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TOTAL PETROCHEMICALS & REFINING USA, INC.	)	
Complainant,	)	
v.	)	**Docket No. NOR 42121**
CSX TRANSPORTATION, INC.	)	
Defendant.	)	

SUPPLEMENTAL AND COMPLIANCE EVIDENCE OF CSX TRANSPORTATION, INC.

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SHORT FORMS FOR FREQUENTLY CITED CASES

The following short form case citations are used herein:

AEPCO 2011	*Arizona Electric Power Cooperative, Inc. v. Burlington Northern & Santa Fe Railroad Co. & Union Pacific Railroad Co.*, STB Docket No. 42113, (served Nov. 16, 2011)
Compliance Evidence Order	*Total Petrochemicals & Refining USA, Inc. v. CSX Transp., Inc.*, STB Docket No. 42121 (served July 24, 2015)
DuPont	*E.I. DuPont de Nemours & Co. v. Norfolk Southern Railway Co.*, STB Docket No. 42125 (served Mar. 24, 2014)
FMC	*FMC Wyoming Corp. v. Union Pacific Railroad Co.*, 4 S.T.B. 699 (2000)
Major Issues	*Major Issues in Rail Rate Cases*, STB Ex Parte No. 657 (Sub-No. 1) (served Oct. 30, 2006), *aff'd sub nom. BNSF v. STB*, 526 F.3d 770 (D.C. Cir. 2008)
Otter Tail	*Otter Tail Power Co. v. BNSF Railway Co.*, STB Docket No. 42071 (served Jan. 27, 2006)
PPL	*PPL Montana v. BNSF Railway Co.*, 6 S.T.B. 286 (2002)
Reconsideration Decision	*Total Petrochemicals & Refining USA, Inc. v. CSX Transp., Inc.*, STB Docket No. 42121 (served Sept. 4, 2015)
SAC Procedures	*General Procedures for Presenting Evidence in Stand-Alone Cost Rate Cases*, 5 S.T.B. 441 (2001)
SunBelt	*SunBelt Chlor Alkali Partnership v. Norfolk Southern Railway Co.*, STB Docket No. 42130 (served June 20, 2014)
Supplemental Evidence Order	*Total Petrochemicals & Refining USA, Inc. v. CSX Transp., Inc.*, STB Docket No. 42121 (served July 24, 2015)
WFA	*Western Fuels Ass'n & Basin Elec. Power Cooperative v. BNSF Railway Co.*, STB Docket No. 42088 (served Sept. 10, 2007)
WP&L	*Wisconsin Power & Light v. Union Pac. R.R. Co.*, 5 S.T.B. 955 (2001)

TABLE OF CONTENTS

Pursuant to the Board's July 24, 2015 Order requiring the parties to file supplemental evidence ("*Supplemental Evidence Order*"),[1] its Order of the same date requiring the parties to file compliance evidence ("*Compliance Evidence Order*"),[2] and its Decision served September 4, 2015 partially reconsidering and clarifying the *Supplemental Evidence Order* ("*Reconsideration Decision*"),[3] CSX Transportation, Inc. ("CSXT") submits the attached Supplemental and Compliance Evidence.

The Reply Evidence that CSXT submitted on July 21, 2014 showed that, under a correctly conducted Stand Alone Cost analysis, the rates challenged by Total Petrochemicals & Refining USA, Inc. ("TPI") are reasonable by a wide margin. *See* CSXT Reply at III-H-17, Table III-H-2 (showing that TPIRR would have a cumulative net revenue shortfall of $10.16 billion over the SAC analysis period). The Board's subsequent request that CSXT re-run its RTC model with "all trains . . . that are included in its MultiRail train list" has not changed that conclusion. *Supplemental Evidence Order* at 8. As demonstrated below, the Supplemental RTC analysis that CSXT performed at the Board's request resulted in a slight increase in the TPIRR's annual operating expenses (from $3.034 billion to $3.075 billion) and indicated that no changes from the infrastructure posited by CSXT on Reply were necessary. CSXT's Supplemental Evidence thus confirms the conclusion that its Reply definitively demonstrated: **the challenged rates are reasonable**.

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[1] *See Total Petrochemicals & Refining USA, Inc. v. CSX Transp., Inc.*, STB Docket No. 42121 (served July 24, 2015) ("*Supplemental Evidence Order*").

[2] *See Total Petrochemicals & Refining USA, Inc. v. CSX Transp., Inc.*, STB Docket No. 42121 (served July 24, 2015) ("*Compliance Evidence Order*").

[3] *See Total Petrochemicals & Refining USA, Inc. v. CSX Transp., Inc.*, STB Docket No. 42121 (served Sept. 4, 2015) ("*Reconsideration Decision*").

The primary component of this Supplemental Evidence is the Supplemental RTC simulation requested by the Board—specifically, a simulation based on a RTC Model that includes "all trains that [CSXT] claims are necessary to provide service to the selected traffic group and that are included in its MultiRail train list." *Supplemental Evidence Order* at 8; *see also Compliance Evidence Order* at 2 (requiring both parties to "[c]ompile an amended train list" and to "[r]ecalculate service units based on the amended train list and Rail Traffic Controller (RTC) results"). The following narrative explains the steps that CSXT took to develop its Supplemental MultiRail Train List, to input that train list to the RTC Model, and to perform a Supplemental RTC simulation in accordance with the Board's instructions. As the Board ordered, the enclosed Supplemental Evidence makes no changes to CSXT's previously submitted Reply Evidence except for those changes specifically authorized by the Board.

Section I below identifies the road, local, and industrial yard trains that are necessary to provide service to the selected traffic group and that were included in CSXT's Supplemental MultiRail Train List and explains how those trains were input to CSXT's Supplemental RTC Model. Section I also identifies sources in the record confirming that those MultiRail trains "are necessary to provide service to the selected traffic group" and thus appropriately included in the RTC Model. *Supplemental Evidence Order* at 8.

Section II discusses other inputs to the Supplemental RTC Model. Virtually all of the Supplemental RTC inputs are drawn directly from CSXT's previously-submitted Reply Evidence. (In many cases, there is no disagreement between the parties on those inputs.)

Section III explains the results of the Supplemental RTC simulation and the minor impact that it had on average train speeds and certain mileage-based operating statistics. As Section III

explains, CSXT made no adjustments to SARR infrastructure as a result of its Supplemental RTC simulation.

Section IV briefly explains the steps CSXT took to satisfy the *Compliance Evidence Order,* which asked CSXT to make certain corrections and clarifications to assist the Board's evaluation of the evidence. A set of supplemental workpapers that implements the Board's requested alterations is included.

Section V responds to TPI's new Rebuttal evidence altering its bridge abutments and containing a collateral attack on the *PPL/Otter Tail*[4] cross-subsidy test.[5] *See Supplemental Evidence Order* at 9 & n.29 (directing CSXT to include any response to TPI's new Rebuttal Evidence in its opening Supplemental Evidence). TPI's alterations to its bridge abutment evidence do not (as it claims) correct a double-count; on the contrary, its haphazard adjustments create new double-counts. And *PPL/Otter Tail* is settled Board precedent that has been affirmed on appeal and that is firmly grounded in sound economic principles. Indeed, TPI's arguments for revisiting the test are indistinguishable from arguments that the Board considered and rejected in *Otter Tail* itself. The Board should reject those arguments again here.

I. CSXT'S SUPPLEMENTAL RTC MODEL IS BASED ON ITS MULTIRAIL TRAIN LIST, AS THE BOARD REQUESTED.

The *Supplemental Evidence Order* instructed CSXT to submit a Supplemental RTC simulation based on the MultiRail train list underlying CSXT's operating plan, rather than the modified version of TPI's historical train list that CSXT utilized in its Reply RTC evidence.[6] In

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[4] *PPL Montana v. BNSF Railway Co.,* 6 S.T.B. 286 (2002) ("*PPL*"); *Otter Tail Power Co. v. BNSF Railway Co.*, STB Docket No. 42071 (served Jan. 27, 2006) ("*Otter Tail*").

[5] CSXT does not contest TPI's Rebuttal adjustments to clearing and grubbing quantities.

[6] Pursuant to the Board's instructions, CSXT and TPI agreed to utilize Version 69W of Berkeley Simulation's RTC Model in preparing their Supplemental Evidence. *See Supplemental Evidence Order* at 8 (requiring the parties to "agree upon a single release of the RTC model to use in their

order to comply with that requirement, CSXT reviewed the train list that it utilized in developing its Peak Year MultiRail analysis, confirmed the trains that would be necessary to handle the TPIRR's selected traffic, and identified the specific operating parameters required to model the movement of those trains in the Supplemental RTC simulation. In conducting this analysis, CSXT relied solely upon data and information set forth in CSXT's Reply Evidence and workpapers. No additional data sources were introduced.

The primary source of information for the operating characteristics of the Supplemental MultiRail Train List input to CSXT's Supplemental RTC Model was CSXT Reply WP "SARR19F_EstimatedTrainVolumes.xls."[7] That workpaper contains detailed information regarding the trains in CSXT's MultiRail train list, including (i) the origin and destination stations of each train; (ii) the frequency and day(s) of week that the train operates; (iii) the stops at intermediate points that the train makes between its origin and destination; (iv) the blocks of merchandise cars that the train picks up or sets off at each intermediate stop; (v) the number of cars on the train as it moves between stops; and (vi) other work events (*e.g.*, crew changes) that occur at each stop. While CSXT Reply WP "SARR19F_EstimatedTrainVolumes.xls" contained most of the information required to develop CSXT's Supplemental RTC Model, certain additional movement characteristics were required to model trains in RTC. For example, CSXT Reply WP "SARR19F_EstimatedTrainVolumes.xls" does not contain information on dwell times. As explained below, CSXT used other sources in its Reply Evidence and workpapers to develop those additional inputs. In most cases (including dwell times), the inputs applied by

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supplemental and compliance evidence, in order to avoid any potential conflicts created by the use of different versions and releases of the RTC model").

[7] *See* CSXT Reply WP folder "III-C\MultiRail, WP "SARR19F_EstimatedTrainVolumes.xls," Tabs "Merc," "Auto," "Intermodal," "Local" and "Yard."

CSXT in its Supplemental RTC simulation are the same as those used by CSXT on Reply and by TPI in its Rebuttal Evidence.

The specific process that CSXT employed in developing the list and operating characteristics of the TPIRR road trains, local trains, and industrial yard ("Y") trains input to CSXT's Supplemental RTC Model is described below.

A. Road Trains[8]

CSXT's Reply MultiRail train list included 2,237 weekly carload road trains.[9] MultiRail assigned cars to all of those carload road trains. Accordingly, all of the road trains on CSXT's Reply MultiRail train list are carried forward into CSXT's Supplemental MultiRail Train List and modeled in CSXT's Supplemental RTC simulation.

In developing its Supplemental RTC Model, CSXT based most train movement characteristics for TPIRR road trains (including origin and destination stations, frequency and day(s) of week, routes and intermediate stops, and volume inputs) on information contained in CSXT Reply WP "SARR19F_EstimatedTrainVolumes.xls." However, CSXT was required to rely upon other sources in the record to develop certain RTC inputs for road trains, including (1) container volumes on intermodal trains, (2) the modeling of "leapfrog" trains posited by TPI, and (3) crew changes and inspections.

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[8] For purposes of this Supplemental Evidence, "road trains" include merchandise, intermodal, and automotive trains.

[9] *See* CSXT Reply WP "TPIRR Reply Train Lists.xlsx," Tab "Road_NonUnit," Rows 10-419. TPIRR's unit train traffic was not input to MultiRail because that traffic moves in trainload service between a single origin (or on-SARR junction) and a single destination (or off-SARR junction). As the Board's Orders do not require adjustments to the TPIRR's unit trains, CSXT continues to model in its Supplemental RTC simulation the same unit trains that it included in its Reply RTC simulation. *See* CSXT Supp. WP "Supplemental RTC Inputs by Train Symbol.xlsx."

Intermodal Container Volumes. Intermodal containers generally move in trainload shipments and are not classified or blocked at intermediate yards. Therefore, MultiRail does not assign individual intermodal shipments to blocks or trains, and the MultiRail data do not identify the specific containers moving on each intermodal train.[10] Accordingly, CSXT could not rely upon Reply WP "SARR19F_EstimatedTrainVolumes.xls" as the source of container volumes for TPIRR intermodal trains. However, CSXT's Reply Evidence accepted the intermodal train sizes (length and tonnages) posited by TPI on Opening.[11] CSXT adopted the same approach here, and applied TPI's intermodal train sizes in modeling intermodal road trains in its Supplemental RTC simulation.[12]

Leapfrog Trains. TPI posited internal cross-over movements between TPIRR and the residual CSXT at intermediate points within TPIRR's service territory. As a result, certain TPIRR road trains "leapfrog" back and forth between TPIRR's lines and those of the residual CSXT and operate over two (or more) non-contiguous SARR segments.[13] The "leapfrog" movements posited by TPI do not exist in CSXT's real-world operations or in the Train Profiles upon which CSXT's MultiRail analysis was based. Accordingly, CSXT was required to develop routing parameters for "leapfrog" trains to model them in its Supplemental RTC simulation.

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[10] On Rebuttal, TPI asserted that CSXT's MultiRail analysis included an intermodal train (L33) that (according to TPI) operated "empty" (*i.e.*, locomotives without any cars) over a portion of its route. TPI Reb. at III-C-29. TPI's allegation was based on the mistaken notion that, because the MultiRail data showed "0" cars moving on the train, the train was not carrying any traffic. The specific train cited by TPI carried only intermodal traffic as it traveled between North Baltimore and Louisville. At Louisville, blocks of automotive traffic (which were reflected in the MultiRail data) were added to the train for movement to Jacksonville. *See* CSXT Supp. WP "L133_Train_Operations.xlsx."

[11] *See* CSXT Reply WP "TPIRR Reply Train Lists.xlsx," Tab "Road_NonUnit," Rows 67-204.

[12] *See* CSXT Supp. WP "Supplemental RTC Road Trains.xlsx."

[13] For the reasons discussed in CSXT's Reply Evidence (at III-C-36 to III-C-54), the Board should determine that "leapfrog" traffic constitutes an impermissible distortion of the crossover traffic device.

CSXT utilized its Reply WP "Leapfrog Segments.xlsx" to identify those TPIRR road trains whose routes included one or more "leapfrog" segments. CSXT adjusted the routing of those road trains in its Supplemental RTC Model to reflect their operation over multiple segments of the TPIRR network.

As CSXT explained in its Reply, the Board should disallow certain high-priority intermodal traffic selected by TPI because the "leapfrog" train service posited by TPI to handle that traffic would not meet the shippers' service requirements. *See* CSXT Reply at III-A-8 to III-A-10. In response to the Board's Order seeking separate versions of the evidence with and without the UPS and Threads Express traffic,[14] CSXT is submitting two Supplemental RTC simulations, one in which the contested intermodal traffic is included on TPIRR intermodal road trains, and an alternative simulation in which those trains operate without the contested traffic.[15]

Crew Changes and Inspections. In its Reply Evidence, CSXT accepted the crew district locations posited by TPI.[16] CSXT also adopted TPI's assumptions regarding the frequency and duration of road train inspections.[17] In its Supplemental RTC Model, CSXT applied the same assumptions for crew districts and road train inspections that it adopted in its Reply Evidence.[18]

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[14] *See Supplemental Evidence Order* at 8.

[15] *See* CSXT Supp. WPs "CSXT Supplemental RTC.zip" and "CSXT Supplemental RTC w UPS.zip."

[16] *See* CSXT Reply at III-C-149, III-C-194. However, CSXT rejected TPI's assumption that train crews would average 270 shifts per year, and demonstrated that TPI's train crew staffing failed to account properly for road train directional imbalances and the number of re-crews that TPIRR would experience. *See* CSXT Reply at III-C-135 to III-C-136.

[17] *See* CSXT Reply at III-C-194; TPI Op. Ex. III-C-6 at 6-7.

[18] *See* CSXT Supp. WP "Supplemental RTC Road Trains.xlsx."

B. Local Trains

Local trains transport cars between yards served directly by CSXT road trains and local serving yards near origins, destinations and interchange points. Local trains may also pick up and set off cars at customer facilities along their route. CSXT's Reply MultiRail train list included 1,169 weekly local trains operating under 226 unique train symbols.[19] All of the local trains on CSXT's Reply MultiRail train list are carried forward into CSXT's Supplemental MultiRail Train List and modeled in CSXT's Supplemental RTC simulation.

TPI questioned the need for TPIRR to operate all of the local trains in CSXT's MultiRail analysis, particularly certain local trains to which "0" cars were assigned by MultiRail. *See* TPI Reb. at III-C-74 to III-C-78. However, as CSXT explained on Reply (at III-C-32 to III-C-33), the fact that MultiRail may have assigned "0" cars to a local train does not mean that the train does not operate and handle cars. On the contrary, it is an anomaly resulting from the manner in which CSXT's event data are recorded in the normal course of business. Specifically, the event data generally do not report car handlings by a train unless the train transports one or more cars between two discrete reporting "stations." For example, CSXT operates local "switcher" trains that complete the delivery of inbound cars set off by other CSXT road or local trains near customer facilities, and switch outbound cars from customer tracks into blocks to be picked up by a subsequent road or local train for line-haul movement. Because the work performed by switcher trains occurs within the boundaries of a single station, CSXT's event data (and thus MultiRail) do not report that the switched cars were handled by the train. *Id.* On Rebuttal, TPI "accept[ed] the premise" that local switcher trains "do operate on the CSXT system and that they

[19] *See* CSXT Reply WP "TPIRR Reply Train Lists.xlsx," Tab "Road_NonUnit," Rows 422-651.

enhance the efficiency of the network," and TPI included some (but not all) of those trains in its Rebuttal RTC simulation. *See* TPI Reb. at III-C-75.

The need for TPIRR to operate the local trains assigned "0" cars in MultiRail is corroborated by other data sources in the record. CSXT's Second Quarter 2013 payroll records (which were furnished to TPI in discovery and appear in CSXT's Reply workpapers) document the real-world operation of all but one of the local train symbols that was assigned "0" cars by MultiRail.[20] The only local train symbol assigned "0" cars that does not appear in the payroll data is Train B892, which operates along a route between Buffalo and Lockport, NY. However, CSXT's car event data indicate that Train B892 originated and/or terminated an average of three cars of TPIRR's selected traffic per day at Lockport during the Base Year.[21] Indeed, TPI's own operating plan posits that TPIRR would operate Train B892 five days per week.[22]

Overall, 216 of the 226 local train symbols included in CSXT's Supplemental MultiRail Train List are documented by the CSXT payroll data.[23] Moreover, there is a 99% correlation between the frequency with which those 216 train symbols operate in CSXT's operating plan and the frequency with which the payroll data indicate they actually operated in the Base Year.[24] Of

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[20] *See* CSXT Reply WP "Yard Crew Size and Starts Update.xls" and CSXT Supp. WP "Supplemental RTC Local Trains.xlsx." The payroll data submitted by CSXT on Reply identify, for each home terminal location, the local and industrial yard train symbols that operated from that location, and the number of train starts for each train symbol, during the second quarter of 2013 (which coincides with the final quarter of TPIRR's Base Year). The data also identify both the standard and overtime hours paid in connection with each train symbol.

[21] *See* CSXT Supp. WP "CSXT Car Events for On SARR Customers.xlsx."

[22] *See* TPI Reb. WP "TPIRR Base Year Local Train List v2_Rebuttal Statistics.xlsx."

[23] CSXT's Reply MultiRail analysis was based on CSXT's Train Profiles from 2012. The CSXT payroll data in the record cover the period from April 1, 2013 through June 30, 2013. Given the difference in the time period covered by the two data sources, it is possible that certain local train assignments that operated during the latter half of 2012 were either replaced by a different train or assigned a different train symbol in CSXT's 2013 train service plan.

[24] *See* CSXT Supp. WP "Supplemental RTC Local Trains.xlsx."

the ten local train symbols in CSXT's operating plan that do not appear in the payroll data, nine have cars assigned to them by MultiRail, and six appear in TPI's own operating plan.[25]

In short, TPI's assertion that CSXT's Reply MultiRail train service plan called for the operation of thousands of unnecessary local trains is refuted by the record evidence.

As it did in modeling TPIRR road trains in its Supplemental RTC Model, CSXT based the movement characteristics for TPIRR local trains on information contained in CSXT Reply WP "SARR19F_EstimatedTrainVolumes.xls." Those movement characteristics include origin and destination stations; frequency and day(s) of week; routes; and volume. CSXT eliminated stations that are not TPIRR origins, destinations, interchange points or yards, in order to avoid intermediate stops at locations that TPIRR would not be required to serve even though CSXT local trains stopped at those locations in their real-world operations (*e.g.*, CSXT trains that served customers that were not selected by TPI or did not ship any traffic in the Base Year).[26] CSXT modeled local trains to make intermediate station stops at every location where CSXT Reply WP "SARR19F_EstimatedTrainVolumes.xls" indicated that the average number of cars on the local train increased or decreased by at least two cars. In addition, because that workpaper identifies the net change in the number of cars on a train between the train's inbound arrival at and outbound departure from each station (rather than the actual number of cars picked up and/or set off), CSXT recognized that relying solely on CSXT Reply WP "SARR19F_EstimatedTrainVolumes.xls" in modeling local train operations might miss stops at which cars were switched but the net change in the train's consist was less than two cars. (For example, a station at which the train set off four cars and picked up three cars would only show a

[25] *See* CSXT Supp. WP "Supplemental RTC Local Trains.xlsx."

[26] As noted above, the starting point for CSXT's MultiRail analysis was its 2012 real-world operating plan, which was designed to serve all customers along CSXT's lines, and not only the subset that TPI selected for the SARR traffic group.

net change of one car.) Accordingly, for any local train that was not assigned intermediate station stop(s) based on CSXT Reply WP "SARR19F_EstimatedTrainVolumes.xls," CSXT reviewed the car event records to identify stations at which that local train originated or terminated an average of two or more cars per day during the Base Year, and CSXT modeled those station stops in its Supplemental RTC simulation.[27]

C. Industrial Yard Trains

Industrial yard trains perform local pickups and setoffs at customer facilities. While those trains are assigned a "Y" (yard) train symbol in CSXT's event data, they operate in essentially the same manner as local trains operating in "turnaround" service, traveling to industries located beyond the yard, setting off inbound cars and picking up outbound cars (or switching cars at the customer facility), and returning to the yard. *See* CSXT Reply at III-C-26.

CSXT's Reply MultiRail train list included 555 weekly (28,860 annual) industrial yard trains operating under 92 unique train symbols.[28] On Rebuttal, TPI vociferously challenged the need for TPIRR to operate industrial yard trains—indeed, TPI categorically rejected every one of the 28,860 industrial yard trains that CSXT identified as necessary to provide complete train service to TPIRR customers. *See* TPI Reb. at III-C-5, III-C-61 to III-C-68. In its *Supplemental Evidence Reconsideration* (at 6), the Board correctly observed that "[t]he record to date shows that historic 'Y' trains did not operate only within yards but also provided service between yards

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[27] For 24 local train symbols, CSXT was unable to identify either a net change of two cars (based on CSXT Reply WP "SARR19F_EstimatedTrainVolumes.xls") or an average of two or more originated/ terminated cars per day (based on the car event data) at any intermediate stop. CSXT based its modeling of those trains on the locations at which CSXT's Train Profiles schedule the train to stop most frequently. *See* CSXT Reply WP "Profiles4 Update.xlsx;" CSXT Supp. WP "Supplemental RTC Local Trains.xlsx."

[28] *See* CSXT Reply Ex. III-C-4; CSXT Reply WP "TPIRR Reply Train List.xlsx," Tab "Road_NonUnit," Rows 654-745. As CSXT explains below, on Reply CSXT calculated operating statistics and expenses for TPIRR yard assignments without distinguishing among different types of assignments (*e.g.*, in-yard switching, hump, bowl, industrial yard trains).

and shipment origins and destinations." The Board instructed TPI (and CSXT) to submit an amended train list and a Supplemental RTC simulation that reflects the operation of all trains necessary to serve the TPIRR's selected traffic group.[29] Consistent with the Board's orders, CSXT undertook a review of the industrial yard trains in its Reply MultiRail train list to confirm that they are necessary to handle the TPIRR's selected traffic.

TPI's assertion that "[it] could not possibly have included these trains [in its operating plan] because CSXT conjured them from thin air" is nonsense. TPI Reb. at III-C-4. As TPI itself acknowledged, the Train Profiles produced to TPI in discovery clearly identified the work performed by CSXT's industrial yard trains. *See id.* at III-C-63 to III-C-65.[30] The CSXT 2013 payroll data produced to TPI in discovery likewise documented the operation of the vast majority of the industrial yard trains in CSXT's MultiRail train list during the Base Year.[31]

TPI's claim that industrial yard trains that were assigned "0" cars by MultiRail are not needed to serve TPIRR customers is incorrect. *See* TPI Reb. at III-C-26 to III-C-27. Industrial yard trains handle cars for short distances between a yard and customer origins (or destinations). Those customer facilities are often physically located within the same reporting station as the yard itself or are designated by the same station name as the serving yard in CSXT's event data. As CSXT explained above (in connection with the local trains in CSXT's Supplemental MultiRail Train List), CSXT's event data do not associate a car with a train unless the car is handled by that train between two or more discrete reporting stations. Accordingly, the fact that

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[29] *See Compliance Evidence Order* at 2; *Supplemental Evidence Order* at 8.

[30] *See* CSXT Reply WP folder "III-C-/Yard Jobs_Serving_OnSARR/CSXT_TrainProfiles_Discovery" (describing the work performed by 88 of the 92 industrial yard train symbols included in CSXT's Reply train service plan).

[31] *See* CSXT Reply WP "Yard Crew Size and Starts Update.xlsx."

MultiRail may have assigned "0" cars to certain industrial yard trains does not demonstrate that those trains do not handle any cars or that they are not needed to serve TPIRR's selected traffic.

In developing the train list input to CSXT's Supplemental RTC simulation, CSXT utilized other data sources in the record to confirm that industrial yard trains included in CSXT's Supplemental MultiRail Train List are, in fact, necessary to provide complete train service to TPIRR's customers. Specifically, CSXT analyzed the CSXT Second Quarter 2013 payroll records to identify which industrial yard trains with "0" cars in MultiRail actually operated in TPIRR's service territory during that time period.[32] For each industrial yard train symbol that CSXT identified in the payroll records, it included that train symbol in its Supplemental MultiRail Train List with the service frequency with which those trains operated according to the payroll data. If an industrial yard train that was assigned "0" cars by MultiRail did not appear in the 2013 payroll records, CSXT eliminated that train from its Supplemental MultiRail Train List and did not include that train symbol in its Supplemental RTC simulation.[33] For industrial yard train symbols to which MultiRail did assign cars, CSXT adjusted the frequency of those trains to match the frequency with which those trains operated according to the payroll data. As a result of these adjustments, CSXT's Supplemental MultiRail Train List includes a total of 459 weekly industrial yard trains, which represent a total of 23,868 annual industrial yard trains (459 x 52 =

[32] *See* CSXT Reply WP "Yard Crew Size and Starts Update.xlsx."

[33] As noted above, CSXT's Reply MultiRail analysis was based on CSXT's Train Profiles from 2012. The only CSXT payroll data available in the record cover the period from April 1, 2013 through June 30, 2013. Given the difference in the time period covered by the two data sources, it is possible that certain industrial yard jobs that operated during the latter half of 2012 were either replaced or assigned a different train symbol in the train service plan that CSXT employed during the Second Quarter of 2013. Nevertheless, CSXT conservatively eliminated the train if its operation could not be confirmed by the payroll data.

23,868 industrial yard trains). CSXT's Supplemental RTC simulation incorporates the movement of those 459 weekly industrial yard trains.[34]

As it did in modeling TPIRR road and local trains, CSXT utilized information contained in CSXT Reply WP "SARR19F_EstimatedTrainVolumes.xls" to develop the origin yard, route and volume inputs for industrial yard trains in its Supplemental RTC Model. As stated above, the operating frequency for each industrial yard train symbol was based upon the CSXT Second Quarter 2013 payroll records.[35] CSXT used the same data sources and methodology described above for local trains to determine the station stops for industrial yard trains modeled in CSXT's Supplemental RTC simulation.[36]

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Figure III-C-1 below summarizes the road, local and industrial yard trains included in the Supplemental MultiRail Train List input to CSXT's Supplemental RTC Model.

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[34] *See* CSXT Supp. WP "Supplemental RTC Ind Yard Trains.xlsx."

[35] Due to differences between the periods covered by the train plan and the payroll data, CSXT was unable to find a direct match in the payroll records for six of the 459 industrial yard train symbols. CSXT modeled those trains in RTC based on the frequency assigned by MultiRail. *See* CSXT Supp. WP "Supplemental RTC Ind Yard Trains.xlsx."

[36] As was the case with local trains, there were a small number of industrial yard trains for which information regarding intermediate stop locations could not be determined based on CSXT Reply WP "SARR19F_EstimatedTrainVolumes.xls," the car event records or the Train Profiles. Those trains were modeled as "switcher" trains operating from their home yard to a nearby customer location and returning to the yard.

FIGURE III-C-1
Amended Base Year Train List for CSXT Supplemental Evidence[37]

Train Type	Number of Different Train Symbols[38]	Average Weekly Trains
Unit Trains	1,943	463
Road Trains	406	2,237
Local Trains	226	1,169
Industrial Yard Trains	81	459
Total	**2,656**	**4,328**

CSXT's Supplemental MultiRail Train List is based upon the Peak Year MultiRail analysis that CSXT submitted on Reply. As a result, CSXT's Supplemental RTC simulation portrays TPIRR's operations during an average week of the Peak Year (as opposed to the peak week of the Peak Year).[39] In its *Reconsideration Decision* (at 10) the Board acknowledged that the MultiRail train list reflects an average week rather than the peak week, and stated that "CSXT may choose whether and how to adjust the MultiRail train list for the peak week." CSXT elected not to make such an adjustment, for several reasons.

First, as the Board observed, any difference between average and peak week train volumes in CSXT's MultiRail analysis (and Supplemental RTC simulation) affects only TPIRR's merchandise traffic. CSXT's Supplemental simulation reflects the peak-week volumes for unit train traffic. *See Reconsideration Decision* at 10. Even for merchandise traffic, CSXT's Supplemental RTC Model accounts for the operation of every road, local, and industrial yard train symbol that TPIRR would operate during the peak week. In other words, there are no

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[37] CSXT Supp. WP "TPIRR Reply Train Lists (Suppl).xlsx," Tabs "NonUnit" and "Road_Unit."

[38] The large number of unique symbols for unit trains reflects the many different origin-destination pairs that are used throughout the year, the majority of which average less than one train per month. *See* CSXT Supp. WP "TPIRR Reply Train Lists (Suppl).xlsx," Tab "Road_Unit."

[39] *See* CSXT Reply at III-C-73 to III-C-74.

TPIRR train routes that are not modeled in CSXT's Supplemental RTC simulation (although some trains may carry fewer cars than they would during the peak week).

Second, as the Board recognized in *DuPont*[40] (at 37, n.53), the overall difference between an average week and the peak week of the Peak Year is not likely to be substantial for merchandise traffic, given the diversity of carload commodities included in a SARR's traffic base. Indeed, CSXT's analysis of the traffic data confirms that the difference between the carload traffic volumes handled by TPIRR during an average week and the peak week is modest. TPIRR road trains would handle only 2.1% more carload traffic during the peak week than during an average week. For local trains, peak week carload volumes were only 2.8% greater than those during an average week. Much of this modest increase could be accommodated in existing TPIRR trains, without adding a substantial number of "extra" trains in the peak week. Moreover, intermodal shipments in the peak week were 0.3% lower than those during an average week. When all non-unit train traffic types (including carload, intermodal and local trains) are taken into account, the overall volume difference between the average week and the peak week of TPIRR's Base Year is only 0.8%.[41] Therefore, an RTC simulation based on the peak week would not produce materially different results than CSXT's Supplemental RTC simulation, which is based on an average week. Indeed, as discussed below, CSXT's Supplemental RTC simulation yielded the same track configuration as CSXT's Reply RTC simulation, and its other outputs are similar to those generated by both CSXT's Reply RTC simulation and TPI's Rebuttal RTC evidence.

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[40] *E.I. DuPont de Nemours & Co. v. Norfolk Southern Railway Co.*, STB Docket No. 42125 (served Mar. 24, 2014) ("*DuPont*").

[41] *See* CSXT Supp. WP "TPIRR Peak Week Train Type.xlsx." While the overall volumes would be greater in the Peak Year, the relationship between volumes during an "average" week and the "peak" week would be the same as in the Base Year.

Finally, as the Board observed in *DuPont* (at 37, n.53), the use of an average week in conducting an RTC simulation represents a conservative approach for the railroad defendant, and may actually generate lower estimated SARR costs than a peak week analysis.

For these reasons, CSXT's Supplemental RTC simulation presents a realistic portrayal of TPIRR's peak period train operations.

CSXT calculated operating statistics and expenses for all of the trains (including industrial yard trains) in CSXT's Supplemental RTC simulation. CSXT's re-calculated train operating expenses are described in Section III-D below. On Reply, CSXT calculated operating statistics and expenses for TPIRR yard assignments by location, without distinguishing among different types of assignments (*e.g.*, in-yard switching, hump, bowl, industrial yard trains).[42] In order to avoid double counting expenses associated with industrial yard trains in this Supplemental Evidence, CSXT made an offsetting adjustment to its Reply yard expense calculations.[43]

D. The Trains In CSXT's Supplemental RTC Model Provide Complete Service To the Selected Traffic Group.

Each of the trains designated above for inclusion in CSXT's RTC Model is a train that is "necessary to provide service to the selected traffic group." *Supplemental Evidence Order* at 8. On Rebuttal, TPI asserted that MultiRail "do[es] not move 99 percent of the traffic from their origins to their actual destinations." TPI Reb. at III-C-32. That claim is demonstrably false.[44] CSXT's Reply narrative included a description of MultiRail's "SuperSim" feature. The

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[42] *See* CSXT Reply WP "TPIRR Yard Operations_Reply.xlsx."

[43] *See* CSXT Supp. WP "TPIRR Yard Operations_Reply (Suppl).xlsx."

[44] TPI's claim is based upon the testimony of witness John Orrison. However, his statements regarding the alleged shortcomings of the MultiRail software are apparently based on his recollection of an outdated version of MultiRail that is no longer used.

SuperSim feature simulates the movement of TPIRR trains along the network, and the transfer of blocks of cars between trains, during the study week. MultiRail generates a "trip plan" for each individual carload shipment.[45] CSXT's Reply narrative (at III-C-68 to III-C-73) presented several examples of the Base Year trip plans generated by MultiRail's SuperSim feature. As those samples illustrated, MultiRail accounts for every step in the process of transporting each car from the origin customer location (or point at which the car is interchanged to TPIRR) to the destination customer location (or location at which TPIRR interchanges the car to another carrier). *Id.* CSXT Reply WP "SARR19B-TripPlan_IssueTraffic_Loads.pdf" contains a detailed trip plan for every car of issue traffic that moved in the Base Year.

In order to confirm that its Supplemental MultiRail Train List and RTC simulation account for the movement of each carload from its actual origin (or on-SARR junction) to its actual destination (or off-SARR junction), CSXT ran a SuperSim of the Peak Year MultiRail car blocking and train service plan that it submitted as part of its Reply Evidence. Figures III-C-2, III-C-3, III-C-4, and III-C-5 provide examples of the train service plans developed by MultiRail for the TPIRR's Peak Year issue, local, interline forwarded and interline received shipments.[46]

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[45] *See* CSXT Reply at III-C-67 to III-C-73.

[46] CSXT Supp. WP "CSXT MultiRail Trip Plans.xlsx" contains a detailed trip plan for every car of issue traffic that moved in the Peak Year.

FIGURE III-C-2
TPIRR Peak Year Issue Traffic Shipment

Shipment Information

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Figure III-C-2 depicts the train service plan for an issue traffic shipment originating at a BNSF-served {{ }} facility at {{ }} and moving to {{ }}, a TPIRR-served customer at {{ }}. As Figure III-C-2 shows, the car is delivered by BNSF to TPIRR's {{ }} at 22:59 on Friday, June 20. In the "Location" column of the MultiRail trip plan, the milepost for each event location is shown in parentheses, e.g., "T_DD 2" for {{ }}. A "T" as the first letter of a milepost location indicates a point located on TPIRR's lines. It is switched into TPIRR Train Q388 at 12:30 on Saturday, June 21, transported by Train Q388 to TPIRR's {{ }}, and set out at 1:45 on Sunday, June 22. The car is then classified and switched into TPIRR Train Q378 on Monday, June 23. Train Q378 transports the car from {{ }} to {{ }}, and sets it out at TPIRR's {{ }} at 17:15 on June 23. The shipment is then placed into TPIRR industrial yard ("Y") Train Y321, which handles the car from {{ }} to {{ }}. Train Y321 sets the car off at {{ }} at 1:00 on June 24. The car is picked up

by TPIRR Train Y121, which delivers the car to {{ }} at {{ }} at 15:30 on June 24. The setoff location is identified by MultiRail as "QDL 59." The customer service survey submitted by CSXT on Reply (and provided to TPI in discovery) confirms that "QDL 59" is the location of {{ }} facility—indeed, the customer identification key assigned to {{ }} is "QDL 590106."[47] As Figure III-C-2 demonstrates, CSXT's operating plan accounts for the entire movement of this issue traffic shipment from its receipt from BNSF at {{ }} through delivery to the customer at {{ }}.

FIGURE III-C-3
TPIRR Peak Year Local Shipment

Shipment Information
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Figure III-C-3 depicts the train service plan for a TPIRR local shipment originating at TPIRR-served {{ }} at {{ }} and terminating at TPIRR-served {{ }} at {{ }}. As Figure III-C-3 shows, the shipment originates at the {{ }} facility located at milepost "T_000114." The CSXT customer service survey indicates that {{ }} is served by an

[47] *See* CSXT Supp. WP "MR_TripReport_Issue.xlsx," Tab "CSA-Accounts & Customers," Column A. This workpaper is an excerpt from CSXT Reply WP "CSA Report.xlsx."

industrial yard train operating out of {{ }}.[48] {{ }} picks up the shipment at the customer's facility at 12:30 on Wednesday June 18 and moves it to {{ }} at 16:00. The car is then classified and switched into TPIRR Train Q534 at 7:55 on Thursday June 19. Train Q534 transports the shipment to {{ }} and sets it out for classification at 12:30 on June 19. At 23:59 that night, TPIRR Train J761 picks up the car at Louisville and transports it to {{ }}, where it is set off at the {{ }} facility at 3:15 on Friday June 20, completing end-to-end service for the shipment. The final delivery location at {{ }} is milepost "T_000T14." The CSXT customer survey confirms that "T_000T14" is the location of the {{ }} facility, as indicated by {{ }} customer key number ("000T147020").

FIGURE III-C-4
TPIRR Peak Year Interline Forwarded Shipment

Shipment Information
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Figure III-C-4 depicts the train service plan for an interline forwarded shipment originating at TPIRR-served {{ }} facility at {{ }} and

[48] {{ }}

moving to {{ }} an industry located on the residual CSXT at {{ }}. As Figure III-C-4 shows, the car originates at milepost "T_SF260." The CSXT customer survey confirms that "T_SF260" is the location of the {{ }} facility, as indicated by {{ }} customer key number ("SF2606602").[49] The shipment is picked up by TPIRR Train F702 at 14:45 on Tuesday, June 24 and set off at {{ }} at 15:00 on the same date. The car is then classified and switched into TPIRR Train F701. Train F701 departs {{ }} on June 25 and transports the car to {{ }}, where the car is set out for interchange to the residual CSXT at 11:00 on June 25. CSXT Train Q478 then picks up the car at {{ }} and transports it to {{ }}, where it is picked up by another CSXT train (Train F708) for delivery to the {{ }} facility at {{ }}.[50]

[49] *See* CSXT Supp. WP "MR_TripReport_OD.xlsx," Tab "CSA-Accounts & Customers," Column A, which includes information from the CSXT customer surveys included as CSXT Reply WP "CSA Report.xlsx."

[50] The MultiRail trip plans denote those portions of a movement in which TPIRR participates by attaching a "T_" prefix to TPIRR locations in the trip plan.

FIGURE III-C-5
TPIRR Peak Year Interline Received Shipment

Shipment Information

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Figure III-C-5 depicts the train service plan for a shipment originating at a KCS-served {{ }} facility at {{ }} and moving to {{ }}, a TPIRR-served customer at {{ }}. As Figure III-C-5 shows, the car is set out by from KCS at TPIRR's {{ }} at 12:04 on Wednesday, June 18. It is classified into TPIRR Train Q572 at 11:00 on Thursday, June 19. Train Q572 transports the car from {{ }} to TPIRR's {{ }} and sets it off at 11:00 on Friday, June 20. The car is then classified and switched into TPIRR Train Q502. Train Q502 transports the car from {{ }} on Saturday, June 21 and sets the car off at {{ }} at 20:45 on June 22. The shipment is then placed into TPIRR Train Y121 at 14:30 on Monday, June 23. Train Y121 handles the car from {{ }} to {{ }} at {{ }}, setting the car out at 19:00 on Monday, June 23. The milepost at which delivery takes place ("T_BE 7" at {{)}} is located 5.5 miles north of TPIRR's {{ }} (at milepost "T_OKC110"). While {{ }} is identified by customer key "OKC1101318" in the CSXT customer

service survey, that document indicates that "Customer leases 2 tracks in {{ }} yard."[51] Upon placement of the shipment on those leased tracks, delivery to {{ }} is completed.

As these examples illustrate, CSXT's MultiRail analysis created a complete blocking sequence and train service plan for each carload shipment in the TPIRR's Peak Year traffic group. The examples also demonstrate the critical role played by "Y" trains in providing complete service to TPIRR customers. The SuperSim simulation traced the movement of each car from its customer origin or interchange location to its ultimate destination (or off-SARR point). Thus, CSXT's MultiRail evidence proves that CSXT's operating plan "provide[s] for full service from each specific origin, through the network, and to each specific destination for the selected traffic group," as required by the Board's *DuPont* decision.[52] CSXT's separate Base Year and Peak Year MultiRail analyses also reflect any adjustments to CSXT's historical car classification and blocking plan that would be necessary to accommodate the TPIRR's higher Peak Year volumes, as required by the Board's *SunBelt* decision. *See SunBelt Chlor Alkali Partnership v. Norfolk Southern Railway Co.,* STB Docket No. 42130, at 16 (served June 20, 2014) ("*SunBelt*"). By contrast, TPI purports to apply CSXT's 2012-2013 blocking plan to the TPIRR's Peak Year traffic without identifying <u>any</u> adjustments to account for the approximately 20% increase in volumes posited by TPI for the Peak Year.[53]

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[51] *See* CSXT Supp. WP "MR_TripReport_RT.xlsx, Tab "CSA-Accounts & Customers," Column AQ.

[52] *DuPont* at 38. The detailed block and train assignments developed by MultiRail for the TPIRR's Peak Year issue traffic are set forth in CSXT Supp. WP "CSXT MultiRail Trip Plans.xlsx."

[53] *See* CSXT Reply at III-C-56 to III-C-57.

II. CSXT USED OTHER RTC MODEL INPUTS THAT WERE CONSISTENT WITH ITS REPLY EVIDENCE.

In this section, CSXT explains other inputs to its Supplemental RTC model, including train size, maximum train speeds, locomotive consists, and dwell times. In accordance with the *Supplemental Evidence Order*, CSXT has adopted inputs consistent with the inputs used in its Reply Evidence. CSXT notes that in almost every instance TPI's Rebuttal RTC Simulation adopted those same inputs.

A. Train Sizes and Weight

In its Opening RTC Model, TPI based the maximum length of TPIRR trains on the "[longest] comparable CSXT trains operated between 3Q12 and 2Q13 for which CSXT produced car- and train-movement data." TPI Op. at III-C-15. On Reply, CSXT accepted TPI's methodology as a reasonable approach to determining maximum train sizes. Accordingly, CSXT applied the maximum train sizes specified by TPI in CSXT's Reply RTC Model.[54] In its Supplemental RTC simulation, CSXT utilized the train sizes set forth in CSXT Reply WP "SARR19F_EstimatedTrain Volumes.xls," which reflects the same maximum train lengths.

B. Trains With Routing Modeled Incorrectly

As CSXT demonstrated on Reply (at III-C-179 to III-C-184), TPI's Opening RTC model contained a number of errors in the routing of trains that had a material impact on the results of TPI's RTC simulation. CSXT corrected those modeling errors in its Reply RTC simulation, and TPI accepted CSXT's routing corrections in its Rebuttal RTC Model. *See* TPI Reb. at III-C-157 to III-C-158. CSXT carries those corrections forward into its Supplemental RTC simulation.

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[54] *See* CSXT Reply at III-C-172.

C. Maximum Train Speeds

TPI input to its Opening RTC Model maximum train speeds of 70 MPH for intermodal trains and 60 MPH for general freight trains operating on main line segments. *See* TPI Op. Ex. III-C-6 at 5. According to TPI, trains carrying TIH commodities, other "Key" trains, and loaded coal and grain trains were modeled to operate at 50 MPH on main line segments. *See id.* TPI posited that trains on branch lines would be subject to a speed limit of 40 MPH, "except where existing CSXT speed limits are higher." TPI Op. at III-C-10.

CSXT accepted the maximum train speeds posited by TPI on Opening as reasonable and adopted the same maximum train speeds for its Reply RTC Model. However, CSXT's review of TPI's Opening RTC simulation revealed that TPI did not restrict the maximum speed of trains carrying crude oil to 50 MPH (as required by industry "best practice" and AAR Circular OT-55-N (CPC-1258)), but instead permitted those trains to operate at 60 MPH. CSXT also identified certain grain unit trains that operated in TPI's Opening model at speeds in excess of the 50 MPH specified in TPI's operating plan.[55] TPI accepted CSXT's train speed corrections in its Rebuttal RTC simulation.[56] CSXT carries forward the (correct) train speeds specified by TPI on Rebuttal into CSXT's Supplemental RTC simulation.

D. Locomotives

1. Road Locomotive Consists

On Reply, CSXT accepted the numbers and types of locomotives specified by TPI for road and local trains, including helper trains, with one exception.[57] Specifically, CSXT demonstrated that certain high-priority intermodal trains would require a third locomotive in

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[55] *See* CSXT Reply at III-C-185 to III-C-186.

[56] *See* TPI Reb. at III-C-160, III-C-162.

[57] *See* CSXT Reply at III-C-186 to III-C-187.

order to achieve the required transit times and meet service commitments.[58] On Rebuttal, TPI accepted CSXT's proposed third locomotive for high-priority intermodal trains, resulting in virtual agreement between the parties on the number and type of locomotives required for all trains.[59] CSXT carries forward the agreed locomotive specifications into CSXT's Supplemental RTC simulation.[60]

2. Helper Locomotives

CSXT accepted the helper service locations posited by TPI in its Opening RTC evidence and incorporated them in CSXT's Reply RTC Model. *See* CSXT Reply at III-C-142. CSXT carries forward the same helper service locations in its Supplemental RTC simulation.

E. Dwell Times

TPI's Opening RTC Model incorporated a series of generic assumptions that vastly understated the dwell times that TPIRR trains would experience in their day-to-day operations. On Reply, CSXT presented realistic dwell times for TPIRR trains based on the average dwell times actually experienced by CSXT's real-world trains during the Base Year.[61] On Rebuttal, TPI characterized the train dwell times posited by CSXT as "unreliable," "confusing, inconsistent" and "absurdly long." TPI Reb. at III-C-122, III-C-125, III-C-129. Yet, "TPI accept[ed] and incorporate[ed into its Rebuttal RTC Model] all of the dwell times CSXT input into its Reply RTC simulation for hump yard dwell times, flat yard dwell times, coal train dwell times and local train mainline dwell times." *Id.* at III-C-160. Accordingly, TPI's rhetoric notwithstanding, the parties are in agreement with respect to the train dwell time assumptions

[58] *Id.*; *see also* CSXT Reply at III-D-14 to III-D-15.

[59] *See* TPI Reb. at III-D-8.

[60] *See* CSXT Supp. WP "Supplemental RTC Road Trains.xlsx," Tabs "Config1" and "Config2."; CSXT Supp. WP "Supplemental RTC Inputs by Train Symbol.xlsx."

[61] *See* CSXT Reply at III-C-187 to III-C-194.

underlying their respective RTC simulations. As discussed below, CSXT carries forward those agreed train dwell time assumptions into its Supplemental RTC simulation.

1. Dwell Time At Origins And Destinations

On Opening, TPI based the dwell times for TPIRR trains serving customer origins and destinations on the location-specific dwell time information set forth in the customer profiles provided by CSXT in discovery.[62] CSXT accepted the origin/destination dwell times posited by TPI and input them into CSXT's Reply RTC simulation.[63] CSXT carries forward the same origin and destination train dwell times into its Supplemental RTC simulation.[64]

2. Dwell Times at Yards

One of the most egregious flaws in TPI's Opening RTC simulation was its failure to portray accurately the dwell time that TPIRR trains would incur at TPIRR yards. On Reply, CSXT presented location-specific evidence of the average dwell time actually incurred by trains originating (or making intermediate stops) at CSXT yards during the Base Year.[65] Notwithstanding its (unsupported) assertion that those real-world dwell times were inflated, TPI adopted them in its Rebuttal RTC simulation.

a. Trains Arriving/Departing TPIRR Hump Yards

TPI's Opening RTC Model failed to account for the time required to break up (or build) trains on receiving and departure tracks ("R&D tracks") at TPIRR hump yards.[66] On Reply, CSXT posited that trains originating or terminating at TPIRR hump yards would incur a

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[62] *See* TPI Op. Ex. III-C-6 at 9.

[63] *See* CSXT Reply at III-C-187.

[64] *See* CSXT Supp. WP "Supplemental RTC Inputs by Train Symbol.xlsx."

[65] *See* CSXT Reply at III-C-188 to III-C-194; CSXT Reply Ex. III-C-7.

[66] *See* CSXT Reply at III-C-192 to III-C-194.

minimum dwell time of 5.0 hours, based on CSXT's real-world experience.[67] While TPI claimed that the 5.0 hour average dwell time posited by CSXT is "unreliable" (TPI Reb. at III-C-122), it nevertheless adopted the same 5.0 hour dwell time for trains arriving at, and departing from, TPIRR hump yards in its Rebuttal RTC simulation.[68] CSXT carries forward the same 5.0 hour dwell time for trains arriving at, and departing from, TPIRR hump yards in its Supplemental RTC simulation.[69]

b. Trains Changing Consist At Flat Switching Yards

In its Opening RTC Model, TPI posited that trains changing consist at intermediate yards would incur a dwell time of only 30 minutes.[70] On Reply, CSXT demonstrated that the 30-minute dwell time assumed by TPI is not consistent with "the realities of real world railroading." CSXT identified the actual dwell time experienced by CSXT trains that stopped en route to pick up and/or set off cars at each of the CSXT hump yards and flat switching yards replicated by TPIRR between July 1, 2012 and June 30, 2013 (as shown in the event data produced to TPI in discovery).[71] As CSXT Reply Exhibit III-C-7 showed, real-world CSXT trains that made

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[67] CSXT Reply at III-C-193. As CSXT demonstrated (at III-C-112, III-C-117), the average time that receiving tracks remained occupied following the arrival of a terminating train at major hump yards during 2012 was 5.65 hours, and the average time required to build and inspect outbound trains on departure tracks was 5.18 hours.

[68] *See* TPI Reb. at III-C-9, III-C-160. TPI relies on its RTC simulation as the only evidence of the number of R&D tracks required at TPIRR hump yards. However, as the Board has recognized, the RTC Model is not a yard sizing tool, and cannot reliably determine the track capacity needed to support yard operations. *See SunBelt* at 16 (rejecting complainant's claim that RTC simulation confirmed yard track configuration, on grounds that "the RTC model does not model yard operations"). By contrast, CSXT presented a detailed, well-supported, location-specific analysis of the TPIRR's R&D track requirements. *See* CSXT Reply at III-C-118 to III-C-125.

[69] *See* CSXT Supp. WP "Supplemental RTC Inputs by Train Symbol.xlsx."

[70] *See* CSXT Reply at III-C-188; TPI Op. WP "TPI Open RTC Train Inputs.xls."

[71] *See* CSXT Reply Ex. III-C-7.

intermediate stops to pick up or set off cars during the Base Year experienced an average dwell time of 2.6 hours at flat switching yards.[72] Based on those actual dwell time data, CSXT's Reply RTC Model applied a 2.0-hour dwell time at those TPIRR flat switching yards for which CSXT Reply Exhibit III-C-7 showed an average dwell of 2.0 hours or more.[73] On Rebuttal, TPI accepted CSXT's dwell times for trains making intermediate stops at flat switching yards.[74] CSXT carries forward those dwell times in its Supplemental RTC simulation.[75]

3. Train Inspection Dwells

CSXT accepted and incorporated into its Reply RTC Model the dwell times posited by TPI for coal trains requiring a 1,500-mile inspection (5.0 hours), and for non-coal trains requiring a 1,000-mile inspection (3.0 hours).[76] CSXT carries forward the same agreed dwell times for train inspections in its Supplemental RTC simulation.[77]

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[72] *See* CSXT Reply Ex. III-C-7.

[73] As the data shown on CSXT Reply Exhibit III-C-7 indicate, 24 (or 75%) of the 32 CSXT flat switching yards replicated by TPIRR experienced an average dwell to pick up or set off cars of 2.0 hours or more. The remaining eight flat switching yards experienced average dwell times ranging from 0.5 hours and 1.9 hours, with seven of the eight locations having an average dwell time in excess of 1.0 hour. CSXT conservatively applied TPI's proposed dwell of 30 minutes at those eight locations.

[74] TPI Reb. at III-C-160.

[75] *See* CSXT Supp. WP "Supplemental RTC Inputs by Train Symbol.xlsx." TPI's criticism that CSXT failed to provide separate dwell times for "departing" and "arriving" trains at TPIRR flat switching yards (TPI Reb. at III-C-9) reflects a fundamental lack of understanding of train operations at flat yards. Unlike hump yards, where road trains are routinely built and broken down, trains stopping at flat yards do not arrive on a "receiving track" and depart from a separate "departure track." Rather, trains occupy a single track while cars are removed from, or added to, the train. Accordingly, trains making an intermediate stop at a flat switching yard experience a single "dwell" on a single track. CSXT Reply Ex. III-C-7 identifies the average dwell experienced by CSXT trains that made intermediate stops at flat switching yards to pick up or set off cars, and those that stopped but did not change consist.

[76] *See* TPI Op. Ex. III-C-6 at 6.

[77] *See* CSXT Supp. WP "Supplemental RTC Inputs by Train Symbol.xlsx."

4. Time Required to Interchange Trains With Other Railroads

TPI's Opening RTC Model assigned 30 minutes of dwell time for TPIRR to complete the receipt of a train in interchange from a foreign railroad.[78] CSXT accepted and incorporated into its Reply RTC Model the 30-minute interchange dwell time posited by TPI.[79] However, CSXT noted that the residual CSXT would not accept trains in interchange from TPI with their locomotives in a 1/1 "Distributed Power" configuration.[80] Consistent with that position, CSXT witness Wheeler increased the dwell time to 45 minutes at locations where trains were forwarded to CSXT to account for the time that would be required for TPIRR train crews to reposition locomotives prior to handing the trains off to CSXT.[81] On Rebuttal, TPI accepted the notion that CSXT would not accept TPIRR trains with distributed power, and posited instead that trains interchanged with CSXT would be configured with all locomotives on the head end.[82] Based on that changed TPI operating assumption, in its Supplemental RTC simulation CSXT reduces the dwell time at TPIRR-CSXT interchange locations to 30 minutes.

5. Crew Change Locations/Times

TPI's Opening RTC simulation assigned 15 minutes of dwell time for TPIRR to complete crew changes. *See* TPI Op. Ex. III-C-6 at 4, 9. CSXT accepted that dwell time assumption as reasonable and incorporated a 15-minute dwell time for crew changes in its Reply RTC Model. CSXT carries forward the same 15-minute dwell time for crew change events in its Supplemental RTC simulation.

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[78] *See* TPI Op. Ex. III-C-6 at 7.

[79] *See* CSXT Reply at III-C-194.

[80] *See* CSXT Reply at III-C-156 to III-C-162.

[81] *See* CSXT Reply at III-C-194.

[82] *See* TPI Reb. at III-C-152.

6. Time Required to Attach/Detach Helper Locomotives

TPI's Opening RTC simulation assigned 20 minutes of dwell time for helper locomotives to be attached to TPIRR road trains and 15 minutes to detach helper units after they have finished assisting a train. CSXT accepted those dwell time assumptions as reasonable and incorporated them in its Reply RTC Model. CSXT carries forward the same dwell times to attach and detach helper locomotives in its Supplemental RTC simulation.

7. Track Inspections/Maintenance Windows

TPI's RTC simulation assigned delay time to account for track inspections and line maintenance activities, based upon the train delay data provided by CSXT in discovery.[83] CSXT accepted those delay times as reasonable and incorporated them into its Reply RTC simulation. CSXT carries forward the same delay times for track inspections and line maintenance activities in its Supplemental RTC simulation.

8. Time for Random Failures/Line Outages

In its Opening RTC Model, TPI input a total of 452 random failures and track outages, based on train sheet data provided by CSXT in discovery.[84] On Reply, CSXT demonstrated that TPI significantly undercounted the number of events reflected in the CSXT train data. CSXT identified and input to its Reply RTC Model a total of 742 track outages caused by random events of the types included in TPI's analysis.[85] In its Rebuttal RTC evidence, TPI accepted all but 42 of the random failures and outages included in CSXT's Reply RTC simulation, claiming that those 42 events occurred at locations beyond TPIRR's lines.[86] In its Supplemental RTC

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[83] *See* TPI Op. Ex. III-C-6 at 11; TPI Op. WP "Peak Period Delays (Final).xls."

[84] *See* TPI Op. WP "Peak Period Delays (Final).xls."

[85] *See* CSXT Reply WP "CSXT Reply RTC Random Failure Description.docx."

[86] *See* TPI Reb. at III-C-160 to III-C-162.

simulation, CSXT accepts TPI's adjustment to CSXT's Reply random failures and outages and removes the 42 events identified by TPI on Rebuttal.[87]

III. CSXT'S SUPPLEMENTAL RTC SIMULATION HAD NO EFFECT ON INFRASTRUCTURE AND ONLY MINOR EFFECTS ON OPERATING EXPENSES.

This Section explains the outcome of CSXT's Supplemental RTC simulation. The model ran to completion without requiring any changes to the TPIRR track configuration, and CSXT accordingly makes no changes to the TPIRR track configuration it proposed on Reply. The Supplemental RTC Model does result in slightly higher operating expenses, largely because it increases locomotive requirements from the levels in CSXT's Reply Evidence. These changes and other downstream changes resulting from the operating expenses are explained below.

A. Track Capacity and Configuration

CSXT input to its Supplemental RTC Model the same track configuration that resulted from CSXT's completed Reply RTC simulation.[88] CSXT's Supplemental RTC simulation ran to a successful completion without the need to add any additional main line, secondary, or branch line track. Accordingly, CSXT makes no changes to the TPIRR track configuration posited by CSXT on Reply.

This result is not surprising. While CSXT's Supplemental RTC simulation models the movement of 629 more road, local and industrial yard trains during the seven-day peak period than CSXT's Reply RTC simulation, 446 (or 71%) of those additional trains are industrial yard

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[87] *See* CSXT Supp. WP "Supplemental.PERMIT," included in the RTC workpaper zip file "CSXT Supplemental RTC.zip."

[88] As discussed below, CSXT Supp. WP "TPIRR Stations RTC Nodes.xlsx" responds to the Board's Compliance Order instruction to provide a crosswalk between the TPIRR station and yard locations and the RTC nodes.

trains.[89] Industrial yard trains operate only over short segments of main line track as they move between their home yards and the customer facilities that they serve. Accordingly, they do not occupy significant track capacity or generate frequent conflicts with road and local train movements. Indeed, consistent with the low dispatch priority that industrial yard trains are assigned in CSXT's real-world operations, witness Wheeler assigned industrial yard trains a priority subordinate to all other types of train movements in CSXT's Supplemental RTC Model. Moreover, the increase of 346 local trains in CSXT's Supplemental RTC Model was offset by a reduction of 163 road trains (which, due to their relatively longer length of haul, generally require more capacity than local trains).[90]

Figure III-D-1
Comparison of TPIRR Network Configurations[91]

	TPI Opening	CSXT Reply	TPI Rebuttal	CSXT Supplemental
Running Track Miles	10,219	10,284	10,265	10,284
Yard Track Miles	1,603	2,310	2,016	2,310
Total	**11,822**	**12,594**	**12,281**	**12,594**

As Figure III-D-1 shows, CSXT's Reply and Supplemental RTC simulations result in a network consisting of 10,284 miles of "running" track (*i.e.*, main, secondary, and branch line track). That represents a difference of only 65 miles (or 0.6%) from the 10,219 running track

[89] *See* CSXT Supp. WP "TPIRR Reply RTC Results (Suppl).xlsx."

[90] The lower number of road trains in CSXT's Supplemental RTC analysis is attributable to the efficiencies generated by its MultiRail-based operating plan. As TPI acknowledged on Rebuttal, CSXT's MultiRail analysis served the TPIRR's selected traffic with 5,452 fewer road trains than TPI's train list based on historic trains (a modified version of which CSXT adopted in conducting its Reply RTC simulation). *See* TPI Reb. at III-C-23 to III-C-24.

[91] *See* TPI Reb. at III-B-16 to III-B-19.

miles posited by TPI on Opening. On Rebuttal, TPI accepted the 65 additional miles of running track proposed by CSXT, but modified its configuration by removing 19 miles of rail sidings that were included in TPI's Opening configuration (and accepted by CSXT on Reply), resulting in a network consisting of 10,265 miles of running track, only 19 miles (or 0.2%) fewer than posited by CSXT.[92] Thus, the parties' RTC simulations produce running track network configurations that are virtually identical.[93]

B. Train Speeds

As Figure III-D-2 shows, the average train speeds generated by CSXT's Reply RTC simulation and Supplemental RTC simulation are also nearly the same. The average speed for road and unit trains in CSXT's Reply simulation (20.3 MPH) is virtually identical to that produced by CSXT's Supplemental simulation (20.2 MPH). The difference in average speed for local trains in CSXT's Reply and Supplemental RTC simulations is small—indeed local trains travel slightly faster (11.9 MPH) in CSXT's Supplemental simulation than they do in CSXT's Reply simulation (11.1 MPH), and both CSXT RTC simulations generated faster train speeds for TPIRR local trains than TPI's Rebuttal RTC simulation (10.5 MPH).

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[92] TPI's removal of those 19 miles of siding track should be rejected because it violates the Board's proscription against changes by a complainant on rebuttal, after the defendant carrier has accepted the shipper's position in its reply evidence. *See, e.g., FMC Wyoming Corp v. Union Pacific R.R. Co.*, 4 S.T.B. 699, 790 (2000) ("*FMC*") (rejecting complainant's change in triple-track configuration on rebuttal where carrier had accepted complainant's configuration on reply); *see also DuPont* at 84, n.76 ("The complainant may not make changes on rebuttal when the defendant has accepted the opening submission and did not have an opportunity to reply to the new evidence.").

[93] The 294-mile difference between the yard track miles posited by CSXT on Reply and by TPI on rebuttal is attributable to (1) TPI's erroneous reliance upon the RTC Model to determine TPIRR's R&D track requirements, and (2) TPI's failure to account for the cost of the lead tracks and crossovers necessary to connect "working" tracks in TPIRR yards.

Figure III-D-2
Average Train Speeds from RTC Simulations (MPH)[94]

	TPI Open	CSXT Reply	TPI Rebuttal	CSXT Supplemental
Road & Unit Trains	24.3	20.3	20.3	20.2
Local Trains	11.2	11.1	10.5	11.9
Industrial Yard Trains	N/A	8.6	8.6	6.8

The only material difference in average train speeds in CSXT's RTC simulations is the average speed for industrial yard trains. CSXT's Reply RTC simulation generated an average speed of 8.6 MPH, while its Supplemental RTC analysis produced an average speed of 6.8 MPH for industrial yard trains. This difference is not surprising, given that CSXT's Reply simulation contained only a small sample of nine industrial yard jobs in the peak week, whereas its Supplemental RTC simulation accounts for all of the 459 weekly industrial yard trains that TPIRR would be required to operate in the Peak Year. The 6.8 MPH average speed is only slightly higher than the average speed of 6 MPH that CSXT and TPI each utilized in developing their respective mileage-based operating expenses for yard engines on Reply and Rebuttal, respectively.[95]

C. Other TPIRR Operating Expenses

Because CSXT's Supplemental RTC simulation is based upon a different train list than that utilized by CSXT in performing its Reply RTC simulation, the train transit times and other mileage-based service units generated by CSXT's Supplemental RTC simulation differ from

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[94] *See* CSXT Supp. WP "TPIRR Reply RTC Results (Suppl).xlsx."

[95] *See* CSXT Reply WP "TPIRR Yard Operations_Reply.xlsx;" TPI Reb. WP "TPIRR Yard Operations_Rebuttal.xlsx."

those produced by its Reply RTC simulation.[96] Therefore, CSXT re-calculated certain TPIRR operating expenses that are dependent on operating statistics derived from the RTC simulation. Those re-calculated operating expenses are described below.

The Board's *Compliance Evidence Order* (at 2) instructed CSXT to "[r]ecalculate service units based on the amended train list and Rail Traffic Controller (RTC) results" and to "[r]ecalculate all costs that are dependent on the amended train statistics." In Sections I and II above, CSXT described the methodologies that it employed to develop a Supplemental MultiRail Train List (based on the Peak Year MultiRail analysis included in CSXT's Reply Evidence), to input that train list to the RTC Model, and to perform a Supplemental RTC simulation based upon the Supplemental MultiRail Train List. CSXT's re-calculation of certain TPIRR operating expenses based on operating statistics generated by CSXT's Supplemental RTC simulation are presented below.

As the Board noted in its *Supplemental Evidence Order* (at 6), "[t]he RTC model supports the operating plan by demonstrating the adequacy of the configuration and providing transit times and mileage-based service units." As explained above, CSXT's Supplemental RTC simulation produced transit times and certain other mileage-based operating statistics that differ from those upon which CSXT based its Reply SARR operating expense calculations. When CSXT applied the operating statistics generated by its Supplemental RTC simulation, the following categories of TPIRR operating expenses were impacted:

- Locomotive Ownership;
- Locomotive Maintenance;
- Locomotive Operations (including Servicing and Fuel);
- Railcar Lease;

[96] As explained above, virtually all other operating inputs and assumptions in CSXT's Supplemental RTC simulation are the same as those used in conducting CSXT's Reply RTC simulation.

- Insurance; and
- Ad Valorem Taxes.

All other TPIRR operating expenses set forth in Section III-D of CSXT's Reply Evidence remain the same. Moreover, CSXT's Supplemental RTC simulation confirmed that the SARR configuration posited by CSXT on Reply was adequate to support the train operations contemplated by CSXT's Supplemental MultiRail Train List and RTC simulation without adding any additional running track capacity. Accordingly, CSXT's Reply road property investment costs also remain unchanged by this Supplemental submission.

Following is a discussion of each of the categories of TPIRR operating expenses that were affected by the results of CSXT's Supplemental RTC simulation.

1. Locomotives

a. Locomotive Acquisition

On Reply, CSXT demonstrated that TPI's Opening Evidence significantly understated the number of locomotives that TPIRR would need to serve its selected traffic.[97] The deficiencies in TPI's locomotive fleet included both ES44AC units that provide road service (which are based on transit times from the RTC simulation) and SD40-2 units used for local and yard service (which are based on the number of trains or assignments by serving yard location).

For road trains, CSXT's Supplemental RTC simulation produced different train transit times and average train speeds than those developed by CSXT on Reply. Because the RTC-based locomotive-hours and speeds by train symbol are direct inputs to the calculation of the SARR's locomotive requirements,[98] substituting the outputs from CSXT's Supplemental RTC

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[97] *See* CSXT Reply at III-D-4 to III-D-18.

[98] *See* CSXT Supp. WP "TPIRR Reply RTC Results (Suppl).xlsx."

simulation produces different results.[99] The impact of applying the operating statistics generated by CSXT's Supplemental RTC simulation on TPIRR's required road locomotive fleet is a net increase of 33 ES44 locomotives over the number posited by CSXT on Reply.[100]

On Reply and Rebuttal, CSXT and TPI both calculated locomotive requirements for TPIRR local trains based on the number of trains operating from individual serving yards.[101] In this Supplemental Evidence, CSXT recalculates TPIRR's local train locomotive requirements based on the local trains included in its Supplemental MultiRail Train List. The result is a net increase of 15 SD40 and 31 ES44[102] locomotives over the number amount posited by CSXT on Reply.[103]

Finally, as discussed above, to comply with the Board's *Supplemental Evidence Order* and *Compliance Evidence Order*, CSXT added 450 industrial yard trains to the 9 sample trains for the peak week that were included in CSXT's Reply RTC simulation. On Reply, CSXT calculated TPIRR's yard locomotive requirements based on CSXT's overall yard activities by location, without distinguishing among different types of assignments (*e.g.*, in-yard switching,

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[99] While CSXT modeled the same unit trains in this Supplemental Evidence at it did on Reply – same routes, volumes, stops, etc.—changes to the count and frequency of TPIRR's other road, local, and industrial yard trains in this Supplemental Evidence affected the transit times that unit trains achieved in the Supplemental RTC simulation.

[100] *See* CSXT Supp. WP "TPIRR Operating Statistics_Reply (Suppl).xlsx." On Reply, CSXT determined that TPIRR locomotives would incur 9 hours of dwell time at yards between train assignments, longer than the 3 hours that TPI assumed (*See* CSXT Reply at III-D-8 to III-D-11). CSXT applied this same analysis to the train-by-train timestamps that were output from its Supplemental RTC simulation, and determined that the revised TPIRR train flows would result in slightly higher dwell times (9.5 hours). *See* CSXT Supp. WP "Dwell-Calculation-Report Final (Suppl).xlsx." For this Supplemental Evidence, CSXT continues to calculate the TPIRR's locomotive requirements for road trains based on the 9-hour factor used on Reply.

[101] *See* CSXT Reply at III-D-15 to III-D-17.

[102] Both parties previously assumed that a small proportion of the SARR's local trains would be powered by ES44 units. *See* TPI Op. at III-C-17.

[103] *See* CSXT Supp. WP "Supplemental TPIRR Local Train Locomotives.xlsx."

hump jobs, bowl jobs, industrial yard trains).[104] Although CSXT's Supplemental RTC simulation includes many more industrial yard trains than its Reply RTC analysis, CSXT has not changed the overall number of locomotives required for the SARR's yard operations from the number CSXT proposed on Reply, because TPIRR continues to serve the same traffic from the same yard locations under both scenarios. CSXT's Reply (and Supplemental) estimate of TPIRR's total yard locomotive needs is based on the same number of yard jobs that CSXT deploys in its real-world operations.

Figure III-D-3 summarizes the impact of applying CSXT's Supplemental RTC Train List and the operating statistics generated by its Supplemental RTC simulation to determine the TPIRR's locomotive fleet requirements.

Figure III-D-3
TPIRR Locomotive Requirements[105]

	TPI Opening	CSXT Reply	TPI Rebuttal	CSXT Supplemental
Road Engines	709	882	852	913
Local Engines	145	270	209	285
Yard Engines	203	245	224	245
Total	**1,057**	**1,397**	**1,285**	**1,443**

b. Locomotive Maintenance

In their prior submissions, both parties calculated TPIRR's locomotive maintenance expenses—for the ES44AC and SD40-2 engines—based on the number of locomotives needed to handle the TPIRR's traffic.[106] As described and summarized in Table III-D-3 above, CSXT's re-calculation of TPIRR's locomotive requirements based on its Supplemental MultiRail Train

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[104] *See* CSXT Reply WP "TPIRR Yard Operations_Reply.xlsx."

[105] CSXT Supp. WP "TPIRR Operating Statistics_Reply (Suppl).xlsx."

[106] *See* CSXT Reply WP "TPIRR Operating Expense_Reply.xlsx," Tab "Summary," Rows 70-83; TPI Reb. WP "TPIRR Operating Expense_Rebuttal.xlsx."

List and RTC simulation resulted in an increase in the size of TPIRR's locomotive fleet totaling 46 ES44AC and SD40-2 units. CSXT applied this revised number of locomotives to re-calculate TPIRR's locomotive maintenance expenses.[107]

c. Locomotive Operations (including Servicing and Fuel)

In their prior submissions, both parties calculated expenses associated with TPIRR's locomotive operations—including the costs of servicing and fuel—based on locomotive unit-miles.[108] CSXT's re-calculation of service units based on its Supplemental MultiRail Train List and RTC simulation produced differences in the number of TPIRR locomotive unit-miles. In preparing its Reply Evidence, CSXT relied upon the output of a MultiRail report as the source of the SARR train-miles and locomotive unit-miles (by train type and symbol) that it used to calculate locomotive operating expenses.[109] Consistent with the Board's orders, in developing this Supplemental Evidence, CSXT has re-calculated TPIRR locomotive operating expenses based on the outputs of its Supplemental RTC simulation. Specifically, CSXT used the miles directly from its Supplemental RTC simulation, by train symbol, to determine SARR locomotive unit-miles,[110] which it then applied to "[r]ecalculate all costs that are dependent on the amended train statistics."[111]

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[107] *See* CSXT Supp. WP "TPIRR Operating Expense_Reply (Suppl).xlsx," Tab "Summary," Rows 70-83.

[108] *See* CSXT Reply WP "TPIRR Operating Expense_Reply.xlsx," Tab "Summary," Rows 90-122; TPI Reb. WP "TPIRR Operating Expense_Rebuttal.xlsx."

[109] *See* CSXT Reply WP "TPIRR Reply Train Lists.xlsx," Tab "Road_NonUnit," Rows 10-651.

[110] *See* CSXT Supp. WP "TPIRR Reply Train Lists (Suppl).xlsx," Tab "Road_NonUnit."

[111] *See* CSXT Supp. WP "TPIRR Operating Expense_Reply (Suppl).xlsx," Tab "Summary," Rows 90-122. The TPIRR's total locomotive unit-miles increased slightly as a result of the Board's instruction to use RTC mileages. This is a function of a difference between the MultiRail report CSXT used for Reply Evidence (which presented average miles per day for a train, even if the train did not run every day of the week) and the RTC simulation that CSXT

On Reply, CSXT adopted TPI's approach to calculating locomotive unit-miles associated with TPIRR yard assignments. Specifically, both parties applied an assumed 6 MPH train speed and a standard 8-hour shift to develop locomotive unit-miles for yard engines.[112] In this Supplemental Evidence, CSXT instead calculates locomotive unit-miles for industrial yard trains based on the operating statistics for those trains generated by CSXT's Supplemental RTC simulation. In order to avoid a double-count of locomotive operating expenses for industrial yard trains, CSXT made an offsetting reduction to the yard engine mileage calculations set forth in its Reply Evidence.[113]

2. Railcars

a. Acquisition

On Reply, CSXT demonstrated that TPI's Opening Evidence significantly understated the number of freight cars that TPIRR would need to serve its selected traffic.[114] As with locomotive fleet requirements, TPIRR's freight car requirements were calculated based on the transit times and average speeds from the RTC Model. CSXT's Supplemental RTC simulation generated different transit times and average train speeds than its Reply RTC evidence. In this Supplemental Evidence, CSXT applied the transit times and average train speeds from its Supplemental RTC simulation to re-calculate TPIRR's freight car requirements. The result is a slight increase to the TPIRR freight car acquisition costs posited by CSXT on Reply. CSXT's

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used to derive miles for Supplemental Evidence (which presents actual miles traversed by each individual train).

[112] *See* CSXT Reply WP "TPIRR Yard Operations_Reply.xlsx," Tab "Sheet3" and TPI Reb. WP "TPIRR Yard Operations_Rebuttal.xlsx."

[113] *See* CSXT Supp. WP "TPIRR Yard Operations_Reply (Suppl).xlsx," Tab "Yard Switching LUM."

[114] *See* CSXT Reply at III-D-29 to III-D-33, III-D-39 to III-D-45.

re-calculated freight car requirements are summarized in Supplemental WP "TPIRR Car Costs_CSXT Reply (Suppl).xlsx."

TPIRR's freight car expenses for foreign and private equipment are based on TPIRR's car-miles. On Reply, CSXT adopted TPI's approach of determining car-miles from the TPIRR Base Year Train List, which for CSXT were based on the outputs of a MultiRail report for merchandise and intermodal traffic.[115] Consistent with the Board's Orders, CSXT has re-calculated the TPIRR's car-miles based on the outputs of its Supplemental RTC simulation, as it did to calculate locomotive unit-miles (described above).[116] As a result of changes to the total car-miles, CSXT re-calculates the per diem expenses for foreign and private equipment for this Supplemental Evidence.[117]

3. Operating Personnel

a. Train/Switch Crew Personnel

CSXT's Supplemental Evidence does not change the crew costs for the TPIRR because CSXT's crew costs were already based on its MultiRail train list. Specifically, CSXT presented TPIRR's train and switch crew requirements at III-C-149 to III-C-151 and III-D-46 to III-D-58 of its Reply Evidence. On Reply, CSXT accepted TPI's proposed crew districts for the SARR,

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[115] *See* CSXT Reply WP "TPIRR Reply Train Lists.xlsx."

[116] *See* CSXT Supp. WP "TPIRR Reply Train Lists (Suppl).xlsx."

[117] CSXT Supp. WP "TPIRR Car Costs_CSXT Reply (Suppl).xlsx." On Rebuttal, TPI identified a "formulaic error" in CSXT's Reply calculations that misapplied the percentage of foreign-owned cars by car type. *See* TPI Reb. at III-D-23. CSXT corrects this error in its Supplemental Evidence (*see* CSXT Supp. WP "TPIRR Car Costs_CSXT Reply (Suppl).xlsx," Tab "Foreign Cars," column P). As shown in Figure III-D-4 below, this correction more than offsets the impact of using the Supplemental RTC results, because CSXT's total Freight Car costs are lower than those set forth in its Reply Evidence.

and applied those districts to the road and local trains in its MultiRail train list.[118] CSXT also rejected TPI's attempt to use the RTC simulation as the basis for estimating the proportion of trains that would meet their Hours of Service limit and require relief crews, and instead based the SARR's re-crew costs on CSXT's real-world experience.[119] Because CSXT's Reply crew costs were already based on the MultiRail train list and did not rely on the results of the RTC simulation, the changes that CSXT implemented to respond to the Board's Orders for this Supplemental Evidence did not impact crew costs.

As described above, CSXT calculated the SARR's yard crew requirements based on CSXT's real-world assignments at TPIRR yard locations, without differentiating among industrial yard trains and other yard jobs. CSXT thus continues to sponsor the same total yard crew requirements for this Supplemental Evidence.[120]

4. Insurance

On Reply, CSXT adopted TPI's proposed approach to estimating TPIRR's insurance expenses as a percentage of its other operating expenses.[121] CSXT carries the same approach forward in this Supplemental Evidence. As described above, applying the operating statistics generated by CSXT's Supplemental RTC simulation resulted in changes in the number of locomotives and freight cars, in the number of locomotive unit-miles, and in several categories of operating expenses that are dependent on outputs from the RTC simulation. CSXT's re-

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[118] *See* CSXT Reply at III-D-50 and CSXT Reply WP "TPIRR Reply Train Lists.xlsx," Tab "Road_NonUnit."

[119] *See* CSXT Reply at III-D-49 to III-D-51.

[120] *See* CSXT Supp. WP "TPIRR Yard Operations_Reply (Suppl).xlsx."

[121] *See* CSXT Reply at III-D-239.

calculation of those operating expenses, in turn, results in a proportionate change in TPIRR's insurance costs.[122]

5. Ad Valorem Taxes

On Reply, CSXT explained that the SARR's ad valorem taxes should reflect the railroad's unit value, in the same manner that CSXT's real-world taxes are assessed in the states in which TPIRR operates.[123] To account for this, CSXT provided a mechanism that determined the SARR's relative income value.[124] As described above, applying the outputs of CSXT's Supplemental RTC simulation resulted in changes to several categories of TPIRR operating expenses. Because those operating expense changes, in turn, affect TPIRR's income, a corresponding adjustment must be made to TPIRR's ad valorem taxes. In this Supplemental Evidence, CSXT applies TPIRR's re-calculated operating expenses to determine the income factor for TPIRR and re-calculates the resulting ad valorem tax amount.[125]

D. Summary of Impact on Overall Operating Expenses and DCF

Figure III-D-4 below summarizes the impact of CSXT's Supplemental MultiRail Train List and RTC simulation on TPIRR's operating expenses. Operating expenses that changed as a result of the Supplemental RTC Model are highlighted. Details for each of the re-calculated operating expenses summarized on Figure III-D-4 can found in the underlying workpapers.[126]

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[122] *See* CSXT Supp. WP "TPIRR Operating Expense_Reply (Suppl).xlsx," Tab "DCF Transfer," Row 30.

[123] *See* CSXT Reply at III-D-240 to III-D-247.

[124] *See* CSXT Reply WP "TPIRR Reply Ad Valorem.xlsx."

[125] *See* CSXT Supp. WP "TPIRR Reply Ad Valorem (Suppl).xlsx."

[126] *See* CSXT Supp. WP "TPIRR Operating Expense_Reply (Suppl).xlsx," Tab "Summary."

Figure III-D-4
TPIRR First Year Operating Expenses (3Q 2010 Levels)[127]
($ in Millions)

	CSXT Reply	CSXT Supplemental
Locomotive Ownership	$113.0	$116.8
Locomotive Maintenance	$181.9	$188.0
Locomotive Operations	$800.8	$857.5
Railcar Lease	$364.1	$342.9
Materials & Supply Operating	$6.7	$6.7
Train and Engine Personnel	$457.2	$457.2
Operating Managers	$145.0	$145.0
General & Administrative	$166.6	$166.6
Loss & Damage	$8.2	$8.2
Ad Valorem Tax	$62.4	$61.5
Maintenance-of-Way	$404.3	$404.3
Trackage Rights	$28.2	$28.2
Intermodal Lift and Ramp	$104.1	$104.1
Auto Handling	$22.6	$22.6
Bulk Transfer Facilities	$18.8	$18.8
Insurance	$40.8	$41.4
Start-Up and Training	$105.3	$105.3
Total Annual Operating Expenses	$3,030.1	$3,075.2

The slight increase in TPIRR operating expenses has a modest impact on the DCF calculations. Supplemental Exhibit III-H-1 shows the DCF results (and is thus an analogue to CSXT Reply Exhibit III-H-1). The following Figure III-H-1 summarizes the DCF results (and is an analogue to CSXT Reply Table III-H-1 at page III-H-17 of CSXT's Reply Evidence).

[127] *See* CSXT Supp. WP "TPIRR Operating Expense_Reply (Suppl).xlsx." These results reflect the removal of the high-priority UPS and Threads Express traffic. As indicated above, CSXT also submits with this Supplemental Evidence the results of re-calculating the SARR operating statistics and operating expenses including the expedited leapfrog shipments. *See* CSXT Supp. WPs "TPIRR Operating Statistics_Reply w UPS (Suppl).xlsx" and "TPIRR Operating Expense_Reply w UPS (Suppl).xlsx."

Figure III-H-2
CSXT Supplemental Evidence TPIRR SAC Results ($ millions)

Year	SARR Revenue Requirement	SARR Revenues	Overpayments (Shortfalls)	Present Value
3Q2010 - 4Q2010	$3,947	$2,941	($1,006)	($1,006)
2011	8,419	6,476	(1,943)	(1,741)
2012	8,715	6,723	(1,993)	(1,605)
2013	8,843	7,009	(1,834)	(1,334)
2014	9,160	7,457	(1,703)	(1,114)
2015	9,507	7,840	(1,667)	(980)
2016	9,869	8,361	(1,508)	(797)
2017	10,248	8,743	(1,504)	(715)
2018	10,647	9,208	(1,439)	(615)
2019	11,038	9,685	(1,353)	(520)
1Q2020 - 2Q2020	5,672	5,084	(588)	(214)
Cumulative Net Present Value				**($10,641)**

IV. CSXT HAS PROVIDED THE COMPLIANCE EVIDENCE REQUESTED BY THE BOARD.

The *Compliance Evidence Order* directed parties to provide certain additional information to "facilitate the Board's review of the evidence." *Compliance Evidence Order* at 1. CSXT's Supplemental and Compliance Evidence and the attached workpapers include all the information specified by the Board. Some of the Board's compliance requests ask for information that was provided in CSXT's Reply Evidence, and in those instances CSXT directs the Board to the relevant portions of its Reply Evidence. Other compliance requests have required CSXT to assemble a new responsive file or files; in those instances CSXT has explained how it derived the file or files from its Reply Evidence data.

Below CSXT reproduces each of the Board's compliance requests (in italic text) and explains how CSXT addressed the request (in roman text).

General

1. *Provide references to underlying documents for all hard-coded numbers that appear in workpapers.*

CSXT added references within the relevant spreadsheets for all hard-coded numbers that appear in workpapers.

2. *Link dependent spreadsheet files.*

CSXT linked dependent spreadsheet files in its workpapers. The Workpaper Index included on the enclosed hard drive identifies the linkages among CSXT's workpapers (including new linkages that CSXT added for this Compliance Evidence).

Traffic Group

1. *Identify how all the issue traffic moves over the stand-alone railroad. List the trains (including local trains) on which the issue traffic moves.*

CSXT's Reply workpapers included a MultiRail report named "SARR19B-TripPlan_IssueTraffic_Loads.pdf" that contains trip plans for all the issue traffic. For each lane of issue traffic, "SARR19B-TripPlan_IssueTraffic_Loads.pdf" details train operations needed to service the traffic from origin to destination, including the blocking sequence, locations, all trains, and scheduled times. CSXT also summarizes the TPIRR train symbols used to move the issue traffic in Supplemental WP "TPIRR Issue Traffic Train Symbols.xlsx."

In its identification of issue traffic for the Compliance order, CSXT detected an error from a TPI Opening workpaper ("TPIRR General Freight Revenue Forecast STCC 28 2h 2012(Final).xlsx") that carried over to CSXT's Reply. Specifically, TPI incorrectly used 2013 data to identify issue traffic in 2012. As a result, no records in 2012 were flagged as issue traffic. CSXT has corrected this error in its Supplemental Evidence.[128] Because the ATC logic first

[128] *See* CSXT Supp. WP "TPIRR General Freight Revenue Forecast STCC 28 2h 2012(Final) REPLY (Suppl).xlsx."

checks if each move is issue traffic (to which ATC then assigns a 100% allocation), this error correction slightly increases average annual revenues by approximately $850,000 from 2013 through 2020, or by 0.01%.

Table III-A-11 from page III-A-47 of CSXT's Reply Evidence would also change slightly, as indicated below in Figure III-A-1.

Figure III-A-1
Revenues (Historical and Projected)—Millions

	Opening	Reply	Diff	% Diff
July -Dec 2010	$3,152	$2,941	($211)	-7%
2011	6,832	6,476	(355)	-5%
2012	6,851	6,723	(128)	-2%
2013	7,301	7,009	(292)	-4%
2014	7,671	7,457	(214)	-3%
2015	8,139	7,840	(298)	-4%
2016	8,720	8,361	(359)	-4%
2017	9,122	8,743	(379)	-4%
2018	9,721	9,208	(513)	-5%
2019	10,422	9,685	(737)	-7%
Jan-Jun 2020	5,587	5,084	(503)	-9%

Source: CSXT Supp. WP "Revenue Summary (Final) REPLY (Suppl).xlsx

2. *Identify "high priority" UPS and Threads Express traffic referenced in CSXT's Reply at III-A-9 to III-A-10 in the following areas:*

   a. *Traffic and Revenue.*

CSXT identified high priority UPS and Threads Express traffic in the relevant intermodal traffic spreadsheets, as described in the table below. Because TPI summarized intermodal traffic on an aggregated lane basis (*i.e.*, TPI selected all containers moving between a particular origin and destination), in some cases only some of the traffic TPI selected on a particular lane was high priority traffic. Thus, high priority traffic is identified by signifying the percent of total traffic for a particular lane that "high priority" UPS and Threads Express shipments represent. Figure III-A-2 shows where these percentage indicators are located in the relevant spreadsheets.

CSXT also provides the individual container waybill records for the high priority UPS and Threads Express traffic in Supplemental WP "HighPriority_IM_Traffic_Removed.xlsx," Tab "wContainerWaybills."

Figure III-A-2
Identification of High-Priority Traffic

Spreadsheet	Tab	Column Identifying Percentage of High-Priority Traffic In Lane
2010 Containers Reply (Suppl).xlsx	2010 Containers	Column AO
2011 Containers Reply (Suppl).xlsx	2011 Containers	Column AO
2012 Containers Reply (Suppl).xlsx	2012 Containers	Column AG
TPIRR Intermodal Revenue Forecast (Final) Reply (Suppl).xlsx	Container Revenue Forecast	Column EJ

b. Train Lists.

To respond to this compliance request, CSXT created the spreadsheet "RemovedHPTraffic_by_Train.xlsx." The "AllTrains-Selected" tab of this file contains a list of all TPI-selected trains carrying the removed UPS and Threads Express traffic on the TPIRR. This analysis also includes a breakdown of the traffic on these high-priority trains that shows both the high-priority traffic that was removed and the lower-priority traffic that was not removed.

The data used to create "RemovedHPTraffic_by_Train.xlsx" was derived as follows. CSXT first identified TPI leapfrog traffic in "LeapfrogSegments.xlsx" submitted in the III-C Reply workpapers. CSXT then used the "PremiumTrain_Dataset" table in the "CSX_TPI_Reply SQL" database to identify traffic carried by high-priority intermodal trains. UPS and Threads

Express shipments carried on these high-priority intermodal trains were also flagged for removal in CSXT Reply workpaper "Step5-Regenerated.sql."

3. *Provide timestamps for UPS and Threads Express traffic by milepost.*

CSXT has created the "HighPriority_Times.xlsx" workpaper to satisfy this request. Within this file, the wCarEvents tab contains all car event data with timestamps and mileposts for the removed high-priority intermodal traffic. The car event data do not contain timestamps at all points along the route, but train sheet data for high-priority intermodal trains do include timestamps by each milepost. The "TrainSheetTimestamps" tab in "HighPriority_Times.xlsx" includes all train sheet records for the high-priority intermodal trains (which have train ids Q031 – Q040).

4. *Add a unique identifier that matches records from the revenue workpapers to the Maximum Markup Methodology model.*

CSXT created a unique identifier for each move on the TPIRR. The unique ID uses a format based on the year followed by a sequential number for moves in that particular year (for example "2010-1" through "2010-99999," "2011-1" through "2011-99999"). CSXT added these unique IDs to both the traffic and revenue spreadsheets and to the MMM model. In addition, CSXT identified whether each move was an issue move and what percentage of shipments in the movement lane were "high priority" UPS or Threads Express.

Operating Plan

The Supplemental Evidence discussion above is responsive to the Board's compliance requests in this area, because it describes the process by which CSXT developed its Supplemental MultiRail Train List, input that train list to the RTC Model, performed its Supplemental RTC simulation, and used the results to re-calculate the service units and costs for

the TPIRR. Below CSXT identifies the specific workpapers that contain responsive information for each item.

1. Compile an amended train list.

See Section I above for a narrative discussion of how CSXT compiled its train list. CSXT's amended train list is set forth in CSXT Supp. WP "TPIRR Reply Train Lists (Suppl).xlsx," Tabs "NonUnit" and "Road_Unit." The RTC input files containing CSXT's amended train list are "Supplemental RTC Road Trains.xlsx"; "Supplemental RTC Local Trains.xlsx"; and "Supplemental RTC Ind Yard Trains.xlsx."

2. Recalculate service units based on the amended train list and Rail Traffic Controller (RTC) results.

Section III above contains a narrative description of recalculated service units. Also see CSXT Supp. WPs "TPIRR Reply Train Lists (Suppl).xlsx"; "TPIRR Reply RTC Results (Suppl).xlsx"; and "TPIRR Operating Statistics_Reply (Suppl).xlsx."

3. Recalculate all costs that are dependent on the amended train statistics.

See Section III above for a narrative description of operating expenses that changed as a result of the amended train statistics. These changes are shown in CSXT Supp. WPs "TPIRR Operating Expense_Reply (Suppl).xlsx," Tab "Summary"; "TPIRR Car Costs_CSXT Reply (Suppl).xlsx"; and "TPIRR Reply Ad Valorem (Suppl).xlsx."

4. Adjust infrastructure as necessitated by RTC modeling.

As explained in Section III above, CSXT made no adjustments to its Reply SARR infrastructure or road property investment.

RTC Model

1. *Ensure all locations referenced in the narrative by name or milepost are also referenced by at least one RTC node.*

CSXT has complied with this request, as is shown by CSXT Supp. WP "TPIRR Stations RTC Nodes.clsx."

2. *Provide a list of the following locations in the RTC model and provide at least one RTC node for the following locations:*
   a. *rail stations;*
   b. *the origins and destinations of all traffic;*
   c. *interchanges;*
   d. *industry leads;*
   e. *random outages (provide a beginning and ending RTC node); and*
   f. *yards.*

CSXT's Supplemental RTC workpapers comply with the Board's request. The list of locations is provided at CSXT Supp. WP "TPIRR Stations RTC Nodes.clsx."

V. RESPONSES TO NEW TPI REBUTTAL EVIDENCE

A. TPI's Bridge Abutment Revisions Should Be Rejected.

TPI asserted in its Petition to Supplement the Record that it wanted leave to "correct a double-count of the abutments for bridges that replace oversized culverts." Petition to Supplement the Record, *Total Petrochemicals & Refining USA, Inc. v. CSX Transp., Inc.*, STB Docket No. 42121, at 4 (filed Nov. 5, 2014) ("Petition to Supplement"). TPI's Rebuttal repeats this asserted double-count correction, without providing any further detail.[129] But TPI's characterization of its Rebuttal workpaper changes as a "double-count correction" is not accurate. Instead, TPI made a series of inexplicable manual adjustments to its bridge abutments that created a new double count.

[129] TPI Reb. at III-F-79 ("While preparing Rebuttal, TPI discovered that it had double-counted the number of abutments for the bridges replacing oversized culverts. TPI corrects this error on Rebuttal.").

On Rebuttal, TPI stated that it accepted CSXT's reply argument that the lengths of bridges replacing culverts need to be longer than the existing culverts to accommodate abutments and spill slopes; however, TPI used a 1.5:1 slope instead of the 2:1 slope advocated by CSXT on Reply. [130] It then appears from TPI's workpapers[131] that it intended to increase the opening lengths of bridges replacing culverts to reflect this change.[132] However, since TPI's bridge sizing formulas for bridges replacing culverts do not accurately apply to longer lengths—because they differ from the standard bridge sizing formulas applied to other Type I-IV bridges—TPI attempted to manually adjust problematic formulas. For example, the bridge replacing a culvert at milepost 000 12.9 that TPI increased from 36 feet on Opening to 144 feet on Rebuttal now falls outside of the bridge length ranges defined in TPI's opening bridge sizing formulas for bridges replacing culverts. As a result, under these formulas, the 144 foot bridge would have had no spans—and correspondingly no abutment costs—assigned. TPI's Opening standard bridge sizing formulas would have assigned two Type III spans to a 144 foot bridge.[133] However, on its Rebuttal, rather than substitute its Opening bridge sizing formulas for standard bridges, TPI manually overrides the sizing formulas for bridges replacing culverts and hardcodes an unsupported conclusion that this bridge would consist of three Type III spans—without any other explanation. Overall on its Rebuttal TPI inserted unexplained and unsupported manual overrides to 55 of the 83 bridges replacing culverts. In each of these instances, the number of spans

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[130] *See* TPI Reb. at III-F-78.

[131] TPI does not explain any of these steps in its Rebuttal narrative, which is itself sufficient cause for the Board to reject its evidence.

[132] *See* TPI Reb. WP "TPI Bridge Construction Costs Rebuttal.xlsx", Tab "Oversized Culverts", at AX7:BC89.

[133] *Compare* TPI Reb. WP "TPI Bridge Construction Costs Rebuttal.xlsx," Tab "Oversized Culverts," at AX7:BC7 *With* TPI Op. WP "TPI Bridge Construction Costs.xlsx," Tab "Oversized Culverts," at AX7:BC7.

inserted manually differs from what the Opening formulas for bridges replacing culverts would have yielded, and in some cases differs from what the Opening formulas for standard bridges would have yielded.

There is simply no foundation for TPI's assertion that these modifications of its Opening bridge evidence were necessary to "correct a double-count." There were no double-counts of abutments on Opening. On the contrary, it is TPI's Rebuttal that creates double-counts of abutments. TPI's manual adjustments created a double-count of abutments for six Rebuttal bridges replacing culverts.[134]

In short, TPI's description of the problem it seeks to fix is inaccurate and misleading, and its Rebuttal Evidence is flawed and unsupported. The Board should reject TPI's effort to supplement the record regarding abutment quantities and accept CSXT's Reply Evidence on bridges replacing culverts as the best evidence of record.

B. TPI's Collateral Attack on the *PPL/Otter Tail* Test Should Be Rejected.

TPI's new Rebuttal argument that the Board should rescind the *PPL/Otter Tail* cross-subsidy test should be rejected. The Board has cautioned parties not to relitigate SAC issues resolved in past cases unless the party has "new evidence or different arguments" that might warrant re-examining the issue.[135] TPI has presented neither new evidence nor different arguments—instead, its primary arguments are indistinguishable from objections raised and

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[134] *Compare* TPI Reb. WP "TPI Bridge Construction Costs Rebuttal.xlsx," Tab "Oversized Culverts," at BK31, BL41:BL43, BL47, and BL88 *With* TPI Op. WP "TPI Bridge Construction Costs.xlsx," Tab "Oversized Culverts," at BK31, BL41:BL43, BL47, and BL88.

[135] *See Procedures for Presenting Evidence In Stand-Alone Cost Cases*, 5 S.T.B. 441, 446 (2001) ("[T]he parties to SAC cases are cautioned not to attempt to relitigate issues that have been resolved in prior cases. Unless new evidence or different arguments are presented, we will adhere to precedent established in prior cases.").

rejected in *Otter Tail* itself. The Board should not abandon its settled precedent, and TPI's argument should be rejected.

At the outset CSXT notes that the Board likely will have no need to reach this issue. As CSXT's other Reply and Supplemental Evidence demonstrates, a properly conducted SAC analysis shows that the challenged rates are reasonable, and the Board will have no need to consider a rate prescription. But if the Board were to reach that issue, TPI has provided no reason for the Board to depart from *Otter Tail*'s prohibition on cross-subsidies created by a rate prescription.

In *Otter Tail* (at 10-11), the Board held that the cross-subsidy analysis previously announced in *PPL* must be applied to potential rate relief "to ensure that the agency itself does not create a cross-subsidy when [it] set[s] a rate prescription." The Board found that the same economic principles against cross-subsidization that animate the SAC test should preclude the Board from adopting a rate prescription that would assume such cross-subsidization among the traffic group. Thus *Otter Tail* is a necessary corollary of the *PPL* test.

TPI is wrong to suggest that *Otter Tail* is somehow not well-established law. As the Board held in *Major Issues*, the cross-subsidy principles of *PPL* were "affirmed in a comprehensive and unequivocal decision" by the D.C. Circuit, and there is "no persuasive reason . . . to question the inherent logic of [*Otter Tail*'s] observation" that the internal cross-subsidy test is a limit on potential rate relief." *Major Issues in Rail Rate Proceedings*, STB Docket No. 657 (Sub-No. 1), at 9 n.4 (served Oct. 30, 2006) ("*Major Issues*"). The Board reaffirmed the validity of the *Otter Tail* internal cross-subsidy test in *AEPCO 2011*[136] and *WFA*.[137] In light of

[136] *Arizona Elec. Power Cooperative, Inc. v. BNSF Ry. Co. & Union Pac. R.R. Co.*, STB Docket No. 42113, at 9 (served Nov. 16, 2011).

this established and consistent recognition of the place that the *PPL/Otter Tail* test has in the rate regulatory scheme, TPI's assertion that this proceeding may be "the first opportunity for any party to contest the lawfulness of that test" is nonsense. Petition to Supplement at 2.

TPI's Rebuttal provides no basis for the Board to reconsider the *PPL/Otter Tail* test. TPI's first claim is that the cross-subsidy test is arbitrary because it uses hypothetical rates. *See* TPI Reb. at III-H-34 to III-H-35. According to TPI, the Board's cross-subsidy analysis erroneously assumes that rate reductions applied to issue movements also would apply to similar non-issue traffic in the SARR traffic group. *Id.* at III-H-35. TPI asserts that because these rate reductions are not "real world" rates, the Board should not consider them in the cross-subsidy analysis.

An almost identical argument was considered and rejected by the Board in *Otter Tail* itself. There, the Board adopted the *PPL/Otter Tail* test over the objections of the complainant, who argued that the Board should assume that the railroad could continue earning its present revenues on non-issue traffic and should not limit the complainant's potential relief. *See Otter Tail* at 10-11. The Board rejected that argument, reasoning that other captive shippers could challenge their rates and moreover that the potential of regulatory relief would be the backdrop for negotiations with other shippers in the traffic group. *See id.* at 11. The Board went on to explain that the purpose of the SAC analysis is to "simulate the competitive market rate that would prevail in a contestable marketplace" and that the analysis "must assume the repeated application of the SAC test to all shippers in the traffic group." *Id.* The Board's logic equally applies here. If a complaining shipper demonstrates that its rate is unreasonably high, that does

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[137] *Western Fuels Ass'n & Basin Elec. Power Cooperative v. BNSF Ry. Co.*, STB Docket No. 42088, at 10 (served Sept. 10, 2007).

not entitle that shipper to a rate reduction that would presume cross-subsidization by other shippers in the traffic group.

TPI's second argument is that the Board's decision in *Otter Tail* contradicted a previous Board discussion in *Wisconsin Power & Light Co. v. Union Pac. R.R. Co.*, 5 S.T.B. 955 (2001) ("*WP&L*"). *See* TPI Reb. at III-H-35 to III-H-38. In the first place, an alleged inconsistency with an earlier Board decision from 2001 is no reason to question a subsequent 2006 decision. More importantly, there is no inconsistency between *WP&L* and *Otter Tail*. TPI cites a discussion in *WP&L* relating to a proposed adjustment to account for the risk that the SARR would not realize estimated revenue projections. It did *not* address internal cross-subsidies. *See WP&L*, 5 S.T.B. at 982-83. Although some of the arguments in *WP&L* related broadly to contestable markets theory, the specific discussion referenced by TPI was entirely distinct from the *Otter Tail* cross-subsidy analysis at issue here. Because nearly any issue in a SAC case could be tied to contestable market theory (which is a foundation of Constrained Market Pricing and the SAC test), a general common connection to contestable markets theory alone hardly implicates TPI's argument that *Otter Tail* was wrongly decided. It is thus unremarkable that *Otter Tail* did not reference an unrelated discussion from a prior case in its analysis or address what TPI now—eight years later—mistakenly claims was a departure from that supposed precedent.

Furthermore, TPI's proffered alternative to the *Otter Tail* cross-subsidy analysis is impractical. TPI essentially calls for the regular re-opening of SAC cases to consider changes in real-world rail rates on SARR-replicated lines. *See* TPI Reb. at III-H-38. While the Board certainly has the authority to reopen cases, reopening is not an ordinary measure. Petitions to reopen must be approached "'cautiously, on a case-by-case basis, striving to achieve an

appropriate balance between the interests of fairness to all parties and of administrative finality and repose.'" *Arizona Pub. Serv. Co. & Pacificorp v. The Burlington N. & S. F. Ry. Co.*, 6 S.T.B. 851, 855 (2003) (*quoting Arizona Pub. Serv. Co. v. Atchison, T. & S. F. Ry. Co.*, 3 S.T.B. 70, 75 (1998)). The *PPL/Otter Tail* cross-subsidy framework allows rates to be prescribed at an appropriate level at the time of the Board's decision rather than requiring the Board to continuously monitor non-issue traffic rates and to reopen decided cases when other rates change. TPI's proffered alternative to the *Otter Tail* cross-subsidy analysis would be costly and impractical and would create substantial administrative inefficiencies without a commensurate benefit to shippers, carriers, or the public.

TPI also claims that CSXT's cross-subsidy analysis on the North Vernon Line Segment is flawed, and that when corrected, the traffic using the Segment provides sufficient revenue to cover the costs of constructing and operating the facilities required to serve it.[138] CSXT disagrees with the two criticisms raised by TPI about the cross-subsidy analysis. First, while TPI is critical of CSXT's use of 2012 traffic to identify the existence of a cross-subsidy, TPI provides no evidence that "(u)sing actual traffic volumes for other years increases the revenues allocable to the segment." TPI Reb. at III-H-32. In fact, TPI's Rebuttal evidence utilizes CSXT's Reply workpapers and employs the exact matching approach that TPI criticizes.[139] Any increases in traffic volumes are solely due to other changes TPI makes to cross-subsidy traffic. The matching approach that CSXT adopted is also the same type of methodology that TPI used in its Opening

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[138] *See* TPI Reb. at III-H-32-33

[139] *See* TPI Reb. WPs "2010 Revenue rebut nvernon.xlsx," "2011 Revenue rebut nvernon.xlsx," "TPIRR General Freight Revenue Forecast STCC 1-26 1h 2013 (Final) xsub rebut nvernon.xlsx," "TPIRR General Freight Revenue Forecast STCC 28 1h 2013 (Final) xsub rebut nvernon.xlsx," "TPIRR General Freight Revenue Forecast STCC 29-UN 1h 2013 (Final) xsub rebut nvernon.xlsx."

Evidence to select traffic for the SARR.[140] Second, TPI claims that CSXT improperly excluded traffic originating and/or terminating at the endpoints of the segment, North Vernon (milepost BC 72) and Seymour (BC 87). However TPI did not assume that the TPIRR would handle all traffic that traveled over this segment, but only the traffic that was carried on trains that TPI selected for inclusion in its SARR operating plan. Thus, TPI did not claim SARR revenue (either the Origination/Termination credit or on-SARR miles) for all shipments on this segment. In its Reply cross-subsidy analysis, CSXT identified the percentage of shipments for which TPI assigned revenues on the North Vernon-Seymour segment.[141]

In this Supplemental evidence, CSXT performed the cross-subsidy analysis on TPI's Rebuttal Evidence for the North Vernon Line Segment with the accepted corrections identified above.[142] The DCF results clearly show that show that the traffic using the Segment fails to provide sufficient revenue to cover the costs of constructing and operating the facilities required to serve it.[143]

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[140] *See* Reply III-A-3-6 for description of TPI traffic matching methodology.

[141] *See* CSXT Supp. WP "N Vernon Traffic Selection.xlsx."

[142] CSXT agrees with TPI's correction on sub-ballast, although the impact is negligible. The sub-ballast correction reduces construction costs by $4,388. *See* TPI Reb. WP "Track Construction rebut nvernon.xlsx," Tab "Summary at G48. CSXT also agrees regarding #14 turnouts, with the exception of correcting the number of customer turnouts to include the three customer locations that are on the cross-subsidy segment. *See* CSXT Reply WP "OnSarr Customers 2012.xlsx" at lines 964 to 966 *and* CSXT Supp. WP "Track Construction Rebuttal (Cross Subsidy).xlsx", tab "User Input" at K35.

[143] *See* CSXT Supp. WP "Supplemental Exhibit III-H-1 XSub.xlsm."

VI. CONCLUSION

For the above reasons and the reasons set forth in CSXT's Reply Evidence, the Board should find that TPI's SAC presentation fails to demonstrate that the challenged rates are unreasonable and that TPI is entitled to no relief whatsoever.

Respectfully submitted,

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Counsel to CSX Transportation, Inc.

Dated: October 7, 2015

CERTIFICATE OF SERVICE

I hereby certify that on this 7th day of October 2015, I served a copy of the foregoing Supplemental and Compliance Evidence of CSX Transportation, Inc. by email and hand-delivery upon:

Jeffrey O. Moreno
Thompson Hine LLP
1919 M Street, N.W., Suite 700
Washington, D.C. 20036

Marc A. Korman

Verifications

To

SUPPLEMENTAL AND COMPLIANCE EVIDENCE OF CSX TRANSPORTATION, INC.

_____

Docket No. NOR 42121

VERIFICATION

I, Michael R. Baranowski, verify under penalty of perjury that I am the same Michael R. Baranowski whose Statement of Qualifications appears in Part IV of the Narrative portion of CSXT's Reply Evidence in this proceeding; that I am sponsoring CSXT's supplemental bridge abutment and cross-subsidy evidence; that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Michael R. Baranowski

Executed on this October 6, 2015.

VERIFICATION

I, Benton V. Fisher, verify under penalty of perjury that I am the same Benton V. Fisher whose Statement of Qualifications appears in Part IV of the Narrative portion of CSXT's Reply Evidence in this proceeding; that I am sponsoring CSXT's supplemental operations and operations expense evidence; that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Benton V. Fisher

Benton V. Fisher

Executed on this October 6, 2015.

VERIFICATION

I, Rob Fisher, verify under penalty of perjury that I am the same Rob Fisher whose Statement of Qualifications appears in Part IV of the Narrative portion of CSXT's Reply Evidence in this proceeding; that I am sponsoring CSXT's compliance and cross-subsidy evidence; that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Rob Fisher

Executed on this October 6, 2015.

VERIFICATION

I, Kaustuv Chakrabarti , verify under penalty of perjury that I am the same Kaustuv Chakrabarti whose Statement of Qualifications appears in Part IV of the Narrative portion of CSXT's Reply Evidence in this proceeding; that I am sponsoring CSXT's supplemental operations expense evidence; that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Kaustuv Chakrabarti

Executed on this October 6, 2015.

VERIFICATION

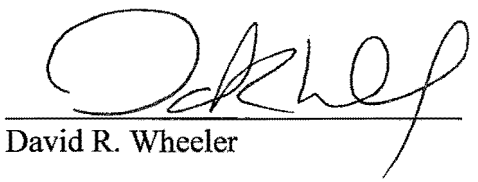
I, Michael Matelis, verify under penalty of perjury that I am the same Michael Matelis whose Statement of Qualifications appears in Part IV of the Narrative portion of CSXT's Reply Evidence in this proceeding; that I am sponsoring CSXT's supplemental operations evidence; that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Michael Matelis

Executed on this October 6, 2015.

VERIFICATION

I, David R. Wheeler, verify under penalty of perjury that I am the same David R. Wheeler whose Statement of Qualifications appears in Part IV of the Narrative portion of CSXT's Reply Evidence in this proceeding; that I am sponsoring CSXT's supplemental RTC evidence; that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.



David R. Wheeler

Executed on this October 6, 2015.

Exhibit III-H-1

To

SUPPLEMENTAL AND COMPLIANCE EVIDENCE OF CSX TRANSPORTATION, INC.

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Docket No. NOR 42121

TABLE A: TPIRR ANNUAL COST OF CAPITAL

Year	Industry Cost of Capital	Industry Cost of Debt 1/	Industry Cost of Preferred Equity 2/	Industry Cost of Equity 3/	TPIRR's Cost of Debt	TPIRR's Cost of Preferred Equity	TPIRR's Cost of Equity	Debt as a Percent of Total Investment	Preferred Equity as a Percent of Total Investment	Equity as a Percent of Total Investment	Composite Cost of Capital	1 + Cost of Capital	STB Prescribed Debt as a % of Capital 4/
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
2008	11.75%	6.57%	0.00%	13.17%	6.57%	0.00%	13.17%	21.54%	0.00%	78.46%	11.75%	1.1175	21.54%
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%	23.38%	0.00%	76.62%	11.03%	1.1103	23.38%
2011	11.09%	3.97%	0.00%	13.57%	5.77%	0.00%	13.57%	25.82%	0.00%	74.18%	11.56%	1.1156	20.83%
2012	10.79%	3.29%	0.00%	13.40%	5.77%	0.00%	13.40%	25.82%	0.00%	74.18%	11.43%	1.1143	22.56%
2013					5.77%	0.00%	13.10%	25.82%	0.00%	74.18%	11.21%	1.1121	
2014					5.77%	0.00%	13.10%	25.82%	0.00%	74.18%	11.21%	1.1121	
2015					5.77%	0.00%	13.10%	25.82%	0.00%	74.18%	11.21%	1.1121	
2016					5.77%	0.00%	13.10%	25.82%	0.00%	74.18%	11.21%	1.1121	
2017					5.77%	0.00%	13.10%	25.82%	0.00%	74.18%	11.21%	1.1121	
2018					5.77%	0.00%	13.10%	25.82%	0.00%	74.18%	11.21%	1.1121	
2019					5.77%	0.00%	13.10%	25.82%	0.00%	74.18%	11.21%	1.1121	
2020					5.77%	0.00%	13.10%	25.82%	0.00%	74.18%	11.21%	1.1121	

1/ Cost of railroad industry debt from the STB Decision in Ex Parte No. 558 (Sub-No. 12), Railroad Cost of Capital - 2008, decided September 24, 2009, STB Decision in Ex Parte No. 558 (Sub-No. 13), Railroad Cost of Capital - 2009, decided September 30, 2010 and the STB Decision in Ex Parte No. 558 (Sub-No. 14), Railroad Cost of Capital - 2010, decided September 30, 2011.

2/ No preferred equity was issued in 2008 - 2010.

3/ Cost of railroad industry common equity from the STB Decision in Ex Parte No. 558 (Sub-No. 12), Railroad Cost of Capital - 2008, decided September 24, 2009, STB Decision in Ex Parte No. 558 (Sub-No. 13), Railroad Cost of Capital - 2009, decided September 30, 2010 and the STB Decision in Ex Parte No. 558 (Sub-No. 14), Railroad Cost of Capital - 2010, decided September 30, 2011.

4/ Railroad industry capital structure from the STB Decision in Ex Parte No. 558 (Sub-No. 12), Railroad Cost of Capital - 2008, decided September 24, 2009, STB Decision in Ex Parte No. 558 (Sub-No. 13), Railroad Cost of Capital - 2009, decided September 30, 2010 and the STB Decision in Ex Parte No. 558 (Sub-No. 14), Railroad Cost of Capital - 2010, decided September 30, 2011.

TABLE B: TPIRR INFLATION INDEXES

Period	Land 1/	Hybrid RCAF 2/	MWS Excluding Fuel 3/	Materials & Supplies 4/	Wages & Supplements 5/
(1)	(2)	(3)	(4)	(5)	(6)
		See Inputs tab for adjustments to Hybrid RCAF			
1Q 2008	100.0		397.6	276.2	421.9
2Q 2008	97.4		399.6	283.4	422.7
3Q 2008	92.5		410.0	285.6	434.9
4Q 2008	86.5		418.1	318.9	437.1
1Q 2009	79.7		423.9	319.5	444.1
2Q 2009	74.0		422.7	305.5	445.8
3Q 2009	70.7		425.8	312.5	448.0
4Q 2009	69.0		421.7	302.2	445.4
1Q 2010	68.5		451.4	311.2	479.7
2Q 2010	69.6		448.8	305.2	477.9
3Q 2010	69.7	100.0	448.1	304.5	477.1
4Q 2010	70.1	100.2	451.7	322.0	477.5
1Q 2011	71.2	101.6	453.9	314.7	481.9
2Q 2011	72.8	103.7	454.5	309.1	484.0
3Q 2011	74.4	105.4	460.7	329.4	486.8
4Q 2011	75.6	104.4	466.7	331.8	493.5
1Q 2012	77.5	103.6	466.4	331.4	493.2
2Q 2012	79.0	105.2	476.6	344.5	502.7
3Q 2012	79.3	107.4	477.5	346.6	503.3
4Q 2012	80.1	106.3	475.6	340.7	502.4
1Q 2013	80.9	105.5	477.1	339.0	504.6
2Q 2013	82.9	105.8	471.1	334.0	498.4
3Q 2013	85.9	107.2	478.0	340.8	505.2
4Q 2013	86.6	105.7	477.6	332.4	506.8
1Q 2014	87.3	106.3	483.7	337.7	513.0
2Q 2014	87.9	105.6	488.4	348.8	515.6
3Q 2014	88.6	106.4	495.6	352.0	523.8
4Q 2014	89.3	107.5	501.8	355.5	530.6
1Q 2015	90.1	107.1	507.3	357.3	537.0
2Q 2015	90.8	106.8	508.8	358.4	538.6
3Q 2015	91.5	107.2	512.1	359.8	542.4
4Q 2015	92.2	108.1	516.2	360.9	547.3
1Q 2016	93.0	107.9	521.1	363.4	552.7
2Q 2016	93.7	107.9	525.3	364.8	557.7
3Q 2016	94.5	108.8	529.7	366.7	562.7
4Q 2016	95.2	110.6	534.0	368.1	567.8
1Q 2017	96.0	111.3	538.8	370.4	573.1
2Q 2017	96.8	112.0	543.5	372.7	578.5
3Q 2017	97.5	112.7	548.3	375.0	583.9
4Q 2017	98.3	113.4	553.2	377.3	589.4
1Q 2018	99.1	114.2	558.4	380.1	595.2
2Q 2018	99.9	114.9	563.7	383.0	601.0
3Q 2018	100.7	115.7	569.0	385.8	607.0
4Q 2018	101.5	116.5	574.4	388.7	612.9
1Q 2019	102.4	117.2	579.7	391.2	619.0
2Q 2019	103.2	118.0	585.1	393.7	625.1
3Q 2019	104.0	118.7	590.5	396.2	631.2
4Q 2019	104.9	119.4	596.0	398.8	637.5
1Q 2020	105.7	120.1	601.2	401.0	643.4
2Q 2020	106.6	120.8	606.5	403.3	649.5
Annual Inflation Rate **6/**	4.36%		3.06%	2.83%	3.11%

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 4Q2013 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 4Q2013 then Global Insight forecast.

4/ Used to index Road Property Accounts 8, 9, and 11. Based on RCR indexes - East Region through 4Q2013 then Global Insight forecast for remaining periods.

5/ Used to index Road Property Accounts 1 and 12. Based on RCR indexes - East Region through 4Q2013 then Global Insight forecast for remaining periods.

6/ 2Q 2010 ÷ 2Q 2020^(1/10)-"1. The Annual Rate is used to develop asset replacement values at the end of asset lives.

TABLE C: TPIRR PROPERTY INVESTMENT VALUES

Construction of the TPIRR occurs between January 1, 2008 and July 1, 2010.
Investments are assumed to be in July 1, 2010 dollars.

Property Account	Property Component	Service Life In Years 1/	Investment In 3Q2008 Dollars 2/	Investment In 3Q2009 Dollars 3/	Investment In 3Q2010 Dollars 4/	2008 Investment Value 5/	2009 Investment Value 6/	2010 Investment Value 7/	Total Property Investment 3Q 2010 8/
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Engineering	NA	$2,872,416,296	$2,958,938,838	$3,151,137,767	$2,462,071,111	$422,705,548	$0	$2,884,776,659
2	Land	NA	$6,024,988,608	$4,604,840,008	$4,538,850,340	$6,024,988,608	$0	$0	$6,024,988,608
3	Grading	68	$6,226,791,413	$6,466,750,692	$6,805,427,396	$3,558,166,522	$2,771,464,582	$0	$6,329,631,104
5	Tunnels	76	$1,690,776,247	$1,755,932,990	$1,847,894,723	$0	$1,463,277,492	$307,982,454	$1,771,259,945
6	Bridges & Culverts	60	$5,609,495,779	$5,825,666,592	$6,130,768,435	$0	$4,369,249,944	$1,532,692,109	$5,901,942,053
8	Ties	21	$1,866,400,817	$2,042,192,771	$1,989,912,636	$0	$1,531,644,578	$497,478,159	$2,029,122,737
9	Rails and OTM	34	$5,112,703,262	$5,594,256,895	$5,451,043,919	$0	$4,195,692,671	$1,362,760,980	$5,558,453,651
11	Ballast	36	$3,060,795,707	$3,349,084,938	$3,263,348,364	$0	$2,511,813,704	$815,837,091	$3,327,650,795
12	Labor	32	$1,601,400,618	$1,649,637,795	$1,756,790,607	$0	$1,237,228,346	$439,197,652	$1,676,425,998
13	Fences and Roadway Signs	45	$26,104,611	$27,110,593	$28,530,429	$0	$20,332,945	$7,132,607	$27,465,552
23	Coal Wharves	18	$48,885,042	$50,768,905	$53,427,774	$0	$50,768,905	$0	$50,768,905
17	Roadway Buildings	37	$1,259,967,602	$1,308,522,451	$1,377,052,396	$0	$1,308,522,451	$0	$1,308,522,451
19	Fuel Stations	28	$49,692,266	$51,607,237	$54,310,011	$0	$51,607,237	$0	$51,607,237
20	Shops and Enginehouses	33	$167,928,774	$174,400,176	$183,533,863	$0	$174,400,176	$0	$174,400,176
26	Communications Systems	13	$410,954,287	$426,791,062	$449,142,966	$0	$142,263,687	$299,428,644	$441,692,331
27	Signals and Interlockers	29	$2,349,950,529	$2,440,509,598	$2,568,323,981	$0	$813,503,199	$1,712,215,987	$2,525,719,187
39	Public Improvements	42	$476,377,519	$494,735,482	$520,645,772	$0	$98,947,096	$416,516,617	$515,463,714
	Total		$38,855,629,378	$39,221,747,023	$40,170,141,378	$12,045,226,241	$21,163,422,561	$7,391,242,300	$40,599,891,102

1/ 1 ÷ Depreciation Rate shown in Schedule 332 of CSXT's 2012 Annual Report R-1
2/ July 1, 2010, indexed to 2008 dollars; Investment Exhibit - 3Q2010 x Inflation Index from Table B, 3Q2008 ÷ 3Q2010.
3/ July 1, 2010, indexed to 2009 dollars; Investment Exhibit - 3Q2010 x Inflation Index from Table B, 3Q2009 ÷ 3Q2010.
4/ July 1, 2010, indexed to 2010 dollars; Investment Exhibit - 3Q2010 x Inflation Index from Table B, 3Q2010 ÷ 3Q2010.
5/ Column (4) x Percent constructed in 2008.
6/ Column (5) x Percent constructed in 2009.
7/ Column (6) x Percent constructed in 2010.
8/ Sum of Columns (7) through (9).

TABLE D: INTEREST DURING CONSTRUCTION

Month of Installation	Cost of Funds 1/	Timing of Account 1 Investment 2/	Timing of Account 2 Investment 2/	Timing of Accounts 3, 5 and 6 Investment 2/	Timing of Accounts 8 Through 39 Investment 2/	Total Investment by Month 3/	Interest During Construction 4/	Cost of Debt 5/	Deductible Interest During Construction 6/
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Jan-08	0.93%	$205,172,593	$0	$0	$0	$205,172,593	$0	0.53%	$0
Feb-08	0.93%	$205,172,593	$0	$0	$0	$205,172,593	$1,908,021	0.53%	$234,969
Mar-08	0.93%	$205,172,593	$0	$0	$0	$205,172,593	$3,833,785	0.53%	$472,123
Apr-08	0.93%	$205,172,593	$0	$0	$0	$205,172,593	$5,777,459	0.53%	$711,482
May-08	0.93%	$205,172,593	$860,712,658	$0	$0	$1,065,885,251	$7,739,208	0.53%	$953,068
Jun-08	0.93%	$205,172,593	$860,712,658	$0	$0	$1,065,885,251	$17,723,474	0.53%	$2,182,610
Jul-08	0.93%	$205,172,593	$860,712,658	$0	$0	$1,065,885,251	$27,800,590	0.53%	$3,423,586
Aug-08	0.93%	$205,172,593	$860,712,658	$0	$0	$1,065,885,251	$37,971,419	0.53%	$4,676,103
Sep-08	0.93%	$205,172,593	$860,712,658	$889,541,630	$0	$1,955,426,881	$48,236,833	0.53%	$5,940,268
Oct-08	0.93%	$205,172,593	$860,712,658	$889,541,630	$0	$1,955,426,881	$66,870,083	0.53%	$8,234,915
Nov-08	0.93%	$205,172,593	$860,712,658	$889,541,630	$0	$1,955,426,881	$85,676,614	0.53%	$10,550,901
Dec-08	0.93%	$205,172,593	$0	$889,541,630	$0	$1,094,714,223	$104,658,038	0.53%	$12,888,425
Jan-09	0.83%	$211,352,774	$0	$923,821,527	$0	$1,135,174,302	$103,433,128	0.46%	$16,837,160
Feb-09	0.83%	$211,352,774	$0	$923,821,527	$0	$1,135,174,302	$113,720,505	0.46%	$18,511,771
Mar-09	0.83%	$0	$0	$1,070,149,277	$264,216,461	$1,334,365,738	$124,093,324	0.46%	$20,200,290
Apr-09	0.83%	$0	$0	$631,799,965	$1,319,406,711	$1,951,206,676	$136,206,700	0.46%	$22,172,142
May-09	0.83%	$0	$0	$631,799,965	$1,319,406,711	$1,951,206,676	$153,543,919	0.46%	$24,994,348
Jun-09	0.83%	$0	$0	$631,799,965	$1,319,406,711	$1,951,206,676	$171,025,133	0.46%	$27,839,993
Jul-09	0.83%	$0	$0	$631,799,965	$1,319,406,711	$1,951,206,676	$188,651,540	0.46%	$30,709,273
Aug-09	0.83%	$0	$0	$631,799,965	$1,319,406,711	$1,951,206,676	$206,424,344	0.46%	$33,602,384
Sep-09	0.83%	$0	$0	$631,799,965	$1,055,190,249	$1,686,990,214	$224,344,762	0.46%	$36,519,525
Oct-09	0.83%	$0	$0	$631,799,965	$1,055,190,249	$1,686,990,214	$240,219,544	0.46%	$39,103,670
Nov-09	0.83%	$0	$0	$631,799,965	$1,533,073,693	$2,164,873,658	$256,226,176	0.46%	$41,709,279
Dec-09	0.83%	$0	$0	$631,799,965	$1,632,020,789	$2,263,820,754	$276,334,860	0.46%	$44,982,632
Jan-10	0.88%	$0	$0	$664,888,596	$1,647,842,475	$2,312,731,071	$313,629,133	0.38%	$31,504,596
Feb-10	0.88%	$0	$0	$664,888,596	$1,647,842,475	$2,312,731,071	$336,630,487	0.38%	$33,815,122
Mar-10	0.88%	$0	$0	$510,897,370	$1,647,842,475	$2,158,739,845	$359,833,285	0.38%	$36,145,884
Apr-10	0.88%	$0	$0	$0	$607,040,312	$607,040,312	$381,890,653	0.38%	$38,361,585
May-10	0.88%	$0	$0	$0	$0	$0	$390,551,594	0.38%	$39,231,592
Jun-10	0.88%	$0	$0	$0	$0	$0	$393,971,999	0.38%	$39,575,177
Jul-10									
Total		**$2,884,776,659**	**$6,024,988,608**	**$14,002,833,103**	**$17,687,292,732**	**$40,599,891,102**	**$4,778,926,614**		**$626,084,874**

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 (6).
4/ January 08 equals Column (2) x prior Column (7), all other periods equal Column (2) x ((Sum of Column (7) for all prior periods) + (Sum of Column (8) for all prior periods)).
5/ ((1 + Cost of Debt from Table A for the applicable year)^(1/12) - 1) x 100.
6/ January 08 equals prior Column (7) x Column (9) x Table A, Column (9) for 2008, all other periods equal Column (9) x ((Sum of Column (7) for all prior periods) + (Sum of Column (8) for all prior periods)) x Table A, Column (9) for the applicable year.

TABLE E: TPIRR INTEREST PAYMENTS FOR ASSETS PURCHASED WITH DEBT CAPTIAL

INTEREST SCHEDULE FOR
THE TPIRR 2008 ROAD PROPERTY
INVESTMENT FOR THE 3Q2010 START-UP

1. TOTAL INVESTMENT	############
2. IDC	$408,195,525
3. PRINCIPAL	$2,682,467,048
4. INTEREST	6.57%
5. TERM (QUARTERS)	80
6. PAYMENT	$59,749,045

Quarter (1)	Beginning Balance	Ending Balance	Payment	Principal	Interest 7/ (2)
1	$2,682,467,048	$2,665,731,820	$59,749,045	$16,735,229	$43,013,816
2	2,665,731,820	2,648,728,239	59,749,045	17,003,581	42,745,464
3	2,648,728,239	2,631,452,003	59,749,045	17,276,236	42,472,809
4	2,631,452,003	2,613,898,739	59,749,045	17,553,264	42,195,781
5	2,613,898,739	2,596,064,006	59,749,045	17,834,733	41,914,312
6	2,596,064,006	2,577,943,290	59,749,045	18,120,716	41,628,329
7	2,577,943,290	2,559,532,005	59,749,045	18,411,285	41,337,760
8	2,559,532,005	2,540,825,492	59,749,045	18,706,513	41,042,532
9	2,540,825,492	2,521,819,016	59,749,045	19,006,475	40,742,570
10	2,521,819,016	2,502,507,769	59,749,045	19,311,247	40,437,798
11	2,502,507,769	2,482,886,863	59,749,045	19,620,906	40,128,138
12	2,482,886,863	2,462,951,332	59,749,045	19,935,531	39,813,514
13	2,462,951,332	2,442,696,131	59,749,045	20,255,201	39,493,844
14	2,442,696,131	2,422,116,135	59,749,045	20,579,996	39,169,049
15	2,422,116,135	2,401,206,135	59,749,045	20,910,000	38,839,045
16	2,401,206,135	2,379,960,840	59,749,045	21,245,295	38,503,749
17	2,379,960,840	2,358,374,872	59,749,045	21,585,967	38,163,078
18	2,358,374,872	2,336,442,771	59,749,045	21,932,102	37,816,943
19	2,336,442,771	2,314,158,984	59,749,045	22,283,787	37,465,258
20	2,314,158,984	2,291,517,872	59,749,045	22,641,111	37,107,934
21	2,291,517,872	2,268,513,707	59,749,045	23,004,165	36,744,879
22	2,268,513,707	2,245,140,666	59,749,045	23,373,041	36,376,004
23	2,245,140,666	2,221,392,834	59,749,045	23,747,832	36,001,213
24	2,221,392,834	2,197,264,202	59,749,045	24,128,632	35,620,413
25	2,197,264,202	2,172,748,663	59,749,045	24,515,539	35,233,506
26	2,172,748,663	2,147,840,013	59,749,045	24,908,650	34,840,395
27	2,147,840,013	2,122,531,949	59,749,045	25,308,064	34,440,981
28	2,122,531,949	2,096,818,066	59,749,045	25,713,883	34,035,161
29	2,096,818,066	2,070,691,856	59,749,045	26,126,210	33,622,835
30	2,070,691,856	2,044,146,708	59,749,045	26,545,148	33,203,897
31	2,044,146,708	2,017,175,903	59,749,045	26,970,804	32,778,241
32	2,017,175,903	1,989,772,618	59,749,045	27,403,286	32,345,759
33	1,989,772,618	1,961,929,916	59,749,045	27,842,702	31,906,343
34	1,961,929,916	1,933,640,752	59,749,045	28,289,164	31,459,880
35	1,933,640,752	1,904,897,966	59,749,045	28,742,786	31,006,259
36	1,904,897,966	1,875,694,284	59,749,045	29,203,681	30,545,363
37	1,875,694,284	1,846,022,317	59,749,045	29,671,967	30,077,077
38	1,846,022,317	1,815,874,554	59,749,045	30,147,762	29,601,282
39	1,815,874,554	1,785,243,368	59,749,045	30,631,187	29,117,858
40	1,785,243,368	1,754,121,004	59,749,045	31,122,363	28,626,682
41	1,754,121,004	1,722,499,589	59,749,045	31,621,416	28,127,629
42	1,722,499,589	1,690,371,118	59,749,045	32,128,470	27,620,574
43	1,690,371,118	1,657,727,462	59,749,045	32,643,656	27,105,389
44	1,657,727,462	1,624,560,360	59,749,045	33,167,103	26,581,942
45	1,624,560,360	1,590,861,417	59,749,045	33,698,943	26,050,102
46	1,590,861,417	1,556,622,106	59,749,045	34,239,311	25,509,734
47	1,556,622,106	1,521,833,762	59,749,045	34,788,344	24,960,701
48	1,521,833,762	1,486,487,581	59,749,045	35,346,181	24,402,864
49	1,486,487,581	1,450,574,618	59,749,045	35,912,963	23,836,082
50	1,450,574,618	1,414,085,784	59,749,045	36,488,834	23,260,211
51	1,414,085,784	1,377,011,846	59,749,045	37,073,938	22,675,106
52	1,377,011,846	1,339,343,420	59,749,045	37,668,425	22,080,620
53	1,339,343,420	1,301,070,975	59,749,045	38,272,445	21,476,600
54	1,301,070,975	1,262,184,825	59,749,045	38,886,150	20,862,895
55	1,262,184,825	1,222,675,129	59,749,045	39,509,696	20,239,349
56	1,222,675,129	1,182,531,888	59,749,045	40,143,241	19,605,804
57	1,182,531,888	1,141,744,944	59,749,045	40,786,945	18,962,100

INTEREST SCHEDULE FOR
THE TPIRR 2009 ROAD PROPERTY
INVESTMENT FOR THE 3Q2010 START-UP

1. TOTAL INVESTMENT	############
2. IDC	$2,194,223,937
3. PRINCIPAL	$6,797,075,131
4. INTEREST	5.72%
5. TERM (QUARTERS)	80
6. PAYMENT	$141,794,065

Quarter (3)	Beginning Balance	Ending Balance	Payment	Principal	Interest 7/ (4)
1	$6,797,075,131	$6,750,461,282	$141,794,065	$46,613,849	$95,180,216
2	6,750,461,282	6,703,194,694	141,794,065	47,266,588	94,527,477
3	6,703,194,694	6,655,266,227	141,794,065	47,928,467	93,865,598
4	6,655,266,227	6,606,666,611	141,794,065	48,599,615	93,194,450
5	6,606,666,611	6,557,386,450	141,794,065	49,280,161	92,513,904
6	6,557,386,450	6,507,416,213	141,794,065	49,970,237	91,823,828
7	6,507,416,213	6,456,746,238	141,794,065	50,669,976	91,124,090
8	6,456,746,238	6,405,366,724	141,794,065	51,379,513	90,414,552
9	6,405,366,724	6,353,267,738	141,794,065	52,098,986	89,695,079
10	6,353,267,738	6,300,439,204	141,794,065	52,828,534	88,965,531
11	6,300,439,204	6,246,870,905	141,794,065	53,568,298	88,225,767
12	6,246,870,905	6,192,552,484	141,794,065	54,318,421	87,475,644
13	6,192,552,484	6,137,473,435	141,794,065	55,079,048	86,715,017
14	6,137,473,435	6,081,623,109	141,794,065	55,850,327	85,943,739
15	6,081,623,109	6,024,990,704	141,794,065	56,632,405	85,161,660
16	6,024,990,704	5,967,565,269	141,794,065	57,425,435	84,368,630
17	5,967,565,269	5,909,335,699	141,794,065	58,229,570	83,564,495
18	5,909,335,699	5,850,290,733	141,794,065	59,044,965	82,749,100
19	5,850,290,733	5,790,418,955	141,794,065	59,871,779	81,922,287
20	5,790,418,955	5,729,708,785	141,794,065	60,710,170	81,083,895
21	5,729,708,785	5,668,148,483	141,794,065	61,560,301	80,233,764
22	5,668,148,483	5,605,726,146	141,794,065	62,422,337	79,371,728
23	5,605,726,146	5,542,429,702	141,794,065	63,296,444	78,497,621
24	5,542,429,702	5,478,246,910	141,794,065	64,182,792	77,611,274
25	5,478,246,910	5,413,165,360	141,794,065	65,081,551	76,712,515
26	5,413,165,360	5,347,172,465	141,794,065	65,992,895	75,801,170
27	5,347,172,465	5,280,255,464	141,794,065	66,917,001	74,877,064
28	5,280,255,464	5,212,401,416	141,794,065	67,854,047	73,940,018
29	5,212,401,416	5,143,597,201	141,794,065	68,804,215	72,989,850
30	5,143,597,201	5,073,829,512	141,794,065	69,767,689	72,026,377
31	5,073,829,512	5,003,084,859	141,794,065	70,744,653	71,049,412
32	5,003,084,859	4,931,349,560	141,794,065	71,735,299	70,058,766
33	4,931,349,560	4,858,609,744	141,794,065	72,739,816	69,054,249
34	4,858,609,744	4,784,851,343	141,794,065	73,758,400	68,035,665
35	4,784,851,343	4,710,060,096	141,794,065	74,791,248	67,002,818
36	4,710,060,096	4,634,221,538	141,794,065	75,838,558	65,955,507
37	4,634,221,538	4,557,321,004	141,794,065	76,900,534	64,893,531
38	4,557,321,004	4,479,343,623	141,794,065	77,977,381	63,816,684
39	4,479,343,623	4,400,274,316	141,794,065	79,069,307	62,724,758
40	4,400,274,316	4,320,097,793	141,794,065	80,176,523	61,617,542
41	4,320,097,793	4,238,798,548	141,794,065	81,299,244	60,494,821
42	4,238,798,548	4,156,360,861	141,794,065	82,437,687	59,356,378
43	4,156,360,861	4,072,768,790	141,794,065	83,592,071	58,201,994
44	4,072,768,790	3,988,006,169	141,794,065	84,762,621	57,031,445
45	3,988,006,169	3,902,056,608	141,794,065	85,949,561	55,844,504
46	3,902,056,608	3,814,903,485	141,794,065	87,153,123	54,640,943
47	3,814,903,485	3,726,529,947	141,794,065	88,373,538	53,420,527
48	3,726,529,947	3,636,918,905	141,794,065	89,611,043	52,183,023
49	3,636,918,905	3,546,053,029	141,794,065	90,865,876	50,928,189
50	3,546,053,029	3,453,914,747	141,794,065	92,138,281	49,655,784
51	3,453,914,747	3,360,486,243	141,794,065	93,428,504	48,365,561
52	3,360,486,243	3,265,749,449	141,794,065	94,736,794	47,057,271
53	3,265,749,449	3,169,686,045	141,794,065	96,063,404	45,730,661
54	3,169,686,045	3,072,277,454	141,794,065	97,408,591	44,385,474
55	3,072,277,454	2,973,504,839	141,794,065	98,772,615	43,021,451
56	2,973,504,839	2,873,349,100	141,794,065	100,155,739	41,638,327
57	2,873,349,100	2,771,790,869	141,794,065	101,558,231	40,235,834

INTEREST SCHEDULE FOR
THE TPIRR 2010 ROAD PROPERTY
INVESTMENT FOR THE 3Q2010 START-UP

1. TOTAL INVESTMENT	$7,391,242,300
2. IDC	$2,176,507,152
3. PRINCIPAL	$2,236,939,822
4. INTEREST	4.61%
5. TERM (QUARTERS)	80
6. PAYMENT	$42,671,820

Quarter (3)	Beginning Balance	Ending Balance	Payment	Principal	Interest 7/ (4)	Total Interest
1	$2,236,939,822	$2,219,614,667	$42,671,820	$17,325,155	$25,346,665	$163,540,698
2	2,219,614,667	2,202,093,202	42,671,820	17,521,465	25,150,355	162,423,296
3	2,202,093,202	2,184,373,202	42,671,820	17,720,000	24,951,820	161,290,226
4	2,184,373,202	2,166,452,417	42,671,820	17,920,785	24,751,035	160,141,266
5	2,166,452,417	2,148,328,572	42,671,820	18,123,844	24,547,975	158,976,191
6	2,148,328,572	2,129,999,367	42,671,820	18,329,205	24,342,615	157,794,772
7	2,129,999,367	2,111,462,475	42,671,820	18,536,892	24,134,928	156,596,777
8	2,111,462,475	2,092,715,542	42,671,820	18,746,933	23,924,887	155,381,971
9	2,092,715,542	2,073,756,189	42,671,820	18,959,354	23,712,466	154,150,115
10	2,073,756,189	2,054,582,007	42,671,820	19,174,181	23,497,639	152,900,967
11	2,054,582,007	2,035,190,564	42,671,820	19,391,443	23,280,377	151,634,282
12	2,035,190,564	2,015,579,398	42,671,820	19,611,167	23,060,653	150,349,811
13	2,015,579,398	1,995,746,018	42,671,820	19,833,380	22,838,440	149,047,301
14	1,995,746,018	1,975,687,907	42,671,820	20,058,111	22,613,709	147,726,496
15	1,975,687,907	1,955,402,519	42,671,820	20,285,389	22,386,431	146,387,136
16	1,955,402,519	1,934,887,277	42,671,820	20,515,241	22,156,578	145,028,958
17	1,934,887,277	1,914,139,579	42,671,820	20,747,699	21,924,121	143,651,694
18	1,914,139,579	1,893,156,789	42,671,820	20,982,790	21,689,030	142,255,073
19	1,893,156,789	1,871,936,244	42,671,820	21,220,545	21,451,275	140,838,819
20	1,871,936,244	1,850,475,250	42,671,820	21,460,994	21,210,826	139,402,655
21	1,850,475,250	1,828,771,082	42,671,820	21,704,168	20,967,652	137,946,296
22	1,828,771,082	1,806,820,986	42,671,820	21,950,096	20,721,723	136,469,455
23	1,806,820,986	1,784,622,174	42,671,820	22,198,812	20,473,008	134,971,842
24	1,784,622,174	1,762,171,828	42,671,820	22,450,346	20,221,474	133,453,160
25	1,762,171,828	1,739,467,098	42,671,820	22,704,730	19,967,090	131,913,111
26	1,739,467,098	1,716,505,102	42,671,820	22,961,996	19,709,824	130,351,389
27	1,716,505,102	1,693,282,925	42,671,820	23,222,177	19,449,643	128,767,687
28	1,693,282,925	1,669,797,618	42,671,820	23,485,307	19,186,513	127,161,692
29	1,669,797,618	1,646,046,201	42,671,820	23,751,418	18,920,402	125,533,087
30	1,646,046,201	1,622,025,657	42,671,820	24,020,544	18,651,276	123,881,549
31	1,622,025,657	1,597,732,937	42,671,820	24,292,720	18,379,100	122,206,753
32	1,597,732,937	1,573,164,958	42,671,820	24,567,979	18,103,840	120,508,366
33	1,573,164,958	1,548,318,600	42,671,820	24,846,358	17,825,462	118,786,054
34	1,548,318,600	1,523,190,709	42,671,820	25,127,891	17,543,929	117,039,474
35	1,523,190,709	1,497,778,095	42,671,820	25,412,614	17,259,206	115,268,282
36	1,497,778,095	1,472,077,531	42,671,820	25,700,563	16,971,257	113,472,127
37	1,472,077,531	1,446,085,756	42,671,820	25,991,775	16,680,045	111,650,653
38	1,446,085,756	1,419,799,469	42,671,820	26,286,287	16,385,533	109,803,500
39	1,419,799,469	1,393,215,334	42,671,820	26,584,136	16,087,684	107,930,300
40	1,393,215,334	1,366,329,975	42,671,820	26,885,359	15,786,461	106,030,684
41	1,366,329,975	1,339,139,979	42,671,820	27,189,996	15,481,824	104,104,274
42	1,339,139,979	1,311,641,894	42,671,820	27,498,085	15,173,735	102,150,688
43	1,311,641,894	1,283,832,230	42,671,820	27,809,664	14,862,156	100,169,538
44	1,283,832,230	1,255,707,456	42,671,820	28,124,774	14,547,046	98,160,433
45	1,255,707,456	1,227,264,001	42,671,820	28,443,455	14,228,365	96,122,971
46	1,227,264,001	1,198,498,254	42,671,820	28,765,746	13,906,073	94,056,750
47	1,198,498,254	1,169,406,565	42,671,820	29,091,690	13,580,130	91,961,358
48	1,169,406,565	1,139,985,238	42,671,820	29,421,326	13,250,493	89,836,380
49	1,139,985,238	1,110,230,540	42,671,820	29,754,698	12,917,122	87,681,393
50	1,110,230,540	1,080,138,693	42,671,820	30,091,847	12,579,973	85,495,968
51	1,080,138,693	1,049,705,876	42,671,820	30,432,817	12,239,003	83,279,671
52	1,049,705,876	1,018,928,227	42,671,820	30,777,649	11,894,170	81,032,061
53	1,018,928,227	987,801,837	42,671,820	31,126,390	11,545,430	78,752,691
54	987,801,837	956,322,756	42,671,820	31,479,081	11,192,738	76,441,107
55	956,322,756	924,486,986	42,671,820	31,835,769	10,836,050	74,096,850
56	924,486,986	892,290,487	42,671,820	32,196,499	10,475,321	71,719,451
57	892,290,487	859,729,171	42,671,820	32,561,316	10,110,504	69,308,438

TABLE E: TPIRR INTEREST PAYMENTS FOR ASSETS PURCHASED WITH DEBT CAPTIAL

INTEREST SCHEDULE FOR THE TPIRR 2008 ROAD PROPERTY INVESTMENT FOR THE 3Q2010 START-UP						INTEREST SCHEDULE FOR THE TPIRR 2009 ROAD PROPERTY INVESTMENT FOR THE 3Q2010 START-UP						INTEREST SCHEDULE FOR THE TPIRR 2010 ROAD PROPERTY INVESTMENT FOR THE 3Q2010 START-UP						
1. TOTAL INVESTMENT					############	1. TOTAL INVESTMENT					############	1. TOTAL INVESTMENT					$7,391,242,300	
2. IDC					$408,195,525	2. IDC					$2,194,223,937	2. IDC					$2,176,507,152	
3. PRINCIPAL					$2,682,467,048	3. PRINCIPAL					$6,797,075,131	3. PRINCIPAL					$2,236,939,822	
4. INTEREST					6.57%	4. INTEREST					5.72%	4. INTEREST					4.61%	
5. TERM (QUARTERS)					80	5. TERM (QUARTERS)					80	5. TERM (QUARTERS)					80	
6. PAYMENT					$59,749,045	6. PAYMENT					$141,794,065	6. PAYMENT					$42,671,820	
Quarter (1)	Beginning Balance	Ending Balance	Payment	Principal	Interest 7/ (2)	Quarter (3)	Beginning Balance	Ending Balance	Payment	Principal	Interest 7/ (4)	Quarter (3)	Beginning Balance	Ending Balance	Payment	Principal	Interest 7/ (4)	Total Interest
58	1,141,744,944	1,100,303,974	59,749,045	41,440,970	18,308,075	58	2,771,790,869	2,668,810,507	141,794,065	102,980,362	38,813,703	58	859,729,171	826,798,904	42,671,820	32,930,267	9,741,553	66,863,330
59	1,100,303,974	1,058,198,491	59,749,045	42,105,483	17,643,562	59	2,668,810,507	2,564,388,099	141,794,065	104,422,408	37,371,657	59	826,798,904	793,495,506	42,671,820	33,303,398	9,368,421	64,383,640
60	1,058,198,491	1,015,417,839	59,749,045	42,780,652	16,968,393	60	2,564,388,099	2,458,503,452	141,794,065	105,884,647	35,909,418	60	793,495,506	759,814,748	42,671,820	33,680,758	8,991,062	61,868,873
61	1,015,417,839	971,951,192	59,749,045	43,466,647	16,282,398	61	2,458,503,452	2,351,136,090	141,794,065	107,367,362	34,426,704	61	759,814,748	725,752,355	42,671,820	34,062,393	8,609,427	59,318,528
62	971,951,192	927,787,550	59,749,045	44,163,642	15,585,403	62	2,351,136,090	2,242,265,251	141,794,065	108,870,839	32,923,226	62	725,752,355	691,304,003	42,671,820	34,448,352	8,223,467	56,732,097
63	927,787,550	882,915,737	59,749,045	44,871,813	14,877,231	63	2,242,265,251	2,131,869,881	141,794,065	110,395,370	31,398,695	63	691,304,003	656,465,318	42,671,820	34,838,685	7,833,135	54,109,062
64	882,915,737	837,324,396	59,749,045	45,591,341	14,157,704	64	2,131,869,881	2,019,928,632	141,794,065	111,941,249	29,852,816	64	656,465,318	621,231,877	42,671,820	35,233,441	7,438,379	51,448,900
65	837,324,396	791,001,991	59,749,045	46,322,405	13,426,639	65	2,019,928,632	1,906,419,857	141,794,065	113,508,775	28,285,290	65	621,231,877	585,599,208	42,671,820	35,632,669	7,039,151	48,751,080
66	791,001,991	743,936,798	59,749,045	47,065,193	12,683,852	66	1,906,419,857	1,791,321,606	141,794,065	115,098,251	26,695,814	66	585,599,208	549,562,786	42,671,820	36,036,421	6,635,398	46,015,064
67	743,936,798	696,116,906	59,749,045	47,819,892	11,929,153	67	1,791,321,606	1,674,611,621	141,794,065	116,709,985	25,084,080	67	549,562,786	513,118,038	42,671,820	36,444,748	6,227,071	43,240,305
68	696,116,906	647,530,215	59,749,045	48,586,692	11,162,353	68	1,674,611,621	1,556,267,332	141,794,065	118,344,288	23,449,777	68	513,118,038	476,260,335	42,671,820	36,857,702	5,814,118	40,426,248
69	647,530,215	598,164,427	59,749,045	49,365,787	10,383,257	69	1,556,267,332	1,436,265,856	141,794,065	120,001,477	21,792,589	69	476,260,335	438,985,000	42,671,820	37,275,335	5,396,485	37,572,330
70	598,164,427	548,007,051	59,749,045	50,157,376	9,591,668	70	1,436,265,856	1,314,583,985	141,794,065	121,681,871	20,112,194	70	438,985,000	401,287,300	42,671,820	37,697,700	4,974,119	34,677,982
71	548,007,051	497,045,393	59,749,045	50,961,658	8,787,386	71	1,314,583,985	1,191,198,188	141,794,065	123,385,796	18,408,269	71	401,287,300	363,162,448	42,671,820	38,124,851	4,546,968	31,742,624
72	497,045,393	445,266,555	59,749,045	51,778,837	7,970,208	72	1,191,198,188	1,066,084,607	141,794,065	125,113,582	16,680,484	72	363,162,448	324,605,606	42,671,820	38,556,842	4,114,977	28,765,669
73	445,266,555	392,657,436	59,749,045	52,609,120	7,139,925	73	1,066,084,607	939,219,045	141,794,065	126,865,561	14,928,504	73	324,605,606	285,611,878	42,671,820	38,993,728	3,678,092	25,746,521
74	392,657,436	339,204,720	59,749,045	53,452,716	6,296,329	74	939,219,045	810,576,971	141,794,065	128,642,074	13,151,991	74	285,611,878	246,176,313	42,671,820	39,435,564	3,236,255	22,684,575
75	339,204,720	284,894,880	59,749,045	54,309,839	5,439,205	75	810,576,971	680,133,507	141,794,065	130,443,464	11,350,602	75	246,176,313	206,293,906	42,671,820	39,882,407	2,789,413	19,579,220
76	284,894,880	229,714,173	59,749,045	55,180,707	4,568,338	76	680,133,507	547,863,429	141,794,065	132,270,078	9,523,987	76	206,293,906	165,959,594	42,671,820	40,334,313	2,337,507	16,429,832
77	229,714,173	173,648,634	59,749,045	56,065,539	3,683,506	77	547,863,429	413,741,158	141,794,065	134,122,271	7,671,794	77	165,959,594	125,168,255	42,671,820	40,791,339	1,880,481	13,235,781
78	173,648,634	116,684,075	59,749,045	56,964,559	2,784,485	78	413,741,158	277,740,757	141,794,065	136,000,401	5,793,664	78	125,168,255	83,914,711	42,671,820	41,253,544	1,418,276	9,996,426
79	116,684,075	58,806,079	59,749,045	57,877,996	1,871,049	79	277,740,757	139,835,927	141,794,065	137,904,830	3,889,235	79	83,914,711	42,193,725	42,671,820	41,720,986	950,834	6,711,118
80	58,806,079	0	59,749,045	58,806,079	942,966	80	139,835,927	0	141,794,065	139,835,927	1,958,138	80	42,193,725	0	42,671,820	42,193,725	478,095	3,379,199

TABLE F: TPIRR PRESENT VALUE OF REPLACEMENT COST

Property Account	Property Component	Service Life In Years 1/	Investment 2/	Salvage 3/	Replacement Year Asset Net Cost 4/	Replacement Cost Adjusted To Reflect An Infinite Life 5/	Present Value Of Replacement Cost Adjusted To Reflect An Infinite Life (2010 Dollars) 6/
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
3	Grading	68	$59,379,591,218	$0	$48,783,843,760	$49,116,009,940	$38,175,240
5	Tunnels	76	20,683,947,803	0	16,993,085,626	17,061,005,909	6,205,462
6	Bridges & Culverts	60	42,251,665,237	0	34,361,994,711	0	69,105,579
8	Ties	21	4,314,733,298	0	3,301,057,648	4,229,239,325	481,326,931
9	Rails and OTM	34	17,040,011,401	1,135,029,685	12,144,384,557	13,263,169,778	383,475,300
11	Ballast	36	10,887,702,143	0	8,329,815,528	8,967,874,743	203,160,910
12	Labor	32	5,345,440,813	0	4,089,617,378	4,522,244,543	156,593,208
13	Fences and Roadway Signs	45	127,089,069	0	103,357,675	107,374,387	968,173
23	Coal Wharves	18	102,452,167	0	90,747,760	125,816,516	20,168,756
17	Roadway Buildings	37	4,698,372,199	0	3,821,043,259	4,104,732,462	89,199,045
19	Fuel Stations	28	144,281,301	0	117,339,595	134,353,170	6,953,285
20	Shops and Enginehouses	33	561,356,400	0	456,534,093	501,709,895	15,928,468
26	Communications Systems	13	778,862,131	0	603,174,967	982,902,010	251,548,532
27	Signals and Interlockers	29	7,202,501,502	243,243,540	5,318,557,507	6,048,683,905	292,268,077
39	Public Improvements	42	2,177,097,618	0	1,770,567,300	1,857,217,062	22,982,130
	Total		$175,695,104,300	$1,378,273,225	$140,285,121,364	$111,022,333,643	$2,038,059,094

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 PART 1: 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 2010 Investment (4)	Depreciable Base (5)
1	Engineering	5	$2,884,776,659	$2,884,776,659
2	Land	N/A	$6,024,988,608	$0
3	Grading	50	$6,329,631,104	$6,329,631,104
5	Tunnels	50	$1,771,259,945	$1,771,259,945
6	Bridges & Culverts	20	$5,901,942,053	$5,901,942,053
8	Ties	7	$2,029,122,737	$2,029,122,737
9	Rails and OTM	7	$5,558,453,651	$5,558,453,651
11	Ballast	7	$3,327,650,795	$3,327,650,795
12	Labor	7	$1,676,425,998	$1,676,425,998
13	Fences and Roadway Signs	20	$27,465,552	$27,465,552
23	Coal Wharves	20	$50,768,905	$50,768,905
17	Roadway Buildings	20	$1,308,522,451	$1,308,522,451
19	Fuel Stations	20	$51,607,237	$51,607,237
20	Shops and Enginehouses	20	$174,400,176	$174,400,176
26	Communications Systems	7	$441,692,331	$441,692,331
27	Signals and Interlockers	7	$2,525,719,187	$2,525,719,187
39	Public Improvements	20	$515,463,714	$515,463,714
	Total		**$40,599,891,102**	**$34,574,902,494**

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:

Year	5-Year	7-Year	20-Year	50-Year a/	
1	20.00%	10.71%	2.81%	2.00%	
2	20.00%	25.51%	7.29%	2.00%	
3	20.00%	18.22%	6.74%	2.00%	
4	20.00%	13.02%	6.24%	2.00%	
5	20.00%	9.30%	5.77%	2.00%	
6		8.85%	5.34%	2.00%	
7		8.86%	4.94%	2.00%	
8		5.53%	4.57%	2.00%	
9			4.46%	2.00%	
10			4.46%	2.00%	
11			4.46%	2.00%	
12			4.46%	2.00%	
13			4.46%	2.00%	
14			4.46%	2.00%	
15			4.46%	2.00%	
16			4.46%	2.00%	
17			4.46%	2.00%	
18			4.46%	2.00%	
19			4.46%	2.00%	19-50
20			4.46%		
21			2.79%		

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:

MARCS Lives	Bonus Depreciation - 50%	Bonus Depreciation - 100%
7	$537,097,579	$0
15	$277,200,783	$0

TABLE G PART 2: TAX DEPRECIATION SCHEDULES

	Amortization - 5 Years			Road Property Depreciation - MACRS 7 Years			Depreciation - MACRS 20 Years			Depreciation - MACRS 50 Years				Total
Year	Unamortized Investment 1/	Rate 2/	Annual Amort. 3/	Undepreciated Investment 4/	Rate 2/	Annual Amount 5/	Undepreciated Investment 6/	Rate 2/	Annual Amount 7/	Unamortized Investment 8/	Rate 2/	Annual Amount 9/		Annual Depreciation 10/
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)		(14)
1	$2,884,776,659	20.00%	$576,955,332	$15,021,967,119	10.71%	$1,608,852,678	$7,752,969,303	2.81%	$218,091,027	$8,100,891,050	2%	$162,017,821		$3,380,215,220
2	$2,307,821,328	20.00%	$576,955,332	$13,413,114,440	25.51%	$3,832,103,812	$7,534,878,277	7.29%	$565,113,933	$7,938,873,229	2%	$162,017,821		$5,136,190,897
3	$1,730,865,996	20.00%	$576,955,332	$9,581,010,628	18.22%	$2,737,002,409	$6,969,764,344	6.74%	$522,705,190	$7,776,855,408	2%	$162,017,821		$3,998,680,752
4	$1,153,910,664	20.00%	$576,955,332	$6,844,008,219	13.02%	$1,955,860,119	$6,447,059,154	6.24%	$483,552,695	$7,614,837,587	2%	$162,017,821		$3,178,385,967
5	$576,955,332	20.00%	$576,955,332	$4,888,148,100	9.30%	$1,397,042,942	$5,963,506,458	5.77%	$447,268,799	$7,452,819,766	2%	$162,017,821		$2,583,284,894
6				$3,491,105,158	8.85%	$1,329,444,090	$5,516,237,659	5.34%	$413,698,442	$7,290,801,945	2%	$162,017,821		$1,905,160,353
7				$2,161,661,068	8.86%	$1,330,946,287	$5,102,539,217	4.94%	$382,686,565	$7,128,784,124	2%	$162,017,821		$1,875,650,673
8				$830,714,782	5.53%	$830,714,782	$4,719,852,653	4.57%	$354,000,578	$6,966,766,303	2%	$162,017,821		$1,346,733,181
9							$4,365,852,074	4.46%	$345,782,431	$6,804,748,482	2%	$162,017,821		$507,800,252
10					100%		$4,020,069,643	4.46%	$345,782,431	$6,642,730,661	2%	$162,017,821		$507,800,252
11							$3,674,287,212	4.46%	$345,782,431	$6,480,712,840	2%	$162,017,821	#	$507,800,252
12							$3,328,504,781	4.46%	$345,782,431	$6,318,695,019	2%	$162,017,821	#	$507,800,252
13							$2,982,722,350	4.46%	$345,859,961	$6,156,677,198	2%	$162,017,821	#	$507,877,782
14							$2,636,862,390	4.46%	$345,782,431	$5,994,659,377	2%	$162,017,821	#	$507,800,252
15							$2,291,079,959	4.46%	$345,859,961	$5,832,641,556	2%	$162,017,821	#	$507,877,782
16							$1,945,219,998	4.46%	$345,782,431	$5,670,623,735	2%	$162,017,821	#	$507,800,252
17							$1,599,437,567	4.46%	$345,859,961	$5,508,605,914	2%	$162,017,821	#	$507,877,782
18							$1,253,577,607	4.46%	$345,782,431	$5,346,588,093	2%	$162,017,821	#	$507,800,252
19							$907,795,176	4.46%	$345,859,961	$5,184,570,272	2%	$162,017,821	#	$507,877,782
20							$561,935,215	4.46%	$345,782,431	$5,022,552,451	2%	$162,017,821	#	$507,800,252
21							$216,152,784	2.79%	$216,152,784	$4,860,534,630	2%	$162,017,821	#	$378,170,605
22										$4,698,516,809	2%	$162,017,821	#	$162,017,821
23								100%		$4,536,498,988	2%	$162,017,821	#	$162,017,821
24										$4,374,481,167	2%	$162,017,821	#	$162,017,821
25										$4,212,463,346	2%	$162,017,821	#	$162,017,821
26										$4,050,445,525	2%	$162,017,821	#	$162,017,821
27										$3,888,427,704	2%	$162,017,821	#	$162,017,821
28										$3,726,409,883	2%	$162,017,821	#	$162,017,821
29										$3,564,392,062	2%	$162,017,821	#	$162,017,821
30										$3,402,374,241	2%	$162,017,821	#	$162,017,821
31										$3,240,356,420	2%	$162,017,821	#	$162,017,821
32										$3,078,338,599	2%	$162,017,821	#	$162,017,821
33										$2,916,320,778	2%	$162,017,821	#	$162,017,821
34										$2,754,302,957	2%	$162,017,821	#	$162,017,821
35										$2,592,285,136	2%	$162,017,821	#	$162,017,821
36										$2,430,267,315	2%	$162,017,821	#	$162,017,821
37										$2,268,249,494	2%	$162,017,821	#	$162,017,821
38										$2,106,231,673	2%	$162,017,821	#	$162,017,821
39										$1,944,213,852	2%	$162,017,821	#	$162,017,821
40										$1,782,196,031	2%	$162,017,821	#	$162,017,821
41										$1,620,178,210	2%	$162,017,821	#	$162,017,821
42										$1,458,160,389	2%	$162,017,821	#	$162,017,821
43										$1,296,142,568	2%	$162,017,821	#	$162,017,821

TABLE G PART 2: TAX DEPRECIATION SCHEDULES

	Road Property												
	Amortization - 5 Years			Depreciation - MACRS 7 Years			Depreciation - MACRS 20 Years			Depreciation - MACRS 50 Years			Total
Year	Unamortized Investment 1/	Rate 2/	Annual Amort. 3/	Undepreciated Investment 4/	Rate 2/	Annual Amount 5/	Undepreciated Investment 6/	Rate 2/	Annual Amount 7/	Unamortized Investment 8/	Rate 2/	Annual Amount 9/	Annual Depreciation 10/
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
44										$1,134,124,747	2%	$162,017,821 #	$162,017,821
45										$972,106,926	2%	$162,017,821 #	$162,017,821
46										$810,089,105	2%	$162,017,821 #	$162,017,821
47										$648,071,284	2%	$162,017,821 #	$162,017,821
48										$486,053,463	2%	$162,017,821 #	$162,017,821
49										$324,035,642	2%	$162,017,821 #	$162,017,821
50										$162,017,821	2%	$162,017,821 #	$162,017,821
											100%		

1/ From Table G Part 1, Column (5), Road Property Accounts 1 minus Table G Part 1, 5-Year Bonus Depreciation.
2/ From Table G, Footnote 1/, Page 8.
3/ Column (2), Year 1 x Column (3).
4/ From Table G Part 1, Column (5), Road Property Accounts 8, 9, 11, 12, 26 and 27 minus Table G Part 1, 7-Year Bonus Depreciation.
5/ Column (5), Year 1 x Column (6).
6/ From Table G Part 1, Column (5), Road Property Accounts 6, 13, 16, 17, 19, 20 and 39 minus Table G Part 1, 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: TPIRR AVERAGE ANNUAL INFLATION IN ASSET PRICES

Development of average annual inflation factors for all capital assets

1.	3Q 2010 Land value	$6,024,988,608 1/
2.	3Q 2010 Property asset value accounts 3, 5, 6, 13, 17, 26, 27, 39 and 52	$19,098,472,654 1/
3.	3Q 2010 Road Property asset value accounts 8, 9, and 11	$10,915,227,183 1/
4.	3Q 2010 Road Property asset value accounts 1 and 12	$4,561,202,657 1/

Period	Quarter	Inflation Index For Land 2/	Inflation Index For Line 2 Property Assets 3/	Inflation Index For Line 3 Road Property Assets 4/	Inflation Index For Line 4 Road Property Assets 5/	Land Value 6/	Road Property Value 7/	3Q 2010 Inflation Index 8/
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
0		1.000	1.000	1.000	1.000	$6,024,988,608	$34,574,902,494	1.000
1	3Q 2010	1.002	0.998	0.998	0.998	$6,035,089,349	$34,512,443,989	0.999
2	4Q 2010	1.007	1.006	1.055	0.999	$6,068,755,153	$35,295,331,117	1.019
3	1Q 2011	1.023	1.011	1.031	1.008	$6,163,630,670	$35,169,867,332	1.018
4	2Q 2011	1.046	1.013	1.013	1.013	$6,299,753,614	$35,015,163,601	1.018
5	3Q 2011	1.069	1.027	1.079	1.019	$6,441,884,875	$36,031,738,431	1.046
6	4Q 2011	1.087	1.040	1.087	1.033	$6,547,149,084	$36,436,846,186	1.059
7	1Q 2012	1.113	1.039	1.086	1.032	$6,706,277,087	$36,406,910,878	1.062
8	2Q 2012	1.135	1.062	1.129	1.052	$6,838,568,681	$37,400,148,295	1.090
9	3Q 2012	1.140	1.064	1.136	1.053	$6,869,607,247	$37,519,278,702	1.093
10	4Q 2012	1.151	1.060	1.116	1.051	$6,934,299,283	$37,218,826,610	1.088
11	1Q 2013	1.162	1.063	1.111	1.056	$7,001,756,235	$37,242,856,677	1.090
12	2Q 2013	1.191	1.050	1.094	1.043	$7,177,965,918	$36,749,534,189	1.082
13	3Q 2013	1.234	1.065	1.117	1.057	$7,436,207,934	$37,351,257,830	1.103
14	4Q 2013	1.244	1.064	1.089	1.060	$7,495,283,623	$37,049,087,741	1.097
15	1Q 2014	1.254	1.078	1.106	1.073	$7,554,743,330	$37,557,394,935	1.111
16	2Q 2014	1.264	1.088	1.143	1.079	$7,614,736,255	$38,179,851,221	1.128
17	3Q 2014	1.274	1.104	1.153	1.096	$7,675,267,765	$38,679,037,877	1.142
18	4Q 2014	1.284	1.118	1.165	1.110	$7,736,343,288	$39,133,506,166	1.154
19	1Q 2015	1.294	1.130	1.171	1.124	$7,797,968,312	$39,489,079,976	1.165
20	2Q 2015	1.305	1.134	1.174	1.127	$7,860,148,387	$39,607,547,216	1.169
21	3Q 2015	1.315	1.141	1.179	1.135	$7,922,889,125	$39,835,476,403	1.176
22	4Q 2015	1.326	1.150	1.182	1.145	$7,986,196,201	$40,094,899,488	1.184
23	1Q 2016	1.336	1.161	1.191	1.157	$8,050,075,353	$40,446,097,060	1.194
24	2Q 2016	1.347	1.171	1.195	1.167	$8,114,532,385	$40,726,566,531	1.203
25	3Q 2016	1.358	1.180	1.201	1.177	$8,179,573,165	$41,025,940,141	1.212
26	4Q 2016	1.369	1.190	1.206	1.188	$8,245,203,628	$41,310,734,632	1.221
27	1Q 2017	1.379	1.200	1.214	1.199	$8,311,429,775	$41,643,826,736	1.230
28	2Q 2017	1.391	1.211	1.221	1.210	$8,378,257,676	$41,979,673,467	1.240
29	3Q 2017	1.402	1.222	1.229	1.222	$8,445,693,469	$42,318,298,083	1.250
30	4Q 2017	1.413	1.233	1.236	1.233	$8,513,743,360	$42,659,724,041	1.260
31	1Q 2018	1.424	1.244	1.246	1.245	$8,582,413,629	$43,037,586,535	1.271
32	2Q 2018	1.436	1.256	1.255	1.258	$8,651,710,623	$43,418,837,700	1.283
33	3Q 2018	1.448	1.268	1.264	1.270	$8,721,640,764	$43,803,508,259	1.294
34	4Q 2018	1.459	1.280	1.273	1.283	$8,792,210,545	$44,191,629,219	1.305
35	1Q 2019	1.471	1.292	1.282	1.295	$8,863,426,535	$44,565,608,297	1.316
36	2Q 2019	1.483	1.304	1.290	1.308	$8,935,295,376	$44,942,836,942	1.327
37	3Q 2019	1.495	1.316	1.298	1.321	$9,007,823,786	$45,323,344,002	1.338
38	4Q 2019	1.507	1.328	1.307	1.334	$9,081,018,560	$45,707,158,585	1.349
39	1Q 2020	1.519	1.340	1.314	1.346	$9,154,886,572	$46,067,463,912	1.360
40	2Q 2020	1.532	1.351	1.322	1.359	$9,229,434,771	$46,430,710,023	1.371
Annual Average 9/			3.55%					3.21%

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 capital.

TABLE I: TPIRR DISCOUNTED CASH FLOW

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. 3Q 2010 Road Property Investment	$40,599,891,102	1/	Federal Tax Rate	35.0%	
2. Interest During Construction (3Q 2010 Invest.)	$4,778,926,614	2/			
3. Total 3Q 2010 Investment	$45,378,817,716	3/	Route Mile Weighted		
4. Present Value Of Replacement Cost for the TPIRR	$2,038,059,094	4/	Average State Tax Rate	6.11%	6/
5. Total Cost Recovered From Quarterly Revenue Flow	$48,330,977,925	5/			
6. Equity Financing Fee	$602,374,419	2.00%			
7. Future PTC Investment	$209,902,523	control-e runs PTC_DCF macro			
8. Jointly Owned Investments	$101,824,173				

Period	Quarter	Quarterly Levelized C. Carrying Charge Requirement 7/	Interest on Investment Financed With Debt 8/	Tax Depreciation 9/	Actual Federal Tax Payments 10/	Actual State Tax Payments 11/	Cash Flow 12/	Present Value Cash Flow 13/	Cumulative Present Value 14/
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1		$1,180,840,101	$163,540,698	$1,690,107,610	$0	$0	$1,180,840,101	$1,164,807,835	$1,164,807,835
2	4Q 2010	$1,204,620,055	$162,423,296	$1,690,107,610	$0	$0	$1,204,620,055	$1,156,217,821	$2,321,025,657
3	1Q 2011	$1,196,456,776	$161,290,226	$1,284,047,724	$0	$0	$1,196,456,776	$1,117,569,058	$3,438,594,714
4	2Q 2011	$1,195,918,929	$160,141,266	$1,284,047,724	$0	$0	$1,195,918,929	$1,087,247,169	$4,525,841,884
5	3Q 2011	$1,229,459,322	$158,976,191	$1,284,047,724	$0	$0	$1,229,459,322	$1,087,902,314	$5,613,744,197
6	4Q 2011	$1,244,232,763	$157,794,772	$1,284,047,724	$0	$0	$1,244,232,763	$1,071,584,837	$6,685,329,035
7	1Q 2012	$1,248,714,349	$156,596,777	$999,670,188	$0	$0	$1,248,714,349	$1,046,997,758	$7,732,326,793
8	2Q 2012	$1,281,313,753	$155,381,971	$999,670,188	$0	$0	$1,281,313,753	$1,046,175,130	$8,778,501,923
9	3Q 2012	$1,285,663,191	$154,150,115	$999,670,188	$0	$0	$1,285,663,191	$1,022,215,281	$9,800,717,204
10	4Q 2012	$1,278,834,724	$152,900,967	$999,670,188	$0	$0	$1,278,834,724	$990,138,240	$10,790,855,445
11	1Q 2013	$1,282,299,686	$151,634,282	$794,596,492	$0	$0	$1,282,299,686	$966,801,252	$11,757,656,697
12	2Q 2013	$1,273,109,106	$150,349,811	$794,596,492	$0	$0	$1,273,109,106	$934,715,722	$12,692,372,418
13	3Q 2013	$1,298,032,675	$149,047,301	$794,596,492	$0	$0	$1,298,032,675	$928,038,093	$13,620,410,511
14	4Q 2013	$1,290,987,301	$147,726,496	$794,596,492	$0	$0	$1,290,987,301	$898,811,049	$14,519,221,560
15	1Q 2014	$1,308,354,205	$146,387,136	$645,821,224	$0	$0	$1,308,354,205	$887,029,414	$15,406,250,974
16	2Q 2014	$1,328,146,778	$145,028,958	$645,821,224	$13,937,134	$2,592,909	$1,311,616,735	$865,936,191	$16,272,187,165
17	3Q 2014	$1,344,379,872	$143,651,694	$645,821,224	$182,344,079	$33,923,873	$1,128,111,921	$725,266,111	$16,997,453,276
18	4Q 2014	$1,359,331,811	$142,255,073	$645,821,224	$187,716,264	$34,923,332	$1,136,692,215	$711,630,145	$17,709,083,422
19	1Q 2015	$1,377,110,722	$140,838,819	$476,290,088	$249,732,288	$46,460,990	$1,080,917,443	$658,976,961	$18,368,060,383
20	2Q 2015	$1,382,371,599	$139,402,655	$476,290,088	$251,932,956	$46,870,409	$1,083,568,233	$643,280,261	$19,011,340,643
21	3Q 2015	$1,390,836,595	$137,946,296	$476,290,088	$255,193,143	$47,476,945	$1,088,166,507	$629,079,553	$19,640,420,197
22	4Q 2015	$1,400,235,261	$136,469,455	$476,290,088	$258,766,867	$48,141,812	$1,093,326,582	$615,497,619	$20,255,917,816
23	1Q 2016	$1,412,323,277	$134,971,842	$468,912,668	$265,655,387	$49,423,374	$1,097,244,515	$601,514,559	$20,857,432,374
24	2Q 2016	$1,422,368,353	$133,453,160	$468,912,668	$269,455,273	$50,130,317	$1,102,782,763	$588,706,660	$21,446,139,034
25	3Q 2016	$1,432,980,962	$131,913,111	$468,912,668	$273,448,672	$50,873,262	$1,108,659,028	$576,332,661	$22,022,471,695
26	4Q 2016	$1,443,186,166	$130,351,389	$468,912,668	$277,315,319	$51,592,625	$1,114,278,221	$564,072,765	$22,586,544,460
27	1Q 2017	$1,454,815,258	$128,767,687	$336,683,295	$325,108,048	$60,484,137	$1,069,223,073	$527,079,427	$23,113,623,887
28	2Q 2017	$1,466,542,096	$127,161,692	$336,683,295	$329,489,257	$61,299,231	$1,075,753,608	$516,400,685	$23,630,024,572
29	3Q 2017	$1,478,367,536	$125,533,087	$336,683,295	$333,910,296	$62,121,735	$1,082,335,504	$505,943,660	$24,135,968,232
30	4Q 2017	$1,490,292,441	$123,881,549	$336,683,295	$338,371,556	$62,951,722	$1,088,969,163	$495,703,619	$24,631,671,850
31	1Q 2018	$1,503,296,532	$122,206,753	$126,950,063	$412,114,047	$76,671,010	$1,014,511,475	$449,707,081	$25,081,378,931
32	2Q 2018	$1,516,417,560	$120,508,366	$126,950,063	$416,983,751	$77,576,985	$1,021,856,824	$441,091,884	$25,522,470,815
33	3Q 2018	$1,529,656,608	$118,786,054	$126,950,063	$421,900,099	$78,491,638	$1,029,264,871	$432,645,730	$25,955,116,545
34	4Q 2018	$1,543,014,767	$117,039,474	$126,950,063	$426,863,561	$79,415,056	$1,036,736,150	$424,365,206	$26,379,481,752
35	1Q 2019	$1,555,979,901	$115,268,282	$126,950,063	$431,705,961	$80,315,952	$1,043,957,988	$416,122,120	$26,795,603,872
36	2Q 2019	$1,569,058,682	$113,472,127	$126,950,063	$436,593,910	$81,225,321	$1,051,239,451	$408,042,770	$27,203,646,642
37	3Q 2019	$1,582,252,147	$111,650,653	$126,950,063	$441,527,863	$82,143,250	$1,058,581,034	$400,123,813	$27,603,770,455
38	4Q 2019	$1,595,561,341	$109,803,500	$126,950,063	$446,508,284	$83,069,823	$1,065,983,233	$392,361,981	$27,996,132,436
39	1Q 2020	$1,608,205,496	$107,930,300	$126,950,063	$451,278,730	$83,957,332	$1,072,969,434	$384,583,059	$28,380,715,496
40	2Q 2020	$1,620,955,102	$106,030,684	$126,950,063	$456,092,508	$84,852,903	$1,080,009,691	$376,961,248	$28,757,676,744
	Future	$88,077,130,568	**$2,328,048,426**	$3,645,560,714	$26,979,461,755	$5,019,344,984	$56,078,323,828	$19,573,301,181	$48,330,977,925

1/ From Table C, Column (10) + Repaving and Rail Grinding Capital Costs from [TPIRR Capitalized MOW.xlsx].
2/ From Table D, Column (8).
3/ Line 1 + Line 2.
4/ Table F Column (8).
5/ Line 3 + Line 4.
6/ Alabama, Washtington Dc, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, New York, Ohio, Pennsylvania, South Carolina, Tennessee, corporate income tax rates weighted on TPIRR route miles.
7/ Quarterly carrying costs needed to recover the total investment over 40 quarters after consideration of the applicable interest payments, tax depreciation and tax liability. The Future value is an estimate of a perpetual income stream for the TPIRR and is calculated by taking the Period 40, Column (3) value and dividing it by the TPIRR's estimated quarterly Real Cost of Capital.
8/ Value from Table E.
9/ Value from Table G - Part 2, Column (14) divided by 4 quarters.
10/ Table J: Part 1.
11/ Table J: Part 2.
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 Table A.
14/ Cumulative total of Column (9).

TABLE J - PART 1: COMPUTATION OF FEDERAL TAX LIABILITY - TAXABLE INCOME

(Road Property)

Time Period	Taxable Income B/4 NOL's IRR 1/	Net Operating Losses Generated 2/	NOL's Generated Plus Carryforward 3/	Carryforward Utilized 4/	Carryforward Remaining 5/	Carryback Available 6/	Carryback Utilized 7/	Carryback Remaining 8/	Annual Taxable Income 9/	Annual Tax Liability 10/
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2008	($50,268,452)	($50,268,452)	($50,268,452)	$0	($50,268,452)	($50,268,452)	$0	($50,268,452)	$0	$0
2009	($357,182,466)	($357,182,466)	($407,450,918)	$0	($407,450,918)	($407,450,918)	$0	($407,450,918)	$0	$0
1Q-2Q 2010	($218,633,956)	($218,633,956)	($626,084,874)	$0	($626,084,874)	($626,084,874)	$0	($626,084,874)	$0	$0
3Q 2010	($672,808,206)	($672,808,206)	($1,298,893,080)	$0	($1,298,893,080)	($1,298,893,080)	$0	($1,298,893,080)	$0	$0
4Q 2010	($647,910,851)	($647,910,851)	($1,946,803,931)	$0	($1,946,803,931)	($1,946,803,931)	$0	($1,946,803,931)	$0	$0
1Q 2011	($248,881,174)	($248,881,174)	($2,195,685,105)	$0	($2,195,685,105)	($2,195,685,105)	$0	($2,195,685,105)	$0	$0
2Q 2011	($248,270,062)	($248,270,062)	($2,443,955,167)	$0	($2,443,955,167)	($2,443,955,167)	$0	($2,443,955,167)	$0	$0
3Q 2011	($213,564,594)	($213,564,594)	($2,657,519,760)	$0	($2,657,519,760)	($2,657,519,760)	$0	($2,657,519,760)	$0	$0
4Q 2011	($197,609,734)	($197,609,734)	($2,855,129,494)	$0	($2,855,129,494)	($2,855,129,494)	$0	($2,855,129,494)	$0	$0
1Q 2012	$92,447,384	$0	($2,855,129,494)	$92,447,384	($2,762,682,110)	($2,762,682,110)	$0	($2,762,682,110)	$0	$0
2Q 2012	$126,261,594	$0	($2,762,682,110)	$126,261,594	($2,636,420,516)	($2,636,420,516)	$0	($2,636,420,516)	$0	$0
3Q 2012	$131,842,888	$0	($2,636,420,516)	$131,842,888	($2,504,577,628)	($2,504,577,628)	$0	($2,504,577,628)	$0	$0
4Q 2012	$126,263,569	$0	($2,504,577,628)	$126,263,569	($2,378,314,059)	($2,378,314,059)	$0	($2,378,314,059)	$0	$0
1Q 2013	$336,068,912	$0	($2,378,314,059)	$336,068,912	($2,042,245,147)	($2,042,245,147)	$0	($2,042,245,147)	$0	$0
2Q 2013	$328,162,803	$0	($2,042,245,147)	$328,162,803	($1,714,082,344)	($1,714,082,344)	$0	($1,714,082,344)	$0	$0
3Q 2013	$354,388,882	$0	($1,714,082,344)	$354,388,882	($1,359,693,462)	($1,359,693,462)	$0	($1,359,693,462)	$0	$0
4Q 2013	$348,664,313	$0	($1,359,693,462)	$348,664,313	($1,011,029,149)	($1,011,029,149)	$0	($1,011,029,149)	$0	$0
1Q 2014	$516,145,845	$0	($1,011,029,149)	$516,145,845	($494,883,305)	($494,883,305)	$0	($494,883,305)	$0	$0
2Q 2014	$534,703,687	$0	($494,883,305)	$494,883,305	$0	$0	$0	$0	$39,820,382	$13,937,134
3Q 2014	$520,983,082	$0	$0	$0	$0	$0	$0	$0	$520,983,082	$182,344,079
4Q 2014	$536,332,183	$0	$0	$0	$0	$0	$0	$0	$536,332,183	$187,716,264
1Q 2015	$713,520,824	$0	$0	$0	$0	$0	$0	$0	$713,520,824	$249,732,288
2Q 2015	$719,808,446	$0	$0	$0	$0	$0	$0	$0	$719,808,446	$251,932,956
3Q 2015	$729,123,266	$0	$0	$0	$0	$0	$0	$0	$729,123,266	$255,193,143
4Q 2015	$739,333,905	$0	$0	$0	$0	$0	$0	$0	$739,333,905	$258,766,867
1Q 2016	$759,015,393	$0	$0	$0	$0	$0	$0	$0	$759,015,393	$265,655,387
2Q 2016	$769,872,207	$0	$0	$0	$0	$0	$0	$0	$769,872,207	$269,455,273
3Q 2016	$781,281,921	$0	$0	$0	$0	$0	$0	$0	$781,281,921	$273,448,672
4Q 2016	$792,329,483	$0	$0	$0	$0	$0	$0	$0	$792,329,483	$277,315,319
1Q 2017	$928,880,138	$0	$0	$0	$0	$0	$0	$0	$928,880,138	$325,108,048
2Q 2017	$941,397,877	$0	$0	$0	$0	$0	$0	$0	$941,397,877	$329,489,257
3Q 2017	$954,029,418	$0	$0	$0	$0	$0	$0	$0	$954,029,418	$333,910,296
4Q 2017	$966,775,875	$0	$0	$0	$0	$0	$0	$0	$966,775,875	$338,371,556
1Q 2018	$1,177,468,706	$0	$0	$0	$0	$0	$0	$0	$1,177,468,706	$412,114,047
2Q 2018	$1,191,382,146	$0	$0	$0	$0	$0	$0	$0	$1,191,382,146	$416,983,751
3Q 2018	$1,205,428,853	$0	$0	$0	$0	$0	$0	$0	$1,205,428,853	$421,900,099
4Q 2018	$1,219,610,174	$0	$0	$0	$0	$0	$0	$0	$1,219,610,174	$426,863,561
1Q 2019	$1,233,445,604	$0	$0	$0	$0	$0	$0	$0	$1,233,445,604	$431,705,961
2Q 2019	$1,247,411,171	$0	$0	$0	$0	$0	$0	$0	$1,247,411,171	$436,593,910
3Q 2019	$1,261,508,181	$0	$0	$0	$0	$0	$0	$0	$1,261,508,181	$441,527,863
4Q 2019	$1,275,737,955	$0	$0	$0	$0	$0	$0	$0	$1,275,737,955	$446,508,284
1Q 2020	$1,289,367,800	$0	$0	$0	$0	$0	$0	$0	$1,289,367,800	$451,278,730

TABLE J - PART 1: COMPUTATION OF FEDERAL TAX LIABILITY - TAXABLE INCOME

(Road Property)

Time Period	Taxable Income B/4 NOL's IRR 1/	Net Operating Losses Generated 2/	NOL's Generated Plus Carryforward 3/	Carryforward Utilized 4/	Carryforward Remaining 5/	Carryback Available 6/	Carryback Utilized 7/	Carryback Remaining 8/	Annual Taxable Income 9/	Annual Tax Liability 10/
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2Q 2020	$1,303,121,452	$0	$0	$0	$0	$0	$0	$0	$1,303,121,452	$456,092,508
Future	$77,084,176,443	$0	$0	$0	$0	$0	$0	$0	$77,084,176,443	$26,979,461,755

1/ Table I Column (3) - Table E Columns (2),(4) & (6) - Table G, Column (14) / 4 - Table J - Part 2, Column (11). Values for 2008 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	Taxable Income B/4 NOL's IRR 1/	Net Operating Losses Generated 2/	NOL's Generated Plus Carryforward 3/	Carryforward Utilized 4/	Carryforward Remaining 5/	Carryback Available 6/	Carryback Utilized 7/	Carryback Remaining 8/	Annual Taxable Income 9/	Annual Tax Liability 10/
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2008	($50,268,452)	($50,268,452)	($50,268,452)	$0	($50,268,452)	($50,268,452)	$0	($50,268,452)	$0	$0
2009	($357,182,466)	($357,182,466)	($407,450,918)	$0	($407,450,918)	($407,450,918)	$0	($407,450,918)	$0	$0
1Q-2Q 2010	($218,633,956)	($218,633,956)	($626,084,874)	$0	($626,084,874)	($626,084,874)	$0	($626,084,874)	$0	$0
3Q 2010	($672,808,206)	($672,808,206)	($1,298,893,080)	$0	($1,298,893,080)	($1,298,893,080)	$0	($1,298,893,080)	$0	$0
4Q 2010	($647,910,851)	($647,910,851)	($1,946,803,931)	$0	($1,946,803,931)	($1,946,803,931)	$0	($1,946,803,931)	$0	$0
1Q 2011	($248,881,174)	($248,881,174)	($2,195,685,105)	$0	($2,195,685,105)	($2,195,685,105)	$0	($2,195,685,105)	$0	$0
2Q 2011	($248,270,062)	($248,270,062)	($2,443,955,167)	$0	($2,443,955,167)	($2,443,955,167)	$0	($2,443,955,167)	$0	$0
3Q 2011	($213,564,594)	($213,564,594)	($2,657,519,760)	$0	($2,657,519,760)	($2,657,519,760)	$0	($2,657,519,760)	$0	$0
4Q 2011	($197,609,734)	($197,609,734)	($2,855,129,494)	$0	($2,855,129,494)	($2,855,129,494)	$0	($2,855,129,494)	$0	$0
1Q 2012	$92,447,384	$0	($2,855,129,494)	$92,447,384	($2,762,682,110)	($2,762,682,110)	$0	($2,762,682,110)	$0	$0
2Q 2012	$126,261,594	$0	($2,762,682,110)	$126,261,594	($2,636,420,516)	($2,636,420,516)	$0	($2,636,420,516)	$0	$0
3Q 2012	$131,842,888	$0	($2,636,420,516)	$131,842,888	($2,504,577,628)	($2,504,577,628)	$0	($2,504,577,628)	$0	$0
4Q 2012	$126,263,569	$0	($2,504,577,628)	$126,263,569	($2,378,314,059)	($2,378,314,059)	$0	($2,378,314,059)	$0	$0
1Q 2013	$336,068,912	$0	($2,378,314,059)	$336,068,912	($2,042,245,147)	($2,042,245,147)	$0	($2,042,245,147)	$0	$0
2Q 2013	$328,162,803	$0	($2,042,245,147)	$328,162,803	($1,714,082,344)	($1,714,082,344)	$0	($1,714,082,344)	$0	$0
3Q 2013	$354,388,882	$0	($1,714,082,344)	$354,388,882	($1,359,693,462)	($1,359,693,462)	$0	($1,359,693,462)	$0	$0
4Q 2013	$348,664,313	$0	($1,359,693,462)	$348,664,313	($1,011,029,149)	($1,011,029,149)	$0	($1,011,029,149)	$0	$0
1Q 2014	$516,145,845	$0	($1,011,029,149)	$516,145,845	($494,883,305)	($494,883,305)	$0	($494,883,305)	$0	$0
2Q 2014	$537,296,596	$0	($494,883,305)	$494,883,305	$0	$0	$0	$0	$42,413,291	$2,592,909
3Q 2014	$554,906,955	$0	$0	$0	$0	$0	$0	$0	$554,906,955	$33,923,873
4Q 2014	$571,255,514	$0	$0	$0	$0	$0	$0	$0	$571,255,514	$34,923,332
1Q 2015	$759,981,814	$0	$0	$0	$0	$0	$0	$0	$759,981,814	$46,460,990
2Q 2015	$766,678,856	$0	$0	$0	$0	$0	$0	$0	$766,678,856	$46,870,409
3Q 2015	$776,600,211	$0	$0	$0	$0	$0	$0	$0	$776,600,211	$47,476,945
4Q 2015	$787,475,717	$0	$0	$0	$0	$0	$0	$0	$787,475,717	$48,141,812
1Q 2016	$808,438,767	$0	$0	$0	$0	$0	$0	$0	$808,438,767	$49,423,374
2Q 2016	$820,002,524	$0	$0	$0	$0	$0	$0	$0	$820,002,524	$50,130,317
3Q 2016	$832,155,183	$0	$0	$0	$0	$0	$0	$0	$832,155,183	$50,873,262
4Q 2016	$843,922,108	$0	$0	$0	$0	$0	$0	$0	$843,922,108	$51,592,625
1Q 2017	$989,364,275	$0	$0	$0	$0	$0	$0	$0	$989,364,275	$60,484,137
2Q 2017	$1,002,697,108	$0	$0	$0	$0	$0	$0	$0	$1,002,697,108	$61,299,231
3Q 2017	$1,016,151,153	$0	$0	$0	$0	$0	$0	$0	$1,016,151,153	$62,121,735
4Q 2017	$1,029,727,597	$0	$0	$0	$0	$0	$0	$0	$1,029,727,597	$62,951,722
1Q 2018	$1,254,139,716	$0	$0	$0	$0	$0	$0	$0	$1,254,139,716	$76,671,010
2Q 2018	$1,268,959,131	$0	$0	$0	$0	$0	$0	$0	$1,268,959,131	$77,576,985
3Q 2018	$1,283,920,491	$0	$0	$0	$0	$0	$0	$0	$1,283,920,491	$78,491,638
4Q 2018	$1,299,025,230	$0	$0	$0	$0	$0	$0	$0	$1,299,025,230	$79,415,056
1Q 2019	$1,313,761,556	$0	$0	$0	$0	$0	$0	$0	$1,313,761,556	$80,315,952
2Q 2019	$1,328,636,492	$0	$0	$0	$0	$0	$0	$0	$1,328,636,492	$81,225,321
3Q 2019	$1,343,651,431	$0	$0	$0	$0	$0	$0	$0	$1,343,651,431	$82,143,250
4Q 2019	$1,358,807,778	$0	$0	$0	$0	$0	$0	$0	$1,358,807,778	$83,069,823
1Q 2020	$1,373,325,132	$0	$0	$0	$0	$0	$0	$0	$1,373,325,132	$83,957,332

TABLE J - PART 2: COMPUTATION OF STATE TAX LIABILITY - TAXABLE INCOME

(Road Property)

Time Period	Taxable Income B/4 NOL's IRR 1/	Net Operating Losses Generated 2/	NOL's Generated Plus Carryforward 3/	Carryforward Utilized 4/	Carryforward Remaining 5/	Carryback Available 6/	Carryback Utilized 7/	Carryback Remaining 8/	Annual Taxable Income 9/	Annual Tax Liability 10/
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2Q 2020	$1,387,974,355	$0	$0	$0	$0	$0	$0	$0	$1,387,974,355	$84,852,903
Future	$82,103,521,427	$0	$0	$0	$0	$0	$0	$0	$82,103,521,427	$5,019,344,984

1/ Table I Column (3) - Table E Columns (2),(4) & (6) - Table G, Column (14) ÷ 4 - Table J - Part 2, Column (11). Values for 2008 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 - PART 1: TPIRR OPERATING EXPENSES

Item		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1. Train & Engine Personnel		$457,157,585	$473,861,561	$479,421,257	$493,244,848	$511,072,918	$529,261,946	$553,934,700	$564,434,926	$577,415,585	$586,868,857	$597,033,888
2. Locomotive Lease Expense		$116,818,100	$121,086,490	$122,507,166	$126,039,527	$130,595,158	$135,243,025	$141,547,688	$144,230,825	$147,547,790	$149,963,398	$152,560,882
3. Locomotive Maintenance Expense		$187,967,330	$194,835,425	$197,121,379	$202,805,160	$210,135,443	$217,614,140	$227,758,720	$232,076,049	$237,413,245	$241,300,102	$245,479,611
4. Locomotive Operating Expense		$53,043,883	$54,982,042	$55,627,132	$57,231,080	$59,299,666	$61,410,135	$64,272,908	$65,491,247	$66,997,390	$68,094,251	$69,273,697
5. Railcar Lease Expense		$342,932,552	$355,462,886	$359,633,440	$370,003,080	$383,376,642	$397,020,974	$415,529,014	$423,405,661	$433,142,983	$440,234,268	$447,859,473
6. Material & Supply Operating		$6,721,016	$6,721,016	$6,721,016	$6,721,016	$6,721,016	$6,721,016	$6,721,016	$6,721,016	$6,721,016	$6,721,016	$6,721,016
7. Ad Valorem Tax		$61,514,889	$61,514,889	$61,514,889	$61,514,889	$61,514,889	$61,514,889	$61,514,889	$61,514,889	$61,514,889	$61,514,889	$61,514,889
8. Operating Managers		$145,038,216	$145,038,216	$145,038,216	$145,038,216	$145,038,216	$145,038,216	$145,038,216	$145,038,216	$145,038,216	$145,038,216	$145,038,216
9. General & Administration		$166,552,526	$177,999,288	$177,999,288	$177,999,288	$177,999,288	$177,999,288	$177,999,288	$177,999,288	$177,999,288	$177,999,288	$177,999,288
10. Loss and Damage		$8,188,000	$8,487,179	$8,586,757	$8,834,347	$9,153,660	$9,479,438	$9,921,343	$10,109,409	$10,341,902	$10,511,216	$10,693,279
11. Trackage Rights		$28,226,120	$29,257,468	$29,600,738	$30,454,243	$31,554,995	$32,678,034	$34,201,395	$34,849,707	$35,651,167	$36,234,838	$36,862,453
12. Intermodal Lift Costs		$103,323,032	$107,098,329	$108,354,886	$111,479,182	$115,508,537	$119,619,473	$125,195,807	$127,568,983	$130,502,766	$132,639,317	$134,936,735
12a. North Baltimore		$817,164	$10,258,844	$10,790,676	$11,267,589	$11,674,849	$12,090,356	$12,653,976	$12,893,841	$13,190,368	$13,406,317	$13,638,525
13. Motor Vehicle Cost		$22,594,893	$23,420,483	$23,695,269	$24,378,496	$25,259,644	$26,158,632	$27,378,076	$27,897,047	$28,538,613	$29,005,838	$29,508,242
13a. Bulk Transfer		$18,835,692	$19,523,925	$19,752,995	$20,322,551	$21,057,098	$21,806,518	$22,823,079	$23,255,707	$23,790,532	$24,180,024	$24,598,841
14. Insurance	1.36%	$28,965,816	$29,917,931	$30,147,270	$30,705,968	$31,423,678	$32,155,919	$33,149,177	$33,571,888	$34,094,454	$34,475,017	$34,884,234
15. Maintenance of Way		$404,285,637	$404,285,637	$404,285,637	$404,285,637	$404,285,637	$404,285,637	$404,285,637	$404,285,637	$404,285,637	$404,285,637	$404,285,637
16. Total Operating Expenses		$2,152,982,453	$2,223,751,609	$2,240,798,011	$2,282,325,116	$2,335,671,335	$2,390,097,635	$2,463,924,931	$2,495,344,335	$2,534,185,841	$2,562,472,489	$2,592,888,906
17. Expense Per Quarter		$538,245,613	$555,937,902	$560,199,503	$570,581,279	$583,917,834	$597,524,409	$615,981,233	$623,836,084	$633,546,460	$640,618,122	$648,222,226
GTMs		211,616,100,078	219,348,292,262	221,921,849,071	228,320,724,574	236,573,254,343	244,992,870,085	256,413,772,315	261,274,277,508	267,282,963,534	271,658,838,840	276,364,184,252
4a. Fuel Expenses	*w/Insurance*	$862,445,016	$1,192,917,406	$1,254,204,906	$1,278,204,817	$1,324,404,842	$1,371,540,263	$1,435,477,745	$1,462,688,245	$1,496,326,591	$1,520,823,994	$1,547,165,865

TABLE K - PART 2: TPIRR OPERATING EXPENSES INDEXED

		Period (1)	Quarter (2)	Hybrid Index 1/ (3)	Operating Expense Indexed For Inflation 2/ (4)	REPLY Fuel Expenses Actual Through 2013; Hybrid RCAF After 2013	Total Operating Expense
3Q	2010	1	3Q 2010	100.000	$564,574,797	203,867,722	$768,442,518
4Q	2010	2	4Q 2010	100.201	$565,658,796	227,354,786	$793,013,582
1Q	2011	3	1Q 2011	101.574	$591,020,282	278,509,696	$869,529,979
2Q	2011	4	2Q 2011	103.684	$602,745,703	312,593,051	$915,338,753
3Q	2011	5	3Q 2011	105.364	$585,757,466	304,802,570	$890,560,035
4Q	2011	6	4Q 2011	104.380	$580,288,370	297,012,089	$877,300,459
1Q	2012	7	1Q 2012	103.600	$580,364,879	310,349,211	$890,714,089
2Q	2012	8	2Q 2012	105.165	$589,135,481	309,363,975	$898,499,456
3Q	2012	9	3Q 2012	107.390	$601,596,255	311,334,446	$912,930,702
4Q	2012	10	4Q 2012	106.276	$595,359,439	323,157,273	$918,516,712
1Q	2013	11	1Q 2013	105.507	$602,005,223	330,447,875	$932,453,098
2Q	2013	12	2Q 2013	105.793	$603,632,727	312,202,287	$915,835,013
3Q	2013	13	3Q 2013	107.159	$611,430,871	321,325,081	$932,755,952
4Q	2013	14	4Q 2013	105.722	$603,231,565	314,229,574	$917,461,139
1Q	2014	15	1Q 2014	106.293	$620,662,327	332,887,796	$953,550,124
2Q	2014	16	2Q 2014	105.622	$616,747,152	330,787,920	$947,535,072
3Q	2014	17	3Q 2014	106.404	$621,311,081	333,235,750	$954,546,831
4Q	2014	18	4Q 2014	107.494	$627,679,519	336,651,417	$964,330,936
1Q	2015	19	1Q 2015	107.091	$639,897,191	347,325,430	$987,222,622
2Q	2015	20	2Q 2015	106.824	$638,297,448	346,457,117	$984,754,565
3Q	2015	21	3Q 2015	107.171	$640,371,915	347,583,102	$987,955,017
4Q	2015	22	4Q 2015	108.146	$646,199,300	350,746,109	$996,945,408
1Q	2016	23	1Q 2016	107.865	$664,427,618	366,142,488	$1,030,570,106
2Q	2016	24	2Q 2016	107.908	$664,693,389	366,288,945	$1,030,982,334
3Q	2016	25	3Q 2016	108.814	$670,276,814	369,365,772	$1,039,642,585
4Q	2016	26	4Q 2016	110.588	$681,202,326	375,386,434	$1,056,588,760
1Q	2017	27	1Q 2017	111.286	$694,244,051	384,916,843	$1,079,160,894
2Q	2017	28	2Q 2017	111.989	$698,626,735	387,346,779	$1,085,973,513
3Q	2017	29	3Q 2017	112.696	$703,037,085	389,792,055	$1,092,829,140
4Q	2017	30	4Q 2017	113.393	$707,388,948	392,204,902	$1,099,593,850
1Q	2018	31	1Q 2018	114.162	$723,268,116	403,943,583	$1,127,211,698
2Q	2018	32	2Q 2018	114.935	$728,169,347	406,680,910	$1,134,850,257
3Q	2018	33	3Q 2018	115.714	$733,103,792	409,436,786	$1,142,540,578
4Q	2018	34	4Q 2018	116.479	$737,945,827	412,141,051	$1,150,086,878
1Q	2019	35	1Q 2019	117.219	$750,928,250	421,552,478	$1,172,480,728
2Q	2019	36	2Q 2019	117.965	$755,703,881	424,233,399	$1,179,937,280
3Q	2019	37	3Q 2019	118.715	$760,509,884	426,931,369	$1,187,441,253
4Q	2019	38	4Q 2019	119.450	$765,215,802	429,573,155	$1,194,788,958
1Q	2020	39	1Q 2020	120.115	$778,612,988	439,448,583	$1,218,061,571
2Q	2020	40	2Q 2020	120.784	$782,951,137	441,897,032	$1,224,848,168

1/ 3Q10 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) ÷ 3Q10. Start-up costs have been distributed over the first 12 months in periods 1 - 4.

TABLE L: TPIRR STAND-ALONE COSTS AND REVENUES

Revenue Requirements to Cover Total Stand-Alone Costs

Period	Quarter	Quarterly Capital Requirement Road Property	Quarterly Operating Expense	Annual Stand-Alone Requirement	Annual Stand-Alone Revenues	Overpayments Or Shortfalls In Revenues	PV Difference	Cumulative PV Difference
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	3Q 2010	$1,180,840,101	$768,442,518					
2	4Q 2010	$1,204,620,055	$793,013,582	$3,946,916,257	$2,940,893,221	-$1,006,023,036	-$1,006,023,036	-$1,006,023,036
3	1Q 2011	$1,196,456,776	$869,529,979					
4	2Q 2011	$1,195,918,929	$915,338,753					
5	3Q 2011	$1,229,459,322	$890,560,035					
6	4Q 2011	$1,244,232,763	$877,300,459	$8,418,797,016	$6,476,193,910	-$1,942,603,106	-$1,741,364,147	-$2,747,387,183
7	1Q 2012	$1,248,714,349	$890,714,089					
8	2Q 2012	$1,281,313,753	$898,499,456					
9	3Q 2012	$1,285,663,191	$912,930,702					
10	4Q 2012	$1,278,834,724	$918,516,712	$8,715,186,976	$6,722,618,508	-$1,992,568,468	-$1,604,747,760	-$4,352,134,943
11	1Q 2013	$1,282,299,686	$932,453,098					
12	2Q 2013	$1,273,109,106	$915,835,013					
13	3Q 2013	$1,298,032,675	$932,755,952					
14	4Q 2013	$1,290,987,301	$917,461,139	$8,842,933,970	$7,008,632,969	-$1,834,301,001	-$1,333,723,058	-$5,685,858,001
15	1Q 2014	$1,308,354,205	$953,550,124					
16	2Q 2014	$1,328,146,778	$947,535,072					
17	3Q 2014	$1,344,379,872	$954,546,831					
18	4Q 2014	$1,359,331,811	$964,330,936	$9,160,175,628	$7,456,950,147	-$1,703,225,480	-$1,113,607,689	-$6,799,465,690
19	1Q 2015	$1,377,110,722	$987,222,622					
20	2Q 2015	$1,382,371,599	$984,754,565					
21	3Q 2015	$1,390,836,595	$987,955,017					
22	4Q 2015	$1,400,235,261	$996,945,408	$9,507,431,788	$7,840,471,623	-$1,666,960,166	-$980,054,700	-$7,779,520,390
23	1Q 2016	$1,412,323,277	$1,030,570,106					
24	2Q 2016	$1,422,368,353	$1,030,982,334					
25	3Q 2016	$1,432,980,962	$1,039,642,585					
26	4Q 2016	$1,443,186,166	$1,056,588,760	$9,868,642,541	$8,361,052,371	-$1,507,590,171	-$797,027,691	-$8,576,548,081
27	1Q 2017	$1,454,815,258	$1,079,160,894					
28	2Q 2017	$1,466,542,096	$1,085,973,513					
29	3Q 2017	$1,478,367,536	$1,092,829,140					
30	4Q 2017	$1,490,292,441	$1,099,593,850	$10,247,574,727	$8,743,235,553	-$1,504,339,174	-$715,156,181	-$9,291,704,262
31	1Q 2018	$1,503,296,532	$1,127,211,698					
32	2Q 2018	$1,516,417,560	$1,134,850,257					
33	3Q 2018	$1,529,656,608	$1,142,540,578					
34	4Q 2018	$1,543,014,767	$1,150,086,878	$10,647,074,879	$9,207,893,366	-$1,439,181,512	-$615,227,475	-$9,906,931,737
35	1Q 2019	$1,555,979,901	$1,172,480,728					
36	2Q 2019	$1,569,058,682	$1,179,937,280					
37	3Q 2019	$1,582,252,147	$1,187,441,253					
38	4Q 2019	$1,595,561,341	$1,194,788,958	$11,037,500,290	$9,684,720,379	-$1,352,779,911	-$520,010,741	-$10,426,942,478
39	1Q 2020	$1,608,205,496	$1,218,061,571					
40	2Q 2020	$1,620,955,102	$1,224,848,168	$5,672,070,337	$5,084,186,881	-$587,883,455	-$214,293,460	-$10,641,235,938