewed the PMP and FMP prior to their release to the public.

Although UP is responsible for payment of contractor costs, SEA selected the contractor. SEA selected De Leuw, Cather & Company (DCCO) and associated subconsultants as the independent third-party contractor. Prior to DCCO's selection, SEA reviewed in depth the qualifications of the lead firm and all technical subconsultants. In addition, the third-party contractor and its subconsultants provided in January 1997 statements that they have no financial or other conflict of interest. SEA supplied the City of Reno with appropriate information concerning the third-party contractor and subcontractor. However, information relating to compensation was not provided, because SEA is not involved in matters of compensation for independent third-party contractors.

The City of Reno's inference that DCCO is biased is based only on the statement that: "DCCO [De Leuw Cather, & Company] admittedly has worked for UP and other railroads prior to this 'third party independent study.'" No other substantive evidence is offered.

The City's comment implies that prior work for railroads poses a conflict, while SEA believes that railroad expertise is valuable in preparing environmental documents related to railroad merger cases. Moreover, the comment fails to note that DCCO and other Parsons Companies have worked for the City of Reno in the past, and that DCCO's primary clients are local, state, and Federal government agencies. Finally, it should be noted that the third-party independent contractor's Reno Project Manager has worked for over 23 years in the environmental science and planning field. He has never worked for a railroad.

Regarding the City of Reno's request to SEA for information regarding compensation under the contract, SEA notes in the PMP and reiterates here that "information relating to compensation was not provided to the City because SEA is not involved in matters of compensation for independent third-party contractors." SEA role is strictly the supervision, direction, and control of the contractor's scope of work, approach, and activities—not compensation.

Finally, there is no merit to the claim that the Board or its staff is in the pocket of the railroad industry. To the contrary, all the information that has been provided by the railroad has been independently reviewed by SEA. Moreover, the environmental review process in this case has provided the opportunity for all interested parties to participate and present their views. There has been the opportunity for the filing of written comments by anyone on all aspects of the EA, Post EA and PMP, and such opportunity is being provided for the FMP. SEA also has conducted an extensive public outreach in Reno, including the establishment of a Reno Mitigation Task Force, to ensure that all interested persons were given an opportunity to provide comments. Therefore, the study plainly has been prepared objectively and comprehensively with no undue influence from the railroads, the City, or any other interested party. The environmental record that will be before the Board when it issues its final decision imposing further mitigation for Reno thus will encompass myriad positions.

### **3.35 Task Force Process**

#### **3.35.1 Summary of Comments**

Some participants in the Task Force commented that the Task Force was not productive. Specific comments about the Task Force included:

1. Task Force was extremely frustrating (Nevadans For Fast And Responsible Action (NFRA)).
2. Task Force was dictated by the railroad (NFRA).
3. SEA did not honor the City's request for a time extension (City of Reno).
4. SEA canceled the August and September meetings without Task Force input (City of Reno, Eagle-Picher Minerals).
5. SEA did not direct the Task Force meetings and allowed too much "wandering from topic to topic" and too much arguing between the City and UP (Eagle-Picher Minerals).



Scott Hutcherson, Traffic Manager for Eagle-Picher Minerals, stated: "As an alternate representative to the Reno Mitigation Task Force, I felt very frustrated with the direction, tone and velocity of this study. The meetings were argumentative and had many hostile undertones. Most attendees were so determined to be heard that they didn't spend any time listening to the issues and concerns of others. Several members would interrupt other people's comments."

Mr. Hutcherson also stated: "The City of Reno also asserted on numerous occasions that their requests for information were either not answered adequately, or in some instances, not at all. SEA responded to these assertions with non-answers such as 'We'll look into it' or 'Send us your request again and we'll see you get the information.' I got the impression that SEA hoped to drag its feet long enough so they wouldn't have to respond. Their leadership in guiding this group to a viable solution was not to be found and as a result, we wandered aimlessly through each meeting with little to show for it."

Mr. Hutcherson added: "For the City's part, their incessant and belligerent questioning of each jot and tittle chewed up countless hours that could have been productive. The Reno City Council apparently did not give their representatives the option of discussing alternatives other than the depressed railway option and now, in typical Reno fashion, is berating SEA for not considering other alternatives. Throughout the mitigation process the City's representatives had not been given permission to discuss grade separations and at the Preliminary Mitigation Plan (PMP) Task Force meeting, the City challenged SEA for not considering them. When SEA asked the City if they had since received permission, the response was 'no.' This pointless verbal jousting characterized most of our meetings."

Along with NFRA, Mr. Hutcherson also stated: "The Task Force did not endorse the recommended mitigation measures in the PMP."

From Rob Pyzel, who represented the City of Sparks on the Reno Mitigation Study Task Force: "I'm frustrated with the City [of Reno] for the sheer rudeness of its task force representatives and the City Manager to the Section of Environmental Analysis members and the other task force members throughout the process of development of the PMP. As a resident of the City of Reno, I would strongly urge the City of Reno to sit down with the downtown property owners, the other interested parties and the Union Pacific to come to some sort of solution acceptable to all parties through negotiation as part of the Tier Two mitigation."

Frank Napierski, who is president of local freight hauling company NAPZ Drayage and an attendee of all Task Force meetings, stated: "Your Board was insulted, sandbagged, put off, not answered, badgered, and received no cooperation from The City of Reno. I feel they were forced to 'continue to ride through the Valley of Death,' much like the Light Brigade. They were shelled on all sides, sniped at, and impeded at every turn. Yet they continued to study and evaluate reasonable options. I feel the options they recommend are reasonable and prudent. I feel these options should they become required mitigation, will solve the 'so called' problems caused by this merger. Unfortunately, like the Light Brigade, we failed to reach our objective, that is, the best



solution to rail related problems for the people of our area. I would like to have seen the depressed rail line through downtown Reno, and failing that, the additional crossings Union Pacific offered to help finance. As it turns out, I may see neither, but not because of The STB or Union Pacific. Failure to arrive at the best solutions for The City of Reno should be placed at Reno's doorstep. Posturing, propaganda, and litigation are not substitutes for negotiating in good faith."

Task Force member Steve Bradhurst stated: "And having sat in on this task force over the ten months and listened to the discussions, at times I feel like we're focused on the trees and not the forest...."

The City of Reno stated: "If the purpose of the task force was to define community issues--then SEA has failed to accomplish this goal because the majority of the community concerns were not addressed nor analyzed as Tier I required mitigation."

The City also stated: "On June 11, 1997, 14 task force members placed a letter in the record expressly requesting that the study calendar be extended in order to allow SEA the sufficient time needed to fully study each of the issues and concerns raised by the task force (see Appendix A of this comment document). SEA failed to honor this request and in fact never proposed such an extension of time before the STB. Furthermore, two task force meetings were originally scheduled each month through September 1997. SEA only held one meeting monthly failing to utilize the community resources available to meet twice each month, and abruptly canceled both the August 1997 and September 1997 meetings without input from the task force members."

The following is quoted from pages 4-14 and 4-15 of the City of Reno's comment document on the PMP:

#### "4.2.1 GRADE SEPARATIONS

*"PMP Text Quote #85: page 2-16, ¶ 3, line 4: City staff members have further stated that the City does not consider requiring UP/SP to construct highway/rail grade separations in Reno to be acceptable mitigation ... The City of Reno staff have actively participated in the task force meetings, and these views have been restated in the press."*

"Comment #85.1: City staff made no such statements. To the contrary, due to UP's January 31, 1997 proposal to provide the depressed railway at no cost to the City, the City Council subsequently (February 18, 1997) directed the City Manager to emphasize the depressed railway as the City's primary objective. As is the policy of the City Manager and his staff, when the City Council provides specific direction, and clearly is silent on other matters (i.e., grade separations), it would be inappropriate for staff to indicate the City's position one way or another, as was the case during the March 12, 1997 task force meeting. The above noted quote must therefore be deleted from any discussion in the FMP."

### 3.35.2 Response to Comments

SEA established the Reno Mitigation Task Force as an advisory group and appreciates the time and energy members put into the process. The Task Force served as a local forum to provide input throughout the study, to disseminate appropriate study information to the community, and to help define community issues. The Task Force had 19 members and designated alternates and included a broad range of views, including representatives of the City of Reno; the City of Sparks; Washoe County; regional and State agencies; the Governor's Office; and residential, business, casino, Native American, environmental, Union Pacific, warehousing, distribution, and other interests. Meetings were fully open to the public and media, who regularly attended the meetings. The Task Force met eight times from January through October to discuss the progress of the mitigation study, technical information, potential mitigation options, and the PMP. While diverse opinions existed among the Task Force members, the input received helped define the primary issues to be studied in the Mitigation Study.

The City representatives and several other Task Force members requested that additional Task Force meetings be held in the summer, that the entire study schedule be extended, and that the public review period be longer than 30 days. SEA conducted a Task Force meeting in July, but not in August or September, because of the need to focus on finalizing the PMP so it would be ready for public review and comment in September. SEA did not modify the overall study schedule because of the Board's direction to complete the 18-month study in March 1998.

SEA staff recognizes that some participants found the Task Force process to be frustrating and unproductive. SEA believes the task force process was useful in identifying community issues. The Task Force, however, did not accomplish open discussion or dialogue on the pros and cons of various mitigation options, and the Task Force did not reach consensus on mitigation options. Several factors contributed to the inability to productively discuss or resolve the issues. The City's position was that it was premature to discuss mitigation options until the impact analysis was complete in the City's view. The City frequently stated its position that an EIS should be done rather than a mitigation study. The EIS issue and the adequacy of the previously conducted impact analysis is the subject of a pending lawsuit between the City and the Board and as such this issue could not be resolved in the Task Force process. Therefore, there was continuous disagreement about the adequacy and methods of impact analysis.

Based on City Council direction to support the depressed railway as the City's primary objective, the City staff acknowledged in their comment that they chose to remain "silent on other matters" other than the depressed railway, so full discussion of other mitigation options did not occur. The City's comment on grade separations is included above to exemplify this issue. With this being the position of the City's Task Force participants, discussion of the City's view on a range of mitigation options did not occur. Other participants were also strong in their views and were not willing to consider a range of options.

The Union Pacific also has expressed its concerns about the study process. In UP's comment letter in the PMP they stated on page 3: "UP/SP respectfully submits that this expensive and time-consuming process is not required by environmental law and that the experience with the current Reno and Wichita proceedings demonstrates that it is inadvisable as public policy."

In addition, a number of Task Force participants were frustrated by the mitigation study guidelines imposed by Board Decision Nos. 44 and 71, and some Task Force members felt these guidelines were too limiting and made the mitigation study too narrow.

All of these factors contributed to a situation whereby consensus on mitigation was not reached by the Task Force.

### **3.36 General Comments on SEA**

#### **3.36.1 Summary of Comments**

Many parties submitted general comments criticizing the Board and its Section of Environmental Analysis. While some of those comments are germane to the issues discussed in the PMP and the FMP—such as the degree of independence the Board has in regulating railroads—most were not related to the merger, the Reno Mitigation Study or any matter before the Board. Comments that were germane to the proceeding are addressed in other sections of this FMP.

A typical response, and one that represents nearly all specific criticisms of the Board and SEA, is this by Reno citizen Richard L. Critz: "Before your recent ruling ..., I considered the [Federal] bureaucracy to be made up of faceless professionals, some of whom knew what they were doing. Your suggestion that increasing the speed of the trains through Reno has completely dispelled my naive evaluation of the bureaucracy. It demonstrates that not only is the bureaucracy made up of in-expert, unknowledgeable, incompetent individuals lacking the knowledge to recognize the problem before them, but also that they are unable to see more than one issue in any one problem. The bureaucracy may still be made up of faceless individuals—however, NONE OF WHOM KNOW WHAT THEY ARE DOING! With the decision and rationale put forth by your office, is it any wonder that we citizens of the United States are losing faith in the ability of our government to govern and make sane decisions to the benefit for the majority of the people?"

#### **3.36.2 Response to Comments**

SEA has read all comments regarding the Board and SEA. However, these particular comments represent personal opinions and do not address any aspect of the UP/SP merger or the mitigation study in Reno, and therefore any response by SEA would be inappropriate. Allegations of bias by SEA or the Board are addressed in Section 3.34 of this FMP.



### **3.37 Nuclear Shipments**

#### **3.37.1 Summary of Comments**

Many people were concerned about nuclear waste being shipped through the City and surrounding area, and particularly about the possible contamination of the Truckee River, from which Reno draws its drinking water supply. On the whole, the commenters objected to the nuclear waste itself as well as it being shipped through Reno because of the potential for an accident. Several comments were somewhat vehement about stopping such shipments altogether.

John Dudley provided a standard comment: "The insane idea of transporting nuclear waste through the city is to say the least the most short-sighted, narrow-minded ... self-serving idea imaginable. The persons behind this plan are the type who would position their septic system above their drinking water supply and wonder why they are sick."

In an attempt to clarify UP's responsibility for these shipments, Scott Hutcherson of Eagle-Picher Minerals pointed out: "The City failed to mention in any of its efforts that the UP doesn't have an option to accept or decline hauling the nuclear waste, or that the waste would come through Reno regardless of the merger."

Others stated their concerns about the possibility of a spill, which could lead to contamination of the Truckee River, Pyramid Lake, and the surrounding area, or a "catastrophe," such as a fire or explosion. A typical comment came from M. Lee Dazey of Citizen Alert: "The rail runs parallel to 79 miles of the Truckee River, which is our single source of water for 300,000 people in Washoe County alone and hundreds of farmers in Lahontan Valley. The Truckee is also the source which feeds Pyramid Lake, which is the traditional homeland to the Paiute people, whose culture is based on the lake and upon the cui-ui fish."

Regarding nuclear shipments and the suggested mitigation measure of increasing train speeds through Reno, Ed and Lisa Barnard stated: "Shipping spent nuclear fuel shipments at increased speeds is asking for an accident." Bob Fulkerson went one step farther and remarked on UP's safety record: "Union Pacific has demonstrated that it cannot be trusted to haul nuclear waste. Its long and tragic record of accidents proves it has no business moving a fleet of mobile Chernobyls through our town."

#### **3.37.2 Response to Comments**

The U.S. Department of Energy (DOE) has sole authority over the handling, routing, and storage of high-level nuclear waste, which essentially is defined as the spent uranium from nuclear reactors. The Board has no authority to make any directive or require any change in operations merely because nuclear waste could potentially be transported over a given rail or truck route. Current transportation patterns were established as the result of directives from Congress, which passed legislation mandating that high-level waste produced at federal government facilities be

processed in Central Idaho at the Idaho National Engineering Laboratory (INEL), and also that the DOE will accept some waste generated in other countries for processing at INEL. Transporting hazardous material by rail generally has proven considerably safer than transporting it by truck. Under Federal law, UP and all other freight carriers must accept and deliver shipments of nuclear waste; they simply have no choice whether or not to transport such waste. Nevertheless, the DOE recently rescinded its order directing transport of the waste by rail through Reno, and is reportedly considering use of truck transport instead. However, to clearly establish a policy that would prevent transport of such waste through Reno would require an act of Congress.

### **3.38 No Incentive for UP to Negotiate**

#### **3.38.1 Summary of Comments**

Many parties commented on the negotiation process between the City and the railroad, with most saying the process was tainted from the beginning because no party had an incentive to negotiate in good faith. The railroad and the City accused each other of negotiating in bad faith.

From UP: "As City of Reno representatives have made clear at the meetings of the Reno Mitigation Task Force, they are operating under City Council instructions to seek a depressed trainway, paid for by UP/SP, as the core of any mitigation package. Public officials and Task Force members have openly urging SEA to impose additional costs on UP/SP, not because they are justified on the merits but for the express purpose of increasing pressure on UP/SP in negotiations over funding a depressed train way. There is little doubt that SEA will receive a barrage of comments from Reno and its friends pursuing these objectives."

UP added: "UP/SP needs no encouragement to negotiate in good faith. It voluntarily offered far more than the share of the depressed railway that SP agreed to pay under DOT regulations and state laws. The City should not be rewarded for its strategy of demanding an arbitrary \$100 million from the railroad, unsupported by any form of fact or logic except that the City wants the money."

From Reno citizen John Ryczkowski: "I am disappointed in the lack of partnership displayed by the City of Reno toward the Union Pacific.... Reno needs to form a partnership with the Union Pacific to address the real concerns of our community and stop the misinformation campaign. I strongly urge that the Union Pacific's position in regards to the City of Reno be supported fully. Reno's lack of understanding, meaningful interaction and hostility is a disservice to Union Pacific and the railroad industry and a discredit to our City, the State of Nevada, and more importantly our tax paying Citizens."

In between were several commenters urging the parties in this proceeding to shed their belligerence, and urging SEA to do whatever it can to get negotiations restarted in earnest, including extending the temporary limit on rail traffic through Reno until parties can negotiate a settlement of issues.

From US Senator Harry Reid, addressed to SEA: "Your preliminary selection of a strategy that imposes merely \$12 million in costs on the railroad and would allow trains to move more quickly through the city seems to have been selected primarily because all costs can be imposed on the railroad. While this may be consistent to your charter, it has the perverse effect of dissuading the railroad from continuing to negotiate on mitigation strategies that are both acceptable to the city and involve financial participation by a number of different parties."

Senator Reid continued: "It is imperative that the STB consider the unique nature of this situation as it formulates its final recommendation. I understand the City of Reno is willing to participate in the development of a final mitigation strategy and I urge the STB to explore the possibility of a final plan that implements a binding agreement between the parties. I share the STB's desire that the parties resume negotiations on a final solution to this problem. I am, however, concerned that the STB's preliminary recommendations do not adequately encourage such an agreement."

From Bob Webb, Community Coordinator for the Washoe County Department of Community Development: "The time frame for allowing increased train traffic through Reno and Washoe County area is too short and will occur too soon. This short time frame is a disincentive to any reasonable negotiations to resolve the serious problems noted in the public hearings [held to take comment on the PMP]. The time period before allowing the increased train traffic should be extended."

From Reno citizen Larry Kirk:

"In light of all the events that have taken place in the case of the City of Reno, NV vs. the Union Pacific Railroad in regards to the rail corridor problem, I submit the following statement.

"1. When you held your first public hearing on the subject, one of the major points the Surface Transportation Board made was that it was preferable for the Union Pacific and Reno to mitigate their differences privately rather than a ruling from the STB. I am convinced that neither party heard that and as a consequence we have the present situation.

"2. The City Government has chosen to try the case in the media, and shown a lack of professionalism in the manner they have handled the entire situation.

"3. The Union Pacific has stated their position, and only offers information that may be useful on a need-to-know basis. They have stated that they want to be a good corporate citizen in the Reno area, but thus far that has come across as a good corporate citizen on their own terms.



"4. Therefore: I would like to suggest that the two sides appoint a mediation team to sit with a professional mediator and resolve the situation. I would suggest that a complete gag order be placed on all participants and events until a draft document is agreed to, and then the draft document be taken to Reno City Government, and then Union Pacific Board of Directors for a final document and acceptance."

Reno citizen Frank Partlow spoke extensively at two public meetings and submitted written comments about how the process leading to the PMP removed much of the incentive for UP to negotiate. He mostly referred to the fact that the option of having UP fund construction of several grade separations was rejected because it would mitigate preexisting conditions more than it would mitigate the effects of the merger. Mr. Partlow stated:

"It is a fact that the [PMP] recommends zero grade separations, even though there was a considerable amount of [time spent] looking into grade separations; and it is also a fact that Union Pacific itself put \$35 million on the table as an incentive for the City of Reno to negotiate in good faith with them on this issue. However, it is my suspicion that when all of us—Union Pacific, task force members, and the third-party consultant—got into this and saw how expensive grade separations [would be], even one grade separation, expensive in an engineering context, expensive in a land acquisition context, ... that we end up with a number that was much higher potentially than \$35 million.

"So the \$35 million disappears from the table, and we end up with no negotiating leverage. That is to say, if I'm a member of Union Pacific and I know I'm faced with a bill of \$70 million for a couple of grade separations, I'm much more likely to be a negotiating partner on a much larger project with someone who says, 'Well, okay, the whole project's going to cost \$183 million, but I know I'm going to have to pay \$70 million going in.'

"There's no negotiation incentive. My conclusion is there's no negotiation incentive left in this Preliminary Mitigation Plan because you're only going to hand the Union Pacific a bill for 12 million bucks."

UP's Bob Starzel countered:

"The STB will not have before it a basis upon which to order a priority of underpasses or overpasses to determine what it is that the community wants, and they have before them the stated opposition from the city to anything other than a depressed trainway and no facts to assist them from the City in setting out which would be advantageous overpasses [and] underpasses.

"So we think it is improper for there to be any consideration of underpasses or overpasses. And indeed for those who argued that this is a way for the City to obtain

leverage on the railroad, to make it more costly by inserting the requirements for underpasses or overpasses, is more than improper, I believe it's unlawful."

### **3.38.2 Response to Comments**

Throughout the environmental review process, SEA has consistently encouraged discussion and negotiation between UP and other interested parties. SEA recognizes that, through voluntary agreements, parties can achieve more far-reaching solutions to issues facing the community. Such agreements may go beyond what the Board would impose (i.e., because the agreements would solve preexisting problems as well as those directly related to the effects of the merger). During the mitigation study, SEA has examined potential additional mitigation measures that the Board would require UP to implement and fund (Tier 1), as well as measures that would go beyond what the Board would impose on UP and would require voluntary agreement between affected parties and UP (Tier 2). The Board could impose as a condition UP's compliance with such a voluntary agreement. Several communities along the UP/SP system were able to strike such agreements with UP (e.g., Truckee, CA).

SEA has stated throughout the Reno Mitigation Study process that the purpose of the study is to evaluate potential environmental impacts in Reno and Washoe County from the increase in trains traffic levels associated with the merger and to recommend to the Board measures to mitigate these potential environmental impacts. SEA has kept its focus on this purpose during the course of the Reno Mitigation study. SEA's recommended mitigation measures in the Mitigation Study were developed on the basis of the mitigation benefits and not on the basis of cost.

Some commenters suggested that SEA should now target a certain dollar amount (e.g., greater than \$35 million). Using the logic of these commenters, the amount offered by UP during private negotiations would establish the minimum costs for SEA's recommended mitigation measures. However, this would be fully inconsistent with SEA's study purpose and could easily be viewed as arbitrary.

It is SEA's position that this type of analysis has no place in its review of potential environmental impacts or proposed mitigation measures. The dollar amounts under discussion or consideration in private negotiations have not in the past and do not in this FMP form the basis for SEA's recommendations, nor should they.

This SEA position should not be interpreted as a disincentive to negotiate but rather as SEA carrying out its intended study purpose. SEA continues to encourage a private resolution but under no circumstances will SEA promote resolution by imposing mitigation measures arbitrarily selected on the basis of cost.

## **Section 4**

### **HAZARD/RISK MITIGATION EVALUATION**

In this section, the Surface Transportation Board's (Board) Section of Environmental Analysis (SEA) presents the methodology and results for additional analysis performed to evaluate the potential levels of increased hazardous material risks subsequent to the Union Pacific/Southern Pacific (UP/SP) merger. SEA has conducted this ongoing evaluation to further address issues associated with increased transportation of hazardous material commodities through the Reno corridor subsequent to the merger.

SEA conducted this analysis to address issues raised by the U.S. Fish and Wildlife Service (USFWS), local government agencies, and private citizens concerned with potential environmental impacts subsequent to the UP/SP merger. In general, these issues include: consideration of the probability of a hazardous material release, the potential for adverse impacts to humans and biological resources, and the presence of measures to mitigate increased risk. SEA evaluated the chemical and physical properties of individual hazardous commodities, emergency response capabilities, potential release/impact scenarios, and mitigation measures.

#### **4.1 Overview of Evaluation**

This section provides an overview of the hazard/risk mitigation evaluation performed to determine the potential levels of increased hazardous material risks associated with the UP/SP merger. The objectives and general methodology used for this evaluation, and the organization of subsections are presented.

##### **4.1.1 Objectives and General Methodology**

The hazard/risk mitigation evaluation was initiated to address several issues associated with increased transportation of hazardous material commodities through the Reno corridor subsequent to the UP/SP merger. Issues have been raised by environmental agencies and public citizens concerned with potential environmental impacts associated with the UP/SP merger. In general, these issues include consideration of the probability of a hazardous material release, the potential for adverse impacts to humans and biological resources, and the presence of measures to mitigate increased risk.

Consideration of the specific issues that have been raised to date required further evaluation of potential risk and hazards posed by particular commodities. Because commodities classified as hazardous materials include chemicals with a wide range of potential effects, an evaluation was needed to determine the probability that a hazardous material release might contain chemicals toxic to humans or aquatic organisms or pose a catastrophic hazard (explosive or flammable). Additional evaluation was required to determine the likelihood that a release to the Truckee River could adversely affect the water supply, or threatened or endangered fish species in the Truckee River and Pyramid Lake. Because the nature and potential impacts of releases differ based on the specific



location and chemical, this evaluation also considered the adequacy of emergency response capabilities to mitigate a release and minimize potential consequences.

The overall objectives for this evaluation were to evaluate the potential impacts of the rail merger in terms of additional or incremental human health and environmental risks. For the purposes of this evaluation, risk is defined as the probability that an adverse effect or undesirable event will occur. The evaluation specifically addresses the potential increase in risk that the rail merger may cause. The intent of the evaluation was not to quantify human health and environmental risk and hazards from rail traffic, but to provide a description of the incremental risk attributable to the rail merger.

The general steps for the hazard/risk mitigation evaluation include:

- ▶ An environmental analysis of the project corridor to determine conditions relevant to potential risks for humans and biological resources.
- ▶ An estimate of the probability of hazardous material release including release estimates for specific commodities and portions of the rail corridor.
- ▶ An evaluation of chemical and physical properties for individual hazardous commodities to identify potential impacts or effects if a release were to occur.
- ▶ An evaluation of the adequacy of emergency response measures and other mitigation measures to minimize the consequences of a release.
- ▶ An evaluation of potential release/impact scenarios/risk mitigation including hazardous material release to the Truckee River potentially affecting protected fish species or the potable water supply, and hazardous material release potentially affecting humans in the Reno/Sparks area.
- ▶ A discussion of mitigation measures.

#### **4.1.2 Report Organization**

Each subject discussed above leads to specific analyses that are detailed in the following subsections. First, an environmental survey of the project corridor was performed to generally observe and define track conditions, signaling and train defect detection devices relevant to hazardous material releases, and conditions posing potential risks to biological resources. Observations from this survey are provided in Section 4.2. In addition, Section 4.2 provides an analysis of the terrain along the rail corridor from Donner Pass to Wadsworth, and a compilation and analysis of flow characteristics for the Truckee River. Results of the topographic analysis were used to refine the hazardous material release estimates presented in Section 4.3. Results of the flow characterization were used to evaluate the potential fate and transport of contaminants, and evaluate spawning/habitat characteristics for aquatic species of primary concern (i.e., the cui-ui and Lahontan cutthroat trout).

An extensive analysis was performed to determine the probability of hazardous material release for rail cars within the corridor, including release estimates for specific commodities and portions of the rail corridor. The methodology and results for this analysis are provided in

Section 4.3 and are used in Section 4.6 to evaluate the probability of a release potentially affecting specific receptors.

Lists of hazardous material commodities transported through the Reno corridor were obtained from the results of a four-month survey performed by UP (May 1-August 31, 1997), a one-week survey performed by UP (October 16-24, 1997), and a one-day survey reported by Carr (1996). These lists were used to identify specific chemicals of concern based on physical state (solid, liquid, or gas), quantities transported, potential fate and transport of commodities released to air or water, and the potential for adverse effects on humans (toxicity through ingestion or inhalation, or flammable hazard) or aquatic organisms (toxicity or food chain effects) if a release were to occur.

Hazardous material commodities are described in Section 4.4. This information is critical for an assessment of risk, because fate and transport properties control migration of contaminants following release, and, as a result, create the potential for exposure. The toxicity of chemicals to humans and aquatic organisms has also been considered in risk evaluation, given that contaminant concentrations associated with a release may have potential adverse effects on aquatic organisms but not humans, and vice versa. SEA used the transport and toxicity assessment to evaluate the release scenarios provided in Section 4.6.

SEA's analysis of mitigation for incremental risk associated with increased transport of hazardous material commodities subsequent to the merger included an evaluation of physical actions taken to decrease the likelihood of a release (e.g., track improvements and presence of train defect detection and grade crossing warning devices), and emergency response capabilities to reduce potential consequences following a potential release. The evaluation included a survey of the rail right-of-way, a survey and review of train defect detection devices, and a review of existing contingency plans and plans currently under development. SEA also reviewed previous and anticipated future hazardous materials training and planning activities, which are discussed in Section 4.5.

To address specific concerns relating to potential impacts associated with a hazardous material release, SEA evaluated three release/impact scenarios. These included: a hazardous material release to the Truckee River potentially affecting protected fish species, a hazardous material release potentially affecting the potable water supply, and a hazardous material release potentially affecting humans in the Reno/Sparks area. Protected fish species evaluated included the cui-ui, an endangered species, and the Lahontan cutthroat trout, a threatened species.

SEA evaluated the probability of a hazardous material release for each release/impact scenario, including an estimate of the probability of a release within critical segments of the rail corridor. Potential effects of hazardous material commodities were also evaluated. Existing emergency response measures to limit consequences following a release were reviewed and potential additional mitigation measures were identified. The hazard/risk mitigation analysis is provided in Section 4.6.



## 4.2 Description of The Rail Corridor

This section describes the UP rail corridor through Reno, Nevada, including the results of an environmental survey performed as part of the hazard/risk mitigation evaluation. A summary of the topographic analysis used to refine hazardous material release estimates (Section 4.3) and the Truckee River flow characteristics used to evaluate potential impacts to aquatic species (particularly the cui-ui and Lahontan cutthroat trout) and the water supply (Section 4.6) are also provided.

### 4.2.1 General

The Truckee River is within the Truckee Meadows Region, draining mountains and valleys in the Reno and Sparks, Nevada area. The river begins at Lake Tahoe, flows north through the Sierra Nevada range, eastward into the Truckee Meadows area, and eventually discharges into Pyramid Lake, northeast of Reno. Steamboat Creek, which flows from Washoe Valley and discharges to the Truckee River near the Washoe County border, is a primary tributary to the river. Other smaller tributaries include Cold Creek, which discharges into the Truckee River through Donner Creek and Prosser Creek. A map of the Truckee River project area, including track mileposts (MP) referred to throughout this document, is provided as Figure 4.2-1.

Water from snowmelt, several reservoirs, and groundwater enters the river at several locations in the upper Truckee River between Lake Tahoe and Farad, California. Many of the current problems in the Truckee River result from alterations to the flow regimes created by withdrawals and the construction of control structures at multiple locations along the river. Discharge generally decreases with increasing distance from the mountain front due to withdrawals and diversions of water for agricultural and municipal uses. The largest diversion occurs at Derby Dam, where water is diverted to the Carson River basin through the Truckee Canal for irrigation use near Fallon, Nevada. As a result, discharge at Wadsworth, Nevada is approximately 50 percent less than discharge at Reno, Nevada. Groundwater occurs in the unconsolidated alluvium deposits of the valley fill, and generally moves from west to east, parallel to the Truckee River. Discharge increases between Wadsworth and Nixon, Nevada as a result of irrigation return flow and groundwater entering the river between these locations (La Camera et al. 1984).

As part of the hazard/risk mitigation evaluation, two teams of biologists including staff of USFWS and emergency response experts toured in a highrail vehicle the rail right-of-way (ROW) from Fernley, Nevada to Norden, California. The teams observed the rail right-of-way, train defect detection devices, the proximity of the rail line to the river, the topography and gradients from the rail line to the river, bridges, potable water intakes, biological resources, population clusters, and natural and manmade barriers to water flow (e.g., Derby Dam) that might be used to mitigate a hazardous materials release. The teams observed that, from Reno to the Donner Pass, the rail line is closer to the river, on average, than is the case east of Reno, but the track appears to be set back wherever possible. The rail line west of Reno is on a much greater gradient toward the river than the eastern segment, and includes large degree turns, two tunnels, and snow sheds. Approaching Donner Pass summit, the highrail teams observed a long section of new track with concrete ties.



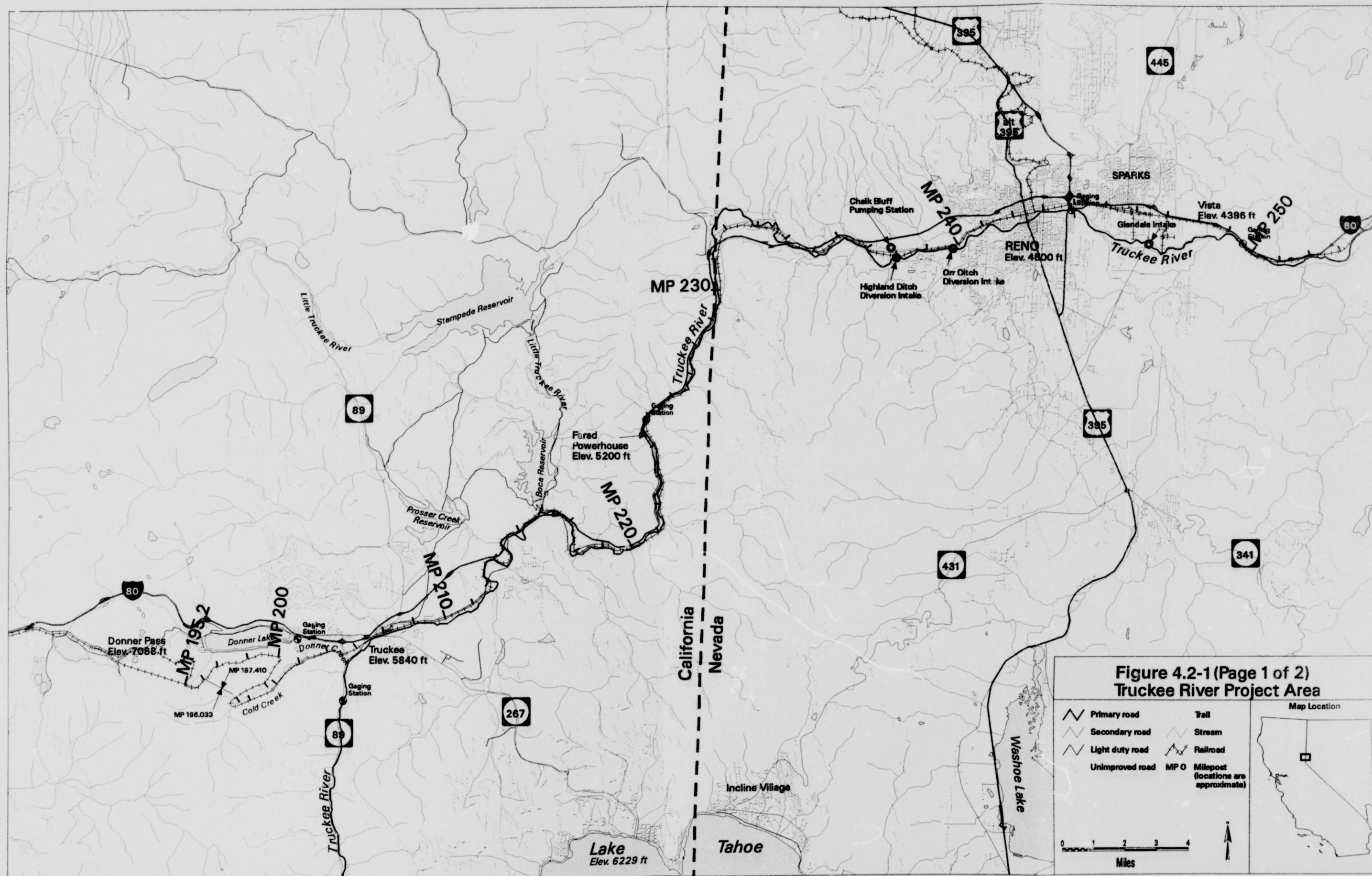


Figure 4.2-1 (Page 1 of 2)  
Truckee River Project Area