PUBLIC VERSION

BEFORE THE
SURFACE TRANSPORTATION BOARD

SUNBELT CHLOR ALKALI PARTNERSHIP Complainant, v. NORFOLK SOUTHERN RAILWAY COMPANY Defendant.	)	Docket No. NOR 42130

REPLY EVIDENCE OF NORFOLK SOUTHERN RAILWAY COMPANY

EXHIBITS

(Volume 3 of 3)

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TOXIC WARFARE

Theodore Karasik

Prepared for the United States Air Force
Approved for public release; distribution unlimited

RAND
Project AIR FORCE

Exhibit I-1

chemical weapon. One of the bombs used in the attacks on Jerusalem appears to have been immersed in some kind of chemical. An Israeli official noted that Palestinian bombers had apparently experimented with their explosive devices in order to "maximize the effect" by spreading hazardous materials in the vicinity of the blast.

CHEMICALS, GASES, AND SMOKE

Chemicals, gases, and smoke can be used as part of traditional weaponry such as bombs and rockets or as weapons in themselves—as, for example, when industrial facilities are attacked to cause a chemical release. Several such uses are examined in this section.

Bosnia

In the first week of August 1993, Bosnian Muslim forces used chlorine in 120mm shells on three occasions against Bosnian Serb forces. A few shells were fired at each decisive point of the battle either to facilitate a Muslim breakthrough or to stall the Serbs' advance. United Nations Protection Force (UNPROFOR) observers described the weapons as "crude, almost like home-made stuff with a radius of only 20 meters." The order to use chlorine for defense purposes came from Andjelko Makar, Chief of Staff of the Second Corps of the Bosnia-Herzegovina Army based in Tuzla.[15]

Croatia

Serbian forces have frequently used toxic weapons, both as traditional weapons and through attacks on industrial facilities. As described in the introduction to this report, Serbian forces in Croatia used rockets, bombs, artillery, machine gun tracers, and mortars on six occasions between 1993 and 1995 to attack the Petrochemia plant, which produced fertilizer, carbon black, and light-fraction petroleum products. Hazardous substances at the plant included ammonia; sulfur (which poses a hydrogen sulfide inhalation hazard

[15]See Yossef Bodansky, "Bosnian Muslim Forces' First Combat Use of Chemical Weapons," *Defense and Foreign Affairs Strategic Policy*, August 31, 1993, p. 16.

Extracted from the 1917 book "Medical Diseases of the War" by Arthur Hurst, M.A., MD (Oxon), FRCP.

Chapter X describes the effects of chlorine gas poisoning, the patient's symptoms, prognosis and the treatment advocated in 1916. Of interest is the treatment of cyanosis by bleeding.

Dr M Geoffrey Miller, Editor

CHAPTER X
GAS-POISONING

Poisonous gases are produced by all explosives, but owing to their rapid diffusion the majority are harmless unless they collect in closed spaces such as dug-outs or cellars. Under such conditions carbon-monoxide poisoning may occur *(vide* shell-shock). Shells which are specially constructed to set free asphyxiating and lachrymatory gases have been much used, but very little is known about their composition. The most serious form of gas-poisoning and the only one which will be considered in this chapter is that produced by heavy gases, which are set free in the enemy's trenches to drift with the wind. This brutal method of warfare was clearly premeditated, as shortly before the war a leading German pharmacologist and his pupils published papers which show that they were investigating the subject in great detail.

Asphyxiating gas was first used on April 22nd, 1915, in a German attack on Algerian and Zouave troops, who, being taken completely by surprise, broke before it. On the two following days attacks under cover of gas were made on Canadian and English soldiers in the neighbourhood of Ypres. Although no respirators were available and the losses were heavy, the troops held their ground. Another attack was made early in May; the men had now been provided with respirators, consisting of pads soaked in a solution of sodium bicarbonate, and these gave some protection. The third attack on May 24th and all subsequent ones have produced less serious results, as respirators of steadily increasing efficiency have been introduced.

The gas used has never been collected for analysis, but it is probably chlorine in most cases; indeed a deposit of chlorides has been found on the buttons of gassed soldiers. Chlorine was chosen on account of its exceptionally irritating character ; it rapidly puts a man out of action when inhaled in a strength of only 1 in 10,000, whereas sulphur dioxide is only effective in a concentration four times as great. Chlorine, being much heavier than air, readily drifts and sinks into trenches, dug-outs, and cellars. It can be rapidly manufactured in enormous quantities and is easily compressed into cylinders, in which it can be conveyed to the front.

The first effect produced by the irritant action of the gas is a profuse exudation of a thin, light yellow, albuminous fluid by the bronchial mucous membrane, as well as a very active secretion by the lachrymal and salivary glands; these are the results of protective reflexes, the object of which is to dilute the irritant poison and render it innocuous. At the same time spasm of the bronchial muscles occurs in an attempt to obstruct the passage of the gas into the alveoli. In severe cases the bronchial secretion and spasm not only fail to protect the alveoli, but obstruct the entry of air into the lungs, to such an extent that the patient becomes asphyxiated and may die before the fluid is expectorated and the spasm relaxes. An autopsy at this stage shows slight congestion of the larynx and intense congestion and oedema of the trachea and larger bronchi, which are filled with frothy fluid. The lungs are intensely congested and oedematous, but the violent respiration caused by the asphyxia produces small patches of over-distended lung, seen on the surface as light grey areas in the least damaged parts, into which air can still pass. The distended alveoli may rupture into the interstitial tissue, and air may spread into the mediastinum and even to the neck.

In all but the mildest cases the asphyxial stage is followed by a stage in which acute inflammation with profuse exudation of lymph occurs as a result of the irritant action of the gas on the bronchial mucous membrane and the alveoli. If the patient dies in this stage the serous fluid in the bronchi is replaced by muco-pus, and more or less extensive broncho-pneumonia is found.

There is no conclusive evidence that the chlorine is absorbed by the blood and conveyed by it to other parts of the body. Nephritis has occasionally been found post-mortem, though there has very rarely been any clinical evidence of its presence; thus albumin and casts are rarely found, oedema never occurs, and only one case of uraemia has been recorded. According to Leonard Hill, the nephritis is not due, as suggested by Bradford and Elliott, to the toxic action of the gas after absorption; he regards it as a result of asphyxiation and analogous to the condition which results from temporary occlusion of the renal artery. At a later stage secondary toxic effects may be_ caused by absorption of the products of the pathological changes in the lungs. If death occurs in the earlier stages, the right side of the heart is greatly dilated and the brain and all the abdominal organs show marked congestion due to asphyxia. The mucous membrane of the stomach is red and covered with thick yellowish mucus, submucous haemorrhages are common, and superficial erosions may be present: these changes are partly due to the asphyxia and partly to the irritant action of chlorine, dissolved in swallowed saliva and nasal and bronchial secretion.

Symptoms.

The first effect of inhalation of chlorine is a burning pain in the throat and eyes, accompanied by a sensation of suffocation; pain, which may be severe, is felt in the chest, especially behind the sternum. Respiration becomes painful, rapid, and difficult ; coughing occurs, and the irritation of the eyes results in profuse lachrymation. Retching is common and may be followed by vomiting, which gives temporary relief. The lips and mouth are parched and the tongue is covered with a thick dry fur. Severe headache rapidly follows with a feeling of great weakness in the legs; if the patient gives way to this and lies down, he is likely to inhale still more chlorine, as the heavy gas is most concentrated near the ground. In severe poisoning unconsciousness follows; nothing more is known about the cases which prove fatal on the field within the first few hours of the "gassing," except that the face assumes a pale greenish yellow colour. When a man lives long enough to be admitted into a clearing station, he is conscious, but restless; his face is violet red, and his ears and finger nails blue ; his expression strained and anxious as he gasps for breath; he tries to get relief by sitting up with his head thrown back, or he lies in an exhausted condition, sometimes on his side with his head over the edge of the stretcher in order to help the escape of fluid from the lungs. His skin is cold and his temperature subnormal; the pulse is full and rarely over 100. Respiration is jerky, shallow and rapid, the rate being often over 40 and sometimes even 80 a minute ; all the auxiliary muscles come into play, the chest being over-distended at the height of inspiration and, as in asthma, only slightly less distended in extreme expiration. Frequent and painful coughing occurs and some frothy sputum is brought up. The lungs are less resonant than normal, but not actually dull, and fine riles with occasional rhonchi and harsh but not bronchial breathing are heard, especially over the back and sides.

Headache is generally severe, and there is also considerable epigastric discomfort, due partly to the strain of coughing and partly to gastric irritation, as it is increased if an attempt is made to eat.

The intense dyspncea of this asphyxial stage lasts about thirty-six hours, after which it gradually subsides, if death does not occur before. The patient, exhausted from his fight for breath, then falls asleep and wakes up feeling much relieved.

A few hours later acute bronchitis or broncho-pneumonia develops. In severe cases the quiescent interval is short and the bronchitis very severe. The sputum is now viscid, yellow or greenish, and muco-purulent with occasional streaks of blood. Respiration becomes more shallow and rapid, and the rate may finally be even 70 or 80 a minute. The pulse is small and very rapid ; the temperature rises, and is often as high as 104. The patient may now become delirious. Pleurisy may occur, and in some instances empyema and gangrene of the lung have followed.

After recovery from the bronchitis and pneumonia the patient remains weak and exhausted for a considerable time. He gets tired very rapidly and is unable to walk quickly or up hill without getting short of breath, even after the last signs of bronchitis have disappeared. He may continue to have attacks of dyspncea and cyanosis for several weeks. The frightful experience he has passed through often affects his nervous system, and some of the attacks are doubtless aggravated by apprehension. Headache, vertigo and dyspepsia may continue for several weeks.

Prognosis. Nothing is known as to the proportion of men who die from "gassing" on the field. Before efficient

respirators were in use about 5 per cent. of those who reached the clearing stations died within forty-eight hours. Of those who reached the base hospitals between 1 and 2 per cent. died in the second or third week from broncho-pneumonia or other pulmonary complications.The mildest cases are often fit for light duty after a short period of rest, but they should not be sent back until all adventitious sounds have disappeared from the lungs. A considerable time elapses before complete restoration of health occurs in the more severe cases, and it is still doubtful whether more or less permanent incapacity may not sometimes follow.

Prophylaxis. The introduction of efficient respirators has almost abolished the danger of drift gas. Regular drill in the ***use*** of the respirators and inspection to see that they are in good condition are most important, as it takes time to get accustomed to breathing whilst wearing a respirator, and a damaged respirator may be worse than useless.

Treatment. The patient should be kept warm with extra blankets, hot-water bottles and hot drinks, and his bed should be near an open window or out of doors. Owing to the irritated condition of the stomach a fluid diet should be given at first. Absolute rest is of the greatest importance.

In severe cases the chief object of treatment is to expel the fluid, which is drowning the patient, from the lungs. This can be done by artificial respiration, repeated whenever the dyspncea becomes excessive. After squeezing the fluid out of the lungs, it may be necessary to blow air in from mouth to mouth in order to overcome the resistance of the froth in the smaller bronchi. An apparatus was introduced by Leonard Hill for use in collapsed and unconscious cases: a foot-pump feeds a face-mask through a flexible tube ; by each downstroke a measured volume of air or oxygen is pumped into the lungs, and by each upstroke a valve is opened which allows the air to escape by the elastic recoil of the thorax and lungs. From time to time the fluid is evacuated by squeezing the thorax and hanging the head over the side of the stretcher.

Unless the patient is collapsed or unconscious, vomiting gives great relief by expelling large quantities of yellowish frothy fluid from the lungs; if this does not occur spontaneously, the patient puts his finger down his throat after drinking half a pint of warm salt water. Ipecacuanha and apomorphine should not be used.

The inhalation of oxygen relieves cyanosis and improves the patient's condition. But it is very difficult to get a patient who is fighting for breath to tolerate any form of mask, without which it is impossible to give oxygen really efficiently. Administered in the ordinary way through an open funnel held near the patient's face the oxygen in the alveolar air is only increased by 1 or 2 per cent., whereas by using a mask and suitable apparatus the alveolar air should contain as much as 70 per cent. of oxygen.

Theoretically atropine should help to diminish bronchial spasm and secretion during the first twenty-four hours; but it has been found useless in severe cases and disappointing in slighter ones. Atropine is certainly valuable in the attacks of dyspnoea which may occur during convalescence, and I have found that stramonium taken regularly diminishes the liability to these attacks; potassium iodide in small doses is also useful.

Inhalations of ammonia are useful in the earliest stages, and after the second day ammonium carbonate in doses of gr. v every three hours produces copious expectoration, which results in improvement of colour and considerable relief. When great restlessness and mental distress are present, morphia should be injected.

Extreme cyanosis with a full pulse is greatly relieved by bleeding: breathing becomes easier, headache is relieved, and the patient falls into a refreshing sleep. Lian and Hebblethwaite found that the effect is most marked if venesection is performed in the first few hours. From 15 to 25 ozs. of blood should be slowly removed. The blood is dark and coagulates with abnormal rapidity. Bleeding is contra-indicated if the patient is pale and collapsed.

References:

On the Treatment of Wounds in War, London, 1915. Sir J. R. Bradford and T. R. Elliott : *British Journal of Surgery,* III. 234, 1915.

J. Elliott Black, E. T. Glenny, and J. W. McNee : *Brit. Med. Journal,* 1915, II. 165.

Leonard Hill : *Brit. Med. Journal,* 1915, II. 801.

A. S. Hebblethwaite : *Brit. Med. Journal,* 1916, II. 107.

E. Sergent and E. Agud : *Bull.* et *Mem. de la Soc. Med. des Hôpitaux de Paris,* XXXIX. 960, 1915.

C. Lien : *Bull. et Mem. de la Soc. Med. des Hopitaux de Paris,* XXXIX. 1067, 1915.

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Occupational Safety and Health Guideline for Chlorine

DISCLAIMER:

These guidelines were developed under contract using generally accepted secondary sources. The protocol used by the contractor for surveying these data sources was developed by the National Institute for Occupational Safety and Health (NIOSH), the Occupational Safety and Health Administration (OSHA), and the Department of Energy (DOE). The information contained in these guidelines is intended for reference purposes only. None of the agencies have conducted a comprehensive check of the information and data contained in these sources. It provides a summary of information about chemicals that workers may be exposed to in their workplaces. The secondary sources used for supplements III and IV were published before 1992 and 1993, respectively, and for the remainder of the guidelines the secondary sources used were published before September 1996. This information may be superseded by new developments in the field of industrial hygiene. Therefore readers are advised to determine whether new information is available.

Introduction | Recognition | Evaluation | Controls | References

Introduction

This guideline summarizes pertinent information about chlorine for workers and employers as well as for physicians, industrial hygienists, and other occupational safety and health professionals who may need such information to conduct effective occupational safety and health programs. Recommendations may be superseded by new developments in these fields; readers are therefore advised to regard these recommendations as general guidelines and to determine whether new information is available.

Recognition

SUBSTANCE IDENTIFICATION

* Formula
Cl(2)

* Structure
Not applicable.

* Synonyms
Bertholite, molecular chlorine

* Identifiers

1. CAS No.: 7782-50-5
2. RTECS No.: FO2100000
3. DOT UN: 1017 20
4. DOT label: Poison gas

* Appearance and odor

Chlorine is a greenish-yellow gas with a characteristic pungent odor. It condenses to an amber liquid at approximately -34 degrees C (-29.2 degrees F) or at high pressures. Odor thresholds ranging from 0.08 to part per million (ppm) parts of air have been reported. Prolonged exposures may result in olfactory fatigue.

CHEMICAL AND PHYSICAL PROPERTIES

* Physical data

1. Molecular weight: 70.9
2. Boiling point (at 760 mm Hg): -34.6 degrees C (-30.28 degrees F)
3. Specific gravity (liquid): 1.41 at 20 degrees C (68 degrees F) and a pressure of 6.86 atm
4. Vapor density: 2.5
5. Melting point: -101 degrees C (-149.8 degrees F)
6. Vapor pressure at 20 degrees C (68 degrees F): 4,800 mm Hg
7. Solubility: Slightly soluble in water; soluble in alkalies, alcohols, and chlorides.
8. Evaporation rate: Data not available.

* Reactivity

1. Conditions contributing to instability: Cylinders of chlorine may burst when exposed to elevated temperatures. Chlorine in solution forms a corrosive

material.
2. Incompatibilities: Flammable gases and vapors form explosive mixtures with chlorine. Contact between chlorine and many combustible substances (such as gasoline and petroleum products, hydrocarbons, turpentine, alcohols, acetylene, hydrogen, ammonia, and sulfur), reducing agents, and finely divided metals may cause fires and explosions. Contact between chlorine and arsenic, bismuth, boron, calcium, activated carbon, carbon disulfide, glycerol, hydrazine, iodine, methane, oxomonosilane, potassium, propylene, and silicon should be avoided. Chlorine reacts with hydrogen sulfide and water to form hydrochloric acid, and it reacts with carbon monoxide and sulfur dioxide to form phosgene and sulfuryl chloride. Chlorine is also incompatible with moisture, steam, and water.
3. Hazardous decomposition products: None reported.
4. Special precautions: Chlorine will attack some forms of plastics, rubber, and coatings.

* Flammability

Chlorine is a non-combustible gas. The National Fire Protection Association has assigned a flammability rating of 0 (no fire hazard) to chlorine; however, most combustible materials will burn in chlorine.

1. Flash point: Not applicable.
2. Autoignition temperature: Not applicable.
3. Flammable limits in air: Not applicable.
4. Extinguishant: For small fires use water only; do not use dry chemical or carbon dioxide. Contain and let large fires involving chlorine burn. If fire must be fought, use water spray or fog.

Fires involving chlorine should be fought upwind from the maximum distance possible. Keep unnecessary people away; isolate the hazard area and deny entry. For a massive fire in a cargo area, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from the area and let the fire burn. Emergency personnel should stay out of low areas and ventilate closed spaces before entering. Containers of chlorine may explode in the heat of the fire and should be moved from the fire area if it is possible to do so safely. If this is not possible, cool fire exposed containers from the sides with water until well after the fire is out. Stay away from the ends of containers. Firefighters should wear a full set of protective clothing and self- contained breathing apparatus when fighting fires involving chlorine.

EXPOSURE LIMITS

* OSHA PEL

The current Occupational Safety and Health Administration (OSHA) permissible exposure limit (PEL) for chlorine is 1 ppm (3 milligrams per cubic meter (mg/m(3))) as a ceiling limit. A worker's exposure to chlorine shall at no time exceed this ceiling level [29 CFR 1910.1000, Table Z-1].

* NIOSH REL

The National Institute for Occupational Safety and Health (NIOSH) has established a recommended exposure limit (REL) for chlorine of 0.5 ppm mg/m(3)) as a TWA for up to a 10-hour workday and a 40-hour workweek and a short-term exposure limit (STEL) of 1 ppm (3 mg/m(3))[NIOSH 1992].

* ACGIH TLV

The American Conference of Governmental Industrial Hygienists (ACGIH) has assigned chlorine a threshold limit value (TLV) of 0.5 ppm (1.5 mg/m(3)) as a TWA for a normal 8-hour workday and a 40-hour workweek and a short-term exposure limit (STEL) of 1.0 ppm (2.9 mg/m(3)) for periods not to exceed 15 minutes. Exposures at the STEL concentration should not be repeated more than four times a day and should be separated by intervals of at least 60 minutes [ACGIH 1994, p. 15].

* Rationale for Limits

The NIOSH limits are based on the risk of severe eye, mucous membrane and skin irritation [NIOSH 1992].

The ACGIH limits are based on the risk of eye and mucous membrane irritation [ACGIH 1991, p. 254].

Evaluation

HEALTH HAZARD INFORMATION

* Routes of Exposure

Exposure to chlorine can occur through inhalation, ingestion, and eye or skin contact [Genium 1992].

* Summary of toxicology

1. Effects on Animals: Chlorine is a severe irritant of the eyes, mucous membranes, skin, and lungs in experimental animals. The 1 hour LC(50) is 239 ppm in rats and 137 ppm in mice ()[Sax and Lewis 1989]. Animals surviving sublethal inhalation exposures for 15 to 193 days showed marked emphysema, which was associated with bronchiolitis and pneumonia [Clayton and Clayton 1982]. Chlorine injected into the anterior chamber of rabbits' eyes resulted in severe damage with inflammation, opacification of the cornea, atrophy of the iris, and injury to the lens [Grant 1986].
2. Effects on Humans: Severe acute effects of chlorine exposure in humans have been well documented since World War I when chlorine gas was used as a chemical warfare agent. Other severe exposures have resulted from the accidental rupture of chlorine tanks. These exposures have caused death, lung congestion, and pulmonary edema, pneumonia, pleurisy, and bronchitis [Hathaway et al. 1991]. The lowest lethal concentration reported is 430 ppm for 30 minutes[Clayton and Clayton 1982]. Exposure to 15 ppm causes throat irritation, exposures to 50 ppm are dangerous, and exposures to 1000 ppm can be fatal, even if exposure is brief [Sax and Lewis 1989; Clayton and Clayton 1982]. Earlier literature reported that exposure to a concentration of about 5 ppm caused respiratory complaints, corrosion of the teeth, inflammation of the mucous membranes of the nose and susceptibility to tuberculosis among chronically-exposed workers. However, many of these effects are not confirmed in recent studies and are of very dubious significance [ACGIH 1991]. A study of workers exposed to chlorine for an average of 10.9 years was published in 1970. All but six workers had exposures below 1 ppm; 21 had TWAs above 0.52 ppm. No evidence of permanent lung damage was found, but 9.4 percent had abnormal EKGs compared to 8.2 percent in the control group. The incidence of fatigue was greater among those exposed above 0.5 ppm [ACGIH 1991]. In 1981, a study was published involving 29 subjects exposed to chlorine concentrations up to 2.0 ppm for 4- and 8-hour periods. Exposures of 1.0 ppm for 8 hours produced statistically significant changes in pulmonary function that were not observed at a 0.5 ppm exposure concentration. Six of 14 subjects exposed to 1.0 ppm for 8 hours showed increased mucous secretions from the nose and in the hypopharynx. Responses for sensations of itching or burning of the nose and eyes, and general discomfort were not severe, but were perceptible, especially at the 1.0 ppm exposure level [ACGIH 1991]. A 1983 study of pulmonary function at low concentrations of chlorine exposure also found transient decreases in pulmonary function at the 1.0 ppm exposure level, but not at the 0.5 ppm level [ACGIH 1991]. Acne (chloracne)

is not unusual among persons exposed to low concentrations of chlorine for long periods of time. Tooth enamel damage may also occur [Parmeggiani 1983]. There has been one confirmed case of myasthenia gravis associated with chlorine exposure [NLM 1995].

* Signs and symptoms of exposure

1. Acute exposure: Acute exposure to low levels of chlorine results in eye, nose, and throat irritation, sneezing, excessive salivation, general excitement, and restlessness. Higher concentrations causes difficulty in breathing, violent coughing, nausea, vomiting, cyanosis, dizziness, headache, choking, laryngeal edema, acute tracheobronchitis, chemical pneumonia. Contact with the liquid can result in frostbite burns of the skin and eyes [Genium 1992].
2. Chronic exposure: Chronic exposure to low levels of chlorine gas can result in a dermatitis known as chloracne, tooth enamel corrosion, coughing, severe chest pain, sore throat, hemoptysis and increased susceptibility to tuberculosis [Genium 1992].

EMERGENCY MEDICAL PROCEDURES

* Emergency medical procedures: [NIOSH to supply]

Rescue: Remove an incapacitated worker from further exposure and implement appropriate emergency procedures (e.g., those listed on the Material Safety Data Sheet required by OSHA's Hazard Communication Standard [29 CFR 1910.1200]). All workers should be familiar with emergency procedures, the location and proper use of emergency equipment, and methods of protecting themselves during rescue operations.

EXPOSURE SOURCES AND CONTROL METHODS

The following operations may involve chlorine and lead to worker exposuresto this substance:

- The manufacture and transportation of chlorine
- Use as a chlorinating and oxidizing agent in organic and inorganic synthesis; in the manufacture of chlorinated solvents, automotive antifreeze and antiknock compounds, polymers (synthetic rubber and plastics), resins, elastomers, pesticides, refrigerants, and in the manufacture of rocket fuel
- Use as a fluxing, purification, and extraction agent in metallurgy
- Use as a bacteriostat, disinfectant, odor control, and demulsifier in treatment of drinking water, swimming pools, and in sewage
- Use in the paper and pulp, and textile industries for bleaching cellulose for artificial fibers; use in the manufacture of chlorinated lime; use in detinning and dezincing iron; use to shrink-proof wool
- Use in the manufacture of pharmaceuticals, cosmetics, lubricants, flameproofing, adhesives, in special batteries containing lithium or zinc, and in hydraulic fluids; use in the processing of meat, fish, vegetables, and fruit
- Use as bleaching and cleaning agents, and as a disinfectant in laundries, dishwashers, cleaning powders, cleaning dairy equipment, and bleaching cellulose

Methods that are effective in controlling worker exposures to chlorine,depending on the feasibility of implementation, are as follows:

- Process enclosure
- Local exhaust ventilation
- General dilution ventilation
- Personal protective equipment

Workers responding to a release or potential release of a hazardous substance must be protected as required by paragraph (q) of OSHA's Hazardous Waste Operations and Emergency Response Standard [29 CFR

Good sources of information about control methods are as follows:

1. ACGIH [1992]. Industrial ventilation--a manual of recommended practice. 21st ed. Cincinnati, OH: American Conference of Governmental Industrial Hygienists.
2. Burton DJ [1986]. Industrial ventilation--a self study companion. Cincinnati, OH: American Conference of Governmental Industrial Hygienists.
3. Alden JL, Kane JM [1982]. Design of industrial ventilation systems. New York, NY: Industrial Press, Inc.
4. Wadden RA, Scheff PA [1987]. Engineering design for control of workplace hazards. New York, NY: McGraw-Hill.
5. Plog BA [1988]. Fundamentals of industrial hygiene. Chicago, IL: National Safety Council.

MEDICAL SURVEILLANCE

OSHA is currently developing requirements for medical surveillance. When these requirements are promulgated, readers should refer to them for additional information and to determine whether employers whose employees are exposed to chlorine are required to implement medical surveillance procedures.

* Medical Screening

Workers who may be exposed to chemical hazards should be monitored in a systematic program of medical surveillance that is intended to prevent occupational injury and disease. The program should include education of employers and workers about work-related hazards, early detection of adverse health effects, and referral of workers for diagnosis and treatment. The occurrence of disease or other work-related adverse health effects should prompt immediate evaluation of primary preventive measures (e.g., industrial hygiene monitoring, engineering controls, and personal protective equipment). A medical surveillance program is intended to supplement, not replace, such measures. To detect and control work-related health effects, medical evaluations should be performed (1) before job placement, periodically during the term of employment, and (3) at the time of job transfer or termination.

* Preplacement medical evaluation

Before a worker is placed in a job with a potential for exposure to chlorine, a licensed health care professional should evaluate and document the worker's baseline health status with thorough medical, environmental, and occupational histories, a physical examination, and physiologic and laboratory tests appropriate for the anticipated occupational risks. These should concentrate on the function and integrity of the skin, eyes, teeth, respiratory system, and cardiovascular system. Medical surveillance for respiratory disease should be conducted using the principles and methods recommended by the American Thoracic Society.

A preplacement medical evaluation is recommended to assess medical conditions that may be aggravated or may result in increased risk when a worker is exposed to chlorine at or below the prescribed exposure limit. The health care professional should consider the probable frequency, intensity, and duration of exposure as well as the nature and degree of any applicable medical condition. Such conditionswhich should not be regarded as absolute contraindications to job placement) include a history and other findings consistent with diseases of the skin, eyes, teeth, respiratory system, or cardiovascular system.

* Periodic medical evaluations

Occupational health interviews and physical examinations should be performed at regular intervals during the employment period, as mandated by any applicable Federal, State, or local standard. Where no standard exists and the hazard is minimal, evaluations should be conducted every 3 to 5 years or as frequently as recommended by an experienced occupational health physician. Additional examinations may be necessary if a worker develops symptoms attributable to chlorine

exposure. The interviews, examinations, and medical screening tests should focus on identifying the adverse effects of chlorine on the skin, eyes, teeth, respiratory system, or cardiovascular system. Current health status should be compared with the baseline health status of the individual worker or with expected values for a suitable reference population.

* Termination medical evaluations

The medical, environmental, and occupational history interviews, the physical examination, and selected physiologic or laboratory tests that were conducted at the time of placement should be repeated at the time of job transfer or termination to determine the worker's medical status at the end of his or her employment. Any changes in the worker's health status should be compared with those expected for a suitable reference population.

* Biological monitoring

Biological monitoring involves sampling and analyzing body tissues or fluids to provide an index of exposure to a toxic substance or metabolite. No biological monitoring test acceptable for routine use has yet been developed for chlorine.

WORKPLACE MONITORING AND MEASUREMENT

Determination of a worker's exposure to airborne chlorine is made using amidget fritted glass bubbler (MFGB) containing a 0.1 percent solution of sulfamic acid. Samples are collected at a maximum flow rate of 1.0 liter/minute until a maximum collection volume of 15 liters is collected for short-term (STEL or ceiling) samples, or 300 liters is collected forTWA samples. Analysis is conducted using an ion specific electrode (ISE). This method is described in the OSHA Computerized Information System [OSHA and is fully validated. NIOSH Method No. 6011 (for chlorine or bromine) can also be used for the determination of a worker's exposure toairborne chlorine. This method requires sample collection on a silvermembrane filter using flow rates of between 0.3 and 1.0 liter/minute until a minimum collection volume of 2 liters or a maximum collection volume of liters is reached. Analysis for this method is conducted using ionchromatography [NIOSH 1994].

Controls

PERSONAL HYGIENE PROCEDURES

If chlorine contacts the skin, workers should flush the affected areasimmediately with plenty of water, followed by washing with soap and water.
Clothing contaminated with chlorine should be removed immediately, and provisions should be made for the safe removal of the chemical from the clothing. Persons laundering the clothes should be informed of the hazardous properties of chlorine, particularly its potential for causing severe irritation to the eyes, skin, and mucous membranes.

A worker who handles chlorine should thoroughly wash hands, forearms, and face with soap and water before eating, using tobacco products, using toilet facilities, applying cosmetics, or taking medication.

Workers should not eat, drink, use tobacco products, apply cosmetics, or take medication in areas where chlorine or a solution containing chlorine is handled, processed, or stored.

STORAGE

Chlorine should be stored in a cool, dry, well-ventilated area in tightly sealed containers that are labeled in accordance with OSHA's Hazard Communication Standard [29 CFR 1910.1200]. Containers of chlorine should be protected from exposure to weather, extreme temperatures changes, and physical damage, and they should be stored separately from flammable gases and vapors, combustible substances (such as gasoline and petroleum products, hydrocarbons, turpentine, alcohols, acetylene, hydrogen, ammonia,and sulfur), reducing agents, finely divided metals, arsenic, bismuth, boron, calcium, activated carbon, carbon disulfide, glycerol, hydrazine, iodine, methane, oxomonosilane, potassium, propylene, silicon, hydrogen sulfide and water, carbon monoxide and sulfur dioxide, moisture, steam, and water. Workers handling and operating chlorine containers, cylinders, andtank wagons should receive special training in standard safety procedures for handling compressed corrosive gases. All pipes and containment used for chlorine service should be regularly inspected and tested. Empty containers of chlorine should have secured protective covers on their valves and should be handled appropriately.

SPILLS AND LEAKS

In the event of a spill or leak involving chlorine, persons not wearing protective equipment and fully-encapsulating, vapor-protective clothing should be restricted from contaminated areas until cleanup has been completed. The following steps should be undertaken following a spill or leak:

1. Notify safety personnel.
2. Remove all sources of heat and ignition.
3. Keep all combustibles (wood, paper, oil, etc.) away from the leak.
4. Ventilate potentially explosive atmospheres.
5. Evacuate the spill area for at least 50 feet in all directions.
6. Find and stop the leak if this can be done without risk; if not, move the leaking container to an isolated area until gas has dispersed. The cylinder may be allowed to empty through a reducing agent such as sodium bisulfide and sodium bicarbonate/li>
7. Use water spray to reduce vapors; do not put water directly on the leak or spill area.

SPECIAL REQUIREMENTS

U.S. Environmental Protection Agency (EPA) requirements for emergency planning, reportable quantities of hazardous releases, community right-to-know, and hazardous waste management may change over time. Usersare therefore advised to determine periodically whether new information is available.

* Emergency planning requirements

Employers owning or operating a facility at which there are 100 pounds or more of chlorine must comply with EPA's emergency planning requirements [40 CFR Part 355.30].

* Reportable quantity requirements for hazardous releases

A hazardous substance release is defined by EPA as any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environmentincluding the abandonment or discarding of contaminated containers) of hazardous substances. In the event of a release that is above the reportable quantity for that chemical, employers are required to notify the proper Federal, State, and local authorities [40 CFR
The reportable quantity of chlorine is 10 pounds. If an amount equal to or greater than this quantity is released within a 24-hour period in a manner that will expose persons outside the facility, employers are required to do the following:

- Notify the National Response Center immediately at (800) or at (202) 426-2675 in Washington, D.C. [40 CFR 302.6].
- Notify the emergency response commission of the State likely to be affected by the release [40 CFR 355.40].
- Notify the community emergency coordinator to the local emergency planning committee (or relevant local emergency response personnel) of any area likely to be affected by the release [40 CFR 355.40].

* Community right-to-know requirements

Employers who own or operate facilities in SIC codes 20 to 39 that employ 10 or more workers and that manufacture 25,000 pounds or more of chlorine per calendar year or otherwise use 10,000 pounds or more of chlorine per calendar year are required by EPA [40 CFR Part 372.30] to submit a Toxic Chemical Release Inventory form (Form R) to EPA reporting the amount of chlorine emitted or released from their facility annually.

* Hazardous waste management requirements

EPA considers a waste to be hazardous if it exhibits any of the following characteristics: ignitability, corrosivity, reactivity, or toxicity as defined in 40 CFR 261.21-261.24. Under the Resource Conservation and Recovery Act (RCRA) [40 USC 6901 et seq.], EPA has specifically listed many chemical wastes as hazardous. Although chlorine is not specifically listed as a hazardous waste under RCRA, EPA requires employers to treat waste as hazardous if it exhibits any of the characteristics discussed above.

Providing detailed information about the removal and disposal of specific chemicals is beyond the scope of this guideline. The U.S. Department of Transportation, EPA, and State and local regulations should be followed to ensure that removal, transport, and disposal of this substance are conducted in accordance with existing regulations. To be certain that chemical waste disposal meets EPA regulatory requirements, employers should address any questions to the RCRA hotline at (703) 412-9810 (in the Washington, D.C. area) or toll-free at (800) 424-9346 (outside Washington, D.C.). In addition, relevant State and local authorities should be contacted for information on any requirements they may have for the waste removal and disposal of this substance.

RESPIRATORY PROTECTION

* Conditions for respirator use

Good industrial hygiene practice requires that engineering controls be used where feasible to reduce workplace concentrations of hazardous materials to the prescribed exposure limit. However, some situations may require the use of respirators to control exposure. Respirators must be worn if the ambient concentration of chlorine exceeds prescribed exposure limits. Respirators may be used (1) before engineering controls have been installed, (2) during work operations such as maintenance or repair activities that involve unknown exposures, (3) during operations that require entry into tanks or closed vessels, and (4) during emergencies. Workers should only use
respirators that have been approved by NIOSH and the Mine Safety and Health Administration (MSHA).

* Respiratory protection program

Employers should institute a complete respiratory protection program that, at a minimum, complies with the requirements of OSHA's Respiratory Protection Standard [29 CFR 1910.134]. Such a program must include respirator selection, an evaluation of the worker's ability to perform the work while wearing a respirator, the regular training of personnel, respirator fit testing, periodic workplace monitoring, and regular respirator maintenance, inspection, and cleaning. The implementation of an adequate respiratory protection program (including selection of the correct respirator) requires that a knowledgeable person be in charge of the program and that the program be evaluated regularly. For additional information on the selection and use of respirators and on the medical screening of respirator users, consult the latest edition of the NIOSH Respirator Decision Logic [NIOSH 1987b] and the NIOSH Guide to Industrial Respiratory Protection [NIOSH 1987a].

PERSONAL PROTECTIVE EQUIPMENT

Workers should use appropriate personal protective clothing and equipmentthat must be carefully selected, used, and maintained to be effective in preventing skin contact with chlorine. The selection of the appropriate personal protective equipment (PPE) (e.g., gloves, sleeves, encapsulating suits) should be based on the extent of the worker's potential exposure to chlorine. The resistance of various materials to permeation by both chlorine liquid and chlorine gas is shown below: Material Breakthrough time (hr) Chlorine liquid responder

Chlorine gas butyl rubber neoprene teflon viton saranex barricade chemrel responder trellchem HPS nitrile rubberH (PE/EVAL) polyethylene polyvinyl chloride Material is estimated (but not tested) to provide at least four hours of protection. Not recommended, degradation may occur.
To evaluate the use of these PPE materials with chlorine, users should consult the best available performance data and manufacturers' recommendations. Significant differences have been demonstrated in the chemical resistance of generically similar PPE materials (e.g., butyl) produced by different manufacturers. In addition, the chemical resistance of a mixture may be significantly different from that of any of its neat components.

Any chemical-resistant clothing that is used should be periodically evaluated to determine its effectiveness in preventing dermal contact. Safety showers and eye wash stations should be located close to operations that involve chlorine.

Splash-proof chemical safety goggles or face shields (20 to 30 cm long, minimum) should be worn during any operation in which a solvent, caustic, or other toxic substance may be splashed into the eyes.

In addition to the possible need for wearing protective outer apparel e.g., aprons, encapsulating suits), workers should wear work uniforms, coveralls, or similar full-body coverings that are laundered each day. Employers should provide lockers or other closed areas to store work andstreet clothing separately. Employers should collect work clothing at theend of each work shift and provide for its laundering. Laundry personnelshould be informed about the potential hazards of handling contaminatedclothing and instructed about measures to minimize their health risk.

Protective clothing should be kept free of oil and grease and should be inspected and maintained regularly to preserve its effectiveness.

Protective clothing may interfere with the body's heat dissipation, especially during hot weather or during work in hot or poorly ventilated work environments.

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SAC Period: 7/30/11 - 7/29/21

SBRR Traffic and Revenues

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Tons											
80 Coal	1,178,567	1,078,513	1,163,517	1,212,351	1,240,840	1,188,294	1,193,719	1,254,807	1,223,226	1,116,331	1,391,929
IM	3,822,385	4,548,456	5,190,415	5,531,075	5,976,317	6,354,254	6,756,091	7,183,341	7,637,609	8,120,605	8,634,145
10 AG	2,619,483	2,779,682	2,908,340	3,010,784	3,117,668	3,235,259	3,357,286	3,483,915	3,615,321	3,751,683	3,893,188
40 Chemicals	8,943,317	9,358,687	9,779,323	10,114,188	10,507,480	10,918,123	11,344,814	11,788,180	12,248,874	12,727,572	13,224,978
60 Auto	329,087	391,265	387,509	413,155	421,477	423,191	424,911	426,639	428,373	430,115	431,863
Other: 20/25/30	11,078,056	12,033,876	12,694,167	13,369,271	13,933,456	14,593,514	15,286,793	16,015,060	16,780,181	17,584,124	18,428,970
Total	**27,970,894**	**30,190,479**	**32,123,271**	**33,650,825**	**35,197,237**	**36,712,634**	**38,363,614**	**40,151,942**	**41,933,583**	**43,730,429**	**46,005,073**
Revenue											
80 Coal	$12,566,539	$11,860,429	$12,935,125	$15,973,576	$16,697,183	$16,213,900	$17,313,204	$18,675,252	$18,863,142	$17,784,380	$22,331,817
IM	25,921,420	27,106,240	31,840,302	34,323,365	38,200,664	43,037,596	47,802,684	53,325,226	59,457,209	65,565,565	72,021,695
10 AG	26,729,737	27,733,073	30,570,080	33,028,761	35,741,061	39,537,597	42,657,134	46,174,208	49,959,206	53,603,250	57,322,699
40 Chemicals	180,188,261	195,949,622	214,601,891	229,028,577	249,806,763	278,945,581	302,339,358	328,969,556	357,756,888	385,092,242	412,918,885
60 Auto	11,111,673	13,023,537	12,538,801	14,000,209	14,915,020	15,541,747	16,205,820	16,950,109	17,619,860	18,281,737	18,907,838
Other: 20/25/30	96,949,071	108,932,909	116,969,065	128,674,225	139,919,830	156,305,892	170,543,168	186,819,493	204,587,655	221,907,341	239,869,879
Total	**$353,466,701**	**$384,605,811**	**$419,455,264**	**$455,028,713**	**$495,280,521**	**$549,582,312**	**$596,861,368**	**$650,913,844**	**$708,243,961**	**$762,234,515**	**$823,372,813**
Car-Miles											
80 Coal	2,274,276	2,081,201	2,245,234	2,339,469	2,394,444	2,293,045	2,303,514	2,421,395	2,360,453	2,154,179	2,685,999
IM	10,983,108	13,069,376	14,913,958	15,892,800	17,172,142	18,258,093	19,412,719	20,640,363	21,945,641	23,333,465	24,809,053
10 AG	9,176,667	9,737,884	10,188,602	10,547,487	10,921,926	11,333,877	11,761,365	12,204,978	12,665,322	13,143,030	13,638,756
40 Chemicals	31,991,053	33,476,872	34,981,524	36,179,368	37,586,207	39,055,113	40,581,426	42,167,388	43,815,331	45,527,678	47,306,944
60 Auto	2,555,589	3,038,441	3,009,269	3,208,432	3,273,060	3,286,366	3,299,726	3,313,141	3,326,610	3,340,134	3,353,713
Other: 20/25/30	27,042,469	29,532,360	31,356,028	32,991,660	34,331,277	35,930,293	37,608,892	39,371,284	41,221,914	43,165,476	45,206,926
Total	**84,023,162**	**90,936,134**	**96,694,615**	**101,159,217**	**105,679,055**	**110,156,787**	**114,967,642**	**120,118,548**	**125,335,272**	**130,663,962**	**137,001,391**

Exhibit III-A-1

NS REPLY EXHIBIT II-A-2: VERIFIED STATEMENT OF ROBERT O. FISHER

Determination of Effect of Proposed Cross-Over Traffic Limits on SARR Traffic Group Selected by Complainant in *Sunbelt v. Norfolk Southern Railway*, STB Dkt. No. NOR 42130

I am Robert O. Fisher. I am Senior Director at FTI Consulting, Inc, and I provide financial and economic consulting services to the transportation, energy and telecommunications industries. I direct analyses for railroad clients in litigation disputes and in rate reasonableness cases before the Surface Transportation Board ("STB"). I have sponsored evidence regarding the calculation of traffic volumes and revenues in prior stand-alone cost ("SAC") cases. Defendant Norfolk Southern Railway Company asked me to examine the volumes selected by Complainant Sunbelt for the traffic group underlying the stand-alone railroad analysis in STB Docket No. NOR 42130, in order to determine the impact of the STB's recently proposed limits to the inclusion of "cross-over" traffic,[1] as set forth in Ex Parte 715, *Rate Regulation Reforms* (EP 715) served July 25, 2012. On September 21, 2012, I filed a verified statement on behalf of Norfolk Southern as part of NS's "Motion to Hold Case in Abeyance Pending Completion of this Rulemaking" in this case. Following is an update to my methodology and results.

Previously, I used the workpapers supporting Sunbelt's Opening evidence to calculate the impact of the STB's proposed limitations. All units and revenues in that analysis reflected 1Q-3Q 2012 shipments from SunBelt's waybill file (ttWaybills_Lead_Unit_with_TOTALS), which I then limited to those movements that SunBelt selected for its SARR. In preparation of our Reply evidence, we determined that SunBelt erroneously included a large number of waybills twice for the third quarter of 2011, which resulted in double counting of traffic volumes and revenues in that quarter. This analysis relies on the corrected set of waybills, and it uses the forecasted volumes and SBRR revenues included in NS's Reply evidence.

In EP 715, the STB offered two proposals to restrict the use of crossover traffic in Full SAC cases. The first – "Proposal 1" – would limit cross-over traffic to movements for which the SARR would either originate or terminate the rail portion of the movement. The second – "Proposal 2" – would limit

[1] Cross-over traffic is defined as "those movements included in the traffic group that would be routed over the SARR for only a part of their trip from origin to destination. In such circumstances, the SARR would not replicate all of the defendant railroad's service." (EP 715 Decision at 6)

cross-over traffic to movements where the entire service provided by the defendant railroad in the real world moves in trainload service.

STB Limitation Proposal 1: Restricting the use of cross-over traffic to movements for which the SARR would either originate or terminate the rail portion of the movement

In order to identify the traffic that would be impacted by this proposal, I first classified the traffic based on the movement type identified by SunBelt in the waybill records to determine which traffic the SBRR would originate and/or terminate. The following chart presents the results of that analysis.

Table 1: Traffic Originated and/or Terminated on the SBRR (2011 Full Year)

SBRR Move Type	Units (000s)	% of SBRR Traffic
Originate and Deliver (OD)	62.8	11%
Originate and **Terminate** (OT)	4.0	1%
Receive and **Terminate** (RT)	44.6	8%
Receive and Deliver (RD)	455.6	80%

As the chart shows, using the SBRR movement type designation, the SBRR would originate or terminate only 20% of the units. However the "RD" (Receive/Deliver) movement type includes interline traffic that the SARR would receive or deliver at locations where Norfolk Southern interchanges with other railroads, such as New Orleans. For purposes of this analysis, I conservatively assumed that the STB's proposal would not limit those types of movements because those interchanges represent the origination or termination point for the NS system and the SARR is replacing the incumbent NS all the way to or from these real-world interchange points.

I used the Full_Route field from the waybill file to identify those interline moves for which the SBRR on or off point was also the location where NS interchanges with another carrier, and reclassified this interline traffic accordingly. In my prior analysis, I did not treat Meridian, MS as an NS interchange due to NS's operating and ownership arrangements beyond Meridian on the Meridian Speedway. For this Reply analysis, I accept SunBelt's use of the traffic records to identify the traffic interchanged at Meridian and did not eliminate such traffic based on STB proposed cross-over traffic limit No. 1.

The 248,500 units in Table 2 below that the SBRR receives or delivers at NS interchanges represent another 44% of total 2011 SARR volumes that would not be excluded under the STB's

proposed limitation. The table shows that the Board's Proposal 1 in Ex Parte 715 would exclude from Complainant's SARR traffic group an average of 39% of the SBRR volumes throughout the SARR period.[2]

Table 2: SBRR Traffic that would be Disallowed under EP 715 Proposal 1

SARR Traffic Class	2011 Units (000s)	% of Total	% of Total (Annual Avg.)
Local	4.0	1%	1%
Originate and Deliver (OD)	62.8	11%	10%
Receive and Terminate (RT)	44.6	8%	7%
Receive or Deliver at NS Interchange	248.5	44%	43%
SARR Overhead	207.1	**37%**	**39%**
Total	567.0	100%	100%

<u>STB Limitation Proposal 2</u>: Restricting the use of cross-over traffic to movements where the entire service provided by the defendant railroad in the real world is in trainload service

The first step in identifying the traffic that would be excluded by the STB's second proposal is to distinguish cross-over traffic from interline traffic. Interline traffic for which the SARR fully replaces NS for the entirety of the move (for example, issue moves that NS and the SARR originate at McIntosh and deliver to Union Pacific at New Orleans) is not considered cross-over in this analysis. I used a process similar to that used for Proposal 1 to identify SBRR Originate/Deliver moves that are delivered to an NS interchange point and SBRR Receive/Terminate moves that are received at an NS interchange point. This approach identified 15,800 units in 2011 for which the SBRR fully replaces NS on an interline move.

For the remaining overhead traffic, I calculated the number of shipments per waybill, and applied the standard URCS definition that identifies waybills with 50 carloads or more as trainload shipments. Although intermodal shipments are waybilled at the individual container level, for the purposes of this analysis I treated all intermodal traffic as trainload. This conservative approach understates the amount of traffic implicated by the STB's Proposal 2, as such shipments can be handled by multiple trains.

[2] Tables in this analysis may not total 100% due to rounding.

Using this approach, I determined that the STB's second crossover traffic limitation proposal would exclude approximately 43% of SBRR traffic in 2011 as summarized in the following table. Due to traffic mix changes, this percent drops throughout the SARR period, averaging 38%.

Table 3: SBRR Traffic that would be Disallowed under EP 715 Proposal 2

Move/Waybill Type	2011 Units (000s)	% of Total	% of Total (Annual Avg.)
Local	4.0	1%	1%
SBRR Fully Replaces NS	15.8	3%	2%
Overhead			
- Intermodal	279.5	49%	55%
- Other Trainload	22.9	4%	3%
- Carload & Multi-Carload	**244.8**	**43%**	**38%**
Grand Total	567.0	100%	100%

Revenues

I followed the same approach to calculate the impact of the STB's EP 715 proposals on SBRR revenues. I used SBRR revenues, as calculated in NS's Reply filing, which are based on the Original ATC allocation formula. A smaller percentage of SBRR revenues (14% on average) would be excluded than the 39% of carload volume that would be excluded under the STB proposed cross-over traffic limit No. 1. *See* Table 2 above.

Table 4: SBRR Revenues that would be Disallowed under EP 715 Proposal 1

	2011 Revenues (millions)	% of 2011 SBRR Revenues	% of Revs (Annual Avg.)
Local	$ 4.3	1%	1%
Originate/Deliver	73.9	21%	21%
Receive/Terminate	46.8	13%	13%
Receive or Deliver at NS Interchange	181.4	51%	52%
SARR Overhead	47.1	**13%**	**14%**
Total	353.5	100%	100%

The reverse is true for Proposal 2, however, as a much larger percentage of stand-alone revenue (73% on average) would be excluded under the STB's Proposal 2, compared to 38% of the carload volume (from Table 3 above).

Table 5: SBRR Revenues that would be Disallowed under EP 715 Proposal 2

Move/Waybill Type	Revenues (millions)	% of 2011 SBRR Revenues	% of Revs (Annual Avg.)
Local	$ 4.3	1%	1%
SBRR Fully Replaces NS	43.1	12%	12%
Overhead			
- Intermodal	25.5	7%	8%
- Other Trainload	24.4	7%	6%
- Carload & Multi-Carload	**256.1**	**72%**	**73%**
Grand Total	353.5	100%	100%

The STB's two proposals implicate different proportions of carloads and revenues in this case because of intermodal traffic. The intermodal traffic that SunBelt selected for its SARR traffic group represents a large percentage of SARR carloads and a smaller percentage of revenues. As SunBelt posited that its SARR would not originate or terminate many of the intermodal shipments, most intermodal traffic is included in the traffic that would be disallowed under Proposal 1. Because I conservatively treated all intermodal shipments as "trainload" shipments, however, no intermodal traffic is included in the estimate of the traffic that would be disallowed under Proposal 2.

Summary

Below is a summary of the impact of each of the two proposals, in terms of the traffic volume and revenue that would be excluded from Sunbelt's selected traffic group.

Table 6: Summary of the Average SBRR Volume and Revenue Reductions under Each EP 715 Proposal

	Proposal 1	Proposal 2
Units	-39%	-38%
SBRR Revenue	-14%	-73%

VERIFICATION

I Robert O. Fisher, hereby verify that, to the best of my knowledge and ability, the foregoing statement and calculations are true and correct. I further certify that I am qualified and authorized to file this statement.

Robert O. Fisher

Robert O. Fisher

Executed on this 3rd day of January, 2013.

Table 1. Comparison of projections in the *AEO2013* and *AEO2012* Reference cases, 2010-2040 (continued)

Energy and economic factors	2010	2011	2025		2035		2040
			AEO2013	*AEO2012*	*AEO2013*	*AEO2012*	*AEO2013*
Prices (2011 dollars)							
Brent spot crude oil (dollars per barrel)	81.31	111.26	117.36	--	145.41	--	162.68
West Texas Intermediate spot crude oil (dollars per barrel)	81.08	94.86	115.36	135.35	143.41	148.03	160.68
Natural gas at Henry Hub (dollars per million Btu)	4.46	3.98	4.87	5.75	6.32	7.52	7.83
Domestic coal at minemouth (dollars per short ton)	36.37	41.16	52.02	44.97	58.57	51.59	61.28
Average electricity price (cents per kilowatthour)	10.0	9.9	9.5	9.9	10.1	10.3	10.8
Economic indicators							
Real gross domestic product (billion 2005 dollars)	13,063	13,299	18,985	19,185	24,095	24,539	27,277
GDP chain-type price index (2005 = 1.000)	1.110	1.134	1.429	1.424	1.713	1.758	1.871
Real disposable personal income (billion 2005 dollars)	10,017	10,150	14,259	14,286	17,752	18,217	19,785
Value of industrial shipments (billion 2005 dollars)	5,842	6,019	8,548	7,973	9,779	8,692	10,616
Primary energy intensity (thousand Btu per 2005 dollar of GDP)	7.53	7.35	5.39	5.32	4.33	4.36	3.95
Energy-related carbon dioxide emissions (million metric tons)	5,634	5,471	5,501	5,552	5,607	5,758	5,691

[a]Includes petroleum-derived fuels and non-petroleum-derived fuels, such as ethanol and biodiesel, and coal-based synthetic liquids. Petroleum coke, which is a solid, is included. Also included are natural gas plant liquids and crude oil consumed as a fuel.

-- = not applicable.

Notes: Quantities reported in quadrillion Btu are derived from historical volumes and assumed thermal conversion factors. Other production includes liquid hydrogen, methanol, and some inputs to refineries. Net imports of petroleum include crude oil, petroleum products, unfinished oils, alcohols, ethers, and blending components. Other net imports include coal coke and electricity. Both coal consumption and coal production include waste coal consumed in the electric power and industrial sectors.

Sources: AEO2013 National Energy Modeling System, run REF2013.D102312A; and AEO2012 National Energy Modeling System, run REF2012.D020112C.

Exhibit III-A-3

ref2013.d102312a

Report: Annual Energy Outlook 2013
Scenario: ref2013 — Reference case
Datekey: d102312a
Release Date: December 2012

12. Petroleum Product Prices
(2011 dollars per gallon, unless otherwise noted)

Sector and Fuel	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Crude Oil Spot Prices (2011 dollars per barrel)																
Brent Spot Price 1/	81.31	111.26	108.50	96.81	97.00	95.91	97.00	99.08	101.20	103.36	105.57	107.83	110.14	112.50	114.91	117.36
West Texas Intermediate Spot Price	81.08	94.86	92.49	87.81	88.30	88.21	91.33	96.08	98.70	101.26	103.57	105.83	108.14	110.50	112.91	115.36
Delivered Sector Product Prices																
Residential																
Propane	2.338	2.134	2.023	1.913	1.873	1.821	1.829	1.886	1.920	1.953	1.984	2.007	2.032	2.053	2.072	2.091
Distillate Fuel Oil	3.019	3.658	3.682	3.536	3.462	3.461	3.512	3.574	3.622	3.679	3.732	3.789	3.845	3.906	3.966	4.033
Commercial																
Distillate Fuel Oil	2.937	3.566	3.591	3.446	3.050	3.060	3.113	3.180	3.236	3.297	3.345	3.410	3.480	3.536	3.592	3.655
Residual Fuel Oil	1.704	2.869	3.014	2.819	1.989	1.987	2.031	2.057	2.126	2.160	2.219	2.270	2.323	2.378	2.438	2.486
Residual Fuel Oil (2011 dollars per barrel)	71.59	120.49	126.59	118.39	83.54	83.45	85.29	86.41	89.31	90.72	93.20	95.34	97.58	99.89	102.40	104.39
Industrial 2/																
Propane	2.009	1.920	1.771	1.634	1.584	1.519	1.529	1.603	1.649	1.695	1.738	1.769	1.803	1.833	1.859	1.885
Distillate Fuel Oil	3.010	3.638	3.662	3.517	3.069	3.088	3.143	3.215	3.276	3.342	3.387	3.459	3.540	3.593	3.648	3.709
Residual Fuel Oil	1.691	2.823	2.966	2.785	2.357	2.340	2.377	2.413	2.478	2.515	2.573	2.624	2.676	2.732	2.791	2.838
Residual Fuel Oil (2011 dollars per barrel)	71.03	118.58	124.58	116.99	98.99	98.29	99.85	101.34	104.07	105.64	108.07	110.19	112.41	114.72	117.24	119.19
Transportation																
Propane	2.331	2.220	2.109	2.002	1.962	1.911	1.919	1.975	2.010	2.043	2.074	2.097	2.122	2.143	2.162	2.181
Ethanol (E85) 3/	2.436	2.415	3.211	2.971	2.368	2.381	2.340	2.365	2.467	2.559	2.830	2.805	2.694	2.697	2.591	2.603
Ethanol Wholesale Price	1.748	2.539	2.539	2.591	2.639	2.607	2.667	2.691	2.774	2.866	2.999	2.982	2.978	2.852	2.769	2.663
Motor Gasoline 4/	2.880	3.450	3.502	3.246	3.167	3.120	3.118	3.146	3.194	3.254	3.324	3.381	3.428	3.452	3.478	3.494
Jet Fuel 5/	2.236	3.037	3.041	2.775	2.625	2.635	2.683	2.736	2.788	2.845	2.902	2.960	3.015	3.077	3.135	3.203
Diesel Fuel (distillate fuel oil) 6/	3.068	3.583	3.624	3.361	3.318	3.342	3.398	3.469	3.533	3.601	3.646	3.720	3.806	3.856	3.910	3.971
Residual Fuel Oil	1.590	2.669	2.803	2.631	2.010	2.009	2.046	2.095	2.143	2.186	2.232	2.279	2.327	2.379	2.432	2.482
Residual Fuel Oil (2011 dollars per barrel)	66.79	112.11	117.72	110.51	84.42	84.37	85.94	88.01	90.02	91.80	93.74	95.71	97.74	99.91	102.13	104.23
Electric Power 7/																
Distillate Fuel Oil	2.666	3.232	3.264	3.132	2.834	2.836	2.891	2.955	3.005	3.061	3.114	3.171	3.227	3.288	3.348	3.414
Residual Fuel Oil	1.813	2.391	2.848	2.548	3.271	3.254	3.315	3.523	3.573	3.688	3.734	3.788	3.843	3.918	4.010	4.085
Residual Fuel Oil (2011 dollars per barrel)	76.16	100.43	119.63	107.03	137.38	136.69	139.22	147.97	150.06	154.88	156.82	159.09	161.39	164.55	168.44	171.59
Refined Petroleum Product Prices 8/																
Propane	1.374	1.459	1.252	1.088	1.020	0.933	0.939	1.014	1.062	1.109	1.160	1.198	1.242	1.283	1.320	1.357
Motor Gasoline 4/	2.865	3.422	3.481	3.235	3.166	3.119	3.118	3.146	3.194	3.254	3.323	3.380	3.428	3.452	3.477	3.493
Jet Fuel 5/	2.236	3.037	3.041	2.775	2.625	2.635	2.683	2.736	2.788	2.845	2.902	2.960	3.015	3.077	3.135	3.203
Distillate Fuel Oil	3.044	3.592	3.630	3.397	3.279	3.299	3.355	3.426	3.489	3.556	3.601	3.675	3.758	3.810	3.864	3.926
Residual Fuel Oil	1.655	2.642	2.839	2.650	2.175	2.172	2.210	2.245	2.297	2.342	2.390	2.439	2.490	2.544	2.603	2.652
Residual Fuel Oil (2011 dollars per barrel)	69.52	110.98	119.25	111.31	91.34	91.21	92.82	94.28	96.49	98.34	100.39	102.44	104.56	106.86	109.31	111.40
Average	**2.59**	**3.11**	**3.14**	**2.92**	**2.83**	**2.79**	**2.81**	**2.85**	**2.90**	**2.95**	**3.01**	**3.06**	**3.11**	**3.15**	**3.18**	**3.22**
Prices in Nominal Dollars																
Crude Oil Spot Prices (nominal dollars per barrel)																
Brent Spot Price 1/	79.61	111.26	110.43	100.20	101.81	102.21	104.99	108.87	112.99	117.23	121.73	126.50	131.55	136.80	142.24	147.90
West Texas Intermediate Spot Price	79.39	94.86	94.13	90.88	92.68	94.00	98.85	105.57	110.20	114.85	119.43	124.15	129.16	134.37	139.76	145.38
Delivered Sector Product Prices																
Nominal Dollars per Gallon																
Residential																
Propane	2.289	2.134	2.059	1.980	1.966	1.941	1.980	2.072	2.144	2.215	2.288	2.354	2.427	2.497	2.565	2.635
Distillate Fuel Oil	2.956	3.658	3.748	3.660	3.633	3.688	3.801	3.927	4.044	4.173	4.303	4.445	4.593	4.749	4.910	5.082
Commercial																
Distillate Fuel Oil	2.876	3.566	3.655	3.567	3.202	3.261	3.369	3.494	3.613	3.740	3.857	4.000	4.157	4.299	4.447	4.606
Residual Fuel Oil	1.669	2.869	3.068	2.918	2.088	2.117	2.198	2.261	2.374	2.450	2.559	2.663	2.775	2.892	3.018	3.132
Industrial 2/																
Propane	1.967	1.920	1.802	1.692	1.662	1.619	1.655	1.761	1.842	1.922	2.004	2.075	2.154	2.229	2.302	2.375
Distillate Fuel Oil	2.947	3.638	3.727	3.640	3.221	3.291	3.402	3.533	3.658	3.791	3.905	4.058	4.229	4.369	4.515	4.674
Residual Fuel Oil	1.656	2.823	3.019	2.883	2.474	2.494	2.573	2.651	2.767	2.853	2.967	3.078	3.197	3.322	3.456	3.576
Transportation																
Propane	2.282	2.220	2.146	2.072	2.059	2.036	2.077	2.170	2.244	2.317	2.392	2.460	2.535	2.606	2.677	2.748
Ethanol (E85) 3/	2.385	2.415	3.268	3.075	2.485	2.537	2.532	2.598	2.754	2.902	3.263	3.290	3.218	3.280	3.208	3.281
Ethanol Wholesale Price	1.712	2.539	2.584	2.682	2.770	2.778	2.887	2.957	3.098	3.251	3.458	3.499	3.557	3.468	3.428	3.355
Motor Gasoline 4/	2.820	3.450	3.564	3.360	3.324	3.325	3.375	3.457	3.567	3.691	3.832	3.966	4.094	4.198	4.305	4.403
Jet Fuel 5/	2.190	3.037	3.095	2.872	2.755	2.808	2.903	3.007	3.112	3.227	3.346	3.472	3.601	3.742	3.881	4.036
Diesel Fuel (distillate fuel oil) 6/	3.004	3.583	3.688	3.479	3.483	3.562	3.678	3.812	3.945	4.085	4.204	4.364	4.545	4.689	4.840	5.004
Residual Fuel Oil	1.557	2.669	2.853	2.723	2.110	2.141	2.215	2.303	2.393	2.479	2.574	2.673	2.779	2.893	3.010	3.127
Electric Power 7/																
Distillate Fuel Oil	2.610	3.232	3.322	3.242	2.975	3.023	3.129	3.246	3.355	3.472	3.591	3.720	3.854	3.998	4.144	4.302
Residual Fuel Oil	1.775	2.391	2.899	2.638	3.433	3.468	3.588	3.871	3.989	4.182	4.305	4.443	4.589	4.764	4.964	5.148
Refined Petroleum Product Prices 8/																
Propane	1.346	1.459	1.274	1.127	1.070	0.995	1.016	1.114	1.186	1.258	1.338	1.406	1.483	1.560	1.634	1.710
Motor Gasoline 4/	2.805	3.422	3.543	3.349	3.323	3.324	3.375	3.456	3.566	3.690	3.832	3.965	4.094	4.197	4.304	4.402
Jet Fuel 5/	2.190	3.037	3.095	2.872	2.755	2.808	2.903	3.007	3.112	3.227	3.346	3.472	3.601	3.742	3.881	4.036
Distillate Fuel Oil	2.980	3.592	3.694	3.516	3.442	3.516	3.631	3.765	3.896	4.033	4.153	4.311	4.488	4.632	4.784	4.947
Residual Fuel Oil (dollars per barrel)	68.06	110.98	121.37	115.21	95.88	97.20	100.46	103.59	107.74	111.54	115.76	120.17	124.88	129.95	135.31	140.38
Average	**2.54**	**3.11**	**3.20**	**3.02**	**2.97**	**2.98**	**3.04**	**3.13**	**3.24**	**3.35**	**3.47**	**3.59**	**3.72**	**3.83**	**3.94**	**4.06**

1/ Annual average price for Brent crude oil on the Intercontinental exchange.
2/ Includes energy for combined heat and power plants, that have a non-regulatory status, and small on-site generating systems.
3/ E85 refers to a blend of 85 percent ethanol (renewable) and 15 percent motor gasoline (nonrenewable). To address cold starting issues, the percentage of ethanol varies seasonally. The annual average ethanol content of 74 percent is used for this forecast.
4/ Sales weighted-average price for all grades. Includes Federal, State, and local taxes.
5/ Includes only kerosene type.
6/ Diesel fuel for on-road use. Includes Federal and State taxes while excluding county and local taxes.
7/ Includes electricity-only and combined heat and power plants that have a regulatory status.
8/ Weighted averages of end-use fuel prices are derived from the prices in each sector and the corresponding sectoral consumption.
Note: Data for 2010 and 2011 are model results and may differ slightly from official EIA data reports.
Sources: 2010 and 2011 crude oil spot prices: Thomson Reuters.
2010 and 2011 prices for motor gasoline, distillate fuel oil, and jet fuel are based on: EIA, Petroleum Marketing Annual 2009, DOE/EIA-0487(2009) (Washington, DC, August 2010).
2010 and 2011 residential, commercial, industrial, and transportation sector petroleum product prices are derived from: EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report."
2010 and 2011 electric power prices based on: EIA, Monthly Energy Review, DOE/EIA-0035(2011/09) (Washington, DC, September 2011). 2010 and 2011 E85 prices derived from monthly prices in the Clean Cities Alternative Fuel Price Report. 2010 and 2011 wholesale ethanol prices derived from Bloomberg U.S. average rack price.
Projections: EIA, AEO2013 National Energy Modeling System run ref2013.d102312a.

Exhibit III-A-3

NS REPLY EXHIBIT III-A-4:

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I. THE BOARD SHOULD APPLY THE "AVERAGE TOTAL COST" RULE AND METHODOLOGY TO ALLOCATE CROSSOVER TRAFFIC REVENUES IN THIS CASE.

To allocate cross-over traffic revenues in this case the Board should apply the Average Total Cost ("ATC") rule it adopted in the *Major Issues* rulemaking, and reject Sunbelt's effort to apply an amended revenue allocation approach with which the Board experimented in the individual *Western Fuels* rate case (the so-called "Modified ATC" rule). The ill-considered *ad hoc* alternative method the Board created in the individual *Western Fuels* case was rejected by the D.C. Circuit and has not been valid law at any time relevant to this case. *See* NS Reply III-A, *supra.* As a matter of sound policy and economics, "original" ATC is more consistent with SAC principles and rules; more fair and logical than the *ad hoc* amended rule the Board created and applied in *Western Fuels*; and was adopted through proper notice-and-comment rulemaking in which all interested parties had an opportunity to participate.

As a legal matter, because "Modified ATC" sought to amend in an individual adjudication a legislative rule adopted in notice-and-comment rulemaking, that amended rule violates the Administrative Procedure Act ("APA") and is invalid and unenforceable. Under the APA, the Board could not amend the ATC methodology—a legislative rule adopted through the *Major Issues* notice-and-comment rulemaking—without conducting another rulemaking. Thus, even if the D.C. Circuit were to find in the pending *Western Fuels* appeal that the Board's decision on remand offered an adequate justification for amending ATC by adopting "Modified ATC," making that change in an adjudication would nonetheless be invalid. The APA requires notice-and-comment rulemaking to amend a legislative rule. Because the Board failed to comply with that requirement, Modified ATC is invalid. It cannot be applied in this or any other case unless and until it is adopted through notice-and-comment rulemaking. As a matter of law, policy, and fairness, the Board should not—and may not—apply the "Modified ATC" approach

that Sunbelt proposed in its Opening Evidence. In its Reply Evidence, NS has adjusted cross-over revenue allocations by applying the ATC rule. *See* NS Reply WP Gen Freight Traffic and Revenue Forecast Reply.xlsx and IM-Coal Traffic and Revenue Forecast Reply.xlsx

Below, NS provides a more detailed explanation of the reasons that, as a matter of administrative law, the only cross-over traffic revenue allocation method that may be applied in this case is the "original" ATC rule adopted in *Major Issues in Rail Rate Cases,* STB Ex Parte 657 (2006).[1]

II. AS A MATTER OF ADMINISTRATIVE LAW, THE BOARD MUST APPLY THE ATC RULE IN ALL SAC CASES UNLESS AND UNTIL IT HAS COMPLETED A FULL NOTICE-AND-COMMENT RULEMAKING THAT ADOPTS A DIFFERENT RULE.

An independently sufficient legal reason that the Board may not apply the Modified ATC rule adopted in *Western Fuels* is that the Board adopted it in violation of the APA. Regardless of the Board's rationale for creating and applying a new revenue allocation methodology in *WFA II,* adoption of that new rule in an individual adjudication violated the APA and renders "Modified ATC" unlawful and void. Under the APA, a "legislative" (*i.e.* substantive) rule such as ATC may not be substantially revised or amended in an individual adjudication, as the Board attempted to do in *Western Fuels.* A federal administrative agency like the Board may make a substantial change or amendment to a legislative rule adopted through a rulemaking proceeding *only* in another rulemaking proceeding, and not in an individual adjudication. *See* APA, 5 U.S.C. §§ 551(5), 553(b)(3)(A). Because the "Modified ATC" rule did not go through the required notice-and-comment rulemaking process, it is invalid and unenforceable and may not be applied to allocate cross-over traffic revenues in this case.

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[1] As NS explains, if the Board were to adopt a new cross-over traffic in Ex Parte 715 during the pendency of this case, it may be appropriate to apply that new rule to this case. *See* II-A 45 to 48, *supra.*

The following discussion demonstrates that Modified ATC is procedurally invalid and thus lawfully may not be applied to this case. The first section briefly summarizes applicable law holding which holds that a "legislative rule" adopted by an agency in notice-and-comment rulemaking may be amended only in another notice-and-comment rulemaking. The second section shows that the ATC method, adopted in a rulemaking, is a legislative rule as that term has been defined by federal courts including the D.C. Circuit. The third section demonstrates that, for several independently sufficient reasons, "Modified ATC"—which the Board adopted in an individual adjudication without conducting a rulemaking—was an attempted substantive amendment to the ATC legislative rule, and such amendments may be adopted only through a rulemaking. That section also demonstrates that Modified ATC does not satisfy any of the narrow exceptions to the governing notice-and-comment rulemaking requirement of the APA. Finally, the fourth section demonstrates that an agency may not avoid the APA notice-and-comment requirement by attempting to amend a rule in an individual adjudication.

A. The APA Requires That Legislative (Substantive) Rules Be Adopted, Amended, And Repealed In Notice-And-Comment Rulemakings.

A substantive or "legislative" agency rule—such as ATC—may be amended only in a notice-and-comment rulemaking. "Modified ATC" sought to amend the ATC legislative rule, and therefore it could have been adopted lawfully only through notice-and-comment rulemaking. Because the Board issued Modified ATC without conducting the required rulemaking, Modified ATC is invalid, has no force or effect, and may not be applied in this case.

The D.C. Circuit has consistently held that, under the APA, an amendment to a legislative rule requires a notice-and-comment rulemaking proceeding. *See, e.g., American Mining Congress v. Mine Safety & Health Administration et al,* 995 F.2d 1106, 1112 (D.C. Cir. 1993). A rule that "effectively amends a prior legislative rule" is itself a legislative rule requiring

notice-and-comment rulemaking under the APA. *See United States Telecom Ass'n v. FCC,* 400 F.3d 29, 34-35 (D.C. Cir. 2005) (new rules that make substantive changes to existing rules or regulations are legislative rules, subject to APA notice-and-comment requirements); *Sprint Corp. et al. v. FCC et al.,* 315 F.3d 369, 374 (D.C. Cir. 2003); *American Mining Congress*, 995 F.2d 1106, 1112-13.

Both ATC and "Modified ATC" are legislative rules[2] (as opposed to interpretive rules) because they have the force and effect of law; affect persons' rights and obligations; were enacted pursuant to the Board's delegated general power and responsibility to determine whether a challenged rate is reasonable; and do not fit into the APA's narrow exception to the notice-and-comment rulemaking requirement that applies to interpretive rules, policy statements, and "rules of agency organization, procedure, or practice." *See James V. Hurson Assocs. Inc. v. Glickman,* 229 F.3d 277, 280 (D.C. Cir. 2000) (quoting 5 U.S.C. § 553(b)(3)(A)); *Appalachian Power Co. v. EPA,* 208 F.3d 1015, 1024-25 (D.C. Cir. 2000); *National Org. of Veterans Advs.*, 260 F.3d at 1375. Below, NS demonstrates that Modified ATC is a legislative rule that lawfully could only be adopted through a notice-and-comment rulemaking. *First*, NS confirms that ATC was a legislative rule. *Second,* NS shows that, as its label suggests, "Modified ATC" was an attempt to modify or amend the ATC legislative rule—not an interpretation or clarification of that rule—that lawfully could be adopted *only* through notice-and-comment rulemaking. "Modified ATC" therefore is an invalid rule and it may not be applied to allocate cross-over traffic revenue in this

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[2] Some federal courts use the term "substantive rule" instead of legislative rule. The terms are interchangeable. *See National Org. of Veterans Advs. Inc. v. Secretary of Veterans Affairs*, 260 F.3d 1365, 1375 (Fed. Cir. 2001) ("Substantive rules [are] those that effect a change in existing law or policy or which affect individual rights or obligations. 'Interpretative rules,' on the other hand, clarify or explain existing law or regulation and are exempt from notice-and-comment under Section 553(b)(3)(A). An interpretative statement . . . . does not intend to create new rights or duties, but only reminds affected parties of existing duties.").

case. Accordingly, the Board should apply the ATC rule to allocate cross-over traffic revenues in this case.

B. ATC Is A Legislative Rule That May Be Amended Only Through Notice-And-Comment Rulemaking.[3]

In close cases, it may be difficult to distinguish between a legislative (substantive) rule and an interpretive rule. For several reasons discussed below, ATC as promulgated by the Board does not present a close question.[4] First, promulgation of ATC was an exercise of the Board's authority delegated to it by Congress, to develop standards for ensuring that rail rates are reasonable. Second, the Board's own actions and statements in adopting ATC in the *Major Issues* rulemaking demonstrate that the Board intended ATC to be a substantive, legislative rule. Third, application of the authoritative test established by the D.C. Circuit in *American Mining Congress* demonstrates that ATC is a legislative rule, and not an interpretive rule.

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[3] The ATC rule adopted through notice-and-comment rulemaking is a legislative/substantive rule and Sunbelt has not contended otherwise. NS filed a motion to hold this case in abeyance pending a rulemaking the Board is conducting aimed at, *inter alia,* developing and adopting a new or amended rule to govern cross-over traffic revenue allocation. Sunbelt raised a variety of arguments in opposition to the motion, but it did not contend that the ATC rule adopted in *Major Issues* was not a substantive rule. *See, e.g.,* Sunbelt Reply to NS Abeyance Motion, at 23-30 (contending only that agencies are not required to engage in rulemaking to alter a substantive rule if the change fits into the narrow APA exception for interpretive or procedural rules). Sunbelt did contend, however, that the Board's attempted *amendment* to ATC in *Western Fuels* (creating Modified ATC) was not a legislative rule, but merely an interpretive rule. *Id.* at 24-30. NS includes this additional discussion to further support the conclusion that the ATC rule is a legislative rule, and to guard any attempt by Sunbelt to reverse its position and contend that the ATC cross-over traffic revenue allocation rule the Board adopted in the *major issues* notice-and-comment rulemaking was somehow not a legislative rule.

[4] One reason it is important to establish that ATC is a legislative rule is that, under the APA, any modification or amendment to a legislative rule is itself deemed a legislative rule requiring notice-and-comment rulemaking. *See, e.g., American Hosp. Ass'n v. Bowen*, 834 F.2d at 1044; *American Mining Congress,* 995 F.2d at 1109; 5 U.S.C. § 553. Accordingly, if ATC is a legislative rule and Modified ATC modified or amended that legislative rule, Modified ATC would be valid only if it were adopted in notice-and-comment rulemaking. *See* 5 U.S.C. §§ 551, 553.

First, in adopting the ATC revenue allocation rule, the Board acted under its general statutory authority and responsibility to establish rules and methods to evaluate whether rail rates are reasonable. *See* 49 U.S.C. §§ 10701, 10702, 10704. As the D.C. Circuit has explained, a substantive or legislative rule creates, "*modifies* or *adds* to a legal norm based on the agency's *own authority.*" *Syncor International Corp. v. Shalala,* 127 F.3d 90, 95 (D.C. Cir. 1997) (emphasis in original). In promulgating a legislative rule, an administrative agency effectively "legislates" matters over which Congress has given it general authority but has not provided specific details or requirements. *See, e.g., id.* (An agency's authority to promulgate legislative rules flows from congressional delegation of power "to engage in supplementary lawmaking. And, it is because the agency is engaged in lawmaking that the APA requires it to comply with notice-and-comment."). The D.C. Circuit has further explained that an agency rule is a legislative rule if it has the "force of law"—a rule has such force "if Congress has delegated legislative power to the agency and if the agency intended to exercise that power in promulgating the rule." *American Mining Congress,* 995 F.2d at 1109 (internal citations omitted). Plainly, in adopting ATC, the Board was engaged in an exercise of its delegated legislative power to implement the general rate reasonableness mandates of the Commerce Act, including Sections 10701-10704.

Moreover, Courts have further explained that if the statutory authority the agency is applying uses general terms "like 'equitable' or 'fair'," leaving the agency to provide the substantive content of those terms, then the implementing regulation is likely a substantive regulation. *Syncor International*, 123 F.3d at 94, n.6. In adopting (and later amending) ATC, the Board engaged in administrative legislation, exercising its delegated powers to give substantive meaning and content to the statutory directive that rail rates must be "reasonable."

See generally Major Issues, STB Ex Parte No. 657 (Sub-No.1), at 5-7, 24-26 (citing statutes delegating to STB duty to determine rate reasonableness, and explaining the ATC rule it adopted as part of its implementation of that general authority and responsibility). The ATC rule established how revenues will be allocated in an integral part of the SAC analysis that the Board established to fulfill its general mandate to ensure that challenged rail rates are reasonable. Thus, the ATC rule is plainly a legislative rule, which could be adopted only through notice-and-comment rulemaking.

Interpretive rules, in contrast to legislative rules, are designed to provide an agency's interpretation of a specific legal norm or requirement established by a statute. *See Syncor,* 127 F.3d at 94. An agency issuing an interpretive rule is *not* "exercising authority to . . . make positive law." *Id.* (citing *United Technologies Corp v. EPA,* 821 F.2d 714, 719 (D.C. Cir. 1987); *Conn. Dep't of Children and Youth Servs. v. Health & Human Servs.,* 9 F.3d 981, 984 (D.C. Cir. 1993)). Instead, it is defining or construing specific statutory terms and provisions, including ambiguous statutory terms. *See Erringer v. Thompson,* 371 F.3d 625, 630 (9th Cir. 2003) ("[I]nterpretive rules merely explain, but *do not add to, the substantive law that already exists in* the form of a statute or *legislative rule*. Legislative rules, on the other hand, create rights, impose obligations, or effect a change in existing law pursuant to authority delegated by Congress.") (emphasis added).

As the D.C. Circuit summarized decades ago, "substantive rules or 'legislative rules' are those which create law, usually implementary to an existing law, whereas interpretive rules are statements as to what [an] administrative [agency] thinks the statute or regulation means." *Gibson Wine Co. v. Snyder,* 194 F.2d 329, 331 (D.C. Cir. 1952); *see also American Hosp. Ass'n*

v. Bowen, 834 F.2d at 1045 (Generally, interpretive rules "merely explicat[e] Congress' desires" while substantive rules involve the agency "adding substantive content of its own.").

Applying those standards, it is clear that ATC is a legislative rule, and not an interpretive rule. Nowhere does the Interstate Commerce Act *mention* "cross-over" traffic, let alone division of cross-over revenues between the SARR and the residual incumbent. Thus, in *Major Issues* the Board was not "interpreting" or explaining a statutory term such as "cross-over traffic," or "cross-over revenue allocation," because the Interstate Commerce Act's rate reasonableness provisions are general and do not approach that level of specificity. Rather, the statute generally charges the Board with determining whether challenged rail rates are reasonable and where necessary to prescribe a maximum reasonable rate, leaving the Board to develop substantive rules to implement those general statutory requirements. *See, e.g.*, 49 U.S.C. §§ 10701, 10704. The Board, like the ICC before it, issues legislative rules to implement those very general statutory mandates. *See, e.g.*, *Coal Rate Guidelines,* 1 I.C.C.2d 520 (1984); *Major Issues,* STB Ex Parte No. 657 (Sub-No. 1).

In *Major Issues,* the Board made clear both that it was promulgating new substantive standards and that it was exercising its (legislative) power and judgment to implement general statutory mandates from Congress. *See, e.g., Major Issues,* STB Ex Parte No. 657 (Sub-No. 1), at 4 ("The Board's responsibility is to exercise its own judgment on how best to carry out its charge from Congress."). This is the very essence of legislative rulemaking. *See, e.g.*, *United Technologies,* 821 F.2d at 720 (noting that legislative rules are "based on an agency's power to exercise its judgment as to how best to implement a general statutory mandate").

Thus, the Board adopted ATC in the *Major Issues* rulemaking in the exercise of its delegated legislative power necessary to implement its general statutory mandate to determine

whether certain rail rates are reasonable. *See, e.g., Major Issues,* STB Ex Parte No. 657 (Sub-No. 1), at 4-5; *Syncor,* 127 F.3d at 95; *American Mining Congress,* 995 F.2d at 1106. The ATC rule, which replaced a series of *ad hoc* approaches the Board previously had applied in individual cases, undeniably affected substantive rights and obligations of individual litigants, as well as the Board's rate reasonableness analysis and determinations. *See, e.g., National Org. of Veterans Advs.*, 260 F.3d at 1375 ("Substantive rules [are] those that effect a change in existing law or policy or which affect individual rights or obligations"). Plainly, ATC—which the Board adopted through extensive notice-and-comment rulemaking—is a substantive, legislative rule that "creates rights . . . [and] effect[s] a change in existing law pursuant to authority delegated by Congress" and *not* merely a definition or explanation of ambiguous statutory terms. *See Syncor*, 127 F.3d at 94; *see also Erringer,* 371 F.3d at 630; *American Hosp. Ass'n v. Bowen,* 834 F.2d at 1045; *Gibson Wine,* 194 F.2d at 331.

Further, the Board expressly stated that its purpose in conducting the *Major* Issues rulemaking was to resolve several important issues that had been litigated repeatedly without consistent definitive resolution, and thereby avoid continuing litigation over those same issues in future rate cases. *See Major Issues*, STB Ex Parte No. 657 (Sub-No. 1), at 3, 76-77 (expressing Board's intention to adopt rules that would finally "resolve these issues" not be re-litigated in each subsequent case). As the D.C. Circuit has found, an agency's characterization of its own action is important to the determination of whether it created a legislative rule. *See, e.g., Pacific Gas & Elec. v. Fed. Power Comm'n,* 506 F.2d 33, 39 (D.C. Cir. 1974). ATC is a legislative rule that may be adopted, modified, or repealed only through notice-and-comment rulemaking.

Second, the Board itself obviously found it necessary and appropriate to promulgate the ATC rule through notice-and-comment rulemaking. *See Major Issues,* STB Ex Parte No. 657

(Sub-No. 1) at 4-9, 24-39. The Board's decision to conduct a rulemaking in order to adopt a cross-over traffic revenue allocation rule demonstrates the agency's contemporaneous view that it was exercising the legislative function of implementing its general statutory mandate, which requires notice-and-comment rulemaking. And proceeding by rulemaking was plainly the correct and proper approach. There is no question that a change from the Modified Straight-Mileage Prorate ("MSP") allocation method the Board had recently used to ATC was a significant substantive change in cross-over traffic revenue allocation. *See id.* at 24-26. No one would seriously contend that the ATC rule adopted in *Major Issues* was simply an "interpretation" of the MSP allocation rule, because ATC was an entirely different and much more sophisticated methodology that had little in common with MSP or other revenue allocation formulas the Board had applied in previous cases.

The Board further confirmed that cross-over traffic revenue allocation rules (such as ATC) must be adopted or modified in a rulemaking, when it rejected commenters' proposal that the Board consider different allocation methodologies and making further changes to the ATC rule in the context of future individual adjudications. *See id.* at 76-77 (rejecting proposal that the Board not established firm final rules in *Major Issues,* stating "[w]e believe that further debate of these . . . issues within the context of an individual case would defeat much of the purpose of this rulemaking").[5] The Board made it very clear that changes to the ATC rule would *not* be

[5] That concern proved prescient when the Board disregarded its own ruling in *Major Issues* and created a new cross-over revenue allocation rule in *Western Fuels.* Adoption of that new amended rule in an individual adjudication—which violated the Board's own express holding that any changes to ATC would be considered only in the context of another rulemaking—led to five more years of further litigation over that rule in *Western Fuel.* Ultimately, the *ad hoc* modification the Board attempted to apply in the individual *Western Fuels* adjudication caused the Board to convene a new rulemaking to attempt, for the second time in five years, to develop a new cross-over traffic revenue allocation rule. *See Rate Regulation Reforms,* STB Ex Parte 715.

considered in individual adjudications, and that if experience identified a systematic bias resulted from the approach,

> the affected party may file a petition to institute a rulemaking (or [the Board] may do so on our own initiative so that the broader affected public is again provided an opportunity to comment on the proposal before changes of industry-wide importance to our ratemaking methodology are implemented.

Major Issues, STB Ex Parte No. 657 (Sub-No. 1) at 77 (emphasis added). Together, the Board's decision to proceed by rulemaking to adopt a new cross-over traffic revenue allocation rule; its rejection of requests that it instead develop alternatives through individual litigation; and its express ruling that any future changes to the ATC rule it adopted could be made only in another rulemaking, demonstrate that ATC is a legislative rule. *See* 5 U.S.C. §§551, 553; *Pacific Gas & Elec.,* 506 F.2d at 39. The APA requires notice-and-comment rulemaking to create, amend, or repeal the substance of a legislative rule. *Western Fuels* was an individual adjudication, not a rulemaking. Accordingly, based on the Board's own actions and rulings and the APA, the substantive change to the ATC rule imposed in *Western Fuels*—"Modified ATC"—is invalid and the only valid and lawful cross-over traffic revenue allocation rule that may be applied in this case is (original) ATC.

Third, application of the four-prong test established by the D.C. Circuit for distinguishing legislative rules from interpretive rules independently demonstrates that ATC is a legislative rule subject to APA notice-and-comment rulemaking requirements. In *American Mining Congress,* the D.C. Circuit recognized that prior cases had created some confusion and a "fuzzy" line between interpretive and legislative rules, and acted to reconcile those cases and establish a clear test for determining whether a rule is legislative. *See American Mining Congress,* 995 F.2d at

1108.[6] The now-standard test, applied by both the D.C. Circuit and other federal courts of appeals, established that if the answer to *any one* of four questions is affirmative, the rule in question is *legislative,* not interpretive:

> (1) [W]hether in the absence of the rule there would not be an adequate legislative basis for enforcement action or other agency action to confer benefits or ensure the performance of duties; (2)whether the agency has published the rule in the Code of Federal Regulations; (3) whether the agency has explicitly invoked its general legislative authority; or (4) whether the rule effectively amends a prior legislative rule.

Id. at 1112. The third factor is perhaps the most clearly and directly satisfied here. The preamble and introduction to the *Major Issues* Final Rule described and discussed the Board's general statutory authority and mandates from Congress; cited the statutory provisions and express statutory requirements it intended to implement in the rulemaking; discussed the history of existing legislative rules; and explained that it had concluded changes to implementing rules were necessary to better implement congressional intent and the Board's statutory mandates regarding rate reasonableness determinations. *See Major Issues,* STB Ex Parte No. 657 (Sub-No. 1), at 3-8. Thus, the Board clearly invoked its general legislative authority to promulgate and apply rules to evaluate rate reasonableness. *See id.* The third *American Mining Congress*

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[6] In opposition to NS's Motion to hold this case in abeyance pending the completion of the pending *Rate Regulation Reforms* rulemaking, Sunbelt asserted that courts had previously stated that the distinction between legislative rules and interpretive rules was "hazy" and "enshrouded in considerable smog," citing *American Mining Congress. See* Sunbelt Reply to NS Abeyance Motion, at 24. What Sunbelt neglected to note was that in *American Mining Congress*, the D.C. Circuit rectified that situation by surveying appellate court cases that had addressed the distinction; reconciling those cases; and distilling a clear four-factor test for determining whether a rule in question was a legislative rule or an interpretive rule. *See generally American Mining Congress,* 995 F.2d at 1106. The test enunciated by *American Mining Congress* has since been widely accepted and applied by federal courts. In this discussion, NS demonstrates that application of the *American Mining Congress* test proves that the ATC Rule is a legislative rule.

factor is satisfied, so the ATC rule is legislative. *See American Mining Congress*, 995 F.2d at 1112.[7]

The Board does not publish substantive standards, methods, and rules for rate cases in the Code of Federal Regulations. *See generally* 49 C.F.R. §§ 1000–1147 (providing procedural requirements and rules of practice applicable to rate cases, but containing no provisions specifying substantive standards applied to evaluate reasonableness of challenged rate or practice). Thus, the second factor of the *American Mining Congress* is not directly applicable to the Board's rules concerning rate case standards, methods, and analyses (such as the SAC test and its components). However, the Board's CFR rules do distinguish between procedural requirements for interpretive rules, policy statements and rules of agency procedure on one hand, and those for APA notice-and-comment rulemakings on the other hand. For non-substantive rules that fall in the exceptions to the notice-and-comment requirements, including interpretive rules, the Board's regulations provide for their issuance "as final without notice or other public rulemaking proceedings." 49 C.F.R. § 1110.3(a). General rulemaking proceedings used to consider legislative rules, in contrast, require publication of a notice in the Federal Register that includes invitation for public participation, an explanation of the proposals, provision for comments, and significant additional information and actions. *See* 49 C.F.R. § 1110.3(b). Thus, had the ATC rule or other rules adopted in *Major Issues* been merely interpretive or rules or practice or procedure, the Board need not have provided any notice or engaged in any of the notice-and-comment rulemaking provisions that apply only to legislative rules. For example, the

[7] Because only one of the factors need be satisfied in order to establish that a rule is legislative and not interpretive, satisfaction of the third factor is completely sufficient to show ATC is a legislative rule and no further showing is necessary. Nonetheless, NS briefly discusses how *Major Issues* and the ATC rule it adopted also satisfy alternative prongs of the *American Mining Congress* test.

Board published its notice of the *Major Issues* rulemaking in the Federal Register, which it would not have done were it simply issuing an interpretation. *See, e.g.,* NPRM, *Major Issues in Rail Rate Cases,* STB Ex Parte No. 657 (Sub-No. 1), at 39 (Feb. 27, 2006). Nor would the Board have taken several rounds of comments, held public hearings, or conducted a rulemaking at all. Such time-and-resource-intensive efforts are neither necessary nor appropriate for interpretations or rules of agency organization and practice. Thus, the fact that the Board engaged in extensive notice-and-comment rulemaking further supports the conclusion that ATC, adopted in the *Major Issues* rulemaking, is a legislative rule.

Subsequent actions by the Board also indirectly support an affirmative finding under the fourth *American Mining Congress* factor (rule that amends a prior legislative rule is itself a legislative rule). As discussed in more detail below, it is well established that a legislative rule adopted in an informal rulemaking may only be amended or repealed in another notice-and-comment rulemaking. Several months ago, the Board commenced a new rulemaking proceeding, intended in part to consider amendments to its cross-over traffic revenue allocation rule. *See Rate Regulation Reforms,* STB Ex Parte No. 715. The Board's determination that it should consider changes to its revenue allocation rule in a rulemaking proceeding rather than simply announcing them without notice, or amending the rule in the context of an individual rate case indicates its recognition of the fact that ATC is a legislative rule and such rules may only be amended through notice-and-comment rulemaking. *See, e.g., American Mining Congress,* 995 F.2d at 1112 (rule that effectively amends a prior legislative rule is itself a legislative rule requiring notice-and-comment rulemaking); *National Family Planning & Reproductive Health Ass'n Inc. v. Sullivan,* 979 F.2d 227, 235 (D.C. Cir. 1992); *see also* 49 C.F.R. §§ 1110.3(a), (b). Thus, the Board's initiation of the pending *Rate Regulation Reforms* rulemaking to consider a

proposal to amend ATC further supports the conclusion that the original ATC was a legislative rule.

ATC is a legislative rule. Despite having an opportunity, Sunbelt has not contended that ATC is not a legislative rule.[8] Because ATC was properly adopted through notice-and-comment rulemaking in accordance with the APA and affirmed on judicial review, ATC is a valid rule that should be applied to allocate cross-over traffic revenue in this case. An agency may only amend, repeal or replace a legislative rule through notice-and-comment rulemaking. Accordingly, as demonstrated below, the Board may not apply a new or amended cross-over traffic revenue allocation (such as the amended rule the Board attempted to apply in *Western Fuels*, so-called "Modified ATC") in this case unless and until it has adopted such a new rule through notice-and-comment rulemaking.

C. Modified ATC—Which Sought To Amend The ATC Rule—May Not Be Applied To This Case, Because It Was Not Adopted In A Notice-And-Comment Rulemaking And Thus Is Not A Valid Substantive Rule.

The Board may not apply in this case the amended revenue allocation rule it imposed in *Western Fuels,* because that amended rule ("Modified ATC") was not the product of a notice-and-comment rulemaking proceeding as required by the APA. *See* 5 U.S.C. §§ 551(5), 553. The APA requires that agencies conduct notice-and-comment rulemaking in order to adopt substantive rules and amendments to such rules. *See American Hosp. Ass'n v. Bowen,* 834 F.2d at 1044 ("Section 553 of the [APA] requires agencies to afford notice of a proposed rulemaking and an opportunity for public comment prior to a rule's promulgation, *amendment, modification,* or repeal.") (emphasis added); *see* 5 U.S.C. §§ 551(5) (expressly includes amending and

[8] To be clear, Sunbelt has not contended that "original" ATC was not a substantive or legislative rule. As discussed in the next section, what Sunbelt effectively has claimed is that the Board's *amendment* of ATC in *Western Fuels* (creating "Modified ATC") was not a legislative rule, but rather an interpretive rule.

repealing rules in definition of rulemaking), 553. The statute provides a few very narrow exceptions to the rulemaking requirement, for "interpretative rules, general statements of policy, or rules of agency organization, practice, or procedure." *American Hosp. Ass'n v. Bowen,* 834 F.2d at 1044; 5 U.S.C. § 553(b)(3)(A).[9]

In its opposition to NS's motion to hold this case in abeyance pending the completion of the *Rate Regulation Reforms* rulemaking (which includes an APA-compliant proposal to amend the ATC rule), Sunbelt contended that the Board's amendment of the ATC rule in *Western Fuels* was merely an "interpretive rule"[10] and therefore excepted from the rulemaking requirement. *See* Sunbelt Reply to NS Abeyance Motion, at 24-27.[11] However, an argument that "Modified ATC" is not a legislative rule cannot withstand scrutiny. As demonstrated below, Modified ATC very substantially altered the ATC rule methodology. And, any rule that amends or modifies a legislative rule is itself a legislative rule, subject to notice-and-comment rulemaking requirements. *See, e.g., American Mining Congress,* 995 F.2d at 1112 (a rule that "effectively amends a prior legislative rule. . . . [is] a legislative, not an interpretive rule.").

Below, NS presents several arguments showing that Modified ATC was an attempt to adopt a substantive amendment to the ATC legislative rule. *First*, NS explains that the "interpretation" exception to the general notice and comment requirement is very narrowly

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[9] The statute provides for one other exception is not implicated here. *See* 5 U.S.C. § 553(b)(3)(B).

[10] The APA provides an exception for "interpretive" rules. Sunbelt's Reply referred to the exception as applying to "interpretive" rules. The words mean the same thing, but the statute uses the older, and today less-favored, spelling "interpretative."

[11] Sunbelt did not contend that the new revenue allocation method announced in *Western Fuels* was a rule of "agency organization, practice or procedure," nor could it. Sunbelt also did not contend that the new rule was a "general statement of policy," which it clearly was not. Thus, the only possible exception to the APA rulemaking requirement at issue is the exception for interpretive rules.

construed and does not apply to the new "Modified ATC" rule adopted in *Western Fuels.* Contrary to Sunbelt's contention, Modified ATC was not merely an "interpretation," or clarification that simply explained what the ATC rule had required all along. *Second,* NS shows that the Board's decisions in *Western Fuels* demonstrate that it intended to make a substantive change and amendment to the ATC rule. *Third,* NS shows that the Board's rationale and explanations of Modified ATC make clear that the Board intended Modified ATC as a substantive change and addition to the ATC rule, designed to allocate cross-over traffic revenue in a significantly different manner and to implement additional requirements, goals, and standards the Board had not discussed in *Major Issues.* Such changes are permissible only if accomplished through notice-and-comment rulemaking, a step the Board did not follow when it created Modified ATC in *Western Fuels.* Because Modified ATC was an invalid attempted amendment to the ATC rule, the Board must reject Sunbelt's proposed application of "Modified ATC," and apply the original ATC rule to allocate cross-over traffic revenues in this case.

D. Exceptions To The APA Rulemaking Requirement Must Be Construed And Applied Very Narrowly.

The overriding principle and consideration in determining whether a rule is legislative (and thus may be adopted only through notice-and-comment rulemaking) or fits into one of the exceptions for interpretive or procedural rules is that the exceptions must be narrowly construed and applied. *See, e.g., American Hosp. Ass'n v. Bowen,* 834 F.2d at 1044 ("Congress intended the exceptions to [APA] § 553's notice-and-comment requirements to be narrow ones."); *Alcaraz v. Block*, 746 F.2d 593, 612 (D.C. Cir. 1984) ("The exceptions to section 553 [notice-and-comment rulemaking requirement] will be narrowly construed and only reluctantly countenanced."); *National Ass'n of Home Health Agencies v. Schweiker,* 690 F.2d 932, 949 (D.C. Cir. 1982), *cert denied,* 459 U.S. 1205 (1983) (exceptions to notice-and-comment

provisions are recognized "only reluctantly" in order to advance the "salutary purposes behind the [notice-and-comment] provisions"); *New Jersey v. Envtl. Prot. Agency*, 626 F.2d 1038, 1045 (D.C. Cir. 1980) (exceptions to the notice-and-comment rulemaking requirement are narrowly construed). Thus, agency rules are presumed to be legislative unless they are clearly shown to be within the narrow exceptions for interpretive or procedural rules. Congressional intent that exceptions be narrowly construed and rarely applied is an important factor in the evaluation of whether a particular rule is legislative or interpretive.

E. The Board Intended To Make A Substantive Amendment To The ATC Rule In Western Fuels.

When the Board created and applied the "Modified ATC" rule in *Western Fuels,* it clearly indicated that it intended a substantive change to the ATC rule—a change it regarded as an improvement, but a substantive change all the same. *See generally WFA Remand Decision*, STB Docket No 42088. At no time did the Board suggest it was merely "clarifying" or "explaining" the ATC rule, or that it was otherwise providing its "interpretation" of the ATC rule adopted in *Major Issues. See id; cf. Caraballo v. Reich,* 11 F.3d 186, 195 (D.C. Cir. 1993) (interpretive rule "simply indicates an agency's reading of a statute or a rule . . . [and] only reminds affected parties of existing duties" under existing law or rule); *Splane v. West,* 216 F.3d 1058, 1063 (Fed. Cir. 2000) (interpretive rule merely "represents the agency's reading of statutes and rules rather than an attempt to make new law or modify existing law"); *Blackwell Health Center for Women v. Knoll,* 61 F.3d 170, 181 (3d Cir. 1995) (interpretive rule "merely clarifies or explains existing law or regulations"); *General Motors Corp. v. Ruckelshaus,* 742 F.2d 1561, 1565 (D.C. Cir. 1984) (interpretive rule only indicates agency's reading of a statute or rule, it does not alter the rule or create new rights or duties).

Instead, the Board made abundantly clear that it was *changing* the ATC rule it had previously adopted because it had determined that certain applications and features of the rule could create substantive consequences that the Board had not previously contemplated. *See, e.g., WFA Remand Decision*, STB Docket No 42088, at 2-9. The Board stated that it had found a substantive "problem" with ATC, and that therefore the ATC rule required "modification." *See id.* at 5-9. The Board concluded that because the change it made to the ATC rule addressed a perceived problem the Board had identified, the new "modified ATC methodology is preferable to the original ATC methodology." *Id.* at 2. Nowhere did the Board purport to be simply explaining, clarifying, or otherwise "interpreting" ATC. Rather, the Board intended to substantively–and did–change the ATC rule. *See WFA Remand Decision*, STB Docket No. 42088, at 12 (Board announced intention to conduct rulemaking to consider "other approaches" and modifications to the ATC rule, and stated that it considered holding *Western Fuels* in abeyance until it could promulgate an alternative new cross-over traffic revenue allocation rule).[12] Together, the Board's several *Western Fuels* decisions made clear that it had identified what it regarded as a substantive flaw in the ATC rule that had not been considered or addressed in the *Major Issues* rulemaking. And, the Board concluded it was necessary and appropriate to

[12] The two-member majority of the Board decided to apply its *ad hoc* modification of the ATC rule to the *Western Fuels* case based on case-specific circumstances and findings. *Cf. id. at* 13-14 (dissenting member would have held case in abeyance, conducted necessary rulemaking, and applied resulting revenue allocation rule to that case). While NS does not necessarily agree that the case-specific factors cited by the Board justified its decision to modify the ATC rule and apply it in the context of the individual *Western Fuels* adjudication (*i.e.*, without first conducting a rulemaking), it does not take a position on the Board's decision in that prior case to which NS was not a party. However, NS does note that none of the unique factors the Board cites in support of its decision to apply an amended rule without notice-and-comment rulemaking applies in the present case. Nor would any of the arguments made by the Board in support of *Western Fuels* approach be sufficient to overcome the requirements of the APA as applied to this case. The only way the Board lawfully may amend the ATC rule and apply the amended rule to SAC cases would be to adopt such an amendment through notice-and-comment rulemaking.

amend the ATC rule to address that flaw and problem. *See WFA Remand Decision*, STB Docket No. 42088, at 2, 9 (modification of ATC rule was necessary to address unanticipated substantive problem with that rule). It was entirely within the Board's power to commence a rulemaking to address what it perceived as an new and unanticipated "problem" with ATC, and to consider amending the ATC rule after consideration of the input of interested parties. Indeed, that is what the Board belatedly determined was necessary when it commenced the pending *Rate Regulation Reforms* rulemaking. But what the Board may not do is what it did in *Western Fuels*—adopt a substantive modification of a legislative rule without conducting a full notice-and-comment rulemaking. *See* 5 U.S.C. § 553.

F. The Changes Made To The ATC Rule By "Modified" ATC Further Demonstrate It Was A Substantive Amendment, Subject To Notice-And-Comment Rulemaking Requirements.

The change to ATC imposed by the Board in *Western Fuels* was an amendment because it made a substantive change to the ATC rule and thus to the SAC test and analysis. *See Sprint,* 315 F.3d at 374 ("new rules that work substantive changes in prior regulations are subject to the APA procedures ... [W]hen an agency changes the rules of the game...more than a clarification has occurred."); 5 U.S.C. §§ 551(5), 553(b)(3). Further, the new rule adopted in *Western Fuels* modified the Board's revenue allocation rule in a manner that is inconsistent with the original ATC. *See American Mining Congress*, 995 F.2d at 1109 ("[i]f a second rule repudiates or is irreconcilable with a prior legislative rule, the second rule must be an amendment of the first," subject to notice-and-comment requirements); *id.* at 1112 (rule that "effectively amends a prior legislative rule" is itself a legislative rule); *see also National Org. of Veterans Adv.*, 260 F.3d at 1375 (legislative or substantive rules "make new law or *modify* existing law") (emphasis added); *American Hosp. Ass'n v. Bowen,* 834 F.2d at 1044 (rulemaking requirement applies to amendment or *modification* of a rule).

Comparison of the provisions and application of the ATC rule and the "Modified ATC" rule conclusively demonstrate that the Board's modification of the ATC rule in *Western Fuels* effected an amendment and substantive change to that rule. ATC allocated all cross-over revenues based upon average total cost of the movements and the carrier's "relative average [total] costs of providing service over the two segments." *Major Issues,* STB Ex. Parte No. 657 (Sub-No. 1), at 31. The method established by the ATC rule used average total cost to properly allocate all cross-over revenues in a manner that adequately accounts for "the defining characteristic of the railroad industry—economies of scale, scope, and density." *Id.* at 25. As the Board explained, allocating revenues based upon variable costs alone fails to take into account the critical role of economies of density. *See id.* The ATC approach also implemented the Board's primary goal in allowing the use of cross-over traffic—to "make the analysis more manageable without introducing bias." *Id.* at 24.

The new amended rule materially changed each of the above-described parameters of ATC rule and methodology. *First,* the ATC and Modified ATC formulas are based on two different measures—average total costs versus variable costs. ATC uses a single step process to allocate revenues, while Modified ATC separates costs of a cross-over movement into variable costs and fixed costs, and treats each differently in a separate allocation. Indeed, the term "average total costs" does not accurately describe the new formula the Board imposed in the *Western Fuels* case, as "Modified ATC" does not apply average total costs (fixed costs plus variable costs) to allocate all cross-over revenue.[13] The new Modified ATC rule does not purport to allocate the total revenues generated by a movement based on average total cost. Rather, it

[13] Thus, the term "Modified ATC" is a misnomer, as the two-step formula used in *Western Fuels* does not use unified average total costs to allocate all cross-over traffic revenue.

allocates only revenue *contribution*—revenues in excess of URCS variable costs—on that basis. *See, e.g., Rate Regulation Reforms,* Ex Parte No. 715, at 8.

Second, the Board created an entirely new and heretofore unknown substantive element for cross-over revenue allocation: the amount of revenue allocated to the SARR segment of the movement must be greater than or equal to *the incumbent carrier's URCS variable costs. See WFA II,* STB Docket No. 42088, at 14. Moreover, that new substantive requirement was deemed so important that it must be satisfied *before*—and in some circumstances in lieu of—the ATC criteria. *See id.*[14] *Third,* instead of allocating *all* cross-over revenues in accordance with the relative average total costs of the on-SARR and off-SARR segments, the new rule used ATC to allocate *only* those *revenues left over* after sufficient revenues had been allocated to the on-SARR segment to cover the defendant carrier's URCS variable costs for that segment. Thus, under the new rule, the primary allocation of revenues would have nothing to do with average total costs or even with relative costs of the two segments, but instead would allocate revenues based on URCS *variable costs* of the on-SARR segment only. *See id. Fourth,* the new rule's allocation of revenues to cover the URCS variable costs attributed to the on-SARR segment fails to take into account economies of density—"the defining characteristic of the railroad industry." *Compare Major Issues*, Ex Parte No 657 (Sub-No. 1), at 25 *with WFA II*, STB Docket No. 42088, at 14. This represents a major departure from the ATC rule, whose primary innovation and feature was that it allocated all cross-over revenues in a manner that accounted for

[14] This substantive requirement was so novel and outside the existing ATC rule that no party to the case had proposed or apparently even contemplated it. The parties raised several other issues concerning the proper application of the ATC rule, but none sought a threshold requirement that the revenue allocation must first and foremost cover the variable costs of the movement over the segment the complainant chose to include as part of its SARR network. *See WFA II*, STB Docket No. 42088, at 12-13. Rather, the Board created this entirely new substantive requirement *sua sponte*. *Id.* at 14.

economies of density. *See, e.g., BNSF Ry. Co. v. Surface Transp. Bd.,* 526 F.3d at 782-83.[15] *Finally,* the new rule "introduced bias" to the cross-over traffic analysis by allocating to the SARR revenue sufficient to cover the variable costs of its segment regardless of the resulting under-allocation of revenue to the off-SARR segment and the fact that the complainant alone had chosen to include as cross-over traffic movements that generated revenue-to-URCS-variable-cost-ratios of 100% or less. Although the Board apparently believed this was justifiable bias, its new rule nonetheless introduced bias to a method whose previous goal was to simplify the analysis *without* introducing bias.

Because the Board's new cross-over revenue allocation rule amended and substantively modified the ATC rule adopted in the *Major Issues* rulemaking, that amendment could only be adopted in a notice-and-comment rulemaking. *See, e.g., American Mining Congress*, 995 F.2d at 1112 (reconciling cases and distilling four circumstances in which a rule is "legislative" or substantive, meaning that the APA requires notice-and-comment rulemaking for its adoption, including where "the rule effectively amends a prior legislative rule."). However, the Board created its new rule in an individual *adjudication, not* in a rulemaking. Courts have consistently held that an agency may not avoid notice-and-comment rulemaking requirements by adopting a *de facto* amendment to a substantive "legislative" rule in an individual adjudication. *See, e.g., Marseilles Land and Water Co. v. FERC,* 345 F.3d 916, 920 (D.C. Cir. 2003). Accordingly, the so-called "Modified ATC" rule is invalid because it violated the rulemaking requirement of the APA. Application of that invalid rule to this case would render any decision issued in this case invalid and subject to reversal.

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[15]The Board has effectively acknowledged that the amended rule and formula it adopted in *Western Fuels* substantially reduces the effect of economies of density on its allocation of revenues, a primary aim of a cost-based allocation method. *See Rate Regulation Reforms,* Ex Parte 715, at 18.

G. "Modified ATC" Was An Amendment To The ATC Rule That Modified That Rule.

It is telling that the Board consistently refers to its new rule as "Modified ATC," and obviously views the new approach it adopted in *Western* Fuels as a "modification" of the prior ATC rule. *See generally WFA Remand Decision*, STB Docket No 42088, at 2-12 (containing numerous references to the new rule as "modified ATC"); *see also Rate Regulation Reforms,* Ex Parte 715, at 7, 17 (describing both the change made in *Western Fuels* and the change proposed in Ex Parte 715 as "modifications" of the ATC rule). The D.C. Circuit has frequently held that an agency must engage in rulemaking in order to "modify" a legislative rule. *See, e.g., City of Idaho Falls v. FERC*, 629 F.3d 222, 227 (D.C. Cir. 2011) (agency that adopts through rulemaking a methodology "may *modify* that methodology *only*" through notice-and-comment rulemaking) (emphasis added); *Alaska Professional Hunters Ass'n v. FAA*, 177 F.3d 1030, 1034 (D.C. Cir, 1999) ("Rulemaking, as defined in the APA, includes not only the agency's process of formulating a rule, but also the agency's process of modifying a rule," and agency may only change interpretation of regulation through notice and comment rulemaking); *Paralyzed Veterans of America v. D.C. Arena*, 117 F.3d 579, 586 (D.C. Cir. 1997) (agency modification of previous interpretation of substantive regulation requires notice-and-comment rulemaking).

The D.C. Circuit has further instructed that an agency's own characterization of an order or decision is important in determining whether the agency created a legislative rule. *See, e.g., Pacific Gas & Elec.*, 506 F.2d at 39. Here, the Board expressly intended its action to "modify" the existing ATC rule. Because modifications of legislative rules may be undertaken only in notice-and-comment rulemaking, the adoption of "Modified ATC" could be valid only if it were adopted in such a rulemaking.

In making its *sua sponte* modification of the ATC rules in *Western Fuels*, the Board stated that the modification was needed to respond to what it perceived as a deficiency in the existing ATC methodology. *See generally WFA Remand Decision*, STB Docket No. 42088; *WFA I*, STB Docket No. 42088; *WFA II*, STB Docket No. 42088. This explanation is similar to that offered by the Federal Motor Carrier Administration when it modified a method it used for determining truck driver hours of service, noting that the change was "the agency's response to an important defect in its previous methodology identified" after the agency had adopted the method. *See Owner-Operator Independent Drivers Association v. Federal Motor Carrier Safety Administration,* 494 F.3d 188, 200-202 (D.C. Cir. 2007). The *Independent Drivers Ass'n* Court held that the modification triggered APA rulemaking requirements and the agency's failure to fully comply with those requirements required that the modification of the methodology be vacated. *See id.* at 207, 212. Similarly, the Board's self-described modification and amendment of the cross-over traffic revenue allocation rule and methodology with notice-and-comment rulemaking violated the APA and renders the modification void. *See id.*; *see also City of Idaho Falls v. FERC*, 629 F.3d at 227; *Auer v. Robbins,* 519 U.S. 452, 459 (1997).

H. An Agency May Not Avoid Notice-And-Comment Requirements By Acting In An Adjudication.

As demonstrated, the federal courts of appeals have established that an agency may not amend a legislative rule, or adopt a new position that is inconsistent with an existing legislative rule, without first conducting a notice-and-comment rulemaking. Nor may an agency evade the APA's rulemaking requirement by modifying or amending in an adjudication a legislative rule that was adopted in notice-and-comment rulemaking. As the D.C. Circuit admonished, "an administrative agency may not slip by the notice-and-comment rule-making requirements needed to amend a rule by merely adopting a *de facto* amendment to its regulation through

adjudication." *Marseilles Land and Water Co.*, 345 F.3d at 920; *see Shalala v. Guernsey Mem'l Hosp.*, 514 U.S. 87, 100 (1995) (an agency interpretation that "adopt[s] a new position inconsistent with . . . existing regulations" must follow APA notice-and-comment procedures).

The Board's attempt to amend the ATC rule in the individual *Western Fuels* adjudication without comment or participation by other interested and affected parties violated the APA's rulemaking requirements. As demonstrated above, the *Western Fuels* decision amended and *substantially changed the ATC methodology* in a manner inconsistent with that existing rule, in part by substantially reducing the effect of economies of density on the allocation of crossover revenues, which in most instances will result in over-allocation of those revenues to the SARR. For all of the reasons discussed above, ATC and Modified ATC are two distinct and irreconcilable rules that allocate revenues using different principles and methods. *See American Mining Congress,* 995 F.2d at 1109 ("If a second rule repudiates or is irreconcilable with [a prior legislative rule], the second rule must be an amendment of the first; and, of course, an amendment to a legislative rule must itself be legislative.") (citations omitted); *see Shalala v. Guernsey Mem. Hosp.*, 514 U.S. at 100 (APA requires rulemaking where an agency seeks to "adopt[] a new position inconsistent with . . . . existing regulations."). Under the APA, the Board's attempted amendment of the ATC rule was unlawful and ineffective, because a legislative rule may not be amended in an individual adjudication such as *Western Fuels. See American Mining Congress,* 995 F.2d at 1109, 1112; 5 U.S.C. §§ 551(5), 553.

The Board's own subsequent actions seem to indicate that it has recognized that, in its haste to conclude a case that had been pending for eight years, it failed to follow the salutary notice-and-comment approach mandated by the APA. The dissenting commissioner in the Board's *WFA Remand Decision* recognized the basic precept that amendment of a legislative

rule should be undertaken in a rulemaking proceeding, stating, "I do not believe that "Modified ATC", which was developed *after* the conclusion of *Major Issues*, and without an opportunity for public comment, provides for the unbiased revenue allocation approach that was intended." *WFA Remand Decision*, STB Docket No 42088, at 13. The Board majority announced in the same decision that it intended to conduct a rulemaking to develop a new revenue allocation rule. *See WFA Remand Decision*, STB Docket No 42088, at 12. Shortly thereafter, the full Board commenced the *Rate Regulation Reforms* rulemaking, apparently recognizing that in order to amend the crossover traffic revenue allocation rule, it must conduct a rulemaking proceeding that gives all interested parties an opportunity to comment. *See* NPRM, *Rate Regulation Reform*, Ex Parte 715 (July 25, 2012) (commencing rulemaking to consider *inter alia,* changes to cross-over revenue allocation rule).

In sum, the only cross-over traffic revenue allocation rule that lawfully may be applied to this case at the present time is "original" ATC. As demonstrated, both governing law and good regulatory policy require that, when the Board adopts a rule through notice-and-comment rulemaking, any substantial changes or amendments to that rule also must be undertaken only in such a rulemaking, not in an individual adjudication. *See* 5 U.S.C. §§ 551(5), 553. Unless and until the Board adopts a new or amended rule in a rulemaking proceeding, it must apply the original ATC revenue allocation rule to this case. Application of any rule or method that is substantively different from the ATC rule (such as the "Modified ATC" rule the Board sought to apply in *Western Fuels*), without first conducting a rulemaking proceeding and promulgating a new rule, would be unlawful.

III. EQUAL APPLICATION OF ATC TO ALL CROSS-OVER TRAFFIC IS LOGICAL, FAIR AND FULLY CONSISTENT WITH SAC RULES AND THEORY.

The application of the sound, judicially approved ATC revenue allocation rule to the traffic selected in the sole discretion of the complainant is neither "illogical" nor "unfair," and the results of neutral application of that method provide no reason to change the ATC rule and methodology. The concern that led the Board to substantially change the ATC rule and methodology—not raised by any party to the case—was that application of the methodology to some low-rated SARR traffic might result in the on-SARR segment of that traffic not covering the incumbent carrier's real world variable costs. *See WFA I,* STB Docket No. 42088, at 14.[16] The Board's solicitude for SARR traffic is unnecessary, because a SAC complainant has the right and discretion to select only the traffic it wishes to include in its SARR:

> Because a SAC analysis is a means of eliminating existing inefficiencies and cross-subsidies between different traffic, <u>the complaining shipper can select any subset of available traffic</u> to determine the least cost at which that subset of traffic could be served independently of other traffic.

West Texas, 1 S.T.B. at 657.[17]

Because the complainant has sole, full control over the traffic it selects for its SARR, inclusion of traffic whose revenue cannot cover its variable cost is entirely the product of the

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[16] Ironically, Sunbelt's analysis would generate maximum reasonable rates for a number of movements that would not recover the variable costs of those movements in later years of the SAC analysis period.

[17] *See Major Issues,* STB Ex Parte No. 657 (Sub-No. 1), at 25; *Western Fuels Ass'n et al. v. BNSF Ry. Co.,* STB Docket No. 42088, at 2 (served Mar. 14, 2005) ("It is a longstanding principle of SAC cases that the shipper has the right to select its SARR traffic group."); *Duke/NS*, 7 STB at 115 ("a [SAC] complainant may select a subset of the defendant's traffic . . . in order to realize the benefit of economies of scale, scope, and density inherent in the railroad industry"); *Arizona Public Service Co. v. Atchison, Topeka & Santa Fe Railway Co.,* 2 S.T.B. 367, 381 (1997) ("the complaining shipper may select any subset of available traffic to determine the least cost at which that subset of traffic could be served").

complainant's decision. ATC is a neutral formula for allocating cross-over traffic revenues in a manner that accounts for economies of density, a defining characteristic of railroad economics. The reason a complainant is allowed to select whatever portion of the defendant's traffic it wishes for its SAC presentation is to allow the complainant to "*realize the benefits of economies of* scale, scope, and *density* inherent in the railroad industry." *Duke/NS*, 7 S.T.B. at 115 (emphasis added). A complainant also has sole power to determine whether to configure its SARR to handle its selected traffic as cross-over traffic, and if so, how. Because the complainant knows how cross-over revenues will be allocated under the ATC rule, it may factor that allocation into its traffic selection.[18] The neutral ATC should be uniformly applied to all cross-over traffic selected by the complainant, without regard to the R/VC ratio of the segment the complainant selected for inclusion in the SARR traffic group.

A complainant has the right, and in some instances may have good reasons, for including traffic with low revenue to variable cost ratios in its SARR traffic group. The Board should not alter its sound, objective rules and methodology to shield the complainant from the results of its own traffic selection.[19] It is the Complainant's prerogative to select whatever traffic it wishes, but it must live with the application of known rules to the traffic it selects.

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[18] A complainant's manifest ability to avoid selection of traffic that does not contribute to fixed costs is illustrated by *Western Fuels,* where the complainant's second traffic selection eliminated from its first traffic group the overwhelming majority of traffic whose on-SARR ATC revenue division did not exceed its URCS variable costs. Complainant's revised traffic group in *Western Fuels* had only three movements whose ATC division would not cover URCS variable costs, accounting for only .3 (three-tenths) of one percent of SARR revenue.

[19] Indeed, the Board's amendment of the ATC rule to ensure that on-SARR portions of cross-over movements covered URCS variable costs violated a basic tenet of cross-over traffic: cross-over traffic is a modeling device that allows simplification of a SAC presentation *without introducing bias* to the SAC analysis. What the Board did by applying Modified ATC was to introduce bias, effectively putting a thumb on the revenue allocation scale in favor of the complainant. If cross-over traffic methodology introduces bias to the analysis, the predicate condition for allowing its use would be eliminated.

A. Application Of ATC To Low R/VC Movements Is Not "Illogical," And The Concern That Led The Board To Modify The ATC Rule Is Not Present Here.

In *Western Fuels*, the Board was concerned that ATC revenue allocation would result in a consequence that it speculated the Complainant may not have intended: revenues for some movements that do not contribute to their fixed costs. The Board expressed concern that such a result was illogical. But such a result is an entirely logical result of application of the sound ATC rule to certain low-rated traffic that the Complainant may choose to include in its SARR traffic group.

In many instances, selection of some low-rated movements for inclusion in SARR traffic is in the complainant's best interest and entirely logical. Generally, because revenue generated by other movements on a SARR's high density lines are more than sufficient to cover SARR total costs on those lines, the SARR has every incentive to add as much revenue-generating traffic as possible. Under such circumstances, even traffic that does not cover its URCS variable costs still contributes additional SARR revenue. Moreover, SARR traffic group movements whose revenues would not cover the incumbent's system average URCS variable costs nonetheless generally make contribution above the optimally efficient SARR's variable costs.

Perhaps even more fundamentally, a comparison of on-SARR segment revenues to the real-world incumbent carrier's URCS system average variable costs for that segment makes little sense and proves even less. *First,* SARR costs, including variable costs, are those costs that would be incurred by a hypothetical least cost, optimally efficient carrier. By definition, those costs will necessarily be lower than the actual variable costs incurred by a real world carrier that is not optimally efficient. Thus, comparing real world URCS costs for a segment to SARR revenues generated by that segment does not generate a meaningful SARR R/VC ratio. Such a comparison would invariably overstate SARR variable costs and thus understate the SARR

R/VC ratio. The fact that such an apples-to-oranges exercise generates an R/VC ratio of less than 100% is meaningless.

Second, even if a defendant carrier's actual variable costs were a relevant or appropriate measure of the minimum revenue that should be allocated to the SARR for its portion of a cross-over movement, URCS system average variable costs do not measure the actual variable costs for any specific movement. Rather, they are system *average* costs, representing an average of the costs of movements across the carrier's network, which do not attempt to reflect numerous variations in individual movements that affect their actual variable costs. Thus, URCS system average variable costs do not accurately represent the real world carrier's actual costs of any specific movement, let alone the SARR's variable costs.

Third, as the Board has acknowledged, the fact that a movement generates an URCS-based R/VC ratio below 100% does not always mean that movement is losing money. *See, e.g., Rate Guidelines—Non-Coal Proceedings*, 1 S.T.B. 1004, 1028-29 (1996) ("an R/VC ratio below 100% does not necessarily reflect improper pricing or money-losing service."). There are multiple reasons for this, including the fact that "URCS costs may include a significant portion of what may actually be unattributable joint and common costs." *See id,* 1 S.T.B. at 1028.

Moreover, complainants' own self-interested actions further demonstrate that even movements whose total revenues do not cover their URCS variable costs may nonetheless make a positive contribution to SARR revenues as cross-over traffic. In *Western Fuels,* for example, the complainants were well aware of the original ATC rule when they included in their revised traffic group a small volume of cross-over traffic that would not contribute the SARR's fixed costs. In this case, Sunbelt knowingly selected a large volume of cross-over traffic whose revenues would not contribute to fixed costs even under the Board's Modified ATC rule, because

the entire movement (*i.e.*, both on-SARR and off-SARR segments) does not generate revenue greater than its variable costs. Indeed, fully 24 *percent* of the movements Sunbelt selected for inclusion in its SARR traffic group would not cover their URCS system average variable costs. *See* Sunbelt Opening WP "SBRR_2010_TRAFFIC_ATC_OPENING_v2_062612.xlsx." Given this fact, it is clear that including substantial volumes of traffic that do not cover NS's URCS variable costs was an *intended* consequence of Sunbelt's traffic selection. Because the optimally efficient SARR benefits from revenue allocations that would not cover the incumbent's URCS variable costs, such allocations are entirely logical and provide no basis in law or policy to abandon the ATC rule and methodology.[20]

B. Application Of ATC To Low-Rated Cross-Over Traffic Selected By A Complainant Is Not Unfair.

There is also nothing "unfair" about the uniform neutral application of the "original" ATC formula to all cross-over traffic revenue. As the Board and the D.C. Circuit both found, by allocating revenues in accordance with average total costs (*i.e.*, simultaneously considering both fixed and variable costs), original ATC properly accounts both for the relative mileage of on- and off-SARR segments, and for economies of density, a "defining characteristic" of railroad economics. *See, e.g., BNSF Ry. Co. v. Surface Transp. Bd.*, 526 F.3d at 782-84; *Major Issues,* STB Ex Parte 657 (Sub-No. 1), at 25. Depending on the revenue generated by a given movement, costs attributable to that movement, and the relative lengths of haul and densities of

[20] Moreover, even assuming *arguendo* that revenue allocations for low-rated traffic selected by the incumbent should be adjusted to ensure that the revenue allocated to the on-SARR segment of a cross-over movement covers the incumbent's URCS variable cost of that movement, the Modified ATC approach the Board applied in *Western Fuels* is grossly over-inclusive because it applied to all cross-over movements and not just the small fraction of those movements that would not cover their URCS variable costs under an ATC allocation. The result was a significant over-allocation of revenues to the SARR, well beyond that necessary to achieve the Board's objective of ensuring that on-SARR segments of cross-over traffic cover the incumbent's URCS variable costs.

the segments handled by the SARR and the residual incumbent, cross-over revenue allocations will vary. Similarly, the portion of variable and fixed costs covered by the revenue allocation to a segment of a cross-over movement will also vary. Such variation is an intended, appropriate, and necessary result of a cost-based allocation method that takes into account economies of density.

It is emphatically *not* "unfair" that in some instances some cross-over traffic revenue allocations—either to the SARR or to the residual incumbent—may be lower than the incumbent's URCS variable costs for that segment of the movement. Most plainly, application of "original" ATC is in no way unfair to a complainant. The complainants in *Western Fuels* were well aware of the ATC rule when they made their revised traffic selection and submitted new SAC evidence specifically intended to take that then-new rule into account. Similarly, unless and until a new revenue allocation rule is adopted in notice-and-comment rulemaking, Sunbelt and other complainants should know that ATC is the law of the land that will be used to allocate cross-over revenues. Because complainants may select or reject any of the defendant's traffic they wish, *and* establish hypothetical cross-over interchange points with the residual incumbent wherever they wish, complainants have every opportunity to make traffic selections and designate cross-over traffic under the rules that will most advantage them in a SAC presentation.[21] If there is any unfairness in this process, it is to the defendant carrier who has no control over traffic selection or SARR network design and must accept the resulting cross-over traffic revenue allocation. However, NS is not asserting in this case that either the application of well-established SAC rules or of the ATC revenue allocation the Board adopted in a rulemaking

[21] In many instances, cross-over revenue allocations may not be the most important consideration in complainants' traffic selection or SARR configuration. Rather, a complainant can be expected to make its traffic selections and design its SARR in the manner that, taking all relevant factors into account, most favors its case and likelihood of obtaining a rate prescription or reparations.

is unfair. What would be unfair would be to apply an ill-considered modified rule that was hastily cobbled together and applied in an individual adjudication to address a non-existent problem. The Board should allocate cross-over traffic revenues using (original) ATC, which was adopted in notice-and-comment rulemaking, affirmed by the D.C. Circuit, and is fully consistent with a defining characteristic of railroad economics, economies of density.

C. Recent Events Have Further Undermined The Modified ATC Rule The Board Created And Applied In *Western Fuels*.

The *WFA Remand Decision*, the ongoing second appeal of that decision, and the Board-initiated *Rate Regulation Reforms* rulemaking call into even further question the lawfulness of the application of Modified ATC in the individual *Western Fuels* case. More directly relevant here, those developments further demonstrate the infirmity of that *ad hoc* approach, and substantially reduce the likelihood that Modified ATC will ever be applied in any other case.[22]

First, it is not clear that the amended revenue allocation rule, which the Board created to address a perceived problem in an individual case, was *intended* to apply to future cases. *See, e.g., WFA I*, STB Docket No. 42088, at 14 (creating new method to address Board's concern in that particular case that the on-SARR revenue allocation for some low R/VC movements the complainant had selected would be insufficient to cover the defendant's URCS variable costs for the SARR segment); *WFA Remand Decision*, STB Docket No 42088, at 12 ("Modified ATC was the Board's solution to accommodate [] two competing principles . . . We do not suggest that this is the only solution or that there may not be other approaches that could better accommodate the

[22] By a 2-1 vote, the Board affirmed its application of Modified ATC in that specific adjudication. *See WFA Remand Decision*, STB Docket No 42088, at 12-13. The remand decision modestly expanded the Board's rationale for creating and applying a new revenue allocation rule, and attempted to address the new method's disproportionate allocation of revenue to the SARR and its diluted accounting for economies of density. *See id.* BNSF appealed that decision. *See BNSF Ry. Co. v. Surface Transp. Bd.*, D.C. Circuit No. 12-1327 (July 23, 2012).

two competing principles."). Moreover, while the *Rate Regulation Reforms* NPRM is not entirely clear on this point, it appears that the Board may intend to apply any new revenue allocation methodology it adopts in this rulemaking to pending cases. *See Rate Regulation Reforms*, Ex Parte 715, at 17, n.11 (stating that the Board does not intend to apply proposed new limitations on nature of cross-over traffic itself in pending cases, but making no similar statement with respect to any new cross-over traffic revenue allocation methodology it might adopt). Thus, even if the Board were to prevail in the renewed appeal of its application of Modified ATC in *Western Fuels*, it appears probable that it would apply that flawed method only to that single specific case.

Second, the Board's remand decision is vulnerable to reversal on appeal. In both the Board's *WFA Remand Decision,* and in the *Rate Regulations Reform* NPRM, the Board essentially endorsed the alternative revenue allocation method that BNSF had proposed in *Western Fuels*. *See WFA Remand Decision*, STB Docket No 42088, at 12; *Rate Regulation Reforms*, Ex Parte 715, at 17-18. And, the Board's rationale for refusing to consider BNSF's proposal on remand is questionable. *See WFA Remand Decision*, STB Docket No 42088, at 11-14. Moreover, as demonstrated above, any substantial change to ATC made in an individual adjudication would be unlawful under the APA.[23] Therefore, the only revenue allocation

[23] As demonstrated above, an administrative agency like the Board may make a substantial change or amendment to a substantive (or "legislative") rule adopted through notice and comment rulemaking—such as ATC—*only* in another rulemaking proceeding, and not in an individual adjudication. *See* Administrative Procedure Act, 5 U.S.C. §§ 551(5), 553(b)(3)(A). The D.C. Circuit has consistently held that an amendment to a legislative rule requires a notice-and-comment rulemaking proceeding. *See, e.g., American Mining Congress*, 995 F.2d at 1112-13; *United States Telecom Ass'n v. FCC,* 400 F.3d at 34-35; *Sprint Corp,* 315 F.3d at 374. Because the Board's change to the substantive ATC rule was a substantive amendment, the Board erred in adopting it in an individual adjudication. Thus, even if the Board's rationale for adopting Modified ATC were otherwise sound, it would still have been adopted in violation of the APA and thus would be unlawful and inapplicable to this or any other case.

methodology the Board could apply in *Western Fuels*—or in this case—is ATC or an amended revenue allocation methodology developed through notice-and-comment rulemaking.

Third, the Board has effectively acknowledged that the Modified ATC approach is inferior to at least one other available approach. Modified ATC was an *ad hoc* attempt by the Board to create, on the fly and without benefit of comments from interested parties, a revised methodology that would both account for economies of density and address the perceived problem of allocations that would result in SARR revenue that is lower than the real world incumbent's URCS variable costs for the segment replicated by the SARR.[24] Even assuming, *arguendo,* that the Board's concern about original ATC were valid, it has now proposed an alternative method that addresses that perceived problem without doing as much harm to a primary goal of its cost-based allocation approach—accounting for economies of density. *See Rate Regulation Reforms*, Ex Parte 715, at 17-18. Consistent with governing administrative law, in this case the Board may either apply the revenue allocation methodology developed in the *Major Issues* rulemaking (ATC) or an amended method it adopts through notice-and-comment rulemaking. What it may not do is apply an amended allocation rule it created in an individual adjudication that had been rejected on appeal and was not in force at the time Sunbelt filed this case or when it filed its case-in-chief, and that is presently pending on appeal.

[24]The Board's creation application of Modified ATC was an unnecessary and distorting attempt to "remedy" a non-existent problem. As demonstrated, SARR revenue allocations below the incumbent's real world URCS costs are not inconsistent with SAC principles, implausible, unfair, illogical, or otherwise problematic. *See supra* III-A-24.

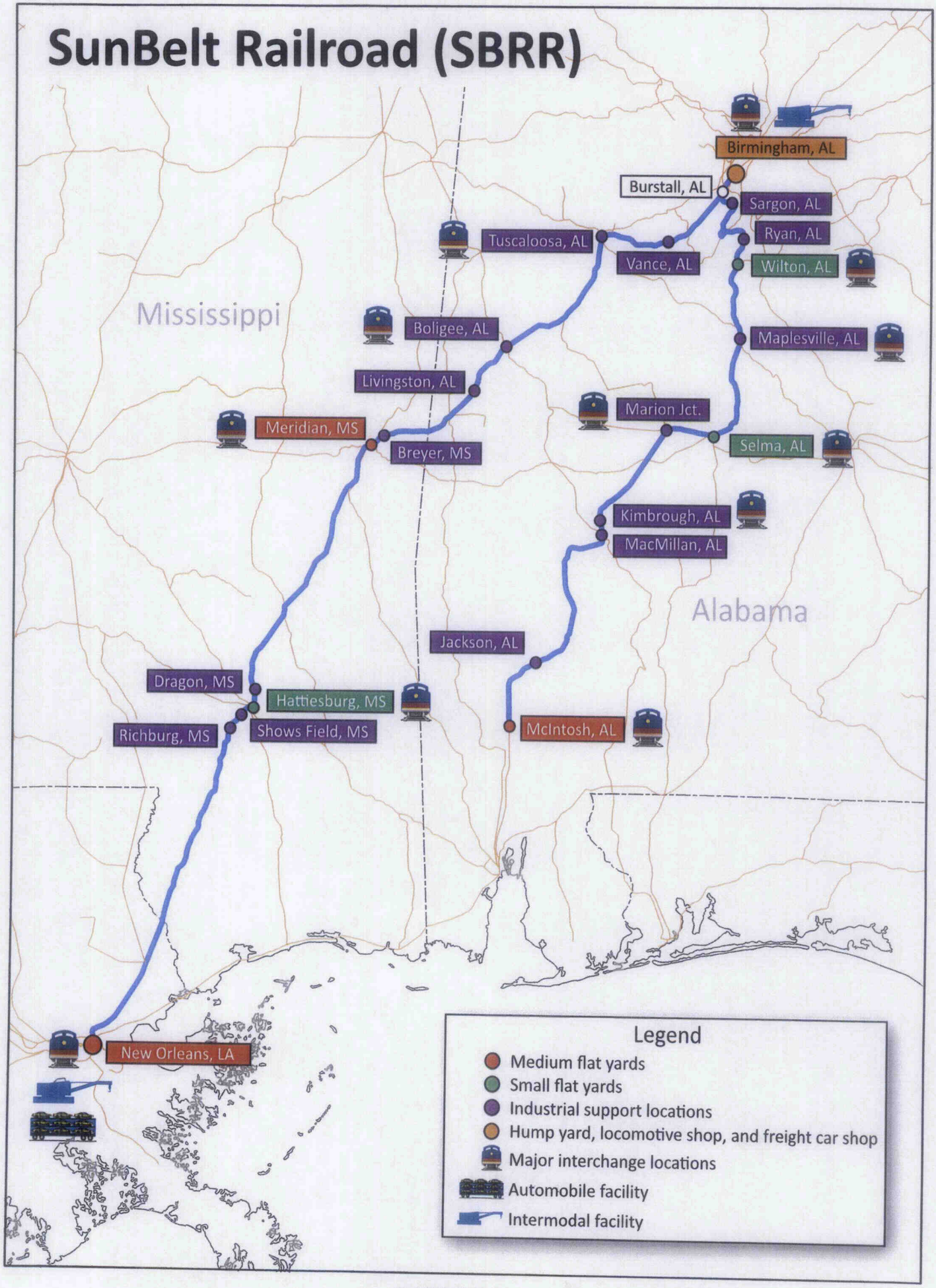
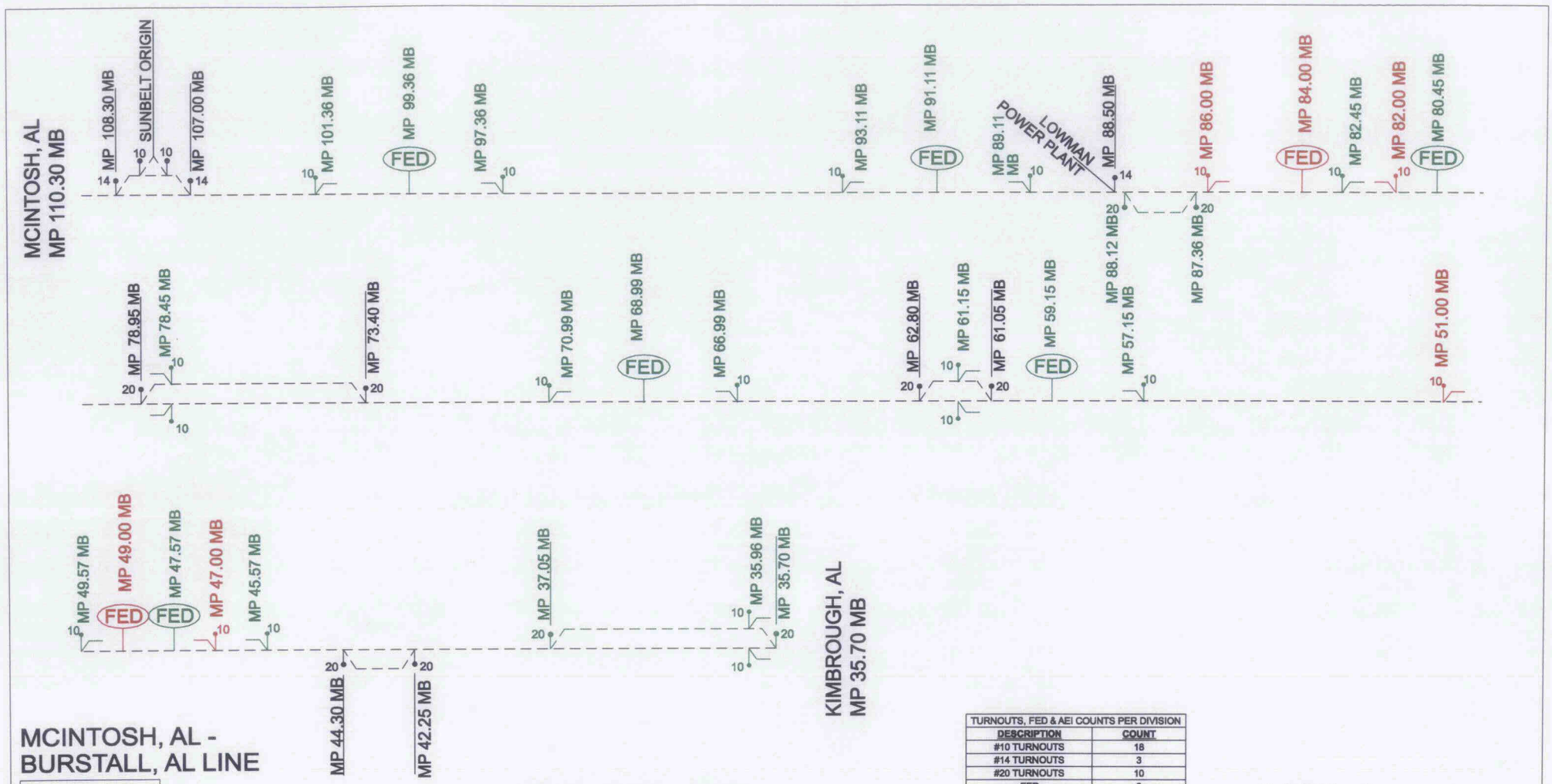


Exhibit III-B-1



MCINTOSH, AL -
BURSTALL, AL LINE

SBRR

ROUTE MILES: 74.82

TURNOUTS, FED & AEI COUNTS PER DIVISION	
DESCRIPTION	COUNT
#10 TURNOUTS	18
#14 TURNOUTS	3
#20 TURNOUTS	10
FED	6
AEI	0

PAGE 1

DISTRICT: 3B SOUTH

DIVISION: ALABAMA

FROM: MCINTOSH, AL
MP 110.30 MB

TO: KIMBROUGH, AL
MP 35.70 MB

DATE: 12/18/12

NOT TO SCALE

LEGEND:

- 136# PREMIUM CWR NEW
- 136# STANDARD CWR NEW
- 115# CWR NEW
- INTERCHANGE TRACK

WS WORKING SIDING BEGINNING MP

FED 1 FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
HB = HOT BEARING DETECTOR
DE OR DED = DRAGGING EQIUPMENT DETECTOR
HW = HOT WHEEL DETECTOR

AEI 1 AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

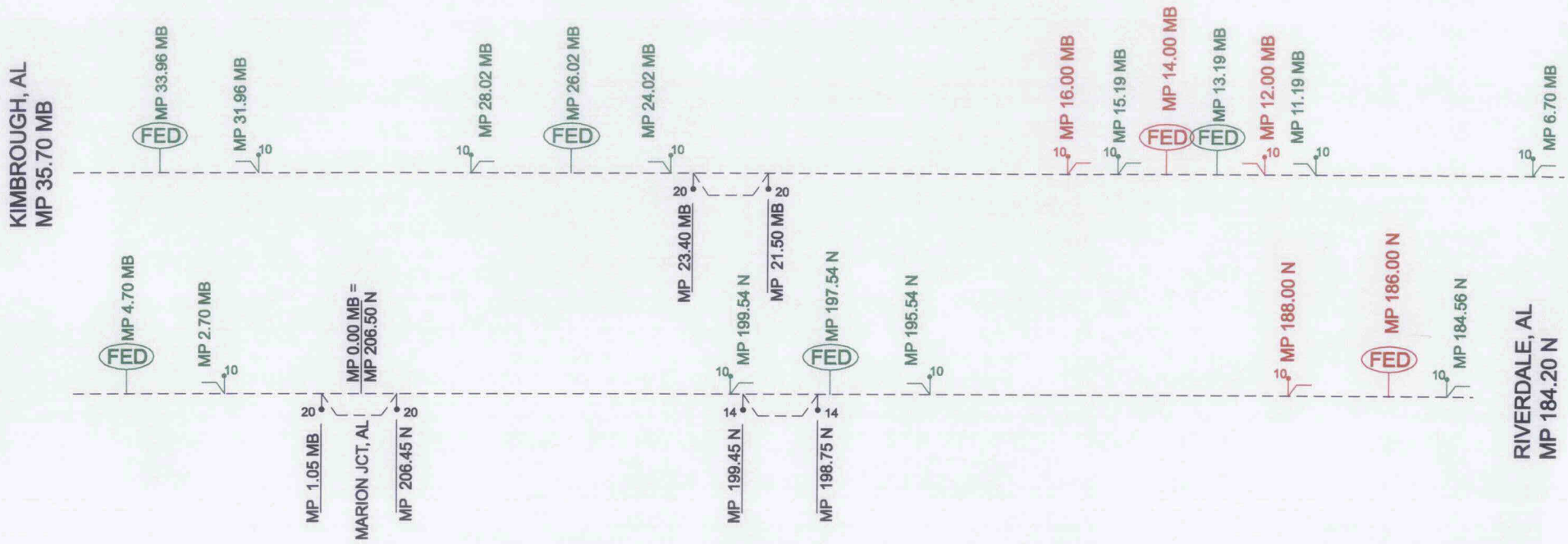
20 - TURNOUT TYPE*

*TURNOUT TYPES
20 - #20 ELECTRIC
14 - #14 ELECTRIC
10 - #10 HAND-THROWN

RED = REMOVE
GREEN = ADD

PREPARED BY:
STV/RALPH WHITEHEAD ASSOCIATES

EXHIBIT: III-B-2



MCINTOSH, AL - BURSTALL, AL LINE

SBRR

ROUTE MILES: 57.44

TURNOUTS, FED & AEI COUNTS PER DIVISION	
DESCRIPTION	COUNT
#10 TURNOUTS	10
#14 TURNOUTS	2
#20 TURNOUTS	4
FED	5
AEI	0

PAGE 2

DISTRICT: **3B SOUTH/3B NORTH**

DIVISION: **ALABAMA**

FROM: KIMBROUGH, AL
MP 35.70 MB

TO: RIVERDALE, AL
MP 184.20 N

DATE: 12/18/12

NOT TO SCALE

LEGEND:

- 136* PREMIUM CWR NEW
- 136* STANDARD CWR NEW
- 115* CWR NEW
- INTERCHANGE TRACK

WS WORKING SIDING BEGINNING MP

FED 1 FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
HB = HOT BEARING DETECTOR
DE OR DED = DRAGGING EQIUPMENT DETECTOR
HW = HOT WHEEL DETECTOR

AEI 1 AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

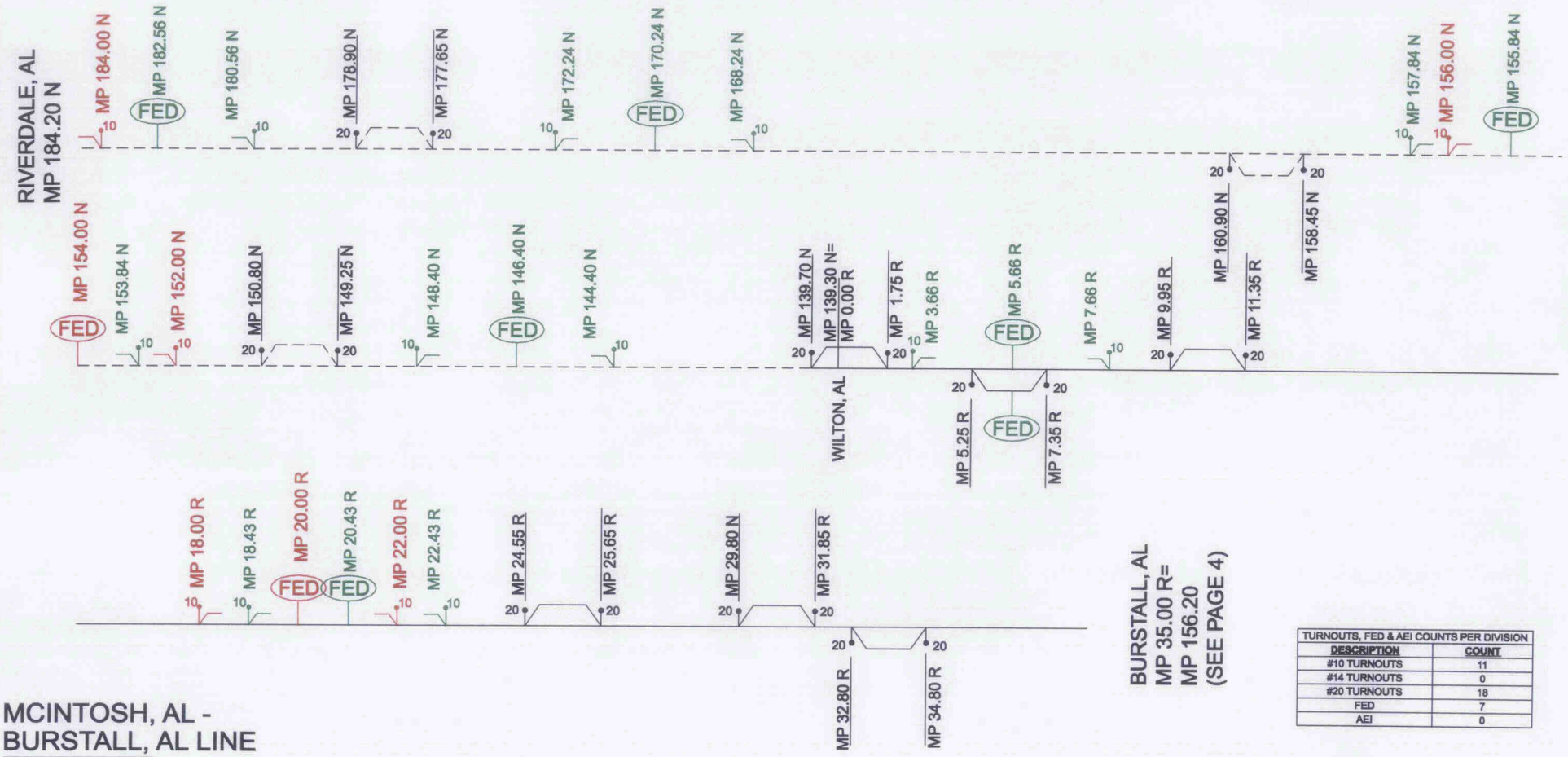
20 - TURNOUT TYPE*

*TURNOUT TYPES
20 - *20 ELECTRIC
14 - *14 ELECTRIC
10 - *10 HAND-THROWN

RED - REMOVE
GREEN = ADD

PREPARED BY:
STV/RALPH WHITEHEAD ASSOCIATES

EXHIBIT: III-B-2



TURNOUTS, FED & AEI COUNTS PER DIVISION	
DESCRIPTION	COUNT
#10 TURNOUTS	11
#14 TURNOUTS	0
#20 TURNOUTS	18
FED	7
AEI	0

MCINTOSH, AL - BURSTALL, AL LINE

SBRR

ROUTE MILES: 80.26

PAGE 3

DISTRICT: **3B NORTH**

DIVISION: **ALABAMA**

FROM: RIVERDALE, AL
MP 184.20 N

TO: BURSTALL, AL
MP 35.00 R

DATE: 12/18/12

NOT TO SCALE

LEGEND:

- 136# PREMIUM CWR NEW
- 136# STANDARD CWR NEW
- 115# CWR NEW
- INTERCHANGE TRACK

WS WORKING SIDING BEGINNING MP

FED 1 FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
HB - HOT BEARING DETECTOR
DE OR DED - DRAGGING EQIUPMENT DETECTOR
HW - HOT WHEEL DETECTOR

AEI 1 AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

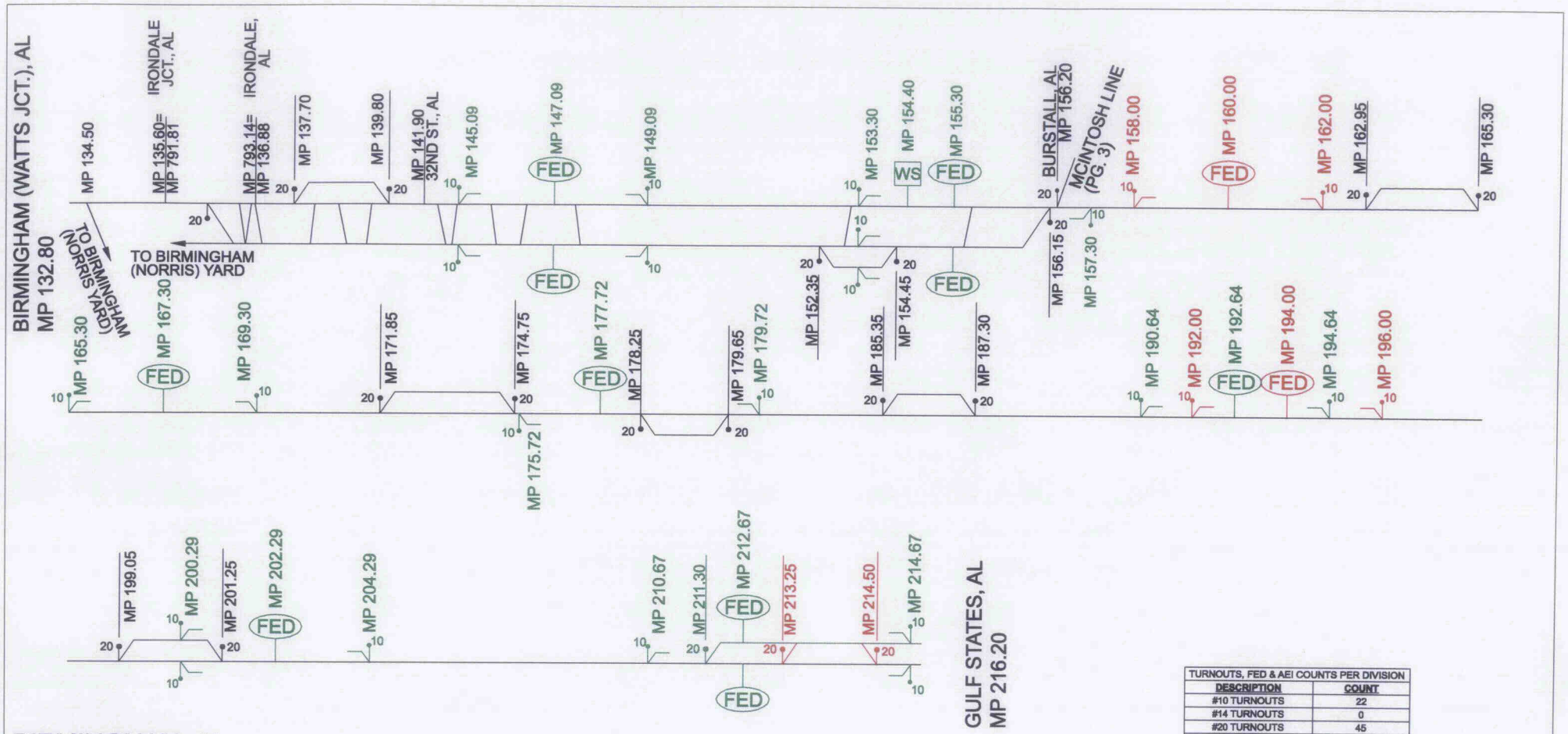
20 - TURNOUT TYPE*

*TURNOUT TYPES
20 - #20 ELECTRIC
14 - #14 ELECTRIC
10 - #10 HAND-THROWN

RED - REMOVE
GREEN - ADD

PREPARED BY:
STV/RALPH WHITEHEAD ASSOCIATES

EXHIBIT: III-B-2



TURNOUTS, FED & AEI COUNTS PER DIVISION	
DESCRIPTION	COUNT
#10 TURNOUTS	22
#14 TURNOUTS	0
#20 TURNOUTS	45
FED	10
AEI	0

BIRMINGHAM, AL - NEW ORLEANS, LA LINE

SBRR

ROUTE MILES: 83.63

PAGE 4

DISTRICT: **AGS NORTH / EAST END / AGS SOUTH**

DIVISION: **ALABAMA**

FROM: BIRMINGHAM (WATTS JCT.), AL
MP 132.80

TO: GULF STATES, AL
MP 216.20

DATE: 12/18/12

NOT TO SCALE

LEGEND:

- 136* PREMIUM CWR NEW
- 136* STANDARD CWR NEW
- 115* CWR NEW
- INTERCHANGE TRACK

WS WORKING SIDING BEGINNING MP

FED 1 FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
HB = HOT BEARING DETECTOR
DE OR DED = DRAGGING EQIUPMENT DETECTOR
HW = HOT WHEEL DETECTOR

AEI 1 AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

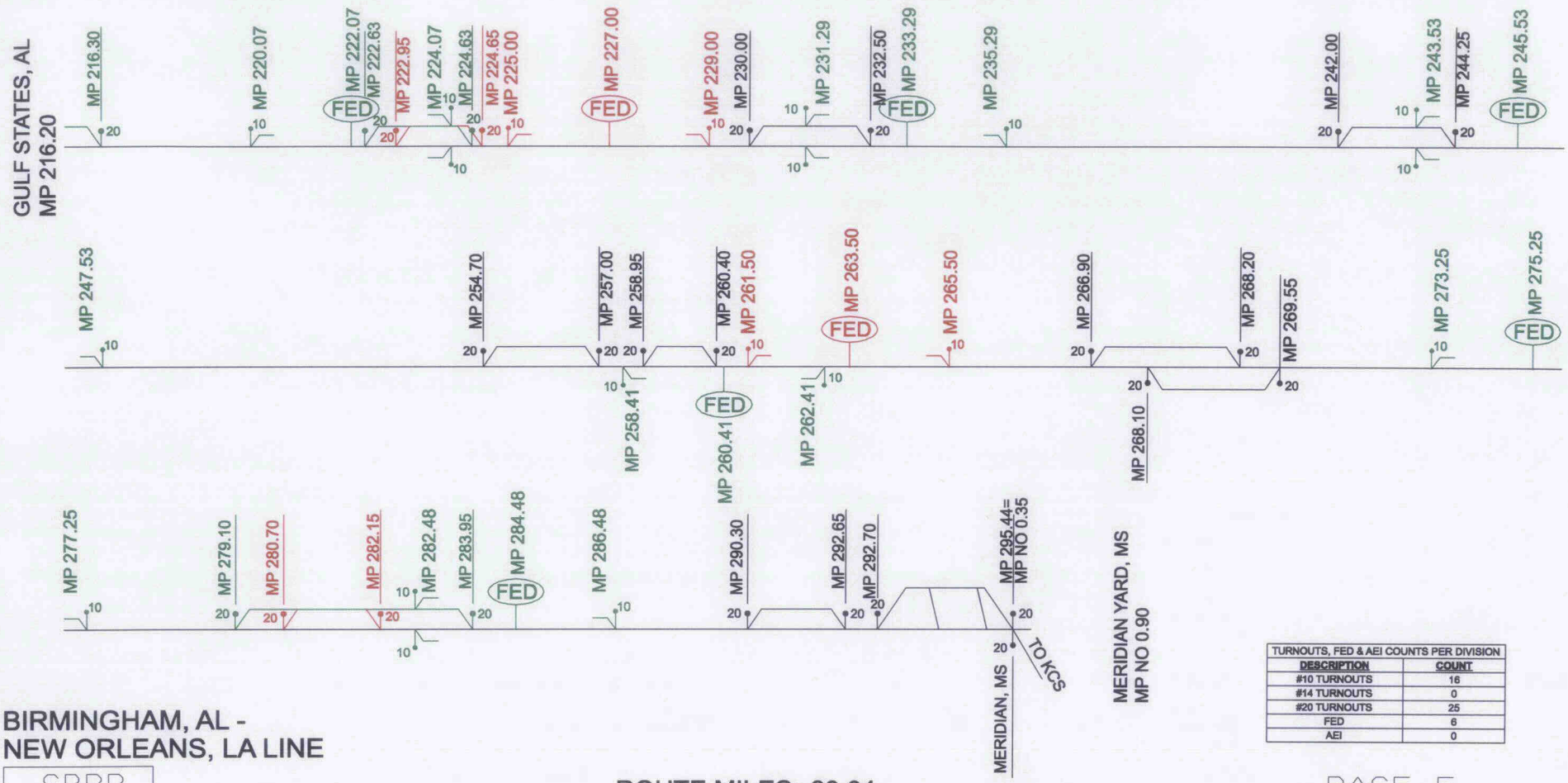
20 - TURNOUT TYPE*

*TURNOUT TYPES
20 - *20 ELECTRIC
14 - *14 ELECTRIC
10 - *10 HAND-THROWN

RED = REMOVE
GREEN = ADD

PREPARED BY:
STV/RALPH WHITEHEAD ASSOCIATES

EXHIBIT: III-B-2



TURNOUTS, FED & AEI COUNTS PER DIVISION	
DESCRIPTION	COUNT
#10 TURNOUTS	16
#14 TURNOUTS	0
#20 TURNOUTS	25
FED	6
AEI	0

BIRMINGHAM, AL - NEW ORLEANS, LA LINE

SBRR

ROUTE MILES: 80.04

PAGE 5

DISTRICT: **AGS SOUTH / NO & NE**

DIVISION: **ALABAMA**

FROM: GULF STATES, AL
MP 216.20

TO: MERIDIAN YARD, MS
MP NO 0.90

DATE: 12/18/12

NOT TO SCALE

LEGEND:

- 136# PREMIUM CWR NEW
- 136# STANDARD CWR NEW
- 115# CWR NEW
- INTERCHANGE TRACK

WS WORKING SIDING BEGINNING MP

FED 1 FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
HB = HOT BEARING DETECTOR
DE OR DED = DRAGGING EQIUPMENT DETECTOR
HW = HOT WHEEL DETECTOR

AEI 1 AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

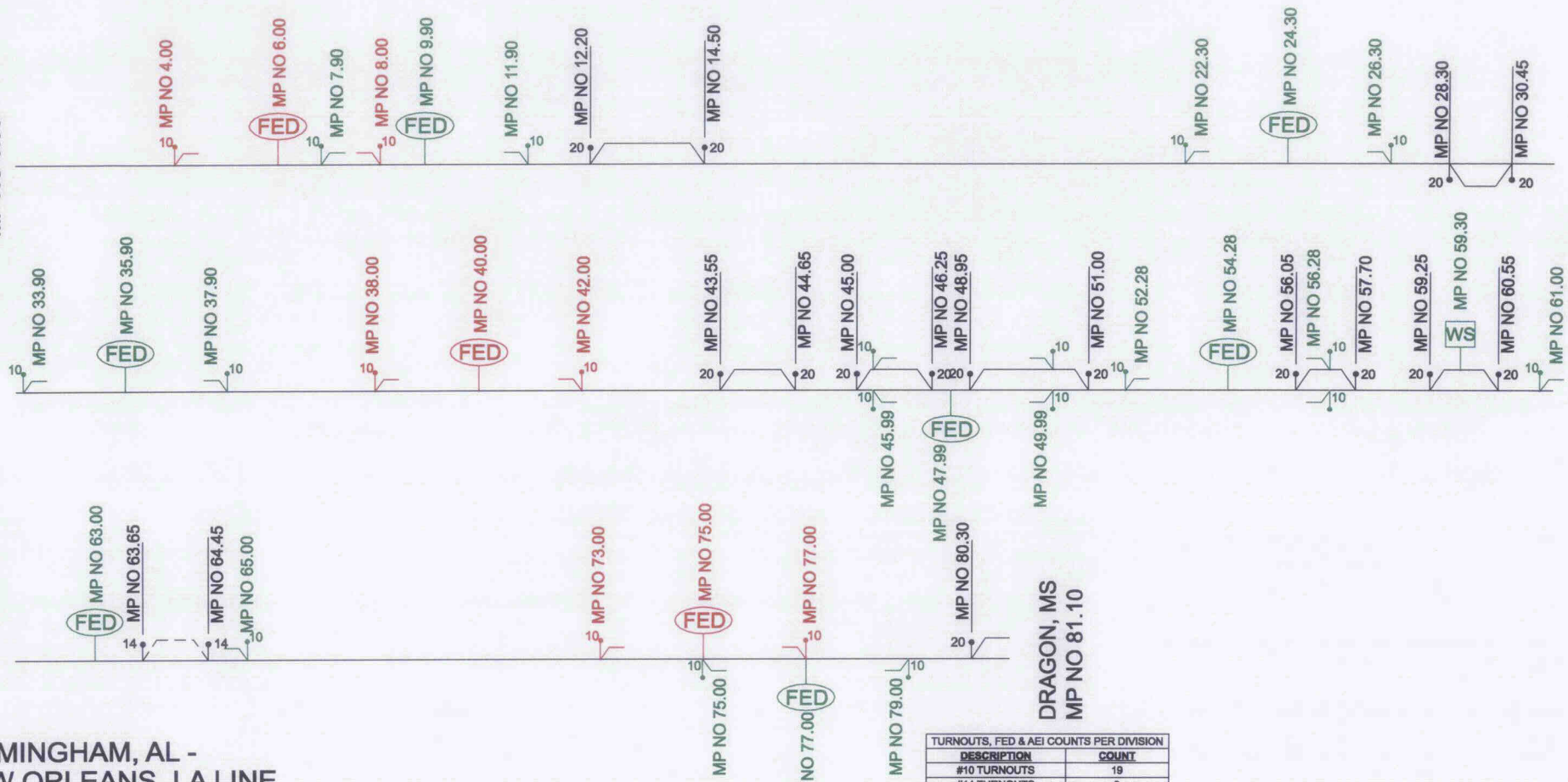
20 - TURNOUT TYPE*

*TURNOUT TYPES
20 - #20 ELECTRIC
14 - #14 ELECTRIC
10 - #10 HAND-THROWN

RED = REMOVE
GREEN = ADD

PREPARED BY:
STV/RALPH WHITEHEAD ASSOCIATES

EXHIBIT: III-B-2



TURNOUTS, FED & AEI COUNTS PER DIVISION	
DESCRIPTION	COUNT
#10 TURNOUTS	19
#14 TURNOUTS	2
#20 TURNOUTS	15
FED	7
AEI	0

BIRMINGHAM, AL - NEW ORLEANS, LA LINE

SBRR

ROUTE MILES: 80.24

PAGE 6

DISTRICT: **NO & NE**

DIVISION: **ALABAMA**

FROM: MERIDIAN YARD, MS
MP NO 0.90

TO: DRAGON, MS
MP NO 81.10

DATE: 12/18/12

NOT TO SCALE

LEGEND:

- 136# PREMIUM CWR NEW
- 136# STANDARD CWR NEW
- 115# CWR NEW
- INTERCHANGE TRACK

WS WORKING SIDING BEGINNING MP

FED 1 FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
HB = HOT BEARING DETECTOR
DE OR DED = DRAGGING EQIUPMENT DETECTOR
HW = HOT WHEEL DETECTOR

AEI 1 AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

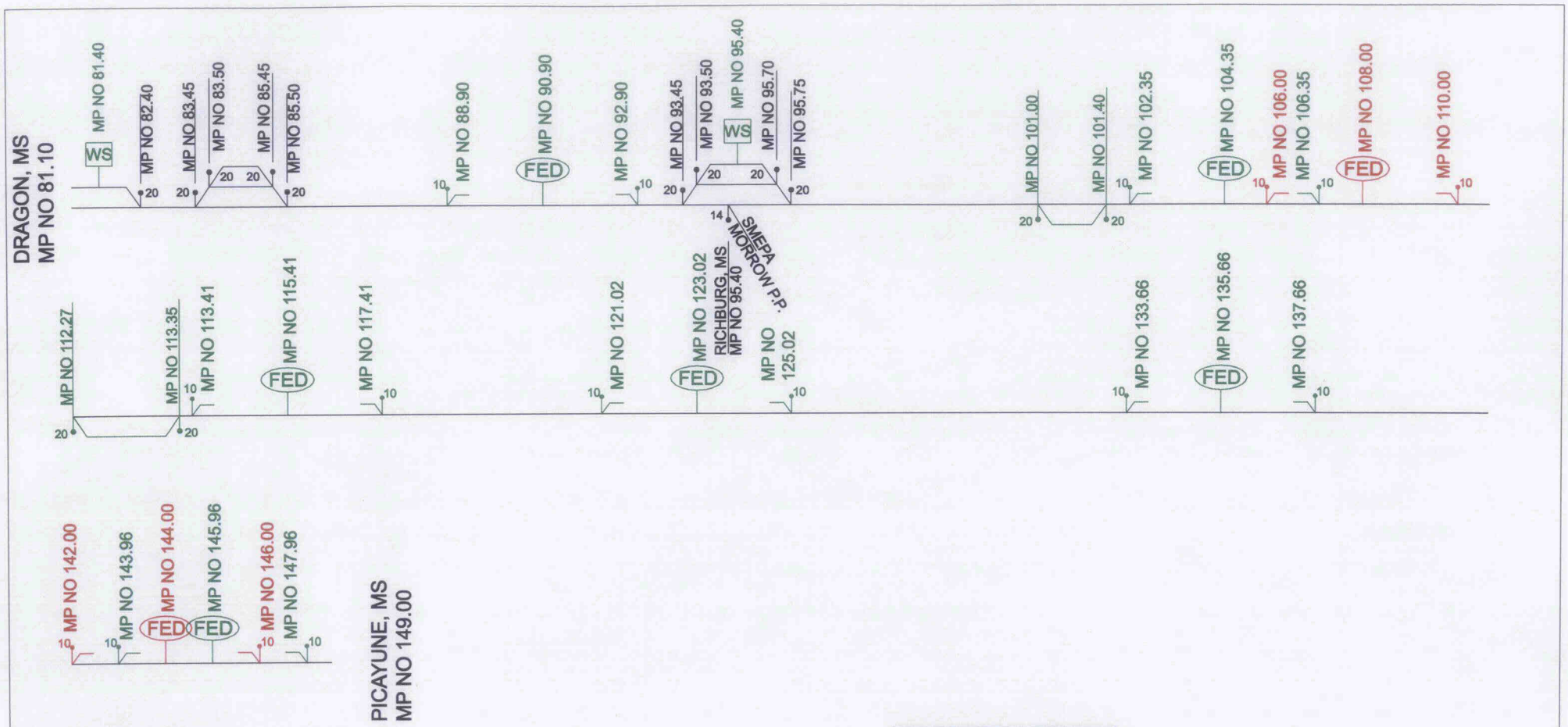
20 - TURNOUT TYPE*

*TURNOUT TYPES
20 - #20 ELECTRIC
14 - #14 ELECTRIC
10 - #10 HAND-THROWN

RED - REMOVE
GREEN = ADD

PREPARED BY:
STV/RALPH WHITEHEAD ASSOCIATES

EXHIBIT: III-B-2



BIRMINGHAM, AL - NEW ORLEANS, LA LINE

SBRR

ROUTE MILES: 67.26

TURNOUTS, FED & AEI COUNTS PER DIVISION	
DESCRIPTION	COUNT
#10 TURNOUTS	16
#14 TURNOUTS	1
#20 TURNOUTS	13
FED	6
AEI	0

PAGE 7

DISTRICT: **NO & NE**

DIVISION: **ALABAMA**

FROM: DRAGON, MS
MP NO 81.10

TO: PICAYUNE, MS
MP NO 149.00

DATE: 12/18/12

NOT TO SCALE

LEGEND:

- 136# PREMIUM CWR NEW
- 136# STANDARD CWR NEW
- 115# CWR NEW
- INTERCHANGE TRACK

WS WORKING SIDING BEGINNING MP

FED FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
HB = HOT BEARING DETECTOR
DE OR DED = DRAGGING EQIUPMENT DETECTOR
HW = HOT WHEEL DETECTOR

AEI AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

20 = TURNOUT TYPE*

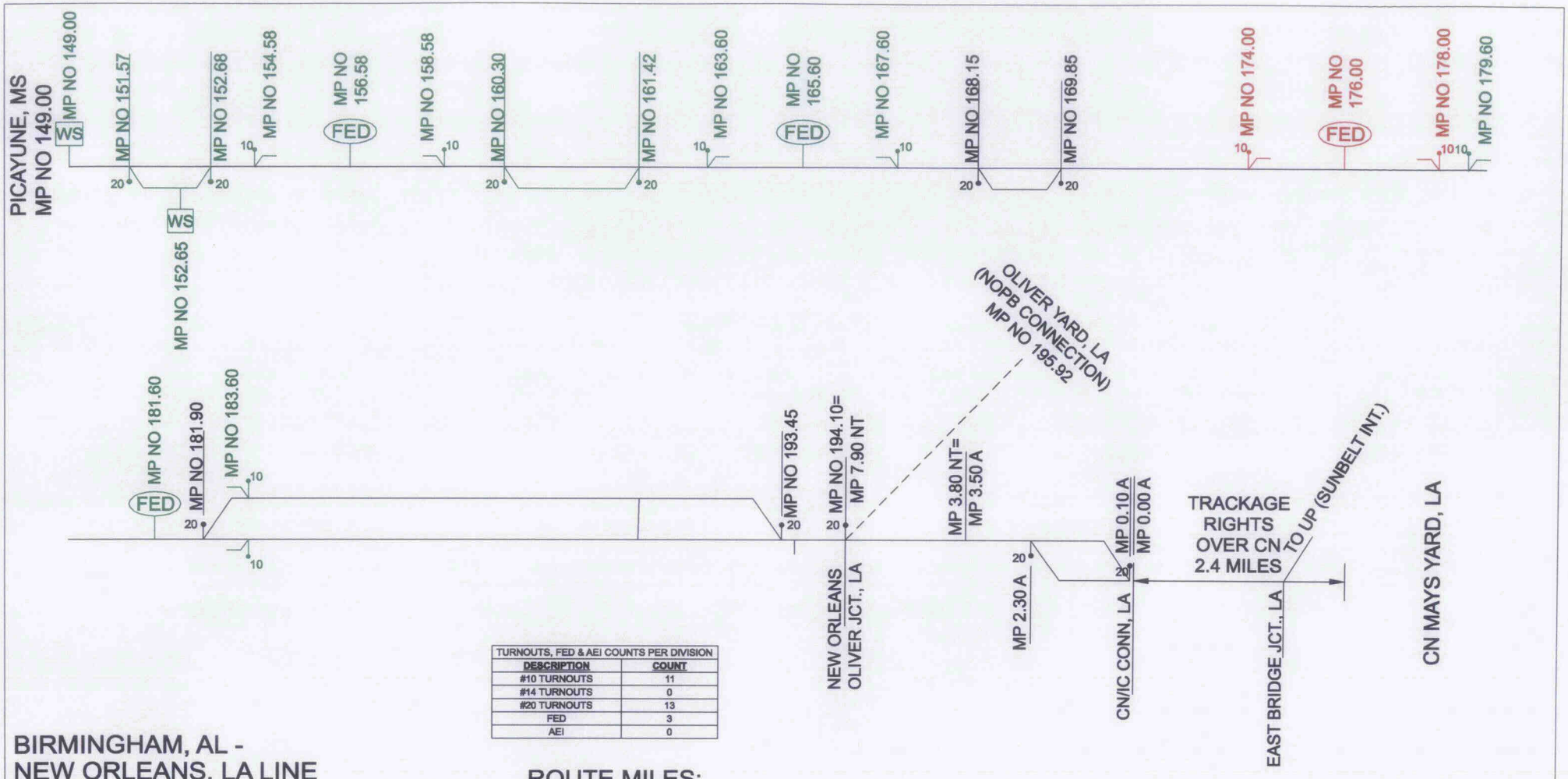
*TURNOUT TYPES
20 - #20 ELECTRIC
14 - #14 ELECTRIC
10 - #10 HAND-THROWN

RED = REMOVE

GREEN = ADD

PREPARED BY:
STV/RALPH WHITEHEAD ASSOCIATES

EXHIBIT: III-B-2



TURNOUTS, FED & AEI COUNTS PER DIVISION	
DESCRIPTION	COUNT
#10 TURNOUTS	11
#14 TURNOUTS	0
#20 TURNOUTS	13
FED	3
AEI	0

BIRMINGHAM, AL - NEW ORLEANS, LA LINE

SBRR

ROUTE MILES:
54.55 (CONSTRUCTED) / 56.95 (OPERATING)

PAGE 8

DISTRICT: **N.O. & N.E./NEW ORLEANS TERM**

DIVISION: **ALABAMA**

FROM: PICAYUNE, MS
MP NO 149.00

TO: NEW ORLEANS, LA
MP NO 195.92

DATE: 12/18/12

NOT TO SCALE

LEGEND:

- 136# PREMIUM CWR NEW
- 136# STANDARD CWR NEW
- 115# CWR NEW
- INTERCHANGE TRACK

WS WORKING SIDING BEGINNING MP

FED FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
HB = HOT BEARING DETECTOR
DE OR DED = DRAGGING EQIUPMENT DETECTOR
HW = HOT WHEEL DETECTOR

AEI AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

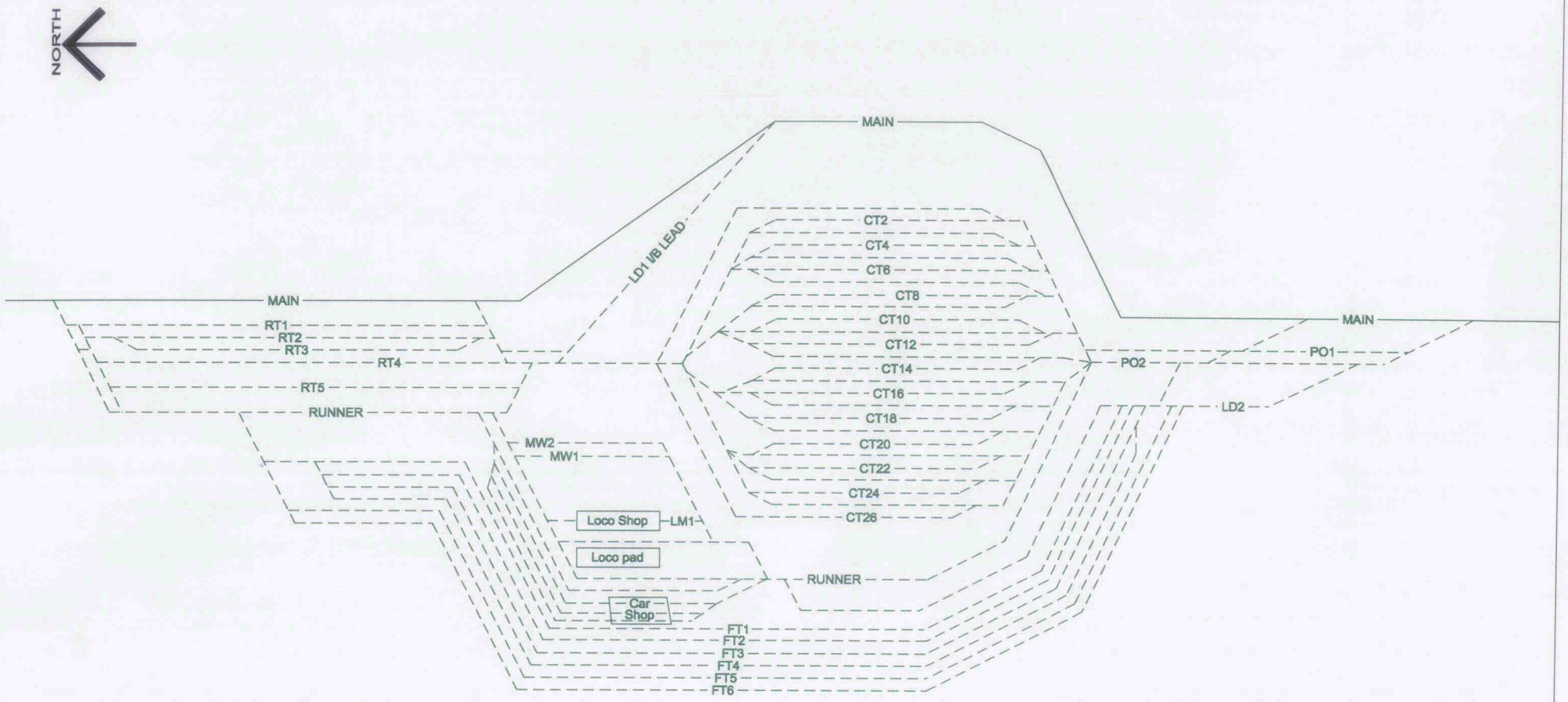
20 - TURNOUT TYPE*

*TURNOUT TYPES
20 - #20 ELECTRIC
14 - #14 ELECTRIC
10 - #10 HAND-THROWN

RED - REMOVE
GREEN - ADD

PREPARED BY:
STV/RALPH WHITEHEAD ASSOCIATES

EXHIBIT: III-B-2



SBRR

PAGE 9

DISTRICT: **BIRMINGHAM (NORRIS) YARD**

DIVISION: **ALABAMA**

MP

TO:

MP

DATE: 12/18/12

NOT TO SCALE

LEGEND:

- 136# PREMIUM CWR NEW
- 136# STANDARD CWR NEW
- 115# CWR NEW

*TURNOUT TYPES
20 - #20 ELECTRIC
14 - #14 ELECTRIC
10 - #10 HAND-THROWN

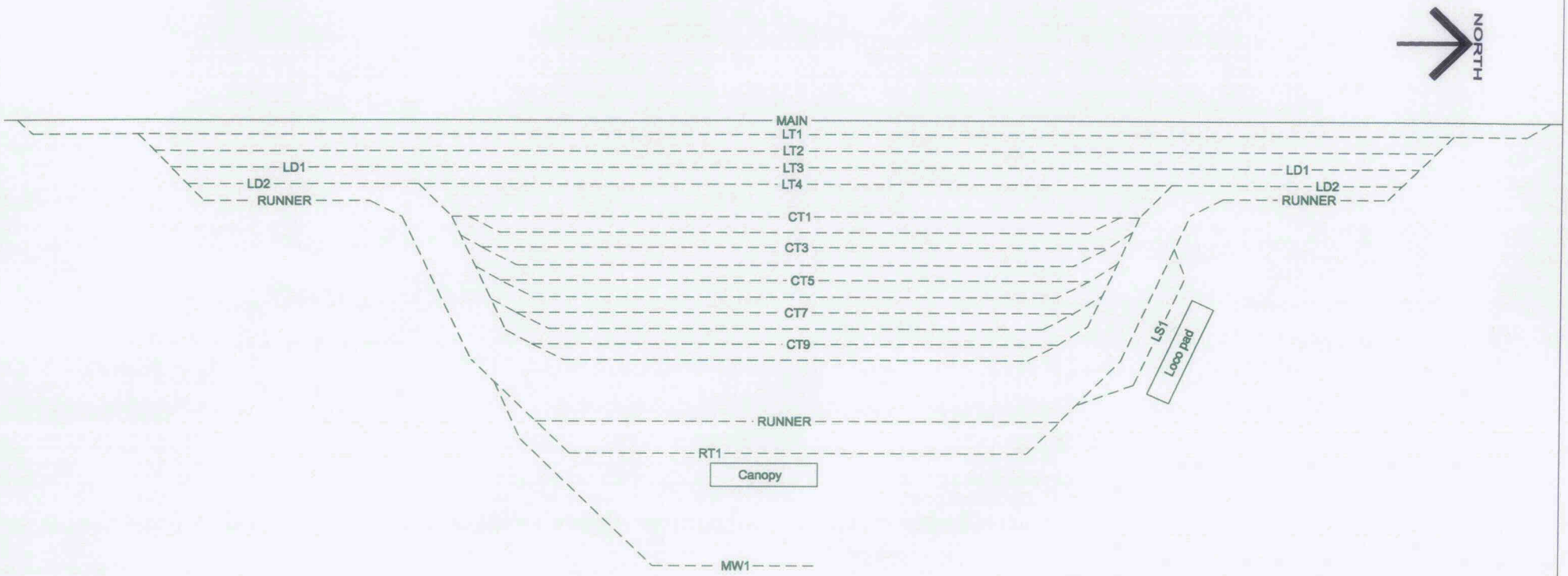
RED = REMOVE
GREEN = ADD

FED 1 FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
HB = HOT BEARING DETECTOR
DE OR DED = DRAGGING EQIUPMENT DETECTOR
HW = HOT WHEEL DETECTOR

AEI 1 AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

PREPARED BY:
STV/RALPH WHITEHEAD ASSOCIATES

EXHIBIT: III-B-2



SBRR

PAGE 10

DISTRICT: **NEW ORLEANS YARD**

DIVISION: **ALABAMA**

MP

TO:

MP

DATE: 12/18/12

NOT TO SCALE

LEGEND:

- 136# PREMIUM CWR NEW
- 136# STANDARD CWR NEW
- 115# CWR NEW

*TURNOUT TYPES
20 - #20 ELECTRIC
14 - #14 ELECTRIC
10 - #10 HAND-THROWN

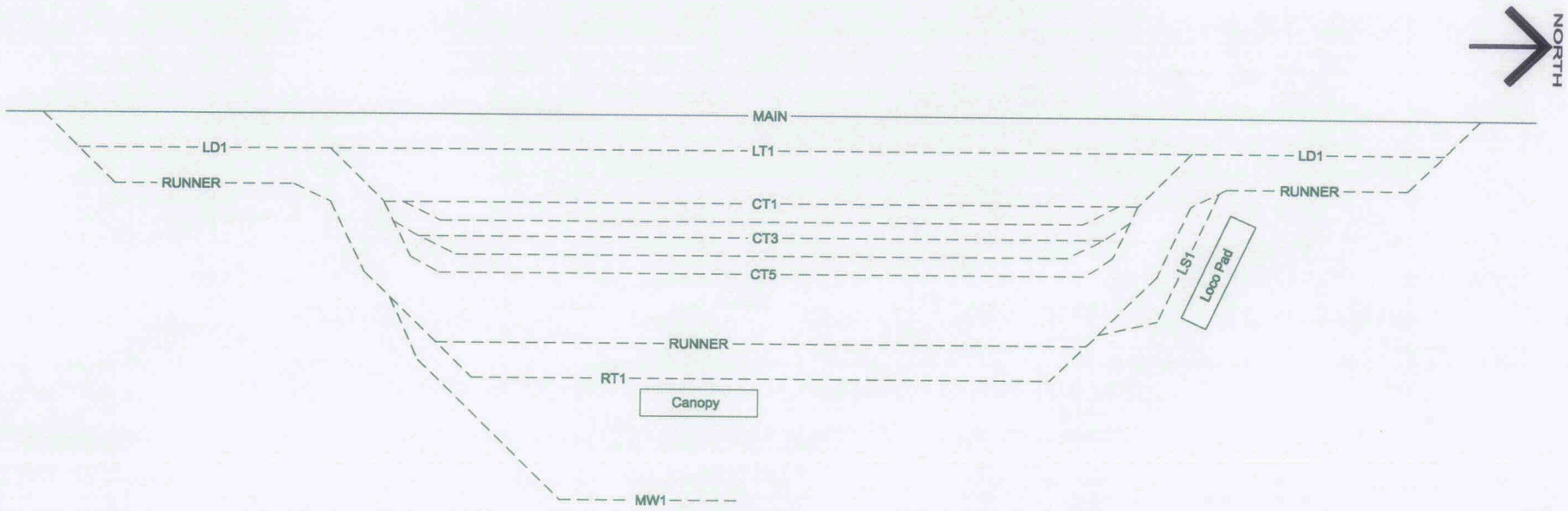
RED = REMOVE
GREEN = ADD

FED 1 FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
HB = HOT BEARING DETECTOR
DE OR DED = DRAGGING EQIUPMENT DETECTOR
HW = HOT WHEEL DETECTOR

AEI 1 AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

PREPARED BY:
STV/RALPH WHITEHEAD ASSOCIATES

EXHIBIT: III-B-2



SBRR

PAGE 11

DISTRICT: **MERIDIAN YARD**

DIVISION: **ALABAMA**

TO: MP

MP

DATE: 12/18/12

NOT TO SCALE

LEGEND:

- 136# PREMIUM CWR NEW
- 136# STANDARD CWR NEW
- 115# CWR NEW

*TURNOUT TYPES
20 - #20 ELECTRIC
14 - #14 ELECTRIC
10 - #10 HAND-THROWN

RED - REMOVE

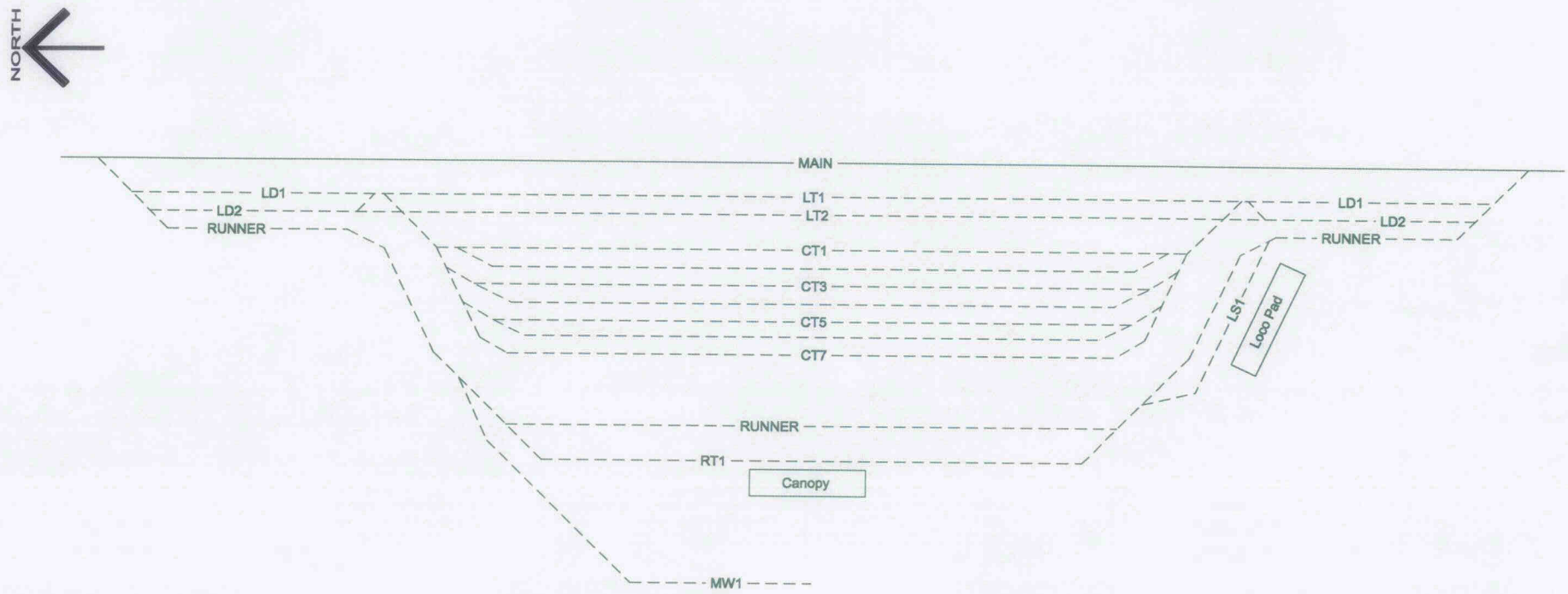
GREEN - ADD

FED 1 FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
HB - HOT BEARING DETECTOR
DE OR DED - DRAGGING EQIUPMENT DETECTOR
HW - HOT WHEEL DETECTOR

AEI 1 AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

PREPARED BY:
STV/RALPH WHITEHEAD ASSOCIATES

EXHIBIT: III-B-2



SBRR

PAGE 12

DISTRICT: **MCINTOSH YARD**

DIVISION: **ALABAMA**

TO: MP MP

DATE: 12/18/12

NOT TO SCALE

LEGEND:

- 136# PREMIUM CWR NEW
- 136# STANDARD CWR NEW
- 115# CWR NEW

*TURNOUT TYPES
20 - #20 ELECTRIC
14 - #14 ELECTRIC
10 - #10 HAND-THROWN

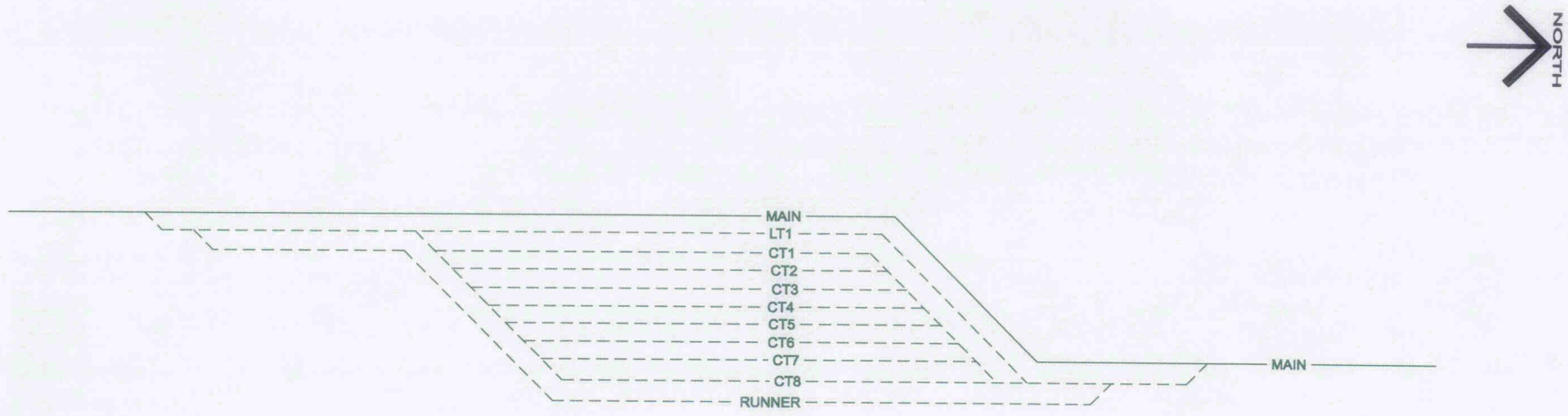
RED - REMOVE
GREEN - ADD

(FED) 1 FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
HB - HOT BEARING DETECTOR
DE OR DED - DRAGGING EQIUPMENT DETECTOR
HW - HOT WHEEL DETECTOR

(AEI) 1 AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

PREPARED BY:
STV/RALPH WHITEHEAD ASSOCIATES

EXHIBIT: III-B-2



SBRR

PAGE 13

DISTRICT: **SELMA YARD**

DIVISION: **ALABAMA**

TO: MP

MP

DATE: 12/18/12

NOT TO SCALE

LEGEND:

- 136# PREMIUM CWR NEW
- 136# STANDARD CWR NEW
- 115# CWR NEW

*TURNOUT TYPES
20 - #20 ELECTRIC
14 - #14 ELECTRIC
10 - #10 HAND-THROWN

RED = REMOVE

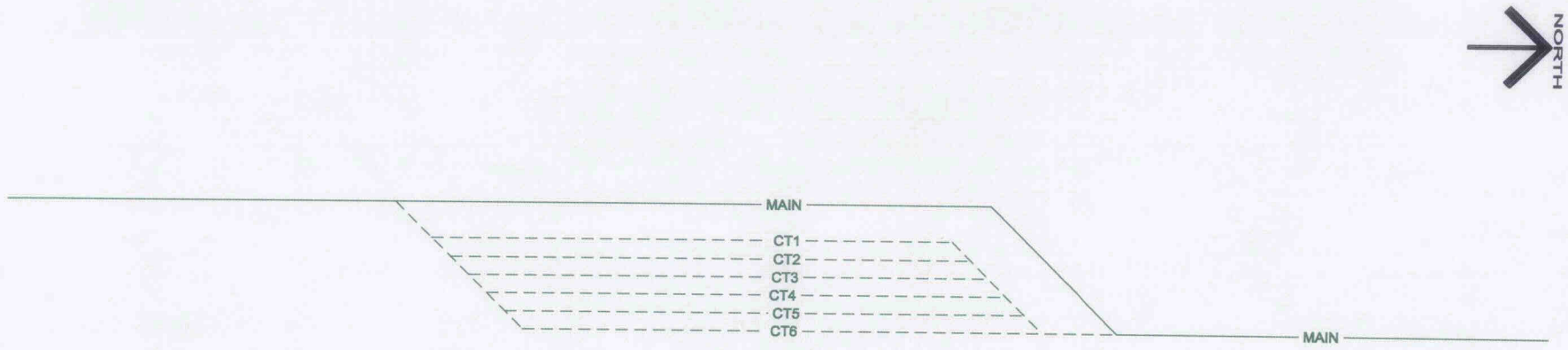
GREEN = ADD

FED 1 FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
HB = HOT BEARING DETECTOR
DE OR DED = DRAGGING EQIUPMENT DETECTOR
HW = HOT WHEEL DETECTOR

AEI 1 AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

PREPARED BY:
STV/RALPH WHITEHEAD ASSOCIATES

EXHIBIT: III-B-2



SBRR

PAGE 14

DISTRICT: **WILTON YARD**

DIVISION: **ALABAMA**

MP

TO:

MP

DATE: 12/18/12

NOT TO SCALE

LEGEND:

- 136* PREMIUM CWR NEW
- 136* STANDARD CWR NEW
- 115* CWR NEW

*TURNOUT TYPES
20 - *20 ELECTRIC
14 - *14 ELECTRIC
10 - *10 HAND-THROWN

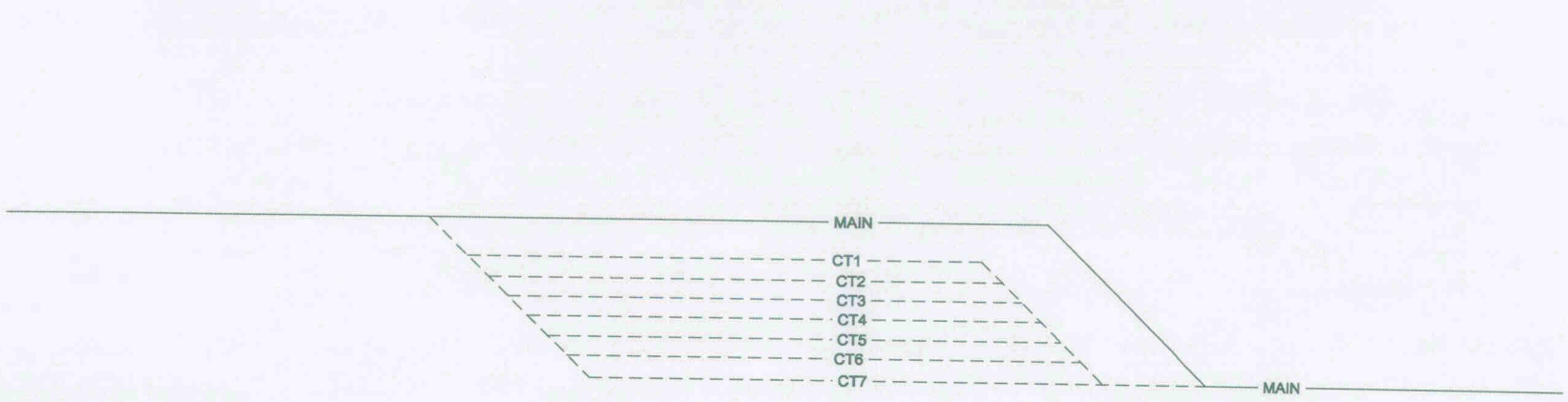
RED - REMOVE
GREEN - ADD

FED 1 FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
HB - HOT BEARING DETECTOR
DE OR DED - DRAGGING EQIUPMENT DETECTOR
HW - HOT WHEEL DETECTOR

AEI 1 AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

PREPARED BY:
STV/RALPH WHITEHEAD ASSOCIATES

EXHIBIT: III-B-2



NORTH

SBRR

PAGE 15

DISTRICT: **HATTIESBURG, MS YARD**

DIVISION: **ALABAMA**

TO: MP

MP

DATE: 12/18/12

NOT TO SCALE

LEGEND:

- 136# PREMIUM CWR NEW
- 136# STANDARD CWR NEW
- 115# CWR NEW

*TURNOUT TYPES
20 - #20 ELECTRIC
14 - #14 ELECTRIC
10 - #10 HAND-THROWN

RED = REMOVE
GREEN = ADD

(FED) 1 FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
HB = HOT BEARING DETECTOR
DE OR DED = DRAGGING EQIUPMENT DETECTOR
HW = HOT WHEEL DETECTOR

(AEI) 1 AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

PREPARED BY:
STV/RALPH WHITEHEAD ASSOCIATES

EXHIBIT: III-B-2

Exhibit III-C-1

Please insert CD sleeve here

Sunbelt Railroad Traffic Selection Methodology v5

Step 1: Start with Waybill data (zzWaybills table)

1. Develop LeadUnits table for all Waybill data records where MULTI_CAR_XREF_WB_SN is not populated
2. Develop TrailingUnitsSummary table for all Waybill records where MULTI_CAR_XREF_WB_SN is populated
    a. Group by: MULTI_CAR_XREF_WB_SN
    b. SUM_OF_REVENUE_LH
    c. SUM_OF_REVENUE_FS
    d. SUM_OF_NS_AR_ADJUSTMENTS
    e. SUM_OF_NS_OTHER
    f. SUM_OF_NS_CONTRACT_REFUNDS
    g. SUM_OF_NS_DUMPING
    h. COUNT_EQ_NR
3. Add new fields to LeadUnits table and rename as LeadUnitWithTotals Table
    a. SUM_OF_REVENUE_LH
    b. SUM_OF_REVENUE_FS
    c. SUM_OF_NS_AR_ADJUSTMENTS
    d. SUM_OF_NS_OTHER
    e. SUM_OF_NS_CONTRACT_REFUNDS
    f. SUM_OF_NS_DUMPING
    g. COUNT_EQ_NR
    h. TOTAL_OF_REVENUE_LH
    i. TOTAL_OF_REVENUE_FS
    j. TOTAL_OF_NS_AR_ADJUSTMENTS
    k. TOTAL_OF_NS_OTHER
    l. TOTAL_OF_NS_CONTRACT_REFUNDS
    m. TOTAL_OF_NS_DUMPING
    n. TOTAL_EQ_NR
4. Add TrailingUnitsSummary data developed in item 2 above to corresponding new fields in LeadUnitWithTotals table)
5. Sum revenue and revenue adjustment data for lead and trailing units and populate new TOTAL fields in LeadUnitWithTotals table
    a. TOTAL_OF_REVENUE_LH = {LeadUnits} REVENUE_LH + {TrailingUnits} SUM_OF_REVENUE_LH
    b. TOTAL_OF_REVENUE_FS = {LeadUnits} REVENUE_FS + {TrailingUnits} SUM_OF_REVENUE_FS
    c. TOTAL_OF_NS_AR_ADJUSTMENTS = {LeadUnits} NS_AR_ADJUSTMENTS + {TrailingUnits} SUM_OF_ NS_AR_ADJUSTMENTS
    d. TOTAL_OF_NS_OTHER = {LeadUnits} NS_OTHER + {TrailingUnits} SUM_OF_ NS_OTHER
    e. TOTAL_OF_NS_CONTRACT_REFUNDS = {LeadUnits} NS_CONTRACT_REFUNDS + {TrailingUnits} SUM_OF_ NS_CONTRACT_REFUNDS

f. TOTAL_OF_NS_DUMPING = {LeadUnits} NS_DUMPING + {TrailingUnits} SUM_OF_NS_DUMPING
g. TOTAL_EQ_NR = 1 + {TrailingUnits} COUNT_EQ_NR

Step 2: Add data field to the LeadUnitWithTotals table to account for missing lead unit car/intermodal event records

1. New field = TRACE_UNIT_WB_SN

Step 3: Populate TRACE_UNIT_WB_SN for Non-Intermodal records

1. For LeadUnitWithTotals records where AR_MAJOR_COMMODITY_GRP <> "IM":
    a. Link LeadUnitWithTotals [WB_SN_URRWIN] to zzCarEvents [TRANS_WB_SN]
    b. If link is made:
        i. Set LeadUnitWithTotals [TRACE_UNIT_WB_SN] equal to LeadUnitWithTotals [WB_SN_URRWIN]
    c. In link is not made:
        i. Link LeadUnitWithTotals [WB_SN_URRWIN] to zzCarEvents [WB_SN] (***This will create a link to multiple cars in the car event data from which we need to identify a single alternate trace car)
            1. Array all linked records in the CarEvents table by [TRANS_WB_SN]
            2. Identify the minimum [TRANS_WB_SN] value that is greater than 4000000000 (***Parameter needed to avoid using blank, null, or zero values)
            3. Set LeadUnitWithTotals [TRACE_UNIT_WB_SN] equal to the zzCarEvents [TRANS_WB_SN] identified in the item immediately above (3-1.c.i.2.)

Step 4: Populate TRACE_UNIT_WB_SN for Intermodal records

1. For LeadUnitWithTotals records where AR_MAJOR_COMMODITY_GRP = "IM":
    a. Link LeadUnitWithTotals [WB_SN_URRWIN] to IntermodalEvents [TRANS_WB_SN]
    b. If link is made:
        i. Set LeadUnitWithTotals [TRACE_UNIT_WB_SN] equal to LeadUnitWithTotals [WB_SN_URRWIN]
    c. In link is not made:
        i. Link LeadUnitWithTotals [WB_SN_URRWIN] to IntermodalEvents [WB_SN] (***This will create a link to multiple units in the intermodal event data from which we need to identify a single unit)
            1. Array all linked records in the IntermodalEvents table by [TRANS_WB_SN]
            2. Identify the minimum [TRANS_WB_SN] value that is greater than 4000000000 (***Parameter needed to avoid using blank, null, or zero values)
            3. Set LeadUnitWithTotals [TRACE_UNIT_WB_SN] equal to the IntermodalEvents [TRANS_WB_SN] identified in the item immediately above (4-1.c.i.2.)

Step 5: Develop Summary of LeadUnitWithTotals table as follows:

1. Count of LeadUnitWithTotals records where [TRACE_UNIT_WB_SN] = [WB_SN_URRWIN]

2. Count of LeadUnitWithTotals records where [TRACE_UNIT_WB_SN] <> [WB_SN_URRWIN] and [TRACE_UNIT_WB_SN] is populated
3. Count of LeadUnitWithTotals records where [TRACE_UNIT_WB_SN] is not populated
4. Count of total LeadUnitWithTotals records

Step 6: Identify railcar and mileage associated with LeadUnitWithTotals trace units

1. Add data fields to LeadUnitWithTotals table
    a. RAILCAR_INIT
    b. RAILCAR_NR
    c. RAILCAR_WB_SN
    d. NS_Miles
2. For Non-Intermodal Records (AR_MAJOR_COMMODITY_GRP <> "IM"):
    a. If LeadUnitWithTotals [WB_SN_URRWIN] = LeadUnitWithTotals [TRACE_UNIT_WB_SN] .OR. LeadUnitWithTotals[TRACE_UNIT_WB_SN] is {blank or NULL}:
        i. Set LeadUnitWithTotals [RAILCAR_INIT] equal to LeadUnitWithTotals [EQ_INIT]
        ii. Set LeadUnitWithTotals [RAILCAR_NR] equal to LeadUnitWithTotals [EQ_NR]
        iii. Set LeadUnitWithTotals [RAILCAR_WB_SN] equal to LeadUnitWithTotals [WB_SN_URRWIN]
    b. If LeadUnitWithTotals [WB_SN_URRWIN] <> LeadUnitWithTotals [TRACE_UNIT_WB_SN] .AND. LeadUnitWithTotals [TRACE_UNIT_WB_SN] is <u>not</u> {blank or NULL}:
        i. Link LeadUnitWithTotals [TRACE_UNIT_WB_SN] to CarEvent [TRANS_WB_SN]
        ii. Set LeadUnitWithTotals [RAILCAR_INIT] equal to CarEvent [EQ_INIT]
        iii. Set LeadUnitWithTotals [RAILCAR_NR] equal to CarEvent [EQ_NR]
        iv. Set LeadUnitWithTotals [RAILCAR_WB_SN] equal to CarEvent [TRANS_WB_SN]
    c. Link LeadUnitWithTotals [TRACE_UNIT_WB_SN] to NS_Miles [TRANS_WB_SN]
        i. Set LeadUnitWithTotals [NS_Miles] equal to NS_Miles [NS_MOVE_DISTANCE_MILES]
3. For Intermodal Records (AR_MAJOR_COMMODITY_GRP = "IM"):
    a. Link LeadUnitWithTotals [TRACE_UNIT_WB_SN] to IntermodalEvents [TRANS_WB_SN]
    b. Link IntermodalEvents [EQ_INIT, EQ_NR, OS, EVENT_DT, TRAIN_ID] to CarEvents [EQ_INIT, EQ_NR, OS, EVENT_DT, TRAIN_ID] (***Note: must account for blank and NULL values in the IntermodalEvents[EQ_INIT,EQ_NR] fields)
    c. Identify CarEvents [TRANS_WB_SN] for car(s) identified in item 6-3.b. immediately above.
    d. Link CarEvents [TRANS_WB_SN] to NS_Miles [TRANS_WB_SN]
        i. Identify the greatest (largest) NS_Miles [NS_MOVE_DISTANCE_MILES] value for the move (***Note: this accounts for intermodal moves with more than one mileage amount recorded)
            1. Set LeadUnitWithTotals [RAILCAR_INIT] equal to CarEvents [EQ_INIT] associated with the high mileage car identified in the item immediately above (6-3.d.i.)

2. Set LeadUnitWithTotals [RAILCAR_NR] equal to CarEvents [EQ_NR] associated with the high mileage car identified in item 6-3.d.i.
3. Set LeadUnitWithTotals [RAILCAR_WB_SN] equal to CarEvents [TRANS_WB_SN] associated with the high mileage car identified in item 6-3.d.i.
4. Set LeadUnitWithTotals [NS_Miles] equal to NS_Miles [NS_MOVE_DISTANCE_MILES] associated with car identified in step 6-3.d.i. above.

Step 7: Identify number of units per railcar

1. Add data field to LeadUnitWithTotals table
    a. IM_UNITS_PER_RAILCAR
2. For Non-IM records
    a. Set LeadUnitWithTotals[IM_UNITS_PER_RAILCAR] equal to 1
3. For IM records
    a. Calculate [IM_UNITS_PER_RAILCAR] based on: Group by [RAILCAR_WB_SN] in table tmp_ttwaybills_IM_UNITS_PER_RAILCAR
    b. Set LeadUnitWithTotals [IM_UNITS_PER_RAILCAR] equal to calculated value if calculated value exists (max value = 15)
    c. Else, Set LeadUnitWithTotals [IM_UNITS_PER_RAILCAR] equal to the NS system average reported in R-1 Schedule 755 L 134
        i. For 2010, use 4.36
        ii. For 2011, use 4.47

Step 8: Supplement Waybill data with Haulage Receivable Data

1. Add data fields to LeadUnitWithTotals table:
    a. HAULAGE_REC_NET_PU
    b. HAULAGE_REC_NET_TOTAL
2. Link LeadUnitWithTotals [RAILCAR_INIT, RAILCAR_NR, WB_DT] to HaulageReceivables [CAR_INIT, CAR_NUM, WB_DATE]
3. For linked Non-IM records
    a. Set LeadUnitWithTotals [HAULAGE_REC_NET_PU] equal to HaulageReceivables [AMT]
    b. Set LeadUnitWithTotals [HAULAGE_REC_NET_TOTAL] equal to LeadUnitWithTotals [HAULAGE_REC_NET_PU] * LeadUnitWithTotals [NUM_OF_MULTI_EQ]
4. For linked IM records
    a. Set LeadUnitWithTotals [HAULAGE_REC_NET_PU] equal to HaulageReceivables [AMT] / LeadUnitWithTotals [IM_UNITS_PER_RAILCAR]
    b. Set LeadUnitWithTotals [HAULAGE_REC_NET_TOTAL] equal to LeadUnitWithTotals [HAULAGE_REC_NET_PU] * LeadUnitWithTotals [NUM_OF_MULTI_EQ]

Step 9: Supplement waybill data with handling line charge data for moves involving handling line payments

1. Add data fields to LeadUnitWithTotals table
    a. HANDLING_NET_PU
    b. HANDLING_NET_TOTAL

2. Link LeadUnitWithTotals [RAILCAR_INIT, RAILCAR_NR, INT_DATE] to HandlingSummary [CAR_INIT, CAR_NUM, WB_DATE]
3. For linked Non-IM records
    a. Set LeadUnitWithTotals [HANDLING_NET_PU] equal to HandlingSummary [HANDLING_NET]
    b. Set LeadUnitWithTotals [HANDLING_NET_TOTAL] equal to LeadUnitWithTotals [HANDLING_NET_PU] * LeadUnitWithTotals [NUM_OF_MULTI_EQ]
4. For linked IM records
    a. Set LeadUnitWithTotals [HANDLING_NET_PU] equal to HandlingSummary [HANDLING_NET] / LeadUnitWithTotals [IM_UNITS_PER_RAILCAR]
    b. Set LeadUnitWithTotals [HANDLING_NET_TOTAL] equal to LeadUnitWithTotals [HANDLING_NET_PU] * LeadUnitWithTotals [NUM_OF_MULTI_EQ]

Step 10: Supplement waybill data with switching charge data for moves involving switching payments

1. Add data fields to LeadUnitWithTotals table
    a. SWITCHING_NET_TOTAL
2. Link LeadUnitWithTotals [RAILCAR_WB_SN] to SwitchingSummary [WB_SERIAL]
3. For linked Non-IM records
    a. Set LeadUnitWithTotals [SWITCHING_NET_TOTAL] equal to SwitchingSummary [SWITCH_NET]
4. For linked IM records
    a. Set LeadUnitWithTotals [SWITCHING_NET_TOTAL] equal to SwitchingSummary [SWITCH_NET] / LeadUnitWithTotals [IM_UNITS_PER_RAILCAR]

Step 11: Add TCS/TDIS net revenue data

1. Add data fields to the LeadUnitWithTotals table
    a. TCS_TDIS_FLAG
    b. TCS_NET_PU
    c. TCS_NET_TOTAL
    d. TDIS_NET_PU
    e. TDIS_NET_TOTAL
2. Populate [TCS_TDIS_FLAG] field
    a. Set LeadUnitWithTotals [TCS_TDIS_FLAG] equal to "TCS" based on shipper, receiver, billed party data fields and TCS names and numbers at level "TCS" of file "2010 Waybills Shipper List.xlsx"
    b. Set LeadUnitWithTotals [TCS_TDIS_FLAG] equal to "TDIS" based on shipper, receiver, billed party data fields and TDIS names and numbers at level "TDIS" of file "2010 Waybills Shipper List.xlsx"
3. For 2010: Link LeadUnitWithTotals [YR, MO, ORIG_CITY, ORIG_ST, DEST_CITY, DEST_ST] to "TCS-TDIS Per Unit PV v2.xlsx:TCS" [YR, MO, ORIG_CITY, ORIG_ST, DEST_CITY, DEST_ST] where LeadUnitWithTotals [TCS_TDIS_FLAG] = "TCS" -- For 2011: Link LeadUnitWithTotals [YR, MO, ORIG_CITY, ORIG_ST, DEST_CITY, DEST_ST] to "TCS-TDIS Per Unit 2011 PV.xlsx:TCS" [YR, MO, ORIG_CITY, ORIG_ST, DEST_CITY, DEST_ST] where LeadUnitWithTotals [TCS_TDIS_FLAG] = "TCS"
    a. For 2010: Set LeadUnitWithTotals [TCS_NET_PU] equal to TCS-TDIS Per Unit PV v2.xlsx:TCS [NET] -- For 2011: Set LeadUnitWithTotals [TCS_NET_PU] equal to TCS-TDIS Per Unit 2011 PV.xlsx:TCS [NET]

   b. Set LeadUnitWithTotals [TCS_NET_TOTAL] equal to LeadUnitWithTotals [TCS_NET_PU] * LeadUnitWithTotals [NUM_OF_MULTI_EQ]

4. For 2010: Link LeadUnitWithTotals [YR, MO, ORIG_CITY, ORIG_ST, DEST_CITY, DEST_ST] to "TCS-TDIS Per Unit PV v2.xlsx:TDIS" [YR, MO, ORIG_CITY, ORIG_ST, DEST_CITY, DEST_ST] where LeadUnitWithTotals [TCS_TDIS_FLAG] = "TDIS" -- For 2011: Link LeadUnitWithTotals [YR, MO, ORIG_CITY, ORIG_ST, DEST_CITY, DEST_ST] to "TCS-TDIS Per Unit 2011 PV.xlsx:TDIS" [YR, MO, ORIG_CITY, ORIG_ST, DEST_CITY, DEST_ST] where LeadUnitWithTotals [TCS_TDIS_FLAG] = "TDIS"
   a. For 2010: Set LeadUnitWithTotals [TDIS_NET_PU] equal to TCS-TDIS Per Unit PV v2.xlsx:TDIS [NET] -- For 2011: Set LeadUnitWithTotals [TDIS_NET_PU] equal to TCS-TDIS Per Unit 2011 PV.xlsx:TDIS [NET]
   b. Set LeadUnitWithTotals [TDIS_NET_TOTAL] equal to LeadUnitWithTotals [TDIS_NET_PU] * LeadUnitWithTotals [NUM_OF_MULTI_EQ]

Step 12: Identify Issue Traffic Moves

1. Add data field to the LeadUnitWithTotals table
   a. ISSUE
2. Populate [ISSUE] field
   a. Populate [ISSUE] with "S" if [ORGN_CITY] = "MCINTOSH" .AND. [DEST_CITY] = "LA PORTE", ELSE set [ISSUE] to {blank}

Step 13: Identify first and last NS station for all LeadUnitWithTotals records

1. Add data fields to the LeadUnitWithTotals table
   a. NS_ON_STN
   b. NS_ON_ST
   c. NS_OFF_STN
   d. NS_OFF_ST
2. Link LeadUnitWithTotals [TRACE_UNIT_WB_SN] to CarEvent/IntermodalEvent [TRANS_WB_SN] (*** "IM" LeadUnitWithTotals records link to IntermodalEvent data and Non-"IM" records link to CarEvent data)
   a. If LeadUnitWithTotals [ONNET_ORIGIN_CITY/STATE] are not NULL and not blank, Set LeadUnitWithTotals [NS_ON_STN/ST] equal to LeadUnitWithTotals [ONNET_ORIGIN_CITY/STATE]
   b. If LeadUnitWithTotals [ONNET_ORIGIN_CITY/STATE] are NULL or blank and LeadUnitWithTotals [FULL_ROUTE] = "NS", Set LeadUnitWithTotals [NS_ON_STN/ST] equal to LeadUnitWithTotals [ORGN_CITY/ST]
   c. If LeadUnitWithTotals [ONNET_ORIGIN_CITY/STATE] are NULL or blank and LeadUnitWithTotals [FULL_ROUTE] <> "NS", Set LeadUnitWithTotals [NS_ON_STN/ST] equal to the <u>first chronological</u> station with RPTG_MARK='NS' from CarEvent or IntermodaEvent table.
   d. If LeadUnitWithTotals [ONNET_DESTINATION_CITY/STATE] are not NULL and not blank, Set LeadUnitWithTotals [NS_OFF_STN/ST] equal to LeadUnitWithTotals [ONNET_DESTINATION_CITY/STATE]
   e. If LeadUnitWithTotals [ONNET_DESTINATION_CITY/STATE] are NULL or blank and LeadUnitWithTotals [FULL_ROUTE] = "NS", Set LeadUnitWithTotals [NS_OFF_STN/ST] equal to LeadUnitWithTotals [DEST_CITY/ST]

f. If LeadUnitWithTotals [ONNET_DESTINATION_CITY/STATE] are NULL or blank and LeadUnitWithTotals [FULL_ROUTE] <> "NS", Set LeadUnitWithTotals [NS_OFF_STN/ST] equal to the last chronological station with RPTG_MARK='NS' from CarEvent or IntermodaEvent table.

Step 14: Identify movements that report events at SRR stations and Identify first and last on-SARR station for SRR Lead Units that traverse the SARR.

1. Add data fields to the LeadUnitWithTotals table
    a. TRAN_WB_SN_Stop_Counts
    b. FIRST_ONSARR_RPTG_MARK
    c. FIRST_ONSARR_OS
    d. FIRST_ONSARR_CITY
    e. FIRST_ONSARR_ST
    f. FIRST_ONSARR_SPLC
    g. FIRST_ON_SARR_TRN
    h. FIRST_ON_SARR_TRN_ORGN_DT
    i. FIRST_ON_SARR_TRN_SECTION
    j. LAST_ONSARR_RPTG_MARK
    k. LAST _ONSARR_OS
    l. LAST _ONSARR_CITY
    m. LAST _ONSARR_ST
    n. LAST _ONSARR_SPLC
    o. LAST _ON_SARR_TRN
    p. LAST _ON_SARR_TRN_ORGN_DT
    q. LAST _ON_SARR_TRN_SECTION
2. Set LeadUnitWithTotals [FIRST_ONSARR_RPTG_MARK, FIRST_ONSARR_OS, FIRST_ONSARR_CITY, FIRST_ONSARR_ST, FIRST_ONSARR_SPLC, FIRST_ONSARR_TRN, FIRST_ONSARR_TRN_ORGN_DT, FIRST_ONSARR_TRN_SECTION, LAST_ONSARR_RPTG_MARK, LAST_ONSARR_OS, LAST_ONSARR_CITY, LAST_ONSARR_ST, LAST_ONSARR_SPLC, LAST_ONSARR_TRN, LAST_ONSARR_TRN_ORGN_DT, LAST_ONSARR_TRN_SECTION] to {Blank}
3. Link LeadUnitWithTotals [TRACE_UNIT_WB_SN] to CarEvent/IntermodalEvent [TRANS_WB_SN] (*** "IM" LeadUnitWithTotals records link to IntermodalEvent data and Non-"IM" records link to CarEvent data)
4. Link CarEvent/IntermodalEvent [RPTG_MARK, OS, CITY_NAME_19, STATE_PROV_INIT, SPLC]to Complete Station List from Car and Intermodal Events w SRR Flag Hard Numbers v021612.xlsx [RPTG_MARK, OS, CITY_NAME_19, STATE_PROV_INIT, SPLC]
    a. (***Complete Station List from Car and Intermodal Events w SRR Flag Hard Numbers v021612.xlsx[SRR_RTE]=1 is the Flag for On-SARR locations)
5. Identify and populate LeadUnitWithTotals [FIRST_ONSARR_RPTG_MARK, FIRST_ONSARR_OS, FIRST_ONSARR_CITY, FIRST_ONSARR_ST, FIRST_ONSARR_SPLC, FIRST_ONSARR_TRN, FIRST_ONSARR_TRN_ORGN_DT, FIRST_ONSARR_TRN_SECTION] based on first chronological timestamp for event reported on the SRR System
6. Identify and populate LeadUnitWithTotals [LAST_ONSARR_RPTG_MARK, LAST_ONSARR_OS, LAST_ONSARR_CITY, LAST_ONSARR_ST, LAST_ONSARR_SPLC, LAST_ONSARR_TRN, LAST_ONSARR_TRN_ORGN_DT, LAST_ONSARR_TRN_SECTION] based on last chronological timestamp for event reported on the SRR System

7. Populate LeadUnitWithTotals [TRAN_WB_SN_Stop_Counts] with count of unique ON-SRR locations reported in the Car/IntermodalEvent data tables

Step 15: Add data fields required for ATC costing and operating cost calculations

1. Add data fields to the LeadUnitWithTotals table
    a. NS_OR
    b. NS_TD
    c. SRR_OR
    d. SRR_TD
    e. CAR_OWN
    f. TCU_OWN
    g. STCC2
    h. STCC2_HM
2. Populate LeadUnitWithTotals [NS_OR] field
    a. Set [NS_OR] equal to "O" where [ORGN_RD_NR] = 555
    b. Set [NS_OR] equal to "R" where [ORGN_RD_NR] <> 555
3. Populate LeadUnitWithTotals [NS_TD] field
    a. Set [NS_TD] equal to "T" where [DEST_RD_NR] = 555
    b. Set [NS_TD] equal to "D" where [DEST_RD_NR] <> 555
4. Populate LeadUnitWithTotals [SRR_OR] field
    a. Set [SRR_OR] equal to "O" where [ORGN_RD_NR] = 555 .and. [FIRST_ONSARR_CITY/ST] = [NS_ON_STN/ST]
    b. Set [SRR_OR] equal to "R" where [ORGN_RD_NR] <> 555 .or. [FIRST_ONSARR_CITY/ST] <> [NS_ON_STN/ST]
5. Populate LeadUnitWithTotals [SRR_TD] field
    a. Set [SRR_TD] equal to "T" where [DEST_RD_NR] = 555 .and. [LAST_ONSARR_CITY/ST] = [NS_OFF_STN/ST]
    b. Set [SRR_TD] equal to "D" where [DEST_RD_NR] <> 555 .or. [LAST_ONSARR_CITY/ST] <> [NS_OFF_STN/ST]
6. Populate LeadUnitWithTotals [CAR_OWN] field (***Note: do for all records)
    a. Set [CAR_OWN] equal to "P" if RIGHT([RAILCAR_INIT],1) = "X" (***Where RAILCAR_INIT ends in "X")
    b. Set [CAR_OWN] equal to "S" if [RAILCAR_INIT] = "NS" .OR. [RAILCAR_INIT] = "SOU" .OR. [RAILCAR_INIT] = "NW" .OR. [RAILCAR_INIT] = "CR" .OR. [RAILCAR_INIT] = "PRR" .OR. [RAILCAR_INIT] = "PC" (***Note, we are identifying System cars that are owned by NS)
    c. Set [CAR_OWN] equal to "F" where RIGHT([RAILCAR_INIT],1) <> "X" .AND. [RAILCAR_INIT] <> "NS" .AND. [RAILCAR_INIT] <> "SOU" .AND. [RAILCAR_INIT] <> "NW" .AND. [RAILCAR_INIT] <> "CR" .AND. [RAILCAR_INIT] <> "PRR" .AND. [RAILCAR_INIT] <> "PC" (***Note, we are identifying Foreign cars that are owned by Non-NS railroads)
7. Populate LeadUnitWithTotals [TCU_OWN] field (***Note: do for "IM" records only)
    a. Set [TCU_OWN] equal to "U" for all records where [AR_MAJOR_COMMODITY_GRP]="IM"(***Note: [TCU_OWN] should be {blank} for all non-"IM" records, intermodal unit ownership is determined by intermodal plan code values)
8. Populate LeadUnitWithTotals [STCC2] field
    a. Set [STCC2] equal to LEFT(STCC_7,2) where [STCC_7] contains a 7-character string
    b. Set [STCC2] equal to LEFT(STCC_7,1) where [STCC_7] contains a 6-character string

   c. Set [STCC2] equal to [STCC_7] where [STCC_7] contains a LESS THAN 6-character string
9. Populate LeadUnitWithTotals [STCC2_HM] field
   a. Set [STCC2_HM] equal to LEFT(STCC,2) where [STCC] contains a 7-character string
   b. Set [STCC2_HM] equal to LEFT(STCC,1) where [STCC] contains a 6-character string
   c. Set [STCC2_HM] equal to [STCC] where [STCC] contains a LESS THAN 6-character string

Step 15.5: Add field flagging movements that could potentially require a MMM VC adjustment to reflect overhead trainload movements on the SARR.

1. Add data field to the LeadUnitWithTotals table
   a. MMM_OVH_TL_VC
2. Populate LeadUnitWithTotals [MMM_OVH_TL_VC] field
   a. Set [MMM_OVH_TL_VC] equal to "TL" where: [NS_OR] = "O" .AND. [NS_TD] = "T" .AND. [SRR_OR] = "R" .AND. [SRR_TD] = "D" .AND. [FIRST_ON_SARR_TRN] = [LAST_ON_SARR_TRN] .AND. [FIRST_ON_SARR_TRN_ORGN_DT] = [LAST_ON_SARR_TRN_ORGN_DT] .AND. [FIRST_ON_SARR_TRN_SECTION] = [LAST_ON_SARR_TRN_SECTION]

Step 15.7: Add field flagging movements that occur in the 4th quarter of 2010 [NOTE: Do for 2010 ONLY].

1. Add data field to the LeadUnitWithTotals table
   a. 4Q_FLAG
2. Populate LeadUnitWithTotals [4Q_FLAG] field
   a. Set [4Q_FLAG] equal to "4Q" where [WB_DT] is between 10/01/2010 and 12/31/2010

Step 15.8: Add field flagging movements that occur between July 30 and September 30, 2011 [NOTE: Do for 2011 ONLY].

1. **Add data field to the 2011 LeadUnitWithTotals table**
   a. **AS_FLAG**
2. **Populate LeadUnitWithTotals [AS_FLAG] field**
   a. **Set [AS_FLAG] equal to "AS" where [WB_DT] is between 7/30/2011 and 9/30/2011**

Step 16: Query the LeadUnitWithTotals table based on the criteria in the file "SRR Traffic Summary Query Format v1.xlsx" at level "Master Sum" for each of the FOUR separate traffic categories identified in tab "Master Sum" [NOTE: Do for 2010 ONLY]

***NOTE: GIVE THIS OUTPUT FILE A NAME ENDING WITH THE {date Step 16 was run}

Step 17: For all Lead_Units that fall into traffic category 1 ("Master Sum") identify all trains reported in the event records for those movements that occur on the SARR. [NOTE: Do for 2010 ONLY]

1. For all Lead units that meet the category 1 traffic criteria, Query the associated Waybill, CarEvent and IntermodalEvent data <u>for events that occur on the SRR system</u>, query for unique trains:
   a. For each AR_MAJOR_COMMODITY_GRP
      i. Group: TRN, TRN_ORGN_DT, TRN_SECTION, TRAIN_ID
      ii. Count: unique TRANS_WB_SN

(***NOTE: GIVE THIS OUTPUT FILE A NAME ENDING IN "...{date}")

[MANUAL EVALUATION OF RESULTS OF STEPS 16 & 17 OUTPUT FILES AND ADJUSTMENT OF GROUPING PARAMETERS – See: WORK PAPERS INCLUDED IN FOLDER "PostStep16Eval"]

Step 18: Query the LeadUnitWithTotals table based on the criteria in the file "SRR Traffic Summary Query Format v3 ADDED LANES.xlsx" at level "Master Sum" for each of the TWO separate traffic categories identified in tab "SRR Main Traffic Group ID"

***NOTE: GIVE THIS OUTPUT FILE A NAME ENDING WITH "ADDED LANES {date Step 18 was run}"

Step 19: For all Lead_Units that fall into traffic category 1 ("SRR Main Traffic Group ID") identify all trains reported in the event records for those movements that occur on the SARR.

1. For all Lead units that meet the category 1 traffic criteria, Query the associated Waybill, CarEvent and IntermodalEvent data <u>for events that occur on the SRR system</u>, query for unique trains:
    b. For each AR_MAJOR_COMMODITY_GRP
        i. Group: TRN, TRN_ORGN_DT, TRN_SECTION, TRAIN_ID
        ii. Count: unique TRANS_WB_SN

(***NOTE: GIVE THIS OUTPUT FILE A NAME ENDING IN "ADDED LANES {date Step 19 was run}")

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SBRR Non-Train Operating Personnel

Introduction

SunBelt addresses the SBRR's operating personnel requirements in Opening Exhibit III-D-1. In Part III-D of NS's Reply Evidence, NS demonstrated that SunBelt's estimates of the SBRR's train and yard crew requirements are substantially understated. This Exhibit responds to SunBelt's estimates of the SBRR's "non-train" operating personnel needs.[1]

SunBelt significantly understates the personnel that would be required to meet the diverse service needs of the SBRR's general freight customers; to plan and manage the movement of thousands of road and local trains over the SBRR's 580-mile network; to supervise the car classification and switching activity required at yards to transfer individual cars between trains; to track and report information regarding the SBRR's shipments, equipment, crews, and operations—for both internal and external purposes; and to ensure that the SBRR's locomotives and cars (and those of other carriers while moving on the SBRR system) are properly inspected and maintained. In this Exhibit, NS addresses the major deficiencies in SunBelt's non-train operating personnel staffing, and identifies the minimum number of positions that would be required to fulfill the SBRR's responsibilities and to deliver the services required by its customers.

As explained throughout Parts III-A, III-C, and III-D, the SBRR would handle more than 470,000 carloads of general freight traffic—most of which are single-carload and multi-car shipments—and 600,000 containers and trailers of intermodal traffic, as well as multilevel automotive shipments and unit trains of coal, grain, and other bulk commodities. Of the 1.1 million shipments in the SBRR's peak year traffic group, unit train volumes comprise less than

[1] This Reply Exhibit III-D-1 is sponsored by witnesses Johnson, Schaub, Smith, and Fisher.

2%.[2] The SBRR's traffic profile dictates the need for extensive yard operations at the SBRR's major yard at Birmingham, AL. As NS has shown (Reply III-C-37 to III-C-41), the SBRR would require a "hump" yard at that central location on its system. The SBRR would also need to provide car repair and locomotive repair facilities, and an intermodal ramp, at Birmingham. The SBRR will likewise be required to perform multiple functions at its medium flat classification yards at McIntosh, AL, Meridian, MS, and New Orleans, LA. At New Orleans, the SBRR would operate both automotive and intermodal facilities, and conduct interchange operations with six Class I railroads and a terminal carrier.[3] At most other interchange locations, the SBRR would interchange traffic with short-line carriers[4] and the residual NS. These extensive interline carload operations would require the SBRR to maintain an extensive field operations team to support its train service plan, and to coordinate operations, equipment handling, and information exchange with many railroads.

Yet, SunBelt posits a non-train operating staff of only 61 persons for the entire SBRR network. SunBelt Opening Ex. III-D-1 at 3, Table 1. Of that total, 19 positions are car inspectors. *Id.* That leaves only 42 persons to cover all other non-train operating functions across the SBRR's 580-mile network. NS accepts SunBelt's proposal that the SBRR have Four Departments[5]: a Transportation Department, a Mechanical Department, an Engineering

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[2] *See* SunBelt Opening III-C-3, Table III-C-1.

[3] SunBelt Opening workpaper "SBRR interchanges.xlsx" identifies that the SBRR would interchange with BNSF, CN, CSXT, KCS, NOPB, NS, and UP at New Orleans.

[4] SunBelt Opening workpaper "SBRR interchanges.xlsx" identifies that the SBRR would interchange with shortline railroads at Boligee, Kimbrough, Selma, and Tuscaloosa, AL, and at Hattiesburg and Meridian, MS.

[5] *See* SunBelt Opening Ex. III-D-1 at 1.

Department, and an Administrative Department, which NS refers to in this Reply as Operations Support. But SunBelt's staffing of those departments is woefully inadequate.

Transportation Department

The SBRR would operate an average of more than 250 road and local trains each week. Moreover, as NS has shown (in Part III-C), the classification and switching conducted at SBRR yards would require more than 30 daily yard crew assignments. SunBelt posits that those extensive road, local, and yard operations could be managed, dispatched, and coordinated by a staff of only 27 positions. As the following discussion shows, SunBelt's proposed staffing levels are insufficient to support the SBRR's operations.

Assistant Vice President-Transportation: SunBelt posits that the SBRR's Mechanical, Engineering, and Administration (Operations Support) Departments would have an Assistant Vice President, but it does not provide the same senior executive for the Transportation Department (which is the SBRR's largest department). Instead, SunBelt assumes that Transportation Department personnel would report directly to the Vice President – Operations. A single system Vice President would not have time to conduct the myriad departmental functions (management, planning, budgeting, etc.) that would be required, while also fulfilling the active supervisory role necessary to interact with the Dispatcher and Field Operating Personnel and performing the broader responsibilities of the Vice President position. NS thus adds one Assistant Vice President to the SBRR's Transportation Department.

Administrative Assistant: SunBelt did not provide for any administrative support within the various departments. NS assigns to each department one administrative assistant, to perform administrative functions generally, and to support the Assistant Vice Presidents more specifically.

Dispatch: SunBelt's proposal for dispatch staffing fails to provide a sufficient number of employees for either actual train dispatching or proper supervision of that safety-sensitive function. Regarding supervision, SunBelt proposes that the SBRR would have one Chief Dispatcher. By contrast, NS currently covers the Chief Dispatcher position on a 24/7 basis, and proposes that the SBRR do so as well. Chief Dispatchers are responsible for continuous supervision of train dispatchers. The Chief Dispatcher also handles a variety of related tasks, including calling crews to relieve trains, answering telephone calls, coordinating taxi service, notifying local authorities about highway crossing incidents and derailments, and handling locomotive and equipment failures that occur on their territory. SunBelt posits that, in addition to those functions, the SBRR's lone Chief Dispatcher would cover locomotive assignments and tracking of run-through operations.[6] The level of supervision proposed by NS is necessary to ensure that the SBRR's critical dispatching function is carried out efficiently and safely. Finally, because SunBelt provided no separate management for the Crew Calling function, the Chief Dispatcher's responsibilities would (according to SunBelt) include supervision of those personnel as well.[7] Given these responsibilities, NS's Operating Plan provides one Chief Dispatcher position and one Assistant Chief Dispatcher position to be covered 24/7, requiring a total of five employees for each position.

Despite the fact that the SBRR would handle virtually all of the NS traffic and operate all of the NS trains that move over the lines replicated by the SARR, SunBelt proposes to consolidate the existing NS dispatch desks in that territory without regard to train volumes, size of territory, signaling, complexity of operations, or the number of work "transactions" that each

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[6] SunBelt Opening Exhibit III-D-1 at 5.

[7] *Id.*

dispatcher would be required to handle. This is both inappropriate and potentially unsafe. On the Birmingham, AL, to New Orleans, LA, route, SunBelt combines two desks of 160 miles and 194 miles into a single desk responsible for dispatching 354 miles of track. By arbitrarily combining dispatching districts for the sake of reducing manpower, SunBelt fails to consider the many tasks that a dispatcher performs on a daily basis. Dispatchers are responsible for controlling the movement of all trains or vehicles operating along the track within their respective territories, including road trains, local trains, work trains, and track inspection vehicles. They are also responsible for coordinating local pickup and delivery operations; organizing maintenance of way inspections and required maintenance; adapting to interruptions caused by weather; and restoring (or diverting) train movements in response to unplanned failures, crossing accidents, or derailments.

In addition to improperly combining dispatching districts, SunBelt fails to consider compliance and training requirements in its personnel calculations. Train Dispatchers are subject to FRA Hours of Service Regulations—they may work up to nine hours, and then must have 15 hours rest before beginning their next shift. Train Dispatchers must also attend an annual Book of Rules class to remain current on the Operating Rules. Each dispatcher must maintain his/her qualification for each desk he/she is eligible to work. Qualifying to dispatch a particular territory can take up to two weeks of training even for an experienced train dispatcher. The SBRR must maintain sufficient staffing to allow its dispatchers to comply with hours of service regulations, rules training and testing, and qualification requirements, while providing continuous coverage of the dispatch function.

NS witness Johnson determined that the SBRR would need three dispatching desks to cover adequately its dispatching needs, adding back the NS desk that SunBelt eliminated. This level of staffing would require a total of 13 personnel.[8]

Field Operations: SunBelt proposed that the SBRR's field operations would be staffed by four Managers and six Assistant Managers of Field Operations—which SunBelt identifies as comparable to the Trainmaster position[9]— based at five SBRR locations. NS determined that additional coverage would be needed at Birmingham, the SBRR hump yard at which 1,217 cars would be switched daily and where virtually all SBRR trains would stop. NS added two Assistant Managers to SunBelt's inadequate staffing at Birmingham, resulting in a total of four Assistant Managers at that location. In addition to facilitating the train and yard operations, the Managers at Birmingham and New Orleans would also be responsible for coordinating and managing operations at the automotive and intermodal facilities, for which SunBelt provided no separate supervision.

Locomotive Operations: SunBelt posits that two Managers-Locomotive Operations (MLO) would be sufficient to manage the "safe and efficient handling of locomotives and trains by SBRR engineers."[10] These managers are to be "FRA-certified locomotive engineers and qualified on their respective territories. They perform FRA-mandated training and observation of engineers in train handling, efficiency testing, and assist the Manager - Field Operations as needed."[11]

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[8] 3 desks x 3 shifts per day x 365 = 3,285 total shifts. 3,285/250 shifts per year = 13.1 people.

[9] SunBelt Opening Exhibit III-D-1 at 5.

[10] *Id.*

[11] *Id.*

Managers – Locomotive Operations (commonly known as Road Foreman of Engines) on NS are responsible for much more than the generic summary of duties recited by SunBelt. MLO's must, in compliance with FRA Guidelines, annually monitor Locomotive Engineers. They are required to ride with any Engineer that must be recertified (49 CFR, Part 240). They are responsible for training and qualifying any Engineer who is unfamiliar with a given territory or has not run over a territory in more than a year. They are responsible for monitoring all Engineer trainees on their territory. The FRA-mandated training for Engineer certification involves a five-step process that includes a medical evaluation, background check, a monitoring event (rules check), performance review (train ride), and a rules examination. The MLO is responsible for monitoring that entire process for each Engineer, as well as investigating all incidents and accidents where train handling issues are suspected. NS proposes that in addition to the two MLO's at Birmingham, the SBRR would require an additional MLO, located at Meridian to cover other portions of the SBRR network.

Table 1 below summarizes the number of employees that each party proposed for the SBRR Transportation Department.

Ex. III-D-1, Table 1
SBRR Transportation Department

Position	SunBelt Opening	NS Reply	Difference
Assistant Vice President - Transportation	0	1	1
Administrative Assistant	0	1	1
Manager - Field Operations	4	5	1
Assistant Manager - Field Operations	6	8	2
Manager - Locomotive Operations	2	3	1
Chief Dispatcher	1	5	4
Assistant Chief Dispatcher	0	5	5
Dispatchers	9	13	4
Crew Callers	5	5	0
Transportation Department Total	**27**	**46**	**19**

Mechanical Department

As described in Parts III-C and III-D, SunBelt failed to account for resources and costs that would be required to support the maintenance of the SBRR's physical plant. SunBelt's failure to account for the requirements of a car classification or blocking plan, its non-existent yard plan, its understated train volumes, and its assumption that all car maintenance can be outsourced, contributed to a SBRR Mechanical Department that is significantly understaffed. Given those errors and omissions, NS analyzed the operations that would be required, and determined the associated mechanical activities and personnel needed to support those operations. In addition to the need for an Administrative Assistant for the Mechanical Department, the Mechanical Departments posited by SunBelt and NS differ materially in the area of inspection.

As NS explained above (at III-C-158 to III-C-163), SunBelt's proposed inspection function is clearly inadequate, for several reasons. First, SunBelt posited that the SBRR would provide inspection crews only at Birmingham, while individual inspectors would work single-handedly at four other locations, resulting in a total force of 19 inspectors. NS evaluated the outbound train flows developed from NS's detailed and documented train service plan and determined that inspections would need to be performed with more frequency at more locations. Performing inspections either less frequently or at fewer locations puts pressure on the railroad's ability to maintain equipment in good working condition, jeopardizes transit times and service standards, and increases the complexity of inspections (when they do occur). To achieve the operational goal of maintaining fluid operations across the system, NS would specifically require more car inspection capacity at the SBRR's medium flat yards at McIntosh, Meridian, and New Orleans. *See* NS Reply Part III-C. NS generally accepts SunBelt's assumed inspection

requirements based on train volumes, and applies SunBelt's rates to the NS train service plan by location. This results in a total requirement of 28 total car inspectors for the SBRR.[12]

Second, SunBelt posited that SBRR inspectors would work without any direct supervision. Contrary to this assumption, Managers of Car Inspection are necessary to supervise, and maintain the safety and efficiency of, the SBRR's car inspection function. Because car inspections must be completed on a schedule that supports efficient train schedules, more than one position would be required. This position will also supervise, communicate, and coordinate with the mechanical personnel at the rip tracks in the various yards. NS assigned two managers, one to cover Birmingham and points in the northern half of the SBRR, and one to cover the SBRR's southern half (*e.g.*, New Orleans - McIntosh).

Finally, the SBRR would need to have line-of-road carmen to inspect and repair equipment that fails en route between terminals. Even if repair activities were covered by the SBRR's lessor or other car owners, the SBRR would be responsible for providing personnel and equipment to travel the line of road and assess issues en route, and determine the appropriate disposition of bad ordered equipment. For this function, NS identified a requirement of four crews, one working out of each of Birmingham, McIntosh, Meridian, and New Orleans. Each crew would consist of two members and one wheel change truck, or block truck, for a total of eight carmen and four trucks.[13]

Table 2 below summarizes the number of employees that each party proposed for the SBRR Mechanical Department.

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[12] NS Reply WP "SBRR Reply Yard Operations.xlsx."

[13] *Id.*

Ex. III-D-1, Table 2
SBRR Mechanical Department

Position	SunBelt Opening	NS Reply	Difference
Assistant Vice President - Mechanical	1	1	0
Administrative Assistant	0	1	1
Manager - Locomotive Maintenance	1	1	0
Manager - Testing and Environmental	1	0 1/	(-1)
Manager - Equipment Maintenance	1	1	0
Manager - Equipment Inspection	0	2	2
Equipment Inspectors	19	28	9
Line of Road Inspectors	0	8	8
Mechanical Department Total	**23**	**42**	**19**

1/ NS accounts for this position in its Environmental Department in the SBRR's G&A staff.

Operations Support Department

There are a variety of other positions that are necessary to support the operating functions of a Class I railroad, for which SunBelt failed to make adequate provision. These functions include Budgeting; Joint Facilities; Service Measurement; Service Design; Safety and Training; Terminal Management; Damage Prevention and Claims; and Car and Train Reporting. SunBelt provided only eight positions for the SBRR to cover all of those functions system-wide. NS proposes that the SBRR centralize those functions and provide leadership and control with a Director of Operations and Customer Support, rather than an Assistant Vice President, in light of the relatively smaller staff in the SBRR's Operations Support Department. This Director would lead and supervise five specific functional areas, each of which would be headed by a Manager. The areas for which NS identifies requirements in addition to those discussed in SunBelt's Operating Plan include Operations Service and Support (OSS); Customer Service; Planning, Budgets, and Joint Facilities; Damage Prevention and Freight Claims; and Safety, Rules, and Training.

Operations Service and Support (OSS): By far the most significant of the functional areas ignored by SunBelt is OSS, which would be responsible for car and train reporting and all service functions happening in the first mile/last mile. SunBelt provides no staffing to cover such functions. OSS personnel are responsible for handling these issues. Interchange reportings must be verified with operating system information and AEI line ups. Unit trains and Intermodal trains must be "built" in the computer and departed to get the information into the computer files.

In addition to car and train reporting, OSS is responsible for all the activities related to the first and last mile of a car's movement. This includes such matters as demurrage billing, miscellaneous switching fees, setouts, overloads, etc. OSS would also be responsible for ensuring compliance with all TSA and FRA regulations in originating and terminating SBRR shipments.

The OSS staff must operate on a 24/7 basis. OSS staff communicates directly with SBRR train crews, terminal personnel, and customers. The customer communication function performed by OSS is not the same as what takes place in SBRR's customer service department. Customer service personnel would typically be in contact with corporate level personnel regarding the status of their shipments on SBRR. By contrast, OSS communicates with plant level customer personnel who are concerned with the interface between SBRR train crew and customer personnel at the customer's facility. Train reporting and functions such as equipment orders, releases, placements, etc., must be handled on a 24/7 basis, while other functions such as demurrage billing, miscellaneous switching, revenue protection, etc., are normally handled during normal business hours.

In order to develop appropriate staffing for this function, NS looked at staffing at other Class I carriers. This was a challenging undertaking because different railroads apply different

levels of automation, centralization, and computerization to these functions. Such functions were traditionally handled by railroad agency staff. However, over time, railroads have closed local agency offices and centralized these functions by providing hand held computer devices to train crews and employing other computer functionality to reduce the number of people required to perform those tasks. NS proposes that SBRR train crews be equipped with hand held devices called "M-Crew," a device that is routinely employed by short-line railroads, and similar to devices to which Class I carriers have migrated. Using these devices helps reduce the total staffing requirements. In addition to using these devices, SBRR will still need an OSS group that is staffed 24/7 to handle issues that arise with crews working the system, with interchange, etc. Table 3 below summarizes NS's staffing proposal to handle the OSS function on the SBRR.

Ex. III-D-1, Table 3
SBRR Car and Train Reporting Staff

Position	Description	Staff
Manager		1
Analysts	1 24/7 shift coverage	5
	+2 Full-Time Positions	2
M-Crew	Manager	1
	Staff	1
Total		**10**

SunBelt recognizes a need for car distribution and it assumes that function would be handled by the SBRR's customer service personnel. NS proposes that function be handled by one of the OSS analysts working regular business hours (in the "Full-Time Positions" entry of Table 3 above).

In addition to the Director, Managers, and Staff, an "M Crew" training staff is required to educate Train and Engine crews in the use of that device. Normal attrition of Train and Engine personnel will result in five or more new T&E crew members every quarter. Training in use of

the M Crew device needs to occur on-the-job. NS proposes that one Conductor be assigned to perform M Crew training. Additionally, a supervisor is needed for planning, control, and development of the training process. The M Crew training staff will be compensated at the rate for Conductors.

Customer Service: SunBelt has suggested a customer service and car distribution function that would be staffed 24/7. This represents a total misunderstanding of the customer service and car distribution role. These positions interface with customer HQ positions and thus only need to be on duty during regular business hours, with a possible overlap to reflect different time zones. Prior to around 1990, railroads did maintain customer service groups that were "trace and chase" oriented—for example, customers calling to find lost cars. This no longer is the practice in the 21st century, as most railroads (including all of the Class I carriers) have online tools that handle such issues. A modern-day rail customer service department is a proactive group that studies the unfolding rail operations and helps customers work through service interruption issues such as storms, floods, derailments, etc. In addition, customer service prepares and distributes reports that allow customers to better understand and manage their rail service needs.

NS proposes that SBRR customer service be staffed with a manager and two analysts—two fewer employees than SunBelt's proposal. That would be enough to handle the routine work that needs to be done. During periods of extreme disruption, customer service would be assisted by the OSS staff.

Planning, Budgets, and Joint Facilities: SunBelt proposes that the SBRR Operating Department have one Manager to cover all issues related to budgets, joint facilities, and planning. One person might be able to cover the budget and joint facilities issues, but there exist numerous other operations planning activities that must be addressed on a regular basis by a railroad the

size of SBRR. These activities include service design and measurement and equipment planning.

NS proposes three analysts to staff this group. One analyst would be responsible for budgets and joint facilities, comparable to the position proposed by SunBelt. A second analyst would handle Service Design and Measurement. This position would be responsible for train plan design, long-term planning, seasonal planning, contingency planning, and disaster recovery planning. The group develops new routes for pricing new business and monitors and adjusts customer commitments. Services design must also develop plans in conjunction with foreign carriers to establish interchange locations, traffic plans for each interchange, and other required interline agreements. The measurement function provides corporate service measures, service quality metrics, and customer service metrics. It develops, manages, and maintains systems that provide service information to both internal and external customers.

The third position would be responsible for medium- and long- term equipment issues; long-term capital planning related to new equipment; acquisition for new business opportunities; acquisition for replacement; and any technology advancements requiring SBRR to change equipment to meet current needs. In addition, this position would handle equipment balancing for seasonal and cyclical demand changes, and be responsive to fleet disruptions caused by scheduled maintenance.

Damage Prevention and Freight Claims: The functions that this group would need to address include: (1) investigation of and negotiation of freight claims filed by customers; (2) response to derailments and other incidents to protect the interests of SBRR and its customers (including transload and salvage), (3) working with customers to promote proper loading practices, and (4) responding to customer questions.

Freight Claims represents another area where SunBelt recognized that the SBRR would incur costs, but provided absolutely no resources to manage or control those costs. SunBelt states that SBRR will incur Loss and Damage costs of $600,000 (SunBelt Opening III-D-20), but provides no detail with respect to which personnel would be responsible for managing and controlling the Loss and Damage process. While claims on interline shipments are handled through interline processes, SunBelt cannot assume that connecting carriers would handle all freight claims issues with respect SBRR interline movements. (This is yet another example of the way in which SunBelt's Operating Plan fails to incorporate the concept of "reciprocity" between connecting carriers.) Moreover, if the SBRR did not maintain its own staff to review claims originating with connecting carriers, it would be forced to accept the other carriers' determinations of liability in all cases. Interline claims should be settled based on a review of the facts, and, whenever possible, a determination of the carrier at fault should be made. This requires a knowledgeable staff that can thoughtfully review the facts and negotiate responsibly with other involved carriers. NS currently staffs this function with {{ }} The NS staff responded to {{ }} claims during 2011 and made payments in connection with {{ }} of those claims.

The other functions to be performed by this group relate to damage prevention and field efforts to mitigate loss. NS has a staff of {{ }} Managers and {{ }} field representatives for those purposes. This group responds to approximately {{ }} customer inquiries per month regarding questions related to the proper loading of rail cars. They also perform random inspections at intermodal facilities to check for proper loading of trailers and containers. Every month, this group identifies a significant number of loads that have issues that require reloading by the customer to comply with applicable loading rules and practices.

NS proposes that SBRR staff its Damage Prevention and Freight claims function with one Manager, one claims representative to respond to issues, and one damage prevention analyst to interact with customers on loading questions. NS also proposes one Assistant Manager who would support both functions as needed and handle contentious issues relating to negotiation of claims resolutions.

Safety, Rules, and Training: SunBelt proposes one Manager and one Assistant Manager to cover this critical function for the SBRR. SunBelt posits that those two persons would be responsible for monitoring safety and conducting rules and training classes, as well as for developing and maintaining the SBRR's operating timetable, rules, and related instructions.[14] In addition, they would need to attend industry meetings on Operating Rules, analyze rules application and compliance in order to re-write or establish new rules and procedures, establish standards for training and testing procedures for the entire SBRR system, and train the Field Operating personnel who, in turn, conduct training in Rules and Safety of T&E crew members.

Given these myriad duties, NS concluded that SunBelt's proposal is inadequate, and that the SBRR would, at a minimum, require an additional Assistant Manager. NS also notes that this function does not cover activities related to Environmental, HAZMAT or security requirements, which are included separately in the SBRR's General and Administrative Department.

Table 4 below summarizes the number of employees that each party proposed for the SBRR Operations Support Department.

[14] SunBelt Opening Exhibit III-D-1 at 4.

Ex. III-D-1, Table 4
SBRR Operations Support Department

Position	SunBelt Opening	NS Reply	Difference
Vice President - Operations	1	1	0
Administrative Assistant	0	1	1
Assistant Vice President - Administration & Budgets	1	0	(-1)
Director - Operations & Customer Support	0	1	1
Manager - Planning, Budgets & Joint Facilities	1	1	0
Analysts	0	3	3
Manager - Damage Prevention & Freight Claims	0	1	1
Damage Prevention & Freight Clams Staff	0	3	3
Manager - Safety, Rules & Training	1	1	0
Assistant Manager - Safety, Rules & Training	1	2	1
Manager - OSS	0	1	1
Staff	0	7	7
M-crew Supervisor	0	1	1
M-crew Staff	0	1	1
Manager - Customer Service	0	1	1
Customer Service Agents & Car Distributors	5	2	(-3)
Operating Department Total	**10**	**27**	**17**

Summary

The non-train operating personnel provided for in SunBelt's Opening Evidence would not be sufficient to meet the SBRR's requirements. NS analyzed each specific function that the SBRR would need to perform; the traffic base, train service and yard plans, and network over which the SBRR's operations would occur; and the rules and regulations that would apply to the SBRR's operations, in order to run a safe railroad. Table 5 below summarizes the number of employees that each party proposed for all SBRR non-train operating personnel.

Ex. III-D-1, Table 5
SBRR Non-Train Operating Personnel

Position	SunBelt Opening	NS Reply	Difference
Operations Support	10	27	17
Transportation	27	46	19
Mechanical	23	42	19
Engineering	1	1	0
Non-Train Operating Personnel	**61**	**116**	**55**

SBRR Road Property Investment Costs NS Reply
(in millions)

	Item	SunBelt Opening Investment	NS Reply Investment	Difference
	(1)	(2)	(3)	(4)
1	Land - 1/	$199	$218	$19
2	Roadbed Preparation	$244	$677	$433
3	Track Construction	$537	$874	$338
4	Tunnels	$0	$0	$0
5	Bridges	$316	$486	$170
6	Signals & Communications - 2/	$95	$198	$104
7	Buildings & Facilities	$17	$176	$159
8	Public Improvements	$8	$18	$9
9	Subtotal	**$1,416**	**$2,647**	**$1,231**
10	Mobilization	$33	$73	$40
11	Engineering	$122	$238	$116
12	Contingencies	$137	$269	$132
13	Total Road Property Investment Costs	**$1,708**	**$3,227**	**$1,519**

Source: NS Reply WP "III-F-Total NS Reply"

1/ - Reply land values reported at 2009 levels

2/ - A total of $47.6 Million in 2011 3Q PTC costs are invested after start up

FTI CONSULTING

Real Estate Solutions

Appraisal Review

Retrospective Appraisal of Land for the SunBelt Chlor Alkali Partnership

Surface Transportation Board - Docket No. NOR 42130

Prepared by Michael Hedden, MAI, CRE, FRICS
Managing Director, FTI Consulting, Inc.

December 20, 2012

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Rebuttal Report

Appraisal Review - Retrospective Appraisal of Land for SunBelt Chlor Alkali Partnership Prepared by Harps & Harps, Inc., Merit Real Estate Analysis, Inc., Rail Trac Associates

Surface Transportation Board - Docket No. NOR 42130

I, Michael Hedden, performed a review of the above referenced appraisal report[1] prepared by Harps & Harps, Inc., Merit Real Estate Analysis, Inc., Rail Trac Associates (the "SunBelt appraiser") dated July 26, 2012, regarding the market value of the fee simple estate and easements required for development and operation of a stand-alone railroad (the "SBRR" or "Subject Property") proposed by the SunBelt Chlor Alkali Partnership ("SunBelt") as part of the above captioned rate dispute.

In general, the purpose of this analysis was to examine the SunBelt appraisal report and to determine whether the conclusions were compliant with professional standards and consistent with the data reported and market conditions.

The scope of this review included:

- Review of the entire appraisal report including protocols and procedures for adherence to the requirements of the Uniform Standards of Professional Appraisal Practice ("USPAP");
- Review and analyses of the data presented to determine if it is adequate and used in a logical manner and whether the SunBelt appraiser's conclusions are consistent with the data presented;
- Check of mathematical calculations; and
- Analyses as to whether the methods, analyses, opinions, and conclusions of the appraisal report can be relied upon to conclude value.

As detailed below, the SunBelt appraisal used methods and techniques to develop the estimate of value that are not appropriate. The multiple methodological errors committed by the SunBelt appraiser mean that its analyses, opinions, and conclusion of value cannot be relied upon.

Summary of Findings

A review of the SunBelt appraiser's work papers determined that SBRR value is unreliable as a result of assumptions and practices that fail to comply with USPAP. These assumptions and practices included, but were not limited to:

- Use of an incorrect July 31, 2011, valuation date. Contrary to SunBelt's own construction schedule, the SunBelt appraiser operated under the assumption that SBRR real estate (over

[1] *This document is a restricted appraisal review that is intended to comply with the reporting requirements set forth under USPAP Standards Rule No. 3 for appraisal review. It presents limited discussions of the data, reasoning, and analyses used in the appraisal process to develop the SunBelt appraiser's opinions and conclusion of value. Supporting documentation concerning the data, reasoning, and analyses is included in NS's Reply workpapers.*

6,700 acres) would be purchased on July 31, 2011. SunBelt's own work papers propose that the right-of-way ("ROW") for the SBRR would be acquired between June and December 2009. *See* SunBelt Opening WP "Complete Construction Schedule.xls." There is no justification for the SunBelt appraiser's decision to value the ROW as of July 31, 2011—two years after the ROW would need to be acquired. This improper valuation negatively impacted the SunBelt appraiser's analysis of comparable sales. For example, the SunBelt appraiser:

  - Used comparable sales that occurred after 2009 in contravention to USPAP Statement on Appraisal Standards No. 3 regarding retrospective value opinions; and
  - Made improper market adjustments in an unsanctioned attempt to equate the values of comparable real estate transactions to the July 31, 2011, valuation date, which is well after the actual timeframe for the purchase of SBRR real estate.

- Failure to consistently and accurately classify comparable land use for valuation units of the SBRR in high density urban areas.
- Inappropriate selection and inclusion of comparable sales with improvements in its valuation of vacant land.
- Aggregation of the market value per acre of comparable real estate transactions using a global mean into essentially a single transaction. This approach effectively negates the appropriate unit of comparison (dollars per square foot or acre) of individual comparable transactions in the marketplace most prevalent in the minds of market participants.
- Failure to reconcile or explain considerable differences in the average value per acre of comparable sales data sets and the subsequent conclusion of value for a significant amount of SBRR ROW.[2]
  - Use of tax assessments for improved land as indicators of value and benchmarking for concluding vacant land values.
  - Strong reliance on undocumented anecdotal information gathered from local assessors and appraisers.
- Failure to provide consistent or detailed analyses for vacant land in rural towns and conclusions of ROW value.
- Failure to value perpetual easements correctly using the STB's accepted methodology.

Incorrect Valuation Date of July 31, 2011

The SunBelt appraiser's failure to recognize the timeframe required for purchasing SBRR real estate was in error, and demonstrated its inability to effectively address the appraisal problem as required under USPAP, and most importantly, was contrary to SunBelt's own construction schedule.[3] Even though the concluded land value was the product of a hypothetical, retrospective appraisal, the SunBelt appraiser was not relieved of its responsibility to understand the practical timing for purchasing land and constructing a railroad. Reliance on the assumption that the SBRR real estate valuation date would

[2] *Harps & Harps, Inc., Merit Real Estate Analysis Inc., & Rail Trac Associates, Retrospective Appraisal of Land for SunBelt Chlor Alkali Partnership (SunBelt) Stand Alone Railroad (SAR) 578.24 Miles in Louisiana, Mississippi and Alabama as of July 31, 2011 for L.E. Peabody & Associates, Inc. (2012).*

[3] SunBelt Opening Workpapers III-F\"Complete Construction Schedule (with % By Year).xls".

coincide with the commencement date of railroad operations was a failure to account for real estate acquisition, development, and construction processes and the necessity of acquiring and investing in SBRR real estate more than two years prior to the commencement of railroad operations on July 31, 2011. Indeed, SunBelt's proposed construction schedule for the SBRR, as well as its discounted cash flow model, assumed land acquisition occurred from June through December 2009. For the SunBelt appraiser to ignore the appropriate timeframe for real estate acquisition when SunBelt itself recognized it elsewhere is a fundamental flaw in the SunBelt appraiser's analysis.[4]

As a consequence of ignoring the 2009 timeframe for investment in SBRR land, the SunBelt appraiser made two subsequent errors in its analysis. First, the SunBelt appraiser included forward-looking comparable sales data for 2010 and 2011; and second, the SunBelt appraiser made improper market adjustments that equated the value of all comparable sales to the 2011 marketplace.

First, the SunBelt appraiser's use of forward-looking comparable sales data enabled it to anticipate market value based on future events that were unknown as the 2009 timeframe for SBRR real estate acquisition, which resulted in a biased view of earlier market activity. The SunBelt appraiser's reliance on a July 31, 2011, valuation date resulted in the use of 2010 and 2011 comparable sales data.

The use of forward-looking comparable data in a retrospective appraisal does not comply with USPAP Statement on Appraisal Standards No. 3 regarding retrospective value opinions, which states:

> *"Data subsequent to the effective date may be considered in developing a retrospective value as a confirmation of trends that would reasonably be considered by a buyer or seller as of that date. The appraiser should determine a logical cutoff because at some point distant from the effective date, the subsequent data will not reflect the relevant market."*

In addition to considering forward-looking comparable sales, the SunBelt appraiser also made improper market adjustments to equate the value of comparable sales to the July 31, 2011, valuation date. These market adjustments, which are primarily negative, are between a positive two hundredths of one percent and negative thirty-six percent,[5] and coincided with a sluggish economic recovery in the wake of this nation's worst economic downturn since the Great Depression. Assuming SBRR land would be acquired on July 31, 2011, as compared to mid-2009 reduced its market value and the investment required to put the SBRR in service. Because it would have to acquire its land by 2009, the SBRR could not benefit from these ongoing price reductions.

The subsequent and overall reduction in comparable value resulting from the SunBelt appraiser's failure to identify the actual timeframe for acquiring and investing in SBRR real estate and their improper market adjustments is conservatively estimated to be approximately 3.6% on average for 2006-08 based on indices utilized by the SunBelt appraiser. The following table presents the variance and subsequent

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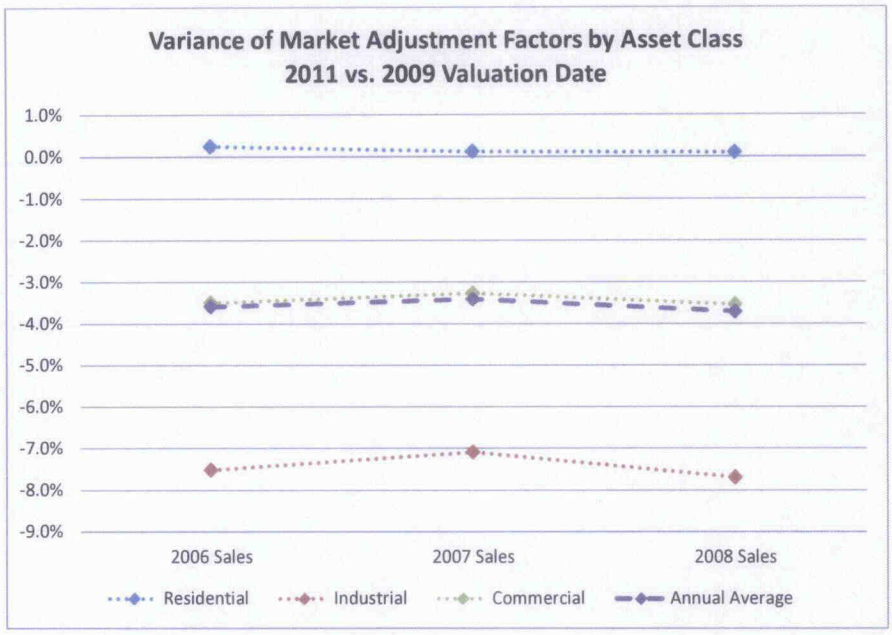
[4] *As discussed in this report, SunBelt's value trend approach results in 2011 downward market adjustment factors that negate the more positive market conditions in 2009. Although SunBelt uses a discounted cash flow analysis from 2011 to 2009 elsewhere in the SBRR calculations, that use does not mitigate and, in effect, compounds the effects of these improper market adjustment factors on comparable market values.*

[5] *Harps & Harps, Inc., Merit Real Estate Analysis Inc., & Rail Trac Associates, Retrospective Appraisal of Land for SunBelt Chlor Alkali Partnership (SunBelt) Stand Alone Railroad (SAR) 578.24 Miles in Louisiana, Mississippi and Alabama as of July 31, 2011 for L.E. Peabody & Associates, Inc. (2012).*

discount in the value of comparable sales that resulted from the use of a 2011 retrospective valuation data.



As the above graph illustrates, the variance (the additional negative market adjustment to comparable values) for commercial and industrial sales is between 3% and 8% as compared to a 2009 valuation date. On average, SunBelt's market adjustments were 3.6%, 3.4%, and 3.7% lower for all asset classes for the years 2006, 2007, and 2008 respectively as a result of a 2011 valuation date.

In sum, the SunBelt appraiser's reliance on the July 31, 2011, valuation date, rather than a valuation date that accords with SunBelt's own proposed SBRR construction schedule, resulted in a lower valuation of comparable sales. Because the analysis of comparable sale value was the only discernible evidence of the SunBelt appraiser's process for determining the value of the Subject Property,[6] consistently undervaluing comparable real estate impacted the SunBelt appraiser's view of various real estate markets and resulted in a lower conclusion of value.

Misclassification of SBRR Land Use

FTI has determined, based on physical property inspections, that the SunBelt appraiser misclassified "across-the-fence" ("ATF") land use along SBRR routes, which resulted in the valuation of an inaccurate and insufficient number of segments, improper quantification of "Highest and Best Use," and distorted conclusions of SBRR ROW market value in high density urban markets. SBRR ROW segments, as determined by changes in land use and/or market value, are the appraisal subject and the unit of measure (in acres) for determining market value. Therefore, due to the differences in the market value of the various land uses, the SunBelt appraiser's incorrect classification of SBRR land use resulted in the improper conclusion of ATF value.

[6] *As discussed more below, the SunBelt appraiser also included in its work papers contact lists for assessors and appraisers, but the SunBelt appraiser's reliance on this information is not clear from the appraisal report or accompanying work papers.*

By example, the SunBelt appraiser misclassified ATF land use and consequently the Highest and Best Use for a portion of SBRR ROW valuation units in the Birmingham metropolitan area. *See* A-BHM-03 attached as part of Appendix A to this report. In that instance, 6.4 miles of diverse urban geography is aggregated into seven SunBelt valuation units. In comparison, FTI identified fourteen distinct valuation units within this same segment. This example illustrates the SunBelt appraiser's failure to classify the SBRR into a sufficient number of valuation units, which is a pervasive problem within the appraisal report that undermines its reliability.

In addition, the SunBelt appraiser misclassified a portion of ATF land use as commercial in A-BHM-06. Based on FTI physical property inspections, there are no commercial uses along this segment. Appendix B presents an aerial of a line segment classified as commercial retail by the SunBelt appraiser and industrial by FTI; the aerial clearly indicates an industrial land-use. This example is another illustration of the lack of accurate ATF land use by the SunBelt appraiser in the high density urban areas.

Inappropriate Selection and Use of Improved Land to Value Vacant Land

Land classification requires the comparison of land sales based on standard criteria, such as zoning, a proposed use, and prevalent secondary uses in the marketplace. The SunBelt appraiser made a significant error in selecting comparable sales: the SunBelt appraiser compared land with improvements to the vacant land of the SBRR ROW.

The SunBelt appraiser utilized ten comparable sales with improvements consisting of approximately 74.4 acres when attempting to value vacant land instead of relying on readily available comparable sales data for actual vacant land.[7] The inclusion of these comparable sales with improvements impacted 51 valuation units, valued at over $39 million. The following table presents the SunBelt appraiser's use of improved sales.

Sunbelt Appraisal
Comparable Sales with Improvements

State	No. Improved Sales	Valuation Units	Acreage	Applied Value
Alabama	7	37	73.0	$26,276,227
Louisiana	3	14	1.4	$12,797,727
Total	**10**	**51**	**74.4**	**$39,073,954**

The practice of using improved land as a basis for valuing vacant land relies on a "market extraction" technique, which was misapplied in the instant case. This method "is a technique in which land value is extracted from the sale price of an improved property by deducting the contributing value of the improvements, often estimated at their depreciated cost."[8] However, the SunBelt appraiser apparently used tax assessment ratios to approximate the contributing value of improvements. Although the

[7] *Harps & Harps, Inc., Merit Real Estate Analysis Inc., & Rail Trac Associates, Retrospective Appraisal of Land for SunBelt Chlor Alkali Partnership (SunBelt) Stand Alone Railroad (SAR) 578.24 Miles in Louisiana, Mississippi and Alabama as of July 31, 2011 for L.E. Peabody & Associates, Inc. (2012). Work papers\III-F-1\SunBelt Valuation Files (for all states)*

[8] *Appraisal Institute, The Appraisal of Real Estate, 13th ed. (2008).*

extraction method is cited in appraisal texts as a useful methodology in rural areas, *The Appraisal of Real Estate* 10th edition published by the Appraisal Institute states:

> *"Sometimes, the extraction technique is applied to assessment ratios rather than specific numerical amounts. However, a value indication derived in this way is generally not persuasive because the assessment ratios may be unreliable and the extraction method does not reflect market considerations."*

In the instant case, the data SunBelt relied upon did not include enough detailed information pertaining to the nature of the improvements and the accuracy of the assessments to permit a land value extraction for these sales to be included in the appraisal. There was no indication in the SunBelt appraiser's work papers of the proper use of a market extraction technique, and the appraiser simply incorporated the value of improvements into its calculation of the global mean of comparable sale value for vacant land.[9]

For a more specific example of how this extraction technique was misapplied, a review of the SunBelt appraiser's comparable sales data demonstrated that the improvements contributed a broad range of value from 95% to 28% to the total assessed value. For CoStar and CoreLogic comparable sales data, the SunBelt appraiser did not perform a calculation for the extraction of land value at all. Rather, the entire value of the land and its improvements was included in the calculation of comparable value for vacant land. The inclusion of inappropriate comparable sales distorted the SunBelt appraiser's analysis of the average value of comparable vacant land for the SBRR and therefore distorted the SunBelt appraiser's ultimate conclusion of value.

In sum, the SunBelt appraiser's failure to use the extraction technique to compare improved land to vacant land did not comply with USPAP Standard No. 6 regarding mass appraisal development and reporting because the practice did not employ the recognized method and technique necessary to produce a credible mass-appraisal.[10]

Use of a Global Mean of Acreage and Purchase Price to Aggregate Value of Comparable Sales

Once comparable sales were selected and classified, the SunBelt appraiser calculated a global mean for separate sets of Costar and CoreLogic comparable sales data. For each particular market area, the SunBelt appraiser divided the total of all individual comparable sale prices for that area by the total acreage to calculate the comparable price paid per acre based on all the sales in that particular market area.[11] This process of aggregating sale prices and the acreage of individual transactions to arrive at the average price per acre is defined as the global mean. The SunBelt appraiser's use of this method was

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[9] *Harps & Harps, Inc., Merit Real Estate Analysis Inc., & Rail Trac Associates, Retrospective Appraisal of Land for SunBelt Chlor Alkali Partnership (SunBelt) Stand Alone Railroad (SAR) 578.24 Miles in Louisiana, Mississippi and Alabama as of July 31, 2011 for L.E. Peabody & Associates, Inc. (2012). Work papers\III-F-1\SunBelt Valuation Files (for all states)*

[10] *The Appraisal Foundation, 2012-2013 Uniform Standards of Professional Appraisal Practice (2012).*

[11] *Harps & Harps, Inc., Merit Real Estate Analysis Inc., & Rail Trac Associates, Retrospective Appraisal of Land for SunBelt Chlor Alkali Partnership (SunBelt) Stand Alone Railroad (SAR) 578.24 Miles in Louisiana, Mississippi and Alabama as of July 31, 2011 for L.E. Peabody & Associates, Inc. (2012). Work papers\III-F-1\SunBelt Valuation Files (for all states)*

unreliable as it failed to account for the appropriate unit of comparison (dollars per acre) of prevailing and specific individual transactions in the marketplace.

The Appraisal of Real Estate, 13th edition published by the Appraisal Institute states:

> *"Like units must be compared, so each sales price should be stated in terms of appropriate units of comparison. The units of comparison selected depend upon the appraisal problem and the nature of the property."*[12]

A global mean enables a large agglomeration of diverse comparable sale data (either acreage and/or price) to effectively act as a single transaction that is not representative of the volume of typical transactions in a marketplace and misrepresents overall market conditions. A stratified data analysis using each transaction as the strata to calculate a mean is the appropriate method of analysis. In a stratified analysis, the average value per acre of comparable sales is calculated based on the sales price paid per acre for each individual transaction. This analysis enables market participants to understand the specific attributes of each transaction and to make direct market comparisons. Stratification allows for the extraction of patterns in data that are hidden by using a global mean.

Stratified data analysis using a market based attribute (dollars per acre) enables the prevailing volume of individual transactions to demonstrate market conditions most frequently encountered by market participants, and results in a decidedly more accurate view of market conditions compared to the use of a global mean.

By way of example, a comparison of the stratified mean to the global mean, using the SunBelt appraiser's average value of CoStar, CoreLogic, and timberland comparable sales as the global mean,[13] for comparable sales data for five SBRR routes in Alabama clearly demonstrates how the use of the global mean does not accurately reflect prevailing market conditions. FTI used identical CoStar, CoreLogic, and timberland sales data utilized by the SunBelt appraiser to calculate the stratified mean for each route by land use classification and compared the results to the global mean proxy (the median of SunBelt's calculated global means). The following graph presents the variance between use of a stratified mean and a global mean.

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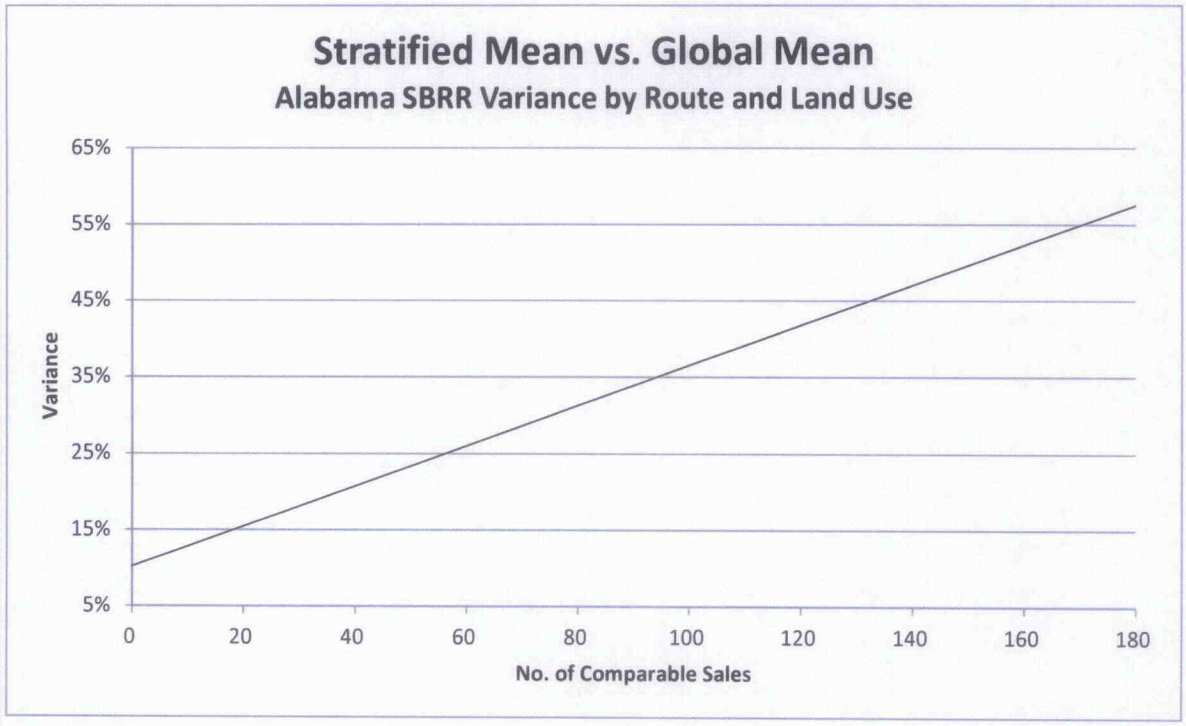
[12] *Appraisal Institute, The Appraisal of Real Estate, 13th ed. (2008).*

[13] *The SunBelt appraiser calculates a global mean for individual CoStar, CoreLogic, and timberland data sets, and each mean is utilized in their conclusion of applied value for the Subject Property.*



The graph depicts the relationship between the stratified and global mean as a rising regression line. The percent variance is the discount in comparable sales value resulting from the use of a global mean in relation to the sample size. The variance between the stratified and global mean is considerable to start (approximately 12%) and moves higher to approximately 58% as the sample size of comparable sales increases. As the sample size grows and more data is aggregated, the global mean devalues the preponderance of individual transactions in the marketplace, and effectively treats market activity as a single transaction. Of the 17 data sets representing land use along the five SBRR routes in Alabama, 13 data sets indicate a stratified mean value greater than the SunBelt appraiser's global mean value. In the instant case of Alabama, a direct comparison of comparable sale values using a stratified mean ($75.2 million) and a global mean ($60.8 million) demonstrates a significant $14.3 million variance (approximately 23.5%) and a gross distortion of market value in Alabama. *See* Appendix C.

The increasing variance between the stratified and the global means resulting from an increase in the sample size of comparable sales clearly demonstrates how the impact of a volume of individual and prevailing transactions can be negated through aggregation, and how the SunBelt appraiser's methodology distorted the market value of comparable sales. The following table presents an example of how the calculation of a global mean creates an incorrect view of overall market conditions as compared to a stratified mean, which better reflects the unit value representative of the volume of prevailing market transactions and conditions most frequently encountered by market participants.

Stratified Mean vs. Global Mean Example			
Parcel	Sale Price	Acres	$ per Acre
Parcel 1	$100	1	$100
Parcel 2	$100	1	$100
Parcel 3	$100	1	$100
Parcel 4	$100	1	$100
Parcel 5	$100	1	$100
Parcel 6	$100	1	$100
Parcel 7	$100	1	$100
Parcel 8	$100	1	$100
Parcel 9	$100	1	$100
Parcel 10	$100	1	$100
Parcel 11	$500	10	$50
Global Mean: $1,500 / 20 =			**$75 per acre**
Stratified Mean: $1,050 / 11 =			**$95 per acre**
Percentage Variance			**-21.43%**

As this example illustrates, the SunBelt appraiser's use of the global mean does not comply with USPAP Standard No. 6 regarding mass-appraisal development and reporting because it does not employ recognized methods and techniques necessary to produce a credible mass-appraisal.[14] Not only does this methodology not comply with USPAP, it contravenes authoritative citations from the Appraisal Institute regarding the use of appropriate units of comparison and results in the statistical anomaly and inaccurate valuation demonstrated above. Based on the results of this analysis, FTI has determined that the SunBelt appraiser's conclusion of value for the entire SBRR relied on a methodology that significantly undervalued comparable market sales and as a consequence significantly understated the actual value of the Subject Property.

Failure to Adequately Reconcile or Explain Considerable Differences from Comparable Sales Data and the Subsequent Conclusions of Value

Nowhere in the SunBelt appraiser's work papers does it justify or explain the considerable differences in the average value per acre of comparable sales data sets and its ultimate applied values. Presumably, the SunBelt appraiser erroneously relied upon assessed values and other undocumented anecdotal evidence to reach its ultimate conclusions. Such flawed methodology considerably undermines the reliability of the appraisal report.

As a preliminary matter, the SunBelt appraiser improperly relied on county and municipal assessments of vacant and improved land and U.S. Census data for median housing values to benchmark the value for land and improvements and to determine the comparable value of rural and urban vacant land. As previously discussed in this report, the use of this data on improved land to value the vacant land of the SBRR was improper due to the SunBelt appraiser's failure to employ the extraction technique properly.

[14] *The Appraisal Foundation, 2012-2013 Uniform Standards of Professional Appraisal Practice (2012).*

However, the SunBelt appraiser's reliance on assessed values was improper for other reasons as well. The application of assessed value as a factor for concluding market value is not cited in modern appraisal texts, and it is certainly not a suitable substitute for readily available market data in the performance of a complex mass-appraisal. In most instances, and due to a variety of factors, the appraised value of real estate rarely (if ever) agrees with the assessed value, and the difference can be considerable. The Appraisal of Real Estate 13th edition published by the Appraisal Institute states:

> *"Assessed values may not be good indicators of the market value of individual properties because mass-appraisal value based on statistical methodology tend to equalize the application of taxes to achieve parity among assessment levels in a given district."*[15]

Depending on the jurisdiction and the method of assessment, the assessed value is often subject to appeal and revision, and is not responsive to short and mid-term changes in market conditions. Despite the deficiencies of assessed values, however, in certain instances, the SunBelt appraiser's work papers present a value supplied by an assessor or local appraiser as an average value for CoStar or CoreLogic comparable sale data. There are ten instances when the SunBelt appraiser directly applied a value supplied by an assessor or local appraiser as the concluded ("applied") value. Such reliance on a local appraiser or assessed value was improper.

Improper Use of Local Appraiser & Assessment Values as Applied Value

State	Occurances	Valuation Units	Acres	Applied Value
Alabama	6	53	500.74	$16,756,420
Mississippi	4	19	85.64	$5,090,600
Total	**10**	**72**	**586.38**	**$21,847,020**

In addition to the SunBelt appraiser's inappropriate use of assessed values, more critically, the SunBelt appraiser provided no discernible basis for understanding its conclusion of value for many SBRR segments. The concluded value appeared arbitrary compared to the global mean values it derived from CoStar and CoreLogic comparable sales data. Its analysis of these two distinct sets of comparable sales data often offered conflicting and vastly dissimilar results and there was no rationale or explanation offered for reconciling the differences and concluding value. The inference is that the SunBelt appraiser relied on undocumented anecdotal information to arrive at its ultimate conclusions of value.[16]

To demonstrate this point, the following graph compares the SunBelt appraiser's applied (concluded) values in Alabama to the global mean of the Costar and/or CoreLogic comparable sale data.

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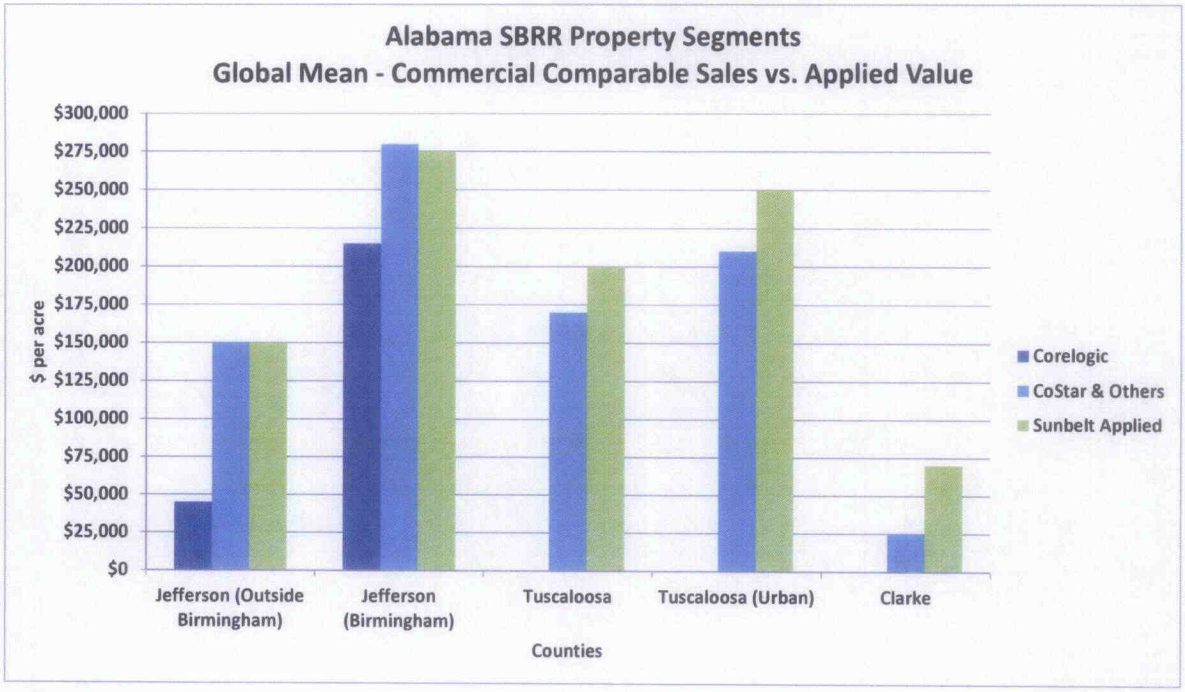
[15] *Appraisal Institute, The Appraisal of Real Estate, 13th ed. (2008).*

[16] *Harps & Harps, Inc., Merit Real Estate Analysis Inc., & Rail Trac Associates, Retrospective Appraisal of Land for SunBelt Chlor Alkali Partnership (SunBelt) Stand Alone Railroad (SAR) 578.24 Miles in Louisiana, Mississippi and Alabama as of July 31, 2011 for L.E. Peabody & Associates, Inc. (2012). Work papers\III-F-1\SunBelt Valuation Files (for all states)*



As the graph illustrates, there is no consistent correlation between the global means for comparable CoreLogic and CoStar data and the SunBelt appraiser's applied value. For example, in Clarke County, the SunBelt applied value is nearly three times as high as the global mean of the available CoStar data. A similar observation can be made regarding Tuscaloosa County and Urban Tuscaloosa County, where the SunBelt applied value per acre is over $25,000 greater than the available comparable sales data.

In sum, the SunBelt appraiser's failure to reconcile the comparable sales data, instead relying upon assessed values and undocumented anecdotal evidence to reach its applied values, was a fundamental flaw in their methodology that undermines the conclusions of the appraisal report.

No Analysis of Conclusion of Value for SBRR ROW in Rural Towns

The SunBelt appraiser's work papers provided no clear or obvious indication of how value was concluded for SBRR ROW in rural towns. Rural towns comprise approximately five percent of total SBRR acreage. There are no distinct sets of comparable sale values for rural towns and no indication of how value was concluded. In addition, there are no applied values indicated in SunBelt's Mississippi state summary sheet for the rural town category, which comprises approximately seven percent of the total acreage in Mississippi. The SunBelt appraiser's concluded value for rural towns was approximately $4,209,000.

Failure to Correctly Value Perpetual Easements Using STB's Accepted Methodology

The SunBelt appraiser deducted the fee simple acquisition cost for 272.6 acres of necessary perpetual easements in the amount of $13,500,000 from its initial conclusion of value for the SBRR. The SunBelt

appraiser, in recognition that there is a value associated with the acquisition of easements, then proceeded to equate the original NS acquisition cost for the easements ($163,269, many purchased more than 100 years ago) as its modern appraised value without adjusting NS's historic acquisition costs to the valuation date. In the *Xcel Energy* case, however, the STB has acknowledged that historical costs for easements must be adjusted to reflect value as of the valuation date.[17] Thus, the SunBelt appraiser's approach to easements is contrary to STB precedent, and those costs should have been adjusted to reflect the cost of obtaining the easements as of the valuation date. When properly adjusted, the value of the easements is $431,000, which is a difference of 264%.[18]

CONCLUSION

In summary, the SunBelt appraiser's approach to concluding value did not effectively address the appraisal problem and many of the appraiser's assumptions and practices are not in compliance with USPAP. The report cannot be relied upon for the following reasons: (1) use of an improper valuation and adjustment date (July 2011), resulting in an overstatement of negative market impact on comparable value; (2) incorrect classification of land use, leading to an insufficient number of line segments being valued in high density urban areas; (3) inappropriate selection of land with improvements for comparison with vacant land; (4) use of the global mean of purchase price and acreage to aggregate the value of comparable sales; (5) failure to adequately reconcile comparable sales data and use of undocumented anecdotal information to arrive at applied values; (6) no analysis for concluding value in rural towns; and (7) failure to correctly value perpetual easements using STB accepted methodology.

Therefore, I am of the opinion that the appraisal methods and techniques used by the SunBelt appraiser to develop a conclusion of retrospective market value were not appropriate and cannot be relied upon to conclude SBRR value.

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[17] *Xcel Energy v. BNSF*, 7 S.T.B 589, 669 (2004) ("Because all of a SARR's investments should be valued at current costs, BNSF's estimate is used here. Xcel's evidence does not reflect the current value of obtaining the necessary easements.").

[18] *Harps & Harps, Inc., Merit Real Estate Analysis Inc., & Rail Trac Associates, Retrospective Appraisal of Land for SunBelt Chlor Alkali Partnership (SunBelt) Stand Alone Railroad (SAR) 578.24 Miles in Louisiana, Mississippi and Alabama as of July 31, 2011 for L.E. Peabody & Associates, Inc. (2012). Work papers\Opening Narrative and Exhibits*

CERTIFICATE OF REVIEWER

I certify that, to the best of my knowledge and belief

The statements of fact contained in this report are true and correct.

The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and represents my impartial and unbiased professional analyses, opinions, and conclusions.

FTI Consulting and I personally have no present or prospective interest in or bias with respect to the property that is the subject of this report and have no personal interest or bias with respect to the parties involved.

The engagement of FTI Consulting and me personally in this assignment and compensation for FTI Consulting are not contingent on the development or reporting of predetermined results or an action or event resulting from the analyses, opinions, or conclusions in this review or from its use.

The analyses, opinions, and conclusions were developed, and this review report has been prepared in conformity with the Uniform Standards of Professional Appraisal Practice, and the Code of Professional Ethics and the Standards of Professional Practice of the Appraisal Institute.

The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.

I have made a partial inspection of the real property that is the subject of the work under review.

Glenn Brill, Mark Dunec, Justin Sutter, Paul Patafio, and Chris Collins have assisted me with data collection, analysis, and appraisal review assistance.

As of the date of this report, I have completed the continuing education program of the Appraisal Institute.

Michael Hedden, MAI, CRE, FRICS
Managing Director
FTI Consulting, Inc.

STANDARD ASSUMPTIONS AND LIMITING CONDITIONS

This service was performed with the following general assumptions and limiting conditions:

The appraisal to which the conclusions and opinions expressed apply is set forth in the report. The opinions presented therein are based on the information contained therein.

This review report is based on data and information contained in the appraisal report that is the subject of this review as well as additional information from other sources that may be applicable.

It is assumed that the data and information are factual and accurate. The research upon which the appraisal is based has not been verified by the reviewer, unless otherwise stated in this review report.

The reviewer reserves the right to consider any additional data or information that may subsequently become available to him or her and to revise his or her opinions and conclusions if such data and information indicate the need for such change.

All of the assumptions and limiting conditions contained in the appraisal report that is the subject of this review are also conditions of this review, unless otherwise stated.

No responsibility is assumed for matters legal in nature.

This report has been made only for the use or uses stated, and it is neither intended nor valid for any other use.

Possession of this report or any copy thereof does not carry with it the right of publication. No portion of this report (especially any conclusion, the identity of any individuals signing or associated with this report or the firms with which they are connected, or any reference to the professional associations or organizations with which they are affiliated or the designations awarded by those organizations) shall be disseminated to third parties through prospectus, advertising, public relations, news, or any other means of communication without the written consent and approval of FTI Consulting.

Birmingham Metro Area		6.4	Miles
Aerial No.	A-BHM-03	14	NS Val-units
		7	Sunbelt Units
Acquisition Cost		57.8	Acres
$5,843,726		$101,143	$/Acre

Ranges in Cost/Acre:		Left Side	Right Side
	Min:	$52,510	$52,510
	Max:	$226,564	$226,564

A-BHM-03 covers 6.4 miles of the Birmingham, AL metropolitan area and begins before Division St S and ends past 54th St SW. This segment is comprised of 14 NS valuation units as compared to only 7 from Sunbelt.

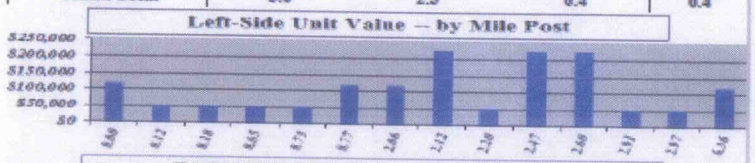
The real estate found on the left (bottom) side of the RoW is predominately Residential with some Industrial and Commercial use.

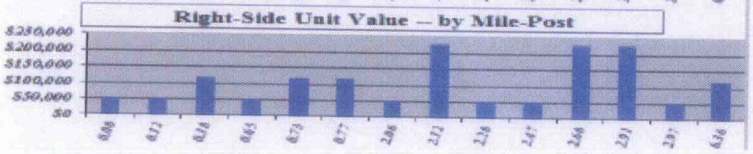
Residential uses also predominate the right side of the RoW with some Industrial and Commercial uses.

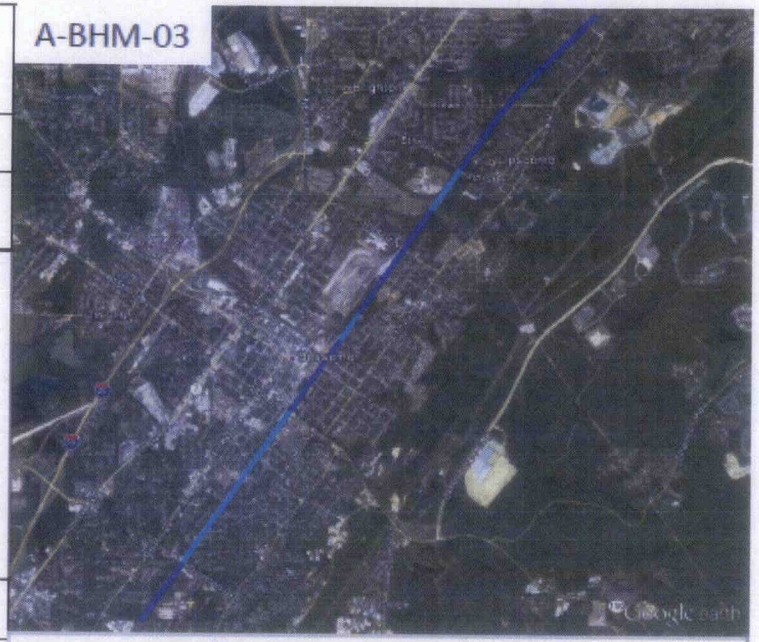
As shown by the chart below, NS has applied higher $/Acre values to the Residential land while Sunbelt has applied a higher value to the Commercial and Industrial land found along this segment.

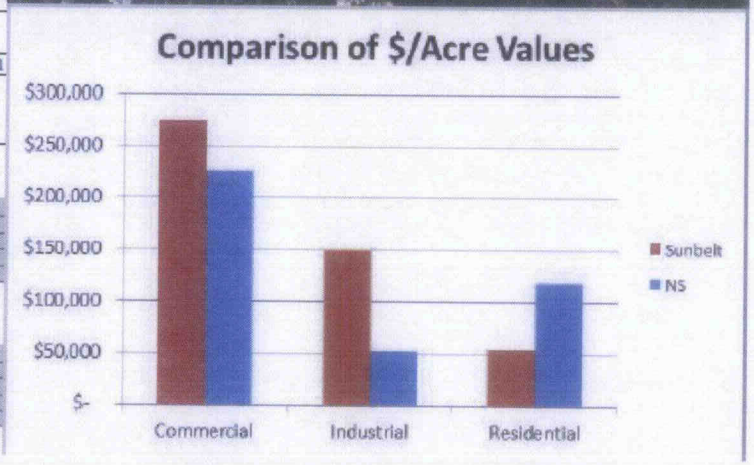
Birmingham Metro Area		Miles of RoW With Each Use Combination
Aerial Number	A-BHM-03	

	Right-Side Use			
Left-Side Use	Single-Family	Industrial	Retail	Grand Total
Single-Family	3.1	0.2		3.3
Industrial	0.5	2.0	0.1	2.6
Retail		0.1	0.4	0.5
Grand Total	3.6	2.3	0.4	6.4



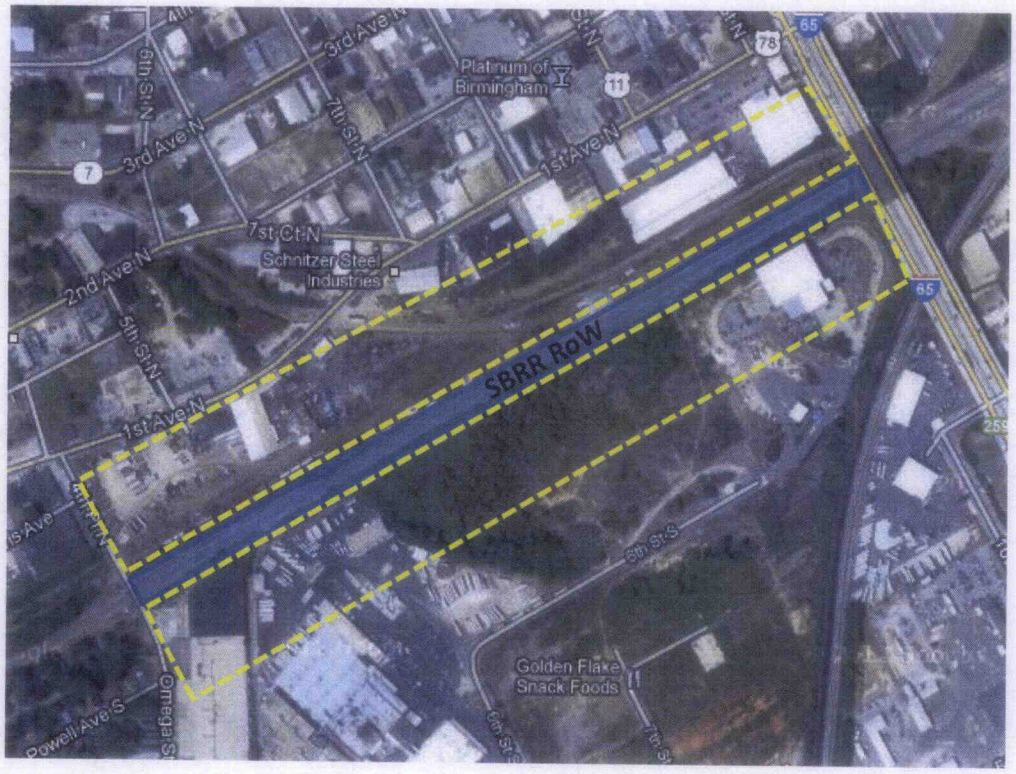






APPENDIX B

SBRR Improper Land-use Classification
A-BHM-06 Line Segment 16



SBRR Land-use Classification – Commercial Retail
NS Land-use Classification – Industrial as indicated in photograph

ALABAMA	RESIDENTIAL - Sunbelt Global Mean					RESIDENTIAL - FTI Stratified Mean			
	Corelogic	COSTAR & Others	Seg Count	Global Mean	APPLIED	Corelogic	COSTAR & Others	Seg Count	Stratified Mean
Jefferson (Outside Birmingham) SUNBELT	$80,000	$25,000	11	$52,500	$40,000	$141,975	$24,124	11	$83,049
Jefferson BIRMINGHAM URBAN- 75 FT. SUNBELT	$90,000	$55,000	17	$72,500	$55,000	$169,289	$96,966	17	$133,127
Bibb SUNBELT	x	$6,500	3	$6,500	$25,000	x	$6,223	3	$6,223
Tuscaloosa OUTSIDE SUNBELT	x	$10,000	16	$10,000	$45,000	x	$9,226	16	$9,226
TUSCALOOSA URBAN SUNBELT	x	$15,000	6	$15,000	$60,000	x	$6,195	6	$6,195
Hale Sunbelt									
Greene SUNBELT									
Sumter - Sunbelt									
Shelby SUNBELT	x	N/A	x	$40,000	$40,000	x	$35,354	3	$35,354
Chilton County									
Dallas County	$22,500		5	$22,500	$25,000	$25,993	X	5	$25,993
Autauga SUNBELT	$14,000					$19,561			
Wilcox SUNBELT									
Marengo SUNBELT									
CLARKE SUNBELT	X	$20,000	6	$20,000	$25,000	X	$40,423	6	$40,423
Washington SUNBELT	X	X	1	$25,000	$25,000	X	X	1	$25,000

ALABAMA	INDUSTRIAL - Sunbelt Global Mean					INDUSTRIAL - FTI Stratified Mean			
	Corelogic	COSTAR & Others	Seg Count	Global Mean	APPLIED	Corelogic	COSTAR & Others	Seg Count	Stratified Mean
Jefferson (Outside Birmingham) SUNBELT	$65,000	$75,000	11	$70,000	$75,000	x	$79,414	11	$79,414
Jefferson BIRMINGHAM URBAN- 75 FT. SUNBELT	$65,000	$150,000	15	$107,500	$150,000	x	$115,933	15	$115,933
Bibb SUNBELT	x	x	2	$60,000	$60,000	x	x	2	$60,000
Tuscaloosa OUTSIDE SUNBELT	x	$60,000	11	$60,000	$60,000	x	$20,405	11	$20,405
TUSCALOOSA URBAN SUNBELT	x	x	1	$115,000	$115,000	x	$14,355	1	$14,355
Hale Sunbelt	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Greene SUNBELT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sumter - Sunbelt	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Shelby SUNBELT	x	$60,000	1	$60,000	$60,000	x	$62,488	1	$62,488
Chilton County	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Dallas County	x	x	9	$55,000	$55,000	x	x	9	$55,000
Autauga SUNBELT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Wilcox SUNBELT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Marengo SUNBELT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CLARKE SUNBELT	X	x	5	$55,000	$55,000	X	X	5	$55,000
Washington SUNBELT	X	X	2	$55,000	$55,000	X	X	2	$55,000

ALABAMA	COMMERCIAL - Sunbelt Global Mean					COMMERCIAL - FTI Stratified Mean			
	Corelogic	COSTAR & Others	Seg Count	Global Mean	APPLIED	Corelogic	COSTAR & Others	Seg Count	Stratified Mean
Jefferson (Outside Birmingham) SUNBELT	$45,000	$150,000	2	$97,500	$150,000	$125,857	$233,872	2	$179,865
Jefferson BIRMINGHAM URBAN- 75 FT. SUNBELT	$215,000	$280,000	8	$247,500	$275,000	$473,893	$547,202	8	$510,548
Bibb SUNBELT									
Tuscaloosa OUTSIDE SUNBELT	x	$170,000	5	$170,000	$200,000	x	$156,648	5	$156,648
TUSCALOOSA URBAN SUNBELT	x	$210,000	4	$210,000	$250,000	x	x	4	$250,000
Hale Sunbelt									
Greene SUNBELT									
Sumter - Sunbelt									
Shelby SUNBELT									
Chilton County									
Dallas County									
Autauga SUNBELT	$130,000					$169,998			
Wilcox SUNBELT									
Marengo SUNBELT									
CLARKE SUNBELT	X	$25,000	2	$25,000	$70,000	X	$64,151	2	$64,151
Washington SUNBELT									

ALABAMA	AGRICULTURAL - Sunbelt Global Mean						AGRICULTURAL - FTI Stratified Mean				
	AG-Sales-Corelogic	COSTAR & Others	TIMBER DATA	Seg Count	Global Mean	APPLIED	AG-Sales-Corelogic	COSTAR & Others	TIMBER DATA	Seg Count	Stratified Mean
Jefferson (Outside Birmingham) SUNBELT	$2,500		$3,400		$2,950	$3,500	$9,242	x	x		$9,242
Jefferson BIRMINGHAM URBAN- 75 FT. SUNBELT											
Bibb SUNBELT	$2,500		$3,500	2+3	$3,000	$3,500	$3,050	x	$4,245	2+3	$3,648
Tuscaloosa OUTSIDE SUNBELT	x	$3,500	x	21	$3,500	$3,500	x	$4,568	x	21	$4,568
TUSCALOOSA URBAN SUNBELT											
Hale Sunbelt		$1,550			$1,550	$2,100	x	$1,616	x		$1,616
Greene SUNBELT		$1,500		8	$1,500	$2,100	x	$1,433	x	8	$1,433
Sumter - Sunbelt				5	$2,100	$2,100	x	x	x	5	$2,100
Shelby SUNBELT	x	x	x	10	$3,500	$3,500	x	x	x	10	$3,500
Chilton County	x		$2,600	6	$2,600	$3,500	x	x	$2,960	6	$2,960
Dallas County	$1,650		$2,200	14	$1,925	$2,000	$2,466	x	$5,777	14	$4,122
Autauga SUNBELT	$2,000	x	$3,200	1	$2,600	$3,000	$2,986	x	$3,828	1	$3,407
Wilcox SUNBELT	x		x	2	$2,000	$2,000	x	$1,450	x	2	$1,450
Marengo SUNBELT	$2,400		$1,700	1	$2,050	$2,000	$1,965	$1,033	$2,211	1	$1,736
CLARKE SUNBELT	x	x	$1,700	4	$1,700	$2,000	x	$1,684	x	4	$1,684
Washington SUNBELT	x	x	$1,400	5	$1,400	$2,000	x	x	x	5	$2,000

APPENDIX C

Global Mean vs. Stratified Mean

Route	Class	Variance Global Mean vs. Stratified Mean	# Comp Sales
AL-1	Residential	58%	97
AL-1	Industrial	13%	4
AL-1	Commercial	84%	43
AL-2	Residential	84%	8
AL-2	Industrial	8%	14
AL-2	Commercial	106%	65
AL-3	Residential	24%	123
AL-3	Industrial	-32%	6
AL-3	Commercial	-8%	52
AL-3	Agricultural	12%	120
AL-4	Residential	-59%	7
AL-4	Industrial	-88%	0
AL-4	Commercial	19%	7
AL-5	Residential	27%	172
AL-5	Industrial	5%	10
AL-5	Commercial	157%	74
AL-5	Agricultural	20%	181

Underlying data set used to plot regression line.

APPENDIX C

AL-1

	Global Mean	Stratified Mean	Variance Global Mean vs. Median Stratified Mean	% Diff.
Total Value	**$3,762,485**	**$4,773,483**	**$1,010,998**	**26.87%**
Residential	$108,182	$171,132	$62,950	**58.19%**
Industrial	$3,003,636	$3,407,577	$403,941	**13.45%**
Commercial	$644,091	$1,188,197	$544,106	**84.48%**
Agricultural	$0	$0	$0	-
Rural Town	$0	$0	$0	-
Restricted	$6,576	$6,576	$0	**0.00%**

AL-2

	Global Mean	Stratified Mean	Variance Global Mean vs. Median Stratified Mean	% Diff.
Total Value	**$20,950,000**	**$33,235,632**	**$12,285,632**	**58.64%**
Residential	$7,131,364	$13,094,871	$5,963,507	**83.62%**
Industrial	$8,497,386	$9,163,989	$666,602	**7.84%**
Commercial	$5,321,250	$10,976,773	$5,655,523	**106.28%**
Agricultural	$0	$0	$0	-
Rural Town	$0	$0	$0	-
Restricted	$0	$0	$0	-

AL-3

	Global Mean	Stratified Mean	Variance Global Mean vs. Median Stratified Mean	% Diff.
Total Value	**$13,653,185**	**$13,056,879**	**-$596,306**	**-4.37%**
Residential	$3,563,939	$4,433,030	$869,090	**24.39%**
Industrial	$4,641,212	$3,148,091	-$1,493,121	**-32.17%**
Commercial	$2,575,758	$2,373,455	-$202,302	**-7.85%**
Agricultural	$1,928,897	$2,158,924	$230,027	**11.93%**
Rural Town	$920,606	$920,606	$0	**0.00%**
Restricted	$22,773	$22,773	$0	**0.00%**

APPENDIX C

AL-4

	Global Mean	Stratified Mean	Variance Global Mean vs. Median Stratified Mean	% Diff.
Total Value	**$3,293,636**	**$1,714,132**	**-$1,579,504**	**-47.96%**
Residential	$144,545	$59,701	-$84,844	**-58.70%**
Industrial	$1,965,455	$245,340	-$1,720,115	**-87.52%**
Commercial	$1,183,636	$1,409,091	$225,455	**19.05%**
Agricultural	$0	$0	$0	-
Rural Town	$0	$0	$0	-
Restricted	$0	$0	$0	-

AL-5

	Global Mean	Stratified Mean	Variance Global Mean vs. Median Stratified Mean	% Diff.
Total Value	**$19,181,911**	**$22,381,695**	**$3,199,784**	**16.68%**
Residential	$6,591,970	$8,370,490	$1,778,520	**26.98%**
Industrial	$6,703,636	$7,021,851	$318,215	**4.75%**
Commercial	$93,939	$241,053	$147,114	**156.60%**
Agricultural	$4,671,971	$5,627,907	$955,936	**20.46%**
Rural Town	$1,119,879	$1,119,879	$0	**0.00%**
Restricted	$515	$515	$0	**0.00%**

AL - Entire State	**Global Mean**	**Stratified Mean**	**Variance Global Mean vs. Median Stratified Mean**	**% Diff.**
Total Value	**$ 60,841,217**	**$ 75,161,822**	**$ 14,320,605**	**23.54%**

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December 20, 2012

Matthew Warren, Esq.
Sidley Austin LLP
1501 K Street, NW
Washington, DC 20005

RE: SunBelt Chlor Alkali Partnership v. Norfolk Southern Railway Co.
Surface Transportation Board - Docket No. NOR 42130

Dear Mr. Warren:

I hereby transmit my appraisal of the cost to acquire the land necessary to build the proposed hypothetical stand-alone railroad (the "SunBelt Railroad" or "SBRR") pursuant to the above-captioned case.

The restricted use report is a complete retrospective appraisal of certain land acquisitions in the states of Alabama, Louisiana, and Mississippi, for the hypothetical SunBelt railroad.

The appraisal report and corresponding work papers set forth my opinion of market value of the cost to acquire the Subject Property. Based on the processes and methodologies employed, as outlined in the report, I have developed an opinion of the market value of the SBRR as of July 1, 2009 in the amount of $218,110,000.

The appraisal report has been prepared in accordance with the Uniform Standards of Professional Appraisal Practice for the Norfolk Southern Railway Company and its counsel. Its purpose is to assist the parties and the Surface Transportation Board in their efforts to reach a decision in the subject case. As a restricted-use appraisal, it is only intended for use by those having knowledge of the above-captioned matter.

The acquisition cost opinions reported above are qualified by hypothetical conditions, certain assumptions, and limiting conditions in the report.

Sincerely,

FTI CONSULTING, INC.

Michael P. Hedden, MAI, CRE, FRICS
Managing Director
Telephone: 646-731-1503
E-mail: michael.hedden@fticonsulting.com

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SUMMARY OF SALIENT FACTS AND CONCLUSIONS

After exhaustive inspection and analysis, I, Michael P. Hedden, Managing Director with FTI Consulting, Inc. ("FTI") and a Member of the Appraisal Institute ("MAI") and a licensed real estate appraiser in 14 states, as a witness for the Norfolk Southern Railway Company ("NS"), have formed an opinion and created a detailed estimate of the cost of land as of July 1, 2009, needed to assemble certain portions of rights-of-way ("ROW") for a hypothetical stand-alone railroad ("SARR") known as the SunBelt Railroad (the "SBRR" or "Subject Property"). This complete retrospective appraisal of the SBRR is submitted as evidence for use in a rate reasonableness proceeding against NS before the Surface Transportation Board ("STB"). The SBRR's ROW is based on existing NS routes and ROWs, and the portions appraised herein comprise approximately 577 miles of trackage in the states of Alabama, Louisiana, and Mississippi.

I have prepared the attached appraisal to determine the costs that the SBRR would incur at market value to acquire fee simple interests and easements in perpetuity for the land necessary to develop and operate the SBRR. This appraisal is subject to certain assumptions and limiting conditions listed in this report. I performed the attached appraisal based on FTI inspections of certain portions of the SBRR's proposed ROW conducted from April 2011 through January 2012, and the analyses of comparable land sales data, other land valuation records and maps, and expert knowledge.

PROPERTY APPRAISED:	ROW land (as delineated hereinafter) required to develop and operate the SBRR
OWNERSHIP:	Thousands of individual ownerships along the ROW
PROPERTY RIGHTS:	Fee Simple or Easement in Perpetuity
STANDARD OF VALUE:	Market Value
APPROACH TO VALUE:	Sales Comparison: Across-the-Fence ("ATF")
DATE OF VALUE:	July 1, 2009
CURRENT USE:	Varies by location
HIGHEST AND BEST USE:	Varies by location and presumed to be ATF and/or prevailing development pattern
TOTAL APPRAISED MARKET VALUE:	$ 218,110,000

The following table presents the SBRR's total appraised market value.

Figure 1: SBRR Appraised Market Value

Component of Valuation	Acres	Market Value	Avg. Value Per Acre [1]
ROW - Fee Simple Value	6,852	$192,505,000	$28,095
Land Value for Yards	378	$35,348,000	$93,416
Land Value for Communications Facilities	50	$1,937,000	$38,740
Less: Land Value for Easement Areas	273	($12,111,000)	($44,427)
Plus: Cost for DRR Easement Areas	273	$431,000	$1,581
Total Valuation	7,280	$218,110,000	$29,959

Notes:
1. Total average value per acre does not include easement acres.

APPRAISAL ASSIGNMENT

Function of the Appraisal

This appraisal is provided for use in a rate reasonableness proceeding before the STB (Docket No. NOR 42130) as filed by SunBelt Chlor Alkali Partnership ("SunBelt") as complainant against NS as defendant. This appraisal opines what it would cost to acquire the land necessary for the development and operation of the SARR proposed by SunBelt as needed to assist in establishing the reasonable rate for the transportation of material and products.

Subject Property of Appraisal

The Subject Property of this appraisal is the land required to develop and operate the SBRR, a hypothetical SARR including ROW, yards, and facilities as proposed by SunBelt in a rate reasonableness proceeding before the STB. The SBRR's ROW was defined in SunBelt's SBRR appraisal and accompanying exhibits dated July 26, 2012, and is assumed to follow the centerline of existing NS ROW.

For purposes of this appraisal, the definition of "land" includes surface, subsurface, air, and riparian rights. Figure 2 presents the appraised SBRR ROW. In addition to the acreage presented in Figure 2, the Subject Property includes 378 acres of supporting rail yards, and 50 acres of communications facilities located throughout the SBRR.

Figure 2: SBRR Stand Alone Railroad - NS ROW

	Valuation		
States	Units	Miles	Acres
Alabama	324	356	4,231
Louisiana	327	50	544
Mississippi	90	171	2,077
Total	741	577	6,852

Purpose and Scope of the Appraisal

The purpose of this appraisal is to determine the aggregate retrospective market value and subsequent cost of land required to develop and operate the proposed SBRR in order to begin transporting material and products on July 31, 2011. That aggregate retrospective market value is the sum total of the value attributed to each SBRR route as well as yards and other supporting facilities, including fiber optic sites.

As detailed in this report, the scope of the appraisal assignment included a physical inspection and market review of a significant portion of specific land parcels on both sides of the proposed SBRR ROW in densely populated areas with various land uses. The scope of this appraisal assignment also included a detailed "desktop" review of all other parcels that were not physically inspected, which are located in less densely populated areas with fewer variations in land use. The market value of the SBRR ROW was determined as of July 1, 2009. This valuation date accounts for the timeframe that would be required to acquire land and to develop and construct the SBRR in order for it to provide operating rail service as of July 31, 2011.

Market value is determined by assuming the parties to each transaction would include a knowledgeable and prudent purchaser acting in its own self-interest and without duress, and a knowledgeable and prudent seller acting in its own self-interest and without duress. This appraisal does not include any land assemblage or corridor premiums that may be associated with a large-scale land acquisition. It is assumed that the properties to be acquired are vacant and without improvements and are readily available and serviceable to meet the needs of the SBRR.

Though it is conceivable that a person unfamiliar with the proposed railroad and the administrative law process employed by the STB would understand this report, it was developed for review by the STB, the parties to this case, and their counsel. It is therefore designed as a restricted

appraisal report because the parties in this matter have intimate knowledge about the Subject Property and all the necessary supporting documentation is contained in our work file.

INTEREST VALUED

This opinion of value is based on acquiring a fee simple interest in the land, other than the specified portions that are acquired as perpetual easements.

Standard of Value

The market value of each of the parcels comprising the ROW of the various SBRR routes is defined as:

> *"The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale. Implicit in this definition are the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:*
>
> 1. *Buyer and seller are typically motivated and act prudently;*
> 2. *Both parties are knowledgeable, well informed or well advised and acting in what they consider their own best interests;*
> 3. *The property has been exposed in the open market for a reasonable time;*
> 4. *Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and*
> 5. *The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale."* [1]

Across-the-Fence Value

Across-the-fence value is defined as:

> *"In corridor valuation, a value opinion based on comparison with adjacent lands including the consideration of adjustment factors such as market conditions, real property rights conveyed, and location."* [2]

---

[1] Appraisal Institute, *The Appraisal of Real Estate*, 13th ed. (2008).

[2] Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 5th ed. (2010).

Valuation Units

SBRR ROW consists of land divided into Valuation Units, the length of which are defined and determined by:

> *Whenever a change occurs in Highest and Best Use or unit value "across-the-fence" on either side of SBRR's ROW's centerline.*

Permanent or Perpetual Easement

> *"An easement that lasts forever."*[3]

As such, the grantee and its successors (user of the easement) benefit from the easement's utility and any value it may add to the user's property in perpetuity.

Highest and Best Use

The market value of each parcel to be acquired reflects its Highest and Best Use. Highest and Best Use is defined as:

> *"That reasonably probable use, found to be legally permissible, physically possible, financially feasible, and that results in the highest present land value."* [4]

The Highest and Best Use of a property must account for all three elements. For example, a use may be financially feasible, but it would be irrelevant if it were physically impossible or legally prohibited. Moreover, Highest and Best Use is a market term and is determined, at least in part, by market forces. The Highest and Best Use is not a subjective analysis by the appraiser; "rather, the Highest and Best Use is shaped by the competitive forces within the market where the property is located, and is an economic study of market forces on each acquisition unit."[5]

---

[3] *Id.*

[4] Appraisal Institute, *The Appraisal of Real Estate*, 13th ed. (2008).

[5] *Id.*

- The determination of Highest and Best Use and significant changes in comparable sale value provided the bases for determining the extent of each Valuation Unit along portions of a particular route physically inspected by FTI. In classifying the Highest and Best Use of a parcel, FTI considered the prevailing pattern of land uses as well as apparent market trends in the immediate vicinity of a particular ROW as needed to identify appropriate Valuation Units. Absent indications to the contrary, the Highest and Best Use for such property is attributed to land immediately adjacent to the ROW.

FTI utilized the SunBelt appraiser's determination of Highest and Best Use and corresponding Valuation Units for properties not physically inspected by FTI to expedite this appraisal assignment.

APPROACHES TO VALUE CONSIDERED

This section of the appraisal report explains the rationale and principal techniques underlying the three primary approaches to appraising real estate and their applicability to the Subject Property.

The Sales Comparison Approach

Using the sales comparison approach, fair market value is determined by comparing a subject property to similar properties that have recently sold, are under contract, or are listed for sale. When comparable sales data in a subject property's immediate vicinity are limited to an unacceptably narrow sample of current market activity, the appraiser may choose to extend the data search to adjacent neighborhoods and/or similar communities. The appraiser may also decide to use sales that are less current or offers to sell and purchase. With proper market adjustments, these sales and listings may also be used for comparison with a subject property.

The appraiser estimates the degree of similarity or difference between a subject property and comparable sales and may choose to make adjustments to a comparable sale for comparison with the subject property by considering various property attributes including:

- Real property rights conveyed,

- Financing terms,
- Conditions of sale,
- Market conditions,
- Location, access and visibility, which are critical for retail uses,
- Physical characteristics (e.g., size and condition) – Size strongly affects residential and retail values and least affects agricultural values,
- Economic characteristics, and
- Use.

The Income Approach

The income approach estimates the market value of property based on the future economic benefits of property ownership, which include the income stream from improvements and resale value. This approach analyzes a property's capacity to generate net income and converts that anticipated income generating capacity into an estimate of a subject property's market value.

This method first establishes a subject property's base year net operating income (gross income less applicable operating expenses). The base year net income is then capitalized using the direct capitalization or yield capitalization method. Direct capitalization is "a method used to convert an estimate of a single year's income expectancy into an indication of value in one direct step either by dividing the income estimate by an appropriate income rate or by multiplying the income estimate by an appropriate income factor."[6] The yield capitalization approach converts "future benefits into present value by discounting each future benefit at an appropriate yield rate or by developing an overall rate that explicitly reflects the investment's income pattern, value change, and yield rate."[7]

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[6] Appraisal Institute, *The Appraisal of Real Estate*, 13th ed. (2008).

[7] *Id.*

The Cost Approach

The cost approach reflects market value by recognizing that market participants relate value to cost. The principle of substitution, *i.e.*, that no prudent buyer would pay more for a property than the cost to acquire a similar site and construct improvements of equal desirability and utility without undue delay, is basic to the cost approach. This approach involves three basic steps:

- Determining the cost to replace the improvements, which together with the land comprise a subject,
- Deducting both physical and economic depreciation (economic depreciation is determined through recourse to one or both of the other two valuation methods, thereby rendering the Cost Approach incapable of actually producing an independent value that could be used to verify the value indications obtained through the other two approaches), and
- Adding the cost of replacement less depreciation to the value of the underlying land.

The cost approach is relevant in those cases where reproduction or replacement cost is necessary, or for properties that have a Highest and Best Use that is not generally marketable.

I have considered the three approaches to determining market value (the Sales Comparison Approach, Income Approach, and Cost Approach) and relied entirely upon the Sales Comparison Approach as the basis for establishing "across-the-fence" market value. The SBRR Subject Properties are vacant land without improvements, and there are sufficient and comparable land sales in the vicinity of the proposed SBRR ROW to reach a reliable opinion of market value. The Income Approach was not used due to a lack of available data regarding comparable rental rates for vacant land without improvements. The cost approach is not relevant because the Subject Properties do not have improvements, and this appraisal does not value buildings or other improvements.

RIGHT-OF-WAY VALUATION METHODOLOGY

Mass appraisal methodologies were utilized as part of the Sales Comparison Approach to determine the aggregate retrospective market value both for SBRR ROW property physically inspected by FTI and for SBRR ROW that FTI did not physically inspect. The primary difference in methodology for Subject Properties inspected and not inspected by FTI regards the classification of ROW, which included identification of land use, determination of Highest and Best Use and changes in market conditions, and the quantification of acreage for each land use as needed to delineate Valuation Units along SBRR routes. FTI independently identified and inventoried Valuation Units for the portions of the SBRR ROW that it inspected, while relying on the SunBelt appraiser's land use classifications, Highest and Best Use, quantification of acreage and inventory of Valuation Units for the remaining SBRR ROW that FTI did not inspect. The analyses for both sets of Subject Properties were conducted using the following step-by-step process.

1. Comparable Sales Data Collection and Analysis

A. All Subject Properties

Sales data reported by CoStar, LoopNet, and CoreLogic data services[8] from January 1, 2006, to December 31, 2009,[9] was reviewed and analyzed as follows:

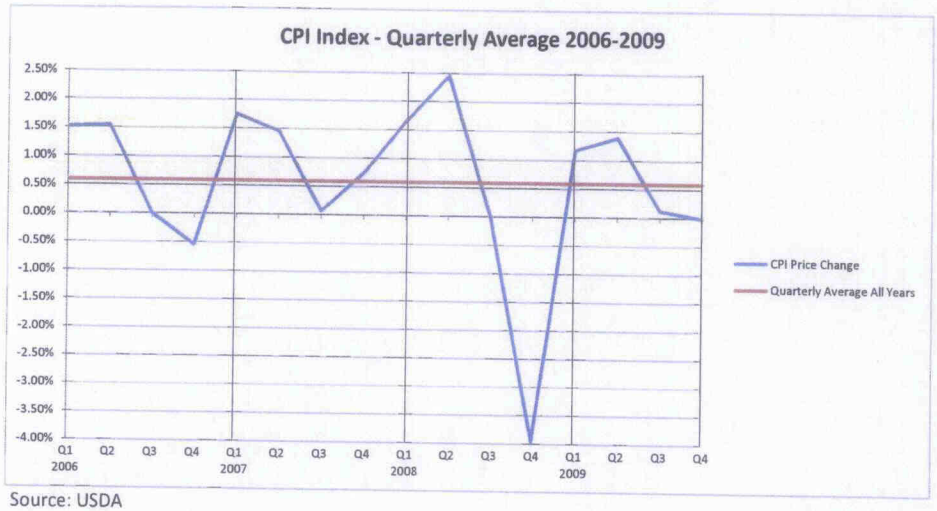
- Sales data was sorted by county and land use classification, *e.g.* agricultural (agricultural included comparable timberland sales supplied by SunBelt), industrial, residential, and commercial;
- Sales prior to July 1, 2007, were adjusted upwards for strong market conditions at a rate of .25% per month until July 1, 2007, which is consistent with the quarterly

[8] CoStar, LoopNet, and CoreLogic are recognized sources of real estate sales data routinely used by market participants including appraisers.

[9] Determined to be the logical cutoff date for the use of comparable sales as confirmation of market information and trends that would be reasonably considered by a buyer or seller.

Consumer Price Index (CPI) and the rate of appreciation discussed in the NS Valuation Indexing Report;

- Residential and commercial sales were adjusted downwards between July 1, 2007, and June 1, 2009, for declining market conditions at a rate of -1.3% per month based upon S&P and Moody's real estate market indices. Agriculture sales during the same time period demonstrated stable pricing and were not adjusted.



Source: USDA

- Transactions that were clearly inconsistent with the volume of market activity (*i.e.*, transactions with pricing well above the range of the predominate volume of transactions), as well as duplicate and incomplete data were deleted;
- The data was sorted again to correspond with complete SBRR routes; and
- The average comparable value per acre ("unit value") of vacant land without improvements was calculated for each land use classification and county.

In the event there was limited data for a county on a specific SBRR route, data from adjoining counties along the route and/or other similar routes within the state were utilized to calculate the average comparable value per acre of vacant land without improvements for a particular Valuation Unit. This conservative methodology was utilized for all Subject Properties physically inspected by FTI as well as for Subject Properties that were not inspected by FTI.

2. Classification of the Subject Properties and Identification of Valuation Units

A Valuation Unit is a portion of land on both sides of the SBRR ROW centerline (a Subject Property), whereby its length extends to the extent that each side has a consistent Highest and Best Use and a uniform market value. A Valuation Unit ends whenever there is a change in either the Highest and Best Use or the unit value across-the-fence on either side of the ROW.

A. Subject Properties Physically Inspected by FTI - Scope of Field Observations

A selected number of locations were physically inspected based in part on recognized variations in land use along particular SBRR routes in urban and suburban markets that are known to be densely developed and have a history of significant and ongoing market demand for real estate. The physical inspection process was performed by Mr. Arnold Tesh (now deceased). The following table presents the scope of Mr. Tesh's physical property inspections conducted between April 2011 and January 2012.

Figure 3: FTI Physical Property Inspections

States	Valuation Units	Miles	Acres	Valuation Units per Mile
Alabama	190	27	267	6.96
Louisiana	316	39	410	8.17
Total	506	66	678	15.13

Mr. Tesh's physical property inspections (seven days in duration) occurred on the following dates:

Metropolitan Area	Dates Visited
Birmingham, Alabama	April 7-8, 2011
Mobile, Alabama	April 13-14, 2011
New Orleans, Louisiana	January 10-12, 2012

The following table presents the percentage of miles, acres, Valuation Units and market value physically inspected by FTI between April 2011 and January 2012 as a percentage of the SBRR by state

and in its entirety. The percentages are calculated based on FTI's calculation of the number of miles of trackage and acreage for the SBRR. FTI physical inspections were conducted exclusively in urban areas and suburbs immediately adjacent to urban areas.

Figure 4: FTI Physical Property Inspections - Percentage of Entire SBRR

States	Valuation Units	Miles	Acres	Market Value
Alabama	25.6%	4.7%	3.9%	12.3%
Louisiana	42.6%	6.7%	6.0%	35.6%
Total	68.3%	11.4%	9.9%	47.8%

FTI's physical property inspections identified the variation in land use and changes in value along a particular SBRR route as the basis for identifying Valuation Units. The physical property inspections provided the opportunity to identify the across-the-fence Highest and Best Use, based in part on observations of market conditions and comparable sales in the immediate vicinity of the Subject Properties. FTI physically inspected both sides of the SBRR ROW and mapped and marked the land usage and value at the start of the portion of SBRR under inspection using DeLorme mapping software and a GPS device. A new marker would be noted on the map to delineate the start of a new Valuation Unit when a change in either the Highest and Best use or the unit value occurred.

B. Land Use Classification Procedures for Subject Properties Physically Inspected by FTI

FTI inspected typical parcels on each side of the SBRR's ROW that best represent the value-determining attributes (*e.g.*, Highest and Best Use, size, shape, topography, etc.) of the Subject Properties to be acquired as a basis for identifying Valuation Units.

Each typical parcel represents either a single abutting property or a series of essentially similar abutting properties. Abutting properties on both sides adjoining the SBRR's ROW were classified into the following land use categories:

- **A** – Agricultural - farming, grazing, stockyards, grain elevators, and agricultural support.
- **CO** – Office - single-tenant and multi-tenant buildings.
- **COT** – Commercial Other - freestanding, hotels, hospitals, nursing homes, mixed use, parking lots, and self-storage.
- **CR** – Retail - stores and other businesses selling or providing services to walk-in customers.
- **I** – Industrial - manufacturing, shipping, utilities, warehouses, and other non-public commercial uses.
- **M** – Multi-Family - attached residences, and those with a common area as well as condominiums, apartments, and retirement homes.
- **S** – Single-Family - attached or unattached residences with no or limited common area.
- **X** – Restricted - extreme terrain such as wetlands, lack of meaningful access, and other circumstances preventing an economic use in the foreseeable future.

This process provided part of the basis for grouping contiguous and homogenous parcels of SBRR ROW into individual and quantifiable Valuation Units along each route for comparison with appropriate local market sales.

C. Land Use Classification Procedures for Subject Properties <u>that were not</u> Physically Inspected by FTI

FTI relied on the SunBelt appraiser's classification of land use and its quantification and inventory of Valuation Units for the remainder of the SBRR that FTI did not physically inspect. It was assumed that the SunBelt appraiser's definition of a Valuation Unit included: either a single abutting

property or a consecutive series of abutting properties on the same side of SBRR's ROW, all having the same Highest and Best Use and relatively uniform value determining characteristics.

3. Valuation Process – Comparable Sales Approach

A. Subject Properties Physically Inspected by FTI

FTI methodically inspected individual properties adjoining the SBRR and reviewed and analyzed sales data for comparable properties to determine appropriate market values for SBRR ROW Valuation Units. The Valuation Unit was compared to the average unit value (per acre) of comparable sales and a market value was applied to each Valuation Unit.

The opposing sides of a SBRR Valuation Unit may differ from one another in use and/or market value. In such an instance, the cost of acquisition was determined using a blended unit value whereby the SBRR would acquire one-half of the ROW width from the respective landowners on each side of the ROW. This blended value equals one-half the unit value assigned to one side of the ROW plus one-half the unit value assigned to the opposing side. For example, if the west side of the ROW was valued at $1.60 per square foot and the east side of the ROW was valued at $1.00 per square foot then the blended unit value would be $1.30 per square foot.

B. Subject Properties <u>that were not</u> Physically Inspected by FTI

FTI utilized Valuation Units as determined by the SunBelt appraiser and performed the following procedures to complete the comparable sales approach and value Subject Properties that were not physically inspected by FTI. A Valuation Unit's market value was effectively based on the value of typical parcels abutting each side of the Valuation Unit.

- Review of aerial and ground photography, the SunBelt appraiser's determination of Highest and Best Use, and CoStar, LoopNet, and CoreLogic comparable sales data, and
- Determination of the average unit value (per acre) of each Valuation Unit based on its Highest and Best Use as supported by comparable sale data.

C. Supporting Rail Yards

Proposed SBRR supporting rail yards were valued as industrial land using the same methodologies applied to Subject Properties that *were not* physically inspected by FTI.

D. Riparian Rights

For SBRR ROW inspected by FTI, riparian rights were included as part of adjoining Valuation Units and valued as such.

E. Communications Facilities

Additional land to support communication towers is required approximately every 25 miles and each tower requires approximately 2.0 acres of land. FTI accepted the SunBelt appraiser's conclusion of value for communications sites.

F. Easements

The value of all easements on a fee simple basis was concluded using the same methodologies applied to Subject Properties physically inspected and not inspected by FTI. Each easement, as identified in the SunBelt appraisal, was assigned to its corresponding SBRR route and the appropriate value per acre was utilized to calculate its value. Recognizing that the value of an easement may not equate to comparable fee simple value, the fee simple value of all easements was removed from the valuation of SBRR land. However, NS is accustomed to paying for easements and the SBRR also would be expected to do so in order to effectively assemble SBRR land.

In accordance with the STB's discussion in the *Xcel Energy* case,[10] FTI indexed the actual historical cost of SBRR easements[11] to determine the value per acre as of the 2009 valuation date. FTI

[10] *Xcel Energy v. BNSF*, 7 S.T.B 589, 669 (2004) ("Because all of a SARR's investments should be valued at current costs, BNSF's estimate is used here. Xcel's evidence does not reflect the current value of obtaining the necessary easements.").

then calculated each state's average cost per easement acre and applied this value to all easement acreage in a particular state. The total value of all easements was then added to the valuation of SBRR land to account for the SBRR cost to acquire easements.

Conclusion of Market Values

FTI land use classifications of SBRR ROW Valuation Units, based on across-the-fence Highest and Best Use and changes in market conditions, were utilized for Subject Properties inspected by FTI. The SunBelt appraiser's SBRR ROW segments (Valuation Units) were utilized for Subject Properties that were not inspected by FTI. The average unit value of comparable sales was utilized to conclude the market value for Valuation Units.

The market values of Valuation Units were aggregated to conclude the overall market value for each route and subsequently the market value of Subject Property located in each state traversed by SBRR routes. The market values for all Valuation Units by state were subsequently aggregated to conclude the market value for the entire proposed SBRR ROW land acquisition.

In the instances when comparable sales data was unavailable or inconclusive, FTI utilized the SunBelt appraiser's conclusion of market value. These instances included and were limited to:

- Agricultural: Mississippi Route 1
- Industrial: Mississippi Route 1
- Rural Towns & Restricted Land: Various locations[12]

[11] Harps & Harps, Inc., Merit Real Estate Analysis Inc., & Rail Trac Associates, *Retrospective Appraisal of Land for SunBelt Chlor Alkali Partnership (SunBelt) Stand Alone Railroad (SAR) 578.24 Miles in Louisiana, Mississippi and Alabama as of July 31, 2011 for L.E. Peabody & Associates, Inc.* (2012). *Work papers\III-F-1\ SunBelt SAR Land Valuation - 2012.pdf.*

[12] Harps & Harps, Inc., Merit Real Estate Analysis Inc., & Rail Trac Associates, *Retrospective Appraisal of Land for SunBelt Chlor Alkali Partnership (SunBelt) Stand Alone Railroad (SAR) 578.24 Miles in Louisiana, Mississippi and Alabama as of July 31, 2011 for L.E. Peabody & Associates, Inc.* (2012). *Work papers\III-F-1\ SunBelt SAR Land Valuation - 2012.pdf.*

Reliance On SunBelt's Appraisal

FTI, in certain instances as noted in this report, utilized the SunBelt appraiser's determinations and conclusions to expedite our work. These instances included and are limited to:

- Land classification and quantification of Valuation Units for Subject Properties that were not physically inspected by FTI,
- Conclusions of Value for Subject Properties when comparable sale data was not readily available or inconclusive and time did not permit additional research, and
- Conclusions of Value for communications sites.

FTI's limited use of SunBelt's appraisal is not in any way a tacit endorsement of the SunBelt appraiser's methodology, data, or conclusions.

VALUATION

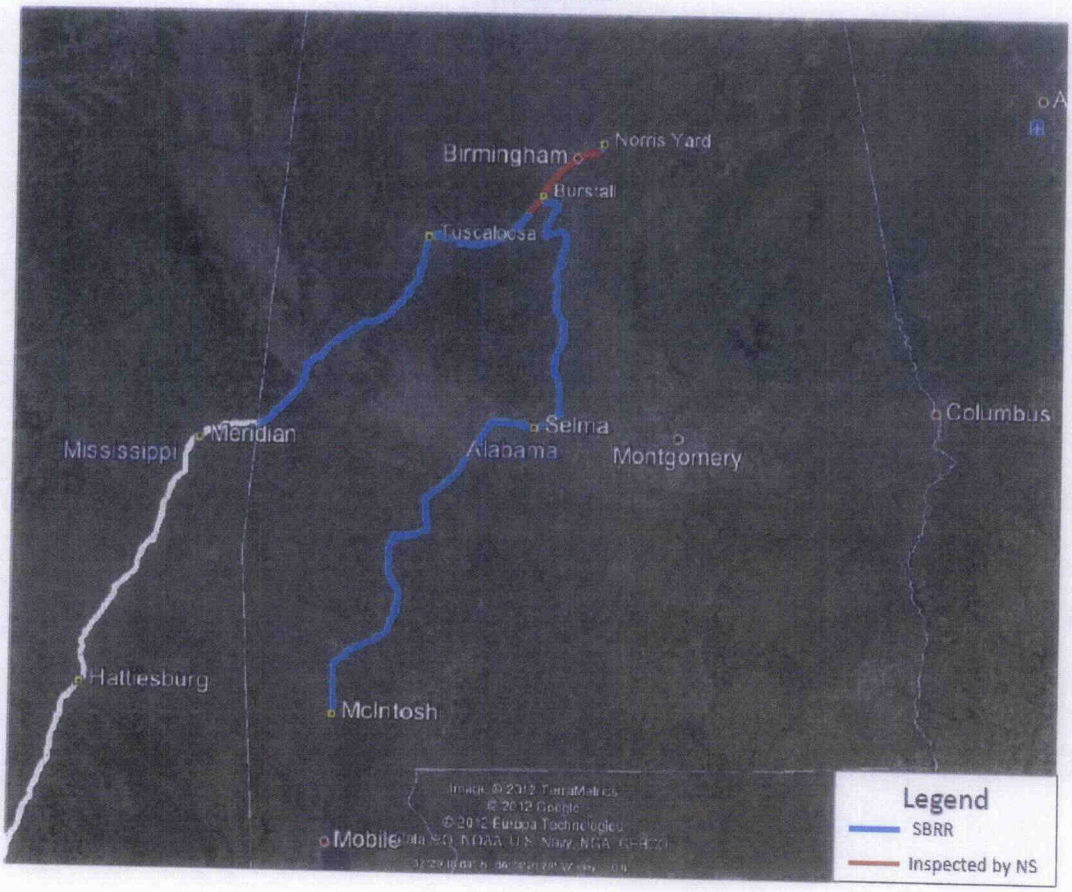
Alabama

Alabama consists of 5 routes that contain 324 Valuation Units and 356 miles.

FTI valued 4,231 acres for a total value of $89,914,000 as presented in the table below.

Route	Valuation Units	Miles	Acres	Market Value	Avg. Value Per Acre
Route 1: Birmingham, AL (Watts Jct to Irondale)	8	5	65	$4,019,000	$62,144
Route 2: Birmingham, AL (Irondale to Burstall)	168	22	200	$17,384,000	$86,946
Route 3: Birmingham, AL to New Orleans, LA	93	113	1,369	$34,418,000	$25,135
Route 4: Tuscaloosa, AL	7	4	32	$3,277,000	$101,256
Route 5: Burstall, AL to McIntosh, AL	48	212	2,565	$30,816,000	$12,016
Total	324	356	4,231	$89,914,000	$21,252

Alabama



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Route 1: Birmingham, AL (Watts Jct to Irondale)

This route contains 5 miles and 8 Valuation Units. As presented in the table below, FTI valued 65 acres for a total value of $4,019,000.

Route	Acres Inspected	Acres Not Inspected	Total Acres	Sites Inspected	Sites Not Inspected	Total Market Value
Route 1: Birmingham, AL (Watts Jct to Irondale)	**12**	**53**	**65**	**$784,000**	**$3,235,000**	**$4,019,000**
Residential	0	-	0	$50,000	$0	$50,000
Industrial	11	33	44	$566,000	$1,731,000	$2,297,000
Commercial	1	7	7	$168,000	$1,497,000	$1,665,000
Agricultural	-	-	-	$0	$0	$0
Rural Town	-	-	-	$0	$0	$0
Restricted	-	13	13	$0	$7,000	$7,000

Route	Avg. Value Per Acre Inspected	Avg. Value Per Acre Not Inspected	Avg. Value Per Acre Overall
Route 1: Birmingham, AL (Watts Jct to Irondale)	**$65,635**	**$61,353**	**$62,144**
Residential	$118,854	$0	$118,854
Industrial	$52,499	$52,503	$52,502
Commercial	$226,076	$226,610	$226,556
Agricultural	$0	$0	$0
Rural Town	$0	$0	$0
Restricted	$0	$532	$532

Route 2: Birmingham, AL (Irondale to Burstall)

This route contains 22 miles and 168 line segments. As presented in the tables below, FTI valued 200 acres for a total value of $17,384,000.

Route	Acres Inspected	Acres Not Inspected	Total Acres	Sites Inspected	Sites Not Inspected	Total Market Value
Route 2: Birmingham, AL (Irondale to Burstall)	**190**	**10**	**200**	**$16,201,000**	**$1,184,000**	**$17,384,000**
Residential	71	10	81	$8,347,000	$1,184,000	$9,531,000
Industrial	109	-	109	$5,714,000	$0	$5,714,000
Commercial	9	-	9	$2,139,000	$0	$2,139,000
Agricultural	-	-	-	$0	$0	$0
Rural Town	1	-	1	$0	$0	$0
Restricted	-	-	-	$0	$0	$0

Route	Avg. Value Per Acre Inspected	Avg. Value Per Acre Not Inspected	Avg. Value Per Acre Overall
Route 2: Birmingham, AL (Irondale to Burstall)	**$85,296**	**$118,400**	**$86,946**
Residential	$118,363	$118,400	$118,368
Industrial	$52,509	$0	$52,509
Commercial	$226,585	$0	$226,585
Agricultural	$0	$0	$0
Rural Town	$0	$0	$0
Restricted	$0	$0	$0

Route 3: Birmingham, AL to New Orleans, LA

This route contains 113 miles and 93 line segments. As presented in the tables below, FTI valued 1,369 acres for a total value of $34,418,000.

Route	Acres Inspected	Acres Not Inspected	Total Acres	Sites Inspected	Sites Not Inspected	Total Market Value
Route 3: Birmingham, AL to New Orleans, LA	**66**	**1,304**	**1,369**	**$6,640,000**	**$27,778,000**	**$34,418,000**
Residential	49	177	226	$5,742,000	$15,865,000	$21,608,000
Industrial	17	53	70	$898,000	$2,982,000	$3,880,000
Commercial	-	15	15	$0	$3,281,000	$3,281,000
Agricultural	-	875	875	$0	$4,706,000	$4,706,000
Rural Town	-	92	92	$0	$921,000	$921,000
Restricted	-	91	91	$0	$23,000	$23,000

Route	Avg. Value Per Acre Inspected	Avg. Value Per Acre Not Inspected	Avg. Value Per Acre Overall
Route 3: Birmingham, AL to New Orleans, LA	**$101,210**	**$21,307**	**$25,135**
Residential	$118,357	$89,462	$95,673
Industrial	$52,539	$56,232	$55,332
Commercial	$0	$216,546	$216,546
Agricultural	$0	$5,378	$5,378
Rural Town	$0	$10,004	$10,004
Restricted	$0	$252	$252

Route 4: Tuscaloosa, AL

This route contains 4 miles and 7 line segments. As presented in the tables below, FTI valued 32 acres for a total value of $3,277,000.

Route	Acres	Market Value	Avg. Value Per Acre
Route 4: Tuscaloosa, AL	**32**	**$3,277,000**	**$101,256**
Residential	10	$862,000	$89,453
Industrial	17	$1,195,000	$69,920
Commercial	6	$1,220,000	$216,452
Agricultural	-	$0	$0
Rural Town	-	$0	$0
Restricted	-	$0	$0

Route 5: Burstall, AL to McIntosh, AL

This route contains 212 miles and 48 line segments. As presented in the tables below, FTI valued 2,565 acres for a total value of $30,816,000.

Route	Acres	Market Value	Avg. Value Per Acre
Route 5: Burstall, AL to McIntosh, AL	**2,565**	**$30,816,000**	**$12,016**
Residential	192	$13,511,000	$70,215
Industrial	113	$7,073,000	$62,812
Commercial	4	$837,000	$222,750
Agricultural	2,138	$8,274,000	$3,870
Rural Town	116	$1,120,000	$9,665
Restricted	2	$1,000	$485

Louisiana

Louisiana consists of 2 routes that contain 327 valuations units and 50 miles.

FTI valued 544 acres for a total of $79,680,000.

Route	Valuation Units	Miles	Acres	Market Value	Avg. Value Per Acre
Route 1: Birmingham, AL to New Orleans, LA	65	30	369	$20,763,000	$56,336
Route 2: New Orleans, LA	262	19	175	$58,917,000	$335,738
Total	327	50	544	$79,680,000	$146,460

Louisiana

FTI CONSULTING

Route 1: Birmingham, AL to New Orleans, LA

This route contains 30 miles and 65 Valuation Units. As presented in the table below, FTI valued 369 acres for a total of $20,763,000.

Route	Acres Inspected	Acres Not Inspected	Total Acres	Sites Inspected	Sites Not Inspected	Total Market Value
Route 1: Birmingham, AL to New Orleans, LA	**235**	**134**	**369**	**$9,519,000**	**$11,244,000**	**$20,763,000**
Residential	23	29	52	$1,231,000	$1,690,000	$2,921,000
Industrial	12	27	39	$3,624,000	$8,268,000	$11,892,000
Commercial	17	2	19	$4,480,000	$416,000	$4,896,000
Agricultural	-	63	63	$0	$857,000	$857,000
Rural Town	183	-	183	$183,000	$0	$183,000
Restricted	-	13	13	$0	$13,000	$13,000

Route	Avg. Value Per Acre Inspected	Avg. Value Per Acre Not Inspected	Avg. Value Per Acre Overall
Route 1: Birmingham, AL to New Orleans, LA	**$40,510**	**$84,177**	**$56,336**
Residential	$53,209	$57,973	$55,865
Industrial	$307,908	$307,950	$307,937
Commercial	$263,977	$264,000	$263,979
Agricultural	$0	$13,676	$13,676
Rural Town	$999	$0	$999
Restricted	$0	$975	$975

Route 2: New Orleans, LA

This route contains 19 miles and 262 Valuation Units. As presented in the table below, FTI valued 175 acres for a total of $58,917,000.

Route	Acres Inspected	Acres Not Inspected	Total Acres	Sites Inspected	Sites Not Inspected	Total Market Value
Route 2: New Orleans, LA	**175**	**-**	**175**	**$58,917,000**	**$0**	**$58,917,000**
Residential	90	-	90	$30,861,000	$0	$30,861,000
Industrial	56	-	56	$9,984,000	$0	$9,984,000
Commercial	30	-	30	$18,072,000	$0	$18,072,000
Agricultural	-	-	-	$0	$0	$0
Rural Town	-	-	-	$0	$0	$0
Restricted	-	-	-	$0	$0	$0

Route	Avg. Value Per Acre Inspected	Avg. Value Per Acre Not Inspected	Avg. Value Per Acre Overall
Route 2: New Orleans, LA	**$335,738**	**$0**	**$335,738**
Residential	$341,162	$0	$341,162
Industrial	$179,883	$0	$179,883
Commercial	$612,114	$0	$612,114
Agricultural	$0	$0	$0
Rural Town	$0	$0	$0
Restricted	$0	$0	$0

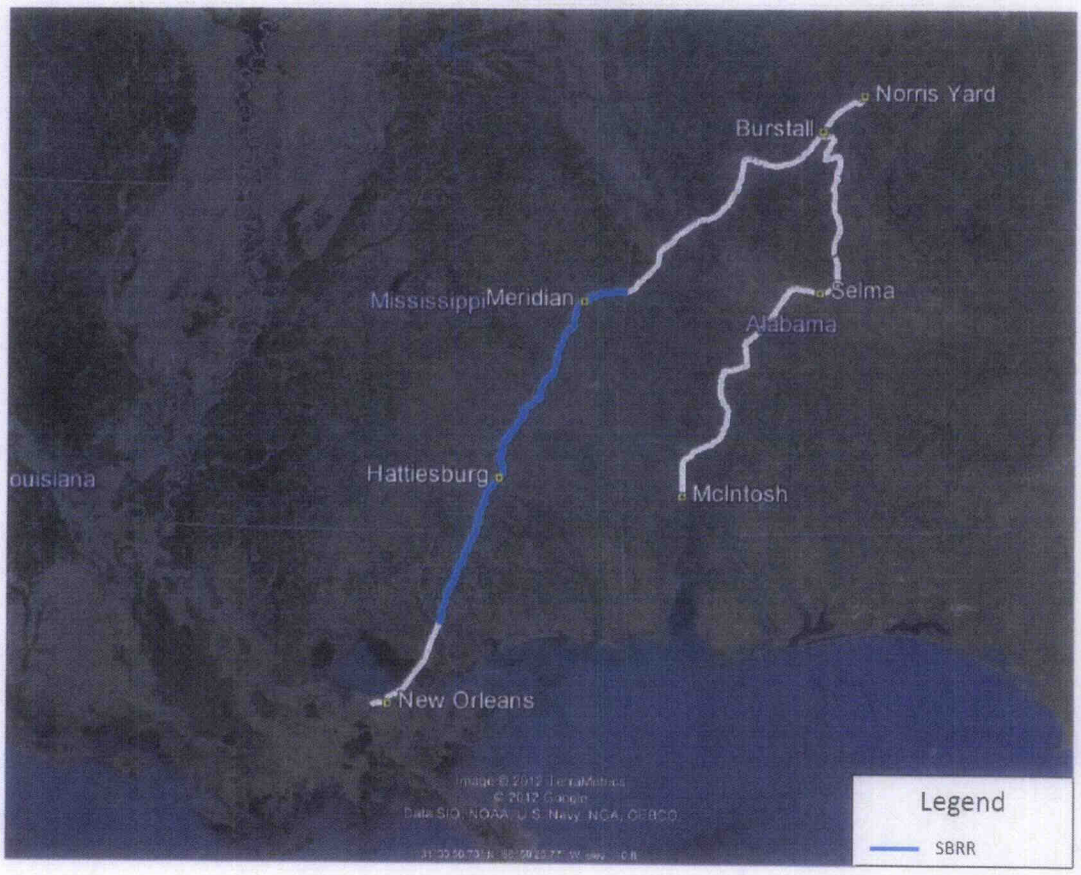
Mississippi

Mississippi consists of 1 route that contains 90 Valuation Units and 171 miles.

FTI valued 2,077 acres for a total of $22,911,000.

Route	Valuation Units	Miles	Acres	Market Value	Avg. Value Per Acre
Route 1: Birmingham, AL to New Orleans, LA	90	171	2,077	$22,911,000	$11,031
Total	90	171	2,077	$22,911,000	$11,031

Mississippi



Route 1: Birmingham, AL to New Orleans, LA

This route contains 171 miles and 90 Valuation Units. As presented in the table below, FTI valued 2,077 acres for a total of $22,911,000.

Route	Acres	Market Value	Avg. Value Per Acre
Route 1: Birmingham, AL to New Orleans, LA	**2,077**	**$22,911,000**	**$11,031**
Residential	134	$487,000	$3,629
Industrial	186	$9,419,000	$50,574
Commercial	43	$6,157,000	$142,284
Agricultural	1,560	$4,679,000	$3,000
Rural Town	144	$2,167,000	$14,998
Restricted	9	$2,000	$216

Supporting Rail Yards

FTI valued 378 acres of SBRR yards for a total value of $35,348,000 as presented in the following table below.

Type of Yard/Facility	Yard/Facility	Acreage	Industrial $ per acre	Market Value
Small IM Facility	Birmingham, AL	28.06	$ 52,510	$ 1,473,000
Hump yard	Birmingham, AL	148.58	$ 52,510	$ 7,802,000
Industrial Sup. Yard	Boligee, AL	1.03	$ 60,356	$ 62,000
Industrial Sup. Yard	Breyer, MS	0.86	$ 60,000	$ 52,000
Industrial Sup. Yard	Dragon, MS	0.69	$ 45,000	$ 31,000
Small flat yard	Hattiesburg, MS	7.23	$ 45,000	$ 325,000
Industrial Sup. Yard	Jackson, AL	0.86	$ 66,181	$ 57,000
Industrial Sup. Yard	Kimbrough, AL	0.86	$ 66,181	$ 57,000
Industrial Sup. Yard	Livingston, AL	0.34	$ 60,356	$ 21,000
Industrial Sup. Yard	MacMillan, AL	0.69	$ 66,181	$ 46,000
Industrial Sup. Yard	Maplesville, AL	1.03	$ 66,181	$ 68,000
Industrial Sup. Yard	Marion Jct., AL	0.86	$ 66,181	$ 57,000
Medium flat yard	Mcintosh, AL	35.67	$ 66,181	$ 2,361,000
Medium flat yard	Meridian, MS	24.49	$ 60,000	$ 1,470,000
Small IM Facility	New Orleans, LA	28.06	$ 190,050	$ 5,333,000
Small Auto Facility	New Orleans, LA	26.62	$ 190,050	$ 5,059,000
Medium flat yard	New Orleans, LA	49.60	$ 190,050	$ 9,427,000
Industrial Sup. Yard	Richburg, MS	0.69	$ 45,000	$ 31,000
Industrial Sup. Yard	Ryan, AL	0.69	$ 88,967	$ 61,000
Industrial Sup. Yard	Sargon, AL	0.34	$ 52,510	$ 18,000
Small flat yard	Selma, AL	11.69	$ 66,181	$ 774,000
Industrial Sup. Yard	Shows Field, MS	0.69	$ 45,000	$ 31,000
Industrial Sup. Yard	Tuscaloosa, AL	1.03	$ 69,893	$ 72,000
Industrial Sup. Yard	Vance, AL	1.38	$ 69,893	$ 96,000
Small flat yard	Wilton, AL	6.34	$ 88,967	$ 564,000
Total		378		$35,348,000

Land Value for Communications Facilities

The total land value for communications facilities was $1,937,000 based on 50 acres that was accepted from SunBelt.

Easements

The following table represents the easement values reduced from the total fee simple valuation and the total cost of the SBRR acreage that is added back to the total fee simple valuation.

Easement / Land Use Agreements Adjusted Fee Simple Land Value				
State	Total Fee Simple Land Valuation	Fee Simple Land Values for Easement Areas	Total SRR Cost For Easement Acreage	Adjusted Fee Simple Land Value
Alabama	$89,914,037	($5,337,000)	$54,572	$84,631,609
Louisiana	$79,679,569	($5,980,000)	$29,127	$73,728,697
Mississippi	$22,911,012	($794,000)	$346,804	$22,463,816
TOTAL NS SAR	$192,504,618	($12,111,000)	$430,503	$180,824,121

CONCLUSION OF RETROSPECTIVE MARKET VALUE FOR THE SBRR ROW

In total, the appraised SBRR ROW traverses 577 miles and covers 6,852 acres. The Aggregate Retrospective Market Value of the SBRR's proposed ROW acquisition as of July 1, 2009 is appraised at $218,110,000. Comparable sale data, unit values, and corresponding analyses associated with each of the 741 Valuation Units are listed in the accompanying work papers used to produce our findings and attached to this report.

Summary

The table below summarizes FTI's Conclusion of Value for the SBRR appraised herein.

Component of Valuation	Acres	Market Value	Avg. Value Per Acre [1]
ROW - Fee Simple Value	6,852	$192,505,000	$28,095
Land Value for Yards	378	$35,348,000	$93,416
Land Value for Communications Facilities	50	$1,937,000	$38,740
Less: Land Value for Easement Areas	273	($12,111,000)	($44,427)
Plus: Cost for DRR Easement Areas	273	$431,000	$1,581
Total Valuation	7,280	$218,110,000	$29,959

Notes:
1. Total average value per acre does not include easement acres.

ASSUMPTIONS AND LIMITING CONDITIONS

This Restricted Use Appraisal Report of a Retrospective Appraisal complies with the requirements set forth under Standard Rule 2-2c of the Uniform Standard of Professional Appraisal Practice ("USPAP"). All supporting documentation concerning the data, reasoning, and analyses supporting this appraisal is available for use in STB Docket No. NOR 42130 and is contained in our work papers. The information contained in this report is specific to the needs of the client and for the intended use stated in this report. FTI is not responsible for any unauthorized use of this report.

The following assumptions are underlying predicates to the determination of the aggregate market value conclusion. For the purpose of this appraisal, it is assumed that:

1. NS's ROW and associated rail improvements do not exist as of the July 1, 2009 appraisal date.
2. In the absence of NS, the size, shape, topography, highest and best uses[13] and unit values of those parcels abutting the subject would be the same as they are with the existence of NS. Therefore, property acquired in assembling the subject has a unit price equal to the unit value of typical abutting across-the-fence parcels.
3. The right of way to be acquired is 100 feet wide - except in certain towns and cities where it is 75 feet wide.
4. Half of the subject would have been acquired from the respective abutting property interests on each of its two sides.
5. The interest acquired excludes rights to oil, coal, or precious minerals.
6. The following acquisition costs are disregarded: brokerage fees; legal and accounting fees; insurance; surveys; appraisals; title search; transfer taxes; landowner association fees; special assessments; permits for non-conforming use; subdivision fees; condition assessments and surveys; demolition, relocation or rehabilitation of improvements on

[13] Defined as the use that produces the highest land value. It is subject to certain limitations discussed under "Highest and Best Use" in this report.

abutting parcels; severance damages; and damages for creating any landlocked parcels not included in the acquisition.

7. FTI has not included an assemblage premium.
8. Title to the property is good and marketable – the property is appraised free and clear of any and all other liens and encumbrances, except for leases cited herein.
9. Information furnished by others is reliable.
10. There are no hidden conditions of the property, subsoil, or structures that render it more or less valuable.
11. All applicable zoning and use regulations and restrictions that have been compiled are assumed to be reliable.
12. All required zoning, licenses, certificates of occupancy or other legislative or administrative authority from any local, state, or national governmental entity or private organization have been or can be obtained or renewed for any use on which the value conclusions contained in this report are based.
13. The use of the land is within the boundaries or property lines of the property described and there is no encroachment or trespass.
14. No property is encumbered by leasehold interests.
15. Numbers are rounded to the nearest thousand.

The report's issuance and use is subject to the following limitations:

1. Possession of this report, or a copy of it, does not carry the right of publication. Without specific written consent, it may not be used for any purpose by any person other than NS, SunBelt, the STB or a court hearing and/or appeal of the rate proceeding for which this report was prepared.
2. Neither all nor any part of the contents of this report (especially any conclusions as to value, the identity of the appraiser, or the firm with which the appraiser is connected) shall be distributed to the public through advertising, public relations, news sales, or other media without prior written consent and approval of the appraiser, except to the

extent this information is disclosed in an opinion issued the STB or in a court hearing and/or on appeal of the rate proceeding for which this report was prepared.

3. The report may be used only in its entirety. Separation of any page from this report invalidates its conclusions.

Extraordinary Assumptions

An extraordinary assumption is defined by the USPAP as "an assumption, directly related to a specific assignment, which, if found to be false, could alter the appraiser's opinions or conclusions. Extraordinary assumptions presume as fact otherwise uncertain information about physical, legal or economic characteristics of the Subject Property; or about conditions external to the property, such as market conditions or trends; or about the integrity of data used in an analysis."

This appraisal assumes no extraordinary assumptions.

Hypothetical Conditions

A hypothetical condition is defined by the USPAP as "that which is contrary to what exists but is supposed for the purpose of analysis. Hypothetical conditions assume conditions contrary to known facts about physical, legal, or economic characteristics of the Subject Property; or about conditions external to the property, such as market conditions or trends; or about the integrity of data used in an analysis."

This assignment involves a hypothetical condition. The valuation is to determine the cost of acquiring land to build a railroad. It is based on the hypothetical condition that SunBelt will build a railroad, primarily along land that is assumed not to be, but actually is, occupied by the NS railroad. The land that will be hypothetically used by SunBelt to build its own railroad is assumed to be vacant without improvements and part of adjacent parcels. The values of the adjacent or abutting parcels are appraised to determine what it would cost to acquire land so as to enable SunBelt to build a railroad that would

begin service in 2011. The NS routes utilized to identify ROW to be acquired for the SBRR were identified by SunBelt.

CERTIFICATION OF MICHAEL P. HEDDEN, MAI, CRE, FRICS

The undersigned do hereby certify that to the best of my knowledge and belief:

- the statements of fact contained in this report are true and correct.
- the reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
- I have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved.
- I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
- My engagement in this assignment was not contingent upon developing or reporting predetermined results.
- My compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
- The analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice and the Code of Professional Ethics and the Standards of Professional Practice of the Appraisal Institute.
- The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
- I have not provided any service involving this property in the previous three years.
- Arnold Tesh, Mark Dunec and Chris Collins provided significant real property appraisal assistance to the person signing this certification.
- As of the date of this report, Michael P. Hedden, MAI, CRE, FRICS has completed the requirements of the continuing education program of the Appraisal Institute.

Michael P. Hedden, MAI, FRICS, CRE
Managing Director
FTI Consulting, Inc.

QUALIFICATIONS OF MICHAEL P. HEDDEN MAI, FRICS, CRE

Professional Qualifications
Michael P. Hedden

Current Role:

Managing Director

FTI Consulting Inc. - Real Estate Solutions

Michael P. Hedden is a managing director in the FTI Real Estate Solutions practice and is based in New York. Mr. Hedden specializes in providing valuation, litigation support and expert testimony services for clients. He is a knowledgeable real estate expert with over 30 years of experience in all aspects of the market analysis and valuation of real property. Mr. Hedden has experience in the appraisal of industrial, commercial, residential and special purpose property including hospitality, hospital and healthcare facilities. He has developed broad experience in the valuation of properties with detrimental conditions and is a recognized expert in the valuation of property suffering from environmental contamination

Mr. Hedden has experience in the valuation of investment and user-based specialized real estate and real estate-related enterprises. He has appraised properties in many U.S. states. Purposes have included property tax, financial reporting, financing, purchase or sale, insurance, fair rental, tax reporting, condemnation, and donation. Advisory services performed by Mr. Hedden have included appraisal review, market research, appraisal management, and o Mr. Hedden has significant expert testimony experience and has appeared before the U.S. District Court, Superior Court of New Jersey, U.S. Bankruptcy Court, New Jersey State Tax Court, New Jersey Legislature Committee, and various condemnation and zoning boards.

A member of the Appraisal Institute (MAI) and the Counselors of Real Estate (CRE) and a distinguished Fellow of the Royal Institute of Chartered Surveyors (FRICS), Mr. Hedden earned a Master of City and Regional Planning (M.C.R.P.) degree from The Edward J. Bloustein School of Planning and Public Policy at Rutgers University and a Bachelor of Science degree in marketing from the University of Bridgeport. He has been a licensed real estate broker in New Jersey since 1978. In addition, Mr. Hedden holds general certified real estate appraiser licenses in New York, New Jersey, Connecticut, Massachusetts, Pennsylvania, Delaware, Maryland, Virginia, Georgia, Florida, California and Washington.

Expert Testimony/Depositions:

Borough of Carteret, etc. v. CDI Industries, Inc., et al., Docket No. MID-L-4534-05, Superior Court of New Jersey, Middlesex County

New Brunswick Housing Authority v. New Brunswick Industries, Superior Court of New Jersey, Middlesex County

Action Manufacturing Company v. Simon Wrecking Company, Civil Action No. 02-8964, U.S District Court, Eastern District of Pennsylvania

United States of America and The Chemclene Site Defense Group v. Chemclene Corporation, W. Lloyd Balderston, Estate of Ruth Balderston and Springridge Management Corporation, Inc.

Omega Healthcare Investors, Inc. v. Res-Care Health Services, Inc., et al., Metuchen I, LLC v. Borough of Metuchen, Docket No. 00878 2000, Tax Court of New Jersey, March 29, 2004

Reliance Trust Company v. Greater Exodus Missionary Baptist Church, Docket No. F-12330-02, Superior Court of New Jersey, Atlantic County, New Jersey

New Jersey Turnpike Authority v. Michael Feldman Associates, et al., Docket No. BURL-L-2519-97, Superior Court of New Jersey, Burlington County, New Jersey

Hans and Helena Tielmann v. Camp Dresser & McKee, Inc., et al., Docket No. L-1559-00, Superior Court of New Jersey, Law Division, Morris County, New Jersey

Custom Distribution Services, Inc. v. City of Perth Amboy, Nos. 95-37206, 95-3218, U.S. Bankruptcy Court D. New Jersey, December 17, 1997

Shakelly v. DeFilippo et. als. Docket Number MID-L-5201-06 Superior Court of New Jersey, Middlesex County

Pansini Custom Design Associates, LLC and Roger Parkin Joint Venture v. City of Ocean City and Patrick Newton, Construction Code Official of the City of Ocean City, Docket No. A-2003-0 17 T1, Superior Court of New Jersey, Atlantic County

New Jersey Department of Transportation v. Bellemead Development Corp., Commissioners Hearing, Somerset County New Jersey

Borough Of Paulsboro vs. Essex Chemical Corporation, Superior Court of New Jersey Law Division - Gloucester County Docket No. Glo-L-699-06

MT Ventures vs. Mount Freedom Golf Partners, Chancery Division, Morris County, New Jersey - Docket No. MRS-C-65-09

The People of the State of New York v. First American Corporation and First American eAppraiseIT (Supreme Court, N.Y. Co., Index No. 07-406796)

Textron Financial-New Jersey, Inc v.Herring Land Group, LLC, Case No. 3:06-cv-02585-MLC_DEA, U.S. District Court, District of New Jersey, Trenton Division,

Bayonne Medical Center v. Bayonne/Omni Development, L.L.C., Case No. 07-15195 (MS), United States Bankruptcy Court, District of New Jersey, In re Bayonne Medical Center

Case No. 1:99-cv-862, U.S. District Court, Southern District of Indiana

Reported Decisions:

Metuchen I, LLC v. Borough of Metuchen, Docket No. 00878 2000, Tax Court of New Jersey, March 29, 2004

Custom Distribution Services, Inc. v. City of Perth Amboy, Nos. 95-37206, 95-3218, U.S. Bankruptcy Court D. New Jersey, December 17, 1997

Pansini Custom Design Associates, LLC and Roger Parkin Joint Venture v. City of Ocean City and Patrick Newton, Construction Code Official of the City of Ocean City, Docket No. A-2003-0 17 T1, Superior Court of New Jersey, Appellate Division

Publications:

2003 Lender Survey: Preferences in Financing Senior Housing and Long Term Care Projects, Maryland: National Investment Center for Senior Housing & Care Industries and CBIZ Valuation Group, Inc., 2003 (coauthored with David A. Arnoldi)

Residential Redevelopment of Brownfields: What Are the Valuation Issues?, New Jersey: National Center for Neighborhood and Brownfields Redevelopment, Edward J. Bloustein School of Planning and Public Policy, Rutgers University, 1999 (coauthored with Jan Wells PhD)

Presentations:

"The Use of Rent Coverage Ratios in the Valuation of Healthcare Properties," The 24th Pan Pacific Congress of Real Estate Appraisers, Valuers and Counselors, Seoul, Korea, September 2008

"Fair Value and Highest and Best Use - The Real Estate Perspective," AICPA National Real Estate Conference, Las Vegas, Nevada, November 2007

"Mock Trial" and "Takings of Unique or Special Properties," Eminent Domain Conference, CLE

International, Princeton, New Jersey, October 2007

"Condemnation Valuation - Its Impact on Your Property and Your Projects," Eminent Domain Conference, CLE International, Princeton, New Jersey, October 2006

"Valuation of Contaminated Property," New Jersey County Tax Board Administrators, March 2002

"Appraisal Process Considering Environmental Impairments," Realtors' Tri-State Convention and Trade Show, Atlantic City, New Jersey, December 2000 (panelist)

"Residual Redevelopment of Brownfields: What are the Valuation Issues?," The Bloustein School of Planning and Public Policy at Rutgers University, November 1999 (leader of symposium)

"How to Buy and Sell Contaminated Property - Appraising Contaminated Properties," Institute of Continuing Legal Education in New Jersey (presenter)

"Litigation Issues Relating to MTBE Drinking Water Contamination," Institute of Continuing Legal Education in New Jersey (presenter)

"Transactional and Litigation Pitfalls in the Sale of Residential and Commercial Real Estate," New Jersey Institute for Continuing Legal Education, New Brunswick, New Jersey, January 14, 2010.

"Real Estate and Land Valuation in Depressed Markets," Lorman Education Services, Webinar, October 5, 2010.

"Commercial Property Assessing in Distressed Markets," Society of Professional Assessors - Annual New Jersey Seminar, East Rutherford, New Jersey, April 9, 2010.

"Easement Valuations: Common Pitfalls and Principles," Lorman Education Services, Webinar, December 3, 2009.

"International Financial Reporting Standards (IFRS) - Introduction to Valuation for Financial Reporting and Case Studies," IAAO/RICS 2010 Commercial Real Estate Symposium, Baltimore, Washington, March 18, 2010.

Prior Employment:

American Appraisal Associates, New York, *Managing Director* 2007 – 2010

Mr. Hedden served as a Managing Director and the Northeast Practice Leader for the U.S. Real Estate and related assets practice of American Appraisal.

CBIZ Valuation Group, New Jersey, *Director of Real Estate* 2003 - 2007

Mr. Hedden served as the Director of Real Estate for CBIZ Valuation group. In this capacity he ran the real estate valuation, consulting and litigation practice on a national level.

Michael P. Hedden, MAI Inc., d/b/a Realty Economics Group, *President* 1990 – 2002

Mr. Hedden served as the President and leader of this Real Estate Consulting and Appraisal firm for various government, public and private entities throughout New Jersey.

Martin, Benner, Pintinalli, Hedden, Inc., *Vice President* 1988 – 1990

Mr. Hedden served as a Real Estate Consultant for various government,

public and private entities.

Hedden – Izenberg Appraisal Associates, *President* 1987 – 1988

Mr. Hedden ran this Real Estate appraisal and consulting firm which provided a full spectrum of narrative appraisals and documents.

Landauer Associates, Inc., *Vice President* 1985 – 1987

Mr. Hedden was part of the valuation and technical services division which was responsible for national real estate counseling.

Glander Bates Associates, *Appraiser/Consultant* 1983 – 1985

Barkan Associates, *Staff Appraiser* 1982 – 1983

Patrick L. Hedden Realty Company, Vice President 1976 – 1981

Mr. Hedden was actively involved with this full service brokerage company servicing central New Jersey.

Professional Memberships:

Appraisal Institute, MAI Designated Member #7357

Counselors of Real Estate, CRE Member # 2158

Royal Institute of Chartered Surveyors, FRICS Member # 1227210

Professional Licenses:

State of California, Certified General Real Estate Appraiser, #AGO36595

State of Connecticut, Certified General Real Estate Appraiser, #RCG0001042

State of Delaware, Certified General Real Property Appraiser, #X1-0000397

State of Florida, Certified General Appraiser, #RZ3081

State of Georgia, Certified General Real Property Appraiser, #280761

State of Maryland, State Certified General Appraiser, #11924

Commonwealth of Massachusetts, State Certified General Appraiser, #100962

State of New Jersey, Certified General Appraiser, #RG00206

State of New Jersey, Real Estate Broker, #RB7814861

State of New York, Real Estate General Appraiser, #46000041828

Commonwealth of Pennsylvania, Certified General Appraiser, #GA001660R

Commonwealth of Virginia, Certified General Real Estate Appraiser, #4001009126

State of Washington, Certified General Real Estate Appraiser, #1101650

Education:

B.S. in Marketing, University of Bridgeport
Master City Regional Planning (M.C.R.P.)., Rutgers University

Rebuttal Aerials

Alabama

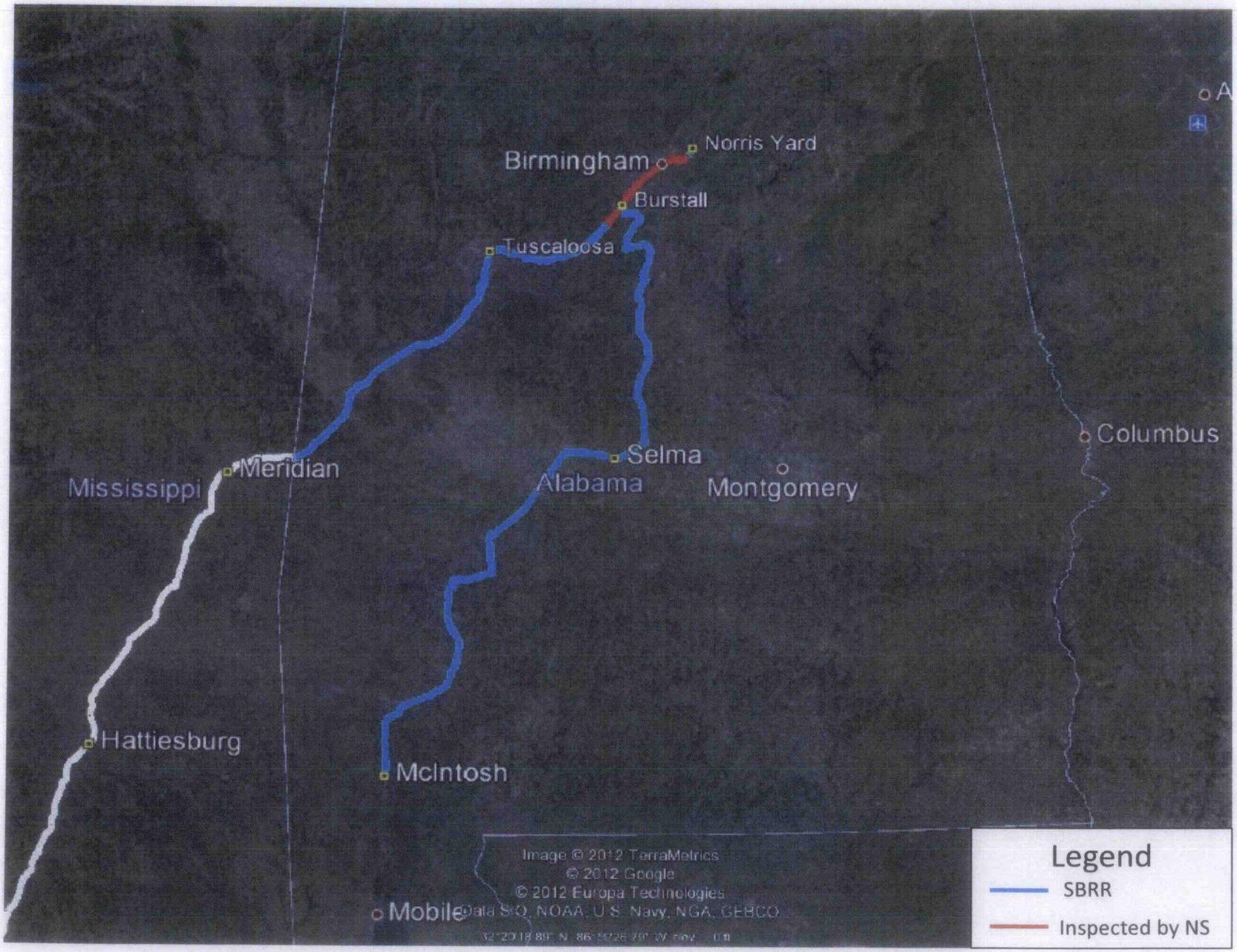


Exhibit III-F-4

Rebuttal Aerials

Birmingham Metro Area		5.4	Miles
Aerial No.	A-BHM-01	5	NS Val-units
		3	Sunbelt Units
Acquisition Cost		65.6	Acres
$6,639,923		$101,209	$/Acre

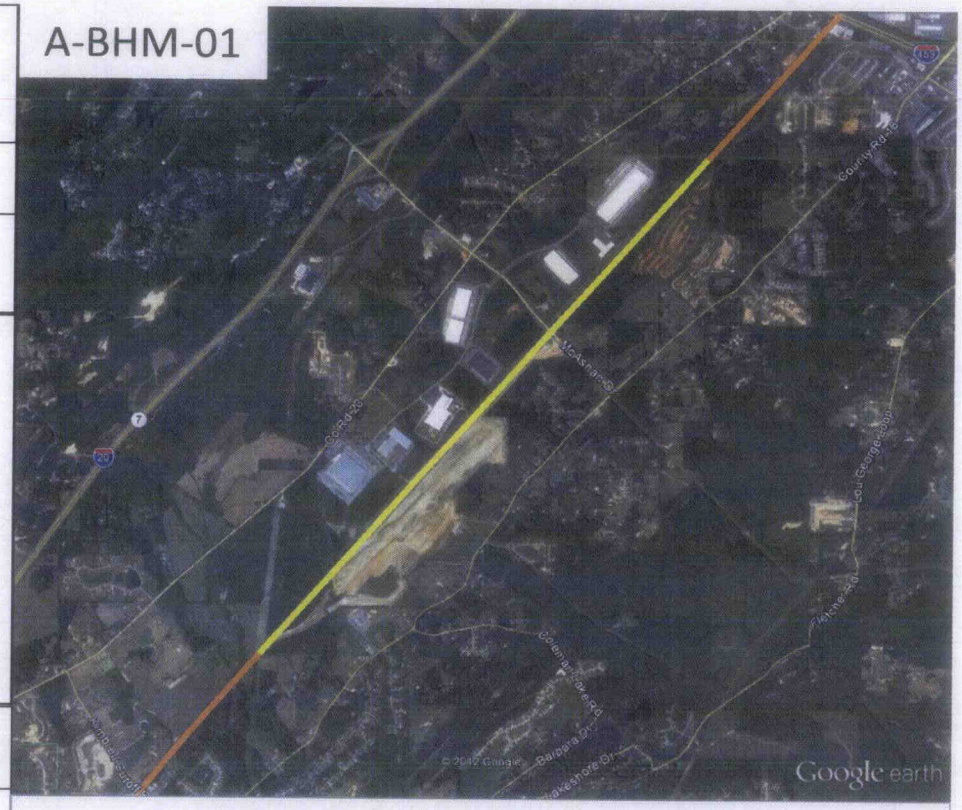
Ranges in Cost/Acre:		Left Side	Right Side
	Min:	$52,510	$52,510
	Max:	$118,366	$118,366

A-BHM-01 covers 5.4 miles of the Birmingham, AL metropolitan area and begins at the border of Jefferson County (bottom of aerial) and ends at I-459. This segment is comprised of 5 NS valuation units as compared to only 3 from Sunbelt.

The real estate found on the left (bottom) side of the RoW is predominately Residential with limited Industrial use.

The right side of the RoW is mixed between Residential and Industrial uses.

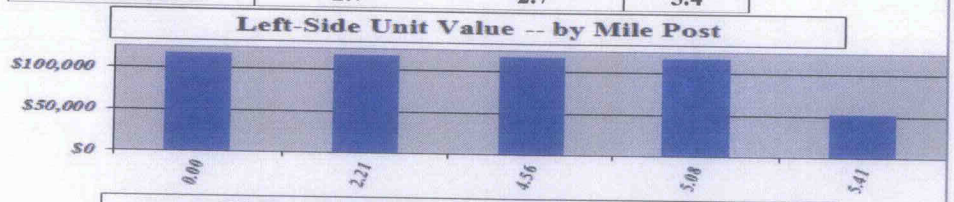
As shown by the chart below, Sunbelt has applied a higher value to the Industrial land while NS has applied a higher value to the Residential land surrounding this portion of the RoW.

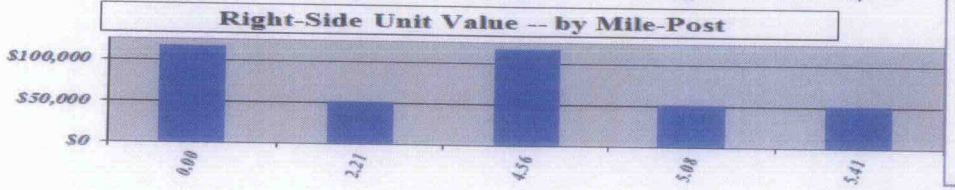


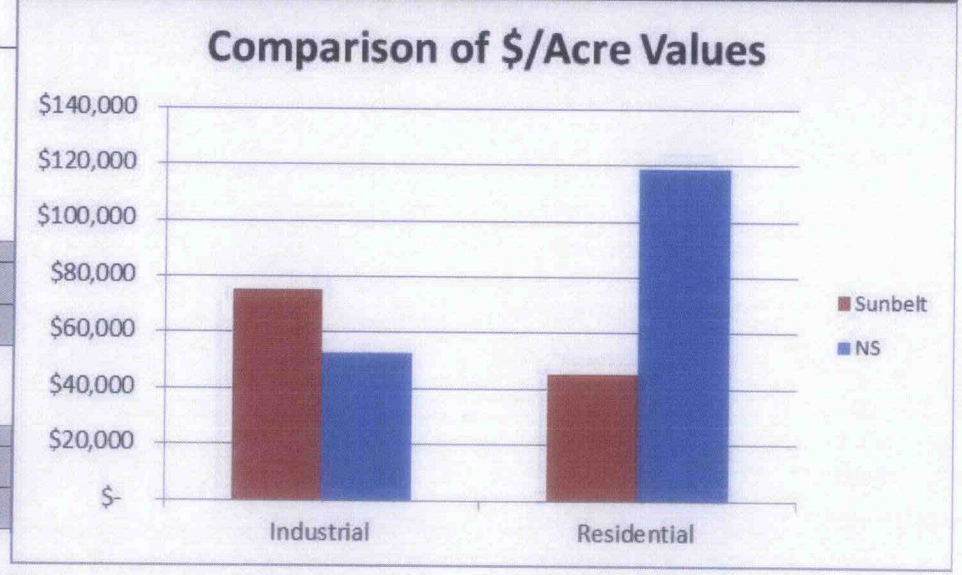
Birmingham Metro Area		Miles of RoW With Each Use Combination
Aerial Number	A-BHM-01	

Right-Side Use

Left-Side Use	Single-Family	Industrial	Grand Total
Single-Family	2.7	2.5	5.3
Industrial		0.1	0.1
Grand Total	2.7	2.7	5.4







Rebuttal Aerials

Birmingham Metro Area		3.0	Miles
Aerial No.	A-BHM-02	9	NS Val-units
		3	Sunbelt Units
Acquisition Cost		26.9	Acres
$2,037,129		$75,867	$/Acre

Ranges in Cost/Acre:		Left Side	Right Side
	Min:	$52,510	$52,510
	Max:	$118,366	$118,366

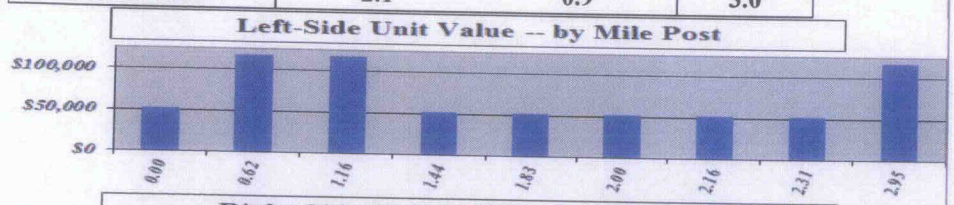
A-BHM-02 covers 3.0 miles of the Birmingham, AL metropolitan area and begins at I-459 and ends before Division St S. This segment is comprised of 9 NS valuation units as compared to only 3 from Sunbelt.

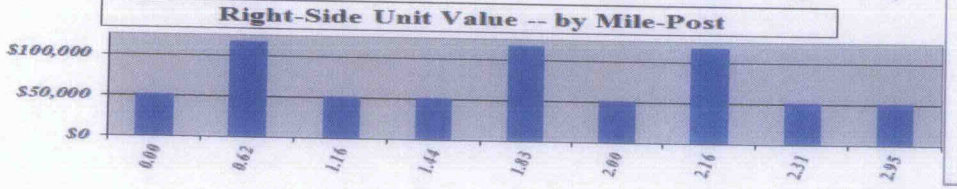
The real estate found on the left (bottom) side of the RoW is predominately Industrial with some Residential use.

Industrial uses also predominate the right side of the RoW with limited Residential uses.

As shown by the chart below, NS has applied higher $/Acre values to the Residential land while Sunbelt has applied a higher value to the Industrial land along this segment.

Birmingham Metro Area		Miles of RoW With Each Use Combination		
Aerial Number	A-BHM-02	*Right-Side Use*		
Left-Side Use		Industrial	Single-Family	Grand Total
Industrial		1.4	0.3	1.7
Single-Family		0.7	0.5	1.2
Grand Total		2.1	0.9	3.0





A-BHM-02

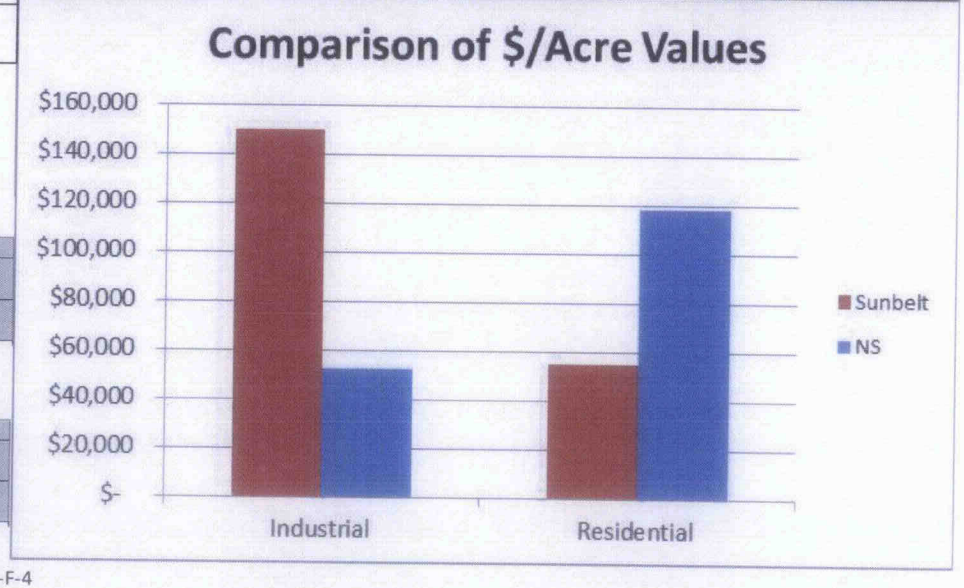


Exhibit III-F-4

Rebuttal Aerials

Birmingham Metro Area		6.4	Miles
Aerial No.	A-BHM-03	14	NS Val-units
		7	Sunbelt Units
Acquisition Cost		57.8	Acres
$5,843,726		$101,143	$/Acre

Ranges in Cost/Acre:		Left Side	Right Side
	Min:	$52,510	$52,510
	Max:	$226,564	$226,564

A-BHM-03 covers 6.4 miles of the Birmingham, AL metropolitan area and begins before Division St S and ends past 54th St SW. This segment is comprised of 14 NS valuation units as compared to only 7 from Sunbelt.

The real estate found on the left (bottom) side of the RoW is predominately Residential with some Industrial and Commercial use.

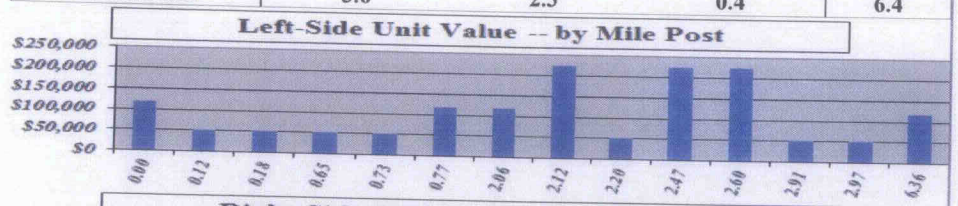
Residential uses also predominate the right side of the RoW with some Industrial and Commercial uses.

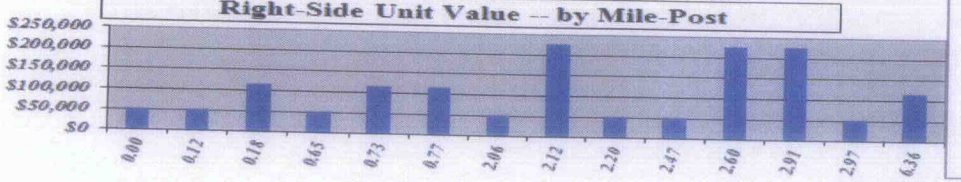
As shown by the chart below, NS has applied higher $/Acre values to the Residential land while Sunbelt has applied a higher value to the Commercial and Industrial land found along this segment.

Birmingham Metro Area		Miles of RoW With Each Use Combination
Aerial Number	A-BHM-03	

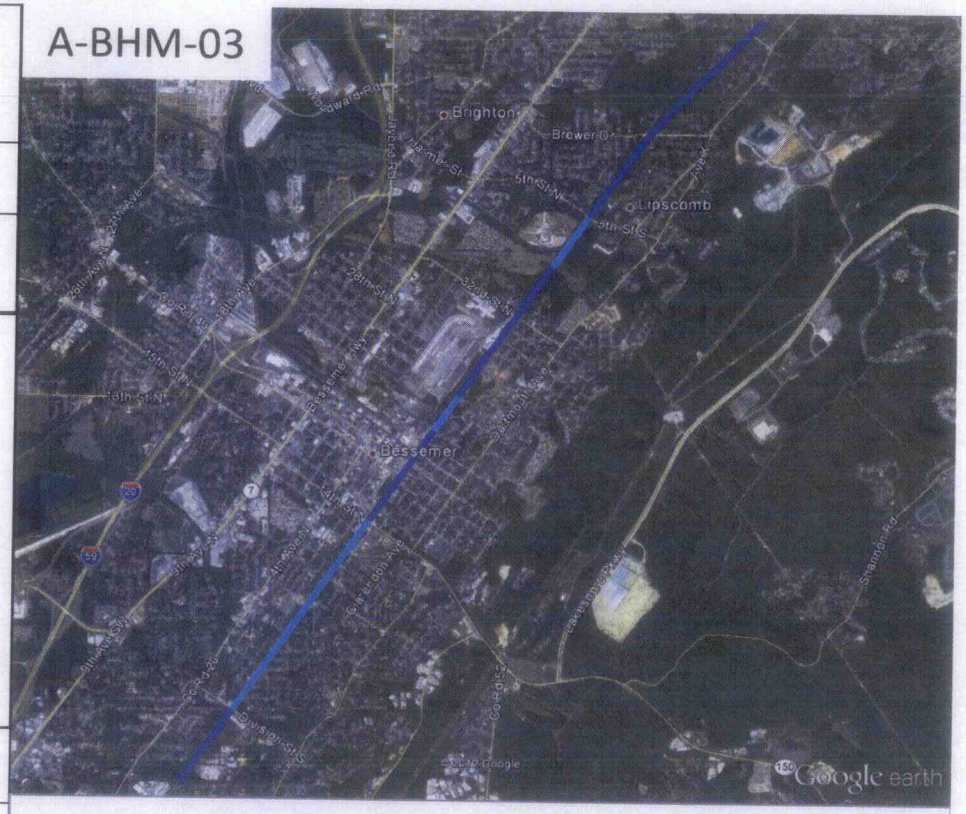
Right-Side Use

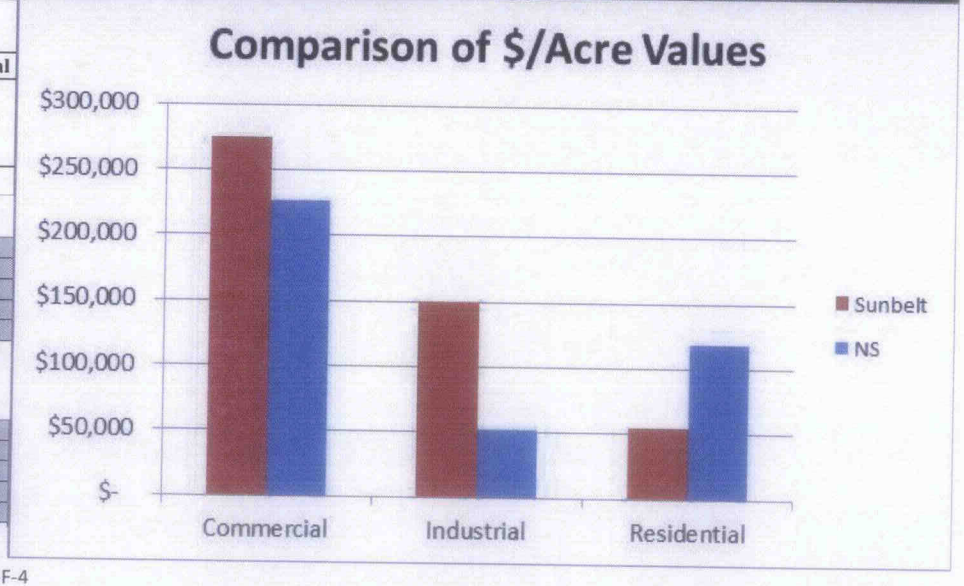
Left-Side Use	Single-Family	Industrial	Retail	Grand Total
Single-Family	3.1	0.2		3.3
Industrial	0.5	2.0	0.1	2.6
Retail		0.1	0.4	0.5
Grand Total	3.6	2.3	0.4	6.4





A-BHM-03





Rebuttal Aerials

Birmingham Metro Area		**3.5**	**Miles**
Aerial No.	**A-BHM-04**	**15**	**NS Val-units**
		7	**Sunbelt Units**
Acquisition Cost		**31.8**	**Acres**
$2,910,963		**$91,463**	**$/Acre**

Ranges in Cost/Acre:		**Left Side**	**Right Side**
	Min:	**$52,510**	**$375**
	Max:	**$226,564**	**$226,564**

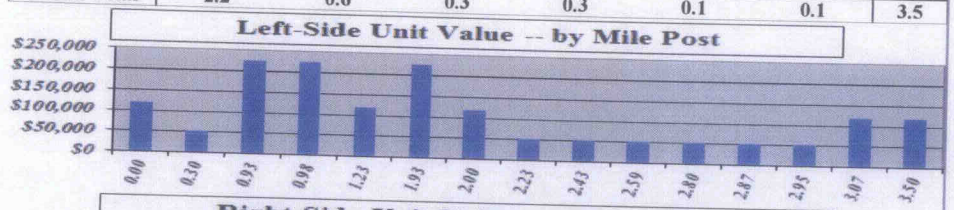
A-BHM-04 covers 3.5 miles of the Birmingham, AL metropolitan area and begins past 54th St SW and ends near 19th St SW. This segment is comprised of 15 NS valuation units as compared to only 7 from Sunbelt.

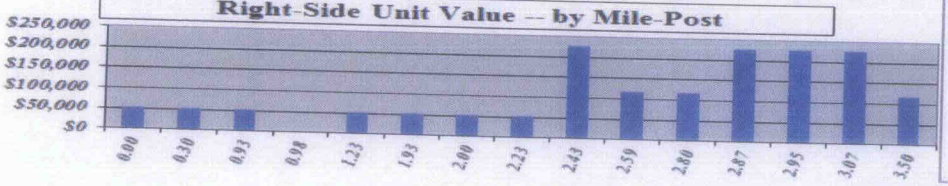
The real estate found on the left (bottom) side of the RoW is predominately Residential with some Industrial and Commercial use.

Industrial uses also predominate the right side of the RoW with mixed Residential, Commercial, and Extreme uses.

As shown by the chart below, NS has applied higher $/Acre values to the Residential land while Sunbelt has again applied a higher value to the Commercial and Industrial land found along this segment.

Birmingham Metro Area		**Miles of RoW With Each Use Combination**					
Aerial Number	**A-BHM-04**						
		Right-Side Use					
Left-Side Use	**Industrial**	**Single-Family**	**Retail**	**"Extreme"**	**Hospitality/Medical**	**Multi-Family**	**Grand Total**
Industrial	0.8	0.2	0.3		0.1	0.1	1.5
Single-Family	1.2						1.2
Multi-Family		0.4	0.0				0.4
Retail	0.1			0.3			0.4
Grand Total	2.2	0.6	0.3	0.3	0.1	0.1	3.5





A-BHM-04

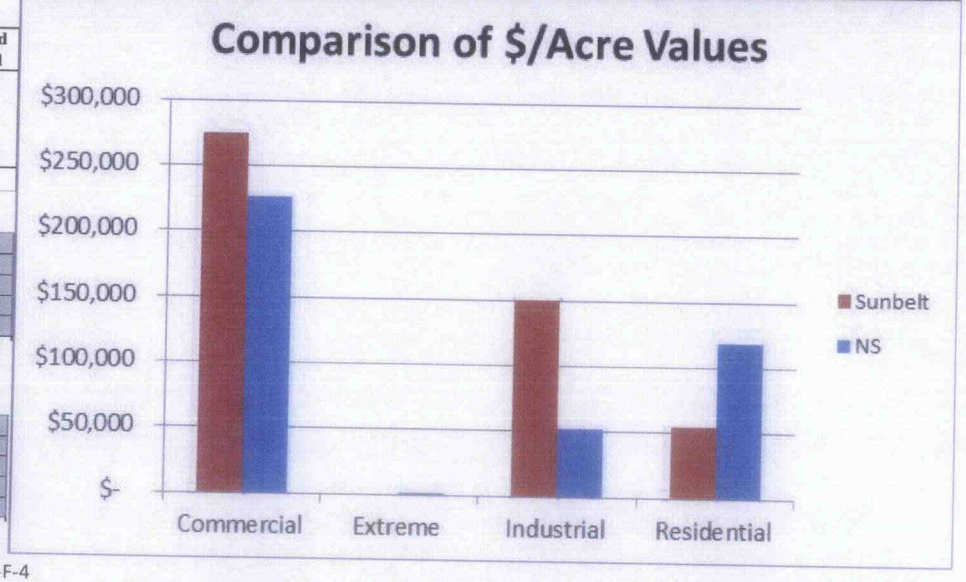


Exhibit III-F-4

Rebuttal Aerials

Birmingham Metro Area	**3.5**	**Miles**
Aerial No. A-BHM-05	**23**	**NS Val-units**
	5	**Sunbelt Units**
Acquisition Cost	**32.0**	**Acres**
$3,060,347	**$95,709**	**$/Acre**

Ranges in Cost/Acre:		**Left Side**	**Right Side**
	Min:	**$52,510**	**$52,510**
	Max:	**$226,564**	**$226,564**

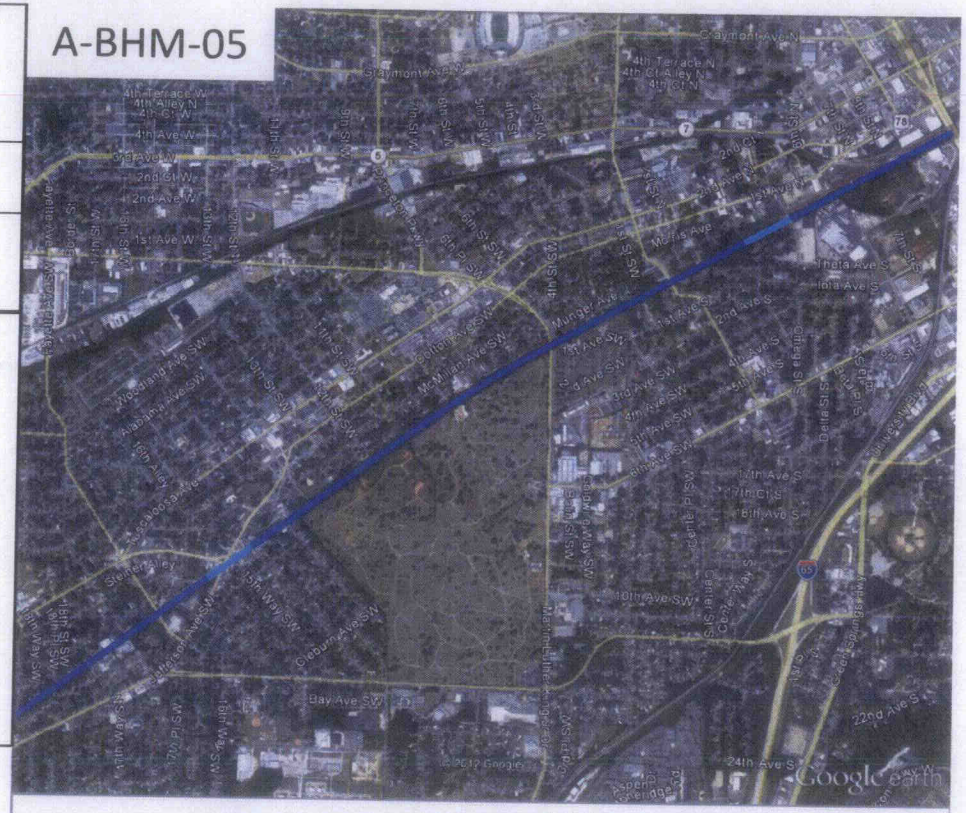
A-BHM-05 covers 3.5 miles of the Birmingham, AL metropolitan area and begins near 19th St SW and ends at I-65. This segment is comprised of 23 NS valuation units as compared to only 5 from Sunbelt.

The real estate found on the left (bottom) side of the RoW is predominately Industrial with some Residential and Commercial use.

Residential uses predominate the right side of the RoW with some Industrial and Commercial uses.

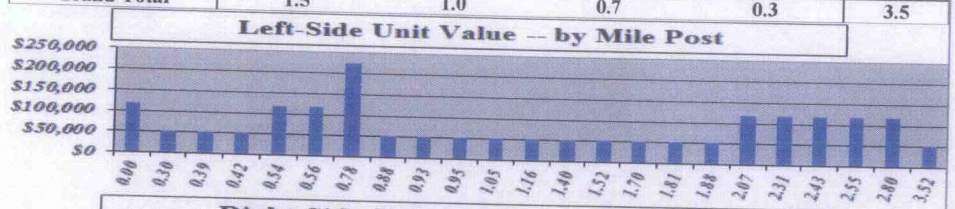
As shown by the chart below, NS has applied higher $/Acre values to the Residential land while Sunbelt has again applied a higher value to the Commercial and Industrial land found along this segment.

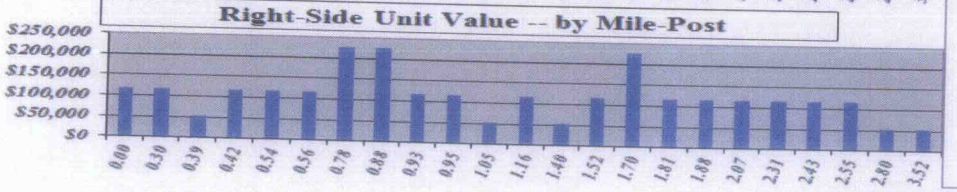
A-BHM-05



Birmingham Metro Area — **Aerial Number A-BHM-05** — **Miles of RoW With Each Use Combination**

Left-Side Use \ *Right-Side Use*	Single-Family	Industrial	Multi-Family	Retail	Grand Total
Industrial	0.6	0.9	0.4	0.2	2.0
Single-Family	0.7	0.1	0.1		0.9
Multi-Family	0.3		0.2		0.5
Retail				0.1	0.1
Grand Total	1.5	1.0	0.7	0.3	3.5





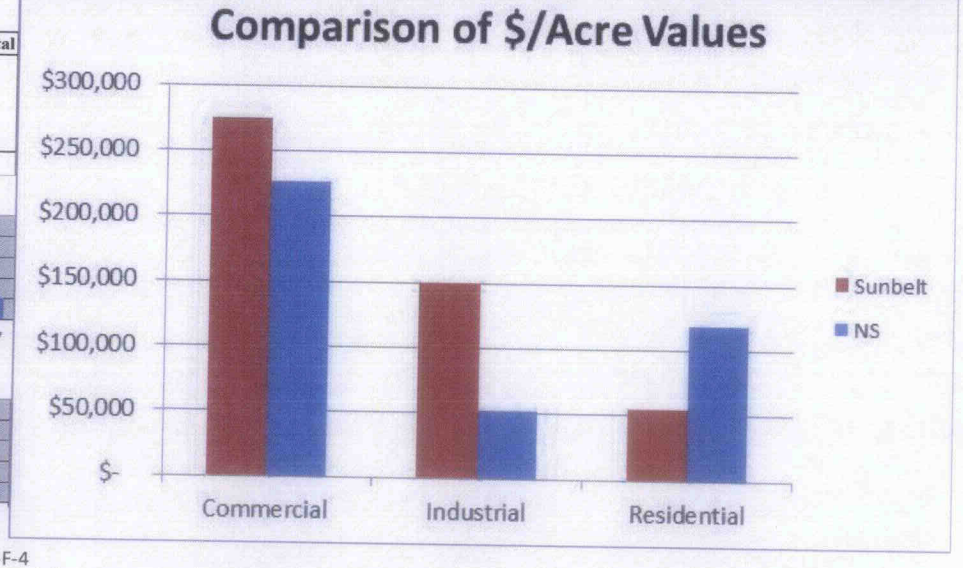


Exhibit III-F-4

Rebuttal Aerials

Birmingham Metro Area		4.6	Miles
Aerial No.	A-BHM-06	4	NS Val-units
		6	Sunbelt Units
Acquisition Cost		41.5	Acres
$2,348,414		$56,576	$/Acre

Ranges in Cost/Acre:		Left Side	Right Side
	Min:	$52,510	$52,510
	Max:	$118,366	$118,366

A-BHM-06 covers 4.6 miles of the Birmingham, AL metropolitan area and begins at I-65 and ends at 57th St. This segment is comprised of 4 NS valuation units as compared to Sunbelt's 6.

The real estate found on the left (bottom) side of the RoW is predominately Industrial with limited Residential use.

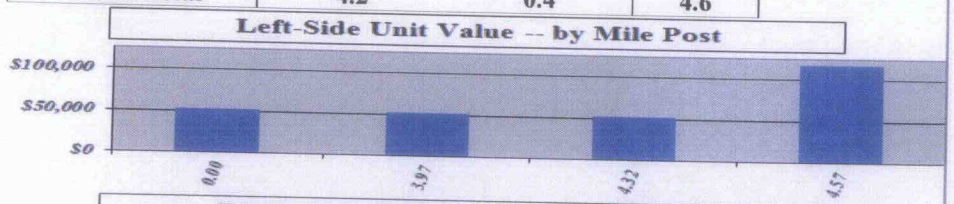
Industrial uses also predominate the right side of the RoW with limited Residential uses.

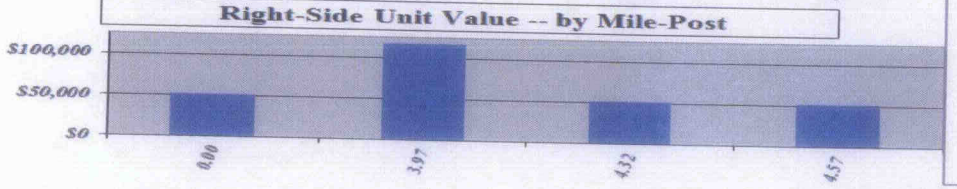
As shown by the chart below, NS has applied higher $/Acre values to the Residential land while Sunbelt applied a higher value to the Industrial land found along this route. It is interesting to note that Sunbelt incorrectly identified some of the land along this route as Commercial.

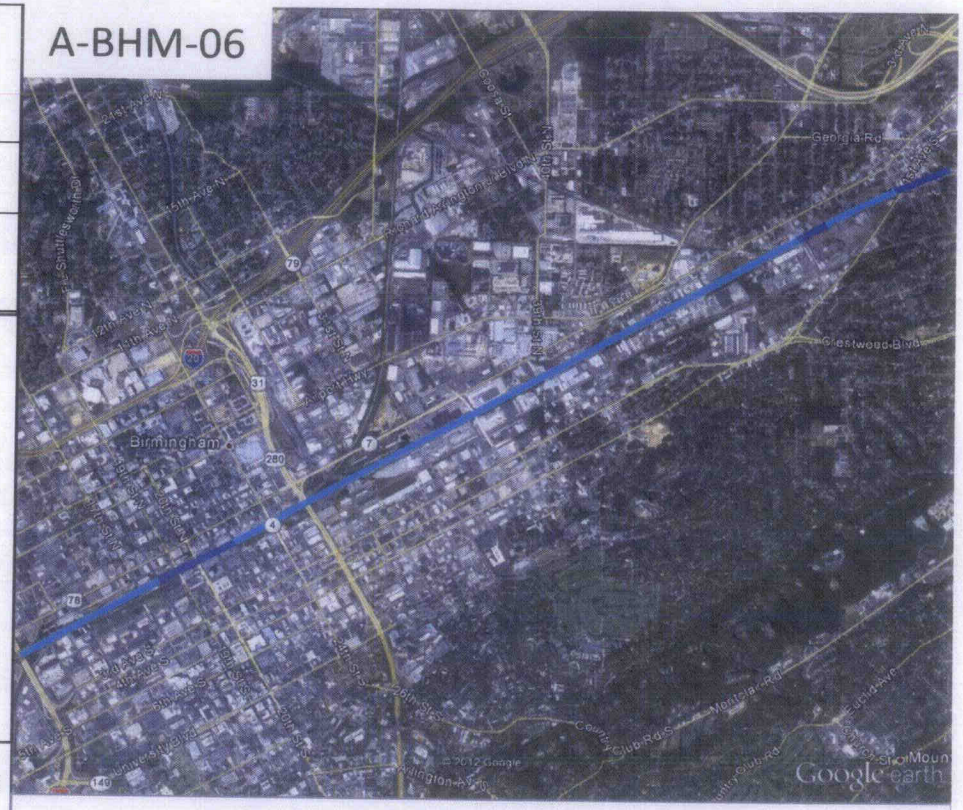
Birmingham Metro Area		Miles of RoW With Each Use Combination
Aerial Number	A-BHM-06	

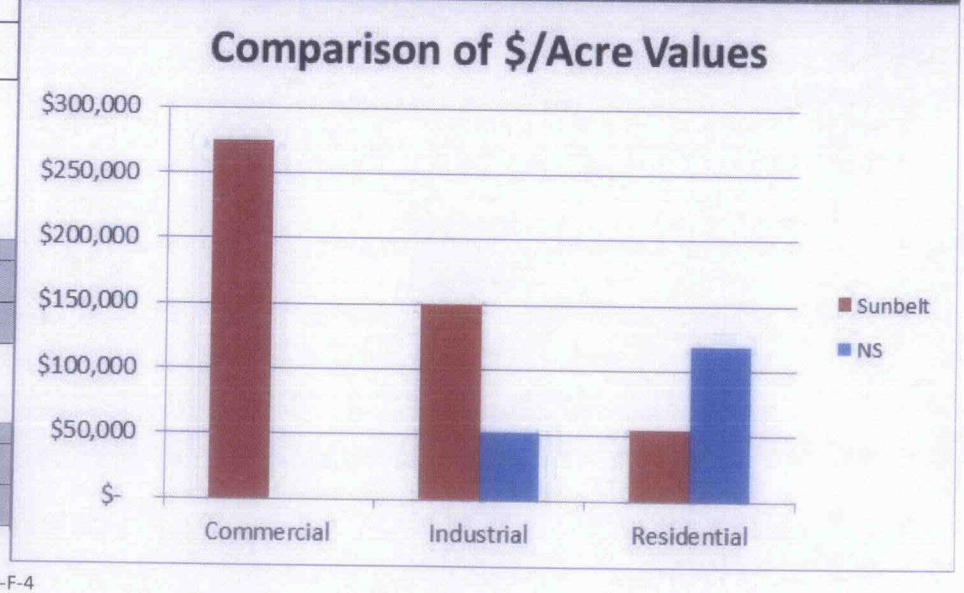
Right-Side Use

Left-Side Use	Industrial	Single-Family	Grand Total
Industrial	4.0	0.4	4.4
Single-Family	0.2		0.2
Grand Total	4.2	0.4	4.6









Rebuttal Aerials

Birmingham Metro Area		**1.0**	**Miles**
Aerial No.	**A-BHM-07**	**4**	**NS Val-units**
		3	**Sunbelt Units**
Acquisition Cost		**11.9**	**Acres**
$784,272		**$65,657**	**$/Acre**

Ranges in Cost/Acre:		**Left Side**	**Right Side**
	Min:	**$52,510**	**$52,510**
	Max:	**$226,564**	**$52,510**

A-BHM-07 covers 1.0 miles of the Birmingham, AL metropolitan area and begins at 57th St and ends past just before Shades Creek. This segment is comprised of 4 NS valuation units as compared to Sunbelt's 3.

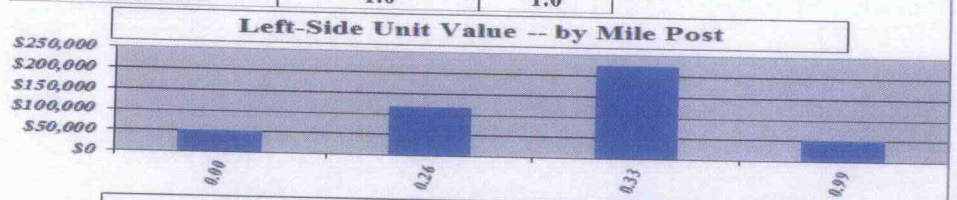
The real estate found on the left (bottom) side of the RoW is predominately Industrial with some Commercial and Residential uses.

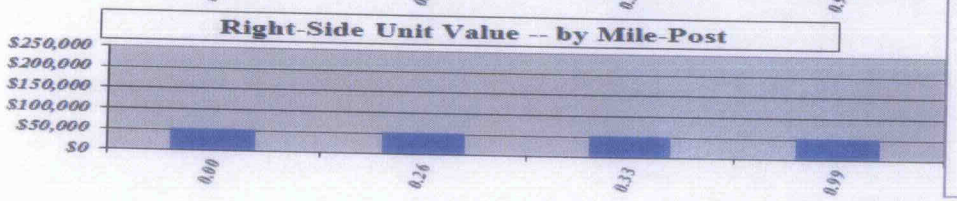
The entire right side of the RoW is made up of Industrial land uses.

As shown by the chart below, NS has applied higher $/Acre values to the Residential land and Sunbelt applied a higher value to the Industrial land found along this route. Sunbelt has failed to classify any of the land along this route as Commercial.

Birmingham Metro Area — **Aerial Number** **A-BHM-07** — **Miles of RoW With Each Use Combination**

Left-Side Use	*Right-Side Use*: Industrial	Grand Total
Industrial	0.8	0.8
Office	0.1	0.1
Single-Family	0.1	0.1
Grand Total	**1.0**	**1.0**





A-BHM-07

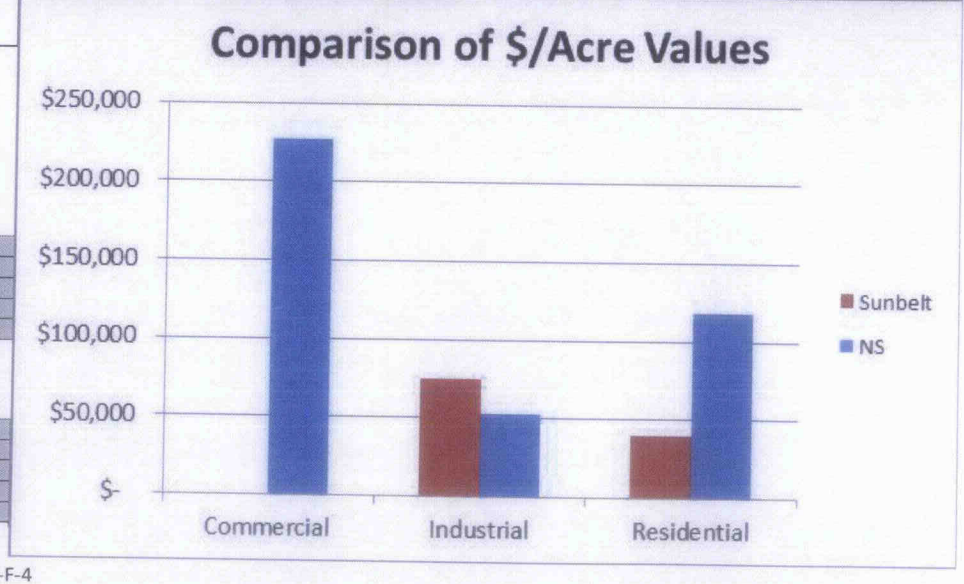


Exhibit III-F-4

Rebuttal Aerials

Louisiana

Exhibit III-F-4

Rebuttal Aerials

New Orleans Metro Area		4.1	Miles
Aerial No.	A-NEWOR-01	11	NS Val-units
		5	Sunbelt Units
Acquisition Cost		50.0	Acres
$9,333,926		$186,864	$/Acre

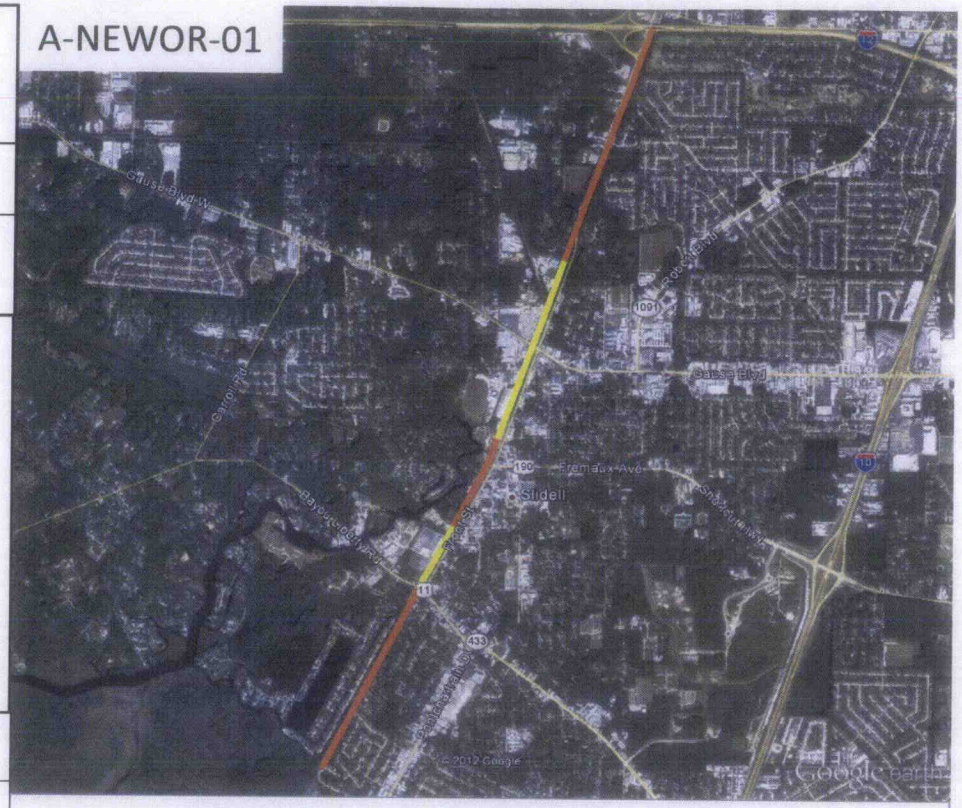
Ranges in Cost/Acre:		Left Side	Right Side
	Min:	$57,971	$57,971
	Max:	$307,939	$307,939

A-NEWOR-01 covers 4.1 miles of the New Orleans, LA metropolitan area and begins at I-12 and ends near Bermuda Drive. This segment is comprised of 11 NS valuation units as compared to only 5 from Sunbelt.

The real estate found on the left (right side in this aerial) side of the RoW is predominately Residential with some Commercial and Industrial uses.

Industrial uses predominate the right side of the RoW with some Residential and Commercial uses.

As shown by the chart below, NS has applied a higher $/Acre value to the Industrial land along this segment. Sunbelt has applied a higher value to the Commercial land and a slightly higher value to the Residential land.



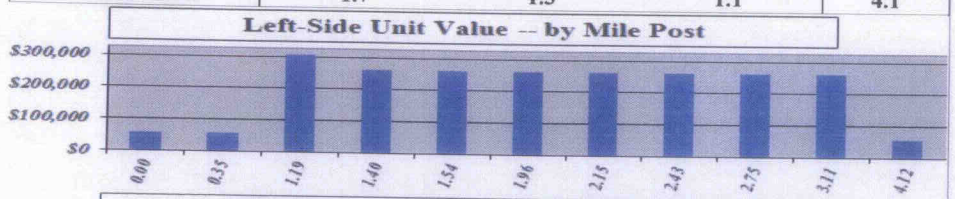
New Orleans Metro Area

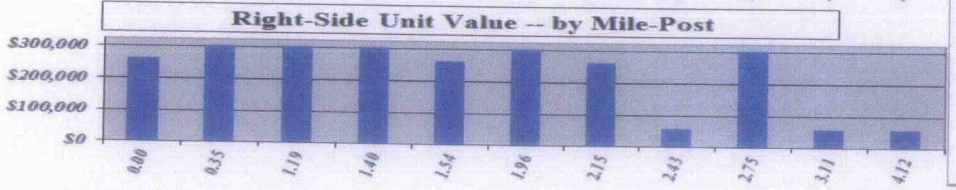
Aerial Number: A-NEWOR-01

Miles of RoW With Each Use Combination

Right-Side Use

Left-Side Use	Industrial	Single-Family	Retail	Grand Total
Single-Family	0.8	1.0	0.4	2.2
Retail	0.7	0.3	0.7	1.7
Industrial	0.2			0.2
Office		0.0		0.0
Grand Total	1.7	1.3	1.1	4.1





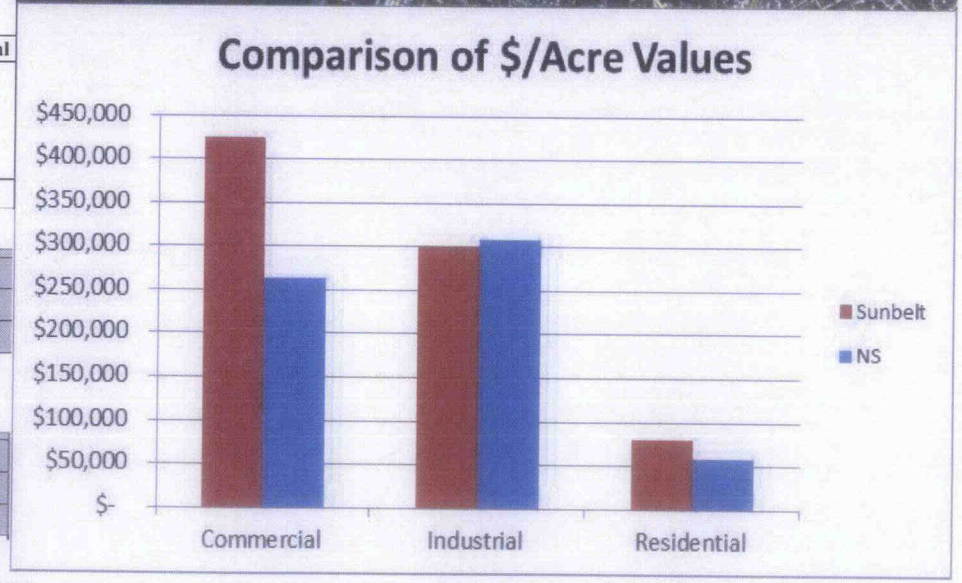


Exhibit III-F-4

Rebuttal Aerials

New Orleans Metro Area		15.3	Miles
Aerial No.	A-NEWOR-02	3	NS Val-units
		4	Sunbelt Units
Acquisition Cost		185.0	Acres
$185,027		$1,000	$/Acre

Ranges in Cost/Acre:		Left Side	Right Side
	Min:	$1,000	$1,000
	Max:	$1,000	$1,000

A-NEWOR-02 covers 15.3 miles of the New Orleans, LA metropolitan area and begins near Bermuda Drive and ends at Paris Road. This segment is comprised of 3 NS valuation units as compared to Sunbelt's 4.

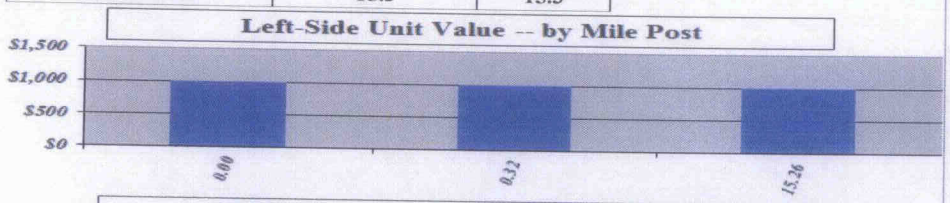
The real estate found on the left (right side in this aerial) side of the RoW is predominately Extreme with limited Residential uses.

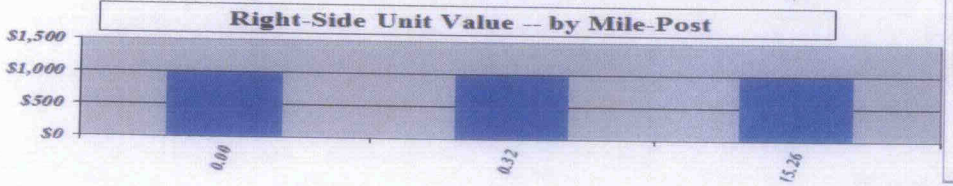
The entire right side of the RoW is made up of Extreme uses.

As shown by the chart below, Sunbelt applies a higher value to the Residential land found along this segment. There is not a lot of value found along this segment because the majority of the line is over Lake Pontchartrain.

New Orleans Metro Area		Miles of RoW With Each Use Combination
Aerial Number	A-NEWOR-02	

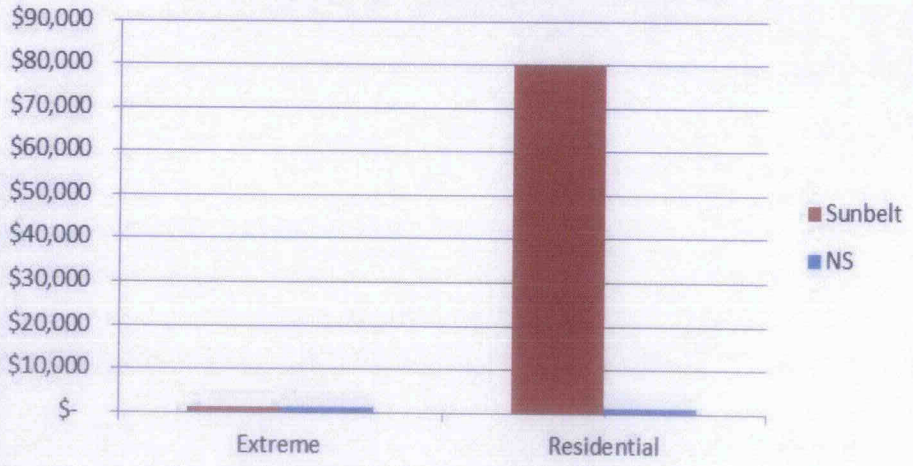
	Right-Side Use	
Left-Side Use	"Extreme"	Grand Total
"Extreme"	14.9	14.9
Single-Family	0.3	0.3
Grand Total	15.3	15.3





A-NEWOR-02

Comparison of $/Acre Values



Rebuttal Aerials

New Orleans Metro Area		3.1	Miles
Aerial No.	A-NEWOR-03	20	NS Val-units
		2	Sunbelt Units
Acquisition Cost		28.6	Acres
$10,979,274		$383,909	$/Acre

Ranges in Cost/Acre:		Left Side	Right Side
	Min:	$190,050	$190,050
	Max:	$609,263	$609,263

A-NEWOR-03 covers 3.1 miles of the New Orleans, LA metropolitan area and begins at Paris Road and ends parallel to Hansbrough Ave. This segment is made up of 20 valuation units from NS as compared to only 2 from Sunbelt.

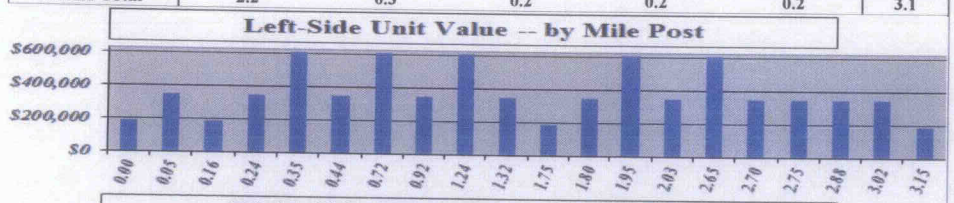
The real estate found on the left (bottom) side of the RoW is predominately made up of Residential land with mixed Commercial and Industrial uses.

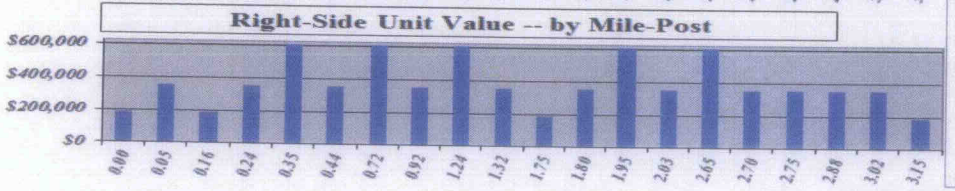
Residential uses predominate the right side of the RoW with some Commercial and Industrial uses.

As shown by the chart below, Sunbelt has applied a higher $/Acre value to the Industrial and Residential land found along this route. Sunbelt failed to classify any of the land along this segment as Commercial.

New Orleans Metro Area — Aerial Number A-NEWOR-03 — Miles of RoW With Each Use Combination

Left-Side Use \ Right-Side Use	Single-Family	Retail	Industrial	Multi-Family	Hospitality/Medical	Grand Total
Single-Family	2.2					2.2
Retail		0.3				0.3
Industrial			0.2			0.2
Multi-Family				0.2		0.2
Hospitality/Medical					0.2	0.2
Grand Total	2.2	0.3	0.2	0.2	0.2	3.1





A-NEWOR-03

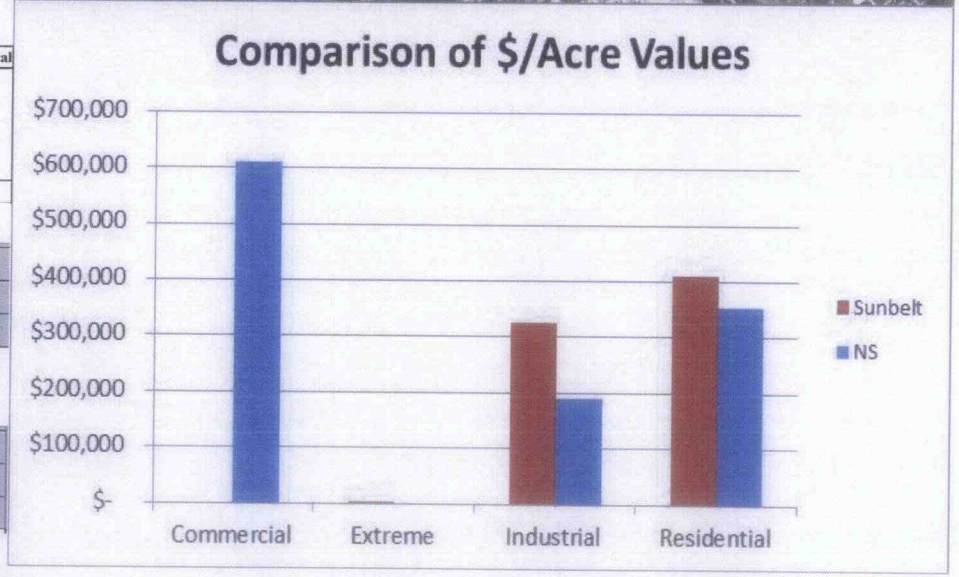


Exhibit III-F-4

Rebuttal Aerials

New Orleans Metro Area		3.3	Miles
Aerial No.	A-NEWOR-04	31	NS Val-units
		5	Sunbelt Units
Acquisition Cost		30.2	Acres
$9,863,461		$327,020	$/Acre

Ranges in Cost/Acre:		Left Side	Right Side
	Min:	$190,050	$190,050
	Max:	$609,263	$609,263

A-NEWOR-04 covers 3.3 miles of the New Orleans, LA metropolitan area and begins parallel to Hansbrough Ave and ends parallel to France Road. This segment is made up of 31 valuation units from NS as compared to only 5 from Sunbelt.

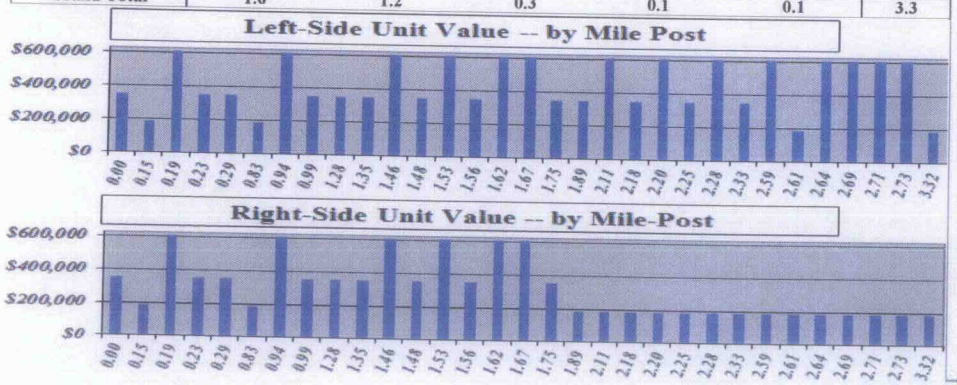
The real estate found on the left (bottom) side of the RoW is predominately made up of Residential land with some Industrial and Commercial uses.

Industrial uses predominate the right side of the RoW with mixed Residential and Commercial uses.

As shown by the chart below, Sunbelt has applied a higher $/Acre value to the Industrial and Residential land found along this segment. Sunbelt failed to classify any of the land along this segment as Commercial.

New Orleans Metro Area — Aerial Number A-NEWOR-04 — Miles of RoW With Each Use Combination

Left-Side Use \ Right-Side Use	Industrial	Single-Family	Multi-Family	Retail	Office	Grand Total
Single-Family	0.5	1.2				1.7
Industrial	0.8					0.8
Multi-Family	0.0		0.3			0.3
Retail	0.1			0.1		0.3
Office	0.1				0.1	0.2
Hospitality/Medical	0.0					0.0
Grand Total	1.6	1.2	0.3	0.1	0.1	3.3



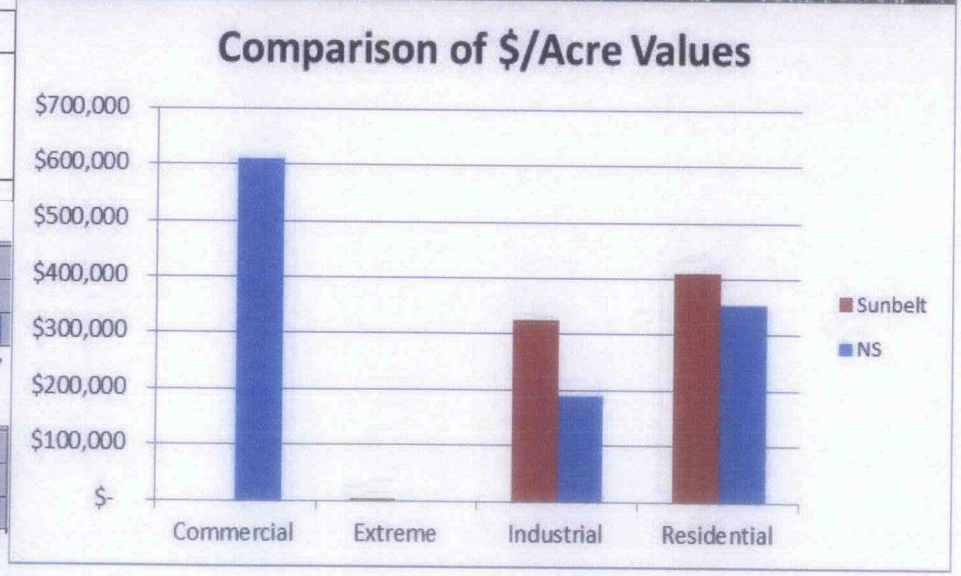


Exhibit III-F-4

Rebuttal Aerials

A-NEWOR-05

New Orleans Metro Area		5.2	Miles
Aerial No.	A-NEWOR-05	17	NS Val-units
		7	Sunbelt Units
Acquisition Cost		47.0	Acres
$14,546,496		$309,307	$/Acre

Ranges in Cost/Acre:		Left Side	Right Side
	Min:	$190,050	$190,050
	Max:	$609,263	$609,263

A-NEWOR-05 covers 5.2 miles of the New Orleans, LA metropolitan area and begins parallel to France Road and ends near N Peters Street. This segment is made up of 17 valuation units from NS as compared to only 7 from Sunbelt.

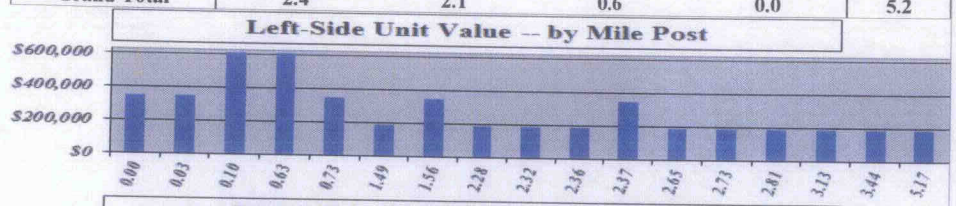
The real estate found on the left (right in this aerial) side of the RoW is predominately made up of Industrial land with some Residential and Commercial uses.

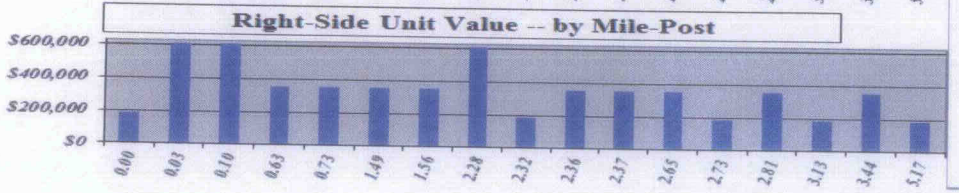
Residential uses predominate the right side of the RoW with mixed Industrial and Commercial uses.

As shown by the chart below, Sunbelt has applied a higher $/Acre value to the Commercial, Industrial, and Residential land found along this route.

New Orleans Metro Area — Aerial Number: A-NEWOR-05 — Miles of RoW With Each Use Combination

Left-Side Use	Right-Side Use: Single-Family	Industrial	Office	Retail	Grand Total
Industrial	0.5	2.1		0.0	2.7
Single-Family	1.8	0.0	0.1		1.9
Office	0.1		0.5		0.6
Grand Total	2.4	2.1	0.6	0.0	5.2





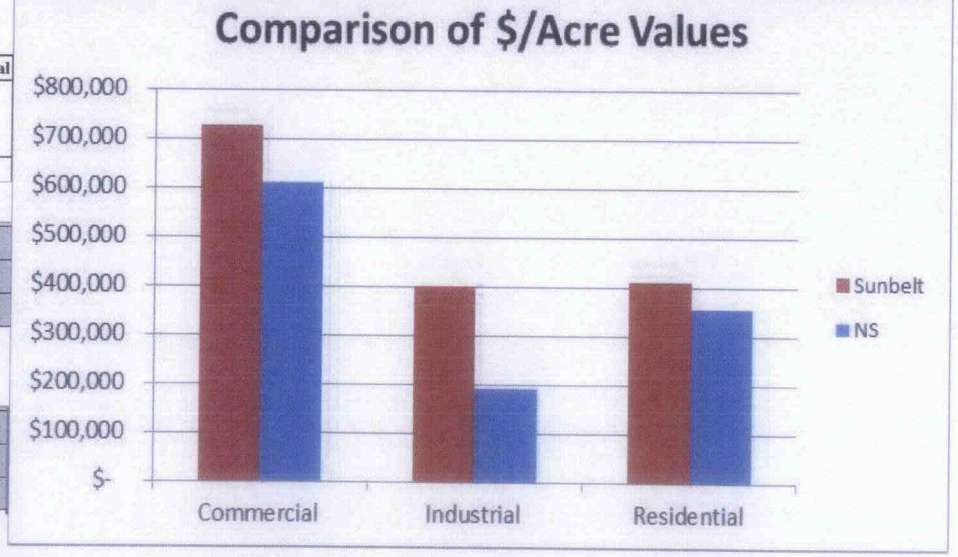


Exhibit III-F-4

Rebuttal Aerials

New Orleans Metro Area		3.5	Miles
Aerial No.	A-NEWOR-06	30	NS Val-units
		9	Sunbelt Units
Acquisition Cost		32.2	Acres
$12,644,714		$392,520	$/Acre

Ranges in Cost/Acre:		Left Side	Right Side
	Min:	$190,050	$190,050
	Max:	$609,263	$609,263

A-NEWOR-06 covers 3.5 miles of the New Orleans, LA metropolitan area and begins before Almonaster Ave and ends at Orleans Ave. This segment is made up of 30 valuation units from NS as compared to only 9 from Sunbelt.

The real estate found on the left (bottom) side of the RoW is predominately made up of Industrial land with some Residential and Commercial uses.

Industrial uses predominate the right side of the RoW with mixed Commercial and Residential uses.

As shown by the chart below, Sunbelt has applied a higher $/Acre value to Commercial, Industrial, and Residential land found along this route. Sunbelt has also classified some of the land along this segment as Extreme which NS did not find during inspection.

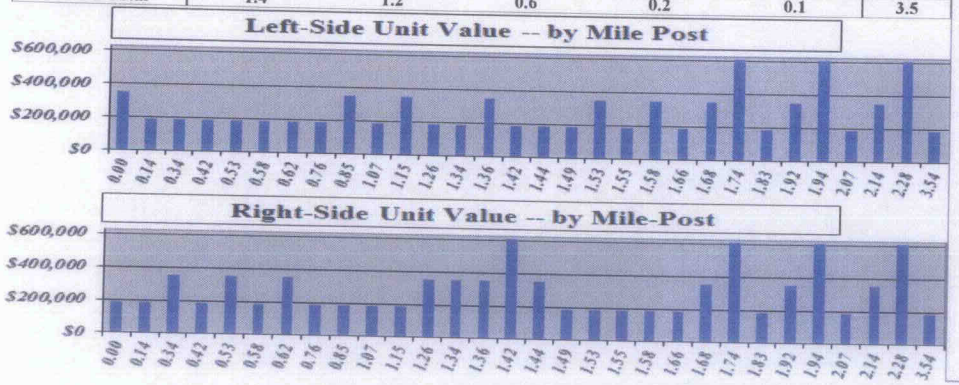
New Orleans Metro Area

Aerial Number: A-NEWOR-06

Miles of RoW With Each Use Combination

Right-Side Use

Left-Side Use	Industrial	Office	Single-Family	Retail	Multi-Family	Grand Total
Industrial	0.9	0.0	0.4		0.0	1.3
Office		1.2				1.2
Single-Family	0.6		0.2		0.1	0.9
Retail				0.2		0.2
Grand Total	1.4	1.2	0.6	0.2	0.1	3.5



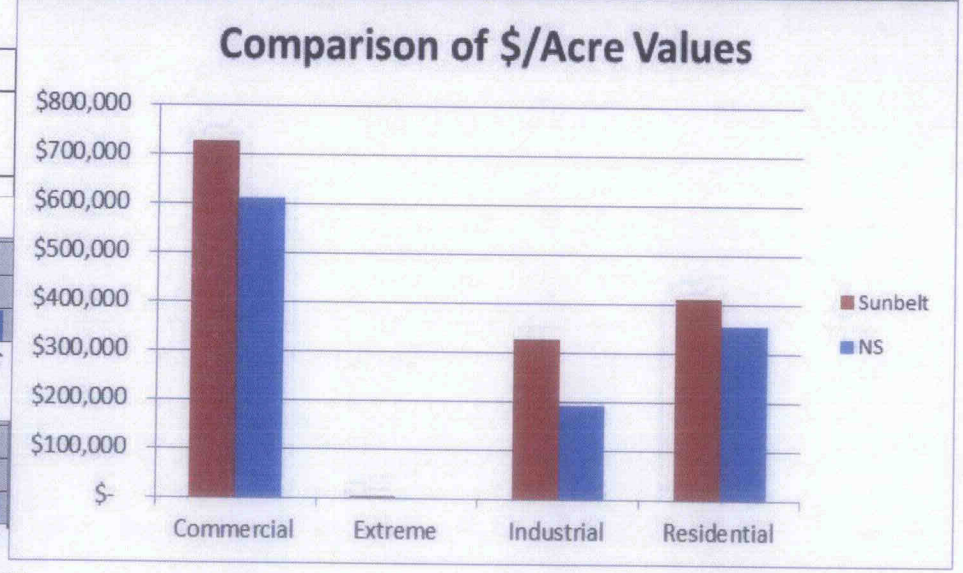


Exhibit III-F-4

Rebuttal Aerials

New Orleans Metro Area		4.1	Miles
Aerial No.	A-NEWOR-07	22	NS Val-units
		12	Sunbelt Units
Acquisition Cost		37.5	Acres
$10,882,936		$290,356	$/Acre

Ranges in Cost/Acre:		Left Side	Right Side
	Min:	$111,815	$111,815
	Max:	$652,120	$652,120

A-NEWOR-07 covers 4.1 miles of the New Orleans, LA metropolitan area and begins at Orleans Ave and ends at Earhart Expy. This segment is made up of 22 valuation units from NS as compared to only 12 from Sunbelt.

The real estate found on the left (bottom) side of the RoW is predominately made up of Residential land with some Industrial and Commercial uses.

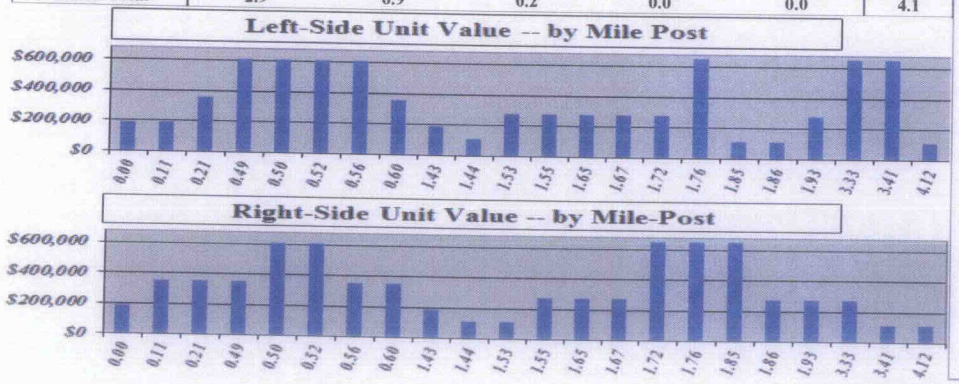
Residential uses predominate the right side of the RoW with mixed Industrial and Commercial uses.

As shown by the chart below, Sunbelt has applied a higher $/Acre value to the Commercial, Industrial, and Residential land found along this segment. Sunbelt has also classified some of the land along this segment as Extreme which NS did not find during inspection.

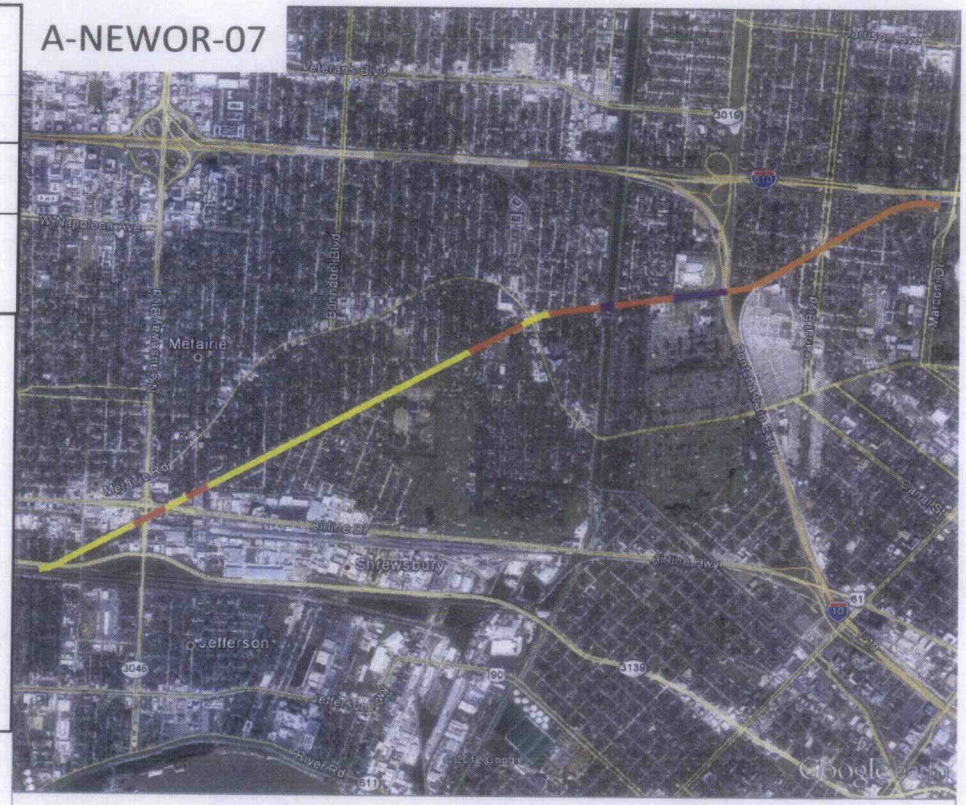
New Orleans Metro Area — Aerial Number: A-NEWOR-07 — Miles of RoW With Each Use Combination

Right-Side Use

Left-Side Use	Single-Family	Industrial	Retail	Office	Multi-Family	Grand Total
Single-Family	2.7	0.0	0.0		0.0	2.7
Industrial	0.2	0.8	0.0			1.0
Retail	0.1	0.1	0.1			0.3
Office	0.0		0.0	0.0		0.1
Grand Total	2.9	0.9	0.2	0.0	0.0	4.1



A-NEWOR-07



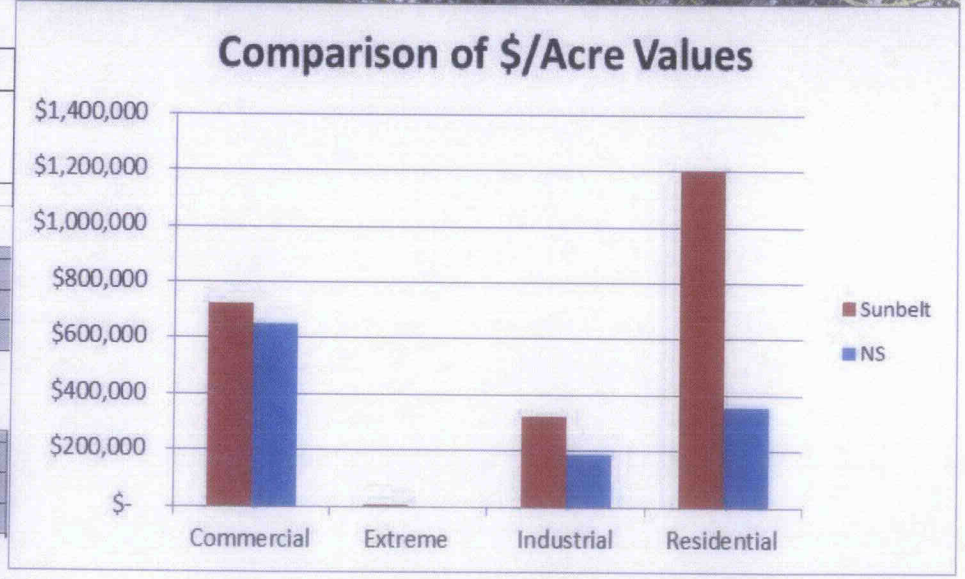


Exhibit III-F-4

Exhibit III-F-5

Please insert CD sleeve here

STV

CLIENT NS	MADE BY	CHECKED BY	PROJECT NO.	
PROJECT SunBelt v.s. NS	PEB			
SUBJECT	DATE	DATE	REVISION	SHEET NO.
Undercutting	12-13-12			

To properly construct a stable roadbed, subgrade must minimum compaction requirements sufficient to support the loads sustained by freight traffic. Undercutting removes unsuitable materials which prohibit adequate compaction. Unsuitable materials are found in over saturated soils with heavy organic content and are most commonly encountered when constructing near wetlands, swamps, and low lying marshy areas due to the abundance of water and vegetation. It has been my experience, to the mitigation of this condition (consistent with NS specification GR-10), undercutting the proposed road bed to a depth that suitable compaction can be achieved is an effective solution. Undercutting depths range from 18" to 4'-6' on recent rail project overseen by our field staff.

Based on my professional engineering judgment, a 2 foot undercut along roadbed proposed in identified wetland areas would be a conservative estimate for what would be encountered during construction of the SBRR. Although there are various methods of stabilizing unsuitable subgrade material for roadbed construction such as: cement grouting, injecting additives (lime, cement, sand, or sodium cilicate), geogrid installation. Site specific geotechnical data is required to customize the stabilization plan. NS has utilized undercutting and riprap backfill in the SBRR area. Attached are images from recent NS roadbed construction in Alabama depicting an undercut area required for a lead track along swampy (saturated) right-of-way that was then backfilled with rip-rap.

Paul E Bolly

12-13-12

Exhibit III-F-6

WORK PAPERS
UNDERCUTTING

Exhibit III-F-6

WORK PAPERS
UNDERCUTTING

Exhibit III-F-6

WORK PAPERS
UNDERCUTTING

Section SM - Seeding and Mulching of these Specifications. Seeding and mulching of borrow pits off the Company's property shall meet the requirements of the property owner.

GR-10 Undercutting and Mucking

A. Unstable materials found in marshes, muddy areas, drainage basins, swamps, or other unstable areas within the construction limits shall be undercut to a depth as directed by the Engineer and backfilled and compacted with approved material to the original elevation. Backfilling and compaction shall be in accordance with subsections GR-3 and GR-4 , respectively.

B. Removal of unsuitable material that requires the mobilization of special equipment such as a dragline shall be classified as mucking. Mucking shall be subject to the prior approval of the Engineer. Mucking shall be a separate pay item from any undercutting, or other excavations.

C. Areas that are undercut or mucked shall be measured by cross sections to determine the volume of undercutting.

D. Undercut or mucked material shall be disposed of in accordance with subsection GR-11.

GR-11 Disposal of Excavated Material

A. Excavated materials which are suitable for use in fills shall be used the extent needed. All excess suitable fill materials may be wasted along the existing railroad embankment, in waste areas on the Company's property designated on the plans, or on property provided by the Contractor.

B. If wasted on the Company's property, all requirements of these Specifications will be adhered to. This includes, but is not limed to, clearing and grubbing, placement of fill material, benching if adjacent to an existing fill, compaction of the material, seeding and mulching.

C. Seeding and mulching off the Company's property shall be dependent upon the requirements of the property owner.

D. Waste banks or piles shall not interfere with existing or proposed drainage. For wasting across a drainage way on Company's property, the Contractor shall provide at his expense the necessary pipe of size, type and gage approved by the Engineer to maintain drainage. Installation of the pipe shall be in accordance with Section DR - Drainage of these Specifications.

E. Excess suitable fill material used in widening existing railroad embankments shall be shaped to drain away from the roadbed and shall not be at an higher elevation than that of

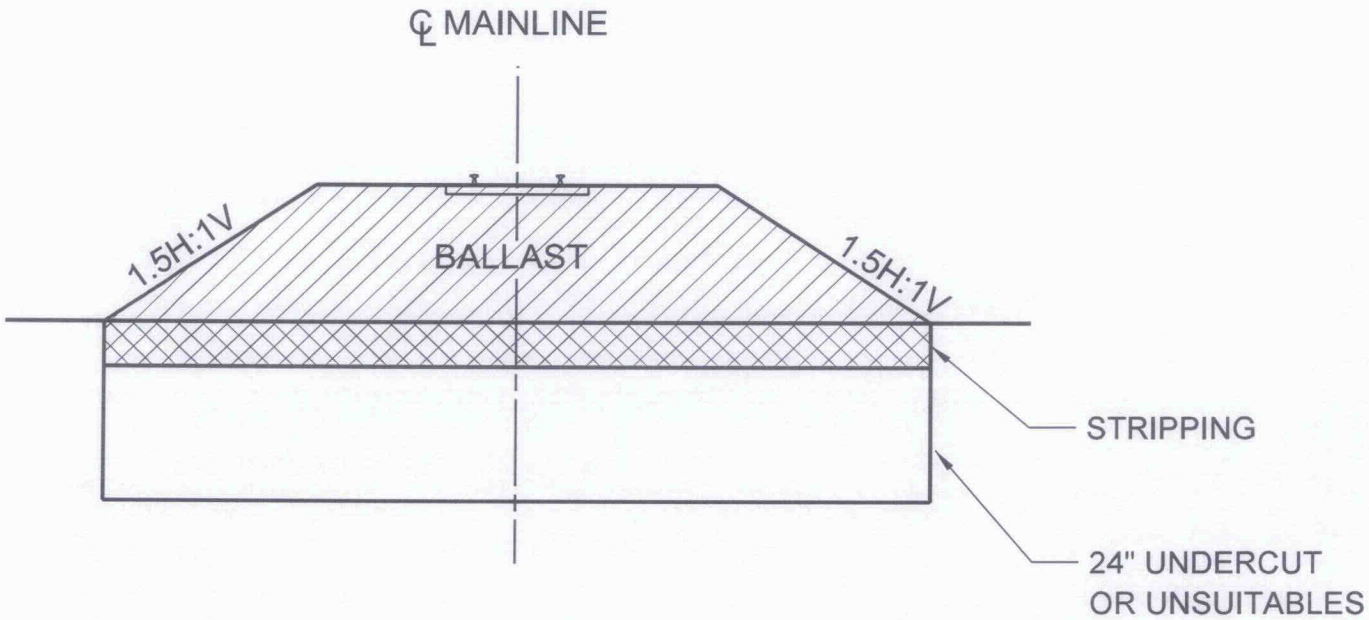


Exhibit III-F-6

UNDERCUTTING CROSS SECTION

WP III-F.2-b.-ii.-(e)-(iii)

Date: 1/3/13
To whom it may concern:

The Norfolk Southern Birmingham Regional Intermodal Facility constructed 4.26 miles of new Siding and 1.98 miles of new Running track from CP McCalla ~ AGS MP 161.00 to CP Kimbrell ~AGS MP 165.5. The new tracks crossed several inundated wetland/swamp areas. These areas were bridged with approximately 3,300 TN of surge stone (Rip Rap 6" to 12" diameter), to one-foot above normal water level. The surge stone was then "chocked" off with dense graded aggregate and compacted. The railroad embankment was then constructed on top of compacted dense graded aggregate.

Areas immediately outside then inundated area were mucked two to three feet depth, compacted, and the railroad embankment was built upon this compacted subgrade.

DELIVERED MATERIALS DATABASE

Project: BRIMF
NS PID No.: 105610
Vendor No.: 9829700
STV PID No.: 2515126

Quantity checked back to tickets.

NORFOLK SOUTHERN®

1	2	3	4	5	6	7	8	9
Delivery Date	Supplier	Location	Material Description	Unit of Measure	Quantity	Contractor	Item No.	Item No. Description
8/25/11	Vulcan	Calera	CL2 Rip Rap	TN	381.6	E S Wagner	260	C2 Rip Rap to be used as backfill in inundated areas.
8/26/11	Vulcan	Calera	CL2 Rip Rap	TN	403.81	E S Wagner	260	C2 Rip Rap to be used as backfill in inundated areas.
8/27/11	Vulcan	Calera	CL2 Rip Rap	TN	359.02	E S Wagner	260	C2 Rip Rap to be used as backfill in inundated areas.
8/29/11	Vulcan	Calera	CL2 Rip Rap	TN	99.53	E S Wagner	260	C2 Rip Rap to be used as backfill in inundated areas.
8/31/11	Vulcan	Calera	CL2 Rip Rap	TN	296.02	E S Wagner	260	C2 Rip Rap to be used as backfill in inundated areas.
9/1/11	Vulcan	Calera	CL2 Rip Rap	TN	359.53	E S Wagner	260	C2 Rip Rap to be used as backfill in inundated areas.
9/2/11	Vulcan	Calera	CL2 Rip Rap	TN	278.69	E S Wagner	260	C2 Rip Rap to be used as backfill in inundated areas.
9/14/11	Vulcan	Calera	CL2 Rip Rap	TN	763.63	E S Wagner	260	C2 Rip Rap to be used as backfill in inundated areas.
9/19/11	Vulcan	Calera	CL2 Rip Rap	TN	347.56	E S Wagner	260	C2 Rip Rap to be used as backfill in inundated areas.

Date: 1/3/13
Sincerely,

Dennis Prewitt

Dennis Prewitt
Project Manager
Associate

STV 100 Years

Field Office
5927 Eastern Valley Road
McCalla, AL 35111

Exhibit III-F-6

Wetland Locations

LEGEND

SBRR
(SunBelt Stand Alone Railroad)

Station Location

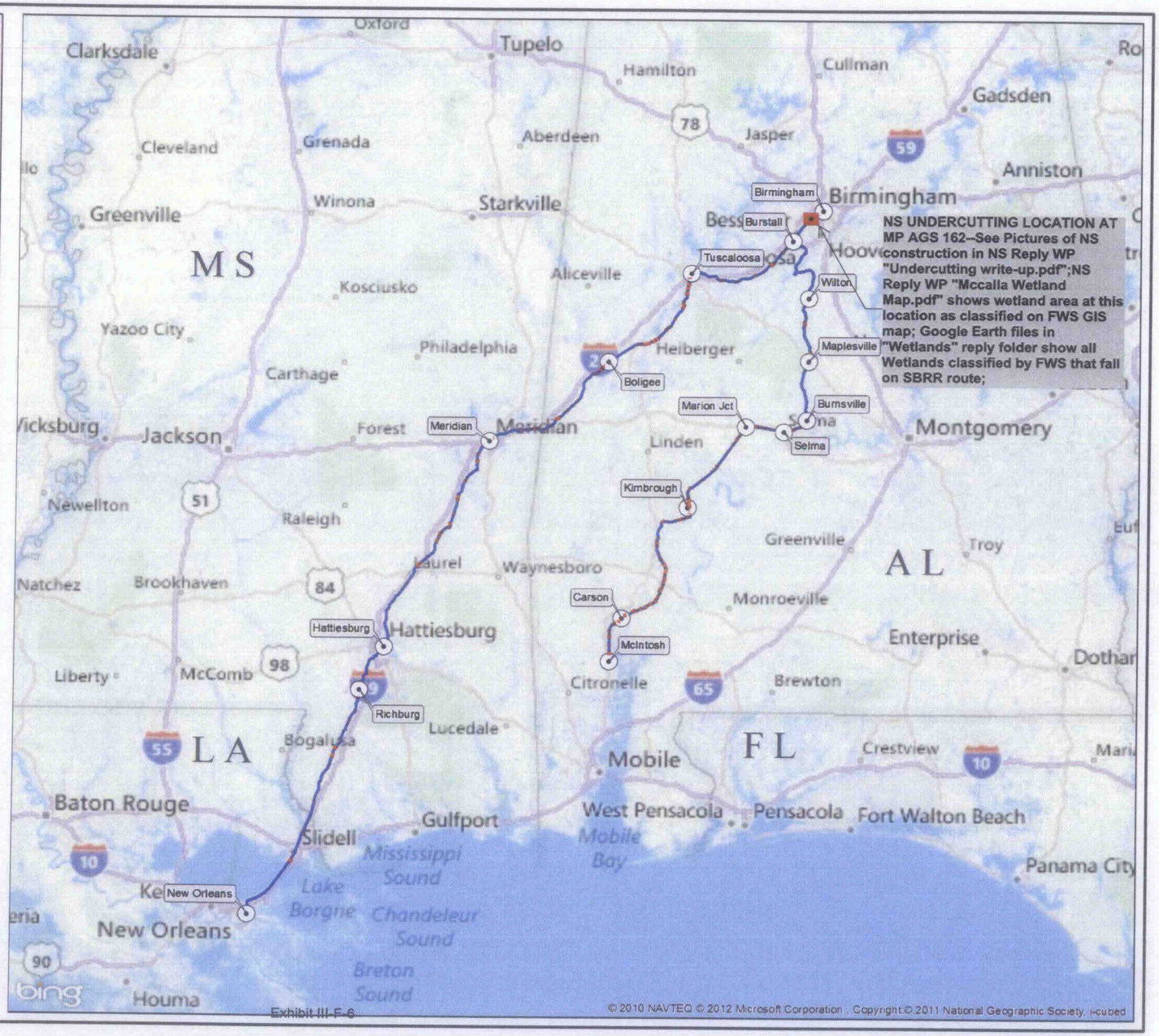
Rail Segment In Wetland

NS UNDERCUTTING EXAMPLE
SEE WP "Undercutting PE write-up.pdf"

LOCATION APPROX. = MP AGS 162

N
W E
S

0 40 80
Miles



NS WP SBRR Wetland GIS Example

Google earth

miles 4

km 7

NS WP SBRR Wetland GIS Example

Google earth

feet 1000

meters 300

Exhibit III-F- 6
Wetlands Detail:
AGS MP 162 to 166

LEGEND

SBRR
(SunBelt Stand Alone Railroad)

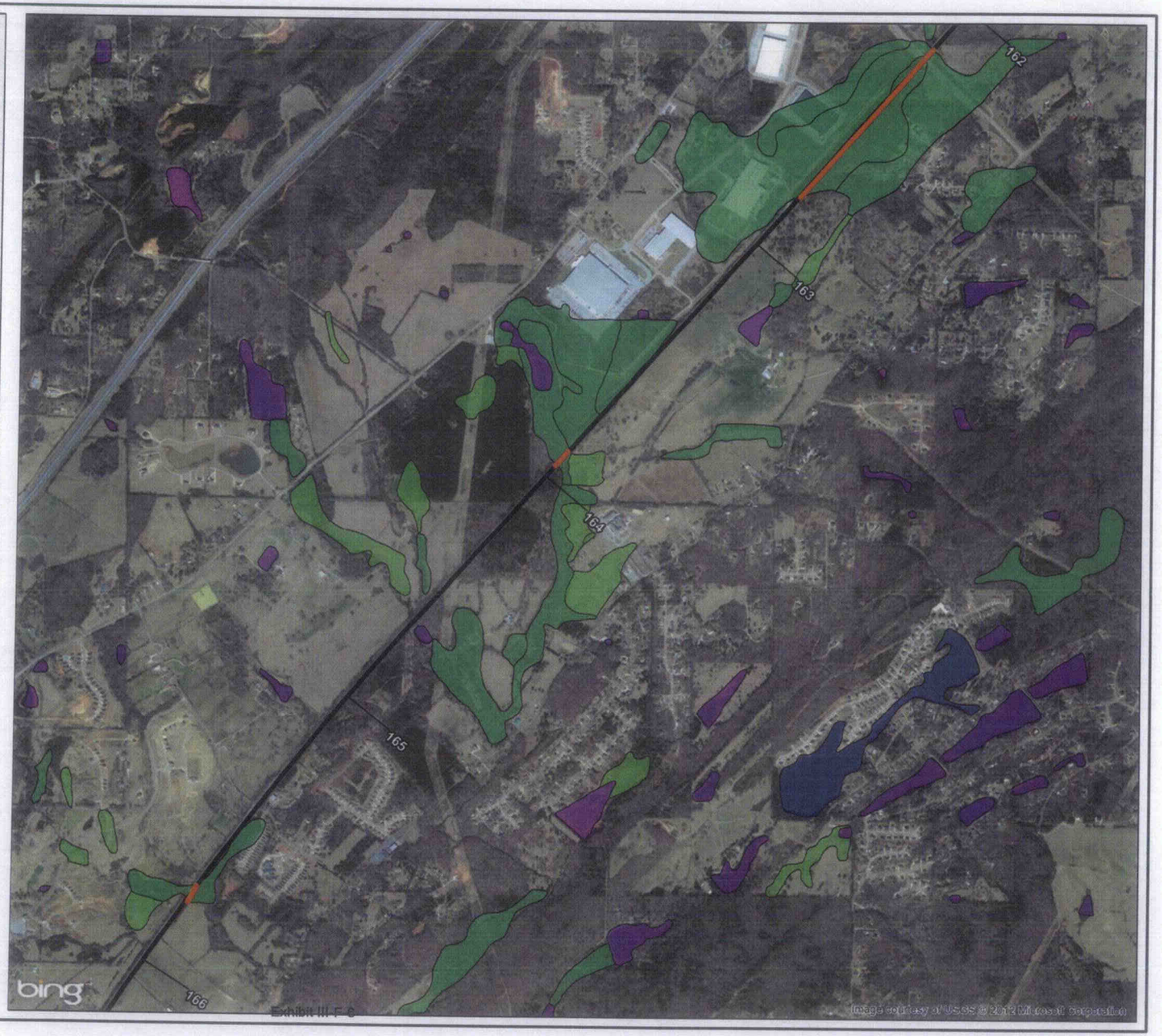
Rail Segment In Wetland

USFWS
National Wetlands Inventory

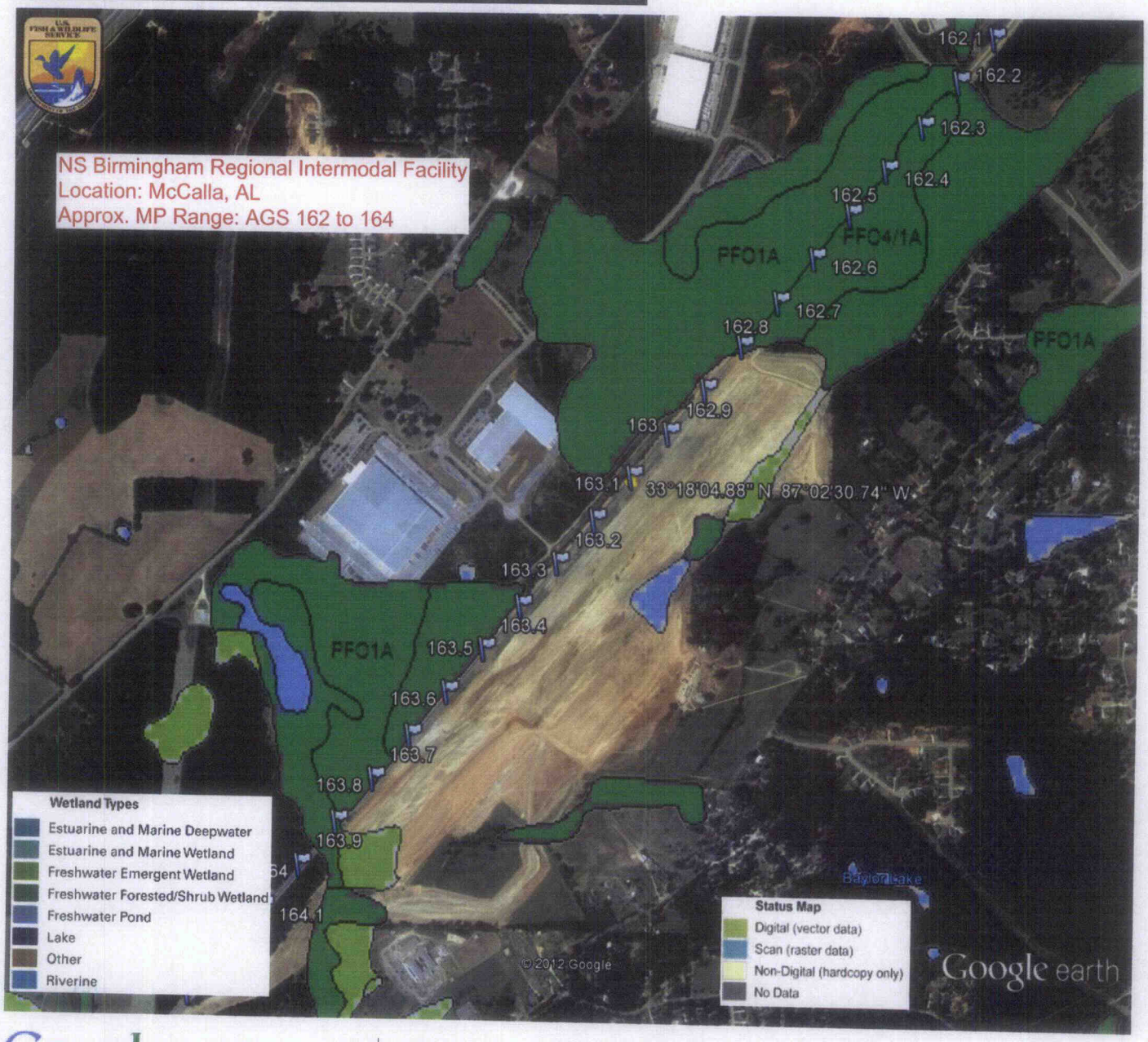
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake

N
W E
S

0 2,000 4,000
Feet



NS WP SBRR Wetland GIS Example



Google earth

miles 1

km 1

Exhibit III-F-7

Physiographic Provinces

LEGEND

SBRR
(SunBelt Stand Alone Railroad)

Station Location

COASTAL PLAIN - ATLANTIC PLAIN
EAST GULF COASTAL PLAIN

COASTAL PLAIN - ATLANTIC PLAIN
MISSISSIPPI ALLUVIAL PLAIN

VALLEY AND RIDGE - APPALACHIAN HIGHLANDS
TENNESSEE SECTION

N
W E
S

0 40 80
Miles

TABLE A: SBRR ANNUAL COST OF CAPITAL

Year (1)	Industry Cost of Capital (2)	Industry Cost of Debt 1/ (3)	Industry Cost of Preferred Equity 2/ (4)	Industry Cost of Equity 3/ (5)	SBRR 's Cost of Debt (6)	SBRR 's Cost of Preferred Equity (7)	SBRR 's Cost of Equity (8)	Debt as a Percent of Total Investment (9)	Preferred Equity as a Percent of Total Investment (10)	Equity as a Percent of Total Investment (11)	Composite Cost of Capital (12)	1 + Cost of Capital (13)	STB Prescribed Debt as a % of Capital 4/ (14)
2009	10.43%	5.72%	0.00%	12.37%	5.72%	0.00%	12.37%	29.10%	0.00%	70.90%	10.43%	1.1043	29.10%
2010	11.03%	4.61%	0.00%	12.99%	4.61%	0.00%	12.99%	23.37%	0.00%	76.63%	11.03%	1.1103	23.37%
2011	11.57%	3.97%	0.00%	13.57%	3.97%	0.00%	13.57%	20.83%	0.00%	79.17%	11.57%	1.1157	20.83%
2012					4.73%	0.00%	12.98%	24.17%	0.00%	75.83%	10.98%	1.1098	
2013					4.73%	0.00%	12.98%	24.17%	0.00%	75.83%	10.98%	1.1098	
2014					4.73%	0.00%	12.98%	24.17%	0.00%	75.83%	10.98%	1.1098	
2015					4.73%	0.00%	12.98%	24.17%	0.00%	75.83%	10.98%	1.1098	
2016					4.73%	0.00%	12.98%	24.17%	0.00%	75.83%	10.98%	1.1098	
2017					4.73%	0.00%	12.98%	24.17%	0.00%	75.83%	10.98%	1.1098	
2018					4.73%	0.00%	12.98%	24.17%	0.00%	75.83%	10.98%	1.1098	
2019					4.73%	0.00%	12.98%	24.17%	0.00%	75.83%	10.98%	1.1098	
2020					4.73%	0.00%	12.98%	24.17%	0.00%	75.83%	10.98%	1.1098	
2021					4.73%	0.00%	12.98%	24.17%	0.00%	75.83%	10.98%	1.1098	

1/ Cost of railroad industry debt from the STB Decision in Ex Parte No. 558 (Sub-No. 13), Railroad Cost of Capital - 2009, decided September 30, 2010, the STB decision Ex Parte No. 558 (Sub-No. 14), Railroad Cost of Capital - 2010, decided September 30, 2011 and the Association of American Railroads Opening Evidence in STB Parte No. 558 (Sub-No. 15), Railroad Cost of Capital - 2011, submitted April 20, 201

2/ No preferred equity was issued in 2009 - 2011

3/ Cost of railroad industry common equity from the STB Decision in Ex Parte No. 558 (Sub-No. 13), Railroad Cost of Capital - 2009, decided September 30, 2010, the STB decision Ex Parte No. 558 (Sub-No. 14), Railroad Cost of Capital - 2010, decided September 30, 2011 and the Association of American Railroads Opening Evidence in STB Parte No. 558 (Sub-No. 15), Railroad Cost of Capital - 2011, submitted April 20, 201

4/ Railroad industry capital structure from the STB Decision in Ex Parte No. 558 (Sub-No. 13), Railroad Cost of Capital - 2009, decided September 30, 2010, the STB decision in Ex Parte No. 558 (Sub-No. 14), Railroad Cost of Capital - 2010, decided September 30, 2011 and the Association of American Railroads Opening Evidence in STB Ex Parte No. 558 (Sub-No. 15), Railroad Cost of Capital - 2011, submitted April 20, 2012.

TABLE B: SBRR INFLATION INDEXES

Period (1)	Land 1/ (2)	Hybrid RCAF 2/ (3)	MWSExFuel 3/ (4)	Mat & Suppl 4/ (5)	Wages & Supps 5/ (6)
1Q 2009	100.0		423.9	319.5	444.1
2Q 2009	100.6		422.7	305.5	445.8
3Q 2009	101.2		425.8	312.5	448.0
4Q 2009	101.8		421.7	302.2	445.4
1Q 2010	102.4		451.4	311.2	479.7
2Q 2010	103.0		448.8	305.2	477.9
3Q 2010	103.6		448.1	304.5	477.1
4Q 2010	104.2		451.7	322.0	477.5
1Q 2011	104.8		453.9	314.7	481.9
2Q 2011	105.5		454.5	309.1	484.0
3Q 2011	106.1	100.0	460.7	329.4	486.8
4Q 2011	106.7	100.1	466.7	331.8	493.5
1Q 2012	107.3	96.9	466.4	331.4	493.2
2Q 2012	108.0	98.2	476.6	344.5	502.7
3Q 2012	108.6	97.0	477.5	346.6	503.3
4Q 2012	109.3	100.2	474.8	335.5	502.3
1Q 2013	109.9	100.4	483.4	336.9	512.3
2Q 2013	110.6	100.4	484.0	338.2	512.9
3Q 2013	111.2	100.1	488.6	340.2	518.0
4Q 2013	111.9	100.8	494.6	342.3	524.7
1Q 2014	112.5	100.8	499.9	345.3	530.5
2Q 2014	113.2	101.5	500.9	348.5	531.0
3Q 2014	113.9	101.6	506.8	352.3	537.4
4Q 2014	114.5	102.6	512.8	355.8	543.8
1Q 2015	115.2	103.0	517.7	357.9	549.3
2Q 2015	115.9	103.4	522.7	360.1	554.9
3Q 2015	116.6	103.7	527.7	362.2	560.5
4Q 2015	117.3	104.1	532.7	364.4	566.1
1Q 2016	118.0	105.0	537.0	366.4	570.9
2Q 2016	118.7	105.9	541.4	368.5	575.7
3Q 2016	119.4	106.9	545.7	370.6	580.5
4Q 2016	120.1	107.8	550.1	372.7	585.4
1Q 2017	120.8	108.6	554.9	375.2	590.6
2Q 2017	121.5	109.3	559.6	377.7	595.8
3Q 2017	122.2	110.1	564.5	380.3	601.1
4Q 2017	123.0	110.8	569.3	382.8	606.5
1Q 2018	123.7	111.6	574.4	385.6	612.0
2Q 2018	124.4	112.4	579.5	388.5	617.6
3Q 2018	125.2	113.1	584.7	391.4	623.2
4Q 2018	125.9	113.9	589.9	394.3	628.9
1Q 2019	126.6	114.6	595.1	397.1	634.6
2Q 2019	127.4	115.2	600.4	400.0	640.4
3Q 2019	128.1	115.9	605.8	402.8	646.3
4Q 2019	128.9	116.6	611.2	405.7	652.2
1Q 2020	129.7	117.0	616.3	408.3	657.8
2Q 2020	130.4	117.4	621.4	411.0	663.5
3Q 2020	131.2	117.9	626.6	413.6	669.2
4Q 2020	132.0	118.3	631.9	416.3	675.0
1Q 2021	132.8	118.7	636.9	418.3	680.7
2Q 2021	133.6	119.0	642.0	420.4	686.4
3Q 2021	134.3	119.4	647.1	422.5	692.1
Annual Inflation Rate 6/	2.39%		3.51%	3.10%	3.55%

1/ Used to index Road Property Account 2. Based on historic change in rural land prices as reported by the USDA and urban land prices as reported by the National Council of Real Estate Investment Fiduciaries.

2/ Used to index expenses in Table K. Based on the RCAF-U and RCAF-A through 3Q12 then Global Insight forecast for remaining periods.

3/ Used to index Road Property Accounts 3, 5, 6, 13, 17, 19, 20, 26, 27, 37, and 39. Based on RCR indices - East Region through 2Q12 then Global Insight forecast.

4/ Used to index Road Property Accounts 8, 9, and 11. Based on RCR indexes - East Region through 2Q12 then Global Insight forecast for remaining periods.

5/ Used to index Road Property Accounts 1, 1A and 12. Based on RCR indexes - East Region through 2Q12 then Global Insight forecast for remaining periods.

6/ 1Q2009 ÷ 3Q2021^(1/12.5) - 1. The Annual Rate is used to develop asset replacement values at the end of asset lives.

TABLE C: SBRR PROPERTY INVESTMENT VALUES

Construction of the SBRR occurs between February 28, 2009 and July 29, 2011.
Investments are assumed to be in July 30, 2011 dollars.

Property Account (1)	Property Component (2)	Service Life In Years 1/ (3)	Investment In 7/30/2009 Dollars 2/ (4)	Investment In 7/30/2010 Dollars 3/ (5)	Investment In 7/30/2011 Dollars 4/ (6)	2009 Investment Value 5/ (7)	2010 Investment Value 6/ (8)	2011 Investment Value 7/ (9)	Total Property Investment 3Q 2011 8/ (10)
1	Engineering	NA	$241,093,394	$256,753,702	$261,973,804	$189,430,524	$55,018,650	$0	$244,449,174
2	Land	NA	208,046,537	213,018,849	$218,110,000	208,046,537	0	0	208,046,537
3	Grading	95	708,953,898	746,083,235	$767,062,143	303,837,385	426,333,277	0	730,170,662
5	Tunnels	120	0	0	$0	0	0	0	0
6	Bridges & Culverts	96	510,445,700	537,178,765	$552,283,546	0	393,931,094	147,275,612	541,206,707
8	Ties	23	141,175,640	137,561,544	$148,810,419	0	91,707,696	49,603,473	141,311,169
9	Rails and OTM	40	378,033,551	368,355,892	$398,477,606	0	245,570,595	132,825,869	378,396,463
11	Ballast	40	288,570,782	281,183,370	$304,176,690	0	187,455,580	101,392,230	288,847,810
12	Labor	37	128,537,839	136,887,060	$139,670,134	0	91,258,040	46,556,711	137,814,752
13	Fences and Roadway Signs	95	1,054,281	1,109,496	$1,140,694	0	739,664	380,231	1,119,895
16	Stations and Office Buildings	43	0	0	$0	0	0	0	0
17	Roadway Buildings	44	153,600,047	161,644,390	$166,189,624	0	161,644,390	0	161,644,390
19	Fuel Stations	31	12,799,732	13,470,080	$13,848,841	0	13,470,080	0	13,470,080
20	Shops and Enginehouses	50	17,634,355	18,557,902	$19,079,727	0	18,557,902	0	18,557,902
26	Communications Systems	26	25,717,210	27,064,072	$27,825,079	0	4,510,679	23,187,566	27,698,244
27	Signals and Interlockers	56	132,286,332	139,214,432	$143,128,964	0	23,202,405	119,274,137	142,476,542
39	Public Improvements	13	16,482,918	17,346,161	$17,833,913	0	11,564,108	5,944,638	17,508,745
	Total		$2,964,432,218	$3,055,428,952	$3,179,611,185	$701,314,446	$1,724,964,161	$626,440,467	$3,052,719,074

1/ 1 ÷ Depreciation Rate shown in Schedule 332 of NS' 2011 Annual Report R-1.
2/ July 30, 2011, indexed to 2009 dollars; Investment Exhibit - 3Q11 x Inflation Index from Table B, 3Q2009 ÷ 3Q2011.
3/ July 30, 2011, indexed to 2010 dollars; Investment Exhibit - 3Q11 x Inflation Index from Table B, 3Q2010 ÷ 3Q2011.
4/ July 30, 2011, indexed to 2011 dollars; Investment Exhibit - 3Q11 x Inflation Index from Table B, 3Q2011 ÷ 3Q2011.
5/ Column (4) x Percent constructed in 2009.
6/ Column (5) x Percent constructed in 2010.
7/ Column (6) x Percent constructed in 2011.
8/ Sum of Columns (7) through (9).

TABLE D: INTEREST DURING CONSTRUCTION

Month of Installation (1)	Cost of Funds 1/ (2)	Timing of Account 1 Investment 2/ (3)	Timing of Account 2 Investment 2/ (4)	Timing of Accounts 3 and 5 Investment 2/ (5)	Timing of Accounts 6, 13 through 20 and 39 Investment 2/ (6)	Timing of Accounts 8 through 12, 26 and 27 Investment 2/ (7)	Total Investment by Month 3/ (8)	Interest During Construction 4/ (9)	Cost of Debt 5/ (10)	Deductible Interest During Construction 6/ (11)
Feb-09	0.83%	$17,220,957	$0	$0	$0	$0	$17,220,957	$0	0.46%	$0
Mar-09	0.83%	17,220,957	0	0	0	0	17,220,957	143,030	0.46%	23,283
Apr-09	0.83%	17,220,957	0	0	0	0	17,220,957	287,249	0.46%	46,759
May-09	0.83%	17,220,957	0	0	0	0	17,220,957	432,665	0.46%	70,430
Jun-09	0.83%	17,220,957	29,720,934	0	0	0	46,941,891	579,289	0.46%	94,298
Jul-09	0.83%	17,220,957	29,720,934	0	0	0	46,941,891	973,981	0.46%	158,548
Aug-09	0.83%	17,220,957	29,720,934	0	0	0	46,941,891	1,371,951	0.46%	179,355
Sep-09	0.83%	17,220,957	29,720,934	0	0	0	46,941,891	1,773,226	0.46%	231,814
Oct-09	0.83%	17,220,957	29,720,934	101,279,128	0	0	148,221,019	2,177,834	0.46%	284,708
Nov-09	0.83%	17,220,957	29,720,934	101,279,128	0	0	148,221,019	3,426,987	0.46%	448,010
Dec-09	0.83%	17,220,957	29,720,934	101,279,128	0	0	148,221,019	4,686,514	0.46%	612,668
Jan-10	0.88%	18,339,550	0	106,583,319	0	0	124,922,869	6,281,321	0.38%	630,654
Feb-10	0.88%	18,339,550	0	106,583,319	35,811,918	0	160,734,787	7,430,475	0.38%	746,031
Mar-10	0.88%	18,339,550	0	106,583,319	68,090,646	0	193,013,516	8,903,353	0.38%	893,910
Apr-10	0.88%	0	0	106,583,319	68,090,646	0	174,673,966	10,671,846	0.38%	1,071,469
May-10	0.88%	0	0	0	69,628,618	76,998,989	146,627,607	12,295,200	0.38%	1,234,457
Jun-10	0.88%	0	0	0	69,628,618	76,998,989	146,627,607	13,687,128	0.38%	1,374,208
Jul-10	0.88%	0	0	0	69,628,618	76,998,989	146,627,607	15,091,248	0.38%	1,515,184
Aug-10	0.88%	0	0	0	69,628,618	76,998,989	146,627,607	16,507,665	0.38%	1,477,258
Sep-10	0.88%	0	0	0	37,349,889	76,998,989	114,348,878	17,936,488	0.38%	1,605,123
Oct-10	0.88%	0	0	0	37,349,889	76,998,989	114,348,878	19,095,112	0.38%	1,708,807
Nov-10	0.88%	0	0	0	37,349,889	76,998,989	114,348,878	20,263,883	0.38%	1,813,399
Dec-10	0.88%	0	0	0	37,349,889	104,712,073	142,061,962	21,442,891	0.38%	1,918,908
Jan-11	0.92%	0	0	0	38,400,120	111,086,911	149,487,032	23,937,853	0.32%	1,767,874
Feb-11	0.92%	0	0	0	38,400,120	111,086,911	149,487,032	25,527,377	0.32%	1,885,265
Mar-11	0.92%	0	0	0	38,400,120	111,086,911	149,487,032	27,131,469	0.32%	2,003,731
Apr-11	0.92%	0	0	0	38,400,120	111,086,911	149,487,032	28,750,264	0.32%	2,123,284
May-11	0.92%	0	0	0	0	28,492,341	28,492,341	30,383,896	0.32%	2,243,932
Jun-11	0.92%	0	0	0	0	0	0	30,923,525	0.32%	2,283,785
Jul-11	0.92%	0	0	0	0	0	0	31,206,954	0.32%	2,304,717
Total		$244,449,174	$208,046,537	$730,170,662	$753,507,719	$1,116,544,981	$3,052,719,074	$383,320,674		$32,751,869

1/ ((1 + Cost of Capital from Table A for the applicable year)^(1/12) - 1) x 100.
2/ Applicable account value from Table C for the applicable investment period.
3/ Sum of Columns (3) through (7)
4/ February 2009 equals Column (2) x prior Column (8), all other periods equal Column (2) x ((Sum of Column (8) for all prior periods) + (Sum of Column (9) for all prior periods)
5/ ((1 + Cost of Debt from Table A for the applicable year)^(1/12) - 1) x 100.
6/ February 2009 equals prior Column (8) x Column (10) x Table A, Column (9) for 2009, all other periods equal Column (10) x ((Sum of Column (8) for all prior periods) - (Sum of Column (9) for all prior periods)) x Table A, Column (9) for the applicable year

TABLE E: SBRR INTEREST PAYMENTS FOR ASSETS PURCHASED WITH DEBT CAPITAL

INTEREST SCHEDULE FOR THE SBRR 2009 ROAD PROPERTY INVESTMENT FOR THE 3Q2011 START-UP

1. TOTAL INVESTMENT	$701,314,446	1/
2. IDC	$15,852,725	2/
3. PRINCIPAL	$208,695,647	3/
4. INTEREST	5.72%	4/
5. TERM (QUARTERS)	80	5/
6. PAYMENT	$4,353,609	6/

Quarter (1)	Beginning Balance	Ending Balance	Payment	Principal	Interest 7/ (2)
1	$208,695,647	$207,264,427	$4,353,609	$1,431,220	$2,922,389
2	207,264,427	205,813,166	4,353,609	1,451,261	2,902,347
3	205,813,166	204,341,583	4,353,609	1,471,583	2,882,025
4	204,341,583	202,849,393	4,353,609	1,492,190	2,861,418
5	202,849,393	201,336,307	4,353,609	1,513,085	2,840,523
6	201,336,307	199,802,034	4,353,609	1,534,273	2,819,335
7	199,802,034	198,246,276	4,353,609	1,555,758	2,797,851
8	198,246,276	196,668,733	4,353,609	1,577,543	2,776,065
9	196,668,733	195,069,099	4,353,609	1,599,634	2,753,975
10	195,069,099	193,447,065	4,353,609	1,622,034	2,731,575
11	193,447,065	191,802,318	4,353,609	1,644,747	2,708,861
12	191,802,318	190,134,539	4,353,609	1,667,779	2,685,830
13	190,134,539	188,443,406	4,353,609	1,691,133	2,662,476
14	188,443,406	186,728,592	4,353,609	1,714,814	2,638,794
15	186,728,592	184,989,765	4,353,609	1,738,827	2,614,782
16	184,989,765	183,226,589	4,353,609	1,763,176	2,590,433
17	183,226,589	181,438,724	4,353,609	1,787,866	2,565,743
18	181,438,724	179,625,822	4,353,609	1,812,901	2,540,707
19	179,625,822	177,787,534	4,353,609	1,838,288	2,515,321
20	177,787,534	175,923,505	4,353,609	1,864,029	2,489,579
21	175,923,505	174,033,373	4,353,609	1,890,132	2,463,477
22	174,033,373	172,116,774	4,353,609	1,916,599	2,437,009
23	172,116,774	170,173,336	4,353,609	1,943,438	2,410,171
24	170,173,336	168,202,684	4,353,609	1,970,652	2,382,957
25	168,202,684	166,204,437	4,353,609	1,998,247	2,355,361
26	166,204,437	164,178,208	4,353,609	2,026,229	2,327,380
27	164,178,208	162,123,606	4,353,609	2,054,602	2,299,006
28	162,123,606	160,040,233	4,353,609	2,083,373	2,270,235
29	160,040,233	157,927,686	4,353,609	2,112,547	2,241,062
30	157,927,686	155,785,556	4,353,609	2,142,129	2,211,479
31	155,785,556	153,613,431	4,353,609	2,172,126	2,181,483
32	153,613,431	151,410,889	4,353,609	2,202,542	2,151,066
33	151,410,889	149,177,504	4,353,609	2,233,385	2,120,224
34	149,177,504	146,912,845	4,353,609	2,264,659	2,088,950
35	146,912,845	144,616,474	4,353,609	2,296,371	2,057,237
36	144,616,474	142,287,946	4,353,609	2,328,528	2,025,081
37	142,287,946	139,926,812	4,353,609	2,361,134	1,992,474
38	139,926,812	137,532,615	4,353,609	2,394,197	1,959,411
39	137,532,615	135,104,891	4,353,609	2,427,724	1,925,885
40	135,104,891	132,643,172	4,353,609	2,461,719	1,891,889

INTEREST SCHEDULE FOR THE SBRR 2010 ROAD PROPERTY INVESTMENT FOR THE 3Q2011 START-UP

1. TOTAL INVESTMENT	$1,724,964,161	1/
2. IDC	$169,606,611	2/
3. PRINCIPAL	$442,761,189	3/
4. INTEREST	4.61%	4/
5. TERM (QUARTERS)	80	5/
6. PAYMENT	$8,446,104	6/

Quarter (3)	Beginning Balance	Ending Balance	Payment	Principal	Interest 7/ (4)
1	$442,761,189	$439,331,993	$8,446,104	$3,429,196	$5,016,907
2	439,331,993	435,863,940	8,446,104	3,468,053	4,978,051
3	435,863,940	432,356,591	8,446,104	3,507,349	4,938,755
4	432,356,591	428,809,501	8,446,104	3,547,090	4,899,013
5	428,809,501	425,222,219	8,446,104	3,587,282	4,858,821
6	425,222,219	421,594,289	8,446,104	3,627,930	4,818,174
7	421,594,289	417,925,251	8,446,104	3,669,038	4,777,066
8	417,925,251	414,214,640	8,446,104	3,710,611	4,735,492
9	414,214,640	410,461,984	8,446,104	3,752,656	4,693,448
10	410,461,984	406,666,806	8,446,104	3,795,177	4,650,926
11	406,666,806	402,828,626	8,446,104	3,838,180	4,607,923
12	402,828,626	398,946,955	8,446,104	3,881,671	4,564,433
13	398,946,955	395,021,302	8,446,104	3,925,654	4,520,450
14	395,021,302	391,051,167	8,446,104	3,970,135	4,475,969
15	391,051,167	387,036,046	8,446,104	4,015,120	4,430,983
16	387,036,046	382,975,431	8,446,104	4,060,616	4,385,488
17	382,975,431	378,868,805	8,446,104	4,106,626	4,339,477
18	378,868,805	374,715,646	8,446,104	4,153,158	4,292,945
19	374,715,646	370,515,429	8,446,104	4,200,217	4,245,886
20	370,515,429	366,267,619	8,446,104	4,247,810	4,198,294
21	366,267,619	361,971,677	8,446,104	4,295,942	4,150,162
22	361,971,677	357,627,059	8,446,104	4,344,619	4,101,485
23	357,627,059	353,233,211	8,446,104	4,393,847	4,052,256
24	353,233,211	348,789,577	8,446,104	4,443,634	4,002,470
25	348,789,577	344,295,592	8,446,104	4,493,985	3,952,119
26	344,295,592	339,750,687	8,446,104	4,544,906	3,901,198
27	339,750,687	335,154,283	8,446,104	4,596,404	3,849,700
28	335,154,283	330,505,797	8,446,104	4,648,486	3,797,618
29	330,505,797	325,804,640	8,446,104	4,701,157	3,744,946
30	325,804,640	321,050,214	8,446,104	4,754,426	3,691,678
31	321,050,214	316,241,916	8,446,104	4,808,298	3,637,806
32	316,241,916	311,379,135	8,446,104	4,862,781	3,583,323
33	311,379,135	306,461,255	8,446,104	4,917,881	3,528,223
34	306,461,255	301,487,650	8,446,104	4,973,605	3,472,499
35	301,487,650	296,457,689	8,446,104	5,029,961	3,416,143
36	296,457,689	291,370,734	8,446,104	5,086,955	3,359,149
37	291,370,734	286,226,139	8,446,104	5,144,595	3,301,509
38	286,226,139	281,023,251	8,446,104	5,202,888	3,243,216
39	281,023,251	275,761,409	8,446,104	5,261,842	3,184,262
40	275,761,409	270,439,946	8,446,104	5,321,463	3,124,640

INTEREST SCHEDULE FOR THE SBRR 2011 ROAD PROPERTY INVESTMENT FOR THE 3Q2011 START-UP

1. TOTAL INVESTMENT	$626,440,467	1/
2. IDC	$197,861,338	2/
3. PRINCIPAL	$171,702,066	3/
4. INTEREST	3.97%	4/
5. TERM (QUARTERS)	80	5/
6. PAYMENT	$3,104,309	6/

Quarter (3)	Beginning Balance	Ending Balance	Payment	Principal	Interest 7/ (4)
1	$171,702,066	$170,277,101	$3,104,309	$1,424,965	$1,679,345
2	170,277,101	168,838,200	3,104,309	1,438,902	1,665,408
3	168,838,200	167,385,225	3,104,309	1,452,975	1,651,334
4	167,385,225	165,918,039	3,104,309	1,467,186	1,637,123
5	165,918,039	164,436,503	3,104,309	1,481,536	1,622,773
6	164,436,503	162,940,477	3,104,309	1,496,026	1,608,283
7	162,940,477	161,429,819	3,104,309	1,510,658	1,593,651
8	161,429,819	159,904,386	3,104,309	1,525,433	1,578,876
9	159,904,386	158,364,033	3,104,309	1,540,353	1,563,956
10	158,364,033	156,808,615	3,104,309	1,555,418	1,548,891
11	156,808,615	155,237,984	3,104,309	1,570,631	1,533,678
12	155,237,984	153,651,991	3,104,309	1,585,993	1,518,316
13	153,651,991	152,050,486	3,104,309	1,601,505	1,502,804
14	152,050,486	150,433,318	3,104,309	1,617,168	1,487,141
15	150,433,318	148,800,333	3,104,309	1,632,985	1,471,324
16	148,800,333	147,151,376	3,104,309	1,648,957	1,455,352
17	147,151,376	145,486,292	3,104,309	1,665,084	1,439,225
18	145,486,292	143,804,922	3,104,309	1,681,370	1,422,939
19	143,804,922	142,107,107	3,104,309	1,697,815	1,406,494
20	142,107,107	140,392,687	3,104,309	1,714,420	1,389,889
21	140,392,687	138,661,499	3,104,309	1,731,188	1,373,121
22	138,661,499	136,913,378	3,104,309	1,748,120	1,356,189
23	136,913,378	135,148,160	3,104,309	1,765,218	1,339,091
24	135,148,160	133,365,677	3,104,309	1,782,483	1,321,826
25	133,365,677	131,565,761	3,104,309	1,799,916	1,304,393
26	131,565,761	129,748,240	3,104,309	1,817,521	1,286,788
27	129,748,240	127,912,943	3,104,309	1,835,297	1,269,012
28	127,912,943	126,059,696	3,104,309	1,853,247	1,251,062
29	126,059,696	124,188,323	3,104,309	1,871,373	1,232,936
30	124,188,323	122,298,646	3,104,309	1,889,676	1,214,633
31	122,298,646	120,390,488	3,104,309	1,908,158	1,196,151
32	120,390,488	118,463,667	3,104,309	1,926,821	1,177,488
33	118,463,667	116,518,000	3,104,309	1,945,667	1,158,643
34	116,518,000	114,553,304	3,104,309	1,964,696	1,139,613
35	114,553,304	112,569,391	3,104,309	1,983,912	1,120,397
36	112,569,391	110,566,075	3,104,309	2,003,316	1,100,993
37	110,566,075	108,543,166	3,104,309	2,022,910	1,081,400
38	108,543,166	106,500,471	3,104,309	2,042,695	1,061,614
39	106,500,471	104,437,797	3,104,309	2,062,674	1,041,636
40	104,437,797	102,354,949	3,104,309	2,082,848	1,021,461

1/ From Table D, Column (7) for the applicable year investment.
2/ From Table D, Column (8) for the applicable year investment.
3/ (Total Investment + IDC) x (Proportion of Debt from Table A, Column (9)).
4/ From Table A, Column (6) for the applicable year investment.
5/ Based on Ex Parte No. 657 20-year payment period x 4.
6/ Quarterly coupon payments on Line 3 principal and Line 4 interest rates.
7/ Line 6 coupon payment.

TABLE E: SBRR INTEREST PAYMENTS FOR ASSETS PURCHASED WITH DEBT CAPITAL
(Continued)

INTEREST SCHEDULE FOR
THE SBRR 2009 ROAD PROPERTY
INVESTMENT FOR THE 3Q2011 START-UP

1. TOTAL INVESTMENT	$701,314,446	1/
2. IDC	$15,852,725	2/
3. PRINCIPAL	$208,695,647	3/
4. INTEREST	5.72%	4/
5. TERM (QUARTERS)	80	5/
6. PAYMENT	$4,353,609	6/

Quarter (1)	Beginning Balance	Ending Balance	Payment	Principal	Interest 7/ (2)
41	$132,643,172	$130,146,980	$4,353,609	$2,496,191	$1,857,417
42	130,146,980	127,615,835	4,353,609	2,531,146	1,822,463
43	127,615,835	125,049,245	4,353,609	2,566,589	1,787,019
44	125,049,245	122,446,716	4,353,609	2,602,530	1,751,079
45	122,446,716	119,807,743	4,353,609	2,638,973	1,714,635
46	119,807,743	117,131,816	4,353,609	2,675,927	1,677,681
47	117,131,816	114,418,417	4,353,609	2,713,398	1,640,210
48	114,418,417	111,667,023	4,353,609	2,751,394	1,602,214
49	111,667,023	108,877,100	4,353,609	2,789,922	1,563,686
50	108,877,100	106,048,110	4,353,609	2,828,990	1,524,618
51	106,048,110	103,179,505	4,353,609	2,868,605	1,485,004
52	103,179,505	100,270,731	4,353,609	2,908,774	1,444,834
53	100,270,731	97,321,225	4,353,609	2,949,506	1,404,102
54	97,321,225	94,330,417	4,353,609	2,990,808	1,362,800
55	94,330,417	91,297,728	4,353,609	3,032,689	1,320,920
56	91,297,728	88,222,572	4,353,609	3,075,156	1,278,452
57	88,222,572	85,104,354	4,353,609	3,118,218	1,235,391
58	85,104,354	81,942,471	4,353,609	3,161,883	1,191,726
59	81,942,471	78,736,313	4,353,609	3,206,159	1,147,450
60	78,736,313	75,485,258	4,353,609	3,251,055	1,102,554
61	75,485,258	72,188,678	4,353,609	3,296,580	1,057,029
62	72,188,678	68,845,936	4,353,609	3,342,742	1,010,866
63	68,845,936	65,456,385	4,353,609	3,389,551	964,057
64	65,456,385	62,019,369	4,353,609	3,437,015	916,593
65	62,019,369	58,534,225	4,353,609	3,485,144	868,464
66	58,534,225	55,000,278	4,353,609	3,533,947	819,661
67	55,000,278	51,416,845	4,353,609	3,583,433	770,175
68	51,416,845	47,783,232	4,353,609	3,633,613	719,996
69	47,783,232	44,098,737	4,353,609	3,684,494	669,114
70	44,098,737	40,362,649	4,353,609	3,736,089	617,520
71	40,362,649	36,574,243	4,353,609	3,788,406	565,203
72	36,574,243	32,732,788	4,353,609	3,841,455	512,153
73	32,732,788	28,837,540	4,353,609	3,895,248	458,361
74	28,837,540	24,887,747	4,353,609	3,949,793	403,815
75	24,887,747	20,882,644	4,353,609	4,005,103	348,506
76	20,882,644	16,821,458	4,353,609	4,061,186	292,422
77	16,821,458	12,703,402	4,353,609	4,118,056	235,553
78	12,703,402	8,527,681	4,353,609	4,175,721	177,887
79	8,527,681	4,293,486	4,353,609	4,234,194	119,414
80	4,293,486	0	4,353,609	4,293,486	60,122

INTEREST SCHEDULE FOR
THE SBRR 2010 ROAD PROPERTY
INVESTMENT FOR THE 3Q2011 START-UP

1. TOTAL INVESTMENT	$1,724,964,161	1/
2. IDC	$169,606,611	2/
3. PRINCIPAL	$442,761,189	3/
4. INTEREST	4.61%	4/
5. TERM (QUARTERS)	80	5/
6. PAYMENT	$8,446,104	6/

Quarter (3)	Beginning Balance	Ending Balance	Payment	Principal	Interest 7/ (4)
41	$270,439,946	$265,058,185	$8,446,104	$5,381,761	$3,064,343
42	265,058,185	259,615,444	8,446,104	5,442,741	3,003,362
43	259,615,444	254,111,031	8,446,104	5,504,413	2,941,691
44	254,111,031	248,544,248	8,446,104	5,566,783	2,879,321
45	248,544,248	242,914,388	8,446,104	5,629,860	2,816,244
46	242,914,388	237,220,737	8,446,104	5,693,652	2,752,452
47	237,220,737	231,462,571	8,446,104	5,758,166	2,687,938
48	231,462,571	225,639,159	8,446,104	5,823,412	2,622,692
49	225,639,159	219,749,762	8,446,104	5,889,396	2,556,707
50	219,749,762	213,793,633	8,446,104	5,956,129	2,489,975
51	213,793,633	207,770,016	8,446,104	6,023,618	2,422,486
52	207,770,016	201,678,145	8,446,104	6,091,871	2,354,233
53	201,678,145	195,517,247	8,446,104	6,160,898	2,285,206
54	195,517,247	189,286,541	8,446,104	6,230,707	2,215,397
55	189,286,541	182,985,234	8,446,104	6,301,306	2,144,797
56	182,985,234	176,612,528	8,446,104	6,372,706	2,073,398
57	176,612,528	170,167,613	8,446,104	6,444,915	2,001,189
58	170,167,613	163,649,671	8,446,104	6,517,942	1,928,162
59	163,649,671	157,057,874	8,446,104	6,591,797	1,854,307
60	157,057,874	150,391,387	8,446,104	6,666,488	1,779,616
61	150,391,387	143,649,361	8,446,104	6,742,026	1,704,078
62	143,649,361	136,830,942	8,446,104	6,818,419	1,627,684
63	136,830,942	129,935,263	8,446,104	6,895,678	1,550,425
64	129,935,263	122,961,450	8,446,104	6,973,813	1,472,291
65	122,961,450	115,908,617	8,446,104	7,052,833	1,393,271
66	115,908,617	108,775,869	8,446,104	7,132,748	1,313,355
67	108,775,869	101,562,300	8,446,104	7,213,569	1,232,535
68	101,562,300	94,266,994	8,446,104	7,295,306	1,150,798
69	94,266,994	86,889,025	8,446,104	7,377,969	1,068,135
70	86,889,025	79,427,457	8,446,104	7,461,568	984,536
71	79,427,457	71,881,343	8,446,104	7,546,115	899,989
72	71,881,343	64,249,723	8,446,104	7,631,619	814,484
73	64,249,723	56,531,630	8,446,104	7,718,093	728,011
74	56,531,630	48,726,084	8,446,104	7,805,546	640,557
75	48,726,084	40,832,093	8,446,104	7,893,991	552,113
76	40,832,093	32,848,656	8,446,104	7,983,437	462,667
77	32,848,656	24,774,759	8,446,104	8,073,897	372,207
78	24,774,759	16,609,377	8,446,104	8,165,382	280,722
79	16,609,377	8,351,474	8,446,104	8,257,904	188,200
80	8,351,474	0	8,446,104	8,351,474	94,630

INTEREST SCHEDULE FOR
THE SBRR 2011 ROAD PROPERTY
INVESTMENT FOR THE 3Q2011 START-UP

1. TOTAL INVESTMENT	$626,440,467	1/
2. IDC	$197,861,338	2/
3. PRINCIPAL	$171,702,066	3/
4. INTEREST	3.97%	4/
5. TERM (QUARTERS)	80	5/
6. PAYMENT	$3,104,309	6/

Quarter (3)	Beginning Balance	Ending Balance	Payment	Principal	Interest 7/ (4)	FUTURE INT. DISCOUNTED 90,485,377	
41	$102,354,949	$100,251,730	$3,104,309	$2,103,219	$1,001,090	3,951,552	1
42	100,251,730	98,127,940	3,104,309	2,123,790	980,519	5,511,518	2
43	98,127,940	95,983,379	3,104,309	2,144,562	959,747	5,260,743	3
44	95,983,379	93,817,842	3,104,309	2,165,537	938,772	5,017,962	4
45	93,817,842	91,631,125	3,104,309	2,186,717	917,592	4,782,947	5
46	91,631,125	89,423,021	3,104,309	2,208,104	896,205	4,555,477	6
47	89,423,021	87,193,320	3,104,309	2,229,701	874,608	4,335,336	7
48	87,193,320	84,941,811	3,104,309	2,251,509	852,801	4,122,314	8
49	84,941,811	82,668,282	3,104,309	2,273,530	830,780	3,916,208	9
50	82,668,282	80,372,515	3,104,309	2,295,766	808,543	3,716,819	10
51	80,372,515	78,054,295	3,104,309	2,318,220	786,089	3,523,954	11
52	78,054,295	75,713,402	3,104,309	2,340,893	763,416	3,337,425	12
53	75,713,402	73,349,613	3,104,309	2,363,789	740,520	3,157,050	13
54	73,349,613	70,962,705	3,104,309	2,386,908	717,401	2,982,650	14
55	70,962,705	68,552,452	3,104,309	2,410,253	694,056	2,814,054	15
56	68,552,452	66,118,625	3,104,309	2,433,827	670,482	2,651,093	16
57	66,118,625	63,660,994	3,104,309	2,457,631	646,678	2,493,603	17
58	63,660,994	61,179,326	3,104,309	2,481,668	622,641	2,341,426	18
59	61,179,326	58,673,385	3,104,309	2,505,940	598,369	2,194,407	19
60	58,673,385	56,142,935	3,104,309	2,530,450	573,859	2,052,396	20
61	56,142,935	53,587,736	3,104,309	2,555,199	549,110	1,915,245	21
62	53,587,736	51,007,546	3,104,309	2,580,190	524,119	1,782,814	22
63	51,007,546	48,402,120	3,104,309	2,605,426	498,883	1,654,963	23
64	48,402,120	45,771,211	3,104,309	2,630,909	473,400	1,531,557	24
65	45,771,211	43,114,570	3,104,309	2,656,641	447,669	1,412,467	25
66	43,114,570	40,431,946	3,104,309	2,682,624	421,685	1,297,565	26
67	40,431,946	37,723,085	3,104,309	2,708,862	395,448	1,186,727	27
68	37,723,085	34,987,729	3,104,309	2,735,356	368,953	1,079,832	28
69	34,987,729	32,225,620	3,104,309	2,762,109	342,200	976,764	29
70	32,225,620	29,436,496	3,104,309	2,789,124	315,185	877,409	30
71	29,436,496	26,620,092	3,104,309	2,816,403	287,906	781,656	31
72	26,620,092	23,776,143	3,104,309	2,843,949	260,360	689,398	32
73	23,776,143	20,904,378	3,104,309	2,871,765	232,544	600,530	33
74	20,904,378	18,004,525	3,104,309	2,899,852	204,457	514,951	34
75	18,004,525	15,076,311	3,104,309	2,928,215	176,095	432,560	35
76	15,076,311	12,119,457	3,104,309	2,956,854	147,455	353,264	36
77	12,119,457	9,133,683	3,104,309	2,985,774	118,535	276,967	37
78	9,133,683	6,118,706	3,104,309	3,014,977	89,333	203,579	38
79	6,118,706	3,074,241	3,104,309	3,044,465	59,844	133,012	39
80	3,074,241	0	3,104,309	3,074,241	30,068	65,180	40

TABLE F: SBRR PRESENT VALUE OF REPLACEMENT COST

Property Account (1)	Property Component (2)	Service Life In Years 1/ (3)	Investment 2/ (4)	Salvage 3/ (5)	Replacement Year Asset Net Cost 4/ (6)	Replacement Cost Adjusted To Reflect An Infinite Life 5/ (7)	Present Value Of Replacement Cost Adjusted To Reflect An Infinite Life (2011 Dollars) 6/ (8)
3	Grading	95	$23,353,617,300	$0	$19,910,504,198	$19,924,700,307	$951,374
5	Tunnels	120	0	0	0	0	0
6	Bridges & Culverts	96	17,865,411,035	0	15,084,195,269	15,094,225,862	654,971
8	Ties	23	340,657,194	0	269,142,447	326,078,942	29,696,499
9	Rails and OTM	40	1,535,808,009	97,159,653	1,135,277,489	1,192,094,342	18,258,862
11	Ballast	40	1,172,354,457	0	926,240,083	972,595,311	14,896,877
12	Labor	37	600,013,115	0	474,051,337	504,204,012	10,545,802
13	Fences and Roadway Signs	95	35,818,487	0	30,242,408	30,263,971	1,445
16	Stations and Office Buildings	43	0	0	0	0	0
17	Roadway Buildings	44	884,336,354	0	746,666,406	773,758,445	7,760,439
19	Fuel Stations	31	46,450,826	0	39,219,547	43,427,693	1,762,060
20	Shops and Enginehouses	50	124,648,643	0	105,243,841	107,640,938	580,004
26	Communications Systems	26	81,406,630	0	64,316,797	74,601,147	4,911,465
27	Signals and Interlockers	56	1,184,375,309	34,604,494	908,475,976	921,296,081	2,602,981
39	Public Improvements	13	32,341,115	0	27,306,379	44,328,403	11,911,834
	Total		$47,257,238,472	$131,764,147	$39,720,882,176	$40,009,215,453	$104,534,614

1/ From Table C, Column (3).

2/ (Table C, Column (10) after allocation of Engineering) x (Table B, 1.0 + Annual Inflation Index)^(Column (3)).

3/ [(Column (4) x Salvage %) - (Table C, Column (10) after allocation of Engineering x Salvage %)] x (1 - Current Federal Tax Rate) + (Table C, Column (10) after allocation of Engineering x Salvage %).

4/ Column (4) - (Present Value of the remaining tax deductions for depreciation, interest expense and the Present Value of any salvage).

5/ Column (6) + [(Column (6) / ((1 + Real Cost of Capital)^Column (3) - 1)].

6/ Column (7) / ((1 + Average Nominal Cost of Capital from Table A Column (2))^Column (3)).

TABLE G: SBRR TAX DEPRECIATION SCHEDULES

Depreciation of Start-up investment for tax purposes using
accounting lives from Modified Accelerated Cost Recovery System (MACRS) 1/

Road Property Account (1)	Road Property Component (2)	Asset Lives Per MACRS 2/ (3)	Total 3Q 2011 Investment (4)	Depreciable Base (5)
1	Engineering	5	$244,449,174	$244,449,174
2	Land	N/A	208,046,537	0
3	Grading	50	730,170,662	730,170,662
5	Tunnels	50	0	0
6	Bridges & Culverts	20	541,206,707	541,206,707
8	Ties	7	141,311,169	141,311,169
9	Rails and OTM	7	378,396,463	378,396,463
11	Ballast	7	288,847,810	288,847,810
12	Labor	7	137,814,752	137,814,752
13	Fences and Roadway Signs	20	1,119,895	1,119,895
16	Stations and Office Buildings	20	0	0
17	Roadway Buildings	20	161,644,390	161,644,390
19	Fuel Stations	20	13,470,080	13,470,080
20	Shops and Enginehouses	20	18,557,902	18,557,902
26	Communications Systems	7	27,698,244	27,698,244
27	Signals and Interlockers	7	142,476,542	142,476,542
39	Public Improvements	20	17,508,745	17,508,745
	Total		$3,052,719,074	$2,844,672,536

1/ Applicable Depreciation Method: 200 or 150 percent
Declining Balance Switching to Straight Line
Applicable Recovery Periods: 7, 15 and 50 a/ years
Applicable Convention: Mid-quarter(property placed in service in third quarter)

The Depreciation Rates are as follows for the corresponding
Recovery Period and Recovery year:

Recovery	--- Recovery Period ---			
Year	5-Year	7-year	15-year	50-year
1	20.00%	10.71%	3.750%	2.00%
2	20.00%	25.51%	9.630%	2.00%
3	20.00%	18.22%	8.660%	2.00%
4	20.00%	13.02%	7.800%	2.00%
5	20.00%	9.30%	7.020%	2.00%
6		8.85%	6.310%	2.00%
7		8.86%	5.900%	2.00%
8		5.53%	5.900%	2.00%
9		0.00%	5.910%	2.00%

Recovery	--- Recovery Period ---		
Year	7-year	15-year	50-year
10	0.00%	5.900%	2.00%
11	0.00%	5.910%	2.00%
12	0.00%	5.900%	2.00%
13	0.00%	5.910%	2.00%
14	0.00%	5.900%	2.00%
15	0.00%	5.91.0%	2.00%
16	0.00%	3.690%	2.00%
17	0.00%	0.000%	2.00%
18	0.00%	0.000%	2.00%
19-50	0.00%	0.000%	2.00%

a/ 50 year property uses the Straight Line Method for all time periods

2/ Bonus Depreciation Per the **Economic Stimulus Act of 2008,** the **American Recovery & Reinvestment Act**, and **The Tax Relief, Unemployment Insurance Reauthorization and Job Creation Act of 2010** for the following depreciable assets:

MACRS Lives (1)	50% Bonus Depreciation (2)	100% Bonus Depreciation
7	$78,260,366	$0
15	$0	$0

TABLE G: SBRR TAX DEPRECIATION SCHEDULES
(Continued)

	Amortization - 5 Years			Road Property Depreciation - MACRS 7 Years			Depreciation - MACRS 20 Years			Depreciation - MACRS 50 Years				
Year (1)	Unamortized Investment 1/ (2)	Rate 2/ (3)	Annual Amort. 3/ (4)	Undepreciated Investment 4/ (5)	Rate 2/ (6)	Annual Amount 5/ (7)	Undepreciated Investment 6/ (8)	Rate 2/ (9)	Annual Amount 7/ (10)	Unamortized Investment 8/ (11)	Rate 2/ (12)	Annual Amount 9/ (13)		Total Annual Depreciation 10/ (14)
1	$244,449,174	20.00%	$48,889,835	$1,038,284,615	10.71%	$111,200,282	$753,507,719	2.81%	$21,196,172	$730,170,662	2%	$14,603,413		$274,150,068
2	195,559,340	20.00%	48,889,835	927,084,333	25.51%	264,866,405	732,311,547	7.29%	54,923,178	715,567,249	2%	14,603,413		383,282,831
3	146,669,505	20.00%	48,889,835	662,217,927	18.22%	189,175,457	677,388,370	6.74%	50,801,490	700,963,835	2%	14,603,413		303,470,195
4	97,779,670	20.00%	48,889,835	473,042,471	13.02%	135,184,657	626,586,879	6.24%	46,996,276	686,360,422	2%	14,603,413		245,674,181
5	48,889,835	20.00%	48,889,835	337,857,814	9.30%	96,560,469	579,590,603	5.77%	43,469,860	671,757,009	2%	14,603,413		203,523,578
6				241,297,345	8.85%	91,888,188	536,120,742	5.34%	40,207,172	657,153,596	2%	14,603,413		146,698,774
7				149,409,156	8.86%	91,992,017	495,913,570	4.94%	37,193,141	642,550,182	2%	14,603,413		143,788,571
8				57,417,139	5.53%	57,417,139	458,720,429	4.57%	34,405,162	627,946,769	2%	14,603,413		106,425,715
9							424,315,267	4.46%	33,606,444	613,343,356	2%	14,603,413		48,209,858
10					100.00%		390,708,823	4.46%	33,606,444	598,739,943	2%	14,603,413		48,209,858
11							357,102,378	4.46%	33,606,444	584,136,530	2%	14,603,413	2021	48,209,858
12							323,495,934	4.46%	33,606,444	569,533,116	2%	14,603,413	2022	48,209,858
13							289,889,490	4.46%	33,613,979	554,929,703	2%	14,603,413	2023	48,217,393
14							256,275,510	4.46%	33,606,444	540,326,290	2%	14,603,413	2024	48,209,858
15							222,669,066	4.46%	33,613,979	525,722,877	2%	14,603,413	2025	48,217,393
16							189,055,087	4.46%	33,606,444	511,119,463	2%	14,603,413	2026	48,209,858
17							155,448,643	4.46%	33,613,979	496,516,050	2%	14,603,413	2027	48,217,393
18							121,834,663	4.46%	33,606,444	481,912,637	2%	14,603,413	2028	48,209,858
19							88,228,219	4.46%	33,613,979	467,309,224	2%	14,603,413	2029	48,217,393
20							54,614,240	4.46%	33,606,444	452,705,810	2%	14,603,413	2030	48,209,858
21							21,007,795	2.79%	21,007,795	438,102,397	2%	14,603,413	2031	14,603,413
								100.00%		423,498,984	2%	14,603,413	2032	14,603,413
										408,895,571	2%	14,603,413	2033	14,603,413
										394,292,157	2%	14,603,413	2034	14,603,413
										379,688,744	2%	14,603,413	2035	14,603,413
										365,085,331	2%	14,603,413	2036	14,603,413
										350,481,918	2%	14,603,413	2037	14,603,413
										335,878,504	2%	14,603,413	2038	14,603,413
										321,275,091	2%	14,603,413	2039	14,603,413
										306,671,678	2%	14,603,413	2040	14,603,413
										292,068,265	2%	14,603,413	2041	14,603,413
										277,464,852	2%	14,603,413	2042	14,603,413
										262,861,438	2%	14,603,413	2043	14,603,413
										248,258,025	2%	14,603,413	2044	14,603,413
										233,654,612	2%	14,603,413	2045	14,603,413
										219,051,199	2%	14,603,413	2046	14,603,413
										204,447,785	2%	14,603,413	2047	14,603,413
										189,844,372	2%	14,603,413	2048	14,603,413
										175,240,959	2%	14,603,413	2049	14,603,413
										160,637,546	2%	14,603,413	2050	14,603,413
										146,034,132	2%	14,603,413	2051	14,603,413
										131,430,719	2%	14,603,413	2052	14,603,413
										116,827,306	2%	14,603,413	2053	14,603,413
										102,223,893	2%	14,603,413	2054	14,603,413
										87,620,479	2%	14,603,413	2055	14,603,413
										73,017,066	2%	14,603,413	2056	14,603,413
										58,413,653	2%	14,603,413	2057	14,603,413
										43,810,240	2%	14,603,413	2058	14,603,413
										29,206,826	2%	14,603,413	2059	14,603,413
										14,603,413	2%	14,603,413	2060	14,603,413
										0	2%	14,603,413	2061	14,603,413

1/ From Table G, Page 8, Column (5), Road Property Accounts 1 minus Page 8, 5-Year Bonus Depreciation.
2/ From Table G, Footnote 1/, Page 8.
3/ Column (2), Year 1 x Column (3).
4/ From Table G, Page 8, Column (5), Road Property Accounts 8, 9, 11, 12, 26 and 27 minus Page 10, 7-Year Bonus Depreciation.
5/ Column (5), Year 1 x Column (6).
6/ From Table G, Page 8, Column (5), Road Property Accounts 6, 13, 16, 17, 19, 20 and 39 minus Page 8, 15-Year Bonus Depreciation.
7/ Column (8), Year 1 x Column (9).
8/ From Table G, Page 8, Column (5), Road Property Accounts 3 and 5.
9/ Column (11), Year 1 x Column (12).
10/ Column (4) + Column (7) + Column (10) + Column (13) plus Page 8, 5, 7 & 15 Year Bonus Depreciation.

TABLE H: SBRR AVERAGE ANNUAL INFLATION IN ASSET PRICES

Development of average annual inflation factors for all capital assets

1. 3Q2011 Land value	$208,046,537 1/
2. 3Q2011 Property asset value accounts 3, 5, 6, 13, 17, 26, 27, 39 and 52	$1,653,853,168 1/
3. 3Q2011 Road Property asset value accounts 8, 9, and 11	$808,555,442 1/
4. 3Q2011 Road Property asset value accounts 1 and 12	$382,263,926 1/

Period (1)	Quarter (2)	Inflation Index For Land 2/ (3)	Inflation Index For Line 2 Property Assets 3/ (4)	Inflation Index For Line 3 Road Property Assets 4/ (5)	Inflation Index For Line 4 Road Property Assets 5/ (6)	Land Value 6/ (7)	Road Property Value 7/ (8)	3Q2011 Inflation Index 8/ (9)
0		1.000	1.000	1.000	1.000	$208,046,537	$2,844,672,536	1.000
1	July 30-Sep 30, 2011	1.006	1.014	1.066	1.006	209,278,627	2,922,546,300	1.026
2	2011 4 Qtr	1.012	1.027	1.073	1.020	210,518,014	2,955,949,026	1.037
3	2012 1 Qtr	1.018	1.026	1.072	1.019	211,764,740	2,953,574,098	1.037
4	2012 2 Qtr	1.024	1.049	1.115	1.039	213,018,849	3,032,460,863	1.063
5	2012 3 Qtr	1.030	1.051	1.121	1.040	214,280,386	3,041,702,960	1.067
6	2012 4 Qtr	1.036	1.045	1.085	1.038	215,549,394	3,002,060,653	1.054
7	2013 1 Qtr	1.042	1.064	1.090	1.059	216,825,917	3,044,687,187	1.068
8	2013 2 Qtr	1.048	1.065	1.094	1.060	218,110,000	3,051,019,071	1.071
9	2013 3 Qtr	1.055	1.075	1.101	1.070	219,401,687	3,077,131,062	1.080
10	2013 4 Qtr	1.061	1.088	1.107	1.084	220,701,025	3,109,385,453	1.091
11	2014 1 Qtr	1.067	1.100	1.117	1.096	222,008,057	3,141,358,940	1.102
12	2014 2 Qtr	1.073	1.102	1.127	1.097	223,322,829	3,153,502,666	1.106
13	2014 3 Qtr	1.080	1.115	1.140	1.110	224,645,388	3,190,210,833	1.119
14	2014 4 Qtr	1.086	1.128	1.151	1.124	225,975,779	3,226,200,298	1.131
15	2015 1 Qtr	1.093	1.139	1.158	1.135	227,314,049	3,253,965,697	1.140
16	2015 2 Qtr	1.099	1.150	1.165	1.146	228,660,245	3,281,979,392	1.150
17	2015 3 Qtr	1.106	1.161	1.172	1.158	230,014,413	3,310,243,668	1.160
18	2015 4 Qtr	1.112	1.172	1.179	1.170	231,376,600	3,338,760,829	1.169
19	2016 1 Qtr	1.119	1.182	1.185	1.180	232,746,855	3,363,582,306	1.178
20	2016 2 Qtr	1.125	1.191	1.192	1.189	234,125,224	3,388,592,360	1.187

1/ Table C, Page 3, Column (10).
2/ Previous Column (3) x (1 + Quarterly Inflation Rate Change from Table B)
3/ Previous Column (4) x (1 + Quarterly Inflation Rate Change from Table B)
4/ Previous Column (5) x (1 + Quarterly Inflation Rate Change from Table B)
5/ Previous Column (6) x (1 + Quarterly Inflation Rate Change from Table B)
6/ Line 1 x Column (3) for applicable quarter
7/ (Line 2 x Column (4) for applicable quarter) + (Line 3 x Column (5)for applicable quarter) + (Line 4 x Column (6) for applicable quarter
8/ (Column (7) + Column (8)) ÷ (Period 0; (Column (7) + Column (8))).
9/ Annual weighted inflation using the last two quarters, used to calculate real cost of capita

TABLE H: SBRR AVERAGE ANNUAL INFLATION IN ASSET PRICES
(Continued)

Development of average annual inflation factors for all capital assets

1. 3Q2011 Land value	$208,046,537 1/
2. 3Q2011 Property asset value accounts 3, 5, 6, 13, 17, 26, 27, 39 and 52	$1,653,853,168 1/
3. 3Q2011 Road Property asset value accounts 8, 9, and 11	$808,555,442 1/
4. 3Q2011 Road Property asset value accounts 1 and 12	$382,263,926 1/

Period (1)	Quarter (2)	Inflation Index For Land 2/ (3)	Inflation Index For Line 2 Property Assets 3/ (4)	Inflation Index For Line 3 Road Property Assets 4/ (5)	Inflation Index For Line 4 Road Property Assets 5/ (6)	Land Value 6/ (7)	Road Property Value 7/ (8)	3Q2011 Inflation Index 8/ (9)
21	2016 3 Qtr	1.132	1.201	1.199	1.199	$235,511,757	$3,413,792,449	1.195
22	2016 4 Qtr	1.139	1.210	1.206	1.209	236,906,501	3,439,184,044	1.204
23	2017 1 Qtr	1.145	1.221	1.214	1.220	238,309,505	3,467,047,191	1.214
24	2017 2 Qtr	1.152	1.231	1.222	1.231	239,720,817	3,495,138,843	1.223
25	2017 3 Qtr	1.159	1.242	1.230	1.242	241,140,488	3,523,460,894	1.233
26	2017 4 Qtr	1.166	1.253	1.238	1.253	242,568,566	3,552,015,254	1.243
27	2018 1 Qtr	1.173	1.264	1.248	1.264	244,005,102	3,582,284,036	1.253
28	2018 2 Qtr	1.180	1.275	1.257	1.276	245,450,145	3,612,812,474	1.264
29	2018 3 Qtr	1.187	1.286	1.266	1.288	246,903,746	3,643,602,808	1.274
30	2018 4 Qtr	1.194	1.298	1.276	1.299	248,365,955	3,674,657,300	1.285
31	2019 1 Qtr	1.201	1.309	1.285	1.311	249,836,824	3,705,661,887	1.296
32	2019 2 Qtr	1.208	1.321	1.294	1.323	251,316,403	3,736,930,391	1.306
33	2019 3 Qtr	1.215	1.333	1.303	1.335	252,804,745	3,768,465,074	1.317
34	2019 4 Qtr	1.222	1.345	1.313	1.347	254,301,901	3,800,268,220	1.328
35	2020 1 Qtr	1.230	1.356	1.321	1.359	255,807,924	3,830,161,275	1.338
36	2020 2 Qtr	1.237	1.367	1.330	1.371	257,322,865	3,860,292,505	1.349
37	2020 3 Qtr	1.244	1.379	1.338	1.383	258,846,779	3,890,663,829	1.359
38	2020 4 Qtr	1.252	1.390	1.347	1.395	260,379,717	3,921,277,180	1.370
39	2021 1 Qtr	1.259	1.401	1.353	1.406	261,921,733	3,949,493,206	1.380
40	2021 2 Qtr	1.266	1.413	1.360	1.418	263,472,882	3,977,919,855	1.389
41	July 1 - July 29 2021	1.274	1.424	1.367	1.430	265,033,217	4,006,558,740	1.399
Annual Average 9/								2.88%

1/ Table C, Page 3, Column (10).
2/ Previous Column (3) x (1 + Quarterly Inflation Rate Change from Table B)
3/ Previous Column (4) x (1 + Quarterly Inflation Rate Change from Table B)
4/ Previous Column (5) x (1 + Quarterly Inflation Rate Change from Table B)
5/ Previous Column (6) x (1 + Quarterly Inflation Rate Change from Table B)
6/ Line 1 x Column (3) for applicable quarter
7/ (Line 2 x Column (4) for applicable quarter) + (Line 3 x Column (5)for applicable quarter) + (Line 4 x Column (6) for applicable quarter
8/ (Column (7) + Column (8)) ÷ (Period 0; (Column (7) + Column (8))).
9/ Annual weighted inflation using the last two quarters, used to calculate real cost of capit

TABLE I: SBRR DISCOUNTED CASH FLOW
(Road Property)

Discounted Cash Flow
Present Value of the Cash Flow Discounted at the Cost of Capital in Table A
Inflation In Asset Values From Table H

1. 3Q2011 Road Property Investment	$3,052,719,074	1/		Federal Tax Rate	35.0%
2. Interest During Construction (3Q2011 Invest.)	$383,320,674	2/			
3. Total 3Q2011 Investment	$3,436,039,748	3/		Route Mile Weighted	
4. Present Value Of Replacement Cost for the SBRR	$104,534,614	4/		Average State Tax Rate	6.19% 6/
5. Equity Financing Fee	$48,615,523	5/	2.10%		
6. Future PTC Investment	$52,948,497		Control-e runs PTC_DCF macro		
7. Total Cost Recovered From Quarterly Revenue Flow	$3,642,138,382	5a/			

Period (1)	Quarter (2)	Quarterly Levelized Capital Carrying Charge Requirement 7/ (3)	Interest on Investment Financed With Debt 8/ (4)	Tax Depreciation 9/ (5)	Actual Federal Tax Payments 10/ (6)	Actual State Tax Payments 11/ (7)	Cash Flow 12/ (8)	Present Value Cash Flow 13/ (9)	Cumulative Present Value 14/ (10)
1	July 30-Sep 30, 2011	60,918,072	$6,586,678	$111,428,737	$0	$0	$60,918,072	$60,129,590	$60,129,590
2	2011 4 Qtr	89,943,736	9,545,806	162,721,331	0	0	89,943,736	86,496,235	146,625,826
3	2012 1 Qtr	89,965,412	9,472,114	95,820,708	0	0	89,965,412	84,291,939	230,917,765
4	2012 2 Qtr	92,243,180	9,397,555	95,820,708	0	0	92,243,180	84,203,264	315,121,028
5	2012 3 Qtr	92,541,715	9,322,118	95,820,708	0	0	92,541,715	82,303,137	397,424,165
6	2012 4 Qtr	91,451,067	9,245,792	95,820,708	0	0	91,451,067	79,241,340	476,665,505
7	2013 1 Qtr	92,760,994	9,168,568	75,867,549	0	0	92,760,994	78,309,169	554,974,674
8	2013 2 Qtr	92,977,600	9,090,434	75,867,549	0	0	92,977,600	76,473,284	631,447,958
9	2013 3 Qtr	93,756,991	9,011,379	75,867,549	0	0	93,756,991	75,131,015	706,578,974
10	2013 4 Qtr	94,711,295	8,931,392	75,867,549	0	0	94,711,295	73,943,765	780,522,739
11	2014 1 Qtr	95,729,693	8,850,463	61,418,545	0	0	95,729,693	72,816,641	853,339,380
12	2014 2 Qtr	96,112,755	8,768,579	61,418,545	0	0	96,112,755	71,227,744	924,567,124
13	2014 3 Qtr	97,195,203	8,685,730	61,418,545	0	0	97,195,203	70,177,385	994,744,509
14	2014 4 Qtr	98,257,418	8,601,904	61,418,545	0	0	98,257,418	69,119,707	1,063,864,216
15	2015 1 Qtr	101,177,206	8,517,089	50,880,894	0	0	101,177,206	69,343,125	1,133,207,341
16	2015 2 Qtr	102,030,499	8,431,273	50,880,894	0	0	102,030,499	68,129,457	1,201,336,798
17	2015 3 Qtr	102,891,307	8,344,445	50,880,894	14,027,507	2,642,405	86,221,395	56,092,416	1,257,429,213
18	2015 4 Qtr	103,759,697	8,256,592	50,880,894	14,651,774	2,760,000	86,347,923	54,729,967	1,312,159,180
19	2016 1 Qtr	104,520,913	8,167,702	36,674,693	19,595,536	3,691,272	81,234,105	50,164,430	1,362,323,610
20	2016 2 Qtr	105,287,846	8,077,762	36,674,693	19,876,892	3,744,272	81,666,682	49,134,504	1,411,458,114
21	2016 3 Qtr	106,060,538	7,986,760	36,674,693	20,160,487	3,797,693	82,102,358	48,126,190	1,459,584,304
22	2016 4 Qtr	106,839,036	7,894,683	36,674,693	20,446,342	3,851,541	82,541,154	47,139,023	1,506,723,327
23	2017 1 Qtr	107,689,604	7,801,518	35,947,143	20,995,110	3,954,914	82,739,580	46,037,056	1,552,760,383
24	2017 2 Qtr	108,547,056	7,707,253	35,947,143	21,307,608	4,013,780	83,225,668	45,116,532	1,597,876,915
25	2017 3 Qtr	109,411,446	7,611,873	35,947,143	21,622,750	4,073,144	83,715,552	44,214,910	1,642,091,825

TABLE I: SBRR DISCOUNTED CASH FLOW
(Road Property Continued)

Period (1)	Quarter (2)	Quarterly Levelized Capital Carrying Charge Requirement 7/ (3)	Interest on Investment Financed With Debt 8/ (4)	Tax Depreciation 9/ (5)	Actual Federal Tax Payments 10/ (6)	Actual State Tax Payments 11/ (7)	Cash Flow 12/ (8)	Present Value Cash Flow 13/ (9)	Cumulative Present Value 14/ (10)
26	2017 4 Qtr	$110,282,832	7,515,366	35,947,143	$21,940,559	$4,133,011	$84,209,262	$43,331,792	$1,685,423,618
27	2018 1 Qtr	111,204,291	7,417,718	26,606,429	25,342,223	4,773,793	81,088,275	40,652,667	1,726,076,285
28	2018 2 Qtr	112,133,543	7,318,915	26,606,429	25,679,786	4,837,381	81,616,376	39,865,065	1,765,941,350
29	2018 3 Qtr	113,070,656	7,218,944	26,606,429	26,020,315	4,901,527	82,148,814	39,093,149	1,805,034,499
30	2018 4 Qtr	114,015,696	7,117,790	26,606,429	26,363,834	4,966,237	82,685,625	38,336,597	1,843,371,096
31	2019 1 Qtr	114,959,537	7,015,439	12,052,464	31,486,170	5,931,147	77,542,220	35,027,244	1,878,398,339
32	2019 2 Qtr	115,911,302	6,911,877	12,052,464	31,832,688	5,996,422	78,082,192	34,364,016	1,912,762,356
33	2019 3 Qtr	116,871,058	6,807,089	12,052,464	32,182,233	6,062,267	78,626,558	33,713,619	1,946,475,975
34	2019 4 Qtr	117,838,872	6,701,061	12,052,464	32,534,831	6,128,687	79,175,354	33,075,797	1,979,551,771
35	2020 1 Qtr	118,751,430	6,593,777	12,052,464	32,869,698	6,191,767	79,689,966	32,434,569	2,011,986,340
36	2020 2 Qtr	119,671,170	6,485,223	12,052,464	33,207,340	6,255,369	80,208,461	31,805,985	2,043,792,325
37	2020 3 Qtr	120,598,148	6,375,383	12,052,464	33,547,781	6,319,499	80,730,868	31,189,792	2,074,982,118
38	2020 4 Qtr	121,532,423	6,264,241	12,052,464	33,891,045	6,384,161	81,257,217	30,585,740	2,105,567,858
39	2021 1 Qtr	122,397,288	6,151,782	12,052,464	34,211,950	6,444,611	81,740,726	29,976,418	2,135,544,276
40	2021 2 Qtr	123,268,539	6,037,991	12,052,464	34,535,391	6,505,538	82,227,610	29,379,411	2,164,923,687
41	July 1 - July 29 2021	39,133,049	1,866,985	3,799,146	10,988,916	2,070,016	26,074,118	9,195,538	2,174,119,225
	Future	6,464,334,179	90,485,377	336,967,149	1,982,219,680	373,396,853	4,108,717,646	1,468,019,157	3,642,138,382

1/ From Table C, Column (10) + Rail Grinding Capital Costs from [MOW Costs - Final.xl
2/ From Table D, Column (8)
3/ Line 1 + Line 2
4/ Table F Column (8)
5/ Portion of investment financed with debt x equity finance '
5a/ Line 3 + Line 4.
6/ Alabama, Mississippi and Louisiana corporate income tax rates weighted on SBRR route mil
7/ Quarterly carrying costs needed to recover the total investment over 40 quarters after consideration of the applic interest payments, tax depreciation and tax liability. The Future value is an estimate of a perpetual income stream for the SBRR and is calculated by taking the Period 40, Column (3) value and dividing it by the SBRR 's estimated quarterly Real Cost of Cap
8/ Value from Table E.
9/ Value from Table G, Page 12, Column (14) divided by 4 quarte
10/ Table J: Part 1 Page 16 of 2C
11/ Table J: Part 2 Page 17 of 2C
12/ (Column (3) - Column (6) - Column (7))
13/ Column (8) discounted by the fourth root of the annual Cost of Capital adjusted to midquarter dollars from Tabl

TABLE J - PART 1: COMPUTATION OF FEDERAL TAX LIABILITY - TAXABLE INCOME
(Road Property)

Time Period (1)	Taxable Income B/4 NOL's SBRR 1/ (2)	Net Operating Losses Generated 2/ (3)	NOL's Generated Plus Carryforward 3/ (4)	Carryforward Utilized 4/ (5)	Carryforward Remaining 5/ (6)	Carryback Available 6/ (7)	Carryback Utilized 7/ (8)	Carryback Remaining 8/ (9)	Annual Taxable Income 9/ (10)	Annual Tax Liability 10/ (11)
2009	($2,149,872)	($2,149,872)	($2,149,872)	$0	($2,149,872)	($2,149,872)	$0	($2,149,872)	$0	$0
2010	(15,989,409)	(15,989,409)	(18,139,282)	0	(18,139,282)	(18,139,282)	0	(18,139,282)	0	0
Jan 1-Jul 29, 2011	(14,612,587)	(14,612,587)	(32,751,869)	0	(32,751,869)	(32,751,869)	0	(32,751,869)	0	0
July 30-Sep 30, 2011	(57,097,343)	(57,097,343)	(89,849,212)	0	(89,849,212)	(89,849,212)	0	(89,849,212)	0	0
2011 4 Qtr	(82,323,401)	(82,323,401)	(172,172,613)	0	(172,172,613)	(172,172,613)	0	(172,172,613)	0	0
2012 1 Qtr	(15,327,410)	(15,327,410)	(187,500,023)	0	(187,500,023)	(187,500,023)	0	(187,500,023)	0	0
2012 2 Qtr	(12,975,083)	(12,975,083)	(200,475,106)	0	(200,475,106)	(200,475,106)	0	(200,475,106)	0	0
2012 3 Qtr	(12,601,111)	(12,601,111)	(213,076,217)	0	(213,076,217)	(213,076,217)	0	(213,076,217)	0	0
2012 4 Qtr	(13,615,433)	(13,615,433)	(226,691,650)	0	(226,691,650)	(226,691,650)	0	(226,691,650)	0	0
2013 1 Qtr	7,724,877	0	(226,691,650)	7,724,877	(218,966,773)	(218,966,773)	0	(218,966,773)	0	0
2013 2 Qtr	8,019,618	0	(218,966,773)	8,019,618	(210,947,155)	(210,947,155)	0	(210,947,155)	0	0
2013 3 Qtr	8,878,063	0	(210,947,155)	8,878,063	(202,069,092)	(202,069,092)	0	(202,069,092)	0	0
2013 4 Qtr	9,912,354	0	(202,069,092)	9,912,354	(192,156,737)	(192,156,737)	0	(192,156,737)	0	0
2014 1 Qtr	25,460,685	0	(192,156,737)	25,460,685	(166,696,052)	(166,696,052)	0	(166,696,052)	0	0
2014 2 Qtr	25,925,631	0	(166,696,052)	25,925,631	(140,770,421)	(140,770,421)	0	(140,770,421)	0	0
2014 3 Qtr	27,090,928	0	(140,770,421)	27,090,928	(113,679,493)	(113,679,493)	0	(113,679,493)	0	0
2014 4 Qtr	28,236,969	0	(113,679,493)	28,236,969	(85,442,525)	(85,442,525)	0	(85,442,525)	0	0
2015 1 Qtr	41,779,223	0	(85,442,525)	41,779,223	(43,663,302)	(43,663,302)	0	(43,663,302)	0	0
2015 2 Qtr	42,718,332	0	(43,663,302)	42,718,332	(944,970)	(944,970)	0	(944,970)	0	0
2015 3 Qtr	41,023,562	0	(944,970)	944,970	0	0	0	0	40,078,592	14,027,507
2015 4 Qtr	41,862,211	0	0	0	0	0	0	0	41,862,211	14,651,774
2016 1 Qtr	55,987,246	0	0	0	0	0	0	0	55,987,246	19,595,536
2016 2 Qtr	56,791,119	0	0	0	0	0	0	0	56,791,119	19,876,892
2016 3 Qtr	57,601,392	0	0	0	0	0	0	0	57,601,392	20,160,487
2016 4 Qtr	58,418,119	0	0	0	0	0	0	0	58,418,119	20,446,342
2017 1 Qtr	59,986,030	0	0	0	0	0	0	0	59,986,030	20,995,110
2017 2 Qtr	60,878,880	0	0	0	0	0	0	0	60,878,880	21,307,608
2017 3 Qtr	61,779,286	0	0	0	0	0	0	0	61,779,286	21,622,750
2017 4 Qtr	62,687,312	0	0	0	0	0	0	0	62,687,312	21,940,559
2018 1 Qtr	72,406,351	0	0	0	0	0	0	0	72,406,351	25,342,223
2018 2 Qtr	73,370,818	0	0	0	0	0	0	0	73,370,818	25,679,786
2018 3 Qtr	74,343,756	0	0	0	0	0	0	0	74,343,756	26,020,315
2018 4 Qtr	75,325,240	0	0	0	0	0	0	0	75,325,240	26,363,834
2019 1 Qtr	89,960,486	0	0	0	0	0	0	0	89,960,486	31,486,170
2019 2 Qtr	90,950,538	0	0	0	0	0	0	0	90,950,538	31,832,688
2019 3 Qtr	91,949,237	0	0	0	0	0	0	0	91,949,237	32,182,233
2019 4 Qtr	92,956,660	0	0	0	0	0	0	0	92,956,660	32,534,831
2020 1 Qtr	93,913,422	0	0	0	0	0	0	0	93,913,422	32,869,698
2020 2 Qtr	94,878,113	0	0	0	0	0	0	0	94,878,113	33,207,340
2020 3 Qtr	95,850,802	0	0	0	0	0	0	0	95,850,802	33,547,781
2020 4 Qtr	96,831,557	0	0	0	0	0	0	0	96,831,557	33,891,045
2021 1 Qtr	97,748,430	0	0	0	0	0	0	0	97,748,430	34,211,950
2021 2 Qtr	98,672,545	0	0	0	0	0	0	0	98,672,545	34,535,391
July 1 - July 29 2021	31,396,902	0	0	0	0	0	0	0	31,396,902	10,988,916
Future	5,663,484,800	0	0	0	0	0	0	0	5,663,484,800	1,982,219,680

1/ Table I, Page 13, Column (3) - Table E, Page 5, Columns (2),(4) & (6) - Table G, Column (14) / 4 - Table J Part 2, Page 15, Column (11).
Values for 2009- July 29, 2011 from Table D, Sum of Column (10).
2/ Column (2) if less than zero, otherwise zero.
3/ Cumulative total of Column (2).
4/ If Column (2) is greater than zero, and (Column (2) + Column (4) is less than zero, then Column (2), otherwise Column (4)
5/ Column (4) + Column (5) + Column (8).
6/ Previous period Column (9) + current period Column (3) - current period Column (5).
7/ If previous Column (10) is greater than zero, and previous Column (10) is less than current Column (7), then previous Column (10), otherwise zero
8/ Column (7) + Column (8).
9/ If Column (2) is greater than zero, then Column (2) - Column (5) - Column (8), otherwise zero
10/ Column (10) times applicable Federal Statutory Tax Rate.

TABLE J - PART 2: COMPUTATION OF STATE TAX LIABILITY - TAXABLE INCOME

(Road Property)

Time Period (1)	Taxable Income B/4 NOL's SBRR 1/ (2)	Net Operating Losses Generated 2/ (3)	NOL's Generated Plus Carryforward 3/ (4)	Carryforward Utilized 4/ (5)	Carryforward Remaining 5/ (6)	Carryback Available 6/ (7)	Carryback Utilized 7/ (8)	Carryback Remaining 8/ (9)	Annual Taxable Income 9/ (10)	Annual Tax Liability 10/ (11)
2009	($2,149,872)	($2,149,872)	($2,149,872)	$0	($2,149,872)	($2,149,872)	$0	($2,149,872)	$0	$0
2010	(15,989,409)	(15,989,409)	(18,139,282)	0	(18,139,282)	(18,139,282)	0	(18,139,282)	0	0
Jan 1-Jul 29, 2011	(14,612,587)	(14,612,587)	(32,751,869)	0	(32,751,869)	(32,751,869)	0	(32,751,869)	0	0
July 30-Sep 30, 2011	(57,097,343)	(57,097,343)	(89,849,212)	0	(89,849,212)	(89,849,212)	0	(89,849,212)	0	0
2011 4 Qtr	(82,323,401)	(82,323,401)	(172,172,613)	0	(172,172,613)	(172,172,613)	0	(172,172,613)	0	0
2012 1 Qtr	(15,327,410)	(15,327,410)	(187,500,023)	0	(187,500,023)	(187,500,023)	0	(187,500,023)	0	0
2012 2 Qtr	(12,975,083)	(12,975,083)	(200,475,106)	0	(200,475,106)	(200,475,106)	0	(200,475,106)	0	0
2012 3 Qtr	(12,601,111)	(12,601,111)	(213,076,217)	0	(213,076,217)	(213,076,217)	0	(213,076,217)	0	0
2012 4 Qtr	(13,615,433)	(13,615,433)	(226,691,650)	0	(226,691,650)	(226,691,650)	0	(226,691,650)	0	0
2013 1 Qtr	7,724,877	0	(226,691,650)	7,724,877	(218,966,773)	(218,966,773)	0	(218,966,773)	0	0
2013 2 Qtr	8,019,618	0	(218,966,773)	8,019,618	(210,947,155)	(210,947,155)	0	(210,947,155)	0	0
2013 3 Qtr	8,878,063	0	(210,947,155)	8,878,063	(202,069,092)	(202,069,092)	0	(202,069,092)	0	0
2013 4 Qtr	9,912,354	0	(202,069,092)	9,912,354	(192,156,737)	(192,156,737)	0	(192,156,737)	0	0
2014 1 Qtr	25,460,685	0	(192,156,737)	25,460,685	(166,696,052)	(166,696,052)	0	(166,696,052)	0	0
2014 2 Qtr	25,925,631	0	(166,696,052)	25,925,631	(140,770,421)	(140,770,421)	0	(140,770,421)	0	0
2014 3 Qtr	27,090,928	0	(140,770,421)	27,090,928	(113,679,493)	(113,679,493)	0	(113,679,493)	0	0
2014 4 Qtr	28,236,969	0	(113,679,493)	28,236,969	(85,442,525)	(85,442,525)	0	(85,442,525)	0	0
2015 1 Qtr	41,779,223	0	(85,442,525)	41,779,223	(43,663,302)	(43,663,302)	0	(43,663,302)	0	0
2015 2 Qtr	42,718,332	0	(43,663,302)	42,718,332	(944,970)	(944,970)	0	(944,970)	0	0
2015 3 Qtr	43,665,967	0	(944,970)	944,970	0	0	0	0	42,720,997	2,642,405
2015 4 Qtr	44,622,211	0	0	0	0	0	0	0	44,622,211	2,760,000
2016 1 Qtr	59,678,518	0	0	0	0	0	0	0	59,678,518	3,691,272
2016 2 Qtr	60,535,390	0	0	0	0	0	0	0	60,535,390	3,744,272
2016 3 Qtr	61,399,085	0	0	0	0	0	0	0	61,399,085	3,797,693
2016 4 Qtr	62,269,660	0	0	0	0	0	0	0	62,269,660	3,851,541
2017 1 Qtr	63,940,943	0	0	0	0	0	0	0	63,940,943	3,954,914
2017 2 Qtr	64,892,660	0	0	0	0	0	0	0	64,892,660	4,013,780
2017 3 Qtr	65,852,430	0	0	0	0	0	0	0	65,852,430	4,073,144
2017 4 Qtr	66,820,323	0	0	0	0	0	0	0	66,820,323	4,133,011
2018 1 Qtr	77,180,144	0	0	0	0	0	0	0	77,180,144	4,773,793
2018 2 Qtr	78,208,199	0	0	0	0	0	0	0	78,208,199	4,837,381
2018 3 Qtr	79,245,283	0	0	0	0	0	0	0	79,245,283	4,901,527
2018 4 Qtr	80,291,477	0	0	0	0	0	0	0	80,291,477	4,966,237
2019 1 Qtr	95,891,634	0	0	0	0	0	0	0	95,891,634	5,931,147
2019 2 Qtr	96,946,960	0	0	0	0	0	0	0	96,946,960	5,996,422
2019 3 Qtr	98,011,504	0	0	0	0	0	0	0	98,011,504	6,062,267
2019 4 Qtr	99,085,346	0	0	0	0	0	0	0	99,085,346	6,128,687
2020 1 Qtr	100,105,188	0	0	0	0	0	0	0	100,105,188	6,191,767
2020 2 Qtr	101,133,483	0	0	0	0	0	0	0	101,133,483	6,255,369
2020 3 Qtr	102,170,301	0	0	0	0	0	0	0	102,170,301	6,319,499
2020 4 Qtr	103,215,718	0	0	0	0	0	0	0	103,215,718	6,384,161
2021 1 Qtr	104,193,041	0	0	0	0	0	0	0	104,193,041	6,444,611
2021 2 Qtr	105,178,084	0	0	0	0	0	0	0	105,178,084	6,505,538
July 1 - July 29 2021	33,466,918	0	0	0	0	0	0	0	33,466,918	2,070,016
Future	6,036,881,653	0	0	0	0	0	0	0	6,036,881,653	373,396,853

1/ Table I, Page 15, Column (3) - Table E, Page 5, Columns (2),(4) & (6) - Table G, Column (14) / 4.
Values for 2009- July 29, 2011 from Table D, Sum of Column (10).
2/ Column (2) if less than zero, otherwise zero.
3/ Cumulative total of Column (2).
4/ If Column (2) is greater than zero, and (Column (2) + Column (4) is less than zero, then Column (2), otherwise Column (4).
5/ Column (4) + Column (5) + Column (8).
6/ Previous period Column (9) + current period Column (3) - current period Column (5).
7/ If previous Column (10) is greater than zero, and previous Column (10) is less than current Column (7), then previous Column (10), otherwise zero.
8/ Column (7) + Column (8).
9/ If Column (2) is greater than zero, then Column (2) - Column (5) - Column (8), otherwise zero.
10/ Column (10) times applicable route mile weighted State Statutory Tax Rates.

TABLE K: SBRR OPERATING EXPENSES

Item (1)		2011 (2)	2012 (3)	2013 (4)	2014 (5)	2015 (7)	2016 (8)	2017 (9)	2018 (10)	2019 (11)	2020 (12)	2021 (12)
1. Train & Engine Personnel		$34,396,248	$37,226,186	$39,583,514	$41,411,171	$43,261,441	$45,094,473	$47,063,875	$49,172,482	$51,308,033	$53,489,419	$56,083,749
2. Locomotive Lease Expense		7,807,650	8,450,021	8,985,114	9,399,976	9,819,972	10,236,054	10,683,091	11,161,727	11,646,478	12,141,634	12,730,524
3. Locomotive Maintenance Expense		11,577,763	12,530,319	13,323,795	13,938,983	14,561,783	15,178,781	15,841,681	16,551,437	17,270,263	18,004,516	18,877,767
4. Locomotive Operating Expense		56,073,332	60,686,743	64,529,698	67,509,176	70,525,515	73,513,755	76,724,306	80,161,792	83,643,203	87,199,334	91,428,653
5. Railcar Lease Expense		14,422,904	15,609,542	16,598,008	17,364,375	18,140,222	18,908,843	19,734,645	20,618,818	21,514,289	22,428,979	23,516,824
6. Material & Supply Operating		1,199,297	1,199,297	1,199,297	1,199,297	1,199,297	1,199,297	1,199,297	1,199,297	1,199,297	1,199,297	1,199,297
7. Ad Valorem Tax		4,497,298	4,497,298	4,497,298	4,497,298	4,497,298	4,497,298	4,497,298	4,497,298	4,497,298	4,497,298	4,497,298
8. Operating Managers		12,483,297	12,483,297	12,483,297	12,483,297	12,483,297	12,483,297	12,483,297	12,483,297	12,483,297	12,483,297	12,483,297
9. General & Administration		18,526,320	18,526,320	19,503,127	19,503,127	19,503,127	19,503,127	19,503,127	19,503,127	19,503,127	19,503,127	19,503,127
10. Loss and Damage		600,803	650,234	691,410	723,333	755,652	787,670	822,070	858,901	896,203	934,305	979,621
11. Trackage Rights		0	0	0	0	0	0	0	0	0	0	0
12. Intermodal Lift Costs		421,565	456,249	485,141	507,541	530,218	552,684	576,821	602,665	628,838	655,574	687,370
13. Motor Vehicle Cost		1,828,513	1,978,954	2,104,270	2,201,428	2,299,789	2,397,234	2,501,928	2,614,022	2,727,548	2,843,511	2,981,426
14. Insurance	3.89%	7,782,818	8,189,509	8,566,262	8,828,915	9,094,817	9,358,243	9,641,266	9,944,295	10,251,195	10,564,683	10,937,514
14.a TIH Premium and Excess Risk		16,845,700	18,231,673	19,386,184	20,281,287	21,187,463	22,085,198	23,049,721	24,082,419	25,128,314	26,196,656	27,467,240
15. Maintenance of Way		36,327,153	36,327,153	36,327,153	36,327,153	36,327,153	36,327,153	36,327,153	36,327,153	36,327,153	36,327,153	36,327,153
16. Total Operating Expenses		$224,790,662	$237,042,797	$248,263,568	$256,176,358	$264,187,047	$272,123,108	$280,649,576	$289,778,730	$299,024,537	$308,468,784	$319,700,861
17. Expense Per Quarter		$56,197,666	$59,260,699	$62,065,892	$64,044,090	$66,046,762	$68,030,777	$70,162,394	$72,444,682	$74,756,134	$77,117,196	$79,925,215

TABLE K: SBRR OPERATING EXPENSES, INDEXED
(Continued)

Period (1)	Quarter (2)	Hybrid Index 1/ (3)	TIH Expenses	Operating Expense Indexed For Inflation 2/ (4)	Period (5)	Quarter (6)	Hybrid Index 1/ (7)	TIH Expenses	Operating Expense Indexed For Inflation 2/ (8)
1	July 30-Sep 30, 2011	100.000	$2,883,911	$40,518,004	27	2018 1 Qtr	111.572	$6,717,326	$80,828,186
2	2011 4 Qtr	100.148	4,217,666	59,337,694	28	2018 2 Qtr	112.351	6,764,187	81,392,055
3	2012 1 Qtr	96.898	4,416,536	60,380,035	29	2018 3 Qtr	113.134	6,811,375	81,959,857
4	2012 2 Qtr	98.215	4,476,540	61,200,371	30	2018 4 Qtr	113.889	6,856,802	82,506,468
5	2012 3 Qtr	97.046	4,423,283	58,661,710	31	2019 1 Qtr	114.559	7,196,665	85,639,627
6	2012 4 Qtr	100.183	4,566,265	59,623,380	32	2019 2 Qtr	115.232	7,238,986	86,143,243
7	2013 1 Qtr	100.353	4,863,675	62,285,253	33	2019 3 Qtr	115.910	7,281,556	86,649,820
8	2013 2 Qtr	100.434	4,867,566	62,335,082	34	2019 4 Qtr	116.552	7,321,867	87,129,516
9	2013 3 Qtr	100.122	4,852,477	62,141,843	35	2020 1 Qtr	116.998	7,662,412	90,225,827
10	2013 4 Qtr	100.808	4,885,716	62,567,515	36	2020 2 Qtr	117.447	7,691,777	90,571,600
11	2014 1 Qtr	100.793	5,110,534	64,552,016	37	2020 3 Qtr	117.897	7,721,254	90,918,699
12	2014 2 Qtr	101.484	5,145,541	64,994,197	38	2020 4 Qtr	118.305	7,747,979	91,233,385
13	2014 3 Qtr	101.570	5,149,915	65,049,442	39	2021 1 Qtr	118.671	8,148,940	94,848,372
14	2014 4 Qtr	102.646	5,204,504	65,738,966	40	2021 2 Qtr	119.039	8,174,188	95,142,243
15	2015 1 Qtr	102.999	5,455,702	68,027,293	41	July 1 - July 29 2021	119.408	2,584,629	30,083,410
16	2015 2 Qtr	103.352	5,474,425	68,260,746					
17	2015 3 Qtr	103.707	5,493,211	68,495,000					
18	2015 4 Qtr	104.055	5,511,655	68,724,967					
19	2016 1 Qtr	104.991	5,796,893	71,426,501					
20	2016 2 Qtr	105.936	5,849,061	72,069,300					
21	2016 3 Qtr	106.890	5,901,700	72,717,884					
22	2016 4 Qtr	107.833	5,953,804	73,359,885					
23	2017 1 Qtr	108.576	6,256,633	76,179,723					
24	2017 2 Qtr	109.324	6,299,737	76,704,558					
25	2017 3 Qtr	110.077	6,343,139	77,233,008					
26	2017 4 Qtr	110.799	6,384,734	77,739,463					

1/ 3Q11 equals 100.0, all other quarters equal Quarterly Inflation Indexes for the Hybrid Index from Table B).

2/ (Quarterly expense from Table K, Page 18, for the applicable time period x Column (3) or Column (7) ÷ 3Q11.

TABLE L : SBRR - Stand-Alone Costs and Revenues

Revenue Requirements to Cover Total Stand-Alone Costs

Year	Qtr	Period (1)	Quarter (2)	Quarterly Capital Requirement Road Property (3)	Quarterly Operating Expense (4)	Annual Stand-Alone Requirement (5)	Quarterly Stand-Alone Revenues (6)	Annual Stand-Alone Revenues (7)	Overpayments Or Shortfalls In Revenues (8)	PV Difference (9)	Cumulative PV Difference (10)
2011	3	1	July 30-Sep 30, 2011	$60,918,072	$40,518,004		$61,009,321				
2011	4	2	2011 4 Qtr	89,943,736	59,337,694	$250,717,506	89,092,977	$150,102,298	($100,615,209)	($100,615,209)	($100,615,209)
2012	1	3	2012 1 Qtr	89,965,412	60,380,035		96,151,453				
2012	2	4	2012 2 Qtr	92,243,180	61,200,371		96,151,453				
2012	3	5	2012 3 Qtr	92,541,715	58,661,710		96,151,453				
2012	4	6	2012 4 Qtr	91,451,067	59,623,380	606,066,869	96,151,453	384,605,811	(221,461,058)	(199,541,909)	(300,157,118)
2013	1	7	2013 1 Qtr	92,760,994	62,285,253		104,863,816				
2013	2	8	2013 2 Qtr	92,977,600	62,335,082		104,863,816				
2013	3	9	2013 3 Qtr	93,756,991	62,141,843		104,863,816				
2013	4	10	2013 4 Qtr	94,711,295	62,567,515	623,536,573	104,863,816	419,455,264	(204,081,308)	(165,682,536)	(465,839,654)
2014	1	11	2014 1 Qtr	95,729,693	64,552,016		113,757,178				
2014	2	12	2014 2 Qtr	96,112,755	64,994,197		113,757,178				
2014	3	13	2014 3 Qtr	97,195,203	65,049,442		113,757,178				
2014	4	14	2014 4 Qtr	98,257,418	65,738,966	647,629,692	113,757,178	455,028,713	(192,600,978)	(140,886,294)	(606,725,948)
2015	1	15	2015 1 Qtr	101,177,206	68,027,293		123,820,130				
2015	2	16	2015 2 Qtr	102,030,499	68,260,746		123,820,130				
2015	3	17	2015 3 Qtr	102,891,307	68,495,000		123,820,130				
2015	4	18	2015 4 Qtr	103,759,697	68,724,967	683,366,715	123,820,130	495,280,521	(188,086,194)	(123,966,382)	(730,692,330)
2016	1	19	2016 1 Qtr	104,520,913	71,426,501		137,395,578				
2016	2	20	2016 2 Qtr	105,287,846	72,069,300		137,395,578				
2016	3	21	2016 3 Qtr	106,060,538	72,717,884		137,395,578				
2016	4	22	2016 4 Qtr	106,839,036	73,359,885	712,281,902	137,395,578	549,582,312	(162,699,589)	(96,620,708)	(827,313,038)
2017	1	23	2017 1 Qtr	107,689,604	76,179,723		149,215,342				
2017	2	24	2017 2 Qtr	108,547,056	76,704,558		149,215,342				
2017	3	25	2017 3 Qtr	109,411,446	77,233,008		149,215,342				
2017	4	26	2017 4 Qtr	110,282,832	77,739,463	743,787,690	149,215,342	596,861,368	(146,926,322)	(78,617,661)	(905,930,699)
2018	1	27	2018 1 Qtr	111,204,291	80,828,186		162,728,461				
2018	2	28	2018 2 Qtr	112,133,543	81,392,055		162,728,461				
2018	3	29	2018 3 Qtr	113,070,656	81,959,857		162,728,461				
2018	4	30	2018 4 Qtr	114,015,696	82,506,468	777,110,752	162,728,461	650,913,844	(126,196,908)	(60,842,350)	(966,773,049)
2019	1	31	2019 1 Qtr	114,959,537	85,639,627		177,060,990				
2019	2	32	2019 2 Qtr	115,911,302	86,143,243		177,060,990				
2019	3	33	2019 3 Qtr	116,871,058	86,649,820		177,060,990				
2019	4	34	2019 4 Qtr	117,838,872	87,129,516	811,142,974	177,060,990	708,243,961	(102,899,014)	(44,699,764)	(1,011,472,813)
2020	1	35	2020 1 Qtr	118,751,430	90,225,827		190,558,629				
2020	2	36	2020 2 Qtr	119,671,170	90,571,600		190,558,629				
2020	3	37	2020 3 Qtr	120,598,148	90,918,699		190,558,629				
2020	4	38	2020 4 Qtr	121,532,423	91,233,385	843,502,682	190,558,629	762,234,515	(81,268,167)	(31,809,089)	(1,043,281,902)
2021	1	39	2021 1 Qtr	122,397,288	94,848,372		203,023,433				
2021	2	40	2021 2 Qtr	123,268,539	95,142,243		205,279,249				
2021	3	41	July 1 - July 29 2021	39,133,049	30,083,410	$504,872,900	65,418,662	$473,721,345	(31,151,556)	(11,276,208)	**(1,054,558,110)**