

Anthony J. LaRocca
202 429 8119
alarocca@steptoe.com

1330 Connecticut Avenue, NW
Washington, DC 20036-1795
202 429 3000 main
www.steptoe.com



304046

ENTERED
Office of Proceedings
February 28, 2022
Part of
Public Record

PUBLIC VERSION

February 28, 2022

BNSF-9

VIA E-FILING

Cynthia T. Brown
Chief, Section of Administration
Surface Transportation Board
Office of Proceedings
395 E Street, SW
Washington, DC 20423

Re: **STB Docket No. FD 36500, Canadian Pacific Railway Limited, et al.—
Control—Kansas City Southern, et al.**

Dear Ms. Brown:

Enclosed for e-filing in the above-referenced proceeding is a public version of Comments of BNSF Railway Company (BNSF-9), with appropriate redactions that the Board can place in its docket. We are concurrently filing a highly confidential version of the Comments to be filed under seal.

Respectfully submitted,

/s/ Anthony J. LaRocca

Anthony J. LaRocca
Peter W. Denton
John J. Kavanagh
Onika K. Williams
Attorneys for BNSF Railway Company

Enclosures

REDACTED – TO BE PLACED ON PUBLIC FILE

Cynthia T. Brown

February 28, 2022

Page 2

cc: Adrian L. Steel, Jr.
All parties of record

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 36500

CANADIAN PACIFIC RAILWAY LIMITED, ET AL.
—CONTROL—
KANSAS CITY SOUTHERN, ET AL.

COMMENTS OF BNSF RAILWAY COMPANY

Roger P. Nober
Jill K. Mulligan
Courtney B. Estes
Tyler R. White
BNSF Railway Company
2500 Lou Menk Drive
Fort Worth, TX 76131
(817) 352-2383

Anthony J. LaRocca
Peter W. Denton
John J. Kavanagh
Onika K. Williams
Steptoe & Johnson LLP
1330 Connecticut Ave., NW
Washington, DC 20036
(202) 429-3000

Adrian L. Steel, Jr.
Mayer Brown LLP
1999 K Street, NW
Washington, DC 20006
(202) 263-3237

Counsel for BNSF Railway Company

Dated: February 28, 2022

Table of Contents

1. Introduction and Summary 1

2. The Board has broad authority to condition its approval of the Transaction. 7

3. It is well within the Board’s jurisdiction to impose conditions on the Transaction related to cross-border movements that will avoid competitive and service-related harm to shippers in the United States. 8

 3.1 The Board has broad jurisdiction to address the effects in the United States of mergers that involve cross-border transportation. 9

 3.2 The Board has jurisdiction to ensure compliance with open gateway commitments made in merger proceedings where the gateways involve movements across a border. 13

 3.3 The Board can and should require that Applicants adopt and implement specific procedures and standards to ensure compliance with their open gateway commitment at Laredo. 14

4. Without further protection against foreclosure, the Transaction will result in substantial lessening of competition and restrain freight service across the U.S.-Mexico border at Laredo, Texas. 16

 4.1 Access to Mexico by U.S. shippers is a central feature of the Transaction and the principal source of competitive risk. 17

 4.2 The Laredo gateway is a critical element of U.S.-Mexico cross-border transportation. 20

 4.3 The open gateway conditions imposed in *KCS/Tex Mex* have not been effective in preventing foreclosure of the Laredo and Robstown gateways. 26

 4.4 The CP-KCS merger vastly increases the risk of anticompetitive foreclosure of Mexico through the Laredo and Robstown gateways. 32

 4.5 An open gateway commitment will not protect against foreclosure of BNSF at Laredo and Robstown unless it contains specific rate and service requirements and duties. 36

4.6 The Board must impose a more concrete and enforceable mechanism to ensure that Laredo and Robstown gateways remain open to BNSF and its shippers..... 44

4.7 The Board should reserve jurisdiction during the oversight period to impose additional remedies, including trackage rights to the border, if necessary to ensure an open gateway at Laredo..... 49

5. Without conditions, the projected CP-KCS traffic increases will harm the public interest and result in anticompetitive effects. 51

5.1 Current issues affecting the supply chain should cause the Board to closely examine the effects of the proposed CP-KCS consolidation..... 52

5.2 Rail service in the Houston complex melted down following the last major merger affecting the terminal area, requiring Board intervention. 53

5.3 Absent Board intervention, the significant traffic increases and longer trains projected by Applicants will cause serious congestion and service issues in critical areas such as Houston. 57

5.3.1 KCS Texas Gulf Route 58

5.3.2 Ottumwa, Iowa 64

5.3.3 Quad Cities of Iowa and Illinois 66

5.4 Imposing significant Transaction-related costs on BNSF and other CP-KCS competitors would have anticompetitive effects and would not be in the public interest. 68

5.5 The Board should impose conditions to preserve competition and ensure that shippers will not be harmed by service problems resulting from projected CP-KCS traffic increases..... 70

6. Conclusion..... 72

Index to Counsel's Exhibits and Verified Statements

Counsel's Exhibits

- Exhibit 1 Letter from NITL and KCS to UP Counsel.
- Exhibit 2 Deposition Excerpts.
- Exhibit 3 Discovery Documents.

Verified Statements

- Verified Statement of Paul M. Hirsch, BNSF's Assistant Vice President of the Mexico Business Unit.
- Verified Statement of Jon Gabriel, BNSF's Vice President, Service Design and Performance, and Travis Thowe, General Director of Network Development.
- Verified Statement of Sarah Bailiff, BNSF's Assistant Vice President of Contracts and Joint Facilities.
- Verified Statement of David Reishus, PhD, Executive Vice President, Compass Lexecon, BNSF's outside expert.
- Verified Statement of Aaron Dychter Poltolarek, PhD, President, ADHOC Consultores Asociados, S.C., BNSF's outside expert.
- Verified Statement of William W. Wilson, PhD, Professor at North Dakota State University, BNSF's outside expert.
- Verified Statement of Benton V. Fisher, Senior Managing Director, FTI Consulting, BNSF's outside expert.

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 36500

CANADIAN PACIFIC RAILWAY LIMITED, ET AL.
—CONTROL—
KANSAS CITY SOUTHERN, ET AL.

COMMENTS OF BNSF RAILWAY COMPANY

1. Introduction and Summary

Pursuant to *Decision No. 11* in this proceeding, BNSF Railway Company (“BNSF”) respectfully submits its comments to the Surface Transportation Board (“Board” or “STB”) on the proposed consolidation of the railroad systems of Canadian Pacific Railway Limited (“CP”) and Kansas City Southern (“KCS”) (the “Transaction”).¹

The Transaction is all about obtaining access to Mexico for shippers on CP’s network. CP is not paying a substantial premium just to acquire KCS’s U.S. facilities and operations. The Transaction is instead driven by CP’s desire to acquire and combine with KCS’s Mexican operations. More than two-thirds of the very substantial diversions and growth traffic that Applicants predict will result from the Transaction involve shipments moving into or out of Mexico. As Applicants explain – and BNSF agrees – Mexican production and

¹ Unless otherwise defined in these comments, the acronyms and defined terms used in these comments are the same as those used by the Board in *Decision No. 11* or in the Application.

consumption markets are growing and likely to become far more important in the future.

The increasing importance of Mexican trade means that now more than ever U.S. farmers, industries and consumers need to be assured of fair and competitive access to Mexico over U.S. rail carriers. The Board must make sure that the Transaction, with the creation of a new Class I Mexican access juggernaut in the combined CP-KCS system, does not diminish that important access to Mexico for U.S. rail shippers. Indeed, under the applicable legal standard, the Transaction must preserve competition in order to gain approval. To meet the steep volume expectations, revenue projections, and other claims made to investors and to the Board, the combined CP-KCS will be incentivized to divert its traffic through rate manipulations away from competitive routings on BNSF and other railroads. The Board needs to understand the real potential that, absent imposition of the conditions requested here by BNSF, current and future U.S. shippers could be harmed through a lessening of competitive options.

BNSF plays a unique role in the Mexican transportation market. For the last quarter-century, BNSF has served the public interest as the replacement for competition that would have been lost when Southern Pacific (“SP”) merged into Union Pacific (“UP”) in 1996. The Board recognized the critical importance of this role when it provided BNSF with access to the Mexican border at Laredo. The Board did so by installing BNSF onto a UP/SP rail line that leads to Robstown, Texas – just west of Corpus Christi – where BNSF could access Laredo via an interchange with an independent Texas Mexican Railway (“Tex Mex”), which presumably would have no incentive to

disfavor BNSF traffic. The Board also gave BNSF trackage rights access to UP/SP lines in Texas leading to the Mexican border at Brownsville and Eagle Pass.

The Applicants' focus on Mexico raises two critical issues for the Board to address in this proceeding. First, the Board must ensure that the combined CP-KCS does not use its control over transportation into and out of Mexico via the important Laredo, Texas gateway to frustrate the Board's competitive objectives in the UP/SP merger and to foreclose access to Mexico by BNSF and its shippers.

Foreclosure at Laredo is not an idle or theoretical concern. Following the acquisition in 2005 by KCS of Tex Mex and the predecessor to KCSM, BNSF's rail movements across the KCS-controlled Laredo border crossing dropped precipitously. Over time, BNSF has concluded that it has become virtually impossible to compete for certain Mexico business over Laredo if KCS can also serve the business on the U.S. side of the border. In direct contravention of the several open gateway commitments made by KCS when the Board approved the Tex Mex acquisition, KCS has exercised its control over the pricing of the Mexican portion of the movement, and at times, the routing of the U.S. portion, to ensure that BNSF will be frozen out of the market. Indeed, as will be further explained below, KCS failed to adopt any policies, practices, instructions or employee training to implement its open gateway obligations.

Accordingly, the Board must put in place more concrete and enforceable open gateway measures and remedies, including an independent and unqualified open gateway commitment for Laredo. Otherwise, the expansion of KCS's network to include the large number of Canadian and northern U.S.

locations served by CP will further solidify this lock-out of BNSF and many of its customers from cost-effective access to Mexico through Laredo.

BNSF identifies in these comments a rate-setting mechanism and certain service commitments that would ensure that BNSF and its shippers will not be foreclosed in the future from access to Mexico through unfair pricing or service, and that the rates they receive from CP-KCS will be “commercially reasonable.” If these or other mechanisms that BNSF is asking the Board to put in place prove ineffective at maintaining an open gateway at Laredo, then BNSF may need to seek direct access into Mexico by competing for the Mexico rail concessions. BNSF asks the Board to ensure that the Transaction will not keep BNSF from effectively competing in that concession process. U.S. rail shippers need assurances that the Transaction will not preclude them from having multiple options for access to the increasingly important Mexico market.

The second issue raised by Applicants’ plan to create a north-south superhighway to Mexico is the impact of the increased Mexican traffic growth on critical areas on the CP-KCS network, including, most prominently, the Houston terminal complex. To reach the Laredo gateway from the north and east, KCS must traverse Texas over a tangle of connected line segments owned, controlled and operated by some combination of KCS, BNSF, UP, and Houston Belt & Terminal Railway Company (“HBT”). This route requires movement through Houston itself. As the Board well knows, Houston has experienced acute congestion in the past, including a service crisis resulting from another major merger. In contrast, BNSF (and UP) can access Laredo from the north without traversing the core Houston complex. Movements that can avoid the

Houston complex have a distinct efficiency advantage, particularly for movements of intermodal traffic that value reliable and timely service and that have readily available truck alternatives.

Notwithstanding the risk of congestion in the Houston area, Applicants anticipate that their merger would result in the addition of approximately eight new CP-KCS trains per day to the rail lines traversing Houston. Much of this additional traffic would result from the diversion of traffic to CP-KCS from BNSF and UP, whose lines do not need to traverse Houston in order to reach the Mexico border. Yet Applicants have not identified a single dollar for new capacity that they propose to add in the Houston area to accommodate this substantial increase in traffic.

If Applicants' plan is just to wait and see what happens, they are putting at risk the fluidity of a critical node in the national rail network at a time when supply chain congestion is a significant issue for the U.S. and global economies. If their plan is to try to make BNSF and other railroads – and by extension their customers – pay for the capacity that is needed to accommodate the increased CP-KCS traffic under existing cost-sharing arrangements for the lines at issue, their strategy is equally misguided. BNSF and its shippers should not be expected to pay for capacity that Applicants need to implement their merger. Indeed, such a raising-rivals-costs strategy is a classic example of anticompetitive conduct by a monopolist.

BNSF urges the Board to address these congestion concerns by imposing certain conditions to any approval of the Transaction, as detailed below. These conditions will ensure that Applicants fully fund any capital improvements that would not be required but for increased CP-KCS traffic on lines owned by

BNSF or other railroads. In the absence of a plan by Applicants to address how increased CP-KCS traffic will be handled on shared lines in Texas – and until necessary capital improvements are identified, fully funded by Applicants, and implemented – the conditions should also restrict Applicants from increasing existing KCS traffic levels on those lines if such increases would displace existing traffic or compromise fluidity on those lines.

If the Board approves the Transaction, BNSF encourages the Board to conduct robust oversight of the CP-KCS combination. During the oversight period, the Board should monitor Applicants' fulfillment of their open gateway commercially reasonable rate and service commitments and should monitor for any congestion impacts. During this period, the Board should require Applicants to fully fund any capacity improvements needed to address such impacts. The Board should also retain jurisdiction to impose further conditions during the oversight period in order to address congestion that may arise. These remedies could include temporary service orders or more permanent use of CP-KCS rail lines via trackage rights or other means.

The specific conditions that BNSF requests are set forth in the comments below and summarized in the conclusion to these comments. Absent imposition of these conditions, BNSF believes that the Transaction will result in effects harmful to the public interest, including a significant loss in competition.

BNSF's comments are supported by the following verified statements:

- Paul M. Hirsch, BNSF's Assistant Vice President of the Mexico Business Unit;

- Jon Gabriel, BNSF’s Vice President, Service Design and Performance, and Travis Thowe, General Director of Network Development;
- Sarah Bailiff, BNSF’s Assistant Vice President of Contracts and Joint Facilities;
- David Reishus, PhD, Executive Vice President, Compass Lexecon, BNSF’s outside expert;
- Aaron Dychter Poltolarek, PhD, President, ADHOC Consultores Asociados, S.C., BNSF’s outside expert;
- William W. Wilson, PhD, Professor at North Dakota State University, BNSF’s outside expert; and
- Benton V. Fisher, Senior Managing Director, FTI Consulting, BNSF’s outside expert.

2. The Board has broad authority to condition its approval of the Transaction.

Under 49 U.S.C. § 11324(c), the Board has broad authority to place conditions on approval of major mergers. In deciding whether to impose conditions, the Board’s overriding concern is the public interest. *Union Pac. Corp.—Control—Mo. Pac. Corp. (UP/MP)*, 366 I.C.C. 462, 562 (1982). “The Board will not impose conditions on a railroad consolidation unless it finds that the merger produces effects harmful to the public interest (such as a significant loss of competition) that a condition will ameliorate or eliminate.” *Canadian Pac. Ry.—Control—Kan. City S. (Decision No. 13)*, FD 36500, slip op. at 4 (STB served Feb. 18, 2022) (citing *Union Pac. Corp.—Control & Merger—S. Pac. Rail Corp. (UP/SP)*, 1 S.T.B. 233, 418 (1996).).

A condition must address the effects of the transaction, be operationally feasible, and produce net public benefits. *See UP/SP*, 1 S.T.B. at 418; *see also Canadian Nat’l Ry.—Control—Ill. Cent. Corp. (CN/IC)*, 4 S.T.B. 122, 141

(1999); *UP/MP*, 366 I.C.C. at 565. There must also be a nexus between the merger and the alleged harm for which the proposed condition would act as a remedy. *UP/SP*, 1 S.T.B. at 461. A condition should also be tailored to remedy adverse effects of a transaction, and should not be designed simply to put its proponent in a better position than it occupied before the consolidation. *CN/IC*, 4 S.T.B. at 142.

To assess the implementation of past major mergers and the various conditions imposed, the Board and its predecessor, the Interstate Commerce Commission, have also imposed five-year oversight periods as conditions in major mergers. *See, e.g., id.* at 161; *CSX Corp.—Control & Operating Leases/Agreements—Conrail, Inc.*, 3 S.T.B. 196, 365-66 (1998); *UP/SP*, 1 S.T.B. at 420-21. This oversight period allows the agency to examine whether the various conditions it imposed “effectively addressed the competitive issues they were intended to address.” *UP/SP*, 1 S.T.B. at 248. The agency has also retained jurisdiction in major mergers to impose additional remedial conditions if, and to the extent, it determines that the conditions already imposed have not effectively addressed the competitive harms caused by the merger. *See id.*

3. It is well within the Board’s jurisdiction to impose conditions on the Transaction related to cross-border movements that will avoid competitive and service-related harm to shippers in the United States.

The Transaction is substantially focused on trade with Mexico. As discussed below, the Transaction would have substantial effects in the United States related to these cross-border movements. The Board clearly has

jurisdiction to address these effects and remediate harms that could be created by the Transaction through its merger approval authority.

3.1 The Board has broad jurisdiction to address the effects in the United States of mergers that involve cross-border transportation.

The governing statute provides the Board with broad jurisdiction to address the effects in the United States of mergers that involve cross-border transportation. The Board’s statutory jurisdiction under 49 U.S.C. § 10501(a)(2) is defined in terms of “transportation in the United States.” But the Board’s jurisdiction extends not only to domestic rail traffic, but to traffic moving between the United States and a foreign country. The statutory authority under 49 U.S.C. § 10501(a)(2)(F) gives the Board jurisdiction over rail transportation “between a place . . . in the United States and a place in a foreign country.”

The Board’s jurisdiction extends to proposed mergers that could have an impact on transportation in the United States. *See, e.g., Canadian Nat’l Ry. & Canadian Pac. Ltd.—Acquis.—Ints. of Consol. Rail Corp. in Canada S. Ry. & Detroit River Tunnel Co. (CN/CP)*, FD 30387 *et al.*, slip op. at 8 (ICC served Sept. 4, 1984) (the ICC concluded that it had jurisdiction “to the extent transportation in this country is involved.”). In *CN/CP*, CP and fellow Canadian carrier Canadian National (“CN”) sought ICC approval to purchase Conrail’s interests in three separate companies. The Board considered all aspects of the transaction, including claims involving movement of international traffic on the Canada Southern lines in Canada. The ICC further examined whether the sale of a Canadian line would reduce competition in the

Detroit-Niagara Falls/Buffalo corridor and whether the transaction would lead to discrimination towards U.S. carriers by diverting traffic to a preferred gateway. *Id.*, slip op. at 9-11. The ICC approved the transaction because it concluded the overall transaction, including the Canadian components, would not have an anticompetitive effect in the United States. *Id.*, slip op. at 11.

In *Canadian Nat'l Ry.—Control—Wis. Cent. Transp. Corp. (CN/WC)*, 5 S.T.B. 890 (2001), the Board extensively examined the impact of conduct expected to arise from the merger that would occur **outside** the United States to the extent that conduct would affect transportation **within** the United States. As part of its decision, the Board considered the effect of a reduction in competition at Oba, Ontario where Wisconsin Central's subsidiary operated only in Canada. *See id.* at 900 n.19.

In *UP/SP*, the Board's approval of the merger of UP and SP included decisions about U.S. carriers' access to and from points in Mexico via certain border crossings. KCS questioned the Board's jurisdiction to the extent the merger involved commerce to and through Mexico and would have a substantial impact on American foreign policy. *UP/SP*, 1 S.T.B. at 266. The Board rejected KCS's argument that cross-border traffic with Mexico involved foreign policy considerations that were beyond the Board's jurisdiction. The Board noted that its jurisdiction "extends to rail traffic moving in foreign commerce." *Id.* at 464.

In *Kan. City S.—Control—Kan. City S. Ry. (KCS/Tex Mex)*, 7 S.T.B. 933 (2004), the Board approved the control by KCS of Tex Mex and decided a number of issues with transnational impacts. For example, in accepting the *KCS/Tex Mex* application, the Board ordered the applicants to supplement the

application “to reflect the implications of the broader transaction for competition within the U.S.” and ordered the applicants to submit the information required in 49 C.F.R. § 1180.1(k)(1) for “major” transactions,² even though the transaction was considered “minor” under the regulations. *KCS/Tex Mex*, FD 34342, slip op. at 11 (STB served June 9, 2003). The Board found that while it did not need to rule on the KCS’s acquisition of TFM, S.A. de C.V. (“TFM”), a Mexican railroad, it reserved the right to conduct oversight to examine the effects on transportation within the United States. *See KCS/Tex Mex*, 7 S.T.B. at 938.

Indeed, CP itself argued in *KCS/Tex Mex* that the Board had jurisdiction to impose a condition on the transactions to remedy potential anticompetitive effects, including as they related to TFM. CP argued that it was “appropriate for the Board to exercise its conditioning authority in this case to compel Applicants to adhere to their promise to keep the Laredo gateway open on ‘commercially reasonable terms’ by requiring them to enter into binding written agreement(s). . . . Such agreement(s) should apply to *all* rail routings via Laredo, including the TFM-UP routes excluded from the scope of the KCS-NITL Agreement.” (Canadian Pac. Add’l Comments 7 (Sept. 30, 2004), *KCS/Tex Mex*, FD 34342 (emphasis in original).)³

² 49 C.F.R. § 1180.1(k)(1) stated, in part:

All applicants must submit “full system” competitive analyses and operating plans – incorporating any operations in Canada or Mexico – from which we can determine the competitive, service, employee, safety, and environmental impacts of the prospective operations within the United States. . . .

³ CP further argued that its “proposed condition [was] necessary to preserve effective competition for rail traffic to/from Mexico in the event that Tex Mex and TFM come under the common control of KCS. Given the unique importance of the Laredo gateway to NAFTA trade, the Board should act in this proceeding to assure that a

In *CN/IC*, the Board also addressed transnational issues related to the CN/IC merger. For instance, CP and Ontario Michigan Rail Corporation (“OMR”) sought divestiture of CN’s interest in the Detroit River Tunnel Company (“DRTC”), which was owned by an Ontario partnership in which CN and CP each had a 50% interest. *CN/IC*, 4 S.T.B. at 155. CP argued that, because of CN’s new investment in IC, CN would have a stronger incentive to impede the flow of CP’s cross-border traffic, in an effort to force a shift of that traffic to CN lines in Canada and in the United States, including IC. *Id.* at 156. The Board denied CP’s and OMR’s request for divestiture, but imposed a condition holding applicants to their representation that they would not impede necessary improvements to the Detroit River Tunnel (“DRT”) because of the importance of the DRT to international trade. *Id.*

The case law also makes it clear that the Board can hold U.S. rail carriers responsible for harms caused by cross-border transportation in which they participate. *See, e.g., Canada Packers, Ltd. v. Atchison, Topeka & Santa Fe Ry.*, 385 U.S. 182 (1966) (ruling that the ICC had jurisdiction to determine the reasonableness of a joint through international freight rate and to order reparations with respect to a railroad rate from points in New Mexico to points in Canada, despite claim that the portion of the rate in excess represented overcharges for the Canadian leg of trip); *see also Canadian Pac., Ltd. v. United States*, 379 F. Supp. 128, 134 n.12 (D.D.C. 1974) (finding that, while the ICC did not have jurisdiction over Canadian allowance schedules, the ICC could

KCS-TFM consolidation does not compromise the competitive rail system in the NAFTA Corridor.” (Canadian Pac. Add’l Comments 8.)

“plac[e] responsibility” on the U.S. carrier participating in the movement for injuries occurring in the United States as a result of the Canadian conduct.).

This summary of the case law shows that the Board has repeatedly recognized that the increasing integration of markets and transportation in North America may require careful consideration of the cross-border impacts of rail mergers and that the Board has broad authority to address those effects.

3.2 The Board has jurisdiction to ensure compliance with open gateway commitments made in merger proceedings where the gateways involve movements across a border.

Case law is particularly clear regarding commitments or representations by merger applicants relating to their future cross-border movements. The Board undoubtedly has the authority to disapprove a proposed transaction subject to its jurisdiction that ultimately harms U.S. interests, regardless of where the harmful behavior occurs. Therefore, to obtain approval, merger parties often make representations or commitments to address potential concerns arising from conduct that will occur outside the United States. There is substantial case law recognizing the authority of the Board to ensure that those commitments are carried out.

For example, as previously mentioned, the Board imposed a condition in *CN/IC* holding applicants to their representation that they would not use their control of the DRTC to frustrate improvements to the tunnel “because of the importance of the DRT to international trade.” *CN/IC*, 4 S.T.B. at 156. In *CN/WC*, the Board stated that it would hold applicants to representations they had made about the meaning and reach of an agreement between CN and the National Industrial Transportation League (“NITL”), including a commitment

to establish and maintain “commercially reasonable contract[s] through rates and charges.” *See CN/WC*, 5 S.T.B. at 901, 923. The commitment covered Wisconsin Central’s North American rail carrier subsidiaries and Algoma Central, which operated in Canada. *See id.* at 892 n.3, 923.

In *KCS/Tex Mex*, the Board approved KCS’s acquisition of Tex Mex subject to conditions, including monitoring of operations at the Laredo Bridge at the U.S./Mexico border and requiring KCS to comply with representations it made to keep the Laredo gateway “open on commercially reasonable terms.” *See KCS/Tex Mex*, 7 S.T.B. at 945, 951-52.

3.3 The Board can and should require that Applicants adopt and implement specific procedures and standards to ensure compliance with their open gateway commitment at Laredo.

Applicants contend that a combined CP-KCS will continue to adhere to the open gateway commitments made by KCS in *KCS/Tex Mex* and the settlement agreement entered into by NITL and KCS in *KCS/Tex Mex* (the “KCS/NITL Agreement”). (*See, e.g., Appl., V.S. Ottensmeyer* 6, 21; *Appl., V.S. Brooks* 21.) The case law discussed above shows that the Board has broad authority to ensure that such commitments are effectively implemented.

Moreover, the earlier commitment by KCS in *KCS/Tex Mex* to keep the Laredo gateway open needs better definition in order to be effective going forward, and the Board has authority to impose requirements that will ensure the effectiveness of those commitments. As explained by BNSF’s witnesses, the prior KCS commitments did not prevent foreclosure of BNSF from access to Mexico through Laredo. Mr. Hirsch explains that the KCS commitments in *KCS/Tex Mex* are too undefined to be effective, and BNSF’s expert witnesses

show that BNSF has not, in fact, been able to compete for movements through Laredo. Also, as explained below, the general commitments have not been possible to enforce because the data needed to ensure compliance are not visible to either BNSF or its customers, in part because the movements involve transportation in Mexico.

Where, as here, Applicants have committed to keeping the Laredo gateway open in order to obtain Board approval of their merger, the Board has jurisdiction to ensure that the commitment is effective. This would include a requirement that Applicants adopt and implement a rate-setting mechanism and operating requirements that will ensure that BNSF and its shippers will have competitive access to Mexico through Laredo. Details about the possible implementation mechanism are set out below and in the Verified Statements of Dr. Reishus and Mr. Hirsch.

The Board's jurisdiction to impose such remedial measures is reinforced by two facts unique to this transaction. First, BNSF hands over traffic to KCS within the United States for movement to and from Mexico. BNSF interchanges traffic with KCS at Robstown, Texas, and KCS/KCSM moves BNSF's traffic to Laredo and then into Mexico. Since the transportation involved in the commitment involves a movement within the United States, the Board clearly has jurisdiction over the movement.

Second, KCS has admitted in discovery responses in this proceeding that pricing decisions for cross-border movements between Mexico and the United States are made by a single pricing unit that is responsible for setting prices on both Mexican and US portions of cross-border movements. (*See Applicants' Reply to Union Pac. R.R. Co.'s Motion to Compel* 7-8 (Feb. 7, 2022) ("KCS has

one core pricing team for both U.S. and Mexico”) (emphasis in original.) Since pricing decisions are made by an entity (KCS) that is subject to the Board’s jurisdiction, the Board has the authority to require Applicants to adopt and implement a pricing mechanism that will ensure that the Laredo gateway remains commercially open.

4. Without further protection against foreclosure, the Transaction will result in substantial lessening of competition and restrain freight service across the U.S.-Mexico border at Laredo, Texas.

In the *KCS/Tex Mex* proceeding, the Board stated that “the significance of the role played by TFM in the U.S.-Mexico NAFTA corridor cannot be ignored.” *KCS/Tex Mex* (Decision No. 2), FD 34342, slip op. at 10 (STB served June 9, 2003). The importance of rail trade in the U.S.-Mexico border area, particularly through Laredo, has only expanded further in the last two decades. Indeed, from 2003 to 2019, the value of freight carried by rail over the Laredo gateway grew 85% and the tonnage increased by 46%. (V.S. Reishus 41, n.72.)

In the *KCS/Tex Mex* approval decision, the Board acknowledged concerns that the merger could restrain competition across the Laredo gateway, but it accepted the theoretical arguments put forth by KCS that anticompetitive foreclosure would not occur. It also accepted KCS’s open-ended and ambiguous commitment to keep the Laredo gateway open and not to use its control over Laredo to foreclose competition from BNSF and UP.

Now, BNSF’s experts and Mr. Hirsch demonstrate that in fact BNSF has effectively been foreclosed since the *KCS/Tex Mex* merger. BNSF is unable to serve its carload shippers through the Laredo gateway because it has become

virtually impossible for BNSF to compete for carload traffic into and out of Mexico through Laredo. (V.S. Hirsch 3.) In recent years, BNSF has been able to move substantial intermodal and auto traffic through Laredo because KCS does not have a competing U.S. service that it can favor through control over pricing in Mexico. (*Id.* at 3, 10-13.) In other words, BNSF’s intermodal traffic grew for movements where KCS cannot handle the full route and must work with BNSF to secure the incremental business. But a combined CP-KCS would jeopardize BNSF’s intermodal and auto traffic in favor of less efficient movements that would occur exclusively on a combined CP-KCS network. (*Id.* at 3, 11.) The merger also promises to expand the foreclosure of BNSF’s carload shippers from access to Mexico through Laredo. (*Id.*)

Applicants here also have acknowledged that end-to-end mergers such as the Transaction can raise concerns about the foreclosure of competition. However, they present a seriously flawed analysis suggesting that foreclosure did not result from the KCS/Tex Mex merger. They argue that, in any event, they have provided an “open gateway” commitment at the Laredo border to address competitive concerns. The “open gateway” remedy they propose is not sufficient. The Board must require Applicants to do more.

4.1 Access to Mexico by U.S. shippers is a central feature of the Transaction and the principal source of competitive risk.

Applicants make clear that a primary objective of the Transaction is to connect Canadian and U.S. shippers currently served by CP with Mexico. The purported public benefits of the Transaction largely stem from single-line efficiencies that are supposed to be gained on movements between Canada and the United States to and from Mexico.

CP's CEO Keith Creel says that “[o]ne of the most exciting benefits of the CP/KCS combination will be to open up new trade opportunities with Mexico, whose markets CP/KCS will reach with new single line routes spanning the Continent.” (Appl., V.S. Creel 10.) A simple look at the map set out at page 10 of the Verified Statement of KCS's CEO Patrick Ottensmeyer shows that the Transaction is intended to create a north-south transportation corridor in the Central United States that will connect CP's network in Canada and the upper Midwest with KCS's network on the Gulf Coast and in Mexico.⁴ Applicants also claim that the Transaction would have wide-ranging effects on transborder movements.⁵

⁴ As Mr. Creel explains, “[b]uilding on the strong foundation built by the separate CP and KCS systems, the CP/KCS combination would create the first U.S.-Mexico-Canada railroad. . . .” (Appl., V.S. Creel 8.) As Mr. Ottensmeyer states, “[a]ny way you look at us, whether you measure miles, employees, or revenues, KCS is 50% in Mexico.” (Appl., V.S. Ottensmeyer 18.) Indeed, KCS reported in its 2020 10K filing that Mexico trade accounts for \$1.244 billion or 47% of KCS revenue. KANSAS CITY SOUTHERN, 2020 ANNUAL REPORT 92, available at: <https://investors.kcsouthern.com/~media/Files/K/KC-Southern-IR-V2/annual-reports/annual-report-2020.pdf>.

⁵ As to grain transportation, Applicants “expect the Transaction to lead to at least a five percent increase in the CP/KCS share of all grains exported from the United States to Mexico.” (Appl., V.S. Wahba & Naatz 11.) As to intermodal transportation, “[t]he CP/KCS system will offer new long-distance direct intermodal service connecting KCS terminals in Mexico with CP terminals in Eastern Canada and the Upper Midwest (especially Chicago and Minneapolis).” (*Id.* at 20.) In the area of automotive products, Applicants explain that “[t]he ‘domestic content’ provisions of the new U.S.-Mexico-Canada Free Trade Agreement (‘USMCA’) will encourage increased reliance by North American auto companies on cross-border parts, all of which qualify for ‘North American content requirements.’” (*Id.* at 21-22.) Further, “CPKC will also be able to leverage CP's relationships with automakers in Canada to improve service to automakers in Mexico.” (*Id.* at 34.) For a range of other products, the proposed Transaction is intended to improve and expand cross-border transportation: glycol from Western Canada to Mexico (*See id.* at 50); plastics from Alberta to auto manufacturers in Mexico (*See id.*); steel and aluminum from manufacturers in Canada to auto producers in Mexico (*See id.* at 52); “white goods” or appliances moving north from Mexico (*Id.* at 53.).

The importance of transborder movements is reflected in the data submitted in support of the Application. Richard W. Brown and Nathan S. Zebrowski, Applicants' witnesses on traffic diversions, note that of the five key areas where the CP-KCS combination would generate rail-to-rail diversions, three involve Mexico.⁶ Additionally, 83% of all diverted grain carloads involve Mexico and 63% of all diverted intermodal traffic involves Mexico.⁷ Similarly, while the U.S. intermodal market clearly is much larger than the cross-border market for intermodal movements, Applicants' witness Bengt Mutén assumes that 51% of the truck-to-rail diversions produced by the Transaction involve shipments to/from Mexico. (*See* Appl., V.S. Mutén at App. A.)

Applicants are right—U.S.-Mexico rail trade has long been important, has been growing in importance, and will continue to grow in importance in the future.

Two-way trade in goods and services between the United States and Mexico totaled USD 582.4 billion in 2020, positioning Mexico as the third-largest overall U.S. trading partner.⁸ The International Monetary Fund projects the value of Mexico's overall merchandise imports and exports both grow by more than 25% between 2019 and 2025 and the United States is poised

⁶ These include Midwest Grain to the Gulf Region and Mexico (Appl., V.S. Brown & Zebrowski 8, Para. 12); Automotive Parts and Other Containerized Mixed Goods between the United States and Mexico (*id.* at 8-9, Para. 13); and Finished Vehicles from Mexico to the United States (*id.* at 9-10, Para. 14.).

⁷ For grain, *see* Appl., V.S. Brown & Zebrowski Table 1 for total grain diversions (15,768) (*id.* at 5); Table 11 for total grain diversions involving Mexico (12,930) (*id.* at 26); and Table 12 for total legumes and oil seeds involving Mexico (188) (*id.* at 28.) Table 15 shows the total intermodal diversions involving Mexico (86,675 of 137,416) (*id.* at 32.)

⁸ *See* Mexico – Country Commercial Guide (Sept. 2, 2021) available at: <https://www.trade.gov/knowledge-product/exporting-mexico-market-overview> (last accessed 2/26/2022).

to benefit. (*See* V.S. Reishus 7.) Mexico is now one of the largest markets for U.S. corn and wheat and the second largest market for soybeans and is also the fastest growing market for these products. (V.S. Wilson 5-6.) Indeed, Mexican corn imports quadrupled from just over 4 mmt (million metric tonnes)/year in 2000 to 16 mmt in 2021. (*Id.* at 6.) This growth is likely to continue as Mexican processors harmonize their practices to those of processors in the United States and adopt similar technologies and marketing practices. (*Id.* at 15.)

4.2 The Laredo gateway is a critical element of U.S.-Mexico cross-border transportation.

The major components of the Mexican railway system are divided into east and west with some overlaps in the middle of the country. KCSM operates as a concessionaire over the Mexico Northeast Railway lines. (*See* V.S. Reishus 22.) The Northeast concession includes the “so-called ‘golden line’” that connects Mexico City, Saltillo, Monterrey and the Laredo border crossing, along with lines to the ports of Lazaro Cardenas and Veracruz. (*Id.*) Ferromex, which operates the Northwest Railway concession, generally serves the western portions of north of Mexico city. (*Id.*) There are a limited number of railroad crossing points with the United States in Texas, with KCSM connecting with the United States at Brownville and Laredo and Ferromex connecting at Eagle Pass and El Paso. *See* Figure 1 below.

Figure 1 – Map of Mexican Railways



Source: Edited from Estudio de competencia en el servicio público de transporte ferroviario de carga, Comisión Federal de Competencia Económica, August 2021

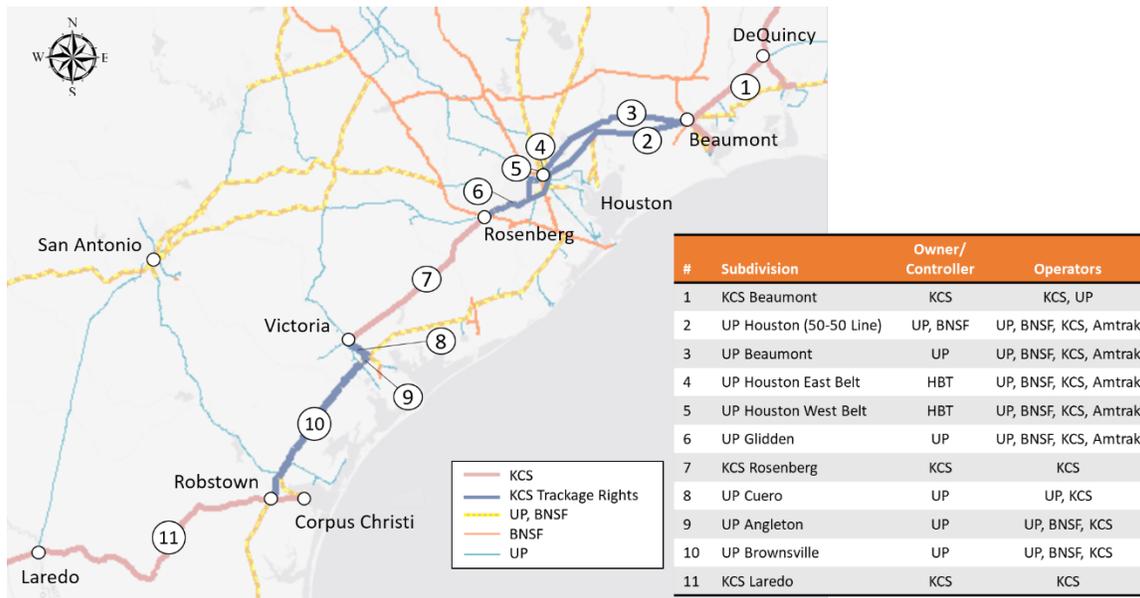
Laredo is the key gateway between the United States and Mexico for at least three reasons. First, Laredo has the most direct access to the important industrial centers of Monterrey and Mexico City from the heart of the United States. (V.S. Reishus 2022 7.) The Laredo rail gateway accounts for 44% of the tonnage and 54% of the value of transborder freight, equal to more than \$44 billion, carried by railroads across the U.S.-Mexican border in 2019. (*Id.*) Second, the infrastructure at Laredo to handle significant traffic volumes on a timely basis makes Laredo one of the most efficient rail gateways to and from

Mexico.⁹ Third, Laredo is the principal juncture with KCSM, which, as noted above, has exclusive access on the Mexican side of the Northeastern Mexican gateways of Laredo and Brownsville and reaches Monterrey and Mexico City. (V.S. Reishus 22 para. 55, Fig. 4.)

In connection with the UP/SP merger in 1996, the Board recognized that “Laredo is the principal rail gateway between the United States and Mexico.” *UP/SP*, 1 S.T.B. at 410. The Board characterized Laredo as a market of “separate and surpassing economic significance” superior to other gateways. *Id.* at 422. The Board conditioned the UP/SP merger on BNSF being granted trackage rights over UP’s line from Houston to enable BNSF to reach an independent Tex Mex at Robstown, Tex., where BNSF could interchange traffic that Tex Mex would take to Laredo. *See id.* at 422-25. The Board intended for BNSF to serve as an effective competitive replacement to SP for traffic going through Laredo and to preserve effective two-railroad competition north of the border for U.S.-Mexico rail traffic moving via Laredo. *See id.* at 423. Because Tex Mex was an independent railroad at the time, Tex Mex had no reason to disfavor BNSF interchange traffic at Robstown. The map below at Figure 2 illustrates the current ownership and operating rights on the rail lines leading to Laredo.

⁹ LAREDO URBAN TRANSPORTATION STUDY METROPOLITAN PLANNING ORGANIZATION, LAREDO, TEXAS 2010-2035 METROPOLITAN TRANSPORTATION PLAN 5-4 to 5-7 (Dec. 11, 2009), available at: http://www.laredompo.org/wp-content/uploads/2020/10/chapter_05.pdf.

Figure 2 – KCS Texas Route to Laredo



From 1996 to 2003, BNSF had access to Laredo via an interchange at Robstown with an independent Tex Mex. During that period, BNSF invested heavily to further the Board’s goals and compete for traffic going through Laredo. (See BNSF Opening Comments, V.S. Rickershauser 4, Aug. 4, 2003, KCS/Tex Mex, FD 34342.) By 2003, BNSF had invested over \$20 million in marketing BNSF’s service to and from Mexico. (*Id.*) BNSF added 7-10 additional trains each way per week, it developed efficient unit grain train services, and it developed value-added services, such as its Mexi-Modal service and integrated dock-to-dock carload service. (*Id.*)

At the time of the KCS/Tex Mex merger, UP continued to dominate rail traffic to Laredo, carrying 84% of the traffic in 2001. (BNSF Opening Comments, V.S. Reishus 8, Figure 3, Aug. 4, 2003, KCS/Tex Mex, FD 34342.) This was due mainly to UP’s more direct routing, the availability and flexibility of alternative routing, BNSF’s lack of a route that could handle 286,000 pound cars during that time period, UP’s lower cost structure due to density on its

shipments to Laredo, and UP's broad coverage area, permitting it to serve more customers at Laredo than other carriers. (See BNSF Opening Comments, VS Rickershauser Ex. 2, Aug. 4, 2003, KCS/Tex Mex, FD 34342.)

BNSF, however, was providing effective competitive discipline to UP during that period too. BNSF accounted for the majority of the non-UP traffic going through Laredo, and in 2002 BNSF shipped 38,800 cars through that gateway. (*Id.* at Ex. 3.) BNSF increased its traffic through Laredo 87% between 1996 and 2002, driven largely by growth in grain traffic (258% growth), industrial traffic (154% growth), and intermodal traffic (156% growth). (*Id.* at 4, 6-7.) In fact, “[d]espite UP’s dominant share of traffic over Laredo, BNSF carrie[d] over a quarter of the Laredo gateway traffic to and from the tier of grain belt states from Oklahoma to North Dakota.” (BNSF Opening Comments, V.S. Reishus 12 (footnote omitted), Aug. 4, 2003, KCS/Tex Mex, FD 34342.) BNSF was able to compete for this traffic because of BNSF’s broad geographic reach, its ability to offer value-added services, and its reasonably efficient routings to Laredo. (BNSF Opening Comments, V.S. Rickershauser 8-9, Aug. 4, 2003, KCS/Tex Mex, FD 34342.)

In its decision approving the KCS/Tex Mex transaction, the Board noted applicants’ assertions that “Laredo is today the key gateway for U.S.-Mexico rail traffic”. KCS/Tex Mex, 7 S.T.B. at 944. Indeed, just prior to the merger, in 2002, Laredo accounted for 75% of the value of all rail traffic between the U.S. and Mexico. (BNSF Opening Comments, V.S. Reishus 4, Aug. 4, 2003, KCS/Tex Mex, FD 34342.) Recognizing its importance to current and future rail customers, the Board imposed a condition on KCS that it keep the Laredo

gateway open on “commercially reasonable” terms as part of its approval of KCS’s acquisition of Tex Mex. *See KCS/Tex Mex*, 7 S.T.B. at 950.

In connection with the KCS/Tex Mex consolidation, numerous railroads – including UP, BNSF and CP – proposed conditions more detailed than the generic open gateway commitment. Indeed, CP asked the Board to condition its approval of the KCS/Tex Mex transaction on requiring applicants to enter into a written agreement (or agreements) defining the “commercially reasonable” terms upon which non-applicant railroads (and the shippers that they serve) would be able to access the Laredo gateway following the transaction. (CP Opening Comments 2, Aug. 4, 2003, KCS/Tex Mex, FD 34342); (CP Additional Comments 7, Sept. 30, 2004, KCS/Tex Mex, FD 34342.) CP pointed out that “Applicants have thus far declined to identify on the record the specific measures that they would take to implement [their open gateway] commitment.” (CP Opening Comments 2.)

CP proposed that the Board should “require KCS to agree to an ‘effective plan’ to preserve rail competition via Laredo which goes beyond the vague promises offered by Applicants to date.” (*Id.* at 7-8.) CP warned: “If a combined KCS/TexMex/TFM system were to close the Laredo gateway (either physically or commercially), shippers would lose the benefit of the efficient, competitive rail services offered by CPR (in conjunction with UP) in the NAFTA corridor today.” (*Id.* at 5.) The Board ultimately did not adopt the proposals to impose stricter, more concrete conditions. *KCS/Tex Mex*, 7 S.T.B. at 948-50.

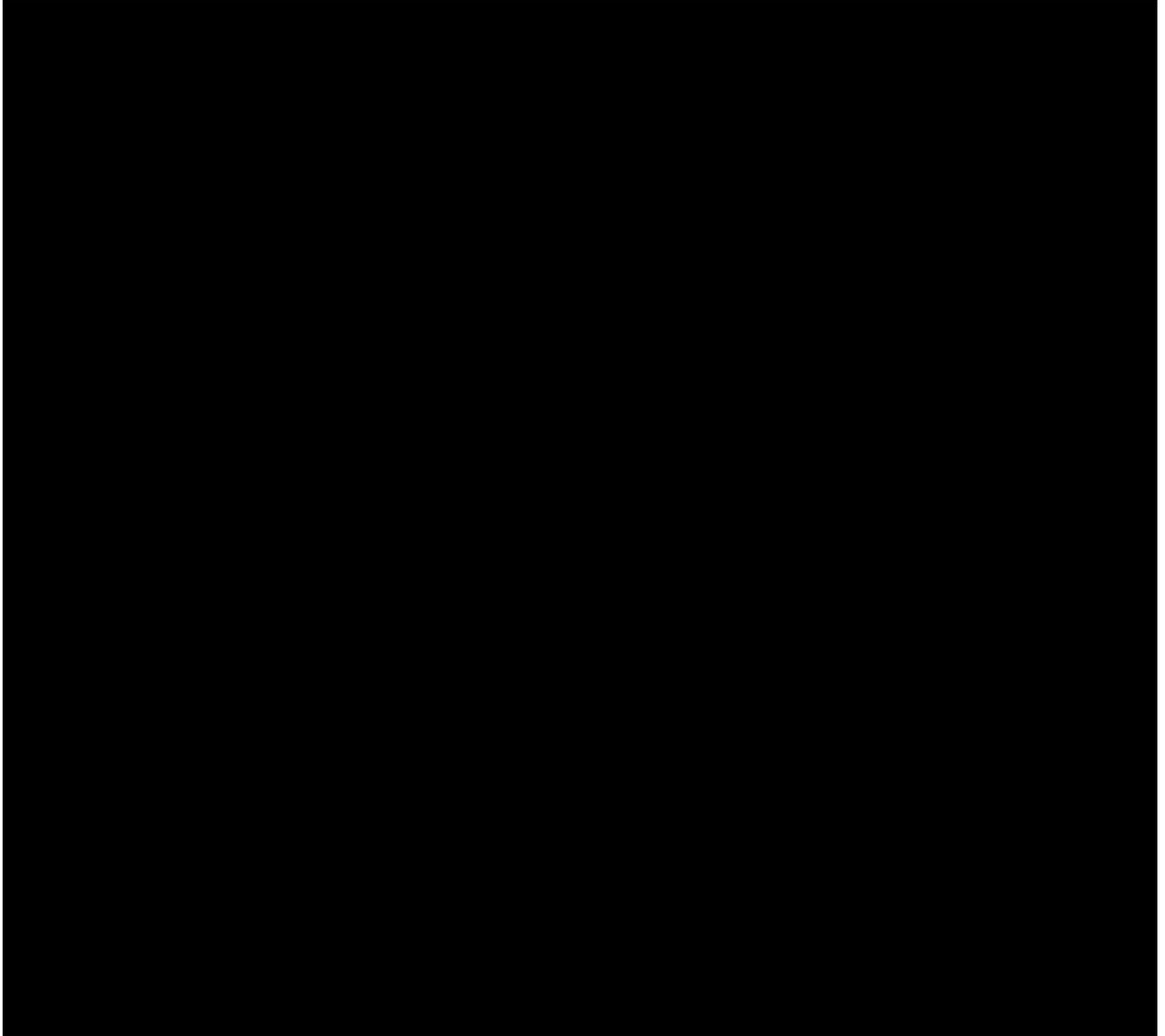
4.3 The open gateway conditions imposed in *KCS/Tex Mex* have not been effective in preventing foreclosure of the Laredo and Robstown gateways.

The ability of BNSF and its customers to access Laredo was significantly diminished when KCS bought Tex Mex, and would be diminished even further by the CP-KCS consolidation. Contrary to assertions made by CP and KCS in this proceeding, the conditions imposed by the Board on KCS's acquisition of Tex Mex have not protected shippers from KCS pricing actions that have effectively frozen BNSF out of the Laredo gateway.

Beginning immediately after KCS's acquisition of Tex Mex and TFM in early 2005, BNSF's carload traffic moving over the Laredo gateway dropped to near zero. BNSF's Mr. Hirsch explains that while BNSF did not have access to the specific prices that KCSM was charging, it was BNSF's understanding that substantial price increases had been implemented for the Mexico portions of the interline movement, resulting in the loss of business that BNSF had worked hard to build up over the prior several years. (V.S. Hirsch 7.) And the foreclosure continues, as Mr. Hirsch explains that KCS and KCSM continue to refuse to provide rates that would enable BNSF to compete for traffic where BNSF can provide equal or more efficient service than KCS and KCSM. (*Id.*) KCS and KCSM's actions are not "commercially reasonable" and demonstrate that the KCS/Tex Mex open gateway condition remains ineffective to this day.

The proof of BNSF's foreclosure from the Laredo gateway for carload traffic is in the dramatic decline in BNSF's traffic through Laredo starting immediately after the KCS/Tex Mex merger, as depicted in Figure 3 below.

Figure 3: BNSF Carload and Automotive Traffic over the Laredo Gateway: 2000-2019



As discussed further below and in Mr. Hirsch’s V.S., the spike in finished automotive traffic at Laredo amidst the drastic drop in other traffic is because of a single contract and because BNSF serves areas that are not currently services by KCS. (*Id.* at 13-14.) Exports of gasoline and diesel fuel from the U.S. to Mexico also illustrate this problem. Like with automobiles, as Mr. Hirsch explains, BNSF’s experience is that it is able to obtain petroleum

product business to Mexico through Laredo only where KCS is unable to serve the location or where the movement is part of a larger contract with a petroleum firm that includes movements that are not served by KCS. (*Id.* at 7.) When BNSF competes head-to-head with KCS for a movement through Laredo, BNSF invariably loses that competition to KCS, even where BNSF's routing and cost-effectiveness is competitive with KCS. (*Id.*)

Moreover, as explained by Dr. Reishus, the evidence submitted by Applicants' expert Dr. Majure confirms the foreclosure of BNSF from Laredo. KCS has effectively prevented BNSF from serving all but a tiny portion of carload traffic over the Laredo gateway. Dr. Majure's Exhibit 2 was presented to support his claim that he saw nothing supporting the possibility of foreclosure at Laredo. Dr. Reishus explains in detail the flaws in the assumptions underlying Dr. Majure's Exhibit 2. (*See* V.S. Reishus 25-37.) But even taking his numbers as presented, Dr. Majure's Exhibit 2 is stark evidence of BNSF's foreclosure.

Dr. Majure's theory was that the relatively high market share that UP had in 2019 was inconsistent with the possibility of foreclosure. But Dr. Majure's own chart showed that BNSF's market share at Laredo had declined to {{█}} by 2019. (Appl., V.S. Majure 19, Ex. 2.) Under Dr. Majure's own theory that the size of the market share could be used to determine whether foreclosure had occurred, the extremely low market share of BNSF is strong evidence of foreclosure.¹⁰

¹⁰ In addition, Dr. Majure's Exhibit 2 showed that KCS had a market share in markets that supposedly overlap with BNSF that was {{█}} times greater than BNSF's, again pointing directly to foreclosure by KCS. (Appl., V.S. Majure 19, Ex. 2.)

Further evidence of BNSF’s exclusion from Laredo is seen in the shift of BNSF’s traffic to the Mexico border crossing at Eagle Pass. BNSF did not abandon its efforts to create effective access to Mexican markets through Laredo. Rather, BNSF had to shift traffic, where feasible, to a less efficient gateway alternative. Dr. Wilson’s analysis shows that the increase in grain shipments through Eagle Pass correspond to the decline in traffic moving through Laredo. (V.S. Wilson 17, 18, Fig. 12].) Importantly, this shift in gateways caused BNSF to use longer, less-efficient routings into Mexico in order to support its customers’ desires to participate in the Mexican market. (*Id.* at 18-19, 23.)

Dr. Reishus explains that KCS has had a potent weapon to foreclose BNSF from the Laredo gateway. Mexican law requires that KCSM charge “non-discriminatory” rates in Mexico, *i.e.*, rates that are basically the same regardless of the U.S. carrier on the movement north of the border. (V.S. Reishus 3, 16-19, Fig. 3.) Moreover, as explained by Dr. Dychter, Mexican law gives rail carriers substantial flexibility in setting maximum rates. (V.S. Dychter at 4.)

This combination of Mexican law elements allows KCS to engage in the following obvious strategy: it could first raise rates in Mexico on movements that could be handled in the United States by both BNSF and KCS, and then lower KCS’s U.S. portion of the rate, allowing the higher Mexican KCSM rate to subsidize the U.S. transportation. (*See* V.S. Reishus 16-19); (*See also* Figure 5 *infra* at 39.) Using such a strategy, KCS could effectively make through

And in markets where KCS supposedly was not present, BNSF’s market share was {{█}} times larger than where KCS was supposedly present. (*Id.*)

traffic on BNSF/KCSM untenable, since the high KCSM rate would not be available to subsidize BNSF's U.S. movement, thereby forcing the traffic to KCS/KCSM. (*Id.*)

BNSF can now present evidence of its foreclosure at Laredo through the historical data and evaluation of waybill data. It would have been difficult for BNSF to challenge KCS's open gateway commitment prior to now because BNSF did not previously have access to these data sources, and because of a lack of transparency in the KCS pricing data available to BNSF. As discussed below, KCS/KCSM has quoted Mexico prices directly to shippers and potential shippers, not to its interchange partners. Because BNSF does not know what prices KCS offers for the KCSM portion of the interline movement, BNSF cannot determine whether a manipulation of those prices has caused BNSF's loss of business through Laredo.

Within the last few years, BNSF has successfully increased traffic through Laredo in the two discrete areas described by Mr. Hirsch – intermodal and finished automobiles. (V.S. Hirsch 10-14.) But the increase of traffic in these two areas is further evidence of KCS's exclusionary strategy. This is traffic that KCS cannot effectively serve today. (*Id.* at 12-13.)

The contrast is stark. When KCS can provide a particular service or reach a particular location, it is virtually impossible for BNSF to compete. But when KCS does not serve a particular location or provide the type of service that BNSF is providing, BNSF is able to access the Mexican market through Laredo. (*See* V.S. Reishus 32-34.) Indeed, BNSF has been able to support a large volume of interline traffic when KCS does not have the ability to provide

the service itself. This shows that the playing field is clearly not level for BNSF's movements going through Laredo.

Mr. Hirsch describes the interline service agreement between KCS and BNSF for intermodal traffic that moves through Laredo. (V.S. Hirsch 11-12.) As he explains, the new intermodal product offered by KCS and BNSF is based on the substantial efficiencies of BNSF's access and routes for intermodal movements into Mexico. (*Id.* at 12.)¹¹ The contract has been highly successful in moving cross-border traffic from trucks to rail. However, the contract term expires soon, and BNSF has not been successful in securing its renewal beyond a short term. (*Id.*) Indeed, as explained by Mr. Fisher, Applicants' traffic diversion and growth assumptions appear to contemplate the movement of that same BNSF-KCS traffic to a CP-KCS route, indicating that BNSF may also be excluded from the intermodal market at Laredo as a result of this merger. (V.S. Fisher 11-12, Table 3.)¹²

In addition, Mr. Hirsch explains that finished auto traffic recently increased as a result of a single contract, which is also set to expire in the near

¹¹ This is, for the most part, new traffic to KCS and KCSM. (V.S. Hirsch 12). In other words, this intermodal traffic is business that KCS cannot serve without partnering with BNSF on the U.S. portion of the moves. As incremental traffic that KCS could not capture through foreclosure, KCS has the incentive to cooperate with BNSF in attracting that traffic from trucks.

¹² BNSF has recently engaged in conversations with KCS about extending the KCS-BNSF interline service agreement in a way that would ensure that BNSF is able to effectively compete long-term for Mexico intermodal traffic over the Laredo gateway following the merger. *See* V.S. Hirsch 12. BNSF and KCS could only agree on a short-term extension of the interline service agreement. This will, without Board action, soon leave BNSF and its customers at the mercy of a CP-KCS entity that has strong incentives to inflate the Mexico segment of BNSF's interline rate compared to CP-KCS's own rate, rendering BNSF's joint product noncompetitive compared to CP-KCS's own product.

future. (*See* V.S. Hirsch 14.) This traffic is further evidence that KCS is willing to work with BNSF through Laredo when it cannot provide a competing service. As Mr. Hirsch explains, KCS did not have the ability to offer its own service to compete with BNSF when the contract was executed. (*See id.*) KCS has a very limited auto network in the U.S. and is unable to provide the bundled service across a range of destinations that the large auto manufacturing companies seek, requiring it to partner with other Class I railroads like BNSF. (*See id.*)

As discussed below, BNSF’s concern is that when CP combines with KCS, shippers will be harmed because Mexican opportunities that are efficient and attractive today on BNSF will be foreclosed. (*Id.*) Indeed, Applicants’ diversion analysis indicates that CP-KCS intends to divert approximately {{ [REDACTED] }}. (Brown/Zebrowski HC Workpaper HC – 8 – Diversion Identification.xlsx; tab “Calculations”); (*See also* Appl. V.S. Brown/Zebrowski 35, Table 17.)

4.4 The CP-KCS merger vastly increases the risk of anticompetitive foreclosure of Mexico through the Laredo and Robstown gateways.

Dr. Reishus explains how the CP-KCS consolidation would create fresh incentives to limit vertical competition and foreclose BNSF from competitive access to Mexican markets through Laredo.

First, the much larger CP network competes across a much broader range of traffic with substantial additional economic incentives for the combined CP-KCS to limit vertical competition. The Transaction will substantially expand the traffic that CP-KCS can potentially bring over the

Laredo gateway. (V.S. Reishus 45.) The proposed Transaction will expand KCS's currently limited network throughout the Midwest and coast-to-coast across Canada. (*Id.*) This will introduce many new locations served directly by a combined CP-KCS and place substantially larger volumes of traffic with access to single-line CP-KCS service. (*Id.*) By extending the reach of the KCSM-affiliated North American network, the Transaction will alter and enhance the incentives of CP-KCS and KCSM to establish prices that divert traffic to the combined carrier. (*Id.*)

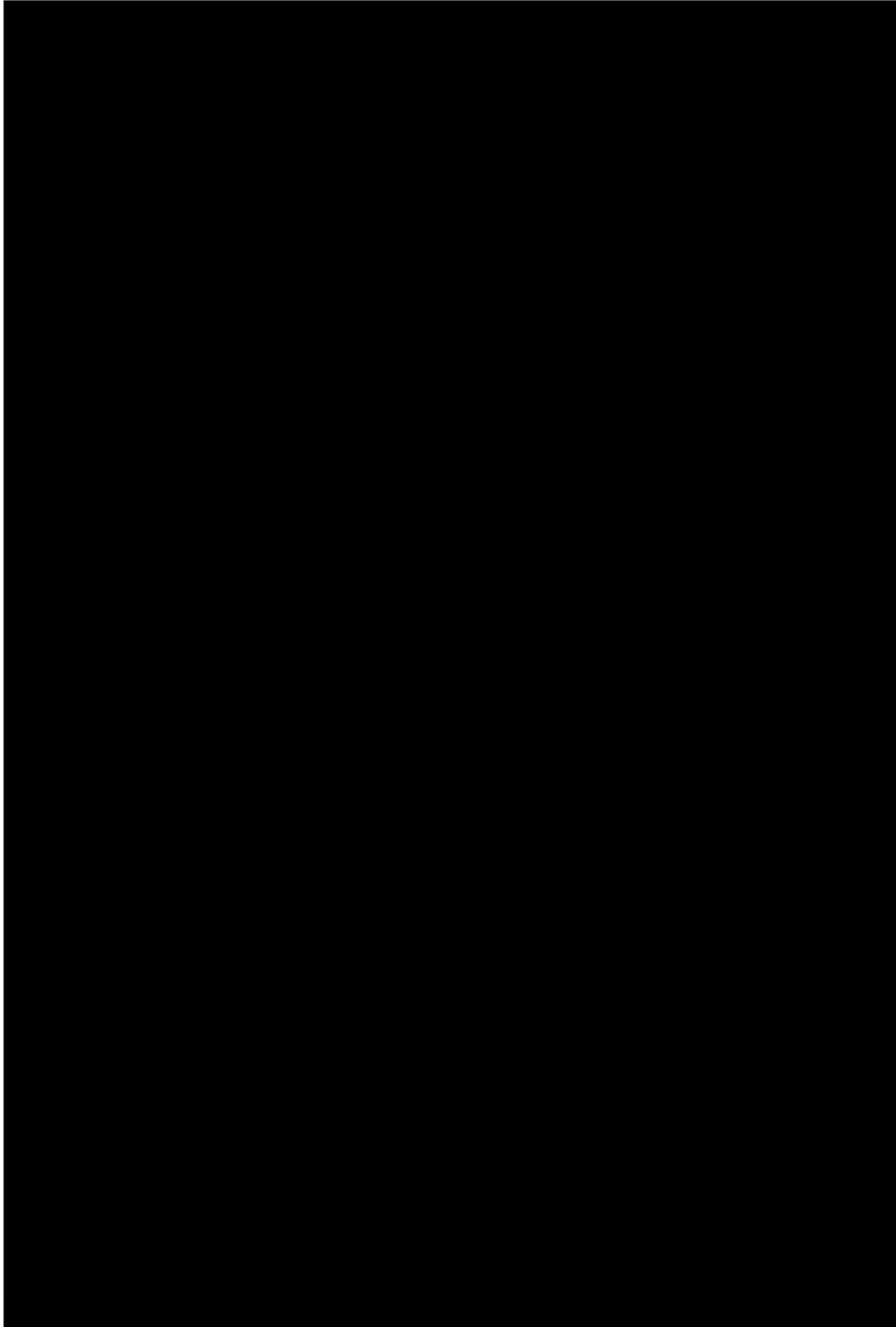
Second, there is value to CP-KCS in preventing entry by BNSF into this market even if BNSF and its shippers provide the most competitive transportation product. (*See* V.S. Reishus V.S. at para 87-88.) As Professor Wilson explains, Mexico is a growing export market for U.S. farmers, and the Laredo gateway is the most efficient point of entry for many Mexican destinations. (V.S. Wilson 5, 21.) Professor Wilson explains that BNSF's movements through the Laredo gateway declined dramatically after the KCS/Tex Mex merger and BNSF shifted grain traffic to the Eagle Pass border crossing, imposing new costs on BNSF for movements to several Mexican locations, including the areas that have the highest demand for grain. (*Id.* at 17-19.)

Professor Wilson explains that the Board should be concerned that a combined CP-KCS could favor shippers located on CP's network, including Canadian farm origins, that could foreclose U.S. farmers from the Mexico market. (*Id.* at 22-23.) As Professor Wilson notes, Applicants' own materials submitted with the Application indicate that Canadian farmers will see new

opportunities for rail movements to Mexico in competition with U.S. farmers. (*Id.* at 22, Fig. 15.)

BNSF's concern about diversion of traffic to a combined CP-KCS is borne out by the Applicants' own assumptions. The following chart from Dr. Reishus's statement summarizes the existing traffic and the traffic that Applicants project will result from the Transaction through Laredo, along with the revenue related to each. (V.S. Reishus 46-47, Fig. 9.) Based on Applicants' own statements and data, the incremental revenue that Applicants project for diversion would roughly {{[REDACTED]}} the existing revenue that the independent KCS earns from joint KCSM-KCS Laredo gateway traffic between Mexico and the U.S. (*Id.* at 47.)

Table 4 - Existing and Merger-Related Incremental and Potential Traffic and Revenue Over the Laredo Gateway



(Brooks Dep. Tr. [140:7-20], Feb. 4, 2022.)¹⁴ Mr. Ottensmeyer also agreed with that definition. (Ottensmeyer Dep. Tr. [22:8-23:19], Feb. 22, 2022.) However, Applicants themselves conceded in their response to UP’s motion to compel: “There are no set metrics; there are no dollar caps. There is no ruler by which UP could even determine . . . whether a particular rate offered for one customer in 2019 for intermodal traffic between Mexico City and Kansas City is ‘commercially reasonable’ without wild speculation.” (CP/KCS Reply to Union Pacific Railroad Company’s Motion to Compel 12, Feb. 7, 2022, *Canadian Pac. Ry.—Control—Kansas City S.*, FD 36500.)¹⁵

Second, there is a lack of transparency which precludes shippers (and railroads acting on their behalf) from determining whether KCS provides commercially reasonable rate terms, even if there was a clear understanding of what those terms should be. This lack of transparency results from the way rates are quoted for movements into and out of Mexico.

For movements to and from Mexico that involve BNSF in the United States, a combined CP-KCS would quote – to the shipper only – a Rule 11 rate for the Robstown-Laredo-Mexico portion of the movement on KCS/KCSM. BNSF would not see what the rate is, so it would have no way of gauging

¹⁴ Cited and quoted excerpts from all deposition transcripts are attached here as Exhibit 2.

¹⁵ In a June 25, 2021 e-mail to NITL, CP stated { [REDACTED] }
[REDACTED]
(CP-C-0000852.) (This document and all other documents produced by Applicants in discovery and cited in these comments are attached as Exhibit 3.)

whether it is “commercially reasonable.” [REDACTED]
[REDACTED]
[REDACTED] } (See Ottensmeyer Tr. [48:4-11], February 22, 2022.) (Of course, that rate would also not be known to BNSF.) This practice would not allow the shipper – let alone BNSF – to determine whether CP-KCS is living up to its commitment to provide BNSF with commercially reasonable rates. The shipper would only see the KCSM rate for the BNSF interline movement.

Even if BNSF or the shipper could see the KCSM rate for the CP-KCS movement, it would not be possible to determine whether CP-KCS was manipulating the KCSM rate to put BNSF at an artificial disadvantage. For example, CP-KCS claims they would be required by the Mexican non-discrimination law to charge a same/similar amount for the KCSM movement in both a BNSF/KCS-KCSM interline route or a CP-KCS-KCSM single-line route from Mexico to Chicago. But KCSM could quote an artificially (but equally) high amount for both the single-line (CP-KCS-KCSM) and interline (BNSF/KCS-KCSM) movements, and then selectively reduce the rate for the U.S. portion of the CP-KCS single-line movement to make up for the higher KCSM rate. BNSF would not have the same ability to reduce its Robstown-Chicago rate, making the CP-KCS single-line rate lower than the combined rate for the BNSF/KCS-KCSM interline movement. This strategy is described in more detail in Dr. Reishus’s Verified Statement and is illustrated in Figure 5 below. (V.S. Reishus 16-19.)

moves faster than the Board’s dispute resolution processes. By the time a dispute over the commercial reasonableness of CP-KCS conduct is resolved, the opportunity for BNSF to compete for the business likely will have passed.

Similarly, if the competitive manipulation resulted from conduct in Mexico, such as possible violations of Mexican anti-discrimination law, it would be very difficult to pursue remedies before Mexican authorities. It appears that since the reform of the Mexican railway system in 1995, regulators have never adequately addressed a dispute regarding alleged competitive harm arising from rates imposed by a concessionaire. (V.S. Dychter 6.). Transparency is also an issue in Mexico. Only maximum rates are published, and Mexican railroads may price below the published rate. Additionally, there is substantial uncertainty about how Mexican regulators would interpret the non-discrimination rules and what kind of relief the regulators might order, if any. (*Id.* at 6-7.)¹⁷

Dr. Dychter presents an example of a shipper that could use KCS, UP, or BNSF in the United States. (*Id.* at 10.) KCSM could set rates for shipments to Laredo as high as required to make it uneconomic for the shipper to use BNSF or UP. (*Id.*) If KCSM’s rate was not above the maximum level and was provided on a non-discriminatory basis to all interconnecting railroads at

¹⁷ Generally, railway regulatory oversight in Mexico has not been robust enough to ensure the seamless provision of freight services, at reasonable prices, in a competitive manner, and under equal conditions. (V.S. Dychter 10.) Indeed, a 2016 Report by the Organization for Economic Co-operation and Development (OECD) Report concluded: “[In general], the system has worked well but a deficit in regulatory capacity in government has proved an obstacle to settling disputes over the use of trackage rights and, in some markets, disputes over access the conditions for certain shippers.” (OECD, International Transport Forum, Establishing Mexico’s Regulatory Agency for Rail Transport 5, 2016.)

Laredo, it may not violate Mexican regulations. (*Id.*) If so, nothing in the Mexican regulatory system would prohibit such behavior. But even if the behavior was discovered and accused of being improper, it would be subject to the intricacies of the Mexican judicial system and timely, effective resolution would be uncertain. (*Id.*) The lack of certainty in Mexican regulatory review and enforcement therefore make it imperative for the Board to create remedies for U.S. shippers to address the cross-border issues that we have identified.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] } (Brooks Dep. Tr. [78:13-17], Feb. 4, 2022.) { [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] } (*Id.* at [80:6-81:10]).¹⁸

Mr. Brooks also stated in his verified statement: “CP will inherit KCS’s commitment to keep the Laredo Gateway open on commercially reasonable terms, which KCS made in 2003 when it proposed to acquire Tex Mex and TFM (which is now KCSM).” (V.S. Brooks 21 (emphasis added).) However, Mr. Brooks emphasized the limits on that commitment: “CP/KCS will continue to

¹⁸ It should be noted that Messrs. Creel and Ottensmeyer, the Chief Executive Officers of CP and KCS, respectively, have confirmed that the combined CP-KCS is making a commitment in this proceeding to keep all existing gateways open on commercially reasonable terms. (V.S. Creel 14; V.S. Ottensmeyer 17.)

maintain efficient operations serving existing gateways *wherever traffic levels warrant* – in terms of both the through train services to and from the gateways as well as the operational capabilities and infrastructure necessary to carry out efficient interchange.” (*Id.* at 22 (emphasis added).) Further, Mr. Brooks sought to “clarify” that the obligation of the future CP-KCS to provide commercially reasonable rates was limited to { [REDACTED] [REDACTED] [REDACTED] }. (Brooks Dep. Tr. [81:11-24], [85:23- 86:2], Feb. 4, 2022.) Mr. Ottensmeyer testified in contrast that { [REDACTED] [REDACTED] }. (Ottensmeyer Dep. Tr. [28:20-29:2], Feb. 22, 2022.) Additionally, CP-KCS seeks to limit their open gateway commitments to existing traffic. *See* V.S. Creel 14. Such a limitation would deprive shippers of their ability to route traffic to and from Mexico via newly-developed routings where commercially reasonable rates on KCSM would be vital.

It is thus evident that BNSF and its shippers need more than the existing, vague commitment to ensure access to Mexican markets through Laredo after a combination of CP and KCS. Indeed, Mr. Ottensmeyer acknowledged that { [REDACTED] [REDACTED] [REDACTED] }. (Ottensmeyer Dep. Tr. [39:8-21], Feb. 22, 2022.) Yet, discovery has shown that KCS has done little, if anything, to ensure that it is meeting that obligation:

- KCS was unable to produce a single document reflecting its implementation of the representations, pledges and commitments KCS made in the KCS/Tex Mex proceeding. (KCS/CP Joint Responses and Objections to BNSF Railway Company’s Second Set of Discovery

Requests, Response to Request No. 39. 38-39, Dec. 14, 2021, *Canadian Pac. Ry.—Control—Kansas City S.*, FD 36500.)

- KCS was unable to produce a single document reflecting its performance of its obligations under the KCS/NITL Agreement. (*Id.* at Request No. 40 39-40.)
- KCS was unable to produce a single document reflecting KCS policies, protocols, instructions and other documents concerning commercially reasonable terms and how such rates should be determined. (*Id.* at Request No. 42 41-42.)
- Mr. Ottensmeyer confirmed that, { [REDACTED] } (Ottensmeyer Dep. Tr. [40:14-41:7], Feb. 22, 2022.)

In addition, when Mr. Ottensmeyer was asked at his deposition whether he receives reports as to KCS's compliance with its KCS/Tex Mex commitment to keep gateways open on commercially reasonable terms, { [REDACTED] } (Ottensmeyer Dep. Tr. [35:21-36:2].) CP was similarly unable to produce any documents listed above relating to the open gateway commitment that it made in connection with its acquisition of DM&E in 2008. (KCS/CP Joint Responses and Objections, Response to Requests Nos. 24, 25 and 28 25-26, 28-29.). Consistent with CP's discovery responses, Mr. Brooks confirmed that { [REDACTED] } (Brooks Dep. Tr. [134:20-135:6], Feb. 4, 2022.)

Applicants' failure to each have policies and practices in place to effectively implement their existing open gateways commitments undercuts their assertion that reliance on the broad KCS/Tex Mex commitments is

adequate going forward. Experience has shown that it would be wholly inadequate given the lack of transparency as to KCS's pricing practices. And Applicants' continued reliance on their claim that no complaints have been voiced against KCS for non-compliance with the KCS/Tex Mex commitments is thus little more than a recognition that KCS has exercised its enhanced market power in such a way as to forestall any such complaints.

4.6 The Board must impose a more concrete and enforceable mechanism to ensure that Laredo and Robstown gateways remain open to BNSF and its shippers.

Applicants' pledge to adhere to the "open gateway" commitment from the KCS/Tex Mex merger is insufficient for the reasons discussed above. The Board should impose a more definitive and enforceable mechanism to ensure that the Laredo gateway will be open to shippers using rail carriers other than CP-KCS.

In designing that critical mechanism, the Board should consider requiring CP-KCS to execute and comply with a "proportional rate" agreement like the one developed and adopted as a condition in the UP/SP merger for interline traffic over the Portland gateway, referred to as the I-5 Prop Rate Agreement. Other approaches may also work to preserve access through market-based restraints on rate setting. The I-5 Prop Rate Agreement is helpful to consider here because it illustrates how a proportional rate arrangement can be effective in maintaining access and preserving market-based pricing.

The I-5 Prop Rate Agreement was developed in part to ensure that UP would be able to provide interline service for movements that involved

locations in the Pacific Northwest that were served only by BNSF. It was a mechanism designed to ensure that BNSF could not set rates for movements involving shippers in the Pacific Northwest in a way that foreclosed UP's access. It illustrates, therefore, the type of mechanism that could be used here to ensure that CP-KCS is not able to use its control over rates set for the Mexico portions of interline movements in a way that would foreclose BNSF from providing competitive interline transportation to locations in Mexico.

The I-5 Prop Rate Agreement arose out of settlements in the UP/SP merger, where BNSF acquired the so-called "Bieber Line," a single-line route along the West Coast between the Pacific Northwest and Southern California. Before the BN/SF merger and the UP/SP merger, BN and SP offered joint rates for movements between BN points and interchanges with Canadian carriers that BN could reach in the north and SP-served locations in Southern California and the southwest.¹⁹ With BNSF acquiring a single-line route for movements previously provided in this interline service, UP sought to preserve the ability to move such traffic through the Portland gateway in competition with the BNSF single-line route.

The concern was that, prior to the mergers, BN and SP had mutual incentives to move traffic over the Portland gateway in interline service because neither could offer that service on its own. That changed after the mergers with BNSF obtaining the ability to serve that traffic in single-line

¹⁹ Given the transnational nature of the I-5 Prop Rate Agreement, the Board's imposition of this agreement as a condition to the UP/SP merger is further evidence of the Board's jurisdiction over cross-border issues in mergers. *See supra* Section 3.

service. The proportional rate agreement was developed to protect the viability of a joint route over Portland.

Under this approach, CP-KCS would independently offer whatever single-line rates to customers based on any routing inefficiencies they can achieve in the United States without foreclosing access to Mexican locations through Laredo. Connecting U.S. carriers could then offer an interline rate to shippers based on a proportional rate for the Mexico portion of the movement and attract interline business if the connecting carrier can offer superior efficiencies on the U.S. portion of the movement.

One of the benefits of such a proportional rate approach is that the U.S. carrier would have the right without additional concurrence by the single-line carrier to combine that proportional rate with the U.S. carrier's rate for movement in the United States and then offer its own through rate to shippers in both countries in competition with the single-line carrier's rate. In the I-5 Prop Rate Agreement, UP can see the proportional rate developed based on BNSF's market-based price setting and use it in quoting rates to its shippers without having to interact directly with BNSF. The mechanism also operates without STB involvement or oversight.²⁰

²⁰ As explained by Dr. Reishus, the basic concept of such a proportional rate is that the railroad with the long-haul single-line route (here, CP-KCS) must charge a rate for the sole-served portion of that single-line route (here, Mexico) that is proportional to the through rate it charges for single-line service based on the length of haul of the sole-served portion of the route (here, Mexico to a CP-KCS location). (See V.S. Reishus 49-50). Specifically, the through revenue for actual long-haul single-line movements provided recently by the single-line carrier can be calculated on a per ton mile basis, on metrics such as commodity and car type, over the single-line route. That per ton mile factor can then be applied to the mileage of the movement on the sole-served portion of the route (here, Mexico) to create a proportional rate.

Under the prop rate approach, the connecting carrier has a real and fair opportunity to compete with the single-line carrier. The connecting carrier will know what rate it can offer to shippers. It will also know that the rate is based on the actual and recent market-based rates charged by the single-line carrier, and not based on an effort to foreclose competition. This methodology can reflect long-term changes in markets, as well as carrier efficiencies and competitive factors without ongoing regulatory intervention. This is because the proportional rate is derived from through rates that have been set in the marketplace as conditions may change.

By allowing Applicants to adjust their rates to reflect post-merger efficiencies, a proportional rate mechanism would avoid the issues associated with the anti-competitive “rate equalization” conditions imposed by the ICC on mergers after its decision in *Detroit, Toledo & Ironton R.R. et al. Control, Etc.*, 275 I.C.C. 455 (1950). Following the *DT&I Control* decision, the ICC required merged railroads to preserve relationships with other railroads that had existed before the merger at all interchange points regardless of whether those conditions were efficient or not. This “rate equalization” condition kept rates artificially high and prevented merger efficiencies from being realized because a merged railroad was generally prohibited from charging rates on new single-line routes below the rates on joint-line routes on which it had previously participated with other railroads. See *Rulemaking Concerning Traffic Protective Conditions in Railroad Consolidation Procedures*, 366 I.C.C. 112, 112-13, 121-22, 130 (1982). A proportional rate mechanism like the I-5 Prop Rate Agreement does not constrain the pricing flexibility of the merged rail

carriers, but fully allows market-based pricing. The ICC later abandoned its use of DT&I conditions in Traffic Protective Conditions. *Id.* at 121-22.

An acceptable solution to the foreclosure problem must also include adequate guarantees relating to service at Laredo and Robstown. Applicants could engage in exclusionary conduct by manipulating operating practices. (*See* V.S. Reishus 51-55.) There are numerous ways that CP-KCS could use its control over the border crossing at Laredo and then the movement of traffic in Mexico to put BNSF (or other interline carriers) at a competitive disadvantage. For example, lower priority could be given to interline cars or trains, cars and trains could be held unnecessarily on sidings, and train starts could be delayed, to mention only a few operating tactics that could be used to discourage shippers from using interline service.

Given the myriad ways in which CP-KCS could disadvantage connecting carriers, the best remedy would be to impose a general requirement that CP-KCS treat interline traffic moving across the Laredo gateway equally to CP-KCS single line traffic. Such an equal treatment requirement can be enforced initially through the Board's oversight process and, if necessary, through the adoption of more specific measures.

An additional way to address this issue would be to require CP and KCS to comply with the specific pledges that KCS made to NITL in connection with the KCS/Tex Mex merger relating to service through Laredo. The KCS/NITL Agreement had specific service measurements and reporting requirements that expired after three years.²¹ The Board should require that the service

²¹ *See* Section 4: "Service Measurements. KCS and NAFTA Rail will maintain and strive to improve the service levels between Beaumont and Laredo, TX. With the

reporting requirements of that agreement be imposed on the CP-KCS merger for the term of the oversight period here.

Further, to ensure the availability of information on the relative treatment of BNSF traffic, the Board should impose reporting requirements on service provided through the Laredo gateway. These should include the measuring and reporting to the Board of CP-KCS's Robstown and Laredo switching and interchange performance for the duration of the oversight period, including interchange dwell times and terminal dwell times, with the specific reporting metrics agreed to between CP-KCS and BNSF. Indeed, CP indicated to NITL in a June 25, 2021 e-mail that it would { [REDACTED] [REDACTED] [REDACTED] } (CP-C-0000853).

4.7 The Board should reserve jurisdiction during the oversight period to impose additional remedies, including trackage rights to the border, if necessary to ensure an open gateway at Laredo.

BNSF believes that the imposition of a proportional rate mechanism as described above, or an alternative mechanism that prevents the manipulation of prices by the new CP-KCS in a way that excludes access, along with guarantees for equal service treatment of BNSF trains, should ensure that the Laredo gateway will actually remain open on commercially reasonable terms.

understanding that about 70% of that route involves the use of trackage rights over [UP], KCS and NAFTA Rail will report, based upon agreed specific service measurements, to the [STB] on the service level provided for each quarter for the past two years and for each quarter for a period of three years from the effective date of the Transaction. If service falls below the levels in existence at the time of this agreement, KCS and NAFTA Rail will provide the STB with a corrective action plan which may include a request for assistance if it were determined that the UP was responsible for the service problems.” (KCS/NITL Agreement, Aug. 1, 2003.)

But if those remedies do not prove to be sufficient to preserve competition, the Board may need to consider providing BNSF with direct access to Laredo through trackage rights over KCS.

As explained previously, BNSF currently interchanges traffic with KCS at Robstown for movement by KCS to Laredo and beyond into Mexico by KCSM. Direct BNSF access to Laredo through trackage rights on KCS would be an effective way to ensure that BNSF may access Mexico when the Mexican Government opens its rail lines to additional competition. (See V.S. Dychter 14-16); (V.S. Hirsch 19). The 50-year government concession that KCSM currently holds expires in 2047. (V.S. Hirsch 19). BNSF and other railroads will have the opportunity to bid for a concession when the exclusivity provision of KCSM's concession expires in 2027. To obtain such a concession, BNSF would need to be able to demonstrate to the Mexican government that it has a credible plan for accessing Mexico, which would require direct access to Laredo.

BNSF considered filing a responsive application for trackage rights between Robstown and Laredo to preemptively address this issue. (See BNSF Description of Anticipated Responsive Applications 1-2, Jan. 12, 2022, *Canadian Pac. Ry.—Control—Kansas City S.*, FD 36500.) BNSF described those potential trackage rights as “springing” and contingent, not rights that BNSF would seek for current use should the Board approve the Transaction. Since BNSF would only need the trackage rights under future conditions not known today, it would not be possible to prepare a detailed market analysis and operating plan necessary to satisfy the Board's regulatory requirements for a trackage rights application. See *Decision No. 13*, FD 36500, slip op. at 5

n.9. Therefore, BNSF is not seeking such trackage rights through an inconsistent application in this proceeding.

However, BNSF believes that it would be appropriate for the Board to reserve jurisdiction during the oversight period to address this issue if other remedies imposed by the Board to implement the open gateway commitments are not successful. Accordingly, BNSF intends to monitor the implementation of remedies designed to ensure an open gateway during the Board’s oversight process and address the issue in the oversight process as necessary.²²

5. Without conditions, the projected CP-KCS traffic increases will harm the public interest and result in anticompetitive effects.

Applicants have projected that the Transaction will result in significant traffic increases across the existing CP and KCS networks. These traffic increases will have substantial impacts on existing traffic flows, potentially creating congestion and service problems in areas experiencing significant changes in volume. The traffic increases will also cause BNSF and its customers to incur costs that Applicants should bear in connection with their Transaction. Such cost-shifting would be anticompetitive and not in the public interest, and the Board should protect against it.

²² The Board should note that, on February 16, 2022, UP served BNSF with a demand for arbitration seeking a “declaration that BNSF does not have the right to connect for movement any rights it might obtain over Tex Mex Railway’s Robstown-Laredo line to its Houston-Brownsville trackage rights.” Letter from UP to BNSF 7 (Feb. 16, 2022.) While the Board has continuing jurisdiction to resolve issues related to the UP/SP merger conditions, BNSF does not currently ask that the Board resolve this issue. However, the UP arbitration demand is further evidence of the actions that the Laredo gateway incumbents (KCS and UP) could take to foreclose BNSF access to Mexico via the Laredo gateway.

Specifically, as detailed below, BNSF proposes that the Board impose certain conditions on any approval of the Transaction in order to ensure that the nationwide supply chain does not seize up, that Applicants are held responsible for the operational impacts of their merger, and that service issues do not degrade existing competition between CP-KCS and other railroads such as BNSF.

5.1 Current issues affecting the supply chain should cause the Board to closely examine the effects of the proposed CP-KCS consolidation.

The Board and other federal transportation policy makers are rightly focused at present on supply chain fluidity issues. It is well known that the entire nation, continent, and indeed the world, are experiencing supply chain problems as a result of the ongoing COVID-19 pandemic. All industries have been affected by the global supply chain disruptions, and there is still much uncertainty regarding when things will improve. The rail industry, in particular, has experienced significant challenges and is engaged in significant efforts to support improvements and mitigate impacts to our customers. The pandemic has caused severe delays at major U.S. ports, creating bottlenecks across the rail industry. These problems have been exacerbated by manufacturing and labor shortages in several areas. The Board has acknowledged the problems with congestion in the international intermodal supply chain.

The Board has also been focused recently on rail service issues. Throughout the COVID-19 pandemic, the Board has sent multiple letters to Class I railroads, expressing concern regarding reports from shippers related

to service issues, including missed switches and railcars delayed at yards or interchanges, subpar performance, and significant congestion at intermodal facilities. Through these letters, the Board has requested information from Class I railroads regarding each railroad's preparedness to meet anticipated future demand. Furthermore, in recent years, the Board has undertaken various measures intended to address service issues. For instance, in response to concerns raised by shippers across numerous industries, the Board has sought information on possible first-mile/last-mile service issues. Additionally, the Board has issued a series of decisions and held a public hearing on demurrage and accessorial rules and charges.

The Board should ensure that the proposed CP-KCS combination does not exacerbate these nationwide policy issues that affect all participants in the supply chain. However, absent Board intervention, the Transaction as proposed by Applicants would cause service disruptions in critical gateways such as Houston that could reverberate through the nationwide rail network.

5.2 Rail service in the Houston complex melted down following the last major merger affecting the terminal area, requiring Board intervention.

Messrs. Gabriel and Thowe explain that Houston is a vital piece of rail and port commerce through the Southwest, similar to Chicago in the Midwest. Houston is a major hub of both east/west flows between the Western and the Eastern United States, and north/south flows between the Pacific Northwest/Midwest and Mexico.

Immediately following the UP/SP merger, during the summer of 1997, serious service issues developed in and around Houston, affecting rail service

throughout the western United States. *Union Pac. Corp.—Control & Merger—S. Pac. Rail Corp. [Houston/Gulf Coast Oversight] (Decision No. 6)*, FD 32760 (Sub-No. 26), slip op. at 4 (STB served Aug. 4, 1998). In response to the service crisis, the Board issued a series of decisions under its emergency service order authority under 49 U.S.C. § 11123, beginning on October 31, 1997 and effective until August 2, 1998. *Id.*; *Union Pac. Corp.—Control & Merger—S. Pac. Rail Corp. [General Oversight] (Decision No. 13)*, FD 32760 (Sub-No. 21), slip op. at 2-3 (STB served Dec. 21, 1998).

The Board concluded that the service crisis was caused in large part by inadequate infrastructure in the Houston area. *Joint Petition for Service Order*, STB SO No. 1518, slip op. at 4 (STB served Feb 25. 1998). The rail system in Houston had limited capacity, antiquated facilities, and an inefficient configuration that was unable to cope with surges in demand. *Id.* Thus, when a surge in the economy occurred and congestion began, UP/SP was unable to restrain it. *Id.* at 4-5. The Board also determined that the crisis was a result of a combination of additional factors including: expanding economy; weather; the difficulties and mistakes associated with UP's implementation of the merger before and after the onset of the crisis; derailments and accidents on both UP and SP that lead to the Federal Railroad Administration's extensive investigation of the accidents; and the backup of Mexico-bound traffic destined for Laredo that ultimately forced UP to declare an embargo of the Laredo gateway. *Union Pac. Corp.—Control & Merger—S. Pac. Corp. [Houston/Gulf Coast Oversight] (Decision No. 10)*, FD 32760 (Sub-No. 26), slip op. at 22 (STB served Dec. 21, 1998).

The service crisis in the Houston area had ramifications for myriad stakeholders. In general, the crisis led to a lengthy and damaging service breakdown that dramatically affected rail transport throughout the Western Portion of the United States. *Id.* at 6. Shortages of locomotives and crews damaged transit time and service for UP's customers throughout its system. See Rip Watson, *UP Faces "Meltdown" in Wake of Accident*, J. OF COMMERCE (Aug. 21, 1997).

In October 1997, shippers from the West Coast of the United States to the Texas Gulf testified to the Board about the difficulties they had in moving, and sometimes even locating, their freight. *Joint Petition for Service Order*, STB SO No. 1518, slip op. at 3 (STB served Oct. 31, 1997). Operators of rail passenger services testified about the difficulties they were facing in their efforts to achieve on-time performance in California and the Gulf region. *Id.* Short line railroads testified about the difficulties they had in moving their cars over UP/SP and in recovering empty cars already in the UP system. *Id.* State and local government agencies testified as to the commercial problems that accompanied the service failures of the railroads serving the western part of the country. *Id.* UP itself incurred over \$1 billion in additional costs, lost significant traffic, and suffered losses in the hundreds of millions of dollars. *Houston/Gulf Coast Oversight (Decision No. 10)*, slip op. at 10.

The Board utilized both temporary and permanent measures to address the service crisis in the Houston area. As noted above, the Board issued a series of unprecedented service order decisions, effective through August 2, 1998, pursuant to its emergency authority under 49 U.S.C. § 11123. See *id.* at 6 n.7 (citing *Joint Petition for Service Order*, STB SO No. 1518, (STB served Oct. 31

and Dec. 4, 1997, and Feb. 17 and 25, 1998). Through these decisions, the Board ordered temporary changes to the way in which rail service was provided in the Houston area.

For example, the Board directed UP/SP to release shippers that were switched by the HBT or the Port Terminal Railroad Association from their contracts so that the shippers could immediately route traffic over BNSF or Tex Mex, in addition to UP/SP. *Union Pac. Corp.—Control & Merger—S. Pac. Rail Corp. [General Oversight] (Decision No. 12)*, FD 32760 (Sub-No. 21), slip op. at 5 n.7 (STB served Mar. 31, 1998). The Board also required UP/SP to cooperate with other railroads and accept assistance from other railroads that were able to handle UP/SP traffic. *Id.*

In addition to ordering temporary changes to rail service in the Houston area, the Board provided that interested parties could present permanent restructuring proposals in the oversight process and instituted a proceeding to consider requests for additional conditions to the UP/SP merger for the Houston/Gulf Coast region. *Houston/Gulf Coast Oversight (Decision No. 10)*, slip op. at 7.

In a decision served on December 21, 1998, the Board imposed a “clear route through Houston” condition in order to “enhance efficiency and facilitate the smooth movement of traffic through the Houston Terminal.” *Id.* at 8. Under this condition, sought by BNSF and other parties, the “neutral and highly efficient” joint UP and BNSF dispatching center at Spring, Texas, would have authority through its Joint Director to route traffic through Houston over any available route, including routes over which the owner of the train does not have operating authority. *Id.* at 1. Therefore, pursuant to the Board’s decision,

a BNSF train may be permitted to operate over UP track; a UP train may be permitted to operate over BNSF track; and a Tex Mex train may be permitted to operate over either UP or BNSF track. *Id.*

5.3 Absent Board intervention, the significant traffic increases and longer trains projected by Applicants will cause serious congestion and service issues in critical areas such as Houston.

Applicants have proposed adding significant amounts of new and longer CP-KCS trains to many existing CP and KCS rail lines, particularly those that would provide single-line service to and from Mexico through Laredo. Mr. Fisher explains that more than two-thirds of the additional revenue shipments that Applicants project on CP-KCS will travel to/from Mexico, and that Applicants project approximately eight to 11 new and longer trains per day in Texas on the CP-KCS single-line through route to Mexico. (V.S. Fisher 12.) In order to accommodate this new traffic, Applicants have proposed adding more than \$275 million in capacity improvements on certain of these lines, but none in Texas. (Appl. Vol. 1 23, 26.)

Messrs. Gabriel and Thowe have identified three geographic areas where BNSF believes that Applicants have not done enough to protect against congestion resulting from the new traffic: (1) Texas, (2) Ottumwa, Iowa, and (3) the Quad Cities of Illinois and Iowa. (See V.S. Gabriel-Thowe VS 5-23.) Absent the conditions requested here by BNSF, the merger-related congestion that Messrs. Gabriel and Thowe warn against will harm competition by degrading the service of BNSF and other railroads at the expense of pushing more traffic on the new CP-KCS single-line through route to Mexico.

5.3.1 KCS Texas Gulf Route

The first and most important area of focus is the KCS route to Mexico through Texas. KCS connects to Mexico by operating over a through route that runs between DeQuincy, Louisiana and Laredo via Houston, generally paralleling the Gulf of Mexico coast and running mostly through the state of Texas (the “KCS Texas Gulf Route”). This route consists of a number of connected line segments, owned by some combination of KCS, UP, and BNSF. On certain of these segments, some combination of KCS, BNSF, UP, and Amtrak operate jointly. These lines are depicted in Figure 2 *supra* at page 23.

Applicants project that the Transaction would result in approximately eight to 11 new CP-KCS trains per day operating over the KCS Texas Gulf Route. (See Appl., Ex. 13, Operating Plan, Appendix A 1.). Mr. Fisher explains that these new trains represent more than a doubling of KCS’s current volume on four of the five subdivisions that comprise the KCS Texas Gulf Route. (V.S. Fisher 35.) Applicants have proposed *no new capacity improvements* in order to handle the projected CP-KCS traffic volumes.

Even though { [REDACTED] }
[REDACTED] } (CP, Transaction Considerations: Confidential 85
(September 2021)), neither CP nor KCS has reached out to BNSF to discuss
the need for capacity improvements on these lines. Mr. Raymond A. Elphick
and Mr. John F. Orr, sponsors of the Operating Plan submitted with the
Application, confirmed in their deposition that { [REDACTED] }
[REDACTED]
[REDACTED]
[REDACTED] } For example, Mr. Elphick stated that { [REDACTED] }

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] } (Elphick-Orr Dep. Tr. [73:3-74:7], Feb. 18, 2022.)

With respect to the critical Houston complex, when asked if [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] } (*Id.*, [94:21-95:1].) When asked whether [REDACTED]

[REDACTED]

[REDACTED]

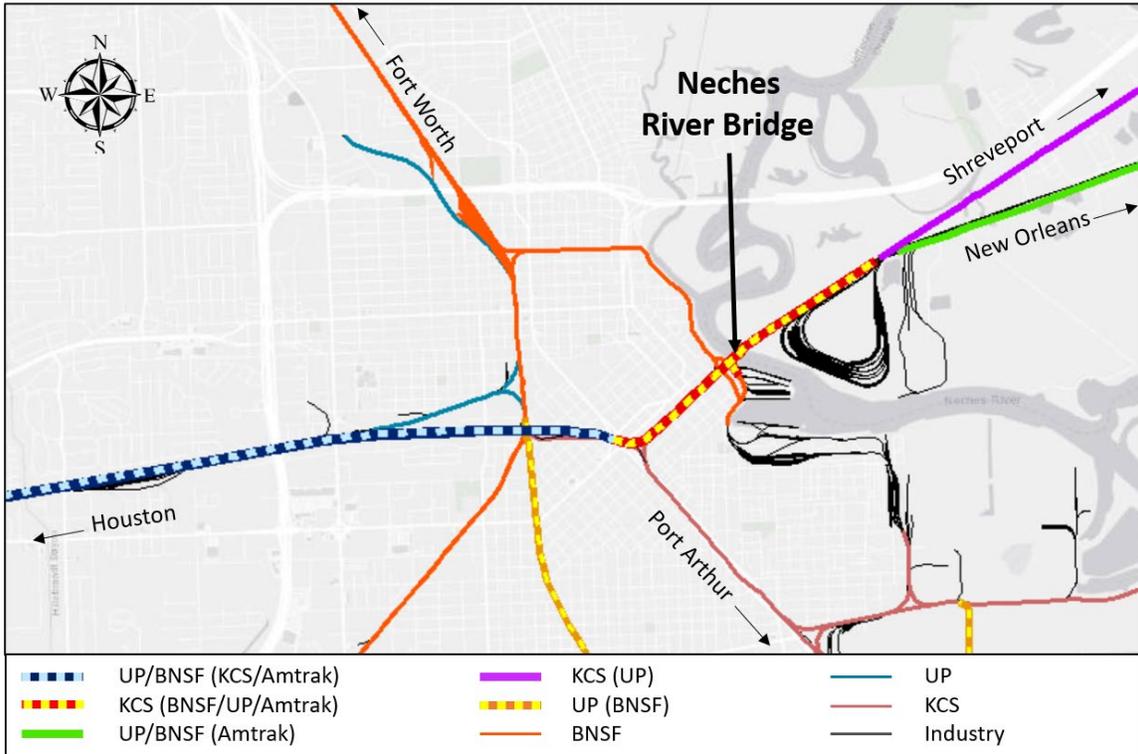
[REDACTED] } (*Id.*, 97:7-15.)

Messrs. Gabriel and Thowe conclude that many of these lines “almost surely” will require capacity improvements not yet identified by Applicants to accommodate the new CP-KCS traffic. (V.S. Gabriel-Thowe 1-2.) Without new capacity on these lines, Messrs. Gabriel and Thowe state that the new and longer CP-KCS trains could cause serious service issues at various points along the KCS Texas Gulf Route, including Beaumont, Dayton, Houston, and Victoria to Robstown. (*Id.* at 5-21.) Messrs. Gabriel and Thowe go into more detail about their congestion concerns regarding each of these locations along the KCS Texas Gulf Route. (*Id.*)

For example, service issues at the Neches River bridge in Beaumont – on a line owned by KCS and used today by KCS, BNSF, UP, and Amtrak – would have extreme effects on BNSF’s ability to access points further east, including shippers on the Louisiana Gulf Coast and BNSF’s connection with Eastern railroads in New Orleans, La. All BNSF traffic bound for interchange

in New Orleans for points further east must cross over the Neches River bridge. (*Id.* at 9.) The intersecting lines in the Beaumont area are depicted in Figure 6 below.

Figure 6



Mr. Elphick and Mr. Orr explained in their joint deposition that, { [REDACTED] }
[REDACTED]
[REDACTED] } (Elphick-Orr
Dep. Tr. [61:8-11], Feb. 18, 2022.) Mr. Elphick explained that { [REDACTED] }
[REDACTED]
[REDACTED]
[REDACTED] } (*Id.* at [61:12-16], Feb. 18,
2022.) Mr. Orr confirmed that { [REDACTED] }
[REDACTED]

[REDACTED] } (*Id.* at [111:21-24].) Mr. Elphick stated that

{ [REDACTED]

[REDACTED]

[REDACTED] } } (*Id.* at [112:9-113:9].) Mr. Elphick further confirmed that { [REDACTED]

[REDACTED]

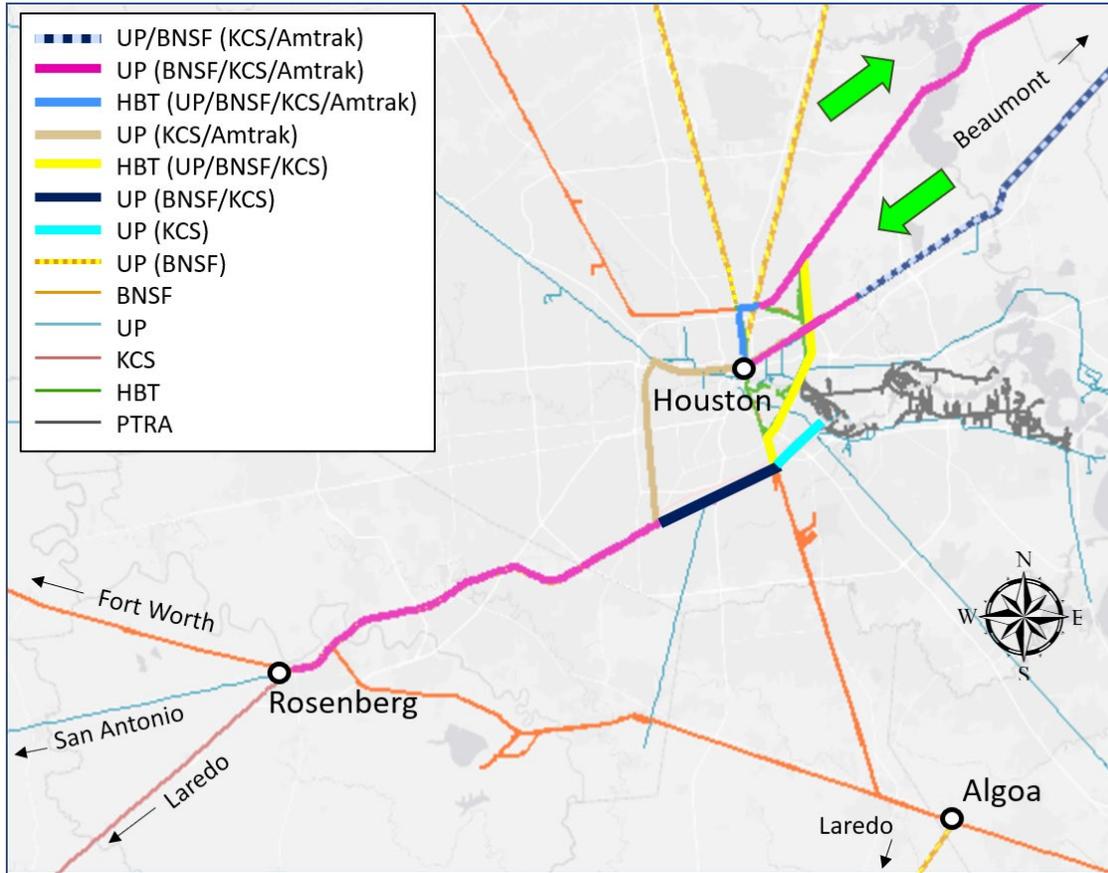
[REDACTED] } } (*Id.* at [113:10-12].) Unlike other CP and KCS line segments that

Applicants targeted for capacity improvements once they determined that new CP-KCS traffic would cause the 65% “sustainable capacity” threshold to be reached, Applicants have proposed no new capacity for the critical Neches River bridge.²³

Additionally, Messrs. Gabriel and Thowe state that they are “very concerned” that the additional eight daily CP-KCS trains that Applicants project will run through Houston, will create serious fluidity issues, absent capacity improvements. (V.S. Gabriel-Thowe 15.) Messrs. Gabriel and Thowe explain that the Houston complex is already a challenging operational environment and that KCS struggles today to move through the complex without holding main lines for unscheduled crew changes due to congestion. (*Id.* at 13-14). The relevant rail lines in the Houston complex are depicted in Figure 7 below.

²³ BNSF considered addressing the impact of likely congestion on its route to New Orleans by filing a responsive application for trackage rights on a KCS line that would have allowed BNSF to shift its interchange location with Eastern railroads further north to Shreveport, La. (See BNSF Description of Anticipated Responsive Applications 1-2, Jan. 12, 2022, *Canadian Pac. Ry. Ltd.—Control—Kan. City S.*, FD 36500.) BNSF now believes that it would be more appropriate for the Board to reserve jurisdiction to address this issue as it may arise during the oversight period. Many of the details that the Board would need to review to evaluate a request for trackage rights necessarily will be dependent on the conditions in effect when congestion occurs.

Figure 7



KCS has acknowledged issues regarding the Houston complex. In connection with discovery in this proceeding, KCS produced documents

[REDACTED]

[REDACTED] }²⁴ [REDACTED]

[REDACTED]

[REDACTED]

²⁴ See KCSR-C-00011154 to KCS-C-00011159; KCSR-C-00011137 to KCSR-C-00011141; KCS-C-00011109 to KCS-C-00011113; KCSR-C-00011178 to KCS-C-00011182; KCS-C-00011165 to KCS-C-00011169; KCS-C-00011160 to KCS-C-00011164.

[REDACTED]

[REDACTED] }²⁵

Messrs. Gabriel and Thowe explain how KCS has also recently acknowledged the need for new infrastructure to address capacity issues as they arise in Houston and on surrounding lines in Texas. Messrs. Gabriel and Thowe cite a number of public materials and letters showing that KCS understands that the KCS Texas Gulf Route has faced fluidity issues, and that KCS has worked with the owning railroads to implement capacity projects when needed to accommodate new traffic or unlock chokepoints. (V.S. Gabriel-Thowe 18 – 20.)

Dr. Wilson explains in his Verified Statement that all of the new grain traffic that Applicants assume will be moved on the new CP-KCS route to Mexico will need to go directly through Houston, causing a substantial risk of service issues in the Houston complex. (V.S. Wilson 24.) If CP-KCS diverts Mexico-bound traffic through Houston that BNSF could handle to the west of Houston, Dr. Wilson believes that the CP-KCS merger will “create problems and add costs for the broad range of traffic that currently uses rail facilities in Houston.” (*Id.*)

When BNSF and the other owning and operating railroads in Houston and on the KCS Texas Gulf Route project traffic growth, they plan and implement infrastructure improvements to add needed capacity. In August 2021, the Texas Department of Transportation (“TxDOT”) issued the Houston-Beaumont Region Freight Study, focusing on potential improvements related

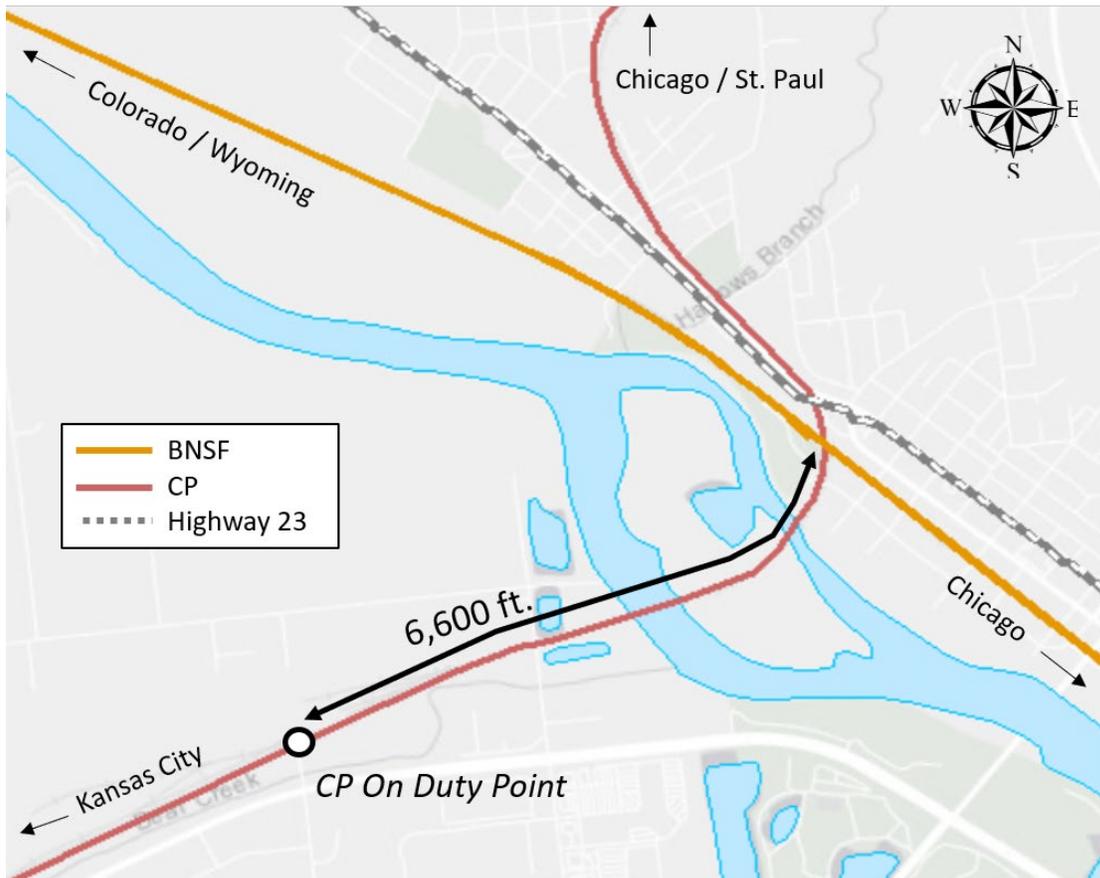
²⁵ KCSR-C-00011139.

to railroad capacity and roadway-railroad crossings on key portions of the KCS Texas Gulf Route. (See V.S. Gabriel-Howe, Ex. 1). The TxDOT study identified a number of capital projects in the Houston complex that could help mitigate the effects of the increased CP-KCS traffic.

5.3.2 Ottumwa, Iowa

Messrs. Gabriel and Howe's second area of focus is Ottumwa, Iowa, where the CP Laredo Subdivision intersects the BNSF Ottumwa Subdivision and State Highway 23 at-grade on the northwest side of town. (V.S. Gabriel-Howe 21.) The BNSF line is an important link in the BNSF network between Chicago and areas such as Nebraska (grain), Wyoming (coal), and Denver (industrial products). The CP line is part of the CP's main through route from Chicago to Kansas City. CP changes crews at a point on the Laredo Subdivision approximately 6,600 feet west of these at-grade intersections, which results in CP holding the main line during the crew change. (*Id.*) These lines are shown in Figure 8 below.

Figure 8



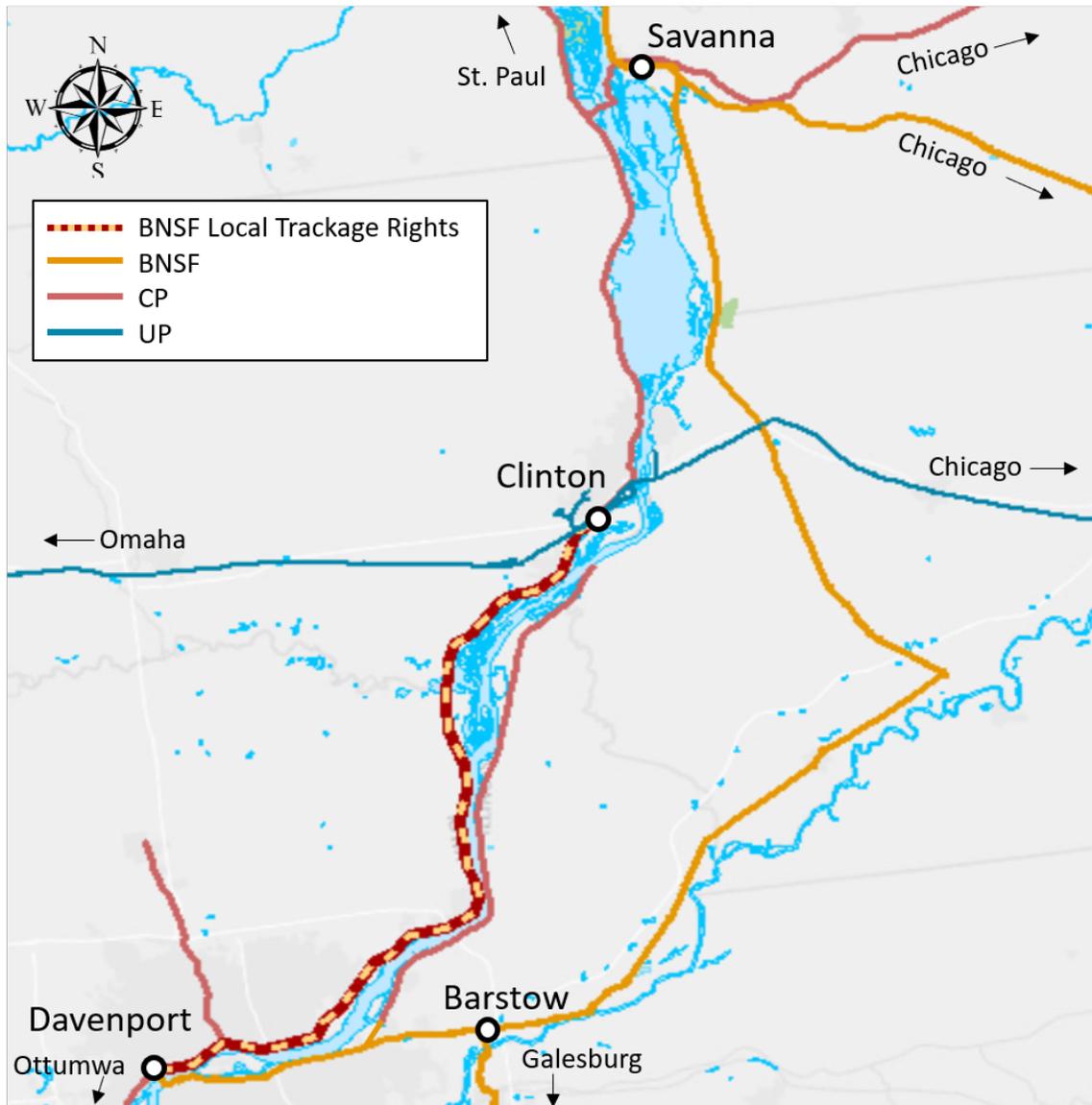
Applicants project that the Transaction would result in an increase of approximately 14.3 new trains per day over this segment of the CP Laredo Subdivision – for a total of approximately 18.4 trains per day, or more than *four times* the amount of trains that now operate on this segment. (See Appl. Vol. 2, Page 364.) Mr. Raymond A. Elphick, CP’s sponsor of the Operating Plan submitted with the Application, confirmed in his deposition that Applicants will design trains to { [REDACTED] } feet. (Elphick Dep. Tr. [63:24-25], Feb. 18, 2022.) Messrs. Gabriel and Thowe explain that the back end of every longer CP-KCS train that requires a crew change would block the BNSF Ottumwa Subdivision and State Highway 23 while the crew change occurs. (V.S. Gabriel-Thowe 22.)

5.3.3 Quad Cities of Iowa and Illinois

Messrs. Gabriel and Thowe's third area of focus is the Quad Cities area of Iowa and Illinois, on either side of the Mississippi River. In 1995, BNSF's predecessor and CP entered into a series of related transactions that eliminated a prior switching carrier owned by both of the railroads – Davenport, Rock Island and North Western Railway Company (or "DRI") – and transferred DRI's lines and functions to BNSF and CP. *See Can. Pac. Ltd., et al—Control—Davenport, Rock Island & Nw. Ry. Co.*, FD 32579, 1995 WL 55450 (ICC served Feb. 10, 1995). At a high level, lines east of the Mississippi River were transferred to BNSF, and lines west of the Mississippi River were transferred to CP. *See id.* at *1. BNSF and CP also granted each other trackage rights over many of these line segments. *Id.* at *3.

As relevant here, BNSF has trackage rights over the CP Davenport Subdivision that allow BNSF to travel from Barstow, Ill., crossing the Mississippi River over the Crescent Bridge in Davenport, Ia., and continuing north on the CP Davenport Subdivision to serve customers between Davenport and Clinton, Iowa. The majority of BNSF's traffic on this line originates or terminates in Clinton. These lines are shown in Figure 9 below.

Figure 9



The CP Davenport Subdivision is CP’s main through route from Chicago to Kansas City. Applicants project that the proposed CP-KCS merger will result in approximately 14.5 additional CP-KCS trains running per day over the CP Davenport Subdivision, for a total of approximately 21.6 trains per day, or tripling the current traffic on the line. (See Appl. Vol. 2, Page 364.) Given the unsignalized nature of this CP line segment and the high amount of new

CP-KCS traffic projected to result from the merger, Messrs. Gabriel and Thowe explain that they are concerned that BNSF trackage rights service on the CP Davenport Subdivision will be severely degraded, causing harm to BNSF's customers on the line.²⁶

5.4 Imposing significant Transaction-related costs on BNSF and other CP-KCS competitors would have anticompetitive effects and would not be in the public interest.

Earlier in this proceeding, Applicants stated that “perceived capacity concerns at Houston” might need to be addressed “commercially under the governing trackage rights agreements, which provide for capacity expansions to facilitate increases in KCS traffic.” (CP/KCS Reply to Union Pacific’s “Petition to Reject Application as Incomplete” 12-13, Nov. 22, 2021, *Canadian Pac. Ry.—Control—Kan. City S.*, FD 36500.) BNSF is a party to some of those agreements, and Ms. Bailiff included them with her workpapers submitted to the Board. Based on Applicants’ statement and Applicants’ failure to identify any capacity improvements on the KCS Texas Gulf Route, Ms. Bailiff believes that Applicants may seek to have BNSF or other railroads pay for some portion of the capacity improvements that would not be needed but for their merger. (V.S. Bailiff 3-4.)

Dr. Reishus concludes that requiring BNSF and other CP-KCS competitors to shoulder the costs of the CP-KCS combination would have anticompetitive effects and would not be in the public interest as sound merger

²⁶ BNSF considered addressing the impact of likely congestion on the CP Davenport Subdivision by filing a responsive application for trackage rights that would have allowed BNSF to avoid the worst impacts of the congestion. As discussed *supra* in note 23, BNSF now believes that it would be more appropriate for the Board to reserve jurisdiction to address this issue as it may arise during the oversight period.

policy. (V.S. Reishus 54-55.) These costs could consist of BNSF being required to fund the construction of improvements that would not have been needed but for the merger, or by the degradation of BNSF service as a result of congestion. (*Id.* at 54.) Dr. Reishus explains that railroad congestion such as that identified by Messrs. Gabriel and Thowe will affect the cost of rail service and reduce value to all shippers. (*Id.*) Congestion on shared lines, including key portions of the KCS Texas Gulf Route, would result in CP-KCS failing to internalize the cost of congestion and instead shifting the costs onto BNSF, UP, and their shippers. (*Id.* at 4, 53.)

Dr. Reishus describes this as an “[economically inefficient competitive benefit to CP-KCS that comes at the expense of UP and BNSF shippers.]” (*Id.* at 54.) By effectively degrading service on these shared lines, CP-KCS would raise its rivals’ costs and cause BNSF and UP to subsidize the expense of the CP-KCS merger. Dr. Reishus explains that this is inconsistent with sound merger policy and not in the public interest. (*Id.* at 55.) Instead, the economically efficient result would be for Applicants to fund investments to expand capacity and maintain fluidity at pre-merger levels. (*Id.* 54-55.)

CP has acknowledged very recently that it is appropriate for railroads to seek to protect competition, the interests of their customers, and the public interest more broadly in connection with railroad merger proceedings by requesting conditions intended to mitigate merger-related competitive harms. In the CSX/Pan Am merger proceeding currently pending before the Board, CP argued that the Board should impose conditions requiring the applicants to “support sufficient spending on maintenance and infrastructure” on a particular rail line of interest to CP, and that applicants should “provide

service levels (frequency, transit times, and consistency)” on that rail line “that are at least comparable to those offered for traffic interchanged with CP . . . pre-Transaction.” (CP Brief 11, Jan. 3, 2022, *CSX Corp.—Control & Merger—Pan Am Sys., Inc.*, FD 36472.)²⁷

Under CP’s theory in *CSX/Pan Am*, these conditions would have preserved pre-transaction competition by maintaining the status quo with respect to service on the line in question. BNSF’s concerns and requested conditions are entirely consistent with the approach that CP argued was appropriate in the *CSX/Pan Am* proceeding.

5.5 The Board should impose conditions to preserve competition and ensure that shippers will not be harmed by service problems resulting from projected CP-KCS traffic increases.

BNSF believes that the Board should impose conditions on any approval of the Transaction on certain actions that will be in the public interest and preserve competition by protecting against a service crisis and minimizing the costs imposed by the Transaction on connecting railroads and their customers.

First, the Board should require Applicants to fully fund any capital improvements that would not be required but for the increased CP-KCS traffic on lines owned by BNSF or other railroads. Offloading such costs to third parties – including BNSF, UP, and their customers – would have serious anticompetitive effects.

Second, in the absence of a plan by Applicants to address how increased CP-KCS traffic will be handled on shared lines in Texas – and until necessary

²⁷ Ultimately, CP withdrew its condition requests after reaching a settlement agreement with the Applicants. (CP Letter to the Board, Jan. 21, 2022, *CSX Corp.—Control & Merger—Pan Am Sys., Inc.*, FD 36472.)

capital improvements are identified, fully funded by Applicants, and implemented – the Board should restrict Applicants from increasing existing KCS traffic levels on those lines if such increases would displace existing traffic or compromise fluidity on those lines.

Third, the Board should require CP-KCS to shift its train crew change location near Ottumwa, Ia. to a point farther west and south on the CP Laredo Subdivision so that the approximately 17 daily CP-KCS trains traversing this line and holding for crew changes do not block the at-grade intersections with the BNSF line and State Highway 23 in Ottumwa.

Fourth, the Board should require Applicants to regularly report congestion metrics during the Board’s oversight period and to fully fund any capacity improvements necessary to accommodate increased CP-KCS traffic during that period. The Board should use the successful Chicago Terminal Operating Condition Agreement as a framework for the reporting that CP-KCS must perform here. *See* 49 C.F.R. § 1250.3.²⁸

Finally, much as it did in the UP/SP merger, the Board should reserve jurisdiction to impose further conditions during the oversight period if the congestion metrics reported by Applicants show that the service issues identified above by BNSF (or any others) occur. *Houston/Gulf Coast Oversight*

²⁸ The Chicago plan “provides for an automated monitoring of terminal, yard, corridor and weather conditions linked to specific levels of volume/activity which could adversely impact terminal operations. These metrics, when exceeding preset levels will require predetermined countermeasures geared to effectively remove a set percentage of cars/trains from the affected location(s) in order to restore fluidity of operations. Further deterioration of the automatic indicators will require additional, predetermined, focused countermeasures geared to remove an even greater percentage of volumes to expedite a more rapid recovery, while enabling unaffected areas to continue a more normal operation.” 49 C.F.R. § 1250.3.

(*Decision No. 10*), at 5-6. These conditions could include temporary service order decisions under the Board’s emergency authority, or permanent restructuring of certain operations via trackage rights or other means in order to address congestion and service issues that come to light during the oversight period.

For example, as described above, the congestion issues that Messrs. Gabriel and Thowe expect to result at the Neches River bridge in Beaumont would materially disrupt BNSF’s interchange in New Orleans with Eastern railroads, causing knock-on effects across the national rail network. Should that congestion come to pass during the oversight period, BNSF may seek trackage rights that would allow BNSF to move traffic bound for Eastern railroads further north to a Bossier City, La. interchange location, providing needed flexibility to avoid the congested Texas and Louisiana Gulf Coast. This is consistent with the oversight process used by the Board in connection with the UP/SP merger and other mergers, and the Board should take the same approach here.

6. Conclusion

Unless the Board imposes the following conditions on any approval of the Transaction, BNSF believes that the Transaction will result in effects harmful to the public interest, including a significant loss in competition:

- Order that Applicants are subject to and must fulfill the conditions imposed by the Board in the *KCS/Tex Mex* proceeding as well as the terms of the NITL Agreement.

REDACTED – TO BE PLACED ON PUBLIC FILE

- Order that Applicants are required to keep the Laredo and Robstown gateways open on commercially reasonable rate and service terms.
- Ensure that the open gateway commitment will function as intended by requiring CP-KCS to adopt a rate-setting mechanism, such as a proportional rate mechanism, that will ensure that BNSF will have access to Mexico through Laredo at market-based rates, as well as service commitments to equal treatment of BNSF's traffic into and out of Mexico through Laredo.
- Require Applicants to fully fund any capital improvements that would not be required but for increased CP-KCS traffic on lines owned by BNSF or other railroads.
- In the absence of a plan by Applicants to address how increased CP-KCS traffic will be handled on shared lines in Texas – and until necessary capital improvements are identified, fully funded by Applicants, and implemented – require Applicants to not increase existing KCS traffic levels on those lines if such increases would displace existing traffic or compromise fluidity on those lines.
- Require Applicants to shift their crew change location near Ottumwa, Iowa to eliminate the potential for blockage by CP-KCS trains of at-grade intersections in Ottumwa with BNSF and a public road.
- Require Applicants to regularly report to the public and the Board on the status of the Transaction during an oversight period of at least five years, including in such reports information and data sufficient to enable the public and the Board to evaluate CP-KCS's compliance with the conditions imposed by the Board on its approval of the Transaction.
- Require Applicants during the Board's oversight period to regularly report service metrics relating to traffic through Laredo and congestion metrics at locations potentially affected by traffic increases brought about by the Transaction.

REDACTED – TO BE PLACED ON PUBLIC FILE

- Reserve jurisdiction to impose further conditions, including trackage rights, during the oversight period if the open gateway commitment does not function as intended, or if congestion or service issues arise.

Respectfully submitted,

Roger P. Nober
Jill K. Mulligan
Courtney Biery Estes
Tyler R. White
BNSF Railway Company
2500 Lou Menk Drive
Fort Worth, TX 76131
(817) 352-2383

/s/ Anthony J. LaRocca
Anthony J. LaRocca
Peter W. Denton
John J. Kavanagh
Onika K. Williams
Steptoe & Johnson LLP
1330 Connecticut Ave., NW
Washington, DC 20036
(202) 429-3000

Adrian L. Steel, Jr.
Mayer Brown LLP
1999 K Street, NW
Washington, DC 20006
(202) 263-3237

Counsel for BNSF Railway Company

Dated: February 28, 2022

REDACTED – TO BE PLACED ON PUBLIC FILE

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 36500

CANADIAN PACIFIC RAILWAY LIMITED, ET AL.
—CONTROL—
KANSAS CITY SOUTHERN, ET AL.

Exhibit 1

Letter from NITL and KCS to UP Counsel



NITL-4
KCS-17

August 18, 2003

By Messenger

David L. Meyer, Esquire
Covington & Burling
1201 Pennsylvania Avenue NW
Washington, DC 20004-2401

RE: STB Finance Docket No. 34342, *Kansas City Southern — Control — Kansas City Southern Ry. Co., et al.*

Dear David:

This letter is on behalf The National Industrial Transportation League and the Applicant in the above proceeding in response to your letter of August 8, 2003, on behalf of Union Pacific Railroad Company ("UP"). Your letter made several inquiries regarding the NITL-KCS Agreement dated August 1, 2003, which was filed with the Board on August 4, 2003 as Attachment 1 to the League's Comments. Set out below are responses to each of the numbered paragraphs in the UP letter.

1. UP's understanding is correct. The NITL-KCS Agreement will not require NAFTA Rail to establish and maintain commercially reasonable contract or common carrier rates and charges with respect to traffic interchanged between UP and TFM at the Laredo Gateway.

2. Section 2(a) of the NITL-KCS Agreement, under certain circumstances, does apply to all NAFTA Rail affiliates, including TFM. In the example described in this UP inquiry, NAFTA Rail would be required to use its control of TFM to cause TFM to establish and maintain commercially reasonable rates and charges for its portion of through movements between Mexico and the U.S. that are interchanged between Tex Mex and Burlington Northern and Santa Fe Ry. Co. ("BNSF") at Robstown, TX, or elsewhere. It should also be pointed out that the same provision would apply to and the same result would occur with respect to through movements between Mexico and the U.S. that are interchanged between Tex Mex or KCS, on the one hand, and UP, on the other.

The dispute resolution provisions of Section 6 of the NITL-KCS Agreement are designed to provide for prompt resolution of disputes under the Agreement, while recognizing the interests of the Government of Mexico. A through rate that is established or sought to be established under Section 2(a) for traffic moving between the U.S. and Mexico is required to be commercially reasonable as a whole. Under Section 2(c) of the Agreement, such arbitration procedures apply to disputes "regarding rates and charges applicable in whole or in part within the U.S." An arbitrator considering the issue in relation to a through rate would consider all of

Rick.Wood@ThompsonHine.com Phone 202.331.8800 Fax 202.331.8330

flw 150794.2

THOMPSON HINE LLP
ATTORNEYS AT LAW

1920 N Street, N.W.
Washington, D.C. 20036-1600

www.ThompsonHine.com
Phone 202.331.8800
Fax 202.331.8330

THOMPSON
HINE

August 18, 2003
Page 2

the facts and circumstances involved in making such a determination but any decision reached would relate either to the through rate as a whole or to the portion of the through rate in the U.S. The arbitrator would not have the authority to rule upon that portion of the rate in Mexico. Pursuant to Section 6, "disputes involving rates or rate factors in Mexico," would be resolved in accordance with the requirements of the Government of Mexico. In Mexico, the Secretary of Communication and Transportation is responsible for reviewing rates and service factors.

3. UP's understanding is correct, in the sense that, any time a connecting rail line requires a division or rate factor from another railroad in order to complete the movement of traffic to or from a point it does not serve, it must make certain disclosures to that carrier, even when that other railroad may also be a competitor for the traffic involved. It is not our understanding that this requires complete disclosure of the "competitive opportunity" as suggested by UP's inquiry. It would be customary and appropriate in such situations for the connecting railroad to disclose to KCS or Tex Mex the minimum information necessary to obtain the appropriate rate division or rate factor and other terms of carriage necessary to offer a commercially reasonable rate or charge for the through movement.

4. The meaning of the term "commercially reasonable" in Section 2(a) of the NITL-KCS Agreement would be determined by the parties to the process of establishing and maintaining the rates and charges to the shipper as a whole (not to individual railroad divisions or rate factors). In the event of a dispute involving a rate in whole or in part in the U.S., an arbitrator would make the determination in light of all the facts and circumstances deemed relevant by the parties and the arbitrator.

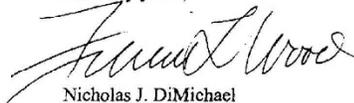
5. Section 3 of the NITL-KCS Agreement, by its terms, would allow NAFTA Rail to share with KCS and Tex Mex confidential information about a shipper's move acquired by TFM as a result of a participation in UP-TFM movements. However, other agreements entered into by TFM and/or other provisions of law may prohibit sharing of such information.

THOMPSON
HINE

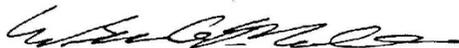
August 18, 2003
Page 3

Section 3 would prevent NAFTA Rail from disclosing the information specified to other U.S. railroads not within the NAFTA Rail corporate family. Section 3 will not prevent TFM from discussing with UP shipper needs for joint moves as long as information about shipper needs does not include “confidential commercial information about a shipper’s move, including transportation services and rates.”

Sincerely yours,



Nicholas J. DiMichael
Frederic L. Wood
Attorneys for The National Industrial
Transportation League



William A. Mullins
Attorney for Kansas City Southern

cc: Hon. Vernon A. Williams
All Parties of Record

REDACTED – TO BE PLACED ON PUBLIC FILE

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 36500

CANADIAN PACIFIC RAILWAY LIMITED, ET AL.
—CONTROL—
KANSAS CITY SOUTHERN, ET AL.

Exhibit 2
Deposition Excerpts

REDACTED – TO BE PLACED ON PUBLIC FILE

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 36500

CANADIAN PACIFIC RAILWAY LIMITED, ET AL.
—CONTROL—
KANSAS CITY SOUTHERN, ET AL.

Exhibit 3

Discovery Documents

REDACTED – TO BE PLACED ON PUBLIC FILE

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 36500

CANADIAN PACIFIC RAILWAY LIMITED, ET AL.
—CONTROL—
KANSAS CITY SOUTHERN, ET AL.

Verified Statement of Paul Hirsch

I. Introduction and Summary

My name is Paul M. Hirsch. I am the Assistant Vice President of the Mexico Business Unit for BNSF Railway Company (“BNSF”). I have been in this position since October 2015. In this role, I lead a team of U.S. and Mexico-based professionals that focus on growing rail and intermodal transportation for customers via five international gateways accessed by BNSF and its partner railroads in Mexico. As Assistant Vice President of the Mexico Business Unit, I have acquired substantial knowledge about the market and competitive conditions affecting rail transportation into and out of Mexico.

I am submitting this Verified Statement to explain to the Surface Transportation Board (“STB” or “Board”) why BNSF is seriously concerned about the impact of the proposed control transaction between Canadian Pacific (“CP”) and Kansas City Southern (“KCS”) on Mexico cross-border transportation. Mexico is a very important market for U.S. shippers and is likely to become substantially more important in the next few years. But as I explain below, BNSF and its shippers were effectively foreclosed from access to certain Mexican markets through the important Laredo gateway after the Board authorized the control transaction between KCS and the Texas Mexican Railway Company (“Tex Mex”) in late 2004. The expansion of KCS’s network to include CP would expand the combined CP-KCS’s control over access to Mexico through Laredo that could foreclose BNSF’s shippers from future opportunities for trade with Mexico.

I explain below that, since the merger of KCS and Tex Mex, BNSF has found it virtually impossible to compete for carload traffic into and out of Mexico through Laredo, in situations where KCS has access to the U.S. origin or destination. Recently, however, BNSF has been able to move substantial intermodal and auto traffic through Laredo due to BNSF's superior route structure and the fact that KCS does not have a competing service in the relevant lanes. The proposed transaction jeopardizes the continuation of those joint intermodal and auto movements, in favor of movements that a combined CP-KCS would divert to its own network by using its control over the Mexican portion of the movement. The combination also promises to expand and lock in the foreclosure of BNSF's carload shippers from access to Mexico through Laredo.

I understand that Applicants have stated that they will continue to adhere to KCS's open gateway commitments imposed by the Board in the 2004 *KCS/Tex Mex* decision.¹ Those general open gateway commitments did not prevent BNSF's exclusion from the Laredo gateway in the past, and they are entirely insufficient to prevent foreclosure in the future. I explain that the Board must insist on more

¹ See, for example, a statement made by CP's Executive Vice President and Chief Marketing Officer John Brooks:

“CP will inherit KCS's commitment to keep the Laredo Gateway open on commercially reasonable terms, which KCS made in 2003 when it proposed to acquire Tex Mex and TFM (which is now [Kansas City Southern de México (“KCSM”)]). KCS's commitment was embodied both in a condition imposed by the Board when it approved KCS's control of Tex Mex and in an agreement that KCS entered into with The National Industrial Transportation League (“NITL”) in 2003 for the benefit of KCS/Tex Mex shippers. . . .”

(Appl. V.S. Brooks 21.)

concrete and well-defined measures to prevent the combined CP-KCS from further foreclosing access to Mexico for BNSF's shippers. I believe an effective approach would be to implement a proportional rate mechanism similar to the mechanism that BNSF and Union Pacific ("UP") developed in connection with the 1996 merger of UP and Southern Pacific ("SP"), although other approaches could also be effective. The approach developed in the UP/SP merger maintains gateway access over a long-standing pre-merger joint route in a situation where, as here, post-merger one of the carriers would have a single-line route. In addition, the Board should protect against the use of operational impediments that the combined CP-KCS could implement to prevent BNSF's shippers from having effective and efficient access to Mexico through Laredo.

Finally, I explain that KCS's exclusive concession for the use of rail lines in Mexico from Laredo is subject to termination in 2027. If the remedies I described above do not sufficiently keep the Laredo gateway open, BNSF wants to be able to effectively bid for a competing concession on those lines when competition is opened up to other carriers. In that case, I believe it will be important for BNSF to demonstrate to the Mexican government that it can fully exercise any concession by showing that BNSF has direct and physical access to the border crossing at Laredo. Granting BNSF trackage rights supporting that access in the context of this proceeding and as part of the STB's continuing oversight may be an important future way for the STB to mitigate anticompetitive effects should it approve this merger.

II. BNSF's Carload Shippers Were Effectively Foreclosed from Laredo After the *KCS/Tex Mex* Merger.

The history of BNSF's access to Mexico through the important Laredo gateway is described in detail in the materials submitted to the Board by BNSF in the *KCS/Tex Mex* proceeding.² BNSF serves a crucial and ongoing role as a replacement for the competition that would have been lost when UP and SP merged in 1996, including competition against UP for traffic to and from southern Texas and Mexico as a replacement for SP. In connection with the UP/SP merger, BNSF obtained trackage and haulage rights over UP/SP lines to reach Mexican markets via border crossing points in Laredo (through interchange with an independent Tex Mex at Robstown) and Brownsville. Therefore, in the years following the UP/SP merger, BNSF worked aggressively and successfully to expand its presence in Mexico and develop competitive offerings.³

For example, BNSF increased its Laredo traffic by 87% from 1996 to 2002;⁴ carried almost 40,000 cars of traffic to and from the Laredo gateway in 2002;⁵ grew its industrial products traffic carried to and from the Laredo gateway by 154% between 1996 and 2003;⁶ and increased its agricultural traffic to Mexico via Laredo by 258% between 1996 and 2003.⁷

² See *Kan. City S.—Control—Kan. City S. Ry. (KCS/Tex Mex)*, FD 34342 .

³ (See BNSF Opening Comments, V.S. Rickershauser 3-4, Aug. 4, 2003, *KCS/Tex Mex*, FD 34342.)

⁴ (*Id.* at 4.)

⁵ (*Id.*)

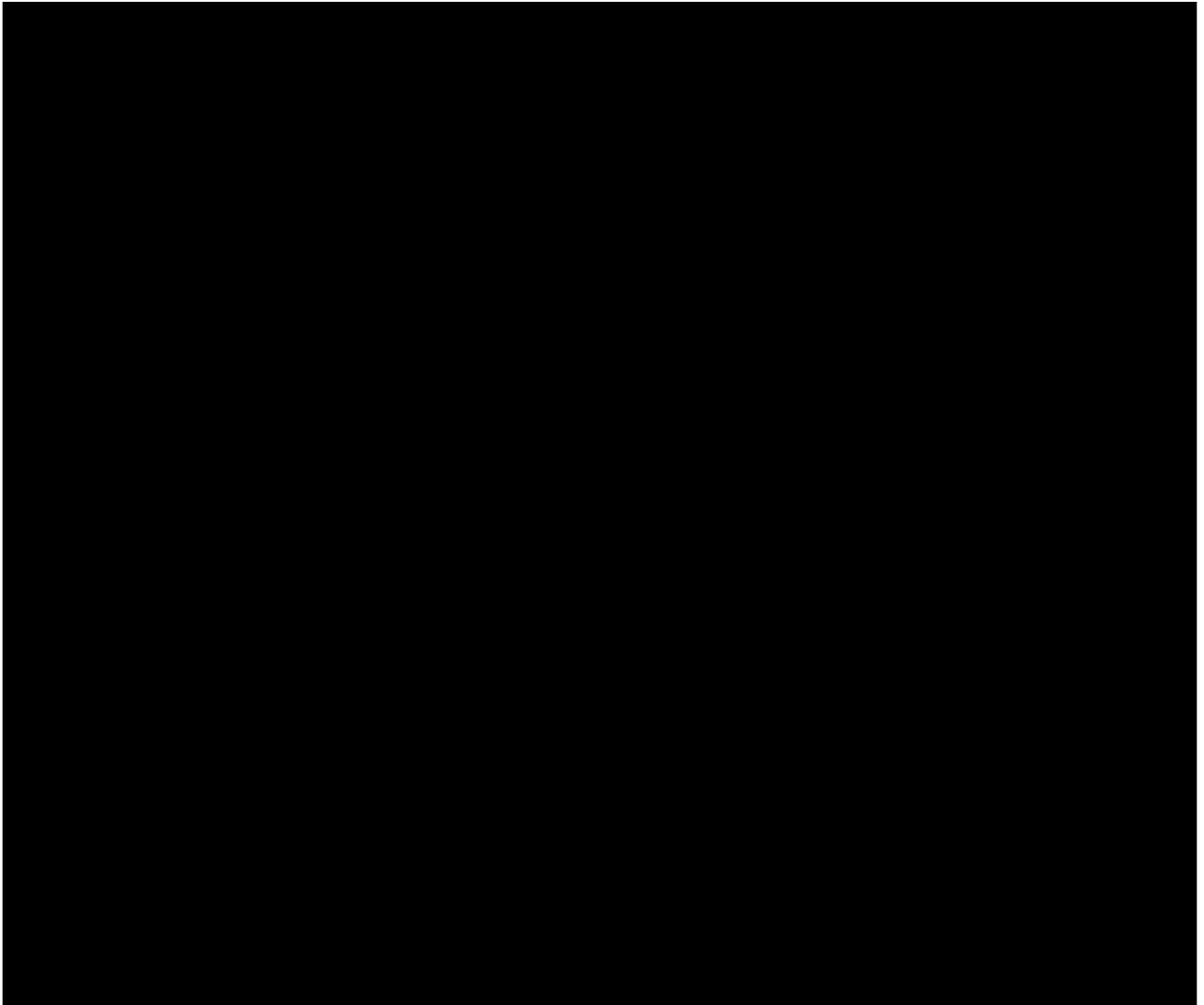
⁶ (*Id.* at 6.)

⁷ (*Id.*)

These efforts to serve as a competitive replacement for SP and to expand traffic through Laredo were immediately reversed after the KCS/Tex Mex merger. The decrease in carload traffic was dramatic, as shown in the chart below. The recent increase in auto traffic shown on this chart is discussed further below.

Figure 1: BNSF Carload and Automotive Traffic over the Laredo Gateway
2000-2019
(Reishus V.S., Figure 6)

{



}

The decline in BNSF's traffic through Laredo did not represent a movement away from the Mexico market. Rather, BNSF shifted its traffic from the Laredo gateway, to the Eagle Pass border crossing, since it could no longer effectively use Laredo following the KCS/Tex Mex merger. Laredo, however, continues to be an important access point to Mexico that should be kept open to BNSF and its shippers.

I was not in my current position at the time of the KCS/Tex Mex merger. However, as part of my current responsibilities, I have spoken with BNSF employees and former employees who were involved in marketing efforts at the time. They reported that KCS implemented substantial rate increases for cross-border movements into Mexico and that these rate increases were responsible for BNSF's loss of traffic. This resulted in the loss of shippers' options to route their traffic via BNSF through Laredo when such a routing would be equally if not more efficient than a KCS-forced routing. I understand that BNSF's counsel have asked for information from KCS about the rate-setting practices of KCS/KCSM that were likely responsible for these results. I further understand that BNSF has been told that no information is available regarding the rates offered by KCS and KCSM for traffic that BNSF sought to provide service in the years after the KCS/Tex Mex merger.

BNSF's exclusion from access to Mexico for carload traffic through Laredo has been effective and continues today. One example involves petroleum products. Since the recent energy reform in Mexico, there are more petroleum products that travel from U.S. refineries along the Gulf of Mexico to Mexico because Mexico is now an importer of gasoline and diesel. Some of the Gulf locations of refineries are served by

multiple railroads; often BNSF and KCS can serve the same location. BNSF's experience, however, is that we are able to obtain petroleum product business to Mexico through Laredo only where KCS is unable to serve the origin or where the movement is part of a larger contract with a petroleum firm that includes movements from origins that are not served by KCS. When we compete head-to-head with KCS for a movement through Laredo, we invariably lose that competition to KCS despite offering competitive rates and service.

Even when we do not compete head-to-head with KCS, KCS is still able to use their market power in Mexico to force customers to use KCS for the long haul (e.g., to the farthest interchange point available), even where a longer BNSF movement would be more efficient and economical to the customer. Take, for example, a shipper located on a BNSF line in North Dakota looking to move propane south into Mexico over Laredo. KCS often insists on quoting separate "Rule 11"⁸ rates for the KCS/KCSM portion of an interline movement between BNSF and KCS/KCSM into Mexico, rather than working with BNSF to provide the shipper with a joint through rate. We have seen that KCS would not quote a Rule 11 rate beginning in Robstown for such a BNSF interline movement, and instead only quote a Rule 11 rate beginning

⁸ A "Rule 11" rate is the:

“[t]ype of interline shipment where each railroad bills the customer separately. It is the default rate rule governing interline traffic where a joint-line rate is unavailable. Rule 11 must be indicated on the original bill of lading along with each price authority for the rail carriers involved in the movement. A cross-town transfer is not included on Rule 11 shipments that originate on BNSF.”

(BNSF Glossary of Railroad Terminology & Jargon, available at:
<https://www.bnsf.com/bnsf-resources/pdf/ship-with-bnsf/pricing-and-tools/glossary.pdf>)

in Kansas City. This ensures that KCS obtains the longer haul from the northern portion of its network in Kansas City to Mexico, notwithstanding the efficiencies (including avoiding the Houston complex) of a BNSF long-haul movement from North Dakota to Robstown.

I understand that competition is a dynamic process and that BNSF cannot expect to always win business in a head-to-head contest with KCS. But our exclusion from the Mexico market through Laredo is dramatic. I believe we have been foreclosed from effectively competing for carload traffic through Laredo because of the control that a combined KCS/KCSM has over pricing and routing. Because KCS or KCSM sets the Mexico price for movements over Robstown and through Laredo, they are able to ensure that KCS obtains the business.

One of the biggest problems we face is that we do not know what rates are being offered by KCSM for the Mexico portion of the movement. In cases where carload shippers are seeking competitive options, we understand that KCSM quotes Rule 11 rates for the Mexican portion of BNSF-KCS-KCSM routings. In addition, BNSF does not directly reach Laredo today but interchanges with KCS at Robstown for movement to the border. Therefore, the shipper must also obtain a Rule 11 rate from KCS for the Robstown portion of the movement. BNSF does not generally know what those Rule 11 rates are either.

In a competitive scenario, the shipper will typically see the KCSM and KCS Rule 11 rates paired with BNSF's rate for the U.S. portion of the movement. But, for KCS, the shipper is likely provided only a single through rate for both KCS and

KCSM. This pricing strategy would allow KCS to manipulate the Mexico and U.S. portions of the rates for an interchange movement with BNSF to make BNSF's proposed rates appear uncompetitive, while the through rate on KCS and KCSM appears to be more attractive. We do not believe that BNSF has lost out on these opportunities because KCS has a superior network, but rather because KCS's control over pricing allows it to gain the business by manipulating prices on both sides of the border.

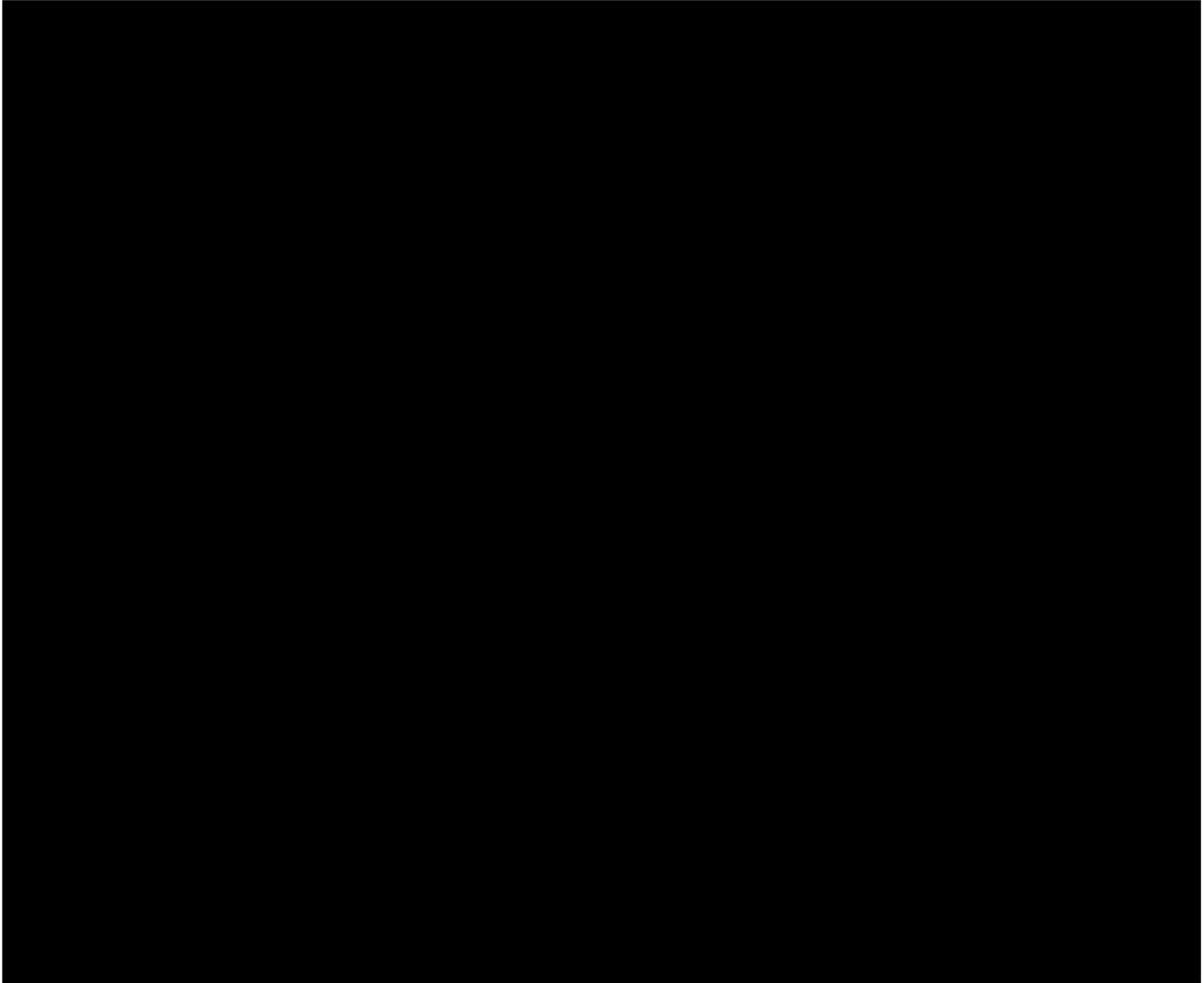
The *KCS/Tex Mex* open gateway commitments were supposed to prevent such actions. However, because we have no visibility into the pricing practices of KCS and KCSM, we have not been able to challenge KCS's conduct or avoid foreclosure. Moreover, our shippers would not necessarily be able to determine that BNSF is being foreclosed from the Mexican movements through the pricing practices of KCS/KCSM, since the shippers would only see that a through rate on KCS/KCSM is lower than the combined Rule 11 rates of BNSF and KCS/KCSM.

III. BNSF's Recent Gains in Intermodal and Auto Traffic are Jeopardized by the Proposed Transaction.

Today, our business at Laredo is largely intermodal and auto traffic, with limited carload industrial products. This is shown in the chart below. However, our intermodal and auto business is at risk of being lost as a result of the proposed transaction even though BNSF provides a very effective product for these commodities, including rates that win the business.

Figure 2. BNSF Traffic at Laredo Gateway

{



}

As I explain below, our concern is that CP-KCS will use its control over the Mexico portion of these movements to divert this business to a less efficient CP-KCS movement.

Intermodal Traffic. The chart set out above shows the dramatic decline in carload traffic through Laredo following the *KCS/Tex Mex* merger.⁹ Recently, however, BNSF was able to increase its movements through Laredo through a 2016

⁹ (See also V.S. Reishus 41-44, Sec. IV. C. 2.)

contract with KCS involving intermodal traffic. Intermodal traffic now is by far the largest component of BNSF's traffic through Laredo.

We were able to develop and implement a contract for intermodal movements to Mexico because BNSF has a very effective intermodal franchise and KCS does not effectively compete with BNSF for that business. Prior to the contract, BNSF moved intermodal traffic destined to eastern Mexico to the Houston area, where it was transferred to trucks by BNSF and then carried to KCS ramps in Houston for reloading in rail cars for movement into Mexico by rail. BNSF worked with KCS to show them that an efficient cross-border intermodal service could provide KCSM with additional incremental volume movements by converting historically truck-only freight to rail and potentially expanding the intermodal volumes of traffic moving on BNSF in the United States to Mexico. In fact, the contract arrangement has been very successful.

However, the intermodal contract was set to expire in {{REDACTED}}, and we have been unable to negotiate an extension beyond {{REDACTED}}. Our concern is that KCS plans to abandon the very effective arrangement that we developed for intermodal traffic into Mexico. In fact, the Application makes it clear that one of the areas that CP-KCS expects to expand is its intermodal business in Mexico.¹⁰ The problem is that any intermodal traffic to or from Mexico that a combined CP-KCS

¹⁰ For example, the applicants state that “a combined CP/KCS system could attract nearly 130,000 intermodal containers moving between Lázaro Cárdenas to U.S. destinations...” (Appl. V.S. Wahba and Naatz 29.) The applicants also believe that “138,000 intermodal containers would likely divert each year from existing routes to CP/KCS as a result of the CP/KCS combination.” (Appl. V.S. Brown/Zebrowski 5, Table 1.)

will handle will have to travel through the congested Houston area, subjecting that traffic to uncertainty that is undesirable for an intermodal product.¹¹

We are therefore concerned that the same thing that happened to BNSF's carload business following the KCS/Tex Mex merger will happen to this highly successful intermodal business—that BNSF and its shippers will be foreclosed from Mexico due to KCSM's control over the pricing of the Mexican portion of any movement which KCSM could use to divert traffic to the newly-combined CP-KCS. Ultimately, any effort to force competitive intermodal traffic to a less efficient CP-KCS route is likely to be unsuccessful, absent possible price manipulation by CP-KCS, and the cross-border traffic will likely go back to trucks for the full route, putting more trucks back on the highways. We do not believe this would result if access to Mexico were truly competitive. If KCSM could be prevented from using its control over pricing in Mexico to force traffic to the newly combined CP-KCS, we believe we could maintain the efficient intermodal product that we were able to create with KCS when they were independent of CP.

Finished Auto Traffic. Recently, BNSF has also been able to increase its finished auto business from Mexico through Laredo. Like the intermodal business discussed above, some of this increase in auto business is subject to a contract that is soon to expire. BNSF has been able to obtain some finished auto traffic because it serves areas that are not currently served by KCS. With the combination of KCS and

¹¹ (See V.S. Fisher 29-30; See also V.S. Gabriel-Howe 10-16, 18-20.)

CP, the new CP-KCS will be able to serve a much-expanded area, including areas that overlap with BNSF's service.¹²

Of course, if the new CP-KCS is able to offer more efficient service in those areas, competition will determine how the freight will move. Our concern is that the same thing will happen to our auto business that happened with carload traffic moving across the border through Laredo after the KCS/Tex Mex merger. KCS/KCSM's control over pricing on the Mexican portion of the movement could be used to force traffic diversions to CP-KCS that would not occur in a truly competitive market.

IV. An Enforceable Open Gateway Condition with Transparency to Rail Customers and Interline Carriers is Necessary to Preserve BNSF's Ability to Access Mexico Markets.

Applicants have stated that they will maintain the open gateway commitments that KCS agreed to in *KCS/Tex Mex*. CP's Chief Marketing Officer John Brooks explicitly stated that CP-KCS "will continue to offer commercially reasonable rates and terms capable of supporting the continued movement of traffic via the [Laredo] gateway."¹³ I am concerned that this general commitment is not enough to ensure that BNSF's shippers will have competitive access to Mexico through Laredo.

As I have explained above, this commitment did not prevent KCS from foreclosing BNSF carload traffic from access to Mexico through Laredo following the KCS/Tex Mex merger. Where KCS has been able to serve the shippers' U.S. locations,

¹² (See V.S. Wahba/Naatz 31-36.)

¹³ (V.S. Brooks 22.)

BNSF has been effectively foreclosed from the market, regardless of whether BNSF could offer a more cost-effective product. In other words, the commitment has not been effective in the past, so there is no reason to believe it will be effective in the future.

I am also concerned that the nature of the commitment is too general and subject to such broad interpretation that it would be difficult to enforce. Even if we knew how KCSM set prices, it would be difficult to show that the pricing is not commercially reasonable since there are no concrete standards identified. And market opportunities are often fleeting. New business opportunities may well be gone by the time a dispute can be resolved over a general commitment to offer commercially reasonable rates and terms. Further, the lack of transparency or visibility into pricing would make it virtually impossible to challenge KCSM's pricing practices.

The transparency problem is significant. As I explained above, BNSF does not know what Rule 11 rates are being offered by KCSM for the Mexico portion of moves to Laredo, and we typically do not even know what Rule 11 rates are being offered by KCS for the Robstown portion of the movement, even when BNSF is the potential interline carrier. When a customer gets Rule 11 rate quotes from KCS/KCSM for a BNSF movement and through rate quotes on a movement involving only KCS/KCSM, the customer will have no way of knowing whether pricing is being distorted because of KCSM's pricing of the Mexico portion of the movement. The open gateway commitment is essentially unenforceable. In addition, while in the United States,

shippers would be able to seek STB review of rates that might be unreasonable, rate challenges involving movements in Mexico would likely present enormous difficulties and uncertainties.

I believe that CP-KCS should be required to adopt a more concrete rate-setting mechanism to ensure that BNSF will have competitive access to Mexican locations through Laredo. A vague open gateway commitment is not enough. One possible mechanism that could be adopted is a proportional rate approach like the one used by BNSF and UP for movements to and from the Pacific Northwest. This agreement, known as the I-5 Proportional Rate Agreement (“I-5 Prop Rate Agreement”), was adopted to address the same type of concerns that arise here, namely to preserve effective interline options that could be unfairly eliminated by a merger.

The I-5 Prop Rate Agreement was developed to ensure that UP would have an effective opportunity to quote competitive rates for business involving Pacific Northwest locations that can be served only by BNSF. Under the I-5 Prop Rate Agreement, UP is able to compete for business outside the Pacific Northwest that BNSF can also serve. This competition is preserved by giving UP automatic access to a proportional rate for the Northwest portion of the movement that is calculated in the following manner: the through revenue for BNSF’s long-haul single-line movements involving the Pacific Northwest is calculated periodically on a per ton mile basis using metrics such as commodity and car type, and a proportional rate for the Northwest portion is then developed based on the miles of the Northwest portion of the movement. This mechanism is set up to run itself without any involvement by

the STB. The proportional rate is determined by the proportional rate mechanism and UP is able to use it without even alerting BNSF that is doing so. Because of the I-5 Prop Rate Agreement, UP is ensured of a rate for the Pacific Northwest portion of movements that is based on market conditions and changes in the market.

This same proportional rate concept could be used for U.S. carrier movements to Mexico through Laredo. A ton-mile factor could be determined based on CP-KCS single-line movements and then applied to the mileage of the movement in Mexico to create a “Laredo” proportional rate. The U.S. carrier could then combine the proportional rate with its rate for U.S. movements and offer shippers in both countries a through rate. Like the I-5 Prop Rate Agreement, the mechanism would produce a proportional rate without any STB involvement. CP-KCS would be able to offer single-line rates to customers, and other railroads would be able to offer competitive interline rates using the proportional rate for the Mexico portion of the movement without fear that the Mexico portion of the interline rate would be manipulated to preclude effective competition. I believe a Laredo proportional rate of this type would keep competition viable at the Laredo gateway and rates would be transparent and market-based.

Additionally, it is important that any open access commitment made by CP-KCS must address the possibility that KCS and KCSM could use not only rates to foreclose access to Laredo but operational impediments as well. For example, CP-KCS could reduce the frequency of CP-KCS trains carrying BNSF cars traveling on their lines by providing their own traffic with more frequent service than they provide to

the traffic being received in interchange from other carriers. This would physically reduce our ability to compete with CP-KCS traffic.

CP-KCS could also affect BNSF's ability to serve customers at the border crossings by providing less effective operational support for trains carrying BNSF traffic at the terminals or reducing train speeds that could make our product noncompetitive. CP-KCS could also establish different storage standards or rates for storing our containers at their terminals or hubs, further limiting our ability to compete.

BNSF's ability to offer efficient service is especially important for our time-sensitive intermodal movements. Our intermodal shippers are some of the most time-sensitive customers because they carry manufacturing materials as well as finished goods to distributors for ultimate consumers.

To ensure that CP-KCS does not use operational impediments to foreclose access to the U.S.-Mexico gateways, CP-KCS should commit to treating all traffic that travels to and through the Laredo gateway fairly and equally, in the same manner that it would treat its own traffic. This would mean that CP-KCS could not engage in tactics that would artificially delay the movements of BNSF customers' cars.

V. BNSF May Need Direct Access to Laredo to Effectively Bid for a Concession When the Mexican Government Opens the KCSM Lines to Competition in 2027.

I believe that instituting a proportional rate mechanism for the Laredo gateway and requiring fair and equal treatment of our customers' and BNSF's traffic will effectively keep the Laredo gateway open if the CP-KCS merger is approved. If

these remedies do not sufficiently keep the Laredo gateway open, however, BNSF may need to obtain direct access to Laredo so that it can participate in the Mexico government's concession for the rights to operate the publicly-owned infrastructure. If needed, BNSF may seek direct access to Laredo through Board oversight of the merger, if approved, among other possible remedies.

As described by BNSF witness Dr. Aaron Dychter, KCSM has a 50-year concession to operate over rail lines in Mexico until 2047, but KCSM was granted exclusive use of those lines only until 2027. The opportunity for BNSF to participate in this concession could therefore become available in 2027. Direct access to Laredo would be important to establish BNSF as a credible new entrant into the Mexico market in 2027.

As explained by Dr. Dychter, not having direct access to Mexico would likely be viewed as a concern by the Mexican government when evaluating bids for a new concession. Without trackage rights to Laredo, Mexican authorities may be concerned that the grant of a concession to BNSF may not provide BNSF with effective access. Direct access to Laredo may therefore be necessary to convince the Mexican authorities that BNSF will be able to provide effective competition for movements into and out of Mexico when the KCSM concession is open to competitive bidding. If necessary, BNSF plans to address the potential need for trackage rights to Laredo in the future.

VERIFICATION

I, Paul M. Hirsch, declare under penalty of perjury that the foregoing is true and correct. Further, I certify that I am qualified and authorized to file this verified statement.

/s/ Paul M. Hirsch

Paul M. Hirsch

Executed on February 28, 2022.

REDACTED – TO BE PLACED ON PUBLIC FILE

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 36500

CANADIAN PACIFIC RAILWAY LIMITED, ET AL.
—CONTROL—
KANSAS CITY SOUTHERN, ET AL.

Verified Statement of Jon Gabriel and Travis Thowe

I. Introduction and Summary

My name is Jon Gabriel. I am Vice President, Service Design and Performance for BNSF Railway Company (“BNSF”), and I have been in this role since February 2022. I am responsible for overseeing the scheduling of railroad operations to meet customer expectations and optimize the use of the BNSF network. Prior to my current role, I served as Vice President, South Region where I was responsible for operations across the BNSF Chicago, Kansas, Red River, Southwest and California divisions. Prior to that, I served as our Network General Superintendent of Operations responsible for dispatching operations across BNSF’s 32,500 network route miles. Prior to that, I held General Manager Positions for our Northwest and Montana Operating Divisions; General Director and Corridor Superintendent roles, responsible for BNSF’s Powder River Division connecting key corridors such as Denver to Ottumwa; as well as various roles in Merchandise Service Design and Intermodal Marketing & Sales.

My name is Travis Thowe. I am General Director of Network Development for BNSF, and I have been in this role since 2021. I am responsible for capacity planning, network strategy, and service design metrics. Prior to my current role, I served as Director, Network Strategy.

Our team has analyzed the impact of the proposed CP-KCS transaction (the “Transaction”) on BNSF’s operations, including Applicants’ traffic projections and capacity improvements. In this Verified Statement, we describe how we have determined that Applicants have not properly accounted for the service impacts of their new proposed traffic levels, particularly on lines in Texas that CP-KCS will share with BNSF and other railroads. Certain of these rail lines will almost surely

require capacity improvements not yet identified by Applicants to accommodate the new CP-KCS traffic.

The Surface Transportation Board (“Board” or “STB”) and other federal transportation policymakers are rightly focused at present on supply chain fluidity issues. It is well known that the entire nation, continent, and the world are experiencing supply chain problems that developed in connection with the ongoing COVID-19 pandemic. All industries have been affected by the global supply chain disruptions, and there is still much uncertainty regarding when things will improve.

The rail industry, in particular, has experienced significant challenges. The pandemic has caused severe delays at major U.S. ports, creating bottlenecks across the rail industry. We understand that the Board has also been focused recently on rail service issues, expressing concern regarding reports from shippers related to service issues, including missed switches and railcars delayed at yards or interchanges, subpar performance, and significant congestion at intermodal facilities. BNSF has taken steps to address these issues and increase fluidity in the supply chain, and we are concerned that the issues we identify in this statement regarding new CP-KCS traffic could set back those efforts or create new challenges.

Indeed, we believe that the Board should ensure that the CP-KCS merger does not result in service issues that would have ripple effects across the national rail network. These service issues could arise at important gateways such as Houston, which is a vital piece of rail and port commerce through the Southwest, similar to Chicago in the Midwest. Houston is a major hub of both east/west flows between the Pacific and the Eastern United States, and north/south flows between the Pacific Northwest/Midwest and Mexico. Houston has a direct effect on the

fluidity of the New Orleans gateway, and is a major gathering point for goods manufactured in the U.S. Gulf Coast.

BNSF, Union Pacific Railroad Company (“UP”), and The Kansas City Southern Railway Company (“KCS”) all operate in and around Houston, often on the same rail lines. KCS operates primarily overhead traffic within the Houston complex, with limited service between some Houston customers and Mexico – while BNSF and UP have significant local operations serving shippers in Houston. Houston was the scene of an earlier merger-related meltdown, and various teams at BNSF work around the clock every day with other operating railroads and stakeholders to ensure that the Houston terminal complex remains fluid.

Applicants project approximately eight to 11 new daily CP-KCS trains in the first three years after consummation of the Transaction on various line segments in Texas leading to Mexico, including through Houston. But Applicants have proposed **no new capacity improvements related to the Transaction on their entire 500-mile through route from DeQuincy, La. to Laredo, Tex.**, which we refer to here as the “KCS Texas Gulf Route.” Applicants have also not reached out to BNSF to discuss how the new CP-KCS traffic will be accommodated on these shared lines.

Absent capacity improvements on this route, we believe that the new CP-KCS trains will force BNSF and other railroads to take drastic steps, including inefficient rerouting, in order to maintain fluidity and prevent disruption and delay to our customers. And even with those extreme measures, we believe that the projected CP-KCS train increases could cause another merger-related service crisis in the Gulf Region and Houston in particular. It is BNSF’s position that the Board must take steps to ensure that such a crisis does not occur again, and that the

proposed CP-KCS merger does not undermine the effectiveness of prior Board-directed efforts and inter-carrier coordination to resolve service issues in Houston.

As described in further detail in this statement and in the opening comments submitted along with this Verified Statement, if the Board approves the merger, BNSF believes that the Board should require Applicants to bear full responsibility for the projected operational impacts of their consolidation. This includes fully funding any capital improvements needed to handle the increased CP-KCS traffic on the KCS Texas Gulf Route, which we describe in detail below.

Our colleague Sarah Bailiff explains in her Verified Statement that, without Board intervention, BNSF and other railroads could be responsible under existing joint ownership and joint use agreements for funding some significant portion of the capacity improvements necessitated by the increased CP-KCS traffic levels and longer CP-KCS trains. BNSF should not be required to contribute any funding for improvements that would not be required but for the CP-KCS merger, and the Board should ensure that Applicants do not implement and fund their proposed merger on the backs of BNSF and its customers. Requiring BNSF and other railroads (and by extension their customers) to fund the capital improvements necessary to accommodate the CP-KCS traffic would have anticompetitive effects, benefiting CP-KCS while harming other railroads and their customers.

In the absence of a plan by Applicants to address how increased CP-KCS traffic will be handled on shared lines in Texas – and until necessary capital improvements are identified, fully funded by Applicants, and implemented – the Board should restrict Applicants from increasing existing KCS traffic levels on those lines if such increases would displace existing traffic or compromise fluidity on those lines. The Board should also require CP-KCS, in connection with the

Board's oversight process, to regularly report congestion metrics on the KCS Texas Gulf Route and to fully fund and implement any capacity improvements necessary to accommodate increased CP-KCS traffic during that period.

Moreover, the Board should reserve jurisdiction to impose further conditions during the oversight period if and when the congestion and service issues that we identify in this statement occur.

II. Analysis of Proposed CP-KCS Merger Effects

Applicants have proposed adding significant amounts of new and longer CP-KCS trains to certain line segments where CP or KCS currently share operations with BNSF and other railroads. In this section, we will describe three geographic areas where congestion could have particularly bad effects on BNSF and its customers. These are by no means exclusive.

A. KCS Texas Gulf Route

The first and most important area of focus is the KCS Texas Gulf Route to Mexico through Texas. KCS connects to Mexico by operating over a through route that runs between DeQuincy, La. and Laredo, Tex. via Houston, generally paralleling the Gulf of Mexico coast and running mostly through the state of Texas. Applicants project that the proposed transaction would result in approximately eight to 11 new CP-KCS trains per day operating over the KCS Texas Gulf Route. (See Appl., Ex. 13, Operating Plan, Appendix A 1.)

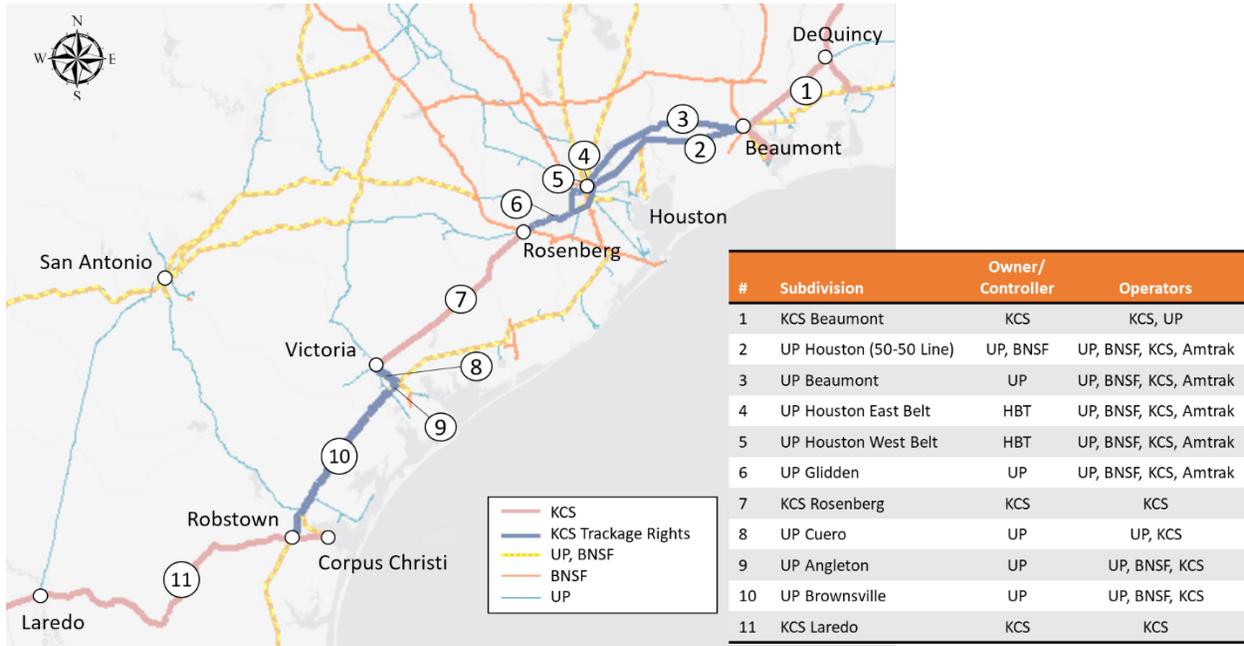
Mr. Fisher explains in his Verified Statement that these new trains represent more than a doubling of KCS's current volume on four of the five subdivisions that comprise the KCS Texas Gulf Route. (V.S. Fisher 35.) Mr. Fisher also explains that more than two-thirds of the new revenue shipments that Applicants project will result from their proposed merger will traverse the KCS Texas Gulf Route and run

through Houston. (*Id.* at 31.) Moreover, the traffic that Applicants expect to win from BNSF and UP would likely not have otherwise been routed directly through the Houston complex. (*See id.* at 32.)

While Applicants have proposed more than \$275 million in capacity improvements across the existing CP and KCS networks in order to handle projected CP-KCS traffic volumes, none of these improvements are on the KCS Texas Gulf Route. (*See* Appl., Ex. 13, Operating Plan 85.)

This route consists of a number of connected line segments, owned by some combination of KCS, UP, BNSF, and the Houston Belt and Terminal Railway (“HBT”), a terminal company jointly and equally owned by BNSF and UP. On certain of these segments, some combination of KCS, BNSF, UP, and Amtrak operate jointly. This route through Houston is the only KCS option for moving traffic to and from Mexico, while BNSF and UP are able to route traffic to Mexico by avoiding the Houston complex. The ownership and operating rights over KCS Texas Gulf Route are shown in Figure 1 below. We will explain these line segments in more detail, moving generally southwest from the Louisiana/Texas border to Laredo.

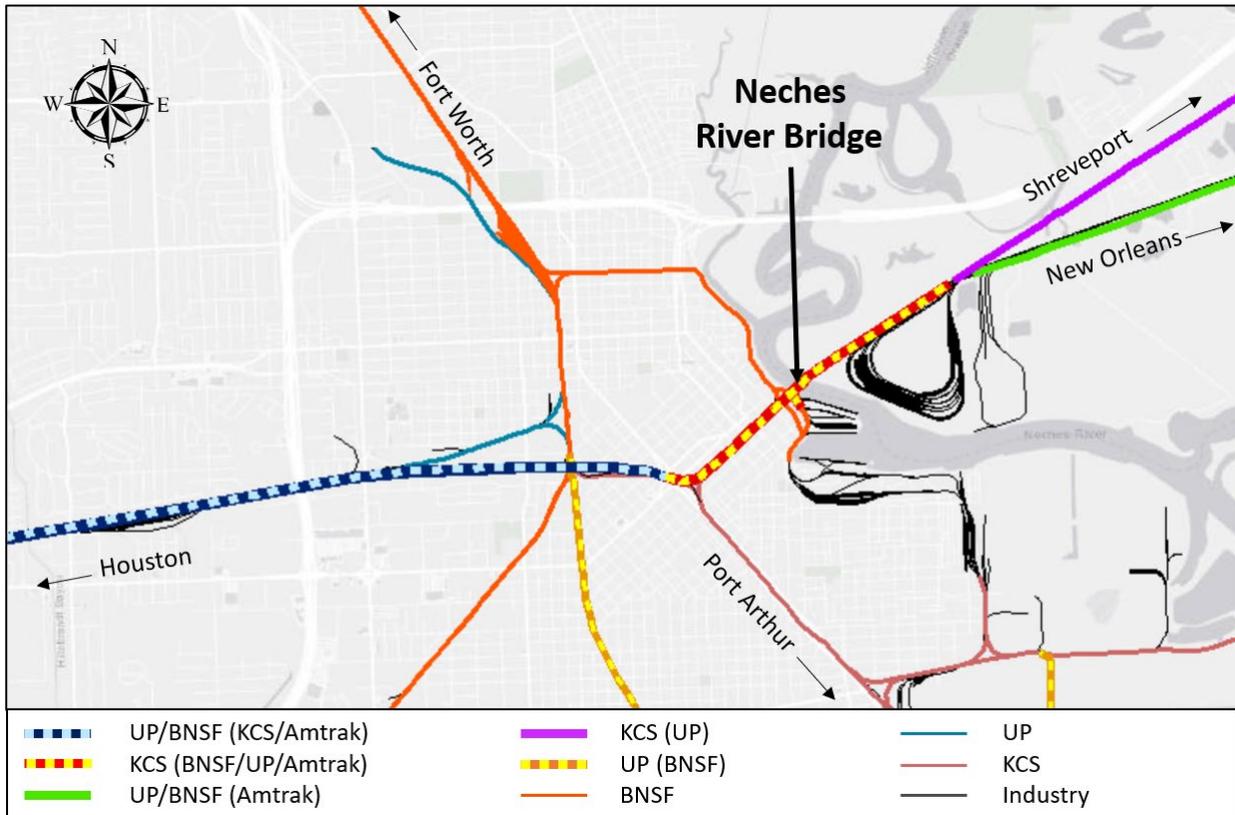
Figure 1



1. Beaumont, Tex.

KCS operates exclusively over the KCS Beaumont Subdivision from DeQuincy, La., to a point of connection just east of Beaumont, Tex. with the former Southern Pacific Lafayette Subdivision, now owned jointly and equally by UP and BNSF and referred to as the “50/50 Line.” At that point, BNSF, UP, and Amtrak trains move from the 50/50 Line onto the KCS Beaumont Subdivision, sharing that line with KCS traffic and moving west across the Neches River bridge to another connection point with the 50/50 Line in downtown Beaumont. These ownership and operational complexities are shown in Figure 2 below.

Figure 2



In the Beaumont area, we are particularly concerned about the effects of adding 11 new CP-KCS trains every day over: (1) the Neches River bridge chokepoint, which constitutes a critical link in the 50/50 Line and is currently owned and dispatched by KCS, and (2) through the central areas of Beaumont, where all east-west rail traffic intersects with north-south movements. In August 2021, the Texas Department of Transportation (“TxDOT”) issued the Houston-Beaumont Region Freight Study (HBRFS), an update to a prior study prepared for the region that focused on potential improvements related to railroad capacity and roadway-railroad crossings. We have attached that study here as Exhibit 1. The study identifies current congestion issues in Beaumont and notes that “[t]he existing Neches River bridge is a single-mainline lift bridge and is a constraint for train traffic in the area.” TxDOT, *Houston-Beaumont Region Freight Study* 3-14

(Aug. 2021 Draft). The study suggests that a second mainline track would provide additional capacity across this chokepoint. (*Id.*) Based on BNSF's experience managing its own operations over the Neches River bridge, we believe that the bridge can handle current traffic levels, but adding the 11 new daily CP-KCS trains may require such a double-tracking project.

All of BNSF's traffic moving east of Beaumont on the 50/50 Line towards Lake Charles, La. and connections with Eastern railroads in New Orleans, La. must move through Beaumont and over the Neches River bridge on this portion of the KCS Beaumont Subdivision. Absent new capacity in this area, severe congestion in Beaumont resulting from new CP-KCS traffic would cripple both BNSF's ability to serve customers in the Gulf region, and BNSF's ability to interchange this and other traffic with other railroads at New Orleans for points in the Eastern United States.

Additionally, congestion in Beaumont caused by CP-KCS traffic would result in knock-on effects to operations on the BNSF Silsbee Subdivision, which enters Beaumont from the north and connects to points further west in Texas via the BNSF Conroe Subdivision. BNSF must receive permission from KCS dispatchers to operate over the Neches River bridge. When that route is occupied by other traffic, we would need to stage BNSF trains significant distances from Beaumont on our adjacent subdivisions in order to minimize at-grade crossing impacts while waiting for a clear route over the KCS-controlled bridge.

BNSF interchanges significant amounts of traffic with KCS and UP at Beaumont for delivery to customers in the region, including Port Arthur, Orange, Korf, Chaison, Silsbee, Port of Beaumont, Beaumont, and other locations. This region is anticipating significant growth in the next few years, with new

manufacturing facilities under construction and planned. The additional CP-KCS trains will directly impact both the ability to facilitate interchange when the primary route is congested, and switching services to customers in the region. These impacts would add train delays and could require BNSF to implement projects on our own lines to address these issues. Such projects could include additional sidings on our Conroe Subdivision to stage cars waiting for a clear route, and expanded yard capacity at Beaumont and Silsbee, Tex. to manage the dwell from delayed switching operations. Additionally, new CP-KCS traffic will limit BNSF's ability to service the Port of Beaumont, as BNSF's route crosses KCS's main line at-grade near the west end of the Neches River bridge. The Port of Beaumont is a key port for movement of U.S. military equipment, in addition to other bulk and break-bulk goods.

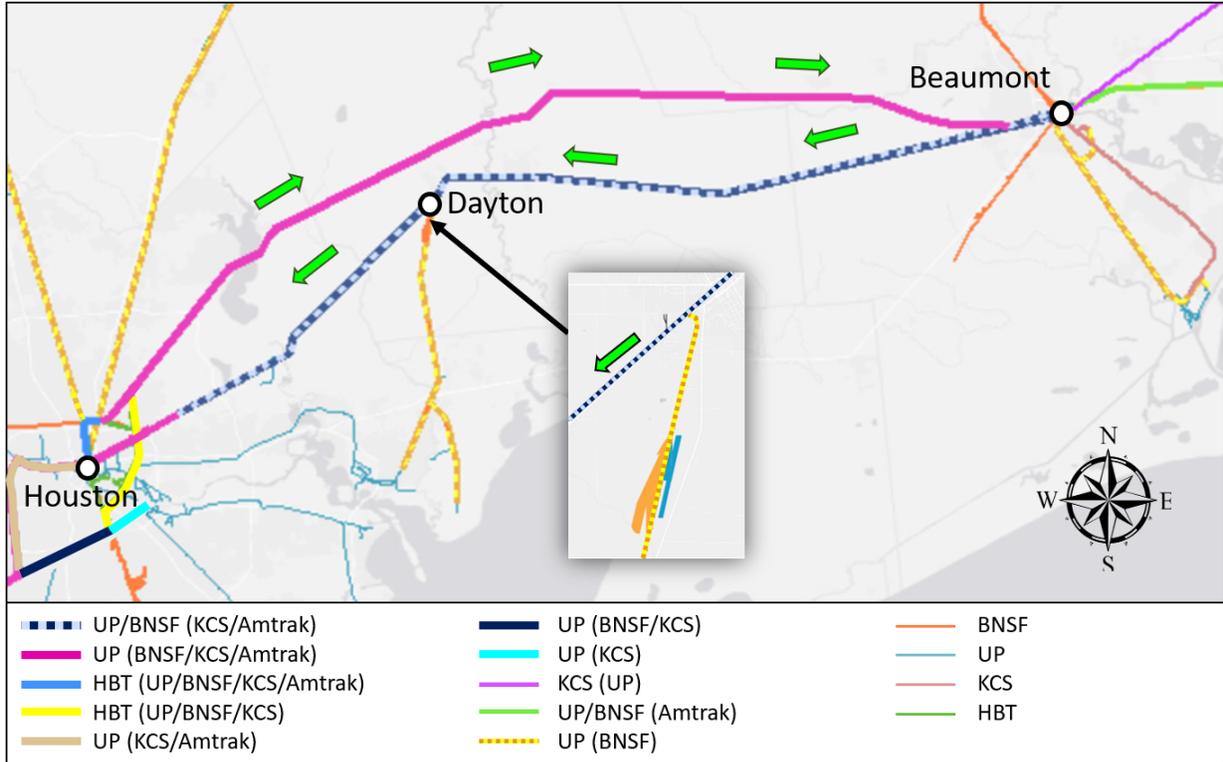
2. Beaumont, Tex. to Rosenberg, Tex. via Houston.

Moving west along the KCS Texas Gulf Route, KCS operates between Beaumont, Tex. and Rosenberg, Tex. through the Houston terminal complex, using trackage rights over a number of line segments. KCS, BNSF, UP, and Amtrak all operate over these line segments. BNSF and UP each serve customers that are located on these line segments, but KCS does not – as KCS's rights through and into Houston permit only KCS trains running to, from, or via the former Tex Mex line that runs to the Mexican border at Laredo, Tex.

KCS typically operates westbound from Beaumont to Houston via overhead trackage rights on the BNSF/UP 50/50 Line. KCS typically operates eastbound from Houston to Beaumont via overhead trackage rights on the UP Beaumont Subdivision, which roughly parallels the 50/50 Line to the north and connects with the 50/50 Line just west of Beaumont. These movements, which also generally track

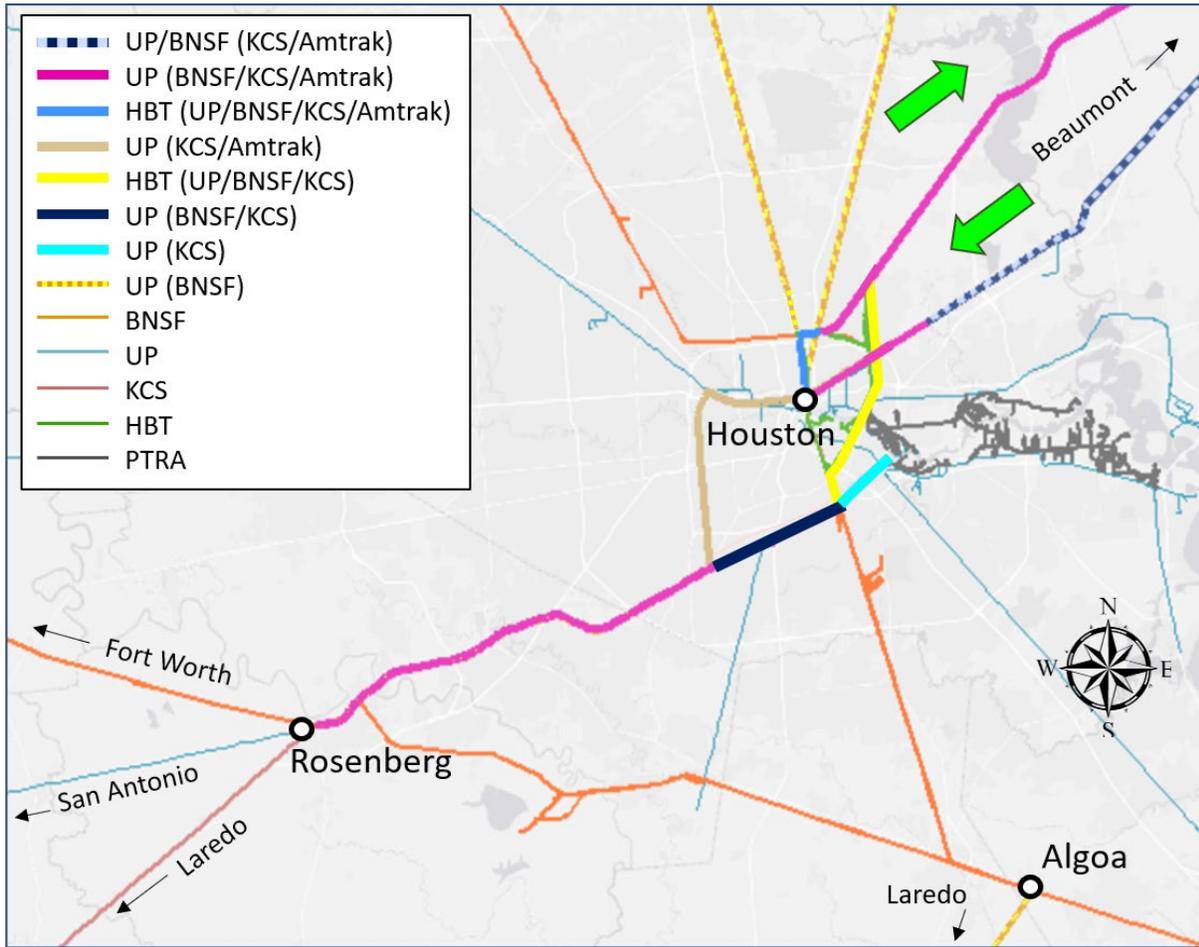
the directional flow of UP and BNSF through trains operating over these lines, are shown in Figure 3 below.

Figure 3



KCS operates through the Houston terminal complex and to Rosenberg, Tex. via trackage rights over line segments owned or controlled by UP and HBT. KCS can also access the Port of Houston and its serving carrier, the Port Terminal Railroad Association (“PTRA”), for movements between PTRA and points to, from, or via the former Tex Mex line to the Mexican border at Laredo. These movements and line segments are shown in Figure 4 below. KCS lacks crew change facilities between Beaumont and Rosenberg, so under ideal conditions, KCS would make this approximately 133-mile movement with one crew.

Figure 4



We understand that Applicants project that the proposed Transaction would result, within three years of the proposed merger, in approximately 8.3 new CP-KCS trains per day operating between Beaumont and Rosenberg, via Houston. As Mr. Fisher explains, these CP-KCS trains generally will not replace existing BNSF or UP trains in this corridor, but instead represent net new volume that the already near-capacity lines must accommodate. The traffic that CP-KCS intends to divert from BNSF does not currently run through Houston, but instead runs on the BNSF Temple Subdivision between Ft. Worth, Tex. and Laredo, Tex., staying west of Houston over BNSF’s Galveston Subdivision. The traffic the CP-KCS intends to divert from UP primarily avoids Houston as well, operating north from Laredo, Tex.

towards San Antonio, Tex. for furtherance on UP's network. The addition of this new CP-KCS traffic raises significant concerns about the ability of BNSF to serve our many customers that rely on efficient transportation through Houston.

The Houston complex is comprised of a dense series of connecting line segments. Congestion on one segment can ripple through the Houston complex and beyond. Immediately following the UP/SP merger, during the summer of 1997, serious service issues developed in and around Houston, which led to a lengthy and damaging service breakdown that dramatically affected rail transportation throughout the western United States. During the service crisis, it was not unheard of for cars to take days to transit just a few miles for interchange due to main line congestion creating residual impacts at yards and customer facilities. BNSF worked together with UP, the Board, and others to resolve the crisis, but the scars of the Houston meltdown remain to this day, and all stakeholders are determined to avoid a repeat.

The Houston complex poses operational challenges today, and adding the new CP-KCS traffic into the Houston complex risks repeating the past. Critical junction points on the CP-KCS route through Houston intersect HBT and UP main lines, which will create further delay when the CP-KCS volumes are added. For example, at Tower 26 in Houston, BNSF operates over HBT in a north-south direction to move traffic between Dallas, Tex. and BNSF's South Yard in Houston. CP-KCS trains will operate east-west with an at-grade intersection of the HBT line. These rail lines are also intersected at-grade by street crossings, which limit BNSF's ability to stage trains nearby and require trains to hold further back. When a BNSF train is given a clear route to move, it must make up this additional distance, compounding the time each train is delayed. Additionally, staging trains awaiting a

clear route often requires BNSF to re-crew its trains as its crews can only operate for maximum time periods prescribed by law. Recrews add further delay and cost to the supply chain. Today, on average, BNSF already requires over 2.5 crews just to traverse the Houston complex.

Thru-freight trains (such as those operated by CP-KCS) generally have priority over local train movements (such as those operated by BNSF). Therefore, delays to the BNSF local shuttle service trains will cause cascading effects on local interchanges between BNSF and each of UP and PTRR, thereby impacting service to hundreds of customers in the area and their receivers throughout the North American supply chain. This would then require BNSF to hold cars ready to depart to destination for a longer period of time, limiting new trains from arriving for interchange. Before long, a very localized bottleneck in Houston caused by new CP-KCS trains can create a regional delay pattern that affects customer service to hundreds of customers not directly served by CP-KCS.

BNSF, UP, and KCS, along with other stakeholders, closely monitor and manage Houston operations to ensure continued fluidity. Natural events, including frequent hurricane activity in this region and significant changes in volume can and will create congestion issues through the complex. Furthermore, we understand that KCS often is unable to move from Beaumont to Rosenberg without holding their trains on main lines for unplanned crew change operations, due to regular delays in the Houston complex.

Dayton, Tex. lies roughly mid-way between Beaumont and Houston on the 50/50 Line. The UP Baytown Subdivision connects to the 50/50 Line at Dayton and runs south to Galveston Bay, serving significant industrial facilities along the route, including many of the largest in the United States. BNSF operates trackage rights

service on the UP Baytown Subdivision. In order to serve the Baytown Subdivision, BNSF must run east from Houston on the 50/50 Line against the westward directional running flow used by UP and KCS on that line. Given these limitations, it can frequently take greater than 12 hours for BNSF to operate this short distance while swimming upstream. UP has the ability to access the Baytown Subdivision and connect to Houston from the south. Therefore, any congestion in Houston and on the 50/50 Line would uniquely harm BNSF's ability to serve customers on the Baytown Subdivision. This would reduce competition between BNSF and UP and potentially create manufacturing delays for industrial plants in the region and supply chain issues for companies that use manufactured products that are produced on the Baytown Subdivision.

When BNSF and UP have anticipated traffic increases that would result from new or expanded customer facilities or have identified capacity constraints that require new capital improvements in the Houston area, the railroads have invested in the network in order to sustain our growth. Houston and the Texas Gulf region is an important and active industrial area today, and we expect further development in the near future. We are very concerned that the additional 8.3 daily CP-KCS trains that Applicants project will run on this route through Houston within the first three years of the proposed Transaction, including longer trains, will create serious fluidity issues, absent capacity improvements.

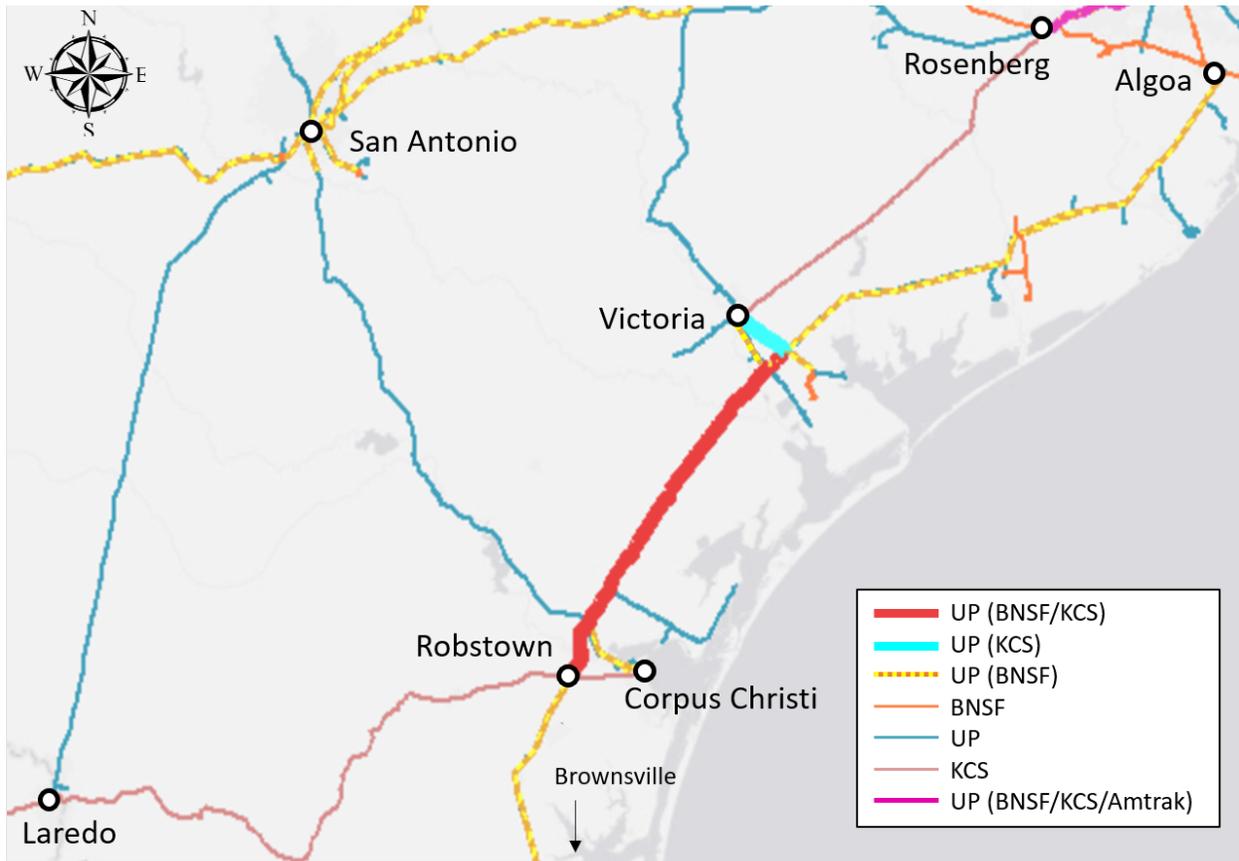
The TxDOT study attached as Exhibit 1 identified a number of capital projects in the Houston complex. These include examples of capital projects that could help mitigate some of the effects of the new CP-KCS traffic, although the study did not consider the sudden additional traffic resulting from the proposed CP-KCS merger. We anticipate that additional capacity improvements yet to be

identified will ultimately be required due to the new CP-KCS traffic, and Applicants have provided no analysis or plans for these capacity needs.

3. Rosenberg, Tex. to Laredo, Tex.

Moving west along the KCS Texas Gulf Route, KCS operates between Rosenberg, Tex. and Victoria, Tex. using the KCS Rosenberg Subdivision, which is not shared by other railroads. KCS operates between Victoria, Tex. and Robstown, Tex. using overhead trackage rights on the UP Angleton Subdivision. KCS then operates between Robstown, Tex. and Laredo, Tex. via the KCS Laredo Subdivision, formerly owned by Tex Mex, which is not shared by other railroads. We understand that Applicants project that the proposed transaction would result in approximately nine new CP-KCS trains per day operating between Rosenberg and Laredo within the first three years after the proposed Transaction. These line segments are shown in Figure 5 below.

Figure 5



Each of KCS, BNSF, and UP operate over the UP Angleton Subdivision between Victoria and Robstown. BNSF serves customers located on this segment and uses the line (via trackage and haulage rights) to move traffic volumes further south to the Mexican border at the Port of Brownsville, Tex., and east to serve customers on a portion of the UP Angleton Subdivision that KCS does not use for its through route to Laredo. This segment is extremely busy and congested today, and the railroads often have to hold the main line to conduct unplanned re-crew operations. Over the last 45 days, BNSF has been experiencing an unplanned re-crew rate of close to 80% on this segment, with average runtime exceeding crew hours of service of 12 hours on our high-priority intermodal trains. These re-crews require trains to be parked on sidings, consuming capacity, while a new crew is

driven in a van to the location to take control. This adds dwell time to the transit and further congests the line.

We expect that the new, longer CP-KCS trains will further deteriorate operations on this line, impacting customers served on the UP Angleton Subdivision, including customers at the Port of Corpus Christi, and those in Mexico. Congestion would also have knock-on effects for BNSF operations further east on the UP Angleton Subdivision and further south towards Brownsville. Longer CP-KCS trains on the UP Angleton Subdivision would limit meet-pass capacity with BNSF and UP trains, causing the other trains to be held further from destination until the longer CP-KCS trains have transited the entire route. This would cause a chain of events that impacts congestion on lines that feed this segment, consuming capacity, and impacting service to customers on those routes. Additionally, valuable yard capacity would be consumed as trains wait for congestion to ease. This would impact service to an even broader regional area, as local jobs and yard jobs that service customers are unable to perform switching operations until the thru-freight trains depart the yard.

4. Applicants do not propose sufficient infrastructure improvements to accommodate their projected CP-KCS traffic increases.

KCS has previously acknowledged current capacity issues in Houston and on surrounding lines in Texas. We understand that KCS submitted a letter to the Board in 2018, attached here as Exhibit 2, discussing capacity issues in this area. (Letter from KCS to STB (Apr. 5, 2018).) KCS stated that, since November 2017, it had experienced slowdowns, primarily in the Beaumont—Laredo portion of its network. (*Id.* at 1.) KCS acknowledged that 2 of its 10 major yards, both in south Texas, experienced performance below historical norms due to overall industry

congestion in the area. (*Id.* at 3.) The yards were identified as the Laredo Yard and as the Port Arthur Yard. (*Id.*) In both of these yards, KCS experienced increases in inventory and dwell. (*Id.*)

Again in 2019, KCS acknowledged congestion and delays in moving goods through Houston. See Ari Ashe, *Rails work to reduce Houston congestion*, J. OF COM. (Apr. 18, 2019), attached here as Exhibit 3. Sameh Fahmy, then-executive vice president of KCS's precision railroading efforts, said Houston was becoming "a bit like Chicago," with inefficiencies that could harm the entire network. *Id.* at 2. Fahmy indicated that KCS sometimes contributed to its own operating problems in Houston by not having crews on hand to take trains after they had been staged and that the railway had taken steps to fix that problem. See Bill Stephens, *KCS, UP clear a path through Houston*, News Wire, TRAINS (May 14, 2019), attached here as Exhibit 4.

We also understand that KCS has taken a number of steps to help fund and implement capacity improvements in Houston and on surrounding lines in Texas. To improve fluidity through Houston and support traffic volume surges, KCS committed substantial funds to increase capacity on UP's Brownsville Subdivision, where KCS operates via trackage rights. KCS worked cooperatively with UP, with whom KCS spent approximately \$50 million between 2015 and 2018 on capacity projects designed to improve fluidity on the Brownsville Subdivision. BNSF itself has contributed millions in various capacity upgrades to this UP line segment in the past five years.

The majority of those projects were completed, or were scheduled to be completed, by 2018. Additionally, KCS and UP planned continued investment in subsequent years. In recent years, KCS has completed a number of capacity

improvement projects on its own lines in Texas, including: a new siding in San Diego, Texas; extension sidings in south Texas; a new R&D track in Laredo Yard; and installation of CTC on both the Laredo and Rosenberg subdivisions.

In sum, KCS knows well that the KCS Texas Gulf Route faces fluidity issues today and has worked with the owning railroads to implement capacity projects when needed to accommodate new traffic or unlock chokepoints. Given this history and current understanding of the problems, we simply do not understand why Applicants proposed **no new capacity improvements** at any point on the more than 500 miles of the KCS Texas Gulf Route between DeQuincy, La. and Laredo, Tex. in order to accommodate the new and longer trains that Applicants project will result from the proposed CP-KCS merger.

Critical bottlenecks will need to be addressed in order to maintain service to customers in the Gulf region. Some examples of projects that we believe will be necessary due to the new CP-KCS traffic include the addition of a second main line over the Neches River at Beaumont; grade separation, track design, and siding improvements at Dayton; additional mainline capacity and sidings between Beaumont and Houston; strategic grade separations in and around Houston; and additional main line capacity and sidings between Bloomington, Tex. and Rosenberg. We believe that an independent rail traffic controller (“RTC”) modeling study would affirm that the new CP-KCS traffic will create the need for these and other projects.

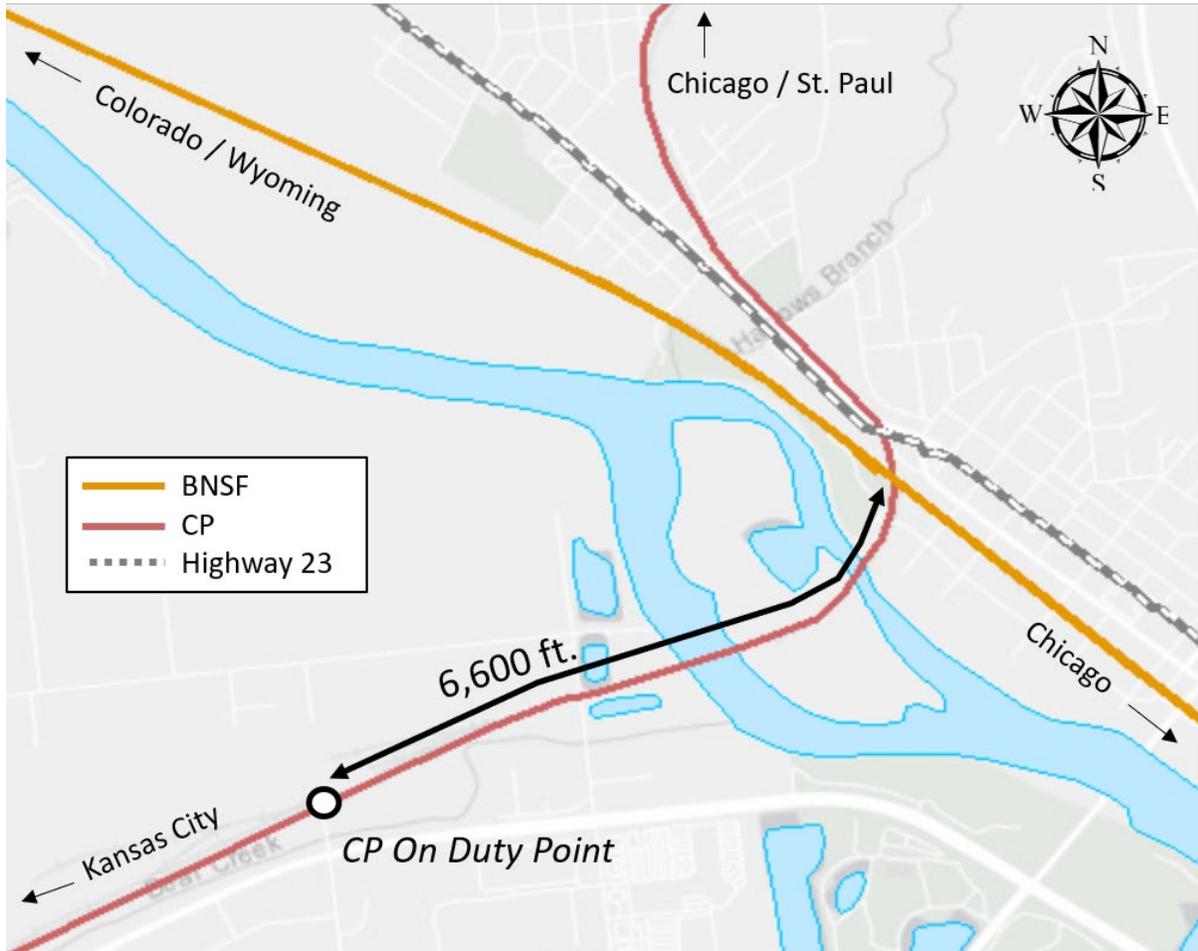
Without necessary infrastructure improvements, the new CP-KCS traffic proposed by Applicants will cause significant congestion impacts that will affect rail customers. These impacts will directly affect service on lines over which CP-KCS will operate, and indirectly affect service on connecting BNSF lines that are

accessed via the CP-KCS route (for example, UP's Baytown Subdivision). As we discuss above, as trains are slowed at bottlenecks, a compounding delay affects the next train ready to depart. The trains are held further from the bottleneck point and eventually held in yards, which play a vital role for service to customers via local jobs and yard jobs. The yards are further impacted as cars from previous days stack up, waiting for the congestion to reduce. These are the foundations of a service crisis that BNSF desperately wants to avoid.

B. Ottumwa, Iowa

The second area of focus is Ottumwa, Iowa. On the northwest side of Ottumwa, the CP Laredo Subdivision – part of the CP-KCS single-line through route from Chicago to Mexico – has at-grade intersections with the BNSF Ottumwa Subdivision and State Highway 23. The BNSF Ottumwa Subdivision is BNSF's double-track mainline, and its primary route linking Nebraska (grain), Wyoming (coal), and Denver (industrial products) to Chicago. CP has a crew on-duty location that results in CP holding the main line of the Laredo Subdivision approximately 6,600 feet west of these at-grade intersections. These points are shown in Figure 6 below.

Figure 6



We understand that Applicants project that the proposed transaction would result in an increase of approximately 14.3 new trains per day over this segment – for a total of approximately 18.4 trains per day, or more than *four times* the amount of trains that would operate on this segment without the transaction. (See Appl., Ex. 13, Operating Plan, Appendix A 1.) Given the approximately 6,600-foot distance, the back end of every longer CP-KCS train that requires a crew change would block the BNSF Ottumwa Subdivision and State Highway 23 while the crew change occurs.

While a grade separation of the CP Laredo Subdivision through Ottumwa may ultimately be appropriate given the volume increases projected by Applicants,

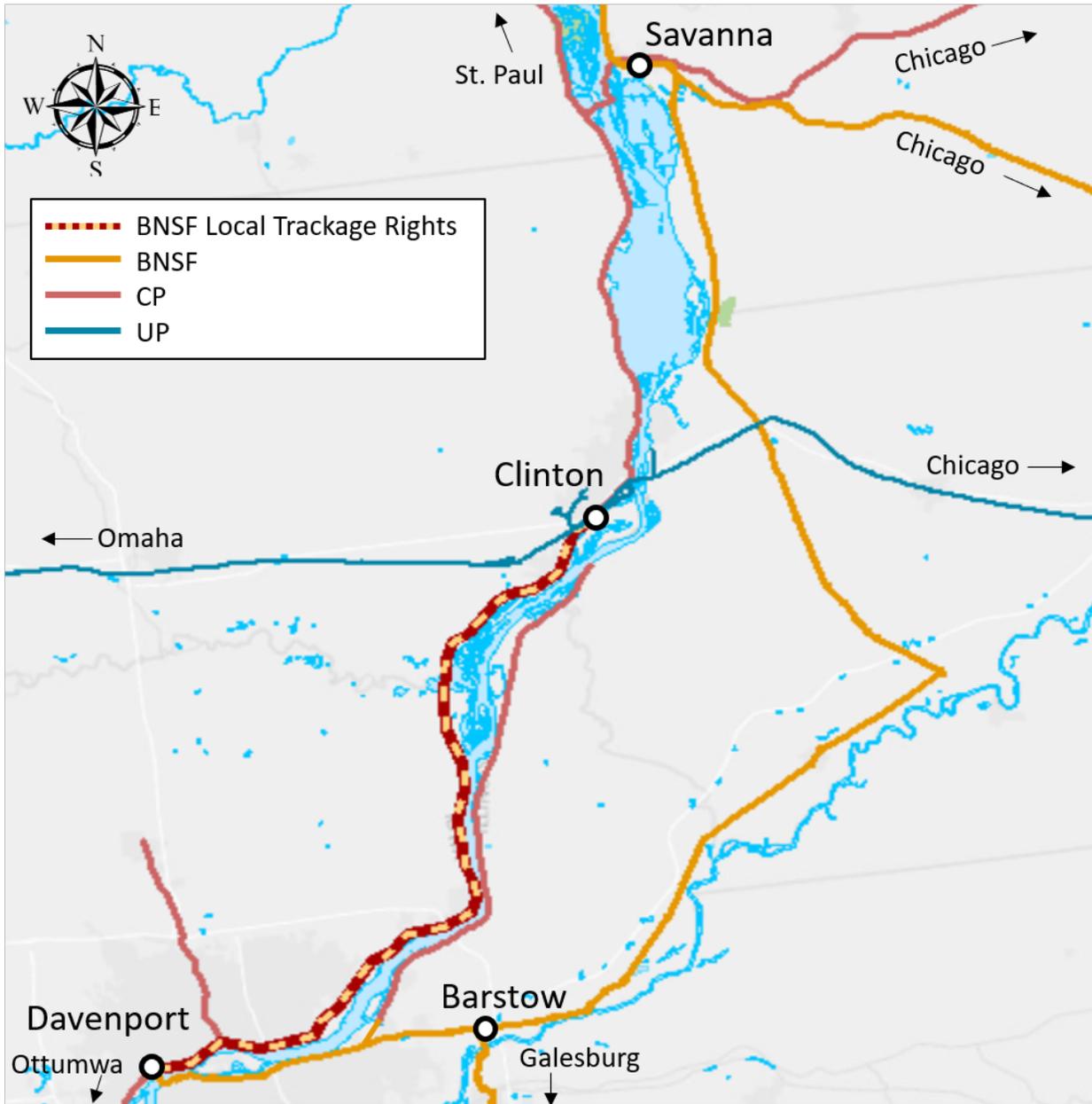
at a minimum the Board should require Applicants to locate the CP-KCS crew change location to a point on the CP Laredo Subdivision that does not cause the blockage and disruption of freight rail and motor vehicle traffic through Ottumwa.

C. Quad Cities of Iowa and Illinois

The third area of focus is the Quad Cities area of Iowa and Illinois, on either side of the Mississippi River. In 1995, BNSF's predecessor and CP entered into a series of related transactions that eliminated a prior switching carrier owned by both of the railroads – Davenport, Rock Island and North Western Railway Company (or "DRI") – and transferred DRI's lines and functions to BNSF and CP. At a high level, lines east of the Mississippi River were transferred to BNSF, and lines west of the Mississippi River were transferred to CP. *See Can. Pac. Ltd., et al.—Control—Davenport, Rock Island & N. W. Ry. Co.*, FD 32579, 1995 WL 55450, at *1 (ICC served Feb. 10, 1995). BNSF and CP also granted each other trackage rights over many of these line segments.

As relevant here, BNSF has trackage rights over the CP Davenport Subdivision that allow BNSF to travel from Barstow, Ill., crossing the Mississippi River over the Crescent Bridge in Davenport, Iowa, and continuing north on the CP Davenport Subdivision to serve customers between Davenport and Clinton, Iowa. The majority of BNSF's traffic on this line originates or terminates in Clinton. These lines are shown in Figure 7 below.

Figure 7



The CP Davenport Subdivision is CP’s main through route from Chicago to Kansas City. We understand that Applicants project that the proposed CP-KCS merger will result in approximately 14.5 additional CP-KCS trains running per day over the CP Davenport Subdivision, for a total of approximately 21.6 trains per day, or tripling the current traffic on the line. (See Appl., Ex. 13, Operating Plan, App. A

1.) Given the unsignalized nature of this CP line segment and the high amount of new CP-KCS traffic projected to result from the merger, we are concerned that BNSF trackage rights service on the CP Davenport Subdivision will be severely degraded, causing harm to our customers on the line.

III. Board Conditions on Approval of CP-KCS Merger

We believe that the Board should condition any approval of the proposed CP-KCS merger on certain actions that will minimize the impact, described above, of anticipated congestion on connecting railroads and rail customers. The specific conditions requested by BNSF are set forth in the opening comments submitted along with our Verified Statement.

VERIFICATION

I, Jon Gabriel, declare under penalty of perjury that the foregoing is true and correct. Further, I certify that I am qualified and authorized to file this verified statement.

/s/ Jon Gabriel

Jon Gabriel

Executed on February 28, 2022.

VERIFICATION

I, Travis Thowe, declare under penalty of perjury that the foregoing is true and correct. Further, I certify that I am qualified and authorized to file this verified statement.

/s/ Travis Thowe

Travis Thowe

Executed on February 28, 2022.

REDACTED – TO BE PLACED ON PUBLIC FILE

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 36500

CANADIAN PACIFIC RAILWAY LIMITED, ET AL.
—CONTROL—
KANSAS CITY SOUTHERN, ET AL.

Verified Statement of Jon Gabriel and Travis Thowe

Exhibit 1

TxDOT Houston-Beaumont Region Freight Study

REDACTED – TO BE PLACED ON PUBLIC FILE

HOUSTON-BEAUMONT

Region Freight Study

DRAFT August 2021



Table of Contents

Executive Summary

1.0 Introduction & Background

2.0 Data Collection & Existing Conditions

2.1 Data Collection

2.2 Existing Conditions

3.0 Railroad Project Determination and Results

3.1 Railroad Operations Modeling Methodology

3.2 Railroad Project Selection

3.3 Railroad Modeling Projects and Scenarios

4.0 Grade Crossing Screening Methodology and Results

4.1 Screening Methodology

4.2 Grade Crossing Screening Results

5.0 Comprehensive List of Improvements

5.1 Methodology

5.2 List of Improvements by Railroad Subdivision

6.0 Recommendation and Implementation Strategy

6.1 Implementation Strategies

6.2 Funding Opportunities

Appendices

Appendix A. Railroad Improvements

Appendix B. Grade Separations and Crossing Closures

Appendix C. Constraints Map

Appendix D. Benefit-Cost Analysis

Executive Summary

Overview

The Houston-Beaumont Freight Rail Study (HBFRS) is an update to a previous study prepared for the Houston and Beaumont region focused on potential improvements related to railroad capacity and roadway-railroad crossings. The *Houston Region Freight Study*, issued in 2007 by the Texas Department of Transportation (TxDOT), was the start of a conversation to address deficiencies within the region’s freight network (roads, ports, and railroads) and to develop ways to accommodate future freight movements. Since the completion of the *Houston Region Freight Study*, some of the projects within that study were implemented with many of those remaining projects not funded or constructed over the past decade.

This study encompasses 11 counties bounded by the Houston-Galveston Area Council (H-GAC) and the South East Texas Regional Planning Commission (SETRPC), including Brazoria, Chambers, Fort Bend, Galveston, Jefferson, Hardin, Harris, Liberty, Montgomery, Orange, and Waller Counties. Over the past two years, TxDOT along with a stakeholder group comprised of representatives from local governments, transportation and transit agencies, major railroad companies, ports, chamber of commerce, industry representatives, MPOs, and other interested parties had an opportunity to provide feedback and strategic direction on the study.

The region’s freight rail network not only contributes to the economic vitality of the 11-county area but transports vital goods to Texas residents and businesses as well as nationwide. The existing rail infrastructure, equipment, and facilities serve a diverse business profile including local and international companies, and combined imports and exports exceed \$1 billion annually¹ with freight rail infrastructure being vital to providing a mobility solution for commerce.

Recognizing the continued growth of freight movement in the Houston region, the most recent Texas Freight Mobility Plan (2018) prepared by TxDOT identified 23 grade-crossing separations, 3 rail-bridge projects, 5 mainline rail expansion projects, and various other projects. The HBFRS reviews applicable regional projects from the Freight Mobility Plan and other plans and studies and further evaluates the railroad and roadway infrastructure through Rail Traffic Controller (RTC) modeling software, crossing priority index, and further stakeholder conversations to detail additional projects for potential future implementation.

¹ Source: <https://www.houston.org/houston-data/monthly-update-foreign-trade>. Accessed on 11/2019.

Through the study of the freight rail network, the HBFRS aims to identify alternatives for rail and roadway system improvements, including grade separation, crossing closure, and rail capacity, to address vehicular/rail and freight rail performance within the 11-county region, and ultimately provide recommendations on execution strategies and funding opportunities.

These proposed projects are anticipated to reduce vehicular and train delays, increase transportation system capacity, reduce the potential for incidents, and improve the quality of life for users. These recommendations may be used to form the basis for an infrastructure plan focused around railroad-related efforts following these principles.

Methodology for Determining Projects

This study reviews existing conditions, constraints, and infrastructure to identify potential projects within the roadway and railroad networks that may provide the most benefits to the users of that infrastructure. The methodology used to identify railroad network projects is generally based on railroad operations modeling, while the roadway-rail grade crossing methodology focuses on quantitative reviews of data and qualitative reviews of other factors such as business and residential access, impacts to major utilities, and constructability.

Railroad Network

A model of the rail network within the region was created using RTC modeling software, and existing conditions were developed through available information and coordination with participatory Class I railroads. Once the existing model was finalized, the network was reviewed to determine constraints within the region such as bottlenecks, crew change points, and yard operations. Potential solutions to these constraints were developed and evaluated in a model in groupings, or scenarios, to determine effectiveness of the scenario to railroad operations. The identified scenarios and associated projects are included as part of section 3 in this study.

Benefit-cost analyses were also developed for these scenarios and are included as part of Appendix D in the study.

Roadway Network

Grade crossings within the study region were reviewed in a two-step process that concluded with the identification of potential grade separation or crossing closure candidates.

The first step is a quantitative review based on calculations that use inputs such as average daily traffic, train volumes, crossing protection, and incidents at each existing at-grade crossing within the region. The second step is a qualitative analysis defining feasibility of implementing a potential grade separation due to existing constraints at or near the crossing. Qualitative measures include change in access, additional infrastructure adjustments to freeways, impacts to major utilities, and potential environmental factors.

Identification of grade crossing candidates for closure focused on existing at-grade crossing locations with low traffic volumes that were adjacent to an existing or potential grade separation within this study. Other grade crossing closures were considered in areas along potential railroad capacity improvements that require staging areas for trains.

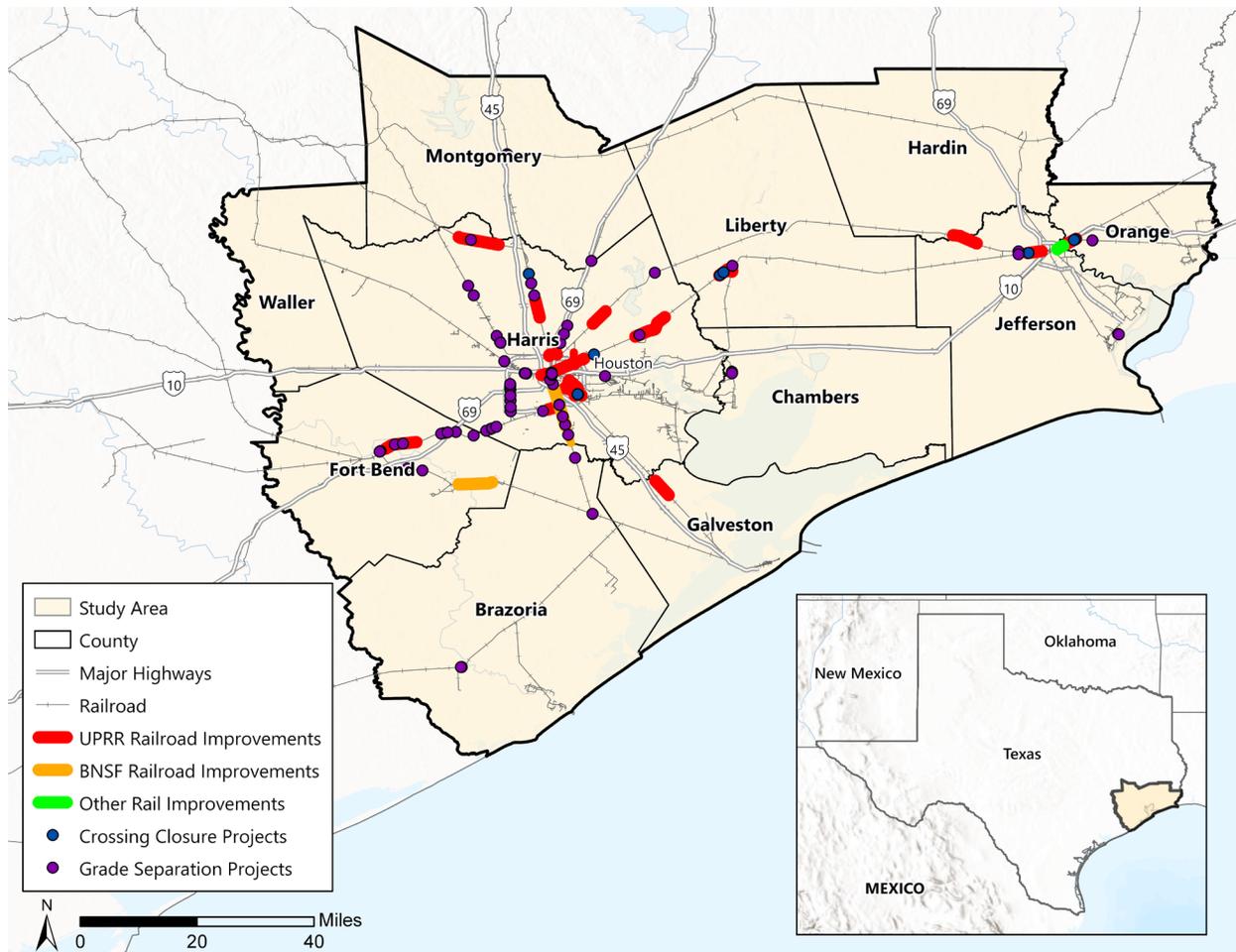
Proposed Improvements

The study compiled the results of the railroad and roadway network reviews into projects along each applicable railroad subdivision. Potential projects within the study include:

- 29 proposed railroad improvements,
- 59 proposed grade separations, and
- 22 proposed crossing closures.

Figure 1 details the locations of the proposed roadway and railroad improvements within the 11-county region.

Figure 1. Proposed Roadway and Railroad Improvements Map



For each potential improvement, this study describes existing conditions, implementation challenges, potential environmental challenges, and anticipated construction costs and implementation timeframe for planning purposes.

Benefit-cost analyses (BCAs) for the railroad scenarios have been completed to evaluate a project's benefits against its costs. The results focus on benefits related to vehicular delay and train movement efficiencies based on USDOT guidance for those benefits. These results can be found in Appendix D of the study.

Next Steps

The study identifies a process for moving the potential grade separation, crossing closure, and railroad capacity improvement projects forward through prioritizing improvements, determining an implementation schedule, and adding into local, regional, or state transportation plans. The study also discusses some opportunities for funding these projects by available grant programs and federal, state, and regional programs.

The grade separation, crossing closure, and rail capacity improvements are the foundation for a conversation of the regional needs for freight and vehicular movements involving railroad crossings and corridors. Stakeholders within the Houston-Beaumont region should review the initial findings of this study and further evaluate the projects to validate their benefits to the region. Projects, as deemed by the stakeholders, should be included as part of state, regional, and local transportation planning documents as well as planning documents of private stakeholders and identify potential funding for the projects based on anticipated implementation timeframes.

Section 1: Introduction & Background

This study is an update to a previous study prepared for the Houston and Beaumont region focused on railroad capacity enhancements and roadway-railroad crossings. The *Houston Region Freight Study*, issued in 2007 by the Texas Department of Transportation (TxDOT), was the start of a conversation to address deficiencies within the Houston region’s freight network (roads, ports, and railroads) and to develop ways to accommodate and prioritize the anticipated growth of future freight movements. It also identified improvements that may provide relief to residents and the traveling public adversely affected by delays, interruptions, and noise attributed to the movement of freight within the region.¹

The goal of this study update is to determine freight rail network and associated roadway constraints and identify for the identification of alternatives for rail and roadway system improvements to address vehicular/rail and freight rail performance within the 11-county region bounded by the Houston-Galveston Area Council (H-GAC) and the South East Texas Regional Planning Commission (SETRPC). The study area, shown in Figure 1.1, includes Brazoria, Chambers, Fort Bend, Galveston, Jefferson, Hardin, Harris, Liberty, Montgomery, Orange, and Waller Counties. The study also details methodology and recommendations for near-term, mid-range, and long-range projects that may improve freight mobility in the region and evaluates freight infrastructure, freight movements, and operations; identify opportunities to increase freight movement efficiency; and determine the physical and financial viability of potential improvements.

¹ http://ftp.dot.state.tx.us/pub/txdot-info/rail/freight/houston_study.pdf

Figure 1.1 Study Area Map

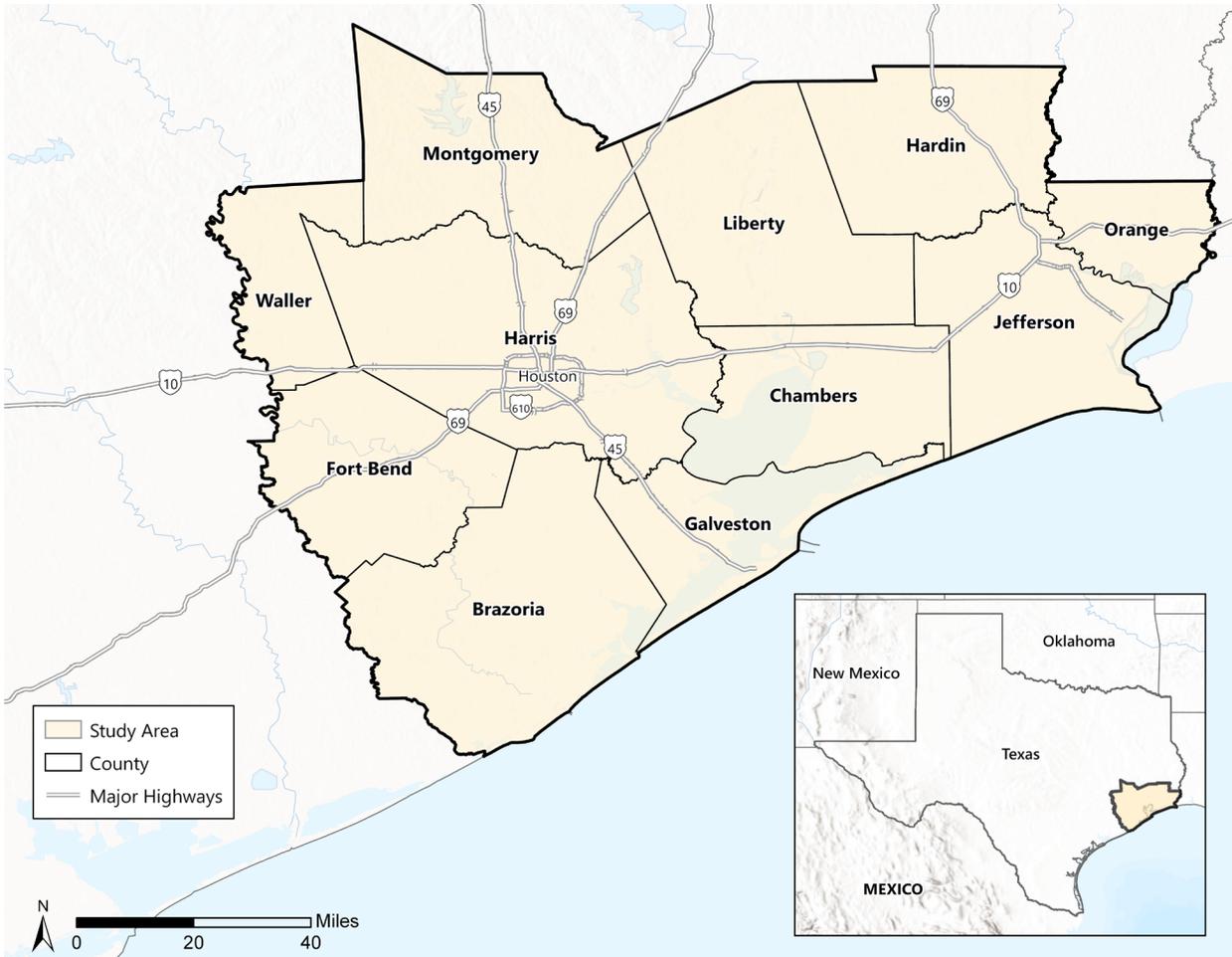
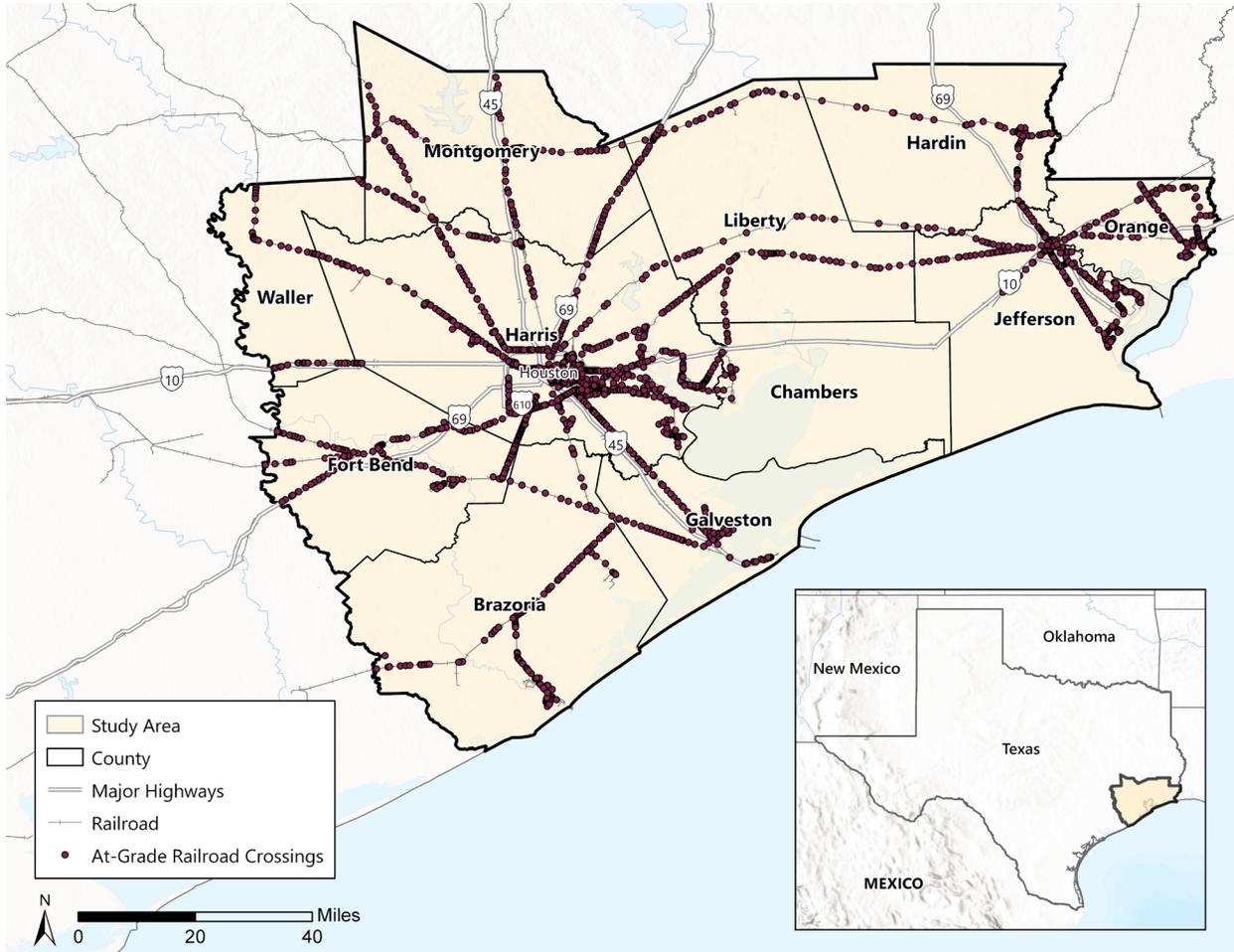


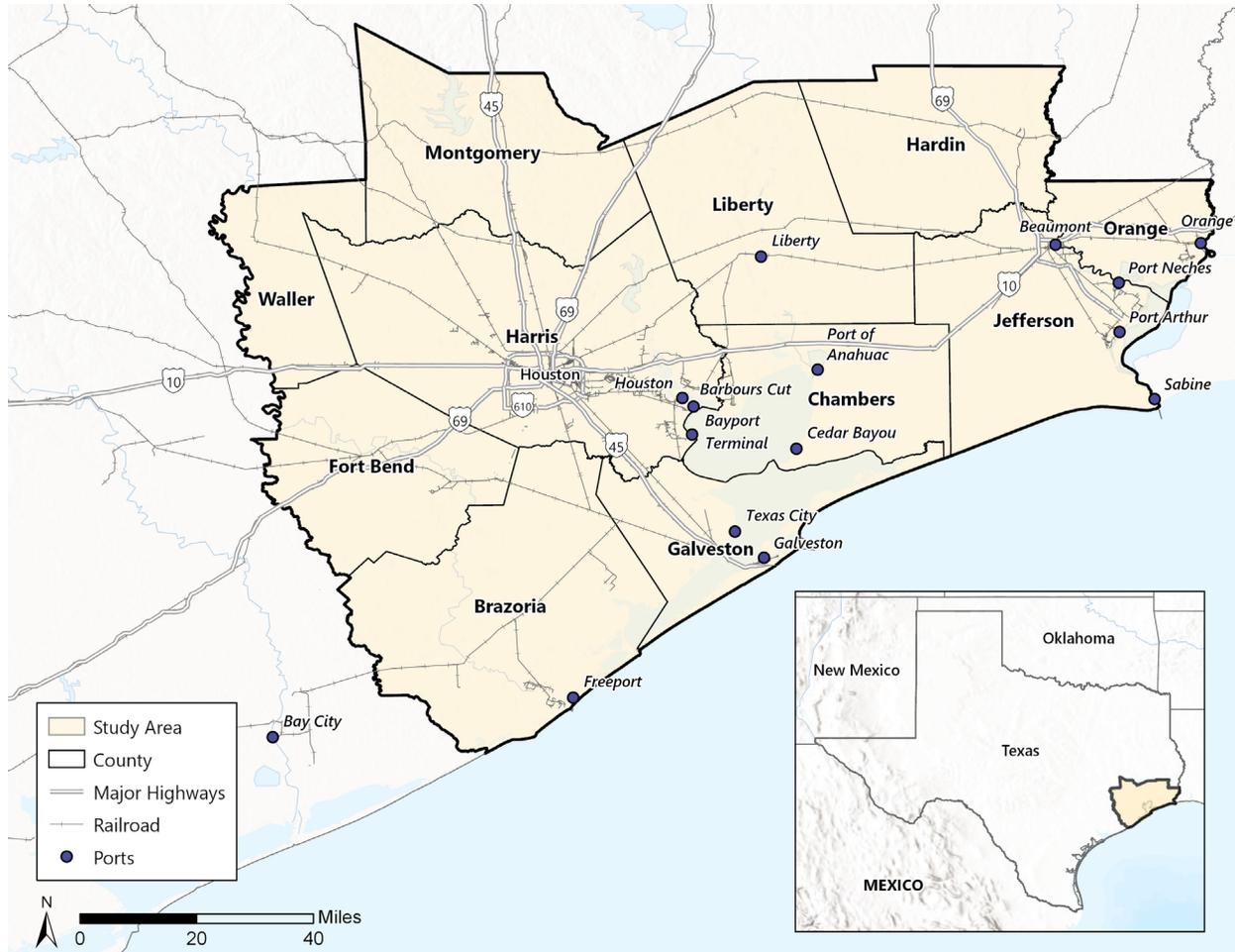
Figure 1.2 details the more than 2,000 at-grade roadway-rail crossings within the study area. These at-grade roadway-rail crossings present challenges to both the roadway and rail networks due to vehicular delays during train passage, potential for incidents between trains and vehicles, noise impacts, and ongoing maintenance costs. However, opportunities to mitigate some of the challenges at these locations also abound through grade separations, crossing closures, quiet zones, and other infrastructure and operational methods. This report looks at all grade crossings within the study area to identify potential grade separation and crossing closure candidates through quantitative and qualitative methodologies.

Figure 1.2. Railroad At-grade Crossings within Study Area



Efficient movement of freight to and from businesses, yards, and ports is imperative for long-term growth of both the region and the nation. Figure 1.3 defines the locations of ports within the study and the rail lines that provide connectivity to that critical infrastructure. Some of the rail lines and yards within the region have been constrained to their current sizes due to continued development in the region, especially in the core Houston city limits, and this is a factor in the railroads’ abilities to expand capacity to meet freight demand as more freight enters and leaves the area. These limitations have led to capacity constraints and challenges in efficiency that may impact other areas of the freight and roadway networks. This study reviews the existing constraints within the regional rail network through Rail Traffic Controller (RTC) models and identifies potential scenarios to alleviate those constraints.

Figure 1.3. Railway Network Map and Port Connectivity



This study is separated into sections that focus on methodology, improvements, and next steps. A list of each section is below with a brief description on the contents of that section.

- Executive Summary – This includes an overarching review of the findings of the study and recommendations to move forward within the region.
- Section 1 – Introduction and Background. The section provides a summary of some of the previously completed reports and a brief overview of the scope of this study.
- Section 2 – Data Collection and Existing Conditions. This section of the study reviews the available data used in the methodology and analysis of the roadway and railroad infrastructure and a synopsis of the existing features within the region with a focus on the existing railroad lines.
- Section 3 – Railroad Project Determination and Results. The section details the methodology for the efforts related to the railroad modeling in RTC, including existing train data/inputs, growth scenarios, and rail capacity projects, and identifies results of those modeling efforts.
- Section 4 – Grade Crossing Screening Methodology and Results. This focuses on the quantitative and qualitative screening methodologies for potential grade separation and

crossing closure candidates and includes a discussion on blocked crossings and findings from the grade separations/crossing closures reviews.

- Section 5 – Comprehensive List of Improvements. This provides an overall summary of roadway and railroad improvements by railroad subdivision with detailed descriptions, estimates, and challenges for each infrastructure improvement.
- Section 6 – Recommendation and Implementation Strategy. The section discusses high-level planning strategy for implementation of the improvements and potential funding sources for certain types of projects.

As noted in the beginning of this section, this study is part of an ongoing process within the region to define projects that will move rail freight efficiently while reducing delay and impacts to the traveling public. Below are other studies within the region and state that have been reviewed and considered within the breadth of this report. These studies helped better understand the region’s freight network, projects previously considered by stakeholders, and current programmed projects.

Houston Region Freight Study, 2007

The *Houston Region Freight Study* (2007) was developed by the Texas Department of Transportation (TxDOT) under the guidance of a regional steering committee. This study established a needs assessment report for the stakeholders in the Houston region to address deficiencies in the Houston region’s freight network (roads, ports, and railroads) and to develop ways to accommodate and capitalize on future freight movements. The report identifies \$3.4 billion in improvements in four areas: grade separations, grade crossing closures, existing railroad infrastructure (improving capacity and connectivity on existing rail lines), and new railroad corridors.

Texas Freight Mobility Plan, 2017

The *Texas Freight Mobility Plan* (March 2018) was performed by TxDOT in collaboration with a wide range of stakeholders to guide current and future freight transportation investment strategies in Texas. The study provides the state of Texas with a blueprint for facilitating continued economic growth through a comprehensive, multimodal strategy for addressing freight transportation needs and moving goods efficiently and safely throughout the state. The plan identifies multimodal challenges, policies, programs, investment strategies and data needed to enhance freight mobility; to provide efficient, reliable and safe freight transportation; and to improve the state’s economic competitiveness.

Texas Rail Plan Update, 2019

The *2019 Texas Rail Plan Update* (October 2019) was performed by TxDOT to update the 2016 State Rail Plan. It is a federally mandated document detailing the state of the rail system in Texas and opportunities for improvement. It sets the direction for rail planning and project development. The Plan was developed in conjunction with the Texas Freight Mobility

Plan and the Texas Transportation Plan 2040 and recommends potential short- and long-range freight and passenger projects to meet the state’s identified rail needs.

Houston-Galveston Area Council (H-GAC) Regional Thoroughfare Plan Map, 2020

H-GAC's *Regional Thoroughfare Plan Map* (revised October 2020) is comprised of existing thoroughfare plans located within the eight-county transportation management area (Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller counties). This long-range (50+ years) map identifies the general location and type of transportation corridor needed to meet projected long-term growth in the region; it is a tool that allows a City or County to preserve right-of-way for the development of a transportation system as the need arises. The thoroughfare plans of the eight-county transportation management area complement each other so the roadway network performs as a well-coordinated, efficient, and effective roadway system.

Houston-Galveston Area Council Regional Goods Movement Plan, 2013

The *H-GAC Regional Goods Movement Plan* (June 2013) was developed to present a long-range plan for the goods movement system in the Houston-Galveston region. The plan is the final product of the H-GAC Regional Goods Movement Study, a multi-year effort to collect data, conduct analysis, and engage with regional stakeholders covering multiple aspects of the region’s goods movement system. The study identifies short-term and long-term physical, operational, and institutional deficiencies; it concludes presenting project solutions and policy recommendations that are designed to address all these deficiency types. Examples of short-term actions include: formally define and designate the freight-significant network; create a regional goods movement subcommittee; develop a concept of operations for a freight ITS Program. Examples of long-term actions include: provide access to growing economic centers outside of the urban core; update freight-significant network with each long-range plan update; and develop climate change adaptation strategies.

Economic Impact of Freight Rail Improvements in Texas, 2016

The *Economic Impact of Freight Improvements in Texas* (December 2016) was developed by TxDOT and examines the “business case” for public sector participation in freight rail investment by TxDOT by providing an understanding of the economic impact of freight rail in Texas at both current and projected future levels of freight activity. The study’s findings support the development of an evaluation framework by which the appropriate State role in the implementation of future freight rail projects can be assessed as each opportunity arises. The report includes a macroeconomic impact analysis and benefit-costs analysis, case studies of previous freight rail investments in Texas, a local economic development assessment, and an economic impact analysis of the selected potential investments.

Ports Area Mobility Study, 2020

The *Ports Area Mobility Study Draft Report* (January 2020) was developed by H-GAC as a follow-up study to the H-GAC Regional Goods Movement Plan completed in 2013 to analyze supply chain connections between the four major ports located within the H-GAC region; Port of Freeport, Port of Galveston, Port of Houston, and Port of Texas City. The report provides a better understanding of the supply chains linking these four ports and identifies potential port-related mobility improvements and alternatives. The study also identifies and assess a range of suggested infrastructure and multimodal improvements as well as operational strategies and policy-level changes to improve mobility.

Gulf Coast Rail District HB&T West Belt Improvements Study, 2012

The *HB&T West Belt Improvements Study* (January 2012) was developed by the Gulf Coast Rail District. The Houston Belt & Terminal Railroad's West Belt Subdivision is an approximately 9-mile double-track rail line, which runs between East Downtown Houston and the Greater East End. The study identifies improvements to eliminate all twelve at-grade crossings on the West Belt Subdivision between Cullen Boulevard and railroad Tower 26 near Lyons Avenue just north of I-10 in order to create a grade-separated sealed corridor on one of the busiest rail lines in Houston.

Neches River Bridge Feasibility Study, 2013

The *Neches River Bridge Feasibility Study* (June 2013) was developed by TxDOT and evaluates the feasibility of rail corridor system improvements at or near the existing Neches River rail bridge crossing in the City of Beaumont, Texas. The Neches River is a navigable waterway, and the railroad lift bridge is raised in order to allow river traffic to pass but restricts train movements during those times. The study evaluates rail movements and operations within the study area, identifies opportunities to increase rail efficiency, analyzes potential alternatives and improvements to the existing bridge and rail alignment, and determines the physical and financial viability of such potential improvements. A preferred alternative is not identified; the material presented is intended to inform decision makers for potential advancement.

Fort Bend Bypass Report, 2010 and Phase 2, 2015

The *Fort Bend Bypass Report* (June 2010) was developed by the Gulf Coast Rail District (GCRD) and summarizes the evaluation of the feasibility of a freight rail bypass corridor to enhance mobility in Fort Bent County. Multiple options were investigated for rerouting freight trains from the Union Pacific Railroad's (UPRR) Glidden Subdivision to create opportunities for commuter rail along US 90A through Fort Bend County while simultaneously creating potential value for Union Pacific Railroad as the owner. Ten alternative bypass freight routes, reaching from San Antonio to Houston, were developed, and based on several factors

(operations, environmental impacts, capital cost and economic potential) two were selected to be evaluated in further detail.

The *Fort Bend Bypass Study – Phase 2* (June 2015) is a benefit-cost analysis of three alternatives for a Fort Bend Bypass corridor in Greater Houston and Fort Bend counties based on the initial report. This analysis calculates the economic impact of each alternative compared with present freight railroad operations. Non-monetized impacts of the bypass also were identified and graded qualitatively, and the bypass options were then compared among themselves based upon the monetized and non-monetized impacts. The study concludes that the implementation of a freight rail bypass through Fort Bend County is technically feasible; potential public and private sector benefits could arise from the implementation of each of the three potential bypass corridors.

The report notes selection of the preferred bypass option to advance for further study will depend upon the weight given by the public and private railroad stakeholders to the public non-monetized impacts and the private railroad monetized impacts.

Section 2: Data Collection & Existing Conditions

This section provides a summary of the data available for review within this report and the existing land features, rail network, and roadway network.

2.1 Data Collection

Information was collected as available via public sources and railroad owners through use of non-disclosure agreements (NDAs). Data from public sources include:

- Federal Railroad Administration (FRA) Grade Crossing Inventory database
- Texas Railroad Information Management System (TRIMS) database
- Available applicable studies within the region and state
- Traffic volumes as available from city, county, and state sources
- TxDOT Crash Records Information System (CRIS)
- Identified roadway and rail improvements in the Statewide Transportation Improvement Program (STIP), H-GAC 2040 Regional Transportation Plan (RTP), and the South East Texas Regional Planning Commission (SETRPC) Metropolitan Plan – 2040
- State, city, and county improvements identified in respective plans or discussions
- Aerial mapping and photos/street view through Google Maps and Google Earth
- GIS information such as publicly available utility (Texas Railroad Commission), Federal Emergency Management Agency (FEMA) floodplain, land use (ESRI, H-GAC, Texas Historical Commission, TxDOT, Texas Natural resources Information System), public buildings, facilities and infrastructures (H-GAC, THC, Open Street Map (OSM), TxDOT, National Audubon Society, Texas Education Agency), archaeological (THC, TxDOT), environmental data (Texas Park & Wildlife, US Fish and Wildlife Services, Texas Water Development Board, Texas Commission on Environmental Quality, US Forest Service, Natural Resources Conservation Service), and survey data (US Geological Survey)
- Public information as applicable for estimating ROW acquisition costs
- Unit cost data for construction from TxDOT and other sources

Additional railroad information was provided by Union Pacific Railroad and BNSF Railway as part of each owner’s NDA. Kansas City Southern Railway was not participatory in this study and did not provide additional data for use. Railroad data include:

- Track charts for subdivisions within the region
- Timetables for subdivisions within the region
- Train volumes for modeling purposes

- Additional operating details through stakeholder input

Stakeholder meetings comprised of railroad owners, Houston-Galveston Area Council (H-GAC), South East Texas Regional Planning Commission (SETRPC), Gulf Coast Rail District (GCRD), TxDOT districts, City of Houston, and regional ports also provided input and data through discussions.

Data utilized for portions of the report are summarized in the applicable report sections.

2.2 Existing Conditions

The 11-county study area includes Brazoria, Chambers, Fort Bend, Galveston, Hardin, Harris, Jefferson, Liberty, Montgomery, Orange, and Waller Counties, and these counties contain major railroad, roadway, and port facilities vital to the national freight network. The following subsections discuss the study area's general geography and population centers, critical origin/destination locations, its regional rail network, and its roadway system.

Regional Geography

The study area lies largely in the northern portion of the Gulf coastal plain, a 40- to 50-mile-wide swath along the Texas Gulf Coast. Elevation increases approximately one foot per mile inland and is generally flat. Northern and eastern portions of the study area are largely forested, while the southern and western portions are predominantly prairie grassland with coastal areas comprised of primarily prairie and sand.

Surface water in the Houston region generally consists of lakes, rivers, and an extensive system of bayous and manmade canals that are part of the rainwater runoff management system. Many of these features are either formed or managed through dams, spillways, and reservoirs. As an example, approximately 25% to 30% of Harris County lies within the FEMA 100-year floodplain.¹

The region's flat topography, susceptibility to high-intensity rainfall events, high percentage of impervious (paved) surface, and inadequately sized natural drainage channels make it particularly susceptible to catastrophic flooding events.²

Regional Population Centers

The 11-county study area encompasses 142 incorporated cities with a total population of 7.4 million in 2019 and a projected population of 9.5 million and 13.6 million in 2030 and

¹ <http://www.texasbest.com/houston/geograph.html>

² Vartabedian, Ralph (August 29, 2017). "For years, engineers have warned that Houston was a flood disaster in the making. Why didn't somebody do something?". *Los Angeles Times*.

2050, respectively³. Harris County, with a population of 4.7 million in 2019, is the third most populous county in the nation; the city of Houston, with a population of 2.3 million in 2019, is the fourth-most populous city in the nation⁴.

Other major population centers with greater than 100,000 inhabitants include League City (Galveston County), Pasadena (Harris County), Pearland (Brazoria, Fort Bend, and Harris Counties), Sugar Land (Fort Bend County), and Beaumont (Jefferson County).

Population is expected to further concentrate in urbanized areas and existing population centers. As population concentrates in the state's urban areas, freight movement to consumers will be focused in these areas, increasing pressure on already congested roadways. In addition, as population increases in urban areas, so do land prices. This has the effect of pushing more freight industry and freight-intensive activities to the rural regions where land is more cost-effective⁵.

Critical Origin/Destination Locations

Harris County is the largest origin/destination port related trucking pair for imports and for exports within the region, and 40% of internal port-related truck origin/destination patterns within the study area move within the three port counties (Harris, Brazoria, and Galveston). These same three counties account for 25% of truck tons moving outbound and 36% of truck tons moving inbound within the region. For outbound port-related truck movements, the leading Texas destinations include Fort Bend, Jefferson, Montgomery, Dallas, Bexar, Tarrant, Matagorda, and Travis counties⁶.

The study area is a major origination and termination point as well as an extensive overhead throughput route within the national rail network rather than a hub or transit point⁷. In a broader context, Texas serves as a critical gateway for the nation's strategic trade relationships with Mexico, Central America, and South America with I-35, I-10, and multiple rail corridors connect these countries. Trade with Mexico relies on efficient highway and rail transportation in Texas, including both freight destined for the state and freight moving through to another market⁸.

³ Texas Demographic center, <https://demographics.texas.gov/Data/TPEPP/Projections/>, accessed October 2020

⁴ Houston Facts 2020, Greater Houston Partnership: https://www.houston.org/sites/default/files/2020-08/Houston%20Facts%202020_1.pdf

⁵ Texas Freight mobility Plan 2018; <https://ftp.txdot.gov/pub/txdot/move-texas-freight/studies/freight-mobility/2018/plan.pdf>

⁶ H-GAC Greater Houston Freight Committee, August 27, 2018; <http://h-gac.com/freight-planning/greater-houston-freight-committee/documents/20190827%20FINAL%20GHC%20Presentation.pdf>; access October 2020

⁷ H-GAC Regional Good Movement Plan, June 2013; <http://www.h-gac.com/freight-planning/documents/HGAC-regional-goods-movement-plan-12-05-13.pdf>; access October 2020

⁸ Texas Freight Mobility Plan 2018; <https://ftp.txdot.gov/pub/txdot/move-texas-freight/studies/freight-mobility/2018/plan.pdf>

Existing Rail System

Three Class 1 Railroads operate within the project’s study area: Union Pacific Railroad (UPRR), BNSF Railway (BNSF), and Kansas City Southern Railway (KCS). The Port Terminal Railroad Association (PTRA) provides access to facilities along the Port of Houston Ship Channel, and the three Class 1 railroads within the region and the Houston Belt and Terminal Railway Company (HB&T) are partners in PTRA’s infrastructure improvements. These railroads are the focus of the RTC modeling and proposed capacity enhancements as they constitute nearly all railroad freight movements within the region.

UPRR, BNSF, and KCS own an approximate length of 1,010 subdivision miles located throughout the 11-county study area. Table 2.2.1 summarizes the track mileage by railroad owner within each county within the region. Note that these lengths do not include trackage rights provided by the railroad owner to other railroads.

Table 2.2.1 Class 1 Subdivision Mileage by Railroad and County within Study Area

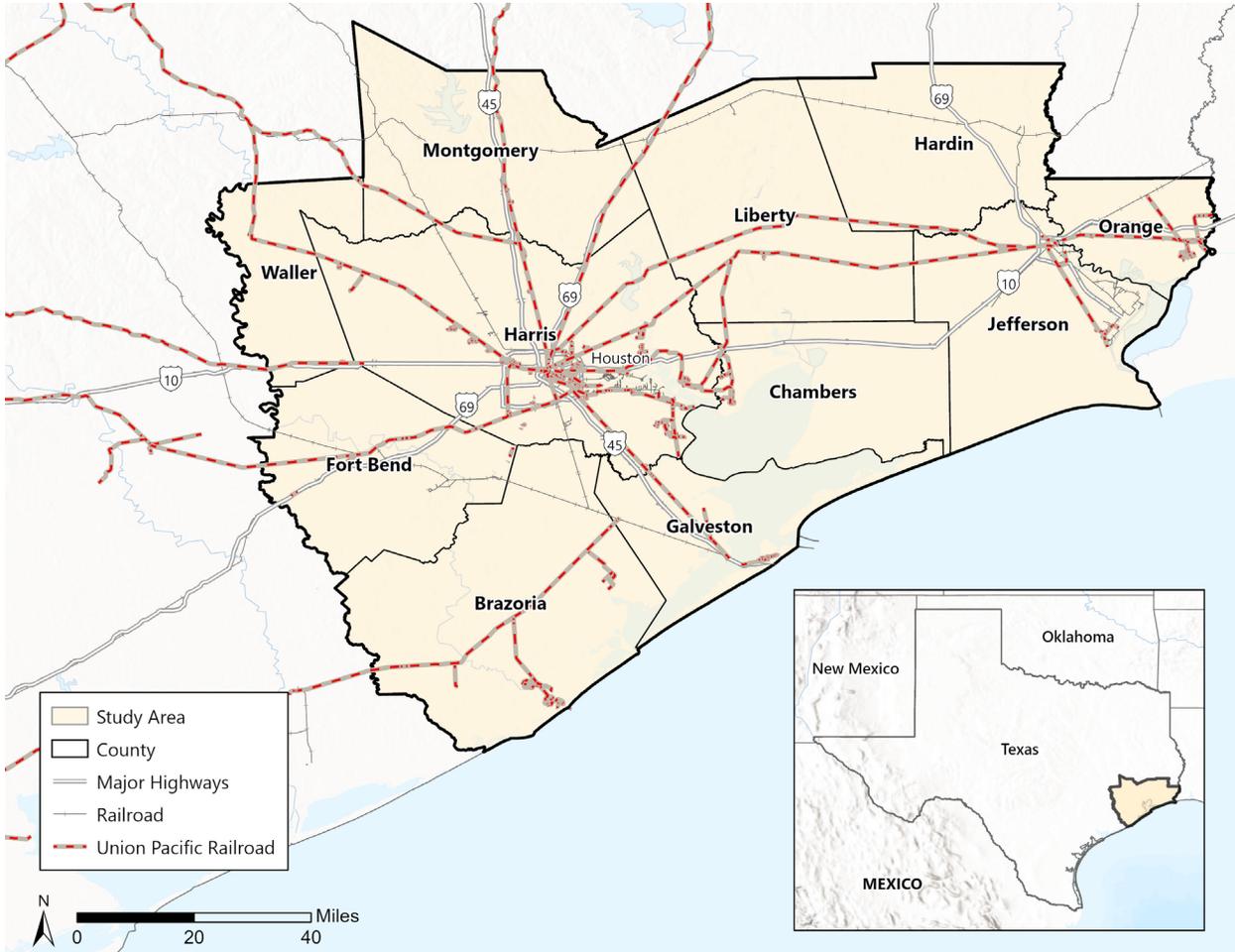
County	UPRR Subdivision Length	BNSF Subdivision Length	KCS Subdivision Length	HB&T Subdivision Length	Total Miles Subdivisions
Brazoria	46	12	-		58
Chambers	4	-	-		4
Fort Bend	38	38	12		88
Galveston	26	25	-		51
Jefferson	32	19	22		73
Hardin	17	45	-		62
Harris	254	50	-	15	319
Liberty	84	28	-		112
Montgomery	57	72	-		129
Orange	73	-	20		93
Waller	21	-	-		21
Total	652	289	54	15	1,010

(Mileage reflected in this table includes corridor length on subdivisions only. Additional mainline tracks, industrial leads, sidings, and trackage rights are not included.)

Union Pacific Railroad

UPRR is the primary Class 1 railroad within the region and owns the majority of the mainline track and maintains the highest percentage of operable track (owned and trackage rights) of the Class 1 railroads. UPRR owns most of the tracks within the central Houston area; has major classification yards Englewood, Settegast, and Lloyd Yards; two intermodal facilities Bringhurst and Settegast (note that since this study started the Bringhurst facility has been consolidated with Settegast); and a number of smaller yards operating in this area. Figure 2.2.1 shows the UPRR-owned tracks and major facilities within the study area.

Figure 2.2.1. UPRR Rail Infrastructure within Study Area



Generally, UPRR routes near downtown Houston have multiple mainline tracks while the outlying subdivisions are single-mainline track with sidings. The primary subdivisions downtown that have significant double-track segments are the Glidden, Palestine, and Strang Subdivisions. Table 2.2.2 summarizes the existing UPRR-owned track by subdivision, county, and begin/end points of the subdivision.

Table 2.2.2 Existing UPRR Subdivisions within Study Area

UPRR Subdivision	Length within Study Area (miles)	Counties within Study Area	Subdivision Start	Subdivision End
Angleton	47	Brazoria, Galveston	Placedo, TX	Algoa, TX
Baytown	49	Harris, Chambers, Liberty	Houston, TX – North Shore Jct.	Dayton, TX
Beaumont	79	Harris, Liberty, Hardin, Jefferson	Houston, TX – Gulf Coast Jct.	Beaumont, TX
Eureka	54	Harris, Waller	Navasota, TX	Houston, TX - Eureka Jct.
Galveston	47	Harris, Galveston	Houston, TX - South GH&H Jct.	Galveston, TX
Glidden	34	Fort Bend	Houston, TX – West Junction	Kirby, TX
Harrisburg	11	Harris	Houston, TX – West Junction	Houston TX - Harrisburg Junction
Houston	98	Harris, Liberty, Jefferson, Fort Bend	Houston, TX – West Junction	Beaumont, TX
Lafayette	75	Jefferson, Orange	Beaumont, TX	Iowa Junction, LA
Lufkin	46	Harris, Liberty, Montgomery	Houston, TX – Tower 20	Cleveland, TX
Navasota	27	Harris, Waller, Montgomery	Spring, TX – Spring Junction	Fetzer, TX
Palestine	50	Harris, Montgomery	Houston, TX – Belt Junction	New Waverly, TX
Rosenberg	3	Fort Bend	Rosenberg, TX	Rosenberg, TX
Strang	21	Harris	Houston, TX – South Tower 68	La Porte, TX

(Mileage reflected in this table includes corridor length on subdivisions only. Additional mainlines, industrial leads, sidings, and trackage rights are not included.)

BNSF Railway

BNSF is a Class 1 railroad that owns five major subdivisions and has trackage rights on many of UPRR’s subdivisions within the study area. BNSF also owns or leases yards within the region, including Mykawa, New South, and Old South Yards. Generally, BNSF subdivisions are single-mainline tracks with sidings at strategic locations within the study area. Figure 2.2.2 shows the BNSF-owned tracks and major facilities within the study area, while Table 2.2.3 summarizes the existing BNSF-owned track by subdivision, county, and begin/end points of the subdivision.

Figure 2.2.2. BNSF Rail Infrastructure within Study Area

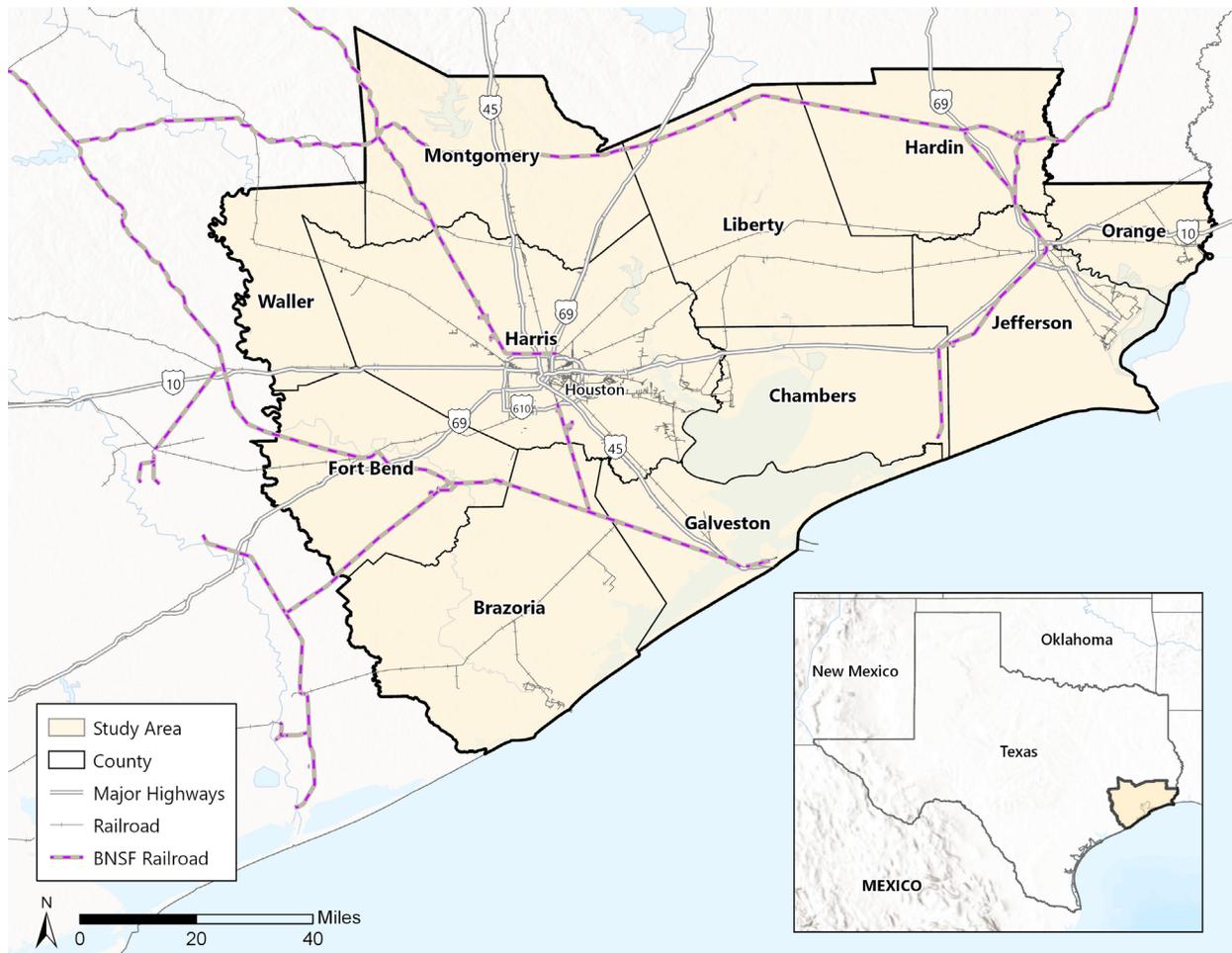


Table 2.2.3 Existing BNSF Subdivisions within Study Area

BNSF Subdivision	Length within Study Area (miles)	Counties	Subdivision Start	Subdivision End
Conroe	105	Montgomery, Liberty, Hardin	Dobbin, TX	Silsbee, TX
Galveston	80	Harris, Galveston, Fort Bend	Galveston, TX	Arcola, TX
Houston	55	Harris, Montgomery	North Houston, TX – Shepherd Dr.	Dobbin, TX
Mykawa	19	Brazoria, Harris	Alvin, TX	Cullen, TX - T&NO Junction
Silsbee	30	Jefferson, Hardin	Beaumont, TX	Silsbee, TX

(Mileage reflected in this table includes corridor length on subdivisions only. Additional mainlines, industrial leads, sidings, and trackage rights are not included.)

Kansas City Southern Railway

KCS is a Class 1 railroad that owns 54 miles of track within the study area on the Rosenberg and Beaumont Subdivisions. KCS also has trackage rights on about one-third of the UPRR and BNSF subdivisions in the region. Figure 2.2.3 shows the KCS-owned tracks and major infrastructure within the study area (including the Neches River bridge), while Table 2.2.4 summarizes the existing KCS-owned track by subdivision, county, and begin/end points of the subdivision.

Figure 2.2.3. KCS Rail Infrastructure within Study Area

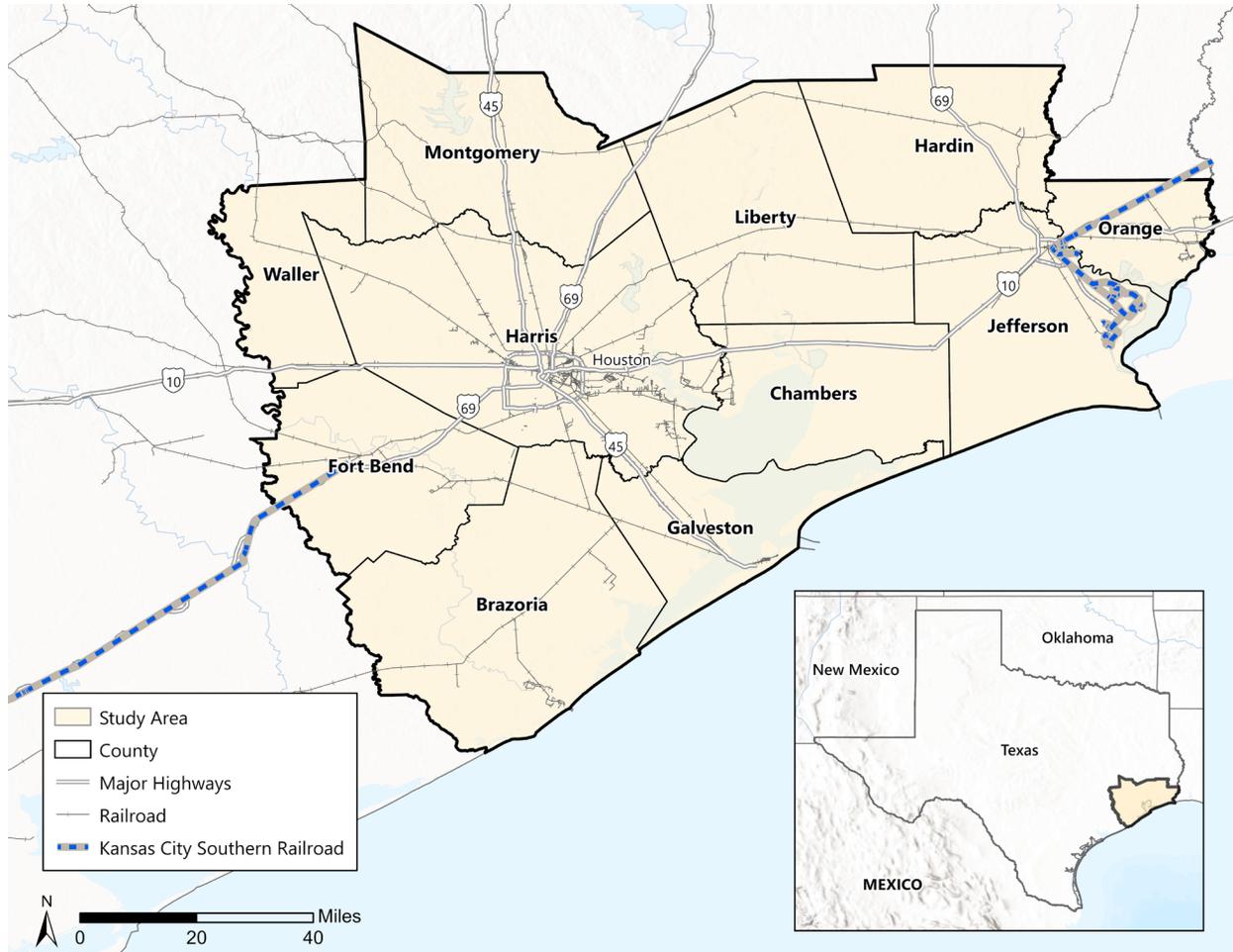


Table 2.2.4 Existing KCS Subdivisions within Study Area

KCS Subdivision	Length within Study Area (miles)	Counties	Subdivision Start	Subdivision End
Rosenberg	12	Fort Bend	Rosenberg, TX	Kendleton, TX
Beaumont	42	Jefferson, Orange	Port Arthur, TX	Mauriceville, TX

(Mileage reflected in this table includes corridor length on subdivisions only. Industrial leads, sidings, and trackage rights are not included.)

Houston Belt & Terminal Railway

The Houston Belt and Terminal Railway (HB&T) provides trackage rights to UP, BNSF, and KCS along the West Belt and East Belt Subdivision. The subdivision runs from Belt Junction south to Tower 81/T&NO Junction. Figure 2.2.4 shows the HB&T-owned tracks and major

infrastructure within the study area, while Table 2.2.5 summarizes the existing HB&T-owned track by subdivision, county, and begin/end points of the subdivision.

Figure 2.2.4. HB&T Rail Infrastructure within Study Area

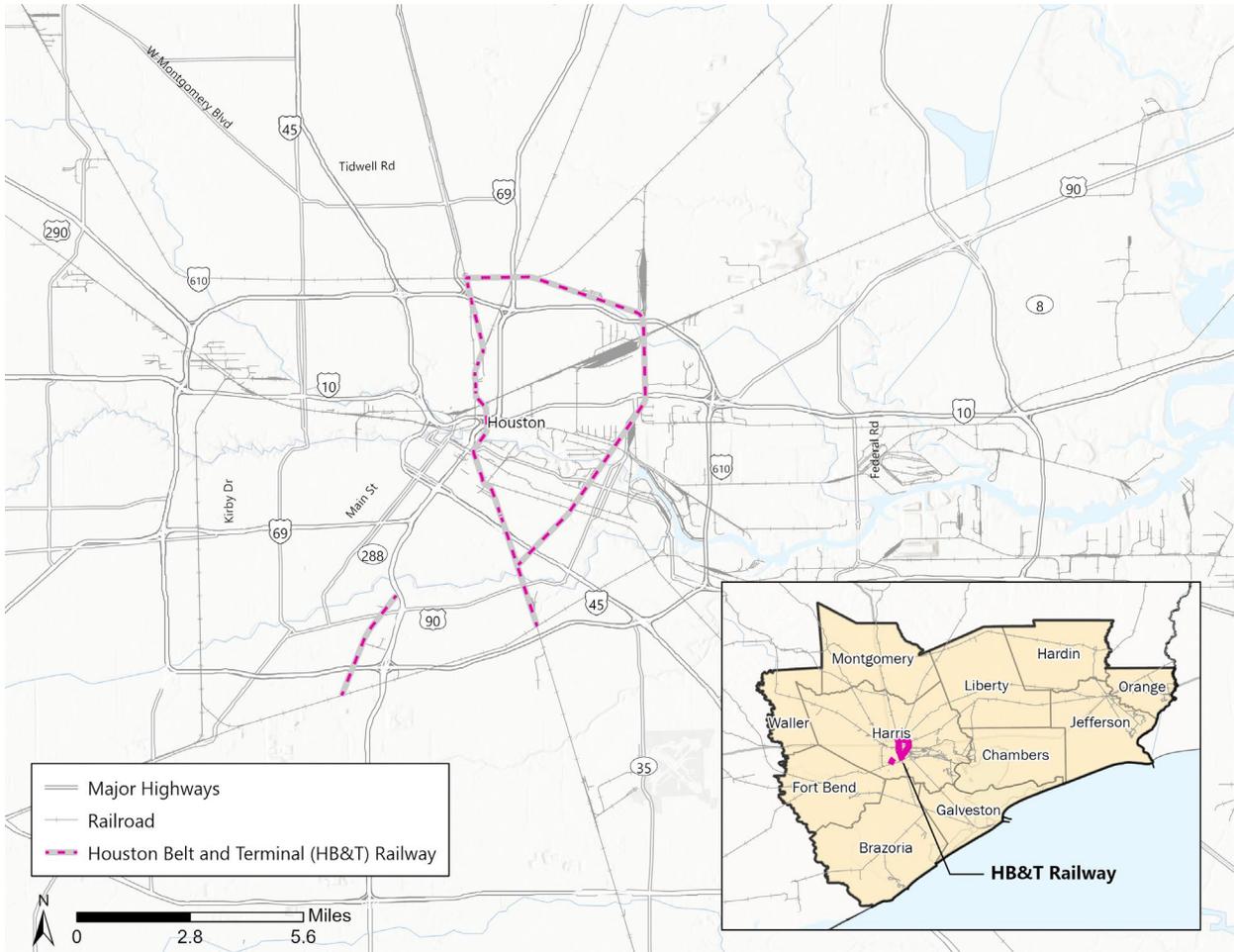


Table 2.2.5 Existing HB&T Subdivisions within Study Area

HB&T Subdivision	Length within Study Area (miles)	Counties within Study Area	Subdivision Start	Subdivision End
Houston East Belt	11	Harris	Houston, TX – Texas Spur 5	Houston, TX – Belt Junction
Houston West Belt	15	Harris	Houston, TX – T&NO Junction (Tower 81)	Houston, TX – Belt Junction

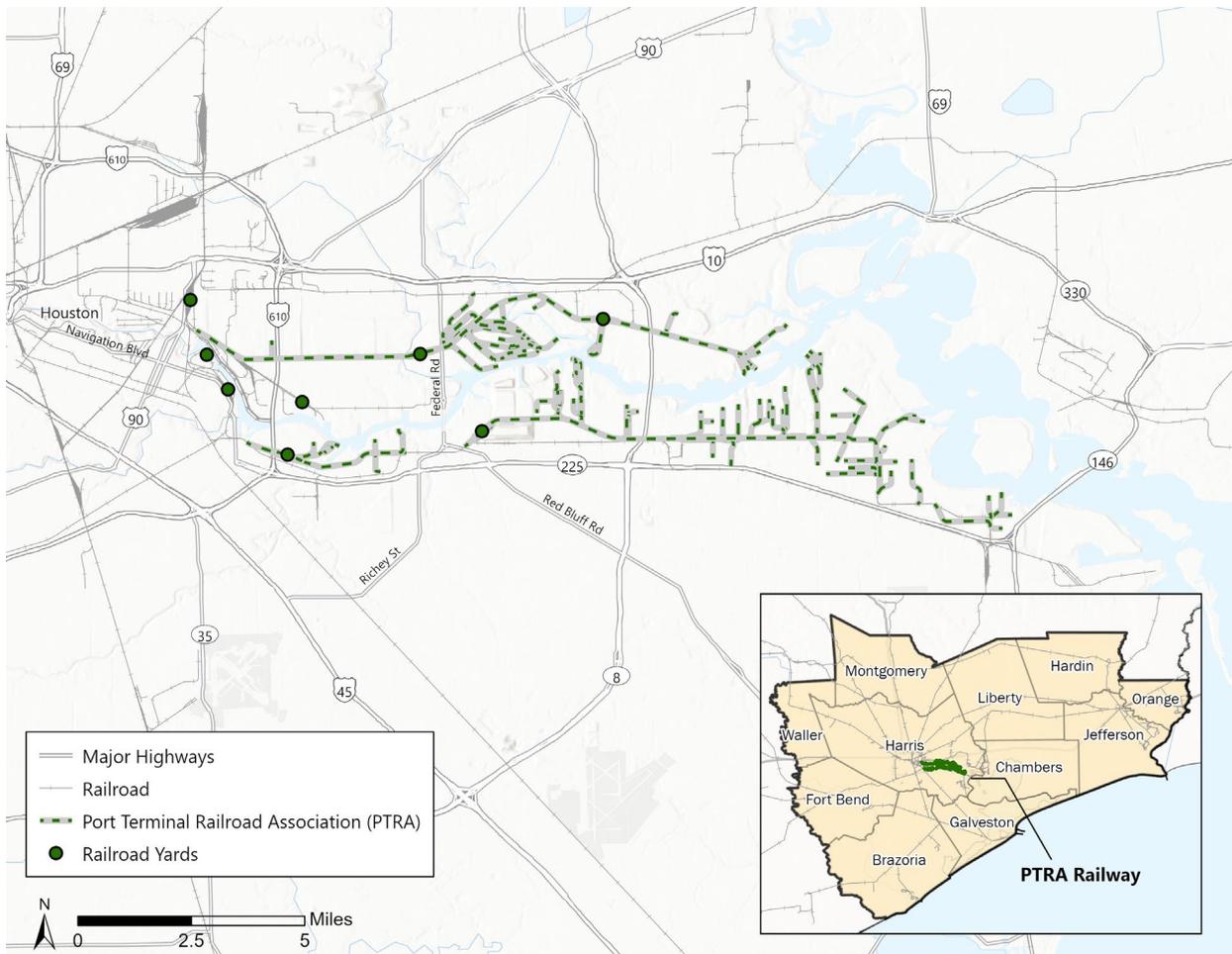
(Mileage reflected in this table includes corridor length on subdivisions only. Industrial leads, sidings, and trackage rights are not included.)

Port Terminal Railroad Association

PTRA is a terminal switching company in Houston that was formed in 1924 to provide access to the industries along the Port of Houston Ship Channel for all railroads entering Houston. Through mergers and acquisitions, the PTRA is an Association of the Port of Houston, UPRR, BNSF, and KCS.

The PTRA has a total yard capacity of 5,000 railcars, and spots and pulls 2,500 industry cars per day. PTRA services 226 local customers from 7 serving yards from both sides of the Port of Houston Ship Channel and maintains 154 miles of track and 20 bridges.⁹ Major yards include North Yard, Manchester, and Pasadena. Figure 2.2.5 shows the PTRA-owned tracks and major infrastructure within the study area.

Figure 2.2.5. PTRA Rail Infrastructure within Study Area



⁹ PTRA Website: <https://www.ptra.com/index.php/about-us/ptra-operationsinfrastructure.html>

Existing Roadway Network

The roadway network and the trucks that use it play an important role in the freight last-mile distribution in the region; trucks perform these final pick-up and delivery operations for millions of tons of commodities that are handled not only by the truck industry but also by other transportation modes.

The interstate system forms the backbone of the study area's roadway freight network. The east-west route of I-10 and the north-south route of I-45 provide connectivity to the major cities within the region, and the I-69/US 59 corridor moves freight along the Texas Gulf Coast south toward the U.S.-Mexico border. Additionally, corridors that also connect other portions of the region include loops such as I-610, Beltway 8/Sam Houston Parkway, and Grand Parkway.

The region's roadway network is densest within Harris County and adjacent areas within the Grand Parkway loop. Other areas of noted roadway density are the Beaumont city limits, the I-45 corridor south to Galveston, and along I-69 to Richmond/Rosenberg.

Connectivity to the ports via the roadway network is facilitated by intermodal connectors. These are short roadway segments averaging less than two miles in length that link airport, seaport, and rail terminal facilities to mainline transportation corridors. There are 21 freight-related intermodal connectors in the H-GAC region¹⁰.

¹⁰ H-GAC Regional Goods Movement Plan, June 2013; <http://www.h-gac.com/freight-planning/documents/HGAC-regional-goods-movement-plan-12-05-13.pdf>; access October 2020

Section 3: Railroad Project Determination and Results

To determine constraints and potential solutions within the region's freight rail network, a Rail Traffic Controller model was created. The section provides a summary of the railroad operations modeling methodology, railroad project determination and results.

3.1 Railroad Operations Modeling Methodology

In order to quantify the potential impact of an infrastructure or operational change, a railroad operations simulation model is used. The model used for this study is Berkeley Simulation Software's RTC. RTC is used by all Class 1 railroads and is the railroad industry standard for the simulation of both passenger and freight train operations.

RTC requires detailed operations and infrastructure inputs and attempts to resolve conflicts between trains in the same manner as an actual railroad dispatcher. This allows for quantification of "what-if" scenarios including increased volumes, changes in infrastructure, and changes in operations. This tool was used to identify potential projects and calculate the potential benefits of the proposed projects.

In order to quantify the benefits of the projects, first a "Base" model is built and validated using current infrastructure and operations. From this model, anticipated future train growth and already planned or under construction infrastructure are added as the "No Build" Scenario. The models were reviewed to identify current bottlenecks in order to identify potential projects and corresponding operational changes. Finally, these operational and infrastructure "Build" scenarios were modeled to determine their potential benefit. This is the standard methodology used by all users of the model.

RTC Model

RTC models require detailed inputs in order to accurately reflect current railroad operations. The track infrastructure in the model is based on links and nodes with each link containing information on the type (mainline, yard, grade crossing, etc.), speed and direction. Each node contains operational information (if it is a switch or signal), milepost, and elevation. Each train in the model is developed separately with characteristics including type, route, dwell time, priority, length, weight, and number of locomotives. This detailed information requires cooperation from the host railroads to accurately represent the current state of the railroad network.

Once the data has been input into the model the simulation logic runs the trains through their routes. During this trip, when a train wants to be in same place at the same time as another train a conflict is created. The model logic attempts to resolve these conflicts

between trains in the same manner as an actual railroad dispatcher. Generally, RTC and human dispatchers make their decisions based on many factors involved in train performance including:

- Priority
- Type of train
- Time available for the train and engine crew to work (allowable work hour limits)
- Train length and weight
- Locomotive power
- Scheduled work (i.e. locations and times trains drop off and/or pick up cars)

All other factors being equal, the model will generally minimize the total cost of delay to the trains involved in a “conflict”. The RTC dispatching logic will do this for all trains involved in any conflict or series of conflicts. Examples of conflicts are two opposing trains on single track lines or wye junction tracks and the need for a higher priority train to overtake a train ahead traveling in the same direction. Sometimes 25 or 30 trains may be involved in a related series of conflicts resulting in a ripple effect throughout the network.

While the model is good at measuring infrastructure capacity when dispatcher decisions are the sole constraint, there are many operational factors beyond dispatching conflicts that impact railroad capacity. These can include:

- Train failures or derailments
- Severe weather
- Grade-crossing incidents
- Maintenance-of-way track outages for capital programs
- Resource availability (crews and locomotives)
- Customer availability

Consequently, the model has the potential to provide more optimistic operational results than can be obtained in real-world railroad operations. Proper coding and discretion when evaluating simulation results are taken into account to help ensure that RTC results are reasonable and not overly optimistic.

Each simulation is based on a random “seed” that randomizes set variables in the model. This randomization helps represent the variability in train operations and makes sure the model is not providing results that are representative of any specific condition. RTC has the built-in ability to randomize a number of different factors including departure time, dwell time, and operator handling using a uniform distribution. However, North American freight railroad operation are highly variable and frequently do not follow a uniform distribution.

Therefore, in addition to the built-in RTC randomization tools, HNTB proprietary tools are used to allow for randomization of departure times so that each station dwell and train consist is randomized with a uniform, triangular, normal, log-normal or gamma distribution. This higher degree of randomization was used for future volume train lengths and dwell times, since the exact characteristics for future train traffic are unknown. This study uses at least twenty simulations per studied scenario.

Each RTC case will consist of a model warm-up, statistical period, and a cool-down. Only the trains that start during the statistical period are included in the statistical results. The purpose of the model warm-up and cool-down is to obtain a steady state of network operation. During the model warm-up period, trains populate the network allowing for the trains to enter into a fully populated network. The model cool-down period provides time for the trains that started during the statistical period to fully complete their simulation. For this study, each RTC case will consist of nine days with one day of model warm-up, seven simulation days, and one day of model cool-down.

Once a simulation is complete, the model provides detailed information for each train in the statistical period. These metrics include the simulated time and distance a train traveled by node as well as delay, fuel consumption, and train stop time.

Study Case Development

The RTC base case was developed using information provided by the railroads, which included RTC infrastructure, track charts, timetables, and train operations data. The RTC model was updated to match current track infrastructure including the location of signals, switches, grade crossings, sidings, and yard tracks.

On this infrastructure, operational files were constructed from records and data received from the railroads for the period of April 7-14, 2019. Railroads keep dispatching records of all train movements over subdivisions which can be produced from the dispatching system. The dispatching records include the identity of the train, consist, route, and time when it passed certain key recording points. Where railroad data was incomplete or not received, train volumes from the FRA Grade Crossing Inventory database were used. Once completed the model included over 2,500 trains of multiple types.

Railroad dispatching systems capture only part of the total rail activity. Rail movements in and around yards and terminals seldom appear in the dispatching data with enough detail to be described to a simulation model. Consequently, personnel at the railroads were interviewed to obtain this more detailed train information. Finally, this base case was reviewed in order to validate that it represents current operations in the complex.

Future Growth and No-Build Case Development

Once the “Base” case was validated, an adjusted base case, representing 2020, was developed to account for changes in operations and seasonal traffic. From this case 2030 and 2040 scenarios were developed.

Future train volumes were developed utilizing the Federal Highway Administration Freight Analysis Framework (FAF)¹. The framework provides, by commodity, projected freight growth by location and by transportation mode. The commodities were assigned to logical train types: merchandise, intermodal, bulk, auto, and oil to determine the railroad growth into and out of the Houston zone. These tons were used to determine the growth between 2020, 2030, and 2040 (Table 3.1.1).

Table 3.1.1 Percentage Growth in Freight Traffic from 2020

Train Type	2020-2030	2020-2040
Merchandise	22%	50%
Intermodal	58%	95%
Bulk	4%	11%
Auto	22%	52%
Oil	0%*	0%

*FAF Data has a growth rate of -16%, this was left at zero percent due to account for announced facility expansions since numbers were published.

These growth rates were applied to the existing train volumes in the model. These rates were reviewed with the railroad to correctly assigned the growth to existing lanes of traffic.

In addition to the general growth from FAF there is specific growth from customers in the region in the next five years that will increase train volumes. Using information on known new developments that will result in railroad traffic increases trains were added to the 2030 train volumes.

This projected future train growth represents growth that can occur assuming there is sufficient capacity on the freight rail network. Any demand the railroad network cannot

¹ https://ops.fhwa.dot.gov/freight/freight_analysis/faf/

support will be moved via modal shift (trucking). The network was unable to meet the projected 2030 train volumes.

Any additional projected growth that cannot be met without track infrastructure expansion will be assumed to be moved via modal shift (trucking). The capacity of the network is reached when the simulation cannot successfully complete the simulation or the operations result in unacceptable delays. The volumes will be added incrementally with the results evaluated for each volume level.

3.2 Railroad Project Selection

When a railroad has capacity constraints it has the potential to negatively impact the public. Any time the model attempts to move more trains through a section of track that is already occupied trains must wait (creating a delay) until the track clears. These delayed trains occupy track capacity and can delay subsequent trains. As the track nears capacity these delays become more common and can ripple throughout the network.

Railroad Congestion Impacts

Identifying and removing railroad capacity constraints are potentially beneficial to both the public and the private operator. Railroad congestion directly impacts the public through blocked at-grade crossings, increased truck traffic through modal shift, and increased emissions. Grade crossings blockage time increases due to trains sitting on crossings and more trains traveling slower. As trains back up the best locations to sit trains become occupied, ultimately to avoid gridlock on the railroad network trains end up sitting across crossings. Additionally, the increased delays reduce overall system velocity which result increased durations of blockages.

When routes reach capacity railroads are unable to add traffic without increases in operating cost and delays. This results in railroads unable to support additional traffic or the traffic must be rerouted, increasing travel times and costs. This results in diversion of traffic that would travel on the railroad onto trucks, increasing highway congestion.

When trains are delayed, they emit exhaust while sitting with engines running in idle; further, the additional trucks on the road from modal shift increase emissions that can negatively impact the health and livelihood of residents.

Types of Railroad Capacity Projects

Projects were identified through review of the results of the “Base” case RTC and discussions with key stakeholders. Three types of projects were identified:

- Mainline capacity
- Staging capacity
- Processing capacity

Mainline capacity adds track to allow for additional capacity between terminals for trains to meet or pass. Staging capacity provides locations for trains to sit due to constraints in terminals or for customers. Processing capacity provides mainline tracks in terminals to provide locations for trains to sit while crew changing or working in adjacent yards. Processing capacity can also be provided in yards to increase the ability of yards to process cars, allowing for trains to enter the and exit the yard more rapidly. Each of the types can provide multiple purposes; for example, mainline capacity can be used to hold trains out of terminals if needed.

3.3 Railroad Modeling Projects and Scenarios

After the “Base” case was developed and validated by participating Class I railroads, a review of the “Base” case’s current and future years was undertaken to better understand the network, train movements, and opportunities within the region. Proposed railroad improvement scenarios were developed for additional modeling through:

1. Identifying constraints within the network and verifying with stakeholders
2. Determining possible solutions for those constraints
3. Modeling solutions and adjusting improvements/train operations as appropriate

The “Base” case model was reviewed to identify initial constraints in the region’s network. These constraints were identified based on locations where a high number of trains experience delays. Delays are indicators of trains unable to advance due to congestion due to limited capacity ahead in the system. The limited capacity may be due to lack of sufficient track infrastructure or train operations that occupy the available track capacity.

The identified projects were combined into nine scenarios to study different constraint areas in the Houston complex. The following scenarios were developed and modeled within RTC to determine the impacts of the improvements as compared with the “Base” case. Exhibits have been created for these scenarios in Appendix A.

Simulation Findings and Results

Train delay is the primary output analyzed to assess the effectiveness of each railroad project on network performance. As discussed previously, when a railroad reaches capacity, they are unable to add traffic without increases in operating cost and further delays. Delays increase the probability and length of trains blocking public grade crossings as well as emit additional exhaust while trains sit idle.

For the purposes of comparing delay, this analysis focuses on mainline delay since this is both the most impactful to the public, but also the reflective of the network fluidity achieved by the projects. For each project, relevant subdivisions were analyzed to observe percent change in train delay compared to the “base” scenario. 2020 traffic was analyzed for these comparisons because 2030 simulations included train growth, making them unfit to compare to the “base” scenario. In this analysis the data for the UPRR Houston Subdivision is split at the historical boundary between the Terminal and Lafayette Subdivisions at Dawes (MP 353), which corresponds to the area in the central terminal area (Terminal) and the route between Beaumont and Houston (Lafayette).

Scenario 1 – Houston Terminal Yard Improvements

Background

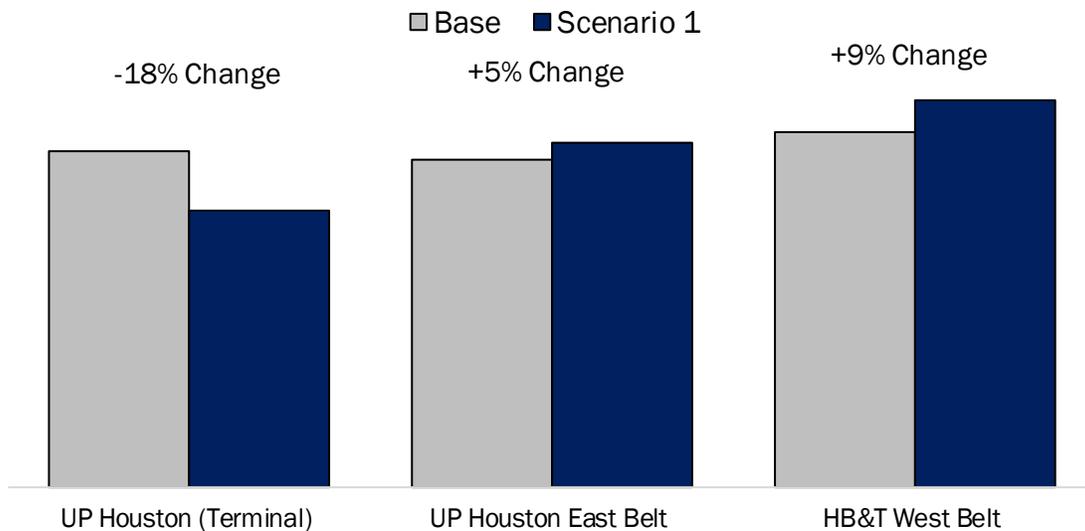
Yard track lengths are shorter than most arriving and departing trains from two of the major UPRR yards within Houston (Englewood and Settegast). This causes many of the trains entering these yards to have to be split into multiple tracks and trains departing to be pulled from multiple tracks. This movement blocks mainline and yard track space, resulting in delays to all trains entering, departing or passing by the yard. Scenario 1 looks to lengthen tracks within the yards, which aims to minimize delays to other trains and increase the capacity of the terminal as a whole.

This scenario includes the following modeled improvements:

- Englewood Arrival Track Expansion – A portion of the tracks within Englewood Yard would be extended to 11,500 for arriving/departing trains. To accomplish this, intermodal services at adjacent Bringham Yard will be closed and transferred to Settegast Yard.
- Settegast Intermodal Yard Expansion – Existing tracks within Settegast Yard would be adjusted and connected to provide additional length for additional intermodal capacity.

Simulation Findings and Results

Figure 3.2.1 Scenario 1 Delay Analysis



Modeling showed that Scenario 1 is effective at reducing the delay on the UPRR Houston (Terminal) Subdivision by 18%, as seen in Figure 3.2.1. The increased track lengths allow longer trains to use the yard tracks without blocking the main lines and grade crossings. However, this reduction in delay also results in some small increases in delay on the UPRR

Houston East Belt and UPRR Houston West Belt. The expansion of Englewood modeled has limitations that resulted in additional delays on the other subdivisions. The track expansion, while eliminating the congestion caused by trains building into and out of the yard, also removed the parallel movements into and out of the yard. Additionally, trains leaving the new longer yard tracks towards the Strang Subdivision are now required to use the Belt Line, a 10 mph route with time-of-day limitations. Changes to the design might provide a higher benefit than obtained in this study. The longer yard tracks in Englewood improves the ability of the yard.

A benefit-cost analysis has been performed for Scenario 1, and a B/C ratio of 3.59 was calculated for all projects within the scenario based on USDOT-recognized benefits and anticipated construction cost. This includes public benefits such as reduction in emissions and avoided truck trips due to additional freight capacity. See Appendix D for additional information.

Scenario 2 – Houston Terminal Mainlines

Background

Due to the large number of trains passing through the Houston complex mainline tracks are often blocked due to trains departing and arriving, traveling between yards, and receiving crews. Current track configurations limit flexibility of train movements and require extra distance for a train to reach its destination. Further, existing single-track bridges create bottlenecks into and out of the complex.

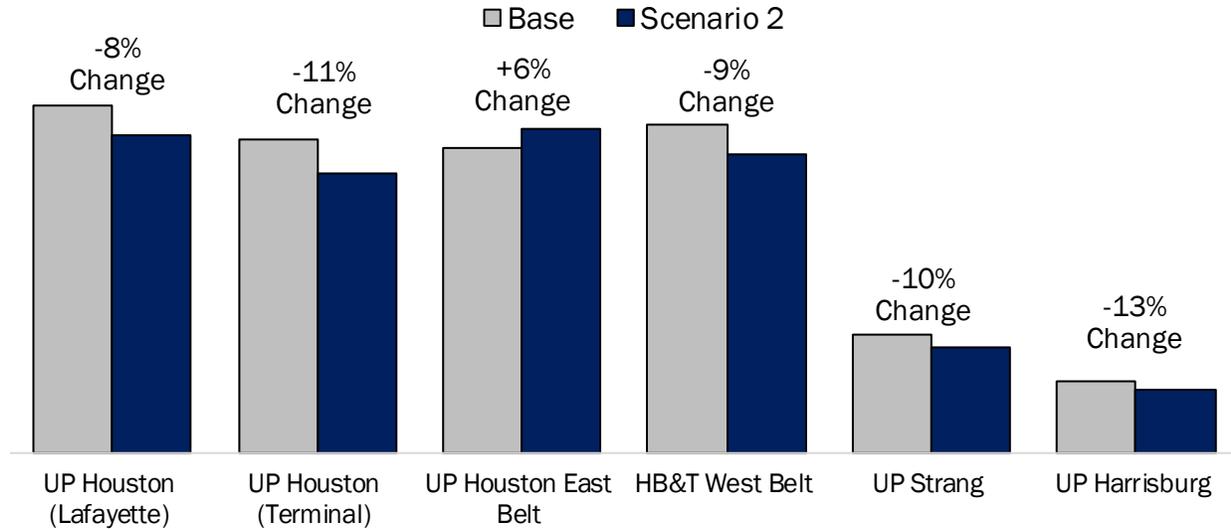
The goal of Scenario 2 is to provide additional operational flexibility and capacity in the Houston complex area and includes improvements to the HB&T West Belt, HB&T East Belt, and UPRR Strang Subdivisions in the area. Additional track consists of additional mainlines, switching leads, and wye connections.

The following improvements are modeled as part of this scenario:

- Booth Second Mainline (Manchester Junction to PTR A North Yard) – This improvement adds a second track on the UPRR Strang Subdivision to provide extra flexibility on this track segment and includes two structures over Buffalo Bayou and Brays Bayou.
- Buffalo Bayou Bridge Second Mainline – This additional mainline track provides a new structure over Buffalo Bayou on the HB&T East Belt Subdivision to connect existing double-track areas on either side of Buffalo Bayou.
- Englewood Connection Track – The improved wye track connection near Englewood Yard between the Houston and West Belt Subdivisions is anticipated to provide a higher-speed movement and prevent trains from blocking trains working in the yard to increase capacity in the area.
- Belt Junction SE Wye Connection – This additional track at the wye connection at Belt Junction offers additional capacity between the HB&T West Belt and UPRR East Belt Subdivisions.
- Tower 76 Wye Connection – This improvement provides connectivity between the HB&T East Belt and Lufkin Subdivisions in the northwest quadrant of Tower 76. This allows for trains traveling to and from the Lufkin Subdivision to directly enter Settegast yard instead of additional distance through the terminal and worsening existing congestion. Potential impacts to properties in the area of this improvement are anticipated.
- Englewood Bypass – This proposed third mainline track would support bypassing Englewood Yard congestion from trains entering Settegast Yard from the south.

Simulation Findings and Results

Figure 3.2.2 Scenario 2 Delay Analysis



Scenario 2 reduces delay for many of the subdivisions in the central terminal area including the UPRR Houston, HB&T West Belt, UPRR Strang and UPRR Harrisburg Subdivisions, as seen in Figure 3.2.2. The Buffalo Bayou Bridge Second Mainline provides a location in the terminal to hold trains clear of crossing, but also eliminates delays due to the single main track over the bridge. Trains that previously were delayed on other subdivisions now dwell on the HB&T East Belt increasing the delay on the subdivision but reducing overall delay and making it less likely for trains to blocking crossings on the UPRR Harrisburg and HB&T West Belt Subdivisions. The additional capacity enables additional trains on the UPRR Strang Subdivision.

A benefit-cost analysis has been performed for Scenario 2, and a B/C ratio of 1.90 was calculated for all projects within the scenario based on USDOT-recognized benefits and anticipated construction cost. This includes public benefits such as reduction in emissions and avoided truck trips due to additional freight capacity. See Appendix D for additional information.

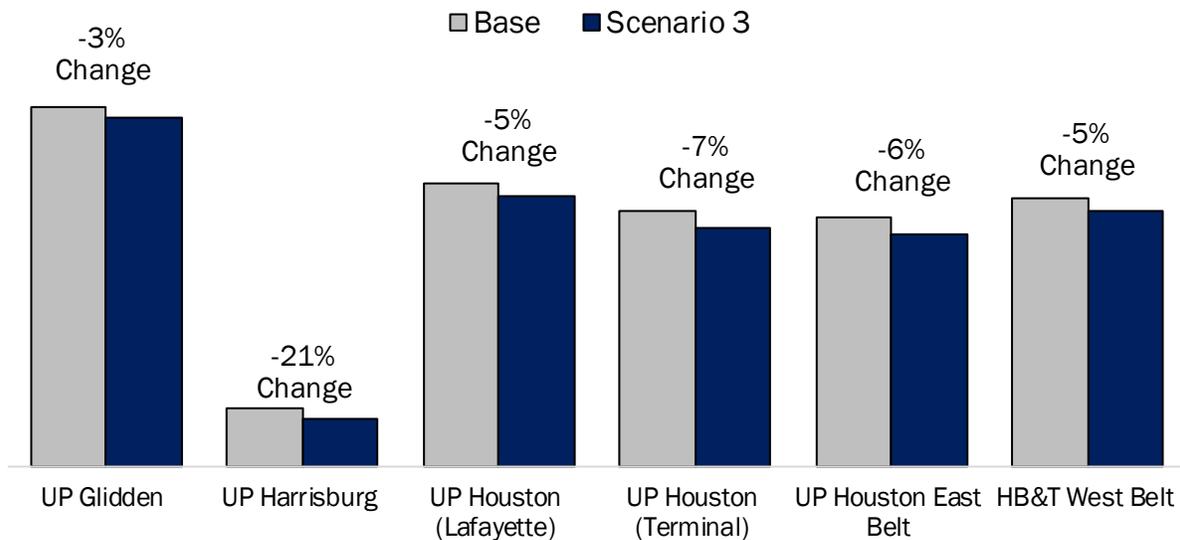
Scenario 3 – Houston Subdivision Mainline Consolidation

Background

The Houston Subdivision near downtown Houston currently splits into two mainline tracks. One track (freight main) traverses further north, traveling through the middle of a residential community while the other track (passenger main) travels to the south and through the edge of downtown. The Amtrak station is situated on the passenger main, and a reverse move from the passenger to freight main is needed to allow eastbound Amtrak trains to continue their routes. This scenario combines the freight and passenger mains across White Oak Bayou northwest of downtown to consolidate mainline services. The scenario would also move the Amtrak station closer to the Houston METRO (METRO) Burnett Station for connectivity to local transit service and would close grade crossing along the old freight and passenger mains. The scenario is understood to be contingent on adjustments at I-10 and I-45 to accommodate the realignment of tracks.

Simulation Findings and Results

Figure 3.2.3 Scenario 3 Delay Analysis



Scenario 3 is able to reduce delay on multiple subdivisions in the terminal, as seen in Figure 3.2.3, but is most impactful at reducing delay on the UPRR Harrisburg Subdivision. Trains travel between the Glidden Subdivision and Tower 26 via either T&NO Junction or Eureka and the segment with the proposed project. The project reduces congestion and provides a location near Englewood Yard to hold a train clear of grade crossings. This allows for trains to route via the new project and not T&NO Junction and the congestion on the HB&T West Belt. Consequently, this project reduces crossing blockage time due to slow moving trains or stopped trains both on the UPRR Houston (Terminal) and HB&T West Belt Subdivisions.

While there are operational benefits throughout the terminal the project does not enable additional growth.

A preliminary benefit-cost analysis has been performed for Scenario 3 based on USDOT-recognized benefits and anticipated construction cost. A B/C ratio of 0.44 was calculated for all projects within the scenario. This scenario is located within the project limits of the North Houston Highway Improvement Project, it is recommended that further analysis be conducted to determine additional benefits that could be recognized through coordination of both the highway and the rail projects together. See Appendix D for additional information.

Scenario 4 – Houston to Beaumont Improvements

Background

Beaumont is a major junction to the east of Houston. KCS, BNSF, and UPRR all connect and share tracks in the Beaumont complex. Trains work at the local yards, and many trains stop to switch crews on the mainline in the complex. All three railroads use the UPRR Houston Subdivision for westbound movement and UPRR Beaumont Subdivision for eastbound movements. Congestion in Beaumont on the east end and Houston the west end creates delays on the two subdivisions. Dayton on the Houston Subdivision is major source of traffic from the connection with the UPRR Baytown Sub and BNSF and UPRR yards.

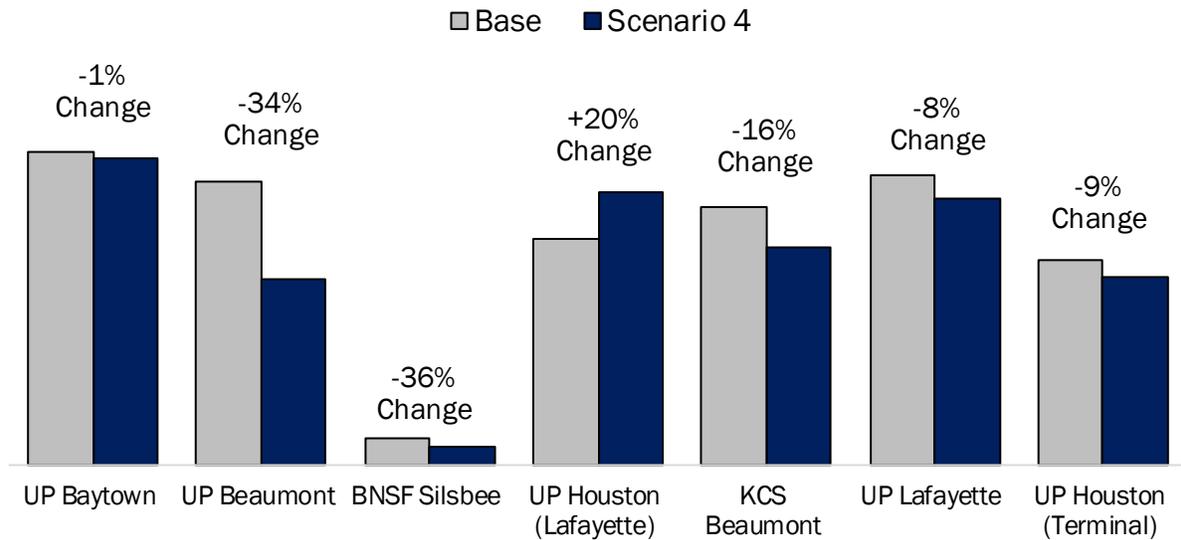
The priority of Scenario 4 is to increase capacity through mainline yard bypasses, add mainlines at system constraint points, and extend or add new sidings to accommodate longer trains for passing/staging and crew changes.

This scenario includes the following modeled improvements:

- Houston Subdivision Second Mainline Track (Fauna to Crosby) – This second mainline track, which would connect existing sidings into a continuous track segment, would provide additional capacity closer to the Houston complex and storage as needed if there is congestion ahead in the Houston complex.
- Neches River Bridge Second Mainline Track – The existing Neches River bridge is a single-mainline lift bridge and is a constraint for train traffic in the area. The improvements include converting the structure to add a second mainline track to provide additional capacity across the river.
- Dayton SE Wye Connection – A design for changing the connection between the Baytown and Houston Subdivisions would relocate the existing wye tracks and add a southeast wye connection to eliminate the reverse move from the Dayton siding into Dayton Yard. As part of this effort, US 90 would be grade-separated to eliminate train-vehicle conflicts at the roadway.
- Dayton Siding Extension – This siding extension coincides with the Dayton track connection improvement and allows for staging of trains for Dayton Yard.
- Kolander Siding – The proposed siding between Houston and Beaumont allows for staging of trains outside of the Beaumont area.
- Dyersdale Siding Extension – The additional track length at Dyersdale siding would provide a second mainline track the crew change point and would provide a location for staging trains if there is congestion in the Beaumont area.
- Beaumont Yard Bypass Track – A proposed third mainline around the Beaumont Yard intends to improve fluidity at Beaumont Yard to limit impacts of trains entering and leaving the yard area.
- Vidor South Siding Extension – The additional track length on the southern side of Vidor Siding is proposed to be used to allow a storage and passing location for longer trains as well as a allowing for trains to change crews off the single-track mainline.

Simulation Findings and Results

Figure 3.2.4 Scenario 4 Delay Analysis



Scenario 4 results in reduced delay on many subdivisions, but it most impactful on the UPRR Beaumont and BNSF Silsbee subdivisions, with a -34% and -36% reduction in delay respectively, as seen in Figure 3.2.4. This project results in an increase in delay on the UPRR Houston subdivision. The existing infrastructure has limited locations to hold trains clear of grade crossings between Beaumont and Houston. The Houston Subdivision Second Mainline Track and Dayton Siding enable trains, that were previously being held near Beaumont to be held closer to Houston. While increasing delay on the Houston Subdivision it has a net benefit on the region. The combination of the Beaumont Yard Bypass Track, Neches River Bridge, and Vidor Siding extension reduces delays 16% and enables westbound KCS trains that previously would need to sit across at-grade crossings while changing crews or waiting for trains to pass to not be delayed for sit clear of crossings. In the 2030 growth scenario, it is estimated that these improvements allow for two to four additional daily trains to run from Houston to Beaumont.

A benefit-cost analysis has been performed for Scenario 4, and a B/C ratio of 1.77 was calculated for all projects within the scenario based on USDOT-recognized benefits and anticipated construction cost. This includes public benefits such as reduction in emissions, avoided truck trips due to additional freight capacity, and reduction in traffic delay and crashes. See Appendix D for additional information.

Scenario 5 – BNSF Mykawa Yard Expansion

Background

Besides the area near the UPRR Englewood and Settegast yards, the area near the BNSF New and Old South yards is a major source of congestion. The three yards, near the University of Houston, are the origin, destination, or crew change location for BNSF trains from the east, west, and south. The yard tracks in the two yards are much shorter than existing trains resulting in trains needing to switch on the mainlines.

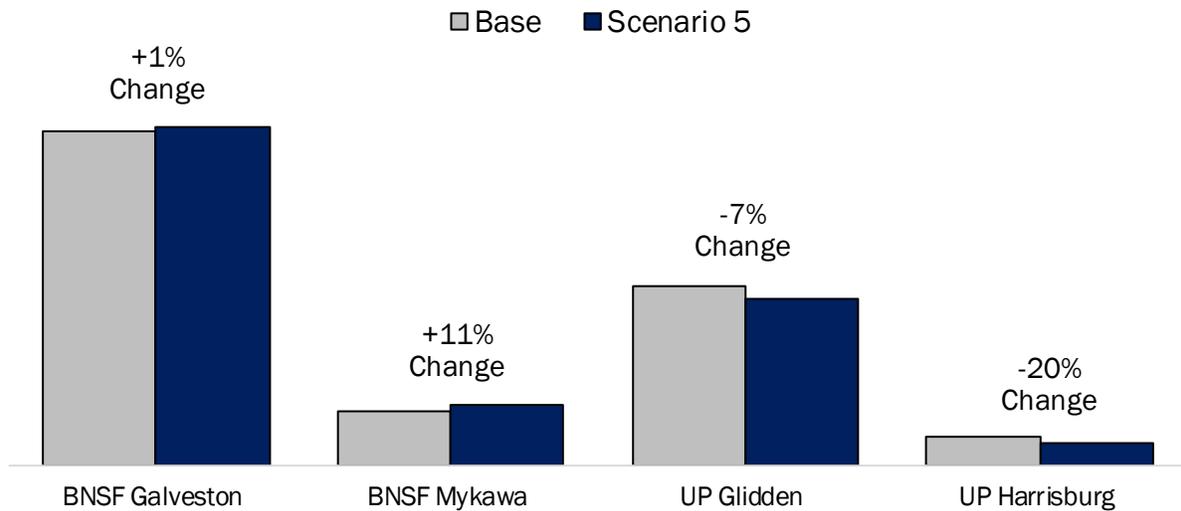
The goal of Scenario 5 is to expand an existing BNSF yard in order to move the yard activities out of the mainlines on the HB&T West Belt Subdivision in the complex. Currently, many of BNSF trains traveling to the existing New and Old South Yards coming from the BNSF Galveston Sub connect onto the UPRR Glidden at Rosenberg. The trains then travel west from the Glidden Subdivision onto the UPRR Harrisburg Subdivisions and turn north at T&NO Junction. The expanded Mykawa yard is south of T&NO and it is not possible to construct the southwest wye at T&NO Junction, requiring trains to take a different route to the new yard. The trains will travel a longer distance by continuing on the BNSF Galveston Sub, location of Duke Siding, and then turning north onto the Mykawa Subdivision.

The following improvements are modeled as part of this scenario:

- Mykawa Yard Expansion – The expansion of the yard consists of additional tracks to the existing yard and replacement of existing hand-throw switches to power switches.
- Duke Second Track – To support adjusted train flows due to the expansion of Mykawa Yard, an increase in length to the Duke siding would be implemented to increase capacity. The limits extend to the Brazos River due to constraints of adding the bridge over the river.

Simulation Findings and Results

Figure 3.2.5 Scenario 5 Delay Analysis



As would be expected, due to the new routing of trains, delays increased on the BNSF Galveston and BNSF Mykawa Subdivisions with a reduction on the UPRR Glidden and Harrisburg Subdivisions as seen in Figure 3.2.5. The Duke Siding Extension does mitigate most of the impacts of the additional train traffic on the BNSF Galveston Subdivision. These improvements are intended to accommodate larger trains and increase yard fluidity, not just reduce main line delay. Because this is primarily a yard improvement, yard delay is significantly decreased on the HB&T West Belt Subdivision due to improved performance of the BNSF Mykawa Subdivision, which now takes on some additional traffic and delay. The rerouting of trains removes trains from the congested UPRR Glidden Subdivision with its large number of at-grade crossings.

A benefit-cost analysis has been performed for Scenario 5, and a B/C ratio of 6.12 was calculated for all projects within the scenario based on USDOT-recognized benefits and anticipated construction cost. This includes public benefits such as reduction in emissions, avoided truck trips due to additional freight capacity, and reduction in traffic delay and crashes. See Appendix D for additional information.

Scenario 6 – BNSF South Improvements

Background

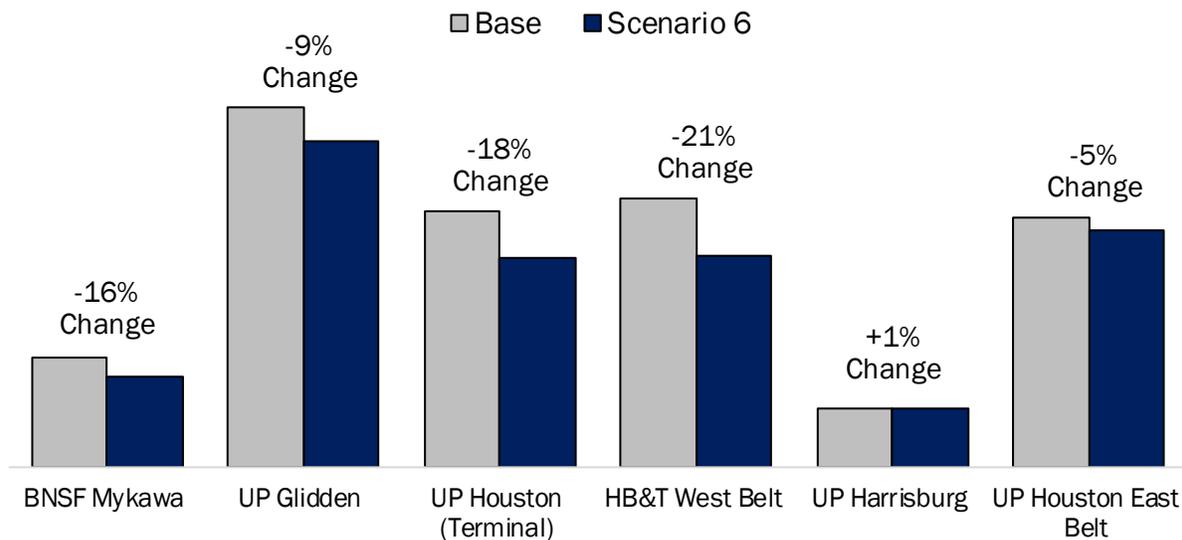
As discussed with Scenario 5, the BNSF yards are a source of congestion in the complex. To relieve this congestion additional mainline capacity is proposed. This will improve the ability to stage trains and bypass trains working in the nearby yards. The improvements look to increase mainline capacity near these BNSF yards through a mainline bypass track and an additional segment of mainline track.

This scenario includes the following modeled improvements:

- Texas Spur Third Main – The additional third mainline track would be utilized to bypass the BNSF North and South Yards near T&NO Junction and would provide bypass and staging capacity next to the yards.
- Mykawa Subdivision Second Track (T&NO Junction to Mykawa) – Adding a second track between T&NO Junction and Mykawa Yard is intended to increase the ability to switch trains out of the yard and move trains past those working at Mykawa Yard.
- MLK Siding – The siding is proposed to provide a location to stage trains before entering the HB&T West Belt Subdivision or the BNSF yards. This includes a grade separation of MLK Blvd to provide a sealed staging area.

Simulation Findings and Results

Figure 3.2.6 Scenario 6 Delay Analysis



The Scenario 6 projects all provide benefits to the HB&T West Belt Subdivision and correspondingly to the rest of the terminal as noted in Figure 3.2.6. The Texas Spur Third Main enables trains to crew change or bypass the congestion of the BNSF yard without blocking train movements. The extra track also provides a location to hold a train clear of

any grade crossings, reducing the risk of blocked crossings on the subdivision. The Mykawa Second Main reduces the delays of trains traveling from the West Belt to the South and allows trains switching the BNSF Old South Yard to not block those trains movements. The UPRR Harrisburg Subdivision had a slight increase in delay, but that is due to the MLK Siding that now provides an additional location to hold or meet trains clear of a crossing.

A benefit-cost analysis has been performed for Scenario 6, and a B/C ratio of 2.74 was calculated for all projects within the scenario based on USDOT-recognized benefits and anticipated construction cost. This includes public benefits such as reduction in emissions, avoided truck trips due to additional freight capacity, and reduction in traffic delay and crashes. See Appendix D for additional information.

Scenario 7 – Galveston Subdivision Improvements

Background

The Port of Galveston is an origin and destination of train traffic for both Union Pacific and BNSF. Union Pacific's connection is via the UPRR Galveston Subdivision. The subdivision is mostly not signaled and has short sidings that cannot accommodate train lengths over 6,700 feet. When multiple trains need to use the subdivision trains must hold at the port on the in Houston complex. At the north end of the subdivision the construction of a new wye track at Katy Neck and a second track will allow for increased flexibility of traffic to bypass the BNSF yards if there is congestion.

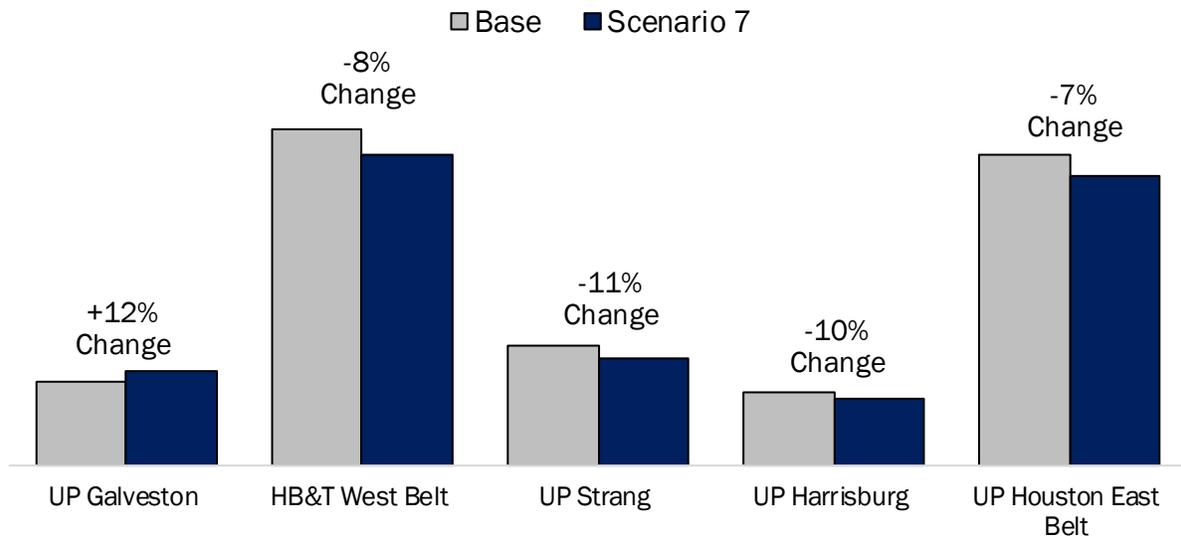
The goal of this scenario is to increase capacity along the mainline while providing additional connectivity through a new wye track. Other improvements include additional mainline track and a siding extension for staging/passing of longer trains.

The following improvements are modeled as part of this scenario:

- Tower 85 to Katy Neck Second Track – Adding a second mainline between the Katy Neck and Tower 85 is intended to reduce train traffic on the Bell Line and would increase capacity to bypass Booth Yard.
- Katy Neck NW Wye Connection – This new wye track in the Katy Neck's northwest quadrant would support movement from the Harrisburg Subdivision to the UPRR Galveston Subdivision. This improvement would also support future consolidation of tracks and reduce traffic around the BNSF operations on the West Belt Subdivision.
- Shell Siding Extension – The additional length of this siding allows for staging of trains and a passing location for longer trains along the UPRR Galveston Subdivision.

Simulation Findings and Results

Figure 3.2.7 Scenario 7 Delay Analysis



The improvements from Scenario 7 provide benefit to multiple subdivisions in the terminal as seen in Figure 3.2.7. The delay on the UPRR Galveston Subdivision increases due to the ability to now meet or hold longer trains on the subdivision as compared to in the more congestion terminal area with the high density of crossings. The Katy Neck projects allow for trains to bypass the congested Houston West Belt reducing delays on the neighboring UPRR Strang, UPRR Harrisburg, UPRR Houston East Belt and HB&T West Belt Subdivisions.

A benefit-cost analysis has been performed for Scenario 7, and a B/C ratio of 1.46 was calculated for all projects within the scenario based on USDOT-recognized benefits and anticipated construction cost. This includes public benefits such as reduction in emissions, avoided truck trips due to additional freight capacity, and reduction in traffic delay and crashes. See Appendix D for additional information.

Scenario 8 – Hardy Improvements

The section of track adjacent to the Hardy Toll Road between Belt Junction and Spring is a major staging and crew change location. There is also a major UPRR yard and an automotive facility at the north end near Spring. Trains arriving from the Navasota or Palestine Subdivisions often stage and crew change for multiple hours just north of Belt Junction. If these staging/crew change locations are full of trains they must dwell on the mainlines, creating congestion for both north and south movements. Also, the tracks at the automotive facility are short resulting in originating and terminating trains blocking the mainlines.

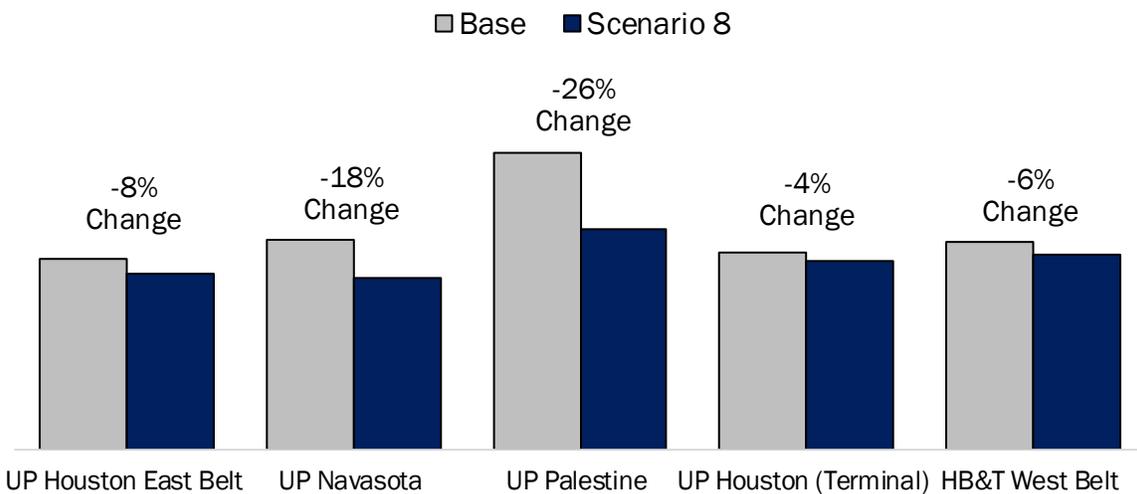
These improvements along the UPRR Palestine and Navasota Subdivisions are proposed to increase mainline capacity through creating additional staging and crew change points while providing solutions for potential constrained areas near Westfield Yard.

This scenario includes the following modeled improvements:

- Westfield Yard Lead Extension – A lengthening of the yard tracks at Westfield Yard is designed to reduce mainline blockage for building trains and yard work.
- Hardy Third Main – The additional mainline track would extend the slotting track to provide additional crew change capacity along the Palestine Subdivision.
- Hufsmith Second Track (Hufsmith to Spring Junction) – This second mainline track on the Navasota Subdivision is intended to increase mainline capacity and provide a staging location for longer trains.

Simulation Findings and Results

Figure 3.2.8 Scenario 8 Delay Analysis



As shown in Figure 3.2.8, the projects reduce delay on the UPRR Palestine Subdivision. Since there subdivision does not have many at-grade crossings it does not provide a new location to hold train, instead the Hardy Third Main and the Westfield Yard Leads move sitting trains off the two main lines, keeping them clear for train movements. The Hufsmith Double Track project eliminates any delays that would occur on the UPRR Palestine Subdivision and UPRR Navasota Subdivision due to the elimination of meet delays between Hufsmith and Spring Junction. The Hufsmith Double Track also reduces the risk of needing to block the crossings in the existing Hufsmith Siding that occurs when trains currently meet at the siding. In addition, less delay on the Palestine Subdivision trains means trains are less likely to need to hold on the subdivision while waiting for congestion to clear. Since trains are no longer holding on the main lines, there appears to be a residual effect on the delay for the UPRR Houston (Terminal), UPRR Houston East Belt and HB&T West Belt Subdivisions.

A benefit-cost analysis has been performed for Scenario 8, and a B/C ratio of 3.14 was calculated for all projects within the scenario based on USDOT-recognized benefits and anticipated construction cost. This includes public benefits such as reduction in emissions, avoided truck trips due to additional freight capacity, and reduction in traffic delay and crashes. See Appendix D for additional information.

Scenario 9 – Glidden Subdivision Improvements

The UPRR Glidden Subdivision from the Houston complex to Rosenberg has high volumes and includes BNSF, UPRR, and KCS train traffic within certain segments of the subdivision. Rosenberg is a major junction with traffic splitting between the KCS Rosenberg Subdivision, BNSF Galveston Subdivision, and the UPRR Glidden Subdivision. The Glidden Subdivision east of Rosenberg is single-track and a bottleneck for the high volumes of train traffic.

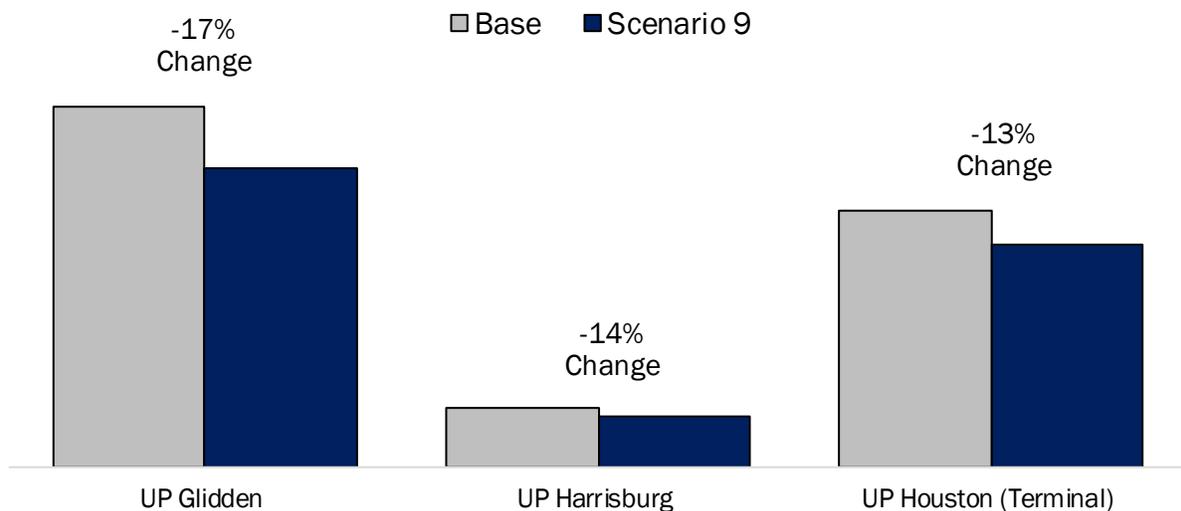
The Glidden Subdivision has large train volumes and has a priority of increased capacity. The proposed project aims to increase capacity by extending mainline tracks for entering yards within the Houston complex.

The following improvements are modeled as part of this scenario:

- Glidden Second Track (Harlem to Brazos River) – This additional mainline track essentially lengthens the Harlem siding to increase train capacity from the BNSF Galveston and Glidden Subdivisions.

Simulation Findings and Results

Figure 3.2.9 Scenario 9 Delay Analysis



As shown in Figure 3.2.9, the addition of the Glidden Second track reduces in delay on the UPRR Glidden Subdivision since the additional double track reduces any delays of trains waiting to traverse the single track and the corresponding possibility of blocking crossings. This increased fluidity also has a positive effect on the UPRR Harrisburg and UPRR Houston (terminal) Subdivisions delay performance.

A benefit-cost analysis has been performed for Scenario 9, and a B/C ratio of 2.59 was calculated for all projects within the scenario based on USDOT-recognized benefits and anticipated construction cost. This includes public benefits such as reduction in emissions, avoided truck trips due to additional freight capacity, and reduction in traffic delay and crashes. See Appendix D for additional information.

Section 4: Grade Crossing Screening Methodology and Results

There are over 2,000 roadway-rail grade crossings on freight railroad lines within the 11-county Houston-Beaumont region that allow interactions with automobiles/trucks and freight and passenger trains. While most of the time these crossings are free of through freight train movements, at other times delay to the traveling public occurs when trains are at the crossing and, in a worst-case scenario, incidents occur that may result in injury and/or delays to the railroad owner as well.

This report section reviews each grade crossing for potential impacts to vehicles through delay and incidents to determine potential projects for implementation to minimize or eliminate these challenges.

4.1 Screening Methodology

Potential Grade Separations

The methodology for identification of proposed grade separation locations uses a two-step process. First is a quantitative review based on calculations that focus on vehicular delay and incidents at the existing at-grade crossing. The second step is a qualitative analysis defining feasibility of implementing a potential grade separation due to existing constraints at or near the crossing.

Ongoing roadway-rail grade separation construction projects and funded near-term roadway-rail grade separation projects were identified prior to review of the grade crossings. These locations were removed from consideration due to anticipated near-term implementation.

The quantitative screening methodology for review of potential grade separation candidates is based on previous work completed by TxDOT for the November 2017 *Central Texas Grade Crossing Study*,¹ which evaluated highway-railroad at-grade crossings in Williamson, Travis, Hays, Comal, and Bexar Counties. The screening involves use of two primary quantitative determinants, the Texas Priority Index and Accident History, to prioritize highway-railroad at-grade crossing locations within the 11-county region.

In alignment with previous work completed from the *Central Texas Grade Crossing Study*, the Texas Priority Index will serve as the principal quantitative determinant of action at each

¹ TxDOT Rail Division. *Central Texas Grade Crossing Study*, November 2017. Includes Williamson, Travis, Hays, Comal, and Bexar Counties.

crossing. TxDOT’s Texas Priority Index² formula is calculated using average daily vehicular traffic, train volumes, train speed, number of tracks, and other information as illustrated in Figure 4.1. Utilizing FRA Grade Crossing Inventory information, a database of every roadway-railroad at-grade crossing within the region is compiled for the quantitative review with iterative verification of data during the analysis, and accident history is based on crash history for the last five years (2014 to 2018). A high-level review of data with the FRA Grade Crossing Inventory was also completed to verify at-grade crossing status, traffic volumes, and other identified anomalies.

Figure 4.1.1 Texas Priority Index Formula

Priority Index Formula

The Priority Index (PI) formula is

$$PI = V \times T \times (S \times 0.10) \times P_f \times A^{1.15} \times 0.01$$

where:

V = average daily traffic — number of vehicles per day

T = number of trains in a 24-hour period

S = speed — maximum speed of the trains

P_f = protection factor — a factor weighted according to the type of existing traffic control device as shown in the following table:

Protection Factors	
Existing Traffic Control Device	Protection Factor
Gates	0.10
Cantilever Flashers	0.15
Mast Flashers	0.70
Crossbucks or Other	1.00

A = number of crashes in the last five years to the 1.15 power (when *A* = 0 or *A* = 1, then *A* = 1)

² TxDOT. *Technical Provisions: Amendments for Traffic Operations Manual, Railroad Operations Volume*. September 2012. Section 4; PDF page 65.

The top fifty grade crossings from the quantitative review as well as other prioritized grade separation projects from other planning documents (Texas Rail Plan, Texas Mobility Plan, etc.) were further evaluated qualitatively.

The qualitative review for each of the grade separation candidates includes feasibility of the implementation of the grade separation infrastructure while minimizing impacts to other public and private infrastructure and operations. These potential impacts may include:

- Substantial access impacts and implications to businesses and residences;
- Challenges due to connecting roadway infrastructure, such as at-grade frontage roads and elevated freeways adjacent and parallel to the tracks, or major right-of-way acquisition; and
- Other potential major environmental, utility, and constructability challenges as identified through reviews of online and publicly available databases.

Identification of any substantial impacts to businesses and residences focuses on the potential elimination of or changes to access to those structures for residents and emergency personnel that may significantly and adversely affect the ability to conduct business or reasonably enter/exit residences.

Potential roadway infrastructure challenges related to proposed grade separation construction are generally considered for locations where major additional improvements would be required to existing roadway infrastructure for implementation. These challenges include:

- Existing freeways adjacent/parallel to the railroad with elevated freeway overpasses and at-grade frontage roads;
- Areas where maintaining access to existing businesses and residences may be cost-prohibitive; and
- Acquisition of right of way in major business districts or residential areas.

The impacts and infrastructure challenges, while not considered fatal flaws, may be a determination in implementation timeframe and agency coordination in moving the project forward toward design and construction.

While the qualitative reviews did not eliminate potential grade separation candidates, the review is a criterion in identification of an implementation strategy for the improvements. This is discussed in more detail in Section 5.

Exhibits prepared for some of the proposed grade separations and crossing closures within the report used available aerial photography and profile information as available. The conceptual grade separation exhibit designs followed the *TxDOT Roadway Design Manual* and the *Union Pacific Railroad – BNSF Railway Guidelines for Railroad Grade Separation Projects*. Additional exhibits that were previously part of other studies including the *Gulf Coast Rail District HB&T West Belt Improvements Study*.

The qualitative review resulted in identification of improvements for conceptual design. Appendix B includes these conceptual designs that provided additional opportunity for near-term implementation due to reduced challenges within the qualitative review. These locations went through an additional review, including:

- High-level environmental review – A desktop review was conducted for each proposed grade separation conceptual design to identify any potential fatal-flaw features within the infrastructure limits. See Appendix C for Constraints Map Exhibits. The review comprised of available desktop features such as archaeological, wetlands, brownfield locations, floodplains, and infrastructure (schools, hospitals, parks). While there are no fatal flaws identified within these project limits, potential considerations are included within each project’s detailed information in Section 5 that may require additional documentation, study, or remediation.
- Review of utility infrastructure – Identification of major utilities was conducted for each proposed grade separation. This high-level review is limited to utilities that may pose a fatal flaw to implementation of the grade separation or significant cost impacts to the overall project cost. No fatal flaws were determined due to utilities for the grade separation exhibits, but many locations had potential major utility impacts with additional anticipated construction costs.
- Constructability – Potential phasing will be key for future implementation of the grade separation projects. A conceptual review of potential phasing for each project exhibit has been undertaken to verify that the proposed infrastructure can be built while maintaining vehicular traffic during the construction activities. No fatal flaws are found within the conceptual designs, but some of the projects may require additional phases due to existing constraints or proposed features.

Findings of the grade separation reviews are included in Section 5. These findings include the crossings identified in the quantitative review and details from the qualitative review.

Potential Crossing Closures

The identification of grade crossing candidates for closure focuses on finding those that provide both public (roadway user) and private (railroad owner) benefits. Review of closure

candidates follows a methodology that attempts to minimize potential delay to roadway vehicles by trains through alternate routes that also eliminate roadway-rail crossings.

There are two distinct quantitative reviews to identify closure candidates. The first focuses on proposed projects within this study that, through the new infrastructure improvements such as grade separations, bypasses, siding extensions, yard extensions, etc., may facilitate the option for closures. The other emphasizes low-volume roadways with alternate access around the railroad (through grade separations or other means) to eliminate potential roadway-rail incidents. Once the quantitative reviews are complete, a qualitative review to verify each closure make sense from an operations standpoint is completed to ensure viability.

The quantitative reviews consist of:

- Proximity to existing and proposed grade separations – The use of grade-separated routes for closure candidates was prioritized to minimize or eliminate vehicle and train interactions and avoids the potential of shifting traffic to another adjacent grade crossing.
- Low-volume roadways – A focus on roadways with fewer vehicles strategically impacts fewer users while providing additional safety benefits and possible staging locations for railroads.
- Reasonable alternate routes – A review of potential routes around closure candidates focuses on short, efficient paths and eliminates long detours due to the closure from consideration.
- Impacts due to proposed railroad improvements – Through review of possible improvements to railroad infrastructure, the improvements may require the closure of certain roadway-rail crossings within the region.

Once the quantitative reviews provide a list of possible closures candidates, the subsequent qualitative reviews look at:

- Practicality of closure – A verification that the closure meets priorities from the roadway owner and railroad ensure that agencies and railroad owners can justify the closure.
- Impacts to adjacent roadway-rail at-grade crossings – Shifting vehicles from one at-grade crossing on a railroad to another nearby one does not typically increase safety for the traveling public. Identifying these scenarios may remove a closure from consideration.

The list of crossing closure candidates identified in this study meet the quantitative and qualitative requirements noted in this methodology or were provided by stakeholders as priority locations for grade separation implementation.

Potential Blocked Crossings

Blocked crossings are noted by some stakeholders as a challenge within the region, especially near rail yards and staging areas along the tracks. Grade crossings with extended delays due to slow train movements, yard movements, or idling trains can require a vehicle to take an alternate route or, if no alternate routes are available, wait for an extended timeframe to get to its destination. Many of these consistently blocked crossings have been detailed by agencies within the region.

While these situations are considered as challenges within the roadway network, this study does not review potential solutions at many of the locations of identified blocked crossings. To more fully detail the delays at these grade crossings, data is needed to identify the causes of the blocked crossing and impacts to traffic/delay and provide coordination with the railroad owner on possible solutions to alleviate the delay. Solutions may be undertaken to determine potential short-term (alternate route signage, traffic alerts) and long-range (grade separations, crossing closures, railroad improvements) solutions for each blocked grade crossing.

4.2 Grade Crossing Screening Results

Based on the screening methodologies, lists were comprised of proposed grade separation and crossing closure candidates identified in Tables 4.2.1 and 4.2.2 by railroad owner, railroad subdivision, county, city, and priority index ranking if applicable. Further details for each proposed grade separation and crossing closure candidate are included in Section 5.

Table 4.2.1 Proposed Grade Separations List Area

Rank	DOT #	Street	RR Owner	Subdivision	County	City
1	755624C	Fondren Rd	UP	Glidden	Harris	Houston
2	755622N	Hillcroft Ave	UP	Glidden	Harris	Houston
3	022645V	Gordon St	BNSF	Galveston	Brazoria	Alvin
4	758534N	N Shepherd Dr	UP	Houston	Harris	Houston
5	448400J	E Richey Rd	UP	Palestine	Harris	Spring
6	427257T	Rankin Rd	UP	Palestine	Harris	Houston
7	023228P	Airport Blvd	BNSF	Mykawa	Harris	Houston
8	430076S	Kuykendahl Rd	UP	Navasota	Harris	Spring
9	023214G	Long Dr	BNSF	Mykawa	Harris	Houston
10	023215N	Griggs Rd	BNSF	Mykawa	Harris	Houston
11	762721D	FM 364	UP	Houston	Jefferson	Beaumont
12	023211L	W Bellfort Ave	BNSF	Mykawa	Harris	Houston
13	758513V	Westheimer Rd	UP	Houston	Harris	Houston
14	758518E	Bellaire Blvd	UP	Houston	Harris	Houston
15	450654Y	FM 2100	UP	Beaumont	Harris	Huffman
16	023207W	Almeda Genoa Rd	BNSF	Mykawa	Harris	Houston
17	435873A	SH 36	UP	Angleton	Brazoria	Brazoria
18	597091H	FM 1960	BNSF	Houston	Harris	Houston
19	597085E	W Little York Rd	BNSF	Houston	Harris	Houston
20	758533G	Durham St	UP	Houston	Harris	Houston
21	758512N	San Felipe Rd	UP	Houston	Harris	Houston
22	743695P	Kirkwood Rd	UP	Glidden	Fort Bend	Stafford

Table 4.2.1 Proposed Grade Separations List Area

Rank	DOT #	Street	RR Owner	Subdivision	County	City
23	755327J	Scott St	UP	Harrisburg	Harris	Houston
24	755876D	Kingwood Dr	UP	Lufkin	Montgomery	Houston
25	427962W	FM 364/Major Dr	UP	Beaumont	Jefferson	Beaumont
26	912021M	I-610 WB frontage Rd	UP	Houston	Harris	Houston
27	023227H	Walnut St	BNSF	Mykawa	Brazoria	Pearland
28	912020F	I-610 EB frontage Rd	UP	Houston	Harris	Houston
29	758514C	Richmond Ave	UP	Houston	Harris	Houston
30	762892E	Sheldon Rd	UP	Houston	Harris	Houston
31	743689L	S Gessner Rd	UP	Glidden	Fort Bend	Missouri City
32	758517X	Bissonnet St	UP	Houston	Harris	Houston
33	745044J	S Dairy Ashford Rd	UP	Glidden	Fort Bend	Sugar Land
34	755621G	Chimney Rock Rd	UP	Glidden	Harris	Houston
35	089370C	Tidwell Rd	BNSF	Houston	Harris	Houston
36	743699S	Eldridge Rd	UP	Glidden	Fort Bend	Sugar Land
37	022675M	FM 762	BNSF	Galveston	Fort Bend	Richmond
38	435486H	SH 105/Phillips St	UP	Palestine	Montgomery	Conroe
39	755863C	Mt Houston Rd	UP	Lufkin	Harris	Houston
40	743726L	FM 3155/Collins Rd	UP	Glidden	Fort Bend	Richmond
41	762483M	FM 105/S Main St	UP	Lafayette	Orange	Vidor
42	762790L	US 90	UP	Baytown	Liberty	Dayton
43	743270B	Long Point Rd	UP	Eureka	Harris	Houston

Table 4.2.1 Proposed Grade Separations List Area

Rank	DOT #	Street	RR Owner	Subdivision	County	City
44	597084X	Antoine Rd	BNSF	Houston	Harris	Houston
45	675158C	Cypresswood Rd	BNSF	Houston	Harris	Tomball
46	758519L	Beechnut St	UP	Houston	Harris	Houston
47	758750G	Tidwell Rd	UP	Lufkin	Harris	Houston
48	435446K	Federal Rd	UP	Baytown	Harris	Jacinto City
49	743716F	Pitts Rd	UP	Glidden	Fort Bend	Sugar Land
50	743713K	Harlem Rd	UP	Glidden	Fort Bend	Sugar Land
51	758757E	Little York Rd	UP	Lufkin	Harris	Houston
52	762810V	FM 565	UP	Cedar Bayou Ind Ld	Harris	Baytown
53	762944U	FM 1405	UP	Cedar Bayou Ind Ld	Harris	Baytown
54	022673Y	Royal Lakes Blvd	BNSF	Galveston	Fort Bend	Richmond
55	288228X	York St	HB&T	West Belt	Harris	Houston
56	288129A	Commerce St	HB&T	West Belt	Harris	Houston
57	288098D	Nance St	HB&T	West Belt	Harris	Houston
58	288095H	Lyons Ave	HB&T	West Belt	Harris	Houston
59	329559B	Dr Ransom Howard St	KCS	Beaumont	Jefferson	Port Arthur

Table 4.2.2 Proposed Crossing Closures List

DOT #	Street	RR Owner	Subdivision	City	County
869706B	Medina St	PTRA		Houston	Harris
869705U	Fennell St	PTRA		Houston	Harris
435874G	Market St	UP	Angleton	Brazoria	Brazoria
329559B	9th St	KCS	Beaumont	Port Arthur	Jefferson
329474Y	Canary St	KCS	Beaumont	Beaumont	Jefferson
329473S	Mockingbird Dr	KCS	Beaumont	Beaumont	Jefferson
329472K	N Dewitt	KCS	Beaumont	Vidor	Orange
755623V	Haviland St	UP	Glidden	Houston	Harris
743725E	Morton St	UP	Glidden	Richmond	Fort Bend
745055W	Gillingham Ln	UP	Glidden	Fort Bend	Sugar Land
859544Y	Fennell St	UP	Harrisburg	Houston	Harris
762852G	CR 601	UP	Houston	Dayton	Liberty
762853N	CR 602	UP	Houston	Dayton	Liberty
745074B	Oates Rd	UP	Houston	Houston	Harris
758535V	Parker St	UP	Houston	Houston	Harris
758532A	Roy St	UP	Houston	Houston	Harris
758284D	West St	UP	Houston	Houston	Harris
762719C	Langham Rd	UP	Lafayette	Beaumont	Jefferson
435484U	Avenue A	UP	Palestine	Conroe	Montgomery
435487P	Lewis St	UP	Palestine	Conroe	Montgomery
427259G	Westfield Loop Rd	UP	Palestine	Spring	Harris
748688W	West St	HB&T	West Belt	Houston	Harris

Section 5: Comprehensive List of Improvements

This report section combines potential railroad and roadway projects defined in sections 3 and 4 within the 11-county Houston and Beaumont region into a comprehensive list of improvements. These improvements and subsequent recommendations may be used to form the basis for an infrastructure plan focused around efforts to reduce impacts by trains on roadway users, to improve safety, and to increase efficiency on the railroad network.

5.1 Methodology

The methodology for identification of improvements on the regional railroad network and at roadway-rail grade crossings is detailed in Sections 3 and 4 of this report. The methodology for railroad network projects is generally based on identified constraints within the “Base” case of the Rail Traffic Controller modeling effort, while the roadway-rail grade crossing methodology focuses on quantitative reviews of data and qualitative reviews of other factors.

Construction cost estimates are determined in a couple different methods depending on level of design. These methods are generally based on the available development of design, if any, to provide costs for planning purposes. As projects are further defined with additional design beyond this study, construction costs should be refined and incorporated into planning documentation.

- Estimates for proposed grade separations with conceptual design exhibits have costs developed for those designs with appropriate level of detail on quantities and unit costs.
- Estimates for grade separations and closures without conceptual designs are based on high-level assumed construction costs and not defined by specific unit items or quantities. A general range of costs are provided and would vary based on project designs and constraints.
- Railroad network projects are defined at a high-level and use typical per-mile costs for many of the infrastructure components.

A limited set of projects benefit-cost analyses (BCAs) have been completed to evaluate a project’s or scenario’s benefits against its costs. This spreadsheet-based framework focuses on benefits related to vehicular delay and train movements and efficiencies to identify applicable costs based on USDOT guidance for those benefits. BCAs are included in Appendix D.

Potential high-level implementation timeframes have been assigned to each of the improvements identified on the regional railroad network and at roadway-rail grade crossings. Potential implementation timeframes are labeled as near-term, mid-range, and long-range and are a starting point for further planning activities. These potential timeframes are based on anticipated challenges toward implementation as well as other associated projects (i.e. a grade separation and associated closure have the same implementation timeframe).

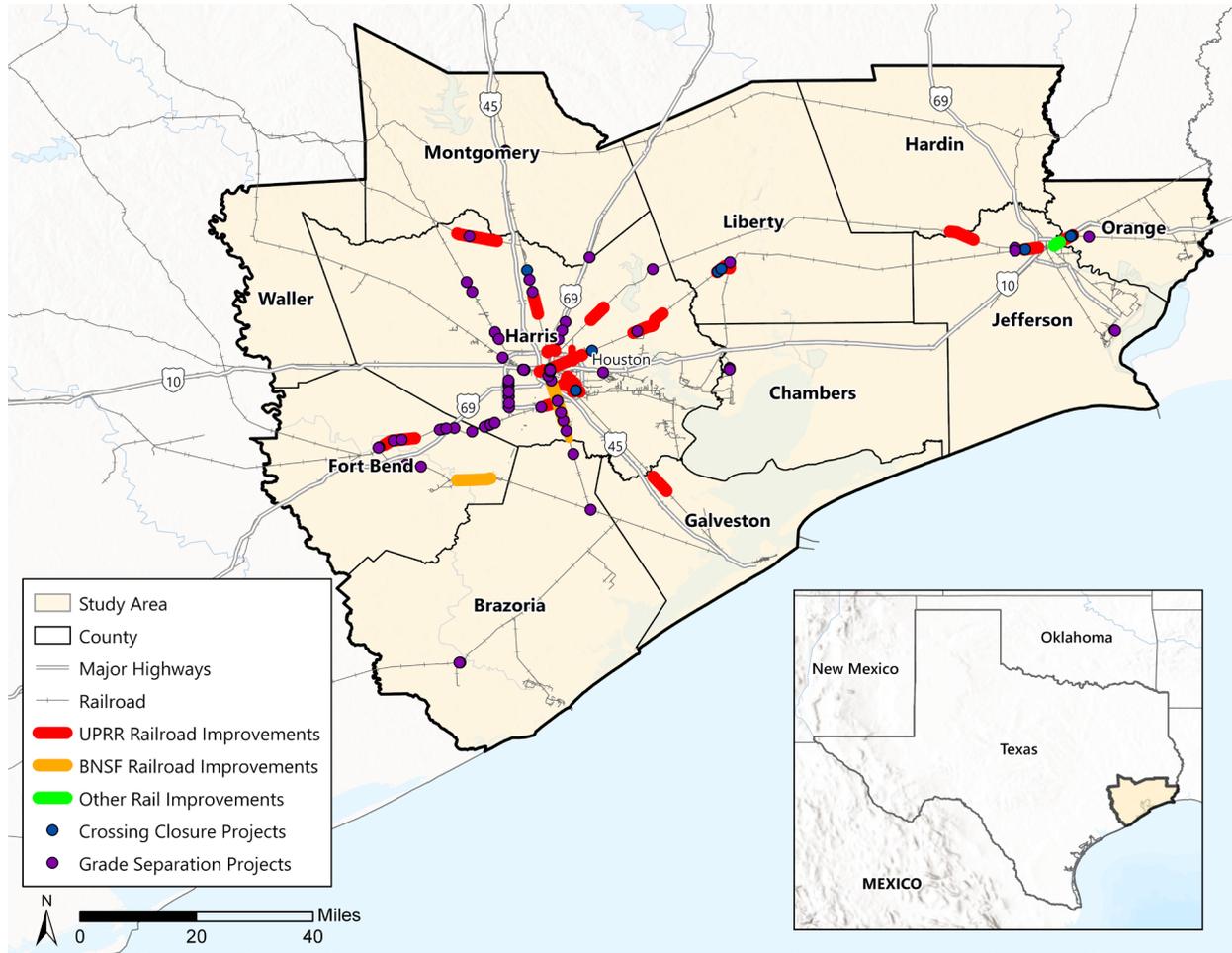
5.2 List of Improvements by Railroad Subdivision

A total of 109 roadway and railroad improvements are proposed within this report. These improvements include:

- 29 proposed railroad improvements,
- 59 proposed grade separations, and
- 22 proposed crossing closures.

Figure 5.2.1 details the locations within the 11-county region of the proposed roadway and railroad improvements.

Figure 5.2.1. Proposed Roadway and Railroad Improvements Map



Improvements are sorted within this section by railroad owner and railroad subdivision. Each railroad subdivision subsection includes a list of the proposed improvements and a detailed description of each improvement with information such as:

- Existing conditions;
- Proposed improvement and potential challenges with implementation;
- Findings associated with environmental, utility, and constructability/phasing reviews, as applicable;
- Potential cost of construction;
- Potential benefit-cost analysis, as applicable;
- Potential timeframe/range of project implementation; and
- Exhibit location, as applicable.

Additional information utilized in the review of grade crossing includes:

- Data provided by the City of Houston and Gulf Coast Rail District on historically blocked crossings and existing/proposed quiet zone locations,
- New capital investments as part of Transportation Improvement Programs (TIP) and Metropolitan Transportation Plans (MTP), and
- Guidance from TxDOT, cities, H-GAC, and other stakeholders

Union Pacific Railroad – Angleton Subdivision

The UPRR Angleton Subdivision is a predominately single-track railroad that runs between Algoa and Placedo, Texas and through Brazoria and Galveston counties within the study area. Rail traffic on this subdivision is bidirectional with an average train count of approximately 19 to 22 trains per day. BNSF also has trackage rights along the Angleton Subdivision. The areas adjacent to the Angleton Subdivision’s right of way are typically rural in nature except through towns along the route.

Table 5.2.1. details the proposed improvements identified in this study on the UPRR Angleton Subdivision.

Table 5.2.1 Proposed Improvements on UPRR Angleton Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
435873A	Grade Separation	SH 36	UP	Angleton	Brazoria	Brazoria
435874G	Crossing Closure	Market St	UP	Angleton	Brazoria	Brazoria

Grade Separations

SH 36 at UPRR Angleton Subdivision

SH 36 (DOT #435873A) is currently a four-lane roadway with approximately 12,900 vehicles per day that crosses the railroad at-grade in the city of Brazoria in Brazoria County. The identified grade separation location would separate vehicular traffic from the UPRR Angleton Subdivision. According to crash data collected over a five-year period, four crashes occurred in the vicinity of the SH 36 at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would require either access roads adjacent to SH 36 or closure of side streets at SH 36. Additional impacts to businesses adjacent to the proposed grade

separation may occur due to right-of-way and access requirements, including possible impacts to a fire station north of the crossing.

The grade separation of SH 36 at the Angleton Subdivision is estimated to cost \$25 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

Crossing Closures

Market St at UPRR Angleton Subdivision

Currently a two-lane roadway with an estimated 147 vehicles per day, Market St (DOT #435874G) is an at-grade crossing in the city of Brazoria in Brazoria County. Market St is proposed to be closed at the intersection with the UPRR Angleton Subdivision in order to eliminate the potential for crossing incidents at this at-grade crossing in concert with the proposed grade separation at SH 36. The location of the potential crossing closure and its alternative route are identified in Appendix B.

Access to adjacent properties along Market St is anticipated to remain up to the grade crossing closure. The identified alternate route to this crossing location uses the proposed grade separation at SH 36, which is included as a grade separation candidate in this study. The use of Market St traffic over a grade separation in lieu of an at-grade crossing eliminates potential vehicle and train conflicts and increases safety.

The crossing closure of Market St at the Angleton Subdivision is estimated to cost \$60,000 (not including the SH 36 grade separation). Implementation of the crossing closure would be anticipated to coincide with the SH 36 grade separation project.

Union Pacific Railroad – Baytown Subdivision

The UPRR Baytown Subdivision is a predominately single-track railroad that runs between North Shore Junction east of Houston and Dayton, Texas and through Chambers, Harris, and Liberty counties within the study area. Rail traffic on this subdivision is bidirectional with an average train count of approximately 23 trains per day. BNSF also has trackage rights along the Baytown Subdivision. The Baytown Subdivision's right of way generally abuts suburban or industrial areas.

Table 5.2.2 details the proposed improvements identified in this study on the UPRR Baytown Subdivision.

Table 5.2.2 Proposed Improvements on UPRR Baytown Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
762790L	Grade Separation	US 90	UP	Baytown	Liberty	Dayton
435446K	Grade Separation	Federal Rd	UP	Baytown	Harris	Jacinto City

Grade Separations

US 90 at UPRR Baytown Subdivision

US 90 (DOT #762790L) is currently a five-lane roadway with approximately 22,000 vehicles per day that crosses the railroad at-grade in the city of Dayton in Liberty County. The at-grade crossing is skewed diagonally across the intersection of US 90 and Waco Street. The identified grade separation would be in concert with additional railroad improvements and crossing closures of CR 601 and CR 602 in this study to relocate the roadway-rail crossing at US 90 further to the west and is proposed to consist of two roadway overpass locations. According to crash data collected over a five-year period, three crashes occurred in the vicinity of the US 90/Waco Street at-grade crossing.

The railroad exhibit for the extension of Dayton Siding in Appendix B shows the anticipated locations of the two grade separation location. Potential impacts due to the grade separation have not been identified as part of this effort. Funding for a portion of this project has been secured through HGAC. There is significant railroad relocation that is required to facilitate the grade separation which public agencies will have to consider. This rail relocation will require acquisition of new right of way.

The grade separation of US 90 at the Baytown Subdivision is estimated to cost \$65 million. TxDOT and Liberty County will have to coordinate with Union Pacific Railroad for the rail relocation that would be required to implement the grade separations. The rail relocation has a cost estimate of \$200 million.

Federal Rd at UPRR Baytown Subdivision

Federal Rd (DOT #435446K) is currently a six-lane roadway with approximately 25,590 vehicles per day that crosses the railroad at-grade in the city of Jacinto City in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Baytown Subdivision. According to crash data collected over a five-year period, three crashes occurred in the vicinity of the Federal Rd at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the Federal Rd/Market St intersection and would require traffic connectivity to adjacent properties and side streets. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Federal Rd at the Baytown Subdivision is estimated to cost \$40 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

Union Pacific Railroad – Beaumont Subdivision

The UPRR Beaumont Subdivision is a predominately single-track railroad with sidings that runs between Gulf Coast Junction in Houston and Beaumont, Texas and through Hardin, Harris, Jefferson, and Liberty counties within the study area. Rail traffic on this subdivision is primarily eastbound with an average train count of approximately 19 trains per day. BNSF, KCS, and Amtrak also have trackage rights along the Beaumont Subdivision. The areas adjacent to the Beaumont Subdivision’s right of way are typically rural in nature except through towns along the route and for a significant portion of the route is along US 90.

Table 5.2.3 details the proposed improvements identified in this study on the UPRR Beaumont Subdivision.

Table 5.2.3 Proposed Improvements on UPRR Beaumont Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
450654Y	Grade Separation	FM 2100	UP	Beaumont	Harris	Huffman
427962W	Grade Separation	FM 364/ Major Dr	UP	Beaumont	Jefferson	Beaumont
	Railroad	Dyersdale Extension	UP	Beaumont	Harris	Houston
	Railroad	Kolander Siding	UP	Beaumont	Jefferson	Beaumont

Grade Separations

FM 2100 at UPRR Beaumont Subdivision

FM 2100 (DOT #450654Y) is currently a three-lane roadway with approximately 12,800 vehicles per day that crosses the railroad at-grade in the city of Huffman in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Beaumont Subdivision. According to crash data collected over a five-year period, four crashes occurred in the vicinity of the FM 2100 at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the FM 2100/FM 1960 intersection and would require traffic connectivity to adjacent properties and side streets. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of FM 2100 at the Beaumont Subdivision is estimated to cost \$30 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

FM 364/Major Dr at UPRR Beaumont Subdivision

FM 364/Major Dr (DOT #427962W) is currently a five-lane roadway with approximately 17,920 vehicles per day that crosses the railroad at-grade in the city of Beaumont in Jefferson County. The identified grade separation location would separate vehicular traffic from the UPRR Beaumont Subdivision. According to crash data collected over a five-year period, two crashes occurred in the vicinity of the FM 364/Major Dr at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, utility adjustments for overhead transmission/distribution lines and a gas pipeline may be required for overpass construction. A place of worship within the grade separation limits was identified during a preliminary environmental review that will require additional review during project design.

It is anticipated that the grade separation would impact the FM 364/Phelan Blvd intersection and would require additional access to provide connectivity between Phelan Blvd and FM 364/Major Dr. Similarly, access to adjacent properties and side streets along the grade separation are provided via access roads. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of FM 364/Major Dr at the Beaumont Subdivision is estimated to cost \$43 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

Railroad Capacity Enhancements

Dyersdale Extension

The Dyersdale Extension project adds 15,000 ft of second main track near Settegast Yard. The existing siding is currently around three miles in length but has four at-grade crossings. The new track allows the extension allows trains to stage without blocking a single mainline track or at-grade crossings during crew changes or while staging to traffic ahead. The proposed improvement location is shown in Appendix A as part of Scenario 4.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

The Dyersdale siding extension on the Beaumont Subdivision may be considered a long-range implementation timeframe for planning purposes.

Kolander Siding

The Kolander Siding project is a new 20,000 ft siding between Houston and Beaumont. The siding allows for a location longer trains can sit clear of the main line while being passed or while staging of longer trains staging waiting to travel through Beaumont. The proposed improvement location is shown in Appendix A as part of Scenario 4.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

The Kolander siding on the Beaumont Subdivision may be considered a mid-range implementation timeframe for planning purposes.

Union Pacific Railroad – Cedar Bayou Industrial Lead

The UPRR Cedar Bayou Industrial Lead is a seven-mile single-track railroad that connects with the Baytown Subdivision in Chambers County. Rail traffic on this subdivision is bidirectional with an average train count of approximately 6 trains per day. BNSF also has trackage rights along the Cedar Bayou Industrial Lead. The railroad's right of way is generally rural but provides access to yards and port businesses along its length.

Table 5.2.4 details the proposed improvements identified in this study on the UPRR Cedar Bayou Industrial Lead.

Table 5.2.4 Proposed Improvements on UPRR Cedar Bayou Industrial Lead

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
762944U	Grade Separation	FM 1405	UP	Cedar Bayou Ind Ld	Harris	Baytown
762810V	Grade Separation	FM 565	UP	Cedar Bayou Ind Ld	Harris	Baytown

Grade Separations

FM 1405 at UPRR Cedar Bayou Industrial Lead

FM 1405 (DOT #762944U) is currently a three-lane roadway with approximately 4,800 vehicles per day that crosses the railroad at-grade in the city of Baytown in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Cedar Bayou Industrial Lead. According to crash data collected over a five-year period, two crashes occurred in the vicinity of the FM 1405 at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. There are not anticipated impacts to major utilities due to the construction of the grade separation based on a high-level utility review. Similarly, no fatal-flaw environmental impacts were found during a preliminary environmental review.

The proposed design is shown to be within the existing roadway right of way and is not anticipated to have right-of-way or access impacts.

The grade separation of FM 1405 at the Cedar Bayou Industrial Lead is estimated to cost \$24 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes. This potential project is included within the Texas State Rail Plan.

FM 565 at UPRR Cedar Bayou Industrial Lead

FM 565 (DOT #762810V) is currently a two-lane roadway with approximately 7,600 vehicles per day that crosses the railroad at-grade in the city of Baytown in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Cedar Bayou Industrial Lead. According to crash data collected over a five-year period, one crash occurred in the vicinity of the FM 565 at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay.

Based on a high-level utility review, utility adjustments for overhead distribution lines may be required for overpass construction. No fatal-flaw environmental impacts were found during a preliminary environmental review.

It is anticipated that the grade separation would not impact the FM 565/FM 1405 intersection but would require additional access to provide connectivity between FM 565 and adjacent businesses. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of FM 565 at the Cedar Bayou Industrial Lead is estimated to cost \$15 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes. This potential project is included within the Texas State Rail Plan, as well as HGAC planned projects. TXDOT’s Beaumont District started designs on this during this study and estimates to complete designs in four to five years. The project would be expected to let after designs are completed and would take an estimated 1.5 years to construct.

Union Pacific Railroad – Eureka Subdivision

The UPRR Eureka Subdivision is a predominately single-track railroad with sidings that runs between Tower 13 at the Houston Subdivision in Houston and Navasota, Texas and through Harris and Waller counties within the study area. Rail traffic on this subdivision is bidirectional with an average train count of approximately 4 trains per day. Other railroads do not have trackage rights along the Eureka Subdivision. The areas adjacent to the Eureka Subdivision’s right of way are typically urban/suburban in nature and for a significant portion of the route is along U.S. 290 and Hempstead Road.

Table 5.2.5 details the proposed improvements identified in this study on the UPRR Eureka Subdivision.

Table 5.2.5 Proposed Improvements on UPRR Eureka Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
743270B	Grade Separation	Long Point Rd	UP	Eureka	Harris	Houston

Grade Separations

Long Point Rd at UPRR Eureka Subdivision

Long Point Rd (DOT #743270B) is currently a three-lane roadway at the grade crossing with approximately 10,810 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Eureka Subdivision. According to crash data collected over a five-year period, seven crashes occurred in the vicinity of the Long Point Rd at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the Long Point Rd/Hempstead Rd intersection and would require traffic connectivity to adjacent properties and side streets. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Long Point Rd at the Eureka Subdivision is estimated to cost \$30 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

Union Pacific Railroad - Galveston Subdivision

The UPRR Galveston Subdivision is a predominately single-track railroad that runs between South GH&H Junction off the Houston West Belt Subdivision and Galveston, Texas and through Galveston and Harris counties. Rail traffic on this subdivision is bidirectional with an average train count of approximately 5 trains per day. Other railroads do not have trackage rights along the Galveston Subdivision. The Galveston Subdivision’s right of way typically abuts urban and suburban infrastructure and generally is aligned with SH 3.

Table 5.2.6 details the proposed improvements identified in this study on the UPRR Galveston Subdivision.

Table 5.2.6 Proposed Improvements on UPRR Galveston Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
	Railroad	Katy Neck Second Main	UP	Galveston	Harris	Houston
	Railroad	Shell Siding Extension	UP	Galveston	Harris	Dickinson

Railroad Capacity Enhancements

Katy Neck Second Main

The Katy Neck Second Main project is a 11,000 ft second mainline track between Katy Neck and Tower 85. When combined with the proposed Katy Neck connection, the project provides additional capacity enabling trains to bypass congestion on the HB&T West Belt Subdivision and reduces the number of blocked crossings. The proposed improvement location is shown in Appendix A as part of Scenario 7.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a long-range implementation timeframe for planning purposes.

Shell Siding Extension

The proposed Shell Siding Extension project extends the existing siding 8,000 ft to the east and 2,000 ft to the west, installs centralized traffic control and dispatcher control switches, and closes the existing at-grade crossings at Olive St (DOT #859558G) and a grade separate the at-grade crossing with FM 646 (DOT #859559N). The existing Shell Siding has limited utility since it is shorter than most of the trains and has hand thrown switches at each end, requiring a train to stop when before entering the siding. The improved Shell Siding provides a location between Galveston and Houston for trains to meet and sit outside the congested terminal if needed. The proposed improvement location is shown in Appendix A as part of Scenario 7.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a mid-range implementation timeframe for planning purposes.

Union Pacific Railroad – Glidden Subdivision

The UPRR Glidden Subdivision is a predominately double-track railroad that runs between West Junction on the Houston Subdivision and San Antonio (Kirby), Texas and through Fort Bend and Harris counties within the study area. Rail traffic on this subdivision is bidirectional with an average train count of approximately 34 trains per day. Amtrak and BNSF have trackage rights along this section of the Glidden Subdivision. In addition, KCS also has trackage rights along the Glidden Subdivision from Houston to Rosenberg. The areas adjacent to the Glidden Subdivision's right of way are typically urban or suburban along the route and for a significant portion of the route is along US 90A.

Table 5.2.7 details the proposed improvements identified in this study on the UPRR Glidden Subdivision.

Table 5.2.7 Proposed Improvements on UPRR Glidden Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
743689L	Grade Separation	S Gessner Rd	UP	Glidden	Fort Bend	Missouri City
743726L	Grade Separation	FM 3155/Collins Rd	UP	Glidden	Fort Bend	Richmond
743695P	Grade Separation	Kirkwood Rd	UP	Glidden	Fort Bend	Stafford
745044J	Grade Separation	S Dairy Ashford Rd	UP	Glidden	Fort Bend	Sugar Land
743699S	Grade Separation	Eldridge Rd	UP	Glidden	Fort Bend	Sugar Land
743716F	Grade Separation	Pitts Rd	UP	Glidden	Fort Bend	Sugar Land
743713K	Grade Separation	Harlem Rd	UP	Glidden	Fort Bend	Sugar Land
755624C	Grade Separation	Fondren Rd	UP	Glidden	Harris	Houston
755622N	Grade Separation	Hillcroft Ave	UP	Glidden	Harris	Houston
755621G	Grade Separation	Chimney Rock Rd	UP	Glidden	Harris	Houston
743725E	Crossing Closure	Morton St	UP	Glidden	Fort Bend	Richmond
745055W	Crossing Closure	Gillingham Ln	UP	Glidden	Fort Bend	Sugar Land
755623V	Crossing Closure	Haviland St	UP	Glidden	Harris	Houston

Table 5.2.7 Proposed Improvements on UPRR Glidden Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
	Railroad	Glidden Second Track - Harlem to Brazos River	UP	Glidden	Fort Bend	Rosenberg

Grade Separations

S Gessner Rd at UPRR Glidden Subdivision

S Gessner Rd (DOT #743689L) is currently a four-lane roadway with approximately 13,600 vehicles per day that crosses the railroad at-grade in the city of Missouri City in Fort Bend County. The identified grade separation location would separate vehicular traffic from the UPRR Glidden Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the S Gessner Rd at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the S Gessner Rd/US 90A intersection. US 90A is currently elevated over S Gessner Rd just south of the roadway-rail crossing with at-grade frontage roads and would provide an additional challenge for a grade separation for S Gessner Rd over the Glidden Subdivision. The grade separation would require traffic connectivity to adjacent properties as well as Industrial Drive and potentially other side streets. Additional impacts to properties adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of S Gessner Rd at the Glidden Subdivision is estimated to cost \$35 million. Based on known constraints, this project may be considered a long-range implementation timeframe for planning purposes.

FM 3155/Collins Rd at UPRR Glidden Subdivision

FM 3155/Collins Rd (DOT #743726L) is currently a five-lane roadway with approximately 11,720 vehicles per day that crosses the railroad at-grade in the city of Richmond in Fort Bend County. The identified grade separation location would separate vehicular traffic from the UPRR Glidden Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the FM 3155/Collins Rd at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay.

Based on a high-level utility review, there are not any major utilities identified for overpass construction. A cemetery within the grade separation area was identified during a preliminary environmental review that will require additional review during project design.

It is anticipated that the grade separation would impact the FM 3155/US 90A intersection. Access to adjacent properties and side streets along the grade separation are provided via access roads. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of FM 3155/Collins Rd at the Glidden Subdivision is estimated to cost \$30 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

Kirkwood Rd at UPRR Glidden Subdivision

Kirkwood Rd (DOT #743695P) is currently a six-lane roadway with approximately 18,980 vehicles per day that crosses the railroad at-grade in the city of Stafford in Fort Bend County. The identified grade separation location would separate vehicular traffic from the UPRR Glidden Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the Kirkwood Rd at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the Kirkwood Rd/US 90A intersection. US 90A is currently elevated over Kirkwood Ave just south of the roadway-rail crossing with at-grade frontage roads and would provide an additional challenge for a grade separation for Kirkwood Rd over the Glidden Subdivision. The grade separation would require traffic connectivity to adjacent businesses and Wright Rd. Additional impacts to properties adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Kirkwood Rd at the Glidden Subdivision is estimated to cost \$45 million. Based on known constraints, this project may be considered a long-range implementation timeframe for planning purposes.

S Dairy Ashford Rd at UPRR Glidden Subdivision

S Dairy Ashford Rd (DOT #745044J) is currently a six-lane roadway with approximately 17,390 vehicles per day that crosses the railroad at-grade in the city of Sugar Land in Fort Bend County. The identified grade separation location would separate vehicular traffic from the UPRR Glidden Subdivision. According to crash data collected over a five-year period, one crash occurred in the vicinity of the S Dairy Ashford Rd at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the S Dairy Ashford Rd/US 90A intersection. The grade separation would require traffic connectivity to adjacent properties, and additional impacts to properties adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of S Dairy Ashford Rd at the Glidden Subdivision is estimated to cost \$35 million. Based on known constraints, this project may be considered a long-range implementation timeframe for planning purposes.

Eldridge Rd at UPRR Glidden Subdivision

Eldridge Rd (DOT #743699S) is currently a five-lane roadway with approximately 12,800 vehicles per day that crosses the railroad at-grade in the city of Sugar Land in Fort Bend County. The identified grade separation location would separate vehicular traffic from the UPRR Glidden Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the Eldridge Rd at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, utility adjustments for overhead distribution lines may be required for overpass construction. A place of worship within the grade separation area was identified during a preliminary environmental review that will require additional review during project design.

It is anticipated that the grade separation would impact the Piedmont St and Neal Dr intersections. It is not anticipated that access to adjacent properties will be required via access roads. Additional impacts to properties adjacent to the proposed grade separation are anticipated to be limited based on initial review.

The grade separation of Eldridge Rd at the Glidden Subdivision is estimated to cost \$24 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

Pitts Rd at UPRR Glidden Subdivision

Pitts Rd (DOT #743716F) is currently a five-lane roadway with approximately 6,860 vehicles per day that crosses the railroad at-grade in the city of Sugar Land in Fort Bend County. The identified grade separation location would separate vehicular traffic from the UPRR Glidden Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the Pitts Rd at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, there are not any major utilities identified for overpass construction. No fatal-flaw environmental impacts were found during a preliminary environmental review.

It is anticipated that the grade separation would impact the Pitts Rd/US 90A intersection, and the proposed design shows utilization of the unpaved median area for an elevated intersection. Access to adjacent properties along the grade separation are provided via access roads, while access along US 90A is intended to remain the same. Additional impacts to properties adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Pitts Rd at the Glidden Subdivision is estimated to cost \$34 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

Harlem Rd at UPRR Glidden Subdivision

Harlem Rd (DOT #743713K) is currently a five-lane roadway with approximately 6,590 vehicles per day that crosses the railroad at-grade in the city of Sugar Land in Fort Bend County. The identified grade separation location would separate vehicular traffic from the UPRR Glidden Subdivision. According to crash data collected over a five-year period, one crash occurred in the vicinity of the Harlem Rd at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, there are not any major utilities identified for overpass construction. No fatal-flaw environmental impacts were found during a preliminary environmental review.

It is anticipated that the grade separation would impact the Harlem Rd/US 90A intersection, and the proposed design shows utilization of the unpaved median area for an elevated intersection. Access to adjacent properties along the grade separation are provided via access roads, while access along US 90A is intended to remain the same. Additional impacts to properties adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Harlem Rd at the Glidden Subdivision is estimated to cost \$30 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

Fondren Rd at UPRR Glidden Subdivision

Fondren Rd (DOT #755624C) is currently a six-lane roadway with approximately 21,935 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Glidden Subdivision. According to crash data collected over a five-year period, four crashes occurred in the vicinity of the Fondren Rd at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the Fondren Rd/US 90A intersection. US 90A is currently elevated over Fondren Rd just south of the roadway-rail crossing with at-grade frontage roads and would provide an additional challenge for a grade separation for Fondren Rd over the Glidden Subdivision. The grade separation would require traffic connectivity to adjacent properties and Hampton Circle. Additional impacts to properties adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Fondren Rd at the Glidden Subdivision is estimated to cost \$45 million. Based on known constraints, this project may be considered a long-range implementation timeframe for planning purposes.

Hillcroft Ave at UPRR Glidden Subdivision

Hillcroft Ave (DOT #755622N) is currently a four-lane roadway with approximately 16,315 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Glidden Subdivision. According to crash data collected over a five-year period, three crashes occurred in the vicinity of the Hillcroft Ave at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the Hillcroft Ave/US 90A intersection. US 90A is also currently elevated over Hillcroft Ave just south of the roadway-rail crossing and would provide an additional challenge for a grade separation for Hillcroft Ave over the Glidden Subdivision. The grade separation would require traffic connectivity to adjacent businesses and Greencraig Dr. Additional impacts to properties adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Hillcroft Ave at the Glidden Subdivision is estimated to cost \$30 million. Based on constraints and potential funding, this project may be considered a long-range timeframe for implementation.

Chimney Rock Rd at UPRR Glidden Subdivision

Chimney Rock Rd (DOT #755621G) is currently a five-lane roadway with approximately 5,618 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Glidden Subdivision. According to crash data collected over a five-year period, two crashes occurred in the vicinity of the Chimney Rock Rd at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the Chimney Rock Rd/US 90A intersection. US 90A is currently elevated over Chimney Rock Rd just south of the roadway-rail crossing with direct connector ramps between US 90A and south Chimney Rock Rd as well as at-grade frontage roads and would provide an additional challenge for a grade separation for Chimney Rock Rd over the Glidden Subdivision. The grade separation would require traffic connectivity to adjacent businesses and Southminster Dr. Additional impacts to properties adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Chimney Rock Rd at the Glidden Subdivision is estimated to cost \$35 million. Based on known constraints, this project may be considered a long-range implementation timeframe for planning purposes.

Crossing Closures

Morton St at UPRR Glidden Subdivision

Currently a two-lane roadway with an estimated 430 vehicles per day, Morton St (DOT #743725E) is an at-grade crossing in the city of Richmond in Fort Bend County. Morton St is proposed to be closed at the intersection with the UPRR Glidden Subdivision in order to eliminate the potential for crossing incidents at this at-grade crossing in concert with the proposed grade separation at FM 3155/Collins Rd. The location of the potential crossing closure and its alternative route are identified in Appendix B.

Access to adjacent properties along Morton St is anticipated to remain up to the grade crossing closure. The identified alternate route to this crossing location uses the proposed grade separation at FM 3155/Collins Rd, which is included as a grade separation candidate in this study. The use of Morton St traffic over a grade separation in lieu of an at-grade crossing eliminates potential vehicle and train conflicts and increases safety.

The crossing closure of Morton St at the Glidden Subdivision (not including the FM 3155/Collins Rd grade separation) is estimated to cost \$60,000. Implementation of the crossing closure is anticipated to coincide with the FM 3155/Collins Rd grade separation project.

Gillingham Ln at UPRR Glidden Subdivision

Gillingham Ln (DOT #745055W) is a two-lane roadway with an estimated 4750 vehicles per day at an at-grade crossing in the city of Sugar Land in Fort Bend County. Gillingham Ln is proposed to be closed at the intersection with the UPRR Glidden Subdivision in order to eliminate the potential for crossing incidents at this at-grade crossing in concert with the proposed grade separation at Eldridge Rd.

Access to adjacent properties along Gillingham Ln is anticipated to remain up to the grade crossing closure. The identified alternate route to this crossing location uses the proposed grade separation at Eldridge Rd, which is included as a grade separation candidate in this study. The use of Gillingham Ln traffic over a grade separation in lieu of an at-grade crossing eliminates potential vehicle and train conflicts and increases safety.

The crossing closure of Gillingham Ln at the Glidden Subdivision (not including the Eldridge Rd grade separation) is estimated to cost \$60,000. Implementation of the crossing closure is anticipated to coincide with the Eldridge Rd grade separation project.

Haviland St at UPRR Glidden Subdivision

Haviland St (DOT #755623V) is a two-lane roadway with an estimated 1700 vehicles per day at an at-grade crossing in the city of Houston in Harris County. Haviland St is proposed to be closed at the intersection with the UPRR Glidden Subdivision in order to eliminate the potential for crossing incidents at this at-grade crossing in concert with the proposed grade separation at Hillcroft Ave. The location of the potential crossing closure and its alternative route are identified in Appendix B.

Access to adjacent properties along Haviland St is anticipated to remain up to the grade crossing closure. The identified alternate route to this crossing location uses the proposed grade separation at Hillcroft Ave, which is included as a grade separation candidate in this study. The use of Haviland St traffic over a grade separation in lieu of an at-grade crossing eliminates potential vehicle and train conflicts and increases safety.

The crossing closure of Haviland St at the Glidden Subdivision (not including the Hillcroft Ave grade separation) is estimated to cost \$60,000. Implementation of the crossing closure is anticipated to coincide with the Hillcroft Ave grade separation project.

Railroad Capacity Enhancements

Glidden Second Track – Harlem to Brazos River

The Glidden Second Track project extends the existing Harlem Siding 9,000 ft to the west, 2,000 ft to the east, and the grade separation of two existing at-grade crossings, Pitts Rd (DOT #743716F), and Harlem Rd (DOT#743713K). The project connects to double track to the east, reducing the amount of single main on the heavily used segment between Rosenberg and Houston. The additional double tracks allows for shorter meets, increasing capacity for the trains coming to and from the BNSF Galveston, KCS Rosenberg and UPRR Glidden Subdivisions. The proposed improvement location is shown in Appendix A as part of Scenario 9.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a mid-range implementation timeframe for planning purposes.

Union Pacific Railroad – Harrisburg Subdivision

The UPRR Harrisburg Subdivision is a predominately single-track railroad that runs between West Junction off the Houston Subdivision and Harrisburg Junction on the Strang Subdivision in Houston, Texas and Harris County. Rail traffic on this subdivision is bidirectional with an average train count of approximately 4 to 14 trains per day. BNSF also has trackage rights along the Harrisburg Subdivision. The Harrisburg Subdivision’s right of way typically abuts urban residential and commercial properties and generally is aligned with Holmes Road and Griggs Road.

Table 5.2.8 details the proposed improvements identified in this study on the UPRR Harrisburg Subdivision.

Table 5.2.8 Proposed Improvements on UPRR Harrisburg Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
755327J	Grade Separation	Scott St	UP	Harrisburg	Harris	Houston
859544Y	Crossing Closure	Fennell St	UP	Harrisburg	Harris	Houston
	Railroad	Katy Neck NW Wye Connection	UP	Harrisburg	Harris	Houston
	Railroad	MLK Siding	UP	Harrisburg	Harris	Houston

Grade Separations

Scott St at UPRR Harrisburg Subdivision

Scott St (DOT #755327J) is currently a four-lane roadway with approximately 20,450 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Harrisburg Subdivision. According to crash data collected over a five-year period, six crashes occurred in the vicinity of the Scott St at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the Scott St/Holmes Rd intersection and potentially the I-610 eastbound frontage road and mainlines grade separation. The grade separation would require traffic connectivity to adjacent properties and side streets. Additional impacts to properties adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Scott St at the Harrisburg Subdivision is estimated to cost \$30 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

Crossing Closures

Fennell St at UPRR Harrisburg Subdivision

Currently a two-lane roadway with an estimated 240 vehicles per day, Fennell St (DOT #859544Y) is an at-grade crossing in the city of Houston in Harris County. Fennell Street is proposed to be closed at the intersection with the UPRR Harrisburg Subdivision in order to eliminate the potential for crossing incidents at this at-grade crossing in concert with the existing grade separation at Broadway St. The location of the potential crossing closure and its alternative route are identified in Appendix B.

Access to adjacent properties along Fennell St are anticipated to remain up to the grade crossing closure, and connectivity to the existing yard area may either be maintained through San Antonio St or through temporary closures with gates. The identified alternate route to this crossing location uses the existing grade separation at Broadway St. The use of Fennell St traffic over a grade separation in lieu of an at-grade crossing eliminates potential vehicle and train conflicts and increases safety.

The crossing closure of Fennell St at the Harrisburg Subdivision is estimated to cost \$60,000. This can be considered a near-term implementation timeframe since grade separation infrastructure is in place at Broadway St.

Railroad Capacity Enhancements

Katy Neck NW Wye Connection

The Katy Neck Wye project constructs a wye on the northwest quadrant of the Katy Neck junction between the UPRR Harrisburg and UPRR Galveston Subdivisions. The connection provides additional connectivity, enabling trains to bypass the congestion UPRR Houston West Belt Subdivision. This effort will require right-of-way acquisition, most of it in a recycling center. The proposed improvement location is shown in Appendix A as part of Scenario 7.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a mid-range implementation timeframe for planning purposes.

MLK Siding

This MLK Siding project constructs a 9,000 ft of siding west of T&NO Junction (Tower 81). The project provides a location for trains to stage or meet other trains coming from the HB&T West Belt Subdivision. The proposed improvement location is shown in Appendix A as part of Scenario 6.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a mid-range implementation timeframe for planning purposes.

Union Pacific Railroad – Houston Subdivision

The UPRR Houston Subdivision is a predominately double-track railroad within the Houston complex and single-track with sidings east of Houston that runs between West Junction of the Glidden Subdivision and Beaumont, Texas with KCS and through Hardin, Harris, Jefferson, and Liberty counties. Rail traffic on this subdivision is primarily westbound with an average train count of approximately 25 trains per day. BNSF, KCS, and Amtrak also have trackage rights along the Houston Subdivision. The areas adjacent to the Houston Subdivision's right of way are typically urban within the complex and suburban or rural through the rest of the route.

Table 5.2.9 details the proposed improvements identified in this study on the UPRR Houston Subdivision.

Table 5.2.9 Proposed Improvements on UPRR Houston Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
758534N	Grade Separation	N Shepherd Dr	UP	Houston	Harris	Houston
758513V	Grade Separation	Westheimer Rd	UP	Houston	Harris	Houston
758518E	Grade Separation	Bellaire Blvd	UP	Houston	Harris	Houston
758533G	Grade Separation	Durham St	UP	Houston	Harris	Houston
758512N	Grade Separation	San Felipe Rd	UP	Houston	Harris	Houston
912021M	Grade Separation	I-610 WB frontage rd	UP	Houston	Harris	Houston
912020F	Grade Separation	I-610 EB frontage rd	UP	Houston	Harris	Houston
758514C	Grade Separation	Richmond Ave	UP	Houston	Harris	Houston
762892E	Grade Separation	Sheldon Rd	UP	Houston	Harris	Houston
758517X	Grade Separation	Bissonnet St	UP	Houston	Harris	Houston
758519L	Grade Separation	Beechnut St	UP	Houston	Harris	Houston
762721D	Grade Separation	FM 364	UP	Houston	Jefferson	Beaumont
745074B	Crossing Closure	Oates Rd	UP	Houston	Harris	Houston
758284D	Crossing Closure	West St	UP	Houston	Harris	Houston
758532A	Crossing Closure	Roy St	UP	Houston	Harris	Houston

Table 5.2.9 Proposed Improvements on UPRR Houston Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
758535V	Crossing Closure	Parker St	UP	Houston	Harris	Houston
762852G	Crossing Closure	CR 601	UP	Houston	Liberty	Dayton
762853N	Crossing Closure	CR 602	UP	Houston	Liberty	Dayton
	Railroad	Englewood Third Main	UP	Houston	Houston	Harris
	Railroad	Englewood Arrival Track Expansion	UP	Houston	Houston	Harris
	Railroad	Second Mainline Track - Fauna to Crosby	UP	Houston	Houston	Harris
	Railroad	Englewood Connection Track	UP	Houston	Houston	Harris
	Railroad	Houston Subdivision Mainline Consolidation	UP	Houston	Houston	Harris
	Railroad	Dayton SE Wye Connection	UP	Houston	Liberty	Dayton
	Railroad	Dayton Siding Extension	UP	Houston	Liberty	Dayton

Grade Separations

N Shepherd Dr at UPRR Houston Subdivision

N Shepherd Dr (DOT #758534N) is currently a three-lane one-way roadway with approximately 18,470 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Houston Subdivision. According to crash data collected over a five-year period, four crashes occurred in the vicinity of the N Shepherd Dr at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the N Shepherd Dr and Maxie St, Eli St, Allen St, and Nett St intersections and would require traffic connectivity to adjacent businesses and side streets. This grade separation may be in concert with Durham Dr since these are one-way pairs. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of N Shepherd Dr at the Houston Subdivision is estimated to cost \$25 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

Westheimer Rd at UPRR Houston Subdivision

Westheimer Rd (DOT #758513V) is currently a five-lane roadway with approximately 15,730 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Houston Subdivision. According to crash data collected over a five-year period, two crashes occurred in the vicinity of the Westheimer Rd at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would require access roads to provide connectivity to businesses and side streets along the grade separation. Similarly, impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Westheimer Rd at the Houston Subdivision is estimated to cost \$35 million. Based on known constraints, this project may be considered a long-range implementation timeframe for planning purposes.

Bellaire Blvd at UPRR Houston Subdivision

Bellaire Blvd (DOT #758518E) is currently a six-lane roadway with approximately 32,940 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR

Houston Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the Bellaire Blvd at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would require access road along the grade separation to provide traffic connectivity to adjacent businesses and side streets. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements. A major transmission corridor adjacent to the tracks may impact design.

The grade separation of Bellaire Blvd at the Houston Subdivision is estimated to cost \$40 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

Durham St at UPRR Houston Subdivision

Durham St (DOT #758533G) is currently a four-lane one-way roadway with approximately 20,710 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Houston Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the Durham St at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the Durham St and Maxie St, Eli St, Allen St, Schuler St, and Nett St intersections and would require traffic connectivity to adjacent businesses and side streets. This grade separation may be in concert with N Shepherd Dr since these are one-way pairs. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Durham St at the Houston Subdivision is estimated to cost \$25 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

San Felipe Rd at UPRR Houston Subdivision

San Felipe Rd (DOT #758512N) is currently a four-lane roadway with approximately 27,700 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Houston Subdivision. According to crash data collected over a five-year period, one crash occurred in the vicinity of the San Felipe Rd at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would require access road along the grade separation to provide traffic

connectivity to adjacent businesses, residences, and side streets. Additional impacts to businesses and residences adjacent to the proposed grade separation may occur due to right-of-way and access requirements. A major transmission corridor adjacent to the tracks may impact design.

The grade separation of San Felipe Rd at the Houston Subdivision is estimated to cost \$25 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

I-610 WB Frontage Rd at UPRR Houston Subdivision

The I-610 WB Frontage Rd (DOT #912021M) is currently a two-lane one-way roadway with approximately 21,050 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Houston Subdivision. According to crash data collected over a five-year period, one crash occurred in the vicinity of the I-60 WB Frontage Rd at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would have minimal impacts to adjacent properties and side streets. This grade separation may be in concert with I-610 EB frontage road since they are one-way pairs. Additional impacts to properties adjacent to the proposed grade separation may be minimal due to right-of-way requirements. A major transmission corridor adjacent to the tracks may impact design.

The grade separation of the I-610 WB Frontage Rd at the Houston Subdivision is estimated to cost \$15 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

I-610 EB Frontage Rd at UPRR Houston Subdivision

The I-610 EB Frontage Rd (DOT #912020F) is currently a two-lane one-way roadway with approximately 20,330 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Houston Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the I-60 EB Frontage Rd at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the I-610 EB Frontage Rd/Bassoon Dr intersection. This grade separation may be in concert with I-610 WB frontage road since they are one-way pairs. Additional impacts to properties adjacent to the proposed grade separation may be minimal due to right-of-way requirements. A major transmission corridor adjacent to the tracks may impact design.

The grade separation of the I-610 EB Frontage Rd at the Houston Subdivision is estimated to cost \$15 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

Richmond Ave at UPRR Houston Subdivision

Richmond Ave (DOT #758514C) is currently a six-lane roadway with approximately 21,360 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Houston Subdivision. According to crash data collected over a five-year period, one crash occurred in the vicinity of the Richmond Ave at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, utility adjustments for a major overhead transmission corridor, overhead distribution lines, and a 66-inch waterline may be required for overpass construction. No environmental fatal flaws were identified during a preliminary environmental review that would require additional review during project design.

It is anticipated that the grade separation would impact connections between Richmond Ave and Mid Ln/Drexel Dr and would require additional access to provide connectivity for those streets. Similarly, access to adjacent businesses along the grade separation are provided via access roads. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Richmond Ave at the Houston Subdivision is estimated to cost \$42 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

Sheldon Rd at UPRR Houston Subdivision

Sheldon Rd (DOT #762892E) is currently a four-lane roadway with approximately 7,740 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Houston Subdivision. According to crash data collected over a five-year period, three crashes occurred in the vicinity of the Sheldon Rd at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, utility adjustments for overhead transmission/distribution lines and gas pipelines may be required for overpass construction. No

environmental fatal flaws were identified during a preliminary environmental review that would require additional review during project design.

It is anticipated that the grade separation would impact the Sheldon Road/US 90 intersection and would require an elevated intersection since US 90 and the Houston Subdivision are parallel and adjacent. Access to adjacent businesses along the grade separation are provided via access roads and roadway connections. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Sheldon Rd at the Houston Subdivision is estimated to cost \$43 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

Bissonnet St at UPRR Houston Subdivision

Bissonnet St (DOT #758517X) is currently a four-lane roadway with approximately 19,370 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Houston Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the Bissonnet St at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the Bissonnet St/Community Dr intersection and would require traffic connectivity to adjacent residences, businesses, and side streets. Additional impacts to residences and businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements. A major transmission corridor adjacent to the tracks may impact design.

The grade separation of Bissonnet St at the Houston Subdivision is estimated to cost \$25 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

Beechnut St at UPRR Houston Subdivision

Beechnut St (DOT #758519L) is currently a four-lane roadway with approximately 13,250 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Houston Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the Beechnut St at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would require traffic connectivity to adjacent businesses, residences, and side streets. Additional impacts to residences and businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements. A major transmission corridor adjacent to the tracks may impact design.

The grade separation of Beechnut St at the Houston Subdivision is estimated to cost \$25 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

FM 364/S Major Dr at UPRR Houston Subdivision

FM 364/S Major Dr (DOT #762721D) is currently a four-lane roadway with approximately 15,100 vehicles per day that crosses the railroad at-grade in the city of Beaumont in Jefferson County. The identified grade separation location would separate vehicular traffic from the UPRR Houston Subdivision. According to crash data collected over a five-year period, three crashes occurred in the vicinity of the FM 364/S Major Dr at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the FM 364/US 90 intersection and would require traffic connectivity to adjacent businesses and side streets. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of FM 364/S Major Dr at the Houston Subdivision is estimated to cost \$35 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

Crossing Closures

Oates Rd at UPRR Houston Subdivision

Currently a two-lane roadway with an estimated 1,560 vehicles per day, Oates Rd (DOT #745074B) is an at-grade crossing in the city of Houston in Harris County. Oates St is proposed to be closed at the intersection with the UPRR Houston Subdivision in order to eliminate the potential for crossing incidents at this at-grade crossing in concert with the proposed roadway improvements and an existing grade separation at Mesa Dr. The location of the potential crossing closure and its alternative route are identified in Appendix B.

Access to properties served by Oates Rd are anticipated to remain up to the grade crossing closure or provided by an extension of Spikewood Dr. The identified alternate route to this crossing location uses the existing grade separation at Mesa Dr. The use of Oates Rd traffic

over a grade separation in lieu of an at-grade crossing eliminates potential vehicle and train conflicts and increases safety.

The crossing closure of Oates Rd at the Houston Subdivision is estimated to cost \$60,000 (not including the associated Spikewood Dr extension). This can be considered a near-term implementation timeframe due to anticipated coordination with landowners.

West St at UPRR Houston Subdivision

West St (DOT #758284D) is a two-lane roadway with an estimated 310 vehicles per day at an at-grade crossing in the city of Houston in Harris County. West St is proposed to be closed at the intersection with the UPRR Houston Subdivision and HB&T West Belt Subdivision to eliminate the potential for crossing incidents at this at-grade crossing in concert with a proposed grade separation at Lyons Ave and use of the existing grade separation at Jensen Dr. The location of the potential crossing closure and its alternative route are identified in Appendix B.

Access to adjacent properties along West St are anticipated to remain up to the grade crossing closure and through an extension of Opelousas St. The identified alternate route to this crossing location uses the proposed grade separation at Lyons Ave and the existing grade separation at Jensen Dr. The use of West St traffic over a grade separation in lieu of an at-grade crossing eliminates potential vehicle and train conflicts and increases safety.

The crossing closure of West St at the Houston Subdivision and HB&T West Belt Subdivision is estimated to cost \$60,000 (not including the Lyons Ave grade separation). Implementation of the crossing closure is anticipated to coincide with the Lyons Ave grade separation project and additional railroad improvements.

Roy St at UPRR Houston Subdivision

Currently a two-lane roadway with an estimated 2,560 vehicles per day, Roy St (DOT #758532A) is an at-grade crossing in the city of Houston in Harris County. Roy St is proposed to be closed at the intersection with the UPRR Houston Subdivision in order to eliminate the potential for crossing incidents at this at-grade crossing in concert with the proposed grade separations at Shepherd Dr and Durham Dr. The location of the potential crossing closure and its alternative route are identified in Appendix B.

Access to adjacent properties along Roy St are anticipated to remain up to the grade crossing closure. The identified alternate route to this crossing location uses the proposed grade separations at Shepherd Dr and Durham Dr, which are included as grade separation candidates in this study. The use of Roy St traffic over a grade separation in lieu of an at-grade crossing eliminates potential vehicle and train conflicts and increases safety.

The crossing closure of Roy St at the Houston Subdivision is estimated to cost \$60,000 (not including the Shepherd Dr and Durham Dr grade separations). Implementation of the crossing closure is anticipated to coincide with the Shepherd Dr and Durham Dr grade separation projects.

Parker St at UPRR Houston Subdivision

Parker St (DOT #758535V) is a two-lane roadway with an estimated 270 vehicles per day at an at-grade crossing in the city of Houston in Harris County. Parker St is proposed to be closed at the intersection with the UPRR Houston Subdivision in order to eliminate the potential for crossing incidents at this at-grade crossing in concert with the proposed grade separations at Shepherd Dr and Durham Dr. The location of the potential crossing closure and its alternative route are identified in Appendix B.

Access to adjacent properties along Parker St are anticipated to remain up to the grade crossing closure. The identified alternate route to this crossing location uses the proposed grade separations at Shepherd Dr and Durham Dr, which are included as grade separation candidates in this study. The use of Parker St traffic over a grade separation in lieu of an at-grade crossing eliminates potential vehicle and train conflicts and increases safety.

The crossing closure of Parker St at the Houston Subdivision is estimated to cost \$60,000 (not including the Shepherd Dr and Durham Dr grade separations). Implementation of the crossing closure is anticipated to coincide with the Shepherd Dr and Durham Dr grade separation projects.

CR 601 at UPRR Baytown Subdivision

Currently a two-lane roadway with an estimated 440 vehicles per day, County Road (CR) 601 (DOT #762852G) is an at-grade crossing in the city of Dayton in Liberty County. CR 601 is proposed to be closed at the intersection with the UPRR Houston Subdivision in order to eliminate the potential for crossing incidents at this at-grade crossing in concert with the proposed grade separation at US 90 and additional railroad improvements.

Access to adjacent properties along CR 601 are anticipated to remain up to the grade crossing closure. The anticipated alternate route to this crossing location may use the proposed at-grade crossing at Waco Street.

The crossing closure of CR 601 at the Houston Subdivision is estimated to cost \$60,000. Implementation of the crossing closure is anticipated to coincide with the US 90 grade separation project and additional railroad improvements included in the Dayton Siding Extension and Dayton SE Wye Connection projects.

CR 602 at UPRR Baytown Subdivision

County Road (CR) 602 (DOT #762853N) is a two-lane roadway with an estimated 1300 vehicles per day at an at-grade crossing in the city of Dayton in Liberty County. CR 602 is proposed to be closed at the intersection with the UPRR Houston Subdivision in order to eliminate the potential for crossing incidents at this at-grade crossing in concert with the proposed grade separation at US 90 and additional railroad improvements.

Access to adjacent properties along CR 602 are anticipated to remain up to the grade crossing closure. The anticipated alternate route to this crossing location may use the proposed at-grade crossing at CR 603.

The crossing closure of CR 602 at the Houston Subdivision is estimated to cost \$60,000. Implementation of the crossing closure is anticipated to coincide with the US 90 grade separation project and additional railroad improvements included in the Dayton Siding Extension and Dayton SE Wye Connection projects.

Railroad Capacity Enhancements

Englewood Third Main

The Englewood Third Main project adds a 16,000 ft third main between Tower 26 and Tower 87 next to the Englewood Yard. The track provides additional capacity in an area where trains crew change, switch cars in the yard, and travel in both directions. The proposed improvement location is shown in Appendix A as part of Scenario 2.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a mid-range implementation timeframe for planning purposes.

Englewood Arrival Track Expansion

The Englewood Arrival Track Expansion project extends tracks in the existing Englewood Yard. The track extensions necessitate the closure of the Bringhurst Intermodal Yard and relocation of its current traffic to the Settegast Intermodal Yard. The longer tracks allow for trains to arrive or prepare to depart without needing to “double over” the process of splitting a train into two tracks that blocks the entrances to the yards and the mainline. This improvement may require right-of-way acquisition in a residential area. The proposed improvement location is shown in Appendix A as part of Scenario 1.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a long-range implementation timeframe for planning purposes.

Second Mainline Track – Fauna to Crosby

This project adds four miles of track connecting the existing Fauna and Crosby sidings and providing a continuous two-track segment of 13 miles. The project provides locations clear of at-grade crossings to hold trains and provides additional capacity for trains to pass each other, especially important with Amtrak. The proposed improvement location is shown in Appendix A as part of Scenario 4.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a long-range implementation timeframe for planning purposes.

Englewood Connection Track

The Englewood Connection Track project adds track to improve the connection in the southeast quadrant of the junction between UPRR Houston East Belt and Houston Subdivisions at Tower 87. Trains currently must travel at restricted speed through Englewood Yard, blocking yard movements. The improved connection will allow trains to exit the mainlines quicker and allows for yard movements to continue unimpeded. Right-of way acquisition is expected as part of this effort. The proposed improvement location is shown in Appendix A as part of Scenario 2.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a mid-range implementation timeframe for planning purposes.

Houston Subdivision Mainline Consolidation

The Houston Subdivision Mainline Consolidation concept includes track realignment, removal of tracks, and relocation of the Amtrak Houston downtown station on the UPRR Houston Subdivision between Chaney Junction and Tower 26. Portions of the existing freight (9,000 ft) and passenger main tracks (8,000 ft), including 12 at-grade crossings will be permanently closed. The remaining tracks would be realigned creating a new alignment through the I-10/I-45 corridor. As part of this effort, the Amtrak Houston downtown station is proposed to be relocated about 5,000 ft east of its current location near the Houston Metro Burnett Transit Center. The new alignment provides a location clear of at-grade crossings for

trains to sit when there is congestion in the terminal. Right-of-way acquisition would be required for this project. The proposed improvement location is shown in Appendix A as part of Scenario 3.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a near-term implementation timeframe for planning purposes due to various roadway and drainage projects in the area that may benefit from this new alignment. This concept has minimal benefits from a rail perspective, but various public benefits, so this will require a coordinated effort by public agencies to identify funding for this project.

Dayton SE Wye Connection

For US 90 to be grade-separated to eliminate train-vehicle conflicts at the roadway. The Dayton SE Wye project relocates the existing connection between the UPRR Baytown and UPRR Houston Subdivisions, adding a new wye track. The primary train movement from the Baytown to Houston Subdivision is a west bound move. For a couple of trains that move east, the existing configuration requires trains to shove from the Baytown Subdivision and reversing direction to travel east of the UPRR Houston Subdivision. The improvements allow for progressive train movements without any delay of a turnaround move.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a near-term implementation timeframe for planning purposes due to anticipated funding commitments.

Dayton Siding Extension

The Dayton Siding Extension project extends the existing Dayton Siding 4,000 ft to the south and closes two existing at-grade crossings at CR 602 (DOT #762853N) and CR 601 (DOT #762852G) to replace lost rail capacity from the new wye connection. The project is required to replace lost capacity in UPRR's Old Dayton Yard for the rail relocation and would coincide with the Dayton SE Wye Connection project and increases the length of the siding that can be used to hold trains clear of at-grade crossings as part of this proposed effort. The proposed improvement location is shown in Appendix A as part of Scenario 4.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a near-term implementation timeframe for planning purposes due to anticipated public funding commitments.

HB&T – Houston East Belt Subdivision

HB&T is a 50/50 joint ownership between BNSF & UPRR. The HB&T Houston East Belt Subdivision is a predominately double-track railroad that runs between the Houston West Belt Subdivision and HB&T tracks in Houston and Harris County. Rail traffic on this subdivision is bidirectional with an average train count of approximately 20 to 40 trains per day. BNSF and UPRR operate on the HB&T Houston East Belt Subdivision. The Houston East Belt Subdivision’s right of way is generally within urbanized commercial and industrial areas.

Table 5.2.10 details the proposed improvements identified in this study on the UPRR Houston East Belt Subdivision.

Table 5.2.10 Proposed Improvements on HB&T Houston East Belt Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
	Railroad	Second Mainline - Buffalo Bayou	HB&T	East Belt	Harris	Houston
	Railroad	Settegast Intermodal Yard Expansion	HB&T	East Belt	Harris	Houston

Railroad Capacity Enhancements

Second Mainline – Buffalo Bayou

The Buffalo Bayou Second Main project constructs a double track bridge over Buffalo Bayou. The new bridge removes the only single-track bottleneck on the HB&T Houston East Belt Subdivision between Tower 85 and Tower 86. This improvement eliminates delays caused by trains waiting for an opposing train to cross the bridge which would reduce blocked crossings in this area. The proposed improvement location is shown in Appendix A as part of Scenario 2.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a long-range implementation timeframe for planning purposes.

Settegast Intermodal Expansion

The Settegast Intermodal Expansion project adds new tracks and extends the existing tracks in the Settegast Intermodal Yard, removing existing yards tracks. This will increase the

intermodal capacity and reduce the classification capacity of the yard. This project is proposed to be completed in conjunction with the Englewood Arrival Track Expansion project which will create additional classification capacity and close the Bringhurst Intermodal Yard. The longer intermodal tracks will result in fewer trains needing to “double in” or “double out,” the process of breaking a train into or building a train from multiple tracks and reduce the number of blocked vehicle crossings. No right-of-way acquisition is expected for this effort. The proposed improvement location is shown in Appendix A as part of Scenario 1.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a long-range implementation timeframe for planning purposes.

Union Pacific Railroad – Lafayette Subdivision

The UPRR Lafayette Subdivision is a predominately single-track railroad with limited sidings that runs between Beaumont, Texas and Iowa Junction east of Lake Charles, Louisiana and through Jefferson and Orange counties within the study area. Rail traffic on this subdivision is primarily eastbound with an average train count of approximately 21 trains per day. BNSF also has trackage rights along this section of the Lafayette Subdivision. The Lafayette Subdivision’s right of way is generally within rural areas except through towns along the route.

Table 5.2.11 details the proposed improvements identified in this study on the UPRR Lafayette Subdivision.

Table 5.2.11 Proposed Improvements on UPRR Lafayette Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
762719C	Crossing Closure	Langham Rd	UP	Lafayette	Jefferson	Beaumont
	Railroad	Beaumont Yard Bypass	UP	Lafayette	Jefferson	Beaumont

Crossing Closures

Langham Rd at UPRR Lafayette Subdivision

Langham Rd (DOT #762719C) is a two-lane roadway with an estimated 1,510 vehicles per day at an at-grade crossing in the city of Beaumont in Jefferson County. Langham Rd is proposed to be closed at the intersection with the UPRR Lafayette Subdivision in order to

eliminate the potential for crossing incidents at this at-grade crossing in concert with an existing grade separation at Dowlen Rd and additional railroad improvements.

Access to adjacent properties along Langham Rd are anticipated to remain up to the grade crossing closure. The anticipated alternate route to this crossing location may use the existing grade separation at Dowlen Rd.

The crossing closure of Langham Rd at the Lafayette Subdivision is estimated to cost \$60,000. Implementation of the crossing closure is anticipated to coincide with the Beaumont Yard Bypass project.

Railroad Capacity Enhancements

Beaumont Yard Bypass

This project adds a 11,000 ft third mainline next to Beaumont Yard and includes the closure of the existing at-grade crossing at Langham Rd (DOT #76271C). This area is the junction of the UPRR Lafayette, UPRR Beaumont, UPRR Houston, UPRR Sabine Industrial Lead, BNSF Silsbee and KCS Beaumont Subdivisions. This will improve fluidity for train crews changing, working at UPRR Sunnyside Yard, and connecting between the railroads. The proposed improvement location is shown in Appendix A as part of Scenario 4.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

The Beaumont Yard bypass on the Lafayette Subdivision may be considered a mid-range implementation timeframe for planning purposes.

Union Pacific Railroad – Lufkin Subdivision

The UPRR Lufkin Subdivision is a single-track railroad with limited sidings that runs between the Houston West Belt Subdivision and Shreveport, Louisiana and through Harris, Liberty, and Montgomery counties within the study area. Rail traffic on this subdivision is primarily southbound with an average train count of approximately 9 trains per day. BNSF also has trackage rights along this section of the Lufkin Subdivision. The areas adjacent to the Lufkin Subdivision's right of way are typically urban/suburban within Harris County and suburban/rural north of the county line.

Table 5.2.12 details the proposed improvements identified in this study on the UPRR Lufkin Subdivision.

Table 5.2.12 Proposed Improvements on UPRR Lufkin Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
755863C	Grade Separation	Mt Houston Rd	UP	Lufkin	Harris	Houston
758750G	Grade Separation	Tidwell Rd	UP	Lufkin	Harris	Houston
758757E	Grade Separation	Little York Rd	UP	Lufkin	Harris	Houston
755876D	Grade Separation	Kingwood Dr	UP	Lufkin	Montgomery	Houston
	Railroad	Tower 76 Wye Connection	UP	Lufkin	Harris	Houston

Grade Separations

Mt Houston Rd at UPRR Lufkin Subdivision

Mt Houston Rd (DOT #427962W) is currently a two-lane roadway with approximately 17,920 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Lufkin Subdivision. According to crash data collected over a five-year period, two crashes occurred in the vicinity of the Mt Houston Rd at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, utility adjustments for overhead distribution lines and waterlines may be required for overpass construction. A place of worship within the grade separation limits was identified during a preliminary environmental review that will require additional review during project design.

It is anticipated that the grade separation would impact the Mt Houston Rd/Hirsch Rd and Mt Houston Rd/Varnell St intersections and would require access roads to provide connectivity between those intersections. Similarly, access to adjacent properties and side streets along the grade separation are provided via access roads. Additional impacts to businesses and residences adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Mt Houston Rd at the Lufkin Subdivision is estimated to cost \$18 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

Tidwell Rd at UPRR Lufkin Subdivision

Tidwell Rd (DOT #758750G) is currently a four-lane roadway with approximately 19,210 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Lufkin Subdivision. According to crash data collected over a five-year period, one crash occurred in the vicinity of the Tidwell Rd at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, utility adjustments for overhead distribution lines, waterlines, and sanitary sewer lines may be required for overpass construction. A place of worship within the grade separation area was identified during a preliminary environmental review that will require additional review during project design.

It is anticipated that the grade separation would impact the Tidwell Rd/Hirsch Rd and Tidwell Rd/Lundy Rd intersections and would require access roads to provide connectivity between those intersections. Similarly, access to adjacent properties and side streets along the grade separation are provided via access roads. Additional impacts to businesses and residences adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Tidwell Rd at the Lufkin Subdivision is estimated to cost \$25 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

Little York Rd at UPRR Lufkin Subdivision

Little York Rd (DOT #758757E) is currently a four-lane roadway with approximately 19,610 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Lufkin Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the Little York Rd at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, utility adjustments for overhead transmission/distribution lines and a gas pipeline may be required for overpass construction. No

environmental fatal flaws were identified during a preliminary environmental review that would require additional review during project design.

It is anticipated that the grade separation would impact the Little York Rd/Hirsch Rd intersection and would require additional access to provide connectivity between Hirsch Rd and Little York Rd. Similarly, access to adjacent properties and side streets along the grade separation are provided via access roads. Additional impacts to businesses adjacent to the proposed grade separation and the Little York Rd/Hirsch Rd connection may occur due to right-of-way and access requirements.

The grade separation of Little York Rd at the Lufkin Subdivision is estimated to cost \$30 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

Kingwood Dr at UPRR Lufkin Subdivision

Kingwood Dr (DOT #755876D) is currently a four-lane roadway with approximately 40,180 vehicles per day that crosses the railroad at-grade in the city of Houston in Montgomery County. The identified grade separation location would separate vehicular traffic from the UPRR Lufkin Subdivision. According to crash data collected over a five-year period, two crashes occurred in the vicinity of the Kingwood Dr at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, utility adjustments for overhead distribution lines may be required for overpass construction. No environmental fatal flaws were identified during a preliminary environmental review that would require additional review during project design.

It is anticipated that the grade separation would impact the Kingwood Dr/Loop 494 and Kingwood Dr/Royal Forest Dr intersections and would require access roads to provide connectivity between those intersections. Similarly, access to adjacent properties and side streets along the grade separation are provided via access roads. Additional impacts to properties adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Kingwood Dr at the Lufkin Subdivision is estimated to cost \$33 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

Railroad Capacity Enhancements

Tower 76 Wye Connection

The Tower 76 Wye project adds a northeast eye connection at Tower 76. This improvement allows for trains coming from the Lufkin Subdivision to enter Settegast Yard more directly without traveling through the congested terminal area and reduce the number of blocked crossings. This effort will require right-of-way acquisition in a residential area. The proposed improvement location is shown in Appendix A as part of Scenario 2.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a mid-range implementation timeframe for planning purposes.

Union Pacific Railroad – Navasota Subdivision

The UPRR Navasota Subdivision is a predominately single-track railroad with sidings that runs between Spring Junction on the Palestine Subdivision and Valley Junction at the Austin Subdivision near Hearne, Texas and through Harris, Montgomery, and Waller counties within the study area. Rail traffic on this subdivision is bidirectional with an average train count of approximately 16 trains per day. Other railroads do not have trackage rights along this segment of the Navasota Subdivision. The Navasota Subdivision’s right of way is generally suburban in Harris County and rural in other areas except through towns along the route.

Table 5.2.13 details the proposed improvements identified in this study on the UPRR Navasota Subdivision.

Table 5.2.13 Proposed Improvements on UPRR Navasota Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
430076S	Grade Separation	Kuykendahl Rd	UP	Navasota	Harris	Spring
	Railroad	Hufsmith Second Track	UP	Navasota	Harris	Spring

Grade Separations

Kuykendahl Rd at UPRR Navasota Subdivision

Kuykendahl Rd (DOT #430076S) is currently a four-lane roadway with approximately 13,290 vehicles per day that crosses the railroad at-grade in the city of Spring in Harris County. The

identified grade separation location would separate vehicular traffic from the UPRR Navasota Subdivision. According to crash data collected over a five-year period, seven crashes occurred in the vicinity of the Kuykendahl Rd at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, utility adjustments for overhead transmission/distribution lines may be required for overpass construction. No environmental fatal flaws were identified during a preliminary environmental review that would require additional review during project design.

It is anticipated that the grade separation would impact the Kuykendahl Rd/Hufsmith Kuykendahl Rd intersection and would require access roads to provide connectivity to the intersection. Similarly, access to adjacent properties and side streets along the grade separation are provided via access roads. Additional impacts to properties adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Kuykendahl Rd at the Navasota Subdivision is estimated to cost \$47 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

Railroad Capacity Enhancements

Hufsmith Second Track

The Hufsmith Second Track project adds a 9-mile long second track and adds a grade separation at the existing at-grade crossing at Kuykendahl Rd (DOT #430076S) between Hufsmith Siding and Spring Junction on the UPRR Navasota Subdivision. This project allows for trains to meet and pass without any delays and a location to hold trains without blocking any vehicular crossings when there is congestion on the Palestine Subdivision. The proposed improvement location is shown in Appendix A as part of Scenario 8.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a mid-range implementation timeframe for planning purposes.

Union Pacific Railroad – Palestine Subdivision

The UPRR Palestine Subdivision is a single-track railroad with limited sidings that runs between the North Junction at the HB&T Houston West Belt Subdivision and Longview, Texas and through Harris and Montgomery counties within the study area. Rail traffic on

this subdivision is primarily northbound with an average train count that ranges between 9 and 30 trains per day depending on segment. BNSF also has trackage rights along this section of the Palestine Subdivision. The areas adjacent to the Palestine Subdivision’s right of way are typically urban/suburban within Harris County and suburban/rural north of the county line.

Table 5.2.14 details the proposed improvements identified in this study on the UPRR Palestine Subdivision.

Table 5.2.14 Proposed Improvements on UPRR Palestine Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
448400J	Grade Separation	E Richey Rd	UP	Palestine	Harris	Spring
427257T	Grade Separation	Rankin Rd	UP	Palestine	Harris	Houston
435486H	Grade Separation	SH 105/Phillips St	UP	Palestine	Montgomery	Conroe
427259G	Crossing Closure	Westfield Loop Rd	UP	Palestine	Harris	Spring
435487P	Crossing Closure	Lewis St	UP	Palestine	Montgomery	Conroe
435484U	Crossing Closure	Avenue A	UP	Palestine	Montgomery	Conroe
	Railroad	Westfield Auto Facility Yard Tracks Extension	UP	Palestine	Harris	Spring
	Railroad	Hardy Third Main	UP	Palestine	Harris	Houston

Grade Separations

E Richey Rd at UPRR Palestine Subdivision

E Richey Rd (DOT #448400J) is currently a four-lane roadway with approximately 14,900 vehicles per day that crosses the railroad at-grade in the city of Spring in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Palestine Subdivision. According to crash data collected over a five-year period, three crashes occurred in the vicinity of the E Richey Rd at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the E Richey Rd/Hardy Rd intersection and the elevated Hardy Toll Road west of the crossing. The grade separation would require traffic connectivity to the intersections, adjacent properties, and side streets through possible access roads. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of E Richey Rd at the Palestine Subdivision is estimated to cost \$35 million. Based on known constraints, this project may be considered a long-range implementation timeframe for planning purposes.

Rankin Rd at UPRR Palestine Subdivision

Rankin Rd (DOT #427257T) is currently a four-lane roadway with approximately 16,560 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the UPRR Palestine Subdivision. According to crash data collected over a five-year period, five crashes occurred in the vicinity of the Rankin Rd at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, utility adjustments for overhead distribution lines and waterlines may be required for overpass construction. No environmental fatal flaws were identified during a preliminary environmental review that would require additional review during project design.

It is anticipated that the grade separation would impact the Rankin Rd/Hardy Rd intersection and would require additional access to provide connectivity between Hardy Rd and Rankin Rd. Similarly, access to adjacent properties and side streets along the grade separation are provided via access roads. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Rankin Rd at the Palestine Subdivision is estimated to cost \$28 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

SH 105/Phillips St at UPRR Palestine Subdivision

SH 105/Phillips St (DOT #435486H) is currently a two-lane one-way roadway with approximately 22,000 vehicles per day that crosses the railroad at-grade in the city of

Conroe in Montgomery County. The identified grade separation location would separate vehicular traffic from the UPRR Palestine Subdivision. According to crash data collected over a five-year period, five crashes occurred in the vicinity of the SH 105/Phillips St at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the SH 105/Phillips St westbound grade separation would be in concert with an eastbound grade separation at SH 105/Davis St. It is also anticipated that the grade separation would impact the SH 105 intersections at 1st St, Pacific St, and Main St and would require traffic connectivity to adjacent properties and side streets. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of SH 105/Phillips St (without including Davis St) at the Palestine Subdivision is estimated to cost \$15 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

Crossing Closures

Westfield Loop Rd at UPRR Palestine Subdivision

Westfield Loop Rd (DOT #427259G) is a two-lane roadway with an estimated 6,190 vehicles per day at an at-grade crossing in the city of Spring in Harris County. Westfield Loop Rd is proposed to be closed at the intersection with the UPRR Palestine Subdivision in order to accommodate additional railroad improvements detailed in Appendix B.

Access to adjacent properties along Westfield Loop Rd are anticipated to remain up to the grade crossing closure. The anticipated alternate route to this crossing location may use the existing at-grade crossing at Humble Westfield Rd.

The crossing closure of Westfield Loop Rd at the Palestine Subdivision is estimated to cost \$60,000. Implementation of the crossing closure is anticipated to coincide with the Westfield Auto Facility Yard Tracks extension.

Lewis St at UPRR Palestine Subdivision

Currently a two-lane roadway with an estimated 3,180 vehicles per day, Lewis St (DOT #435487P) is an at-grade crossing in the city of Conroe in Montgomery County. Lewis St is proposed to be closed at the intersection with the UPRR Palestine Subdivision in order to eliminate the potential for crossing incidents at this at-grade crossing in concert with the proposed grade separations at SH 105. The location of the potential crossing closure and its alternative route are identified in Appendix B.

Access to adjacent properties along Lewis St are anticipated to remain up to the grade crossing closure. The identified alternate route to this crossing location uses the proposed grade separations at SH 105, which are included as grade separation candidates in this study. The use of Lewis St traffic over a grade separation in lieu of an at-grade crossing eliminates potential vehicle and train conflicts and increases safety.

The crossing closure of Lewis St at the Palestine Subdivision is estimated to cost \$60,000 (not including the SH 105 grade separations). Implementation of the crossing closure is anticipated to coincide with the SH 105 grade separation projects.

Avenue A at UPRR Palestine Subdivision

Avenue A (DOT #435484U) is a two-lane roadway with an estimated 270 vehicles per day at an at-grade crossing in the city of Conroe in Montgomery County. Avenue A is proposed to be closed at the intersection with the UPRR Palestine Subdivision in order to eliminate the potential for crossing incidents at this at-grade crossing in concert with the proposed grade separations at SH 105. The location of the potential crossing closure and its alternative route are identified in Appendix B.

Access to adjacent properties along Avenue A are anticipated to remain up to the grade crossing closure. The identified alternate route to this crossing location uses the proposed grade separations at SH 105, which are included as grade separation candidates in this study. The use of Avenue A traffic over a grade separation in lieu of an at-grade crossing eliminates potential vehicle and train conflicts and increases safety.

The crossing closure of Avenue A at the Palestine Subdivision is estimated to cost \$60,000 (not including the SH 105 grade separations). Implementation of the crossing closure is anticipated to coincide with the SH 105 grade separation projects.

Railroad Capacity Enhancements

Westfield Auto Facility Yard Tracks Extension

The Westfield Auto Facility Yard Tracks Extension project extends the Westfield Yard lead 4,000 ft to the south, adds dispatcher controlled power switches at both ends, closing the existing at-grade crossing at Westfield Loop Road (DOT #427259G) and adding a grade separation at Richey Road (DOT #448400J). These improvements will decrease the time trains working at the Yard will block the mainline, preserving that capacity for through train movements and reduce the number of blocked vehicular crossings. The proposed improvement location is shown in Appendix A as part of Scenario 8.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a mid-range implementation timeframe for planning purposes.

Hardy Third Main

The Hardy Third Main project adds 16,000 ft of third main track on the UPRR Palestine Subdivision. The subdivision is often used to stage trains for long durations due to congestion in the terminal, crew changes, or customer constraints. The project provides locations for trains to dwell with hindering the through movement of trains. The proposed improvement location is shown in Appendix A as part of Scenario 8.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a mid-range implementation timeframe for planning purposes.

Union Pacific Railroad – Strang Subdivision

The UPRR Strang Subdivision is a predominately double-track railroad that runs between South Tower 68 off the Houston Subdivision and the Seaport Industrial Lead/Bayport Loop through Harris County. Rail traffic on this subdivision is bidirectional with an average train count of approximately 18 trains per day. The BNSF and PTRA have trackage rights on certain segments along the Strang Subdivision. The Strang Subdivision’s right of way is generally urban and industrial along the route.

Table 5.2.15 details the proposed improvements identified in this study on the UPRR Strang Subdivision.

Table 5.2.15 Proposed Improvements on UPRR Strang Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
	Railroad	Booth Second Mainline Track	UP	Strang	Harris	Houston

Railroad Capacity Enhancements

Booth Second Mainline Track

The Booth Second Track project adds 14,000 ft double main track between the PTRA North Yard and Manchester Junction. The project includes a second track over Buffalo Bayou and

over Brays Bayou as well as adding a second track at Booth Yard and closing three existing at-grade crossings: Medina St (DOT #869706B) and two on Fennell St (DOT #859544Y and DOT #869705U). This project reduces the number of blocked crossings by reducing train delays and adding train capacity on the UPRR Strang Subdivision. The proposed improvement location is shown in Appendix A as part of Scenario 2.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a mid-range implementation timeframe for planning purposes. A portion of this improvement is included in the Texas Freight Mobility Plan.

BNSF Railway – Galveston Subdivision

The BNSF Galveston Subdivision is a single-track railroad with limited sidings that runs between Galveston, Texas and Temple, Texas and through Brazoria, Fort Bend, and Galveston counties within the study area. Rail traffic on this subdivision is bidirectional with an average train count that ranges between 9 and 28 trains per day depending on location along the subdivision. UPRR also has trackage rights along a majority of the Galveston Subdivision within the study area. The areas adjacent to the Galveston Subdivision’s right of way are typically rural with suburban areas through towns along the route.

Table 5.2.16 details the proposed improvements identified in this study on the BNSF Galveston Subdivision.

Table 5.2.16 Proposed Improvements on BNSF Galveston Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
022645V	Grade Separation	Gordon St	BNSF	Galveston	Brazoria	Alvin
022675M	Grade Separation	FM 762	BNSF	Galveston	Fort Bend	Richmond
022673Y	Grade Separation	Royal Lakes Blvd	BNSF	Galveston	Fort Bend	Richmond
	Railroad	Duke Second Track	BNSF	Galveston	Fort Bend	Richmond

Grade Separations

Gordon St at BNSF Galveston Subdivision

Gordon St (DOT #022645V) is currently a four-lane roadway with approximately 13,400 vehicles per day that crosses the railroad at-grade in the city of Alvin in Brazoria County. The identified grade separation location would separate vehicular traffic from the BNSF Galveston Subdivision. According to crash data collected over a five-year period, four crashes occurred in the vicinity of the Gordon St at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the Gordon St intersections at Old Galveston Rd and Willis St/Disney St and would require traffic connectivity to adjacent properties and side streets. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Gordon St at the Galveston Subdivision is estimated to cost \$25 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

FM 762 at BNSF Galveston Subdivision

FM 762 (DOT #022675M) is currently a two-lane roadway at an intersection with approximately 2,680 vehicles per day that crosses the railroad at-grade in the city of Richmond in Fort Bend County. The identified grade separation location would separate vehicular traffic from the BNSF Galveston Subdivision. According to crash data collected over a five-year period, six crashes occurred in the vicinity of the FM 762 at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the FM 762/FM 2759 intersection and would require traffic connectivity to adjacent properties and side streets. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of FM 762 at the Galveston Subdivision is estimated to cost \$35 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

Royal Lakes Blvd at BNSF Galveston Subdivision

Royal Lakes Blvd (DOT #022673Y) is currently a two-lane roadway with an estimated 2,200 vehicles per day that crosses the railroad at-grade in the city of Richmond in Fort Bend County. The neighborhood's only access is at this roadway-rail crossing. The identified grade separation location would separate vehicular traffic from the BNSF Galveston Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the Royal Lakes Blvd at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, utility adjustments for an overhead distribution line may be required for overpass construction. A place of worship within the grade separation limits was identified during a preliminary environmental review that will require additional review during project design.

It is anticipated that the grade separation would impact the Royal Lakes Blvd/FM 762 intersection and is proposed as an elevated intersection with FM 762 through lanes to be at grade. Access to adjacent properties and side streets along the grade separation are provided through the FM 762 through lanes. Additional impacts to properties adjacent to the proposed grade separation may occur due to right-of-way requirements.

The grade separation of Royal Lakes Blvd at the Galveston Subdivision is estimated to cost \$25 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes. This potential project is included within the Texas State Rail Plan.

Railroad Capacity Enhancements

Duke Second Track

The Duke Second Track project extends Duke Siding 16,000 ft to the west. The project creates another location for longer trains or multiple shorter trains to meet, reducing delays on the BNSF Galveston Subdivision. The proposed improvement location is shown in Appendix A as part of Scenario 5.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a mid-range implementation timeframe for planning purposes.

BNSF Railway – Houston Subdivision

The BNSF Houston Subdivision is a predominately double-track railroad that runs between Belt Junction in Houston, Texas and the DFW Subdivision in Teague, Texas and through Harris and Montgomery counties within the study area. Rail traffic on this subdivision is bidirectional with an average train count of approximately 6 trains per day. Other railroads do not have trackage rights along this segment of the Houston Subdivision. The Houston Subdivision's right of way is generally rural with suburban/urban area closer to Houston.

Table 5.2.17 details the proposed improvements identified in this study on the BNSF Houston Subdivision.

Table 5.2.17 Proposed Improvements on BNSF Houston Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
597091H	Grade Separation	FM 1960	BNSF	Houston	Harris	Houston
597085E	Grade Separation	W Little York Rd	BNSF	Houston	Harris	Houston
089370C	Grade Separation	Tidwell Rd	BNSF	Houston	Harris	Houston
597084X	Grade Separation	Antoine Rd	BNSF	Houston	Harris	Houston
675158C	Grade Separation	Cypresswood Rd	BNSF	Houston	Harris	Tomball

Grade Separations

FM 1960 at BNSF Houston Subdivision

FM 1960 (DOT #597091H) is currently a six-lane roadway with approximately 63,000 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the BNSF Houston Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the FM 1960 at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, utility adjustments for overhead transmission/distribution lines, a major AT&T duct bank, and a waterline may be required for overpass construction. No environmental fatal flaws were identified during a preliminary environmental review that would require additional review during project design.

It is anticipated that the grade separation would impact the FM 1960/Breton Ridge St intersection and would require additional access to provide connectivity between Breton Ridge St and FM 1960. Similarly, access to adjacent properties and side streets along the

grade separation are provided via access roads. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of FM 1960 at the Houston Subdivision is estimated to cost \$44 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

W Little York Rd at BNSF Houston Subdivision

W Little York Rd (DOT #597085E) is currently a six-lane roadway with approximately 27,470 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the BNSF Houston Subdivision. According to crash data collected over a five-year period, two crashes occurred in the vicinity of the W Little York Rd at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the W Little York Rd/Victory Dr intersection and would require traffic connectivity to adjacent properties and side streets. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of W Little York Rd at the Houston Subdivision is estimated to cost \$40 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

Tidwell Rd at BNSF Houston Subdivision

Tidwell Rd (DOT #089370C) is currently a four-lane roadway with approximately 17,810 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the BNSF Houston Subdivision. According to crash data collected over a five-year period, two crashes occurred in the vicinity of the Tidwell Rd at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the Tidwell Rd/Antoine Rd intersection and would require traffic connectivity to adjacent properties and side streets. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements. If the Tidwell Rd and Antoine Rd grade separations are to be constructed during the same timeframe there may be efficiencies and/or other challenges in constructing these two adjacent grade separations.

The grade separation of Tidwell Rd at the Houston Subdivision is estimated to cost \$28 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

Antoine Rd at BNSF Houston Subdivision

Antoine Rd (DOT #597084X) is currently a four-lane roadway with approximately 29,500 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the BNSF Houston Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the Antoine Rd at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, utility adjustments for overhead transmission and distribution lines may be required for overpass construction. No environmental fatal flaws were identified during a preliminary environmental review that would require additional review during project design.

It is anticipated that the grade separation would impact the Antoine Rd/N Houston Rosslyn intersection and would require additional access to provide connectivity between N Houston Rosslyn Rd, Antoine Rd, and Tidwell Rd. Similarly, access to adjacent properties and side streets along the grade separation are provided via access roads. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements. If the Tidwell Rd and Antoine Rd grade separations are to be constructed during the same timeframe there may be efficiencies and/or other challenges in constructing these two adjacent grade separations.

The grade separation of Antoine Rd at the Houston Subdivision is estimated to cost \$30 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

Cypresswood Rd at BNSF Houston Subdivision

Cypresswood Rd (DOT #675158C) is currently a two-lane roadway with approximately 28,700 vehicles per day that crosses the railroad at-grade in the city of Tomball in Harris County. The identified grade separation location would separate vehicular traffic from the BNSF Houston Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the Cypresswood Rd at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay.

Based on a high-level utility review, utility adjustments for overhead transmission and distribution lines may be required for overpass construction. A previously recorded archaeological site within the grade separation limits was identified during a preliminary environmental review that will require additional review during project design.

It is anticipated that the grade separation would impact the Cypresswood Rd/Cutten Rd intersection and is proposed as an elevated intersection. Access to adjacent properties and side streets along the grade separation are provided through access roads. Additional impacts to properties adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Cypresswood Rd at the Houston Subdivision is estimated to cost \$51 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

BNSF Railway – Mykawa Subdivision

The BNSF Mykawa Subdivision is a single-track railroad with limited sidings that runs between New South Yard in Houston and Alvin, Texas through Brazoria and Harris counties. Rail traffic on this subdivision is bidirectional with an average train count of approximately 23 trains per day. UPRR also has trackage rights along the Mykawa Subdivision. The areas adjacent to the Mykawa Subdivision's right of way are typically suburban along the route.

Table 5.2.18 details the proposed improvements identified in this study on the BNSF Mykawa Subdivision.

Table 5.2.18 Proposed Improvements on BNSF Mykawa Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
023227H	Grade Separation	Walnut St	BNSF	Mykawa	Brazoria	Pearland
023228P	Grade Separation	Airport Blvd	BNSF	Mykawa	Harris	Houston
023214G	Grade Separation	Long Dr	BNSF	Mykawa	Harris	Houston
023215N	Grade Separation	Griggs Rd	BNSF	Mykawa	Harris	Houston
023211L	Grade Separation	W Belfort Ave	BNSF	Mykawa	Harris	Houston
023207W	Grade Separation	Almeda Genoa Rd	BNSF	Mykawa	Harris	Houston
	Railroad	Mykawa Yard Expansion	BNSF	Mykawa	Harris	Houston
	Railroad	Mykawa Subdivision Second Track	BNSF	Mykawa	Harris	Houston

Grade Separations

Walnut St at BNSF Mykawa Subdivision

Walnut St (DOT #023227H) is currently a four-lane roadway with approximately 9,630 vehicles per day that crosses the railroad at-grade in the city of Pearland in Brazoria County. The identified grade separation location would separate vehicular traffic from the BNSF Mykawa Subdivision. According to crash data collected over a five-year period, two crashes occurred in the vicinity of the Walnut St at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the Walnut St/SH 35 intersection and would require traffic connectivity to adjacent properties and side streets. Additional impacts to businesses and properties adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Walnut St at the Mykawa Subdivision is estimated to cost \$35 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

Airport Blvd at BNSF Mykawa Subdivision

Airport Blvd (DOT #023228P) is currently a four-lane roadway with approximately 13,410 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the BNSF Mykawa Subdivision. According to crash data collected over a five-year period, four crashes occurred in the vicinity of the Airport Blvd at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, utility adjustments for overhead distribution lines, waterlines, sanitary sewer lines, and gas pipelines may be required for overpass construction. A place of worship within the grade separation limits was identified during a preliminary environmental review that will require additional review during project design.

It is anticipated that the grade separation would impact the Airport Rd intersections with Mykawa Rd and Station Dr and would require traffic connectivity via access roads to these intersections as well as adjacent businesses and residences. Similarly, access to adjacent properties and side streets along the grade separation are provided via access roads. Additional impacts to businesses and residences adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Airport Blvd at the Mykawa Subdivision is estimated to cost \$34 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

Long Dr at BNSF Mykawa Subdivision

Long Dr (DOT #023214G) is currently a four-lane roadway with approximately 14,800 vehicles per day that crosses the railroad at-grade as part of a three-legged intersection in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the BNSF Mykawa Subdivision. According to crash data collected over a five-year period, five crashes occurred in the vicinity of the Long Dr at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact all four grade crossing locations within the intersection and the intersections at Mykawa Rd. It would also require traffic connectivity to adjacent

properties and side streets. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Long Dr at the Mykawa Subdivision is estimated to cost \$35 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

Houston Southeast was awarded a CRISI grant to review preliminary engineering and NEPA for review of a potential grade separation at this location. This location is also included within the Texas Freight Mobility Plan.

Griggs Rd at BNSF Mykawa Subdivision

Griggs Rd (DOT #023215N) is currently a four-lane roadway with approximately 11,800 vehicles per day that crosses the railroad at-grade as part of a three-legged intersection in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the BNSF Mykawa Subdivision. According to crash data collected over a five-year period, six crashes occurred in the vicinity of the Griggs Rd at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact all four grade crossing locations within the intersection and the intersections at Mykawa Rd. It would also require traffic connectivity to adjacent properties and side streets. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Griggs Rd at the Mykawa Subdivision is estimated to cost \$25 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

Houston Southeast was awarded a CRISI grant to review preliminary engineering and NEPA for review of a potential grade separation at this location. This location is also included within the Texas Freight Mobility Plan.

W Bellfort Ave at BNSF Mykawa Subdivision

W Bellfort Ave (DOT #023211L) is currently a four-lane roadway with approximately 14,250 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the BNSF Mykawa Subdivision. According to crash data collected over a five-year period, two crashes occurred in the vicinity of the W Bellfort Ave at-grade crossing.

While a conceptual exhibit has not been prepared for this location, it is anticipated that the grade separation would impact the W Belfort Ave intersections with Mykawa Rd and Crosswell Rd and would require traffic connectivity to these intersections as well as adjacent businesses and residences. Additional impacts to properties adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of W Belfort Ave at the Mykawa Subdivision is estimated to cost \$25 million. Based on known constraints, this project may be considered a mid-range implementation timeframe for planning purposes.

Almeda Genoa Rd at BNSF Mykawa Subdivision

Almeda Genoa Rd (DOT #023207W) is currently a two-lane roadway with approximately 7,850 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the BNSF Mykawa Subdivision. According to crash data collected over a five-year period, three crashes occurred in the vicinity of the Almeda Genoa Rd at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, utility adjustments a waterline may be required for overpass construction. A school within the grade separation area was identified during a preliminary environmental review that will require additional review during project design.

It is anticipated that the grade separation would impact the Almeda Genoa Rd intersections with Mykawa Rd and Burk St and would require traffic connectivity via access roads to these intersections as well as adjacent businesses and residences. Similarly, access to adjacent properties and side streets along the grade separation are provided via access roads. Additional impacts to businesses and residences adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Almeda Genoa Rd at the Mykawa Subdivision is estimated to cost \$16 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes. This location is included in the Texas Freight Mobility Plan.

Railroad Capacity Enhancements

Mykawa Yard Expansion

The Mykawa Yard Expansion project expands the existing Mykawa Yard and adds a grade separation at the at-grade crossing at Alameda Genoa Rd (DOT #023207W). The expansion enables train traffic to shift from the New and Old South Yards. These yards, due to their location and short tracks that require trains to occupy the main line, congest the terminal area. To reach the expanded yard requires trains coming to and from the BNSF Galveston Subdivision, instead of arriving via the UPRR Glidden Subdivision, to continue on the BNSF Galveston Subdivision to Mykawa Subdivision. The new yard reduces congestion in the terminal and on the Glidden and Harrisburg Subdivisions but increase train miles and adds traffic on the BNSF Galveston Subdivision. ROW acquisition is anticipated at this location to accommodate the extra track capacity. The proposed improvement location is shown in Appendix A as part of Scenario 5.

During a preliminary environmental review, a superfund site was identified. As part of future project development fatal flaw environmental impacts would need to be determined prior to further design development.

This project may be considered a long-range implementation timeframe for planning purposes.

Mykawa Subdivision Second Track (T&NO Junction to Mykawa Yard)

The Mykawa Second Track is 20,000 ft of second main track between T&NO Junction and Mykawa Yard. The project provides more fluid movement of trains traveling between the two BNSF yards and allow for train movements to continue when trains are switching from the BNSF New South Yard. The proposed improvement location is shown in Appendix A as part of Scenario 6.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a long-range implementation timeframe for planning purposes.

KCS Railway – Beaumont Subdivision

The KCS Beaumont Subdivision is a predominately double-track railroad that runs from Port Arthur, Texas through Beaumont and to Shreveport, Louisiana and through Jefferson and Orange counties within the study area. Rail traffic on this subdivision is primarily westbound with an average train count of approximately 19 trains per day. UPRR, BNSF,

and Amtrak have trackage rights on different segments of the Beaumont Subdivision in the study limits. The Beaumont Subdivision’s right of way is generally rural with some suburban areas.

Table 5.2.19 details the proposed improvements identified in this study on the KCS Beaumont Subdivision.

Table 5.2.19 Proposed Improvements on KCS Beaumont Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
329559B	Grade Separation	Dr Ransom Howard St	KCS	Beaumont	Jefferson	Port Arthur
762483M	Grade Separation	FM 105/S Main St	KCS	Beaumont	Orange	Vidor
329559B	Crossing Closure	9th St	KCS	Beaumont	Jefferson	Port Arthur
329473S	Crossing Closure	Mockingbird Dr	KCS	Beaumont	Orange	Rose City
329474Y	Crossing Closure	Canary St	KCS	Beaumont	Orange	Rose City
329472K	Crossing Closure	N Dewitt Rd	KCS	Beaumont	Orange	Vidor
	Railroad	Neches River Bridge Second Mainline Track	KCS	Beaumont	Jefferson	Beaumont
	Railroad	Vidor South Siding Extension	UP	Lafayette	Orange	Vidor

Grade Separations

Dr Ransom Howard St at KCS Beaumont Subdivision

Dr Ransom Howard St (DOT #329559B) is currently a two-lane roadway with approximately 3,130 vehicles per day that crosses the railroad at-grade in the city of Port Arthur in Jefferson County. The identified grade separation location would separate vehicular traffic from the KCS Beaumont Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the Dr Ransom Howard St at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, utility adjustments for overhead transmission/distribution lines may be required for overpass construction. A place of worship within the grade separation area was identified during a preliminary environmental review that will require additional review during project design.

It is anticipated that the grade separation would impact the Dr Ransom Howard St/Houston Ave intersection and would require a change in access to provide connectivity between Houston Ave and Dr Ransom Howard St. Similarly, access to adjacent properties and side streets along the grade separation may be restricted due to the design constraints. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Dr Ransom Howard St at the Beaumont Subdivision is estimated to cost \$20 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes. This potential project is included within the Texas Freight Mobility Plan.

FM 105/S Main St at KCS Beaumont Subdivision

FM 105/S Main St (DOT #762483M) is currently a four-lane roadway with approximately 7,000 vehicles per day that crosses the railroad at-grade in the city of Vidor in Orange County. The identified grade separation location would separate vehicular traffic from the KCS Beaumont Subdivision. According to crash data collected over a five-year period, three crashes occurred in the vicinity of the FM 105/S Main St at-grade crossing.

A proposed conceptual grade separation design for this location is shown in Appendix B. The design provides a roadway overpass to eliminate vehicle/train incidents and delay. Based on a high-level utility review, utility adjustments for overhead lines may be required for overpass construction. No environmental fatal flaws were identified during a preliminary environmental review that would require additional review during project design.

It is anticipated that the grade separation would impact the FM 105 intersections at Greathouse Dr and Mission Dr and would require additional access to provide connectivity to these intersections. Similarly, access to adjacent properties and side streets along the grade separation are provided via access roads. Additional impacts to property adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of FM 105/S Main St at the Beaumont Subdivision is estimated to cost \$19 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes.

Crossing Closures

9th St at KCS Beaumont Subdivision

Currently a two-lane roadway with an estimated 3,130 vehicles per day, 9th St (DOT #329559B) is an at-grade crossing in the city of Port Arthur in Jefferson County. 9th St is proposed to be closed at the intersection with the KCS Beaumont Subdivision in order to eliminate the potential for crossing incidents at this at-grade crossing in concert with the proposed grade separation at Dr Ransom Howard St. The location of the potential crossing closure and its alternative route are identified in Appendix B.

Access to adjacent properties along 9th St are anticipated to remain up to the grade crossing closure. The identified alternate route to this crossing location uses the proposed grade separation at Dr Ransom Howard St, which is included as a grade separation candidate in this study. The use of 9th St traffic over a grade separation in lieu of an at-grade crossing eliminates potential vehicle and train conflicts and increases safety.

The crossing closure of 9th St at the Beaumont Subdivision (not including the Dr Ransom Howard St grade separation) is estimated to cost \$60,000. Implementation of the crossing closure is anticipated to coincide with the Dr Ransom Howard St grade separation project.

Mockingbird Dr at KCS Beaumont Subdivision

Mockingbird Dr (DOT #329473S) is a two-lane roadway with an estimated 340 vehicles per day at an at-grade crossing in the city of Rose City in Orange County. Mockingbird Dr is proposed to be closed at the intersection with the KCS Beaumont Subdivision in concert with additional railroad improvements.

Access to adjacent properties along Mockingbird Dr are anticipated to remain up to the grade crossing closure. The anticipated alternate route to this crossing location may use the existing grade separation at Rose City Dr.

The crossing closure of Mockingbird Dr at the Beaumont Subdivision is estimated to cost \$60,000. Implementation of the crossing closure is anticipated to coincide with the Vidor siding extension project.

Canary St at KCS Beaumont Subdivision

Currently a two-lane roadway with an estimated 100 vehicles per day, Canary St (DOT #329474Y) is an at-grade crossing in the city of Rose City in Orange County. Canary St is proposed to be closed at the intersection with the KCS Beaumont Subdivision in order to eliminate the potential for crossing incidents at this at-grade crossing in concert with additional railroad improvements.

Access to adjacent properties along Canary St are anticipated to remain up to the grade crossing closure. The anticipated alternate route to this crossing location may use the existing grade separation at Rose City Dr.

The crossing closure of Canary St at the Beaumont Subdivision is estimated to cost \$60,000. Implementation of the crossing closure is anticipated to coincide with the Vidor siding extension project.

N Dewitt Rd at KCS Beaumont Subdivision

N Dewitt Rd (DOT #329472K) is a two-lane roadway with an estimated 3,040 vehicles per day at an at-grade crossing in the city of Vidor in Orange County. N Dewitt Rd is proposed to be closed at the intersection with the KCS Beaumont Subdivision in order to eliminate the potential for crossing incidents at this at-grade crossing in concert with the proposed grade separation at FM 105/S Main St.

Access to adjacent properties along N Dewitt Rd are anticipated to remain up to the grade crossing closure. The identified alternate route to this crossing location uses the proposed grade separation at FM 105, which is included as a grade separation candidate in this study. The use of N Dewitt Rd traffic over a grade separation in lieu of an at-grade crossing eliminates potential vehicle and train conflicts and increases safety.

The crossing closure of N Dewitt Rd at the Beaumont Subdivision is estimated to cost \$60,000 (not including the FM 105 grade separation). Implementation of the crossing closure is anticipated to coincide with the FM 105/S Main St grade separation project.

Railroad Capacity Enhancements

Neches River Bridge Second Mainline Track

The Neches River Bridge Second Main Track project involves the construction of a new two track moveable bridge. Trains from UPRR Lafayette and KCS Beaumont Subdivision combine and onto the existing single-track bridge. The new bridge will enable more fluid

movements through Beaumont for UPRR, KCS, and BNSF. The proposed improvement location is shown in Appendix A as part of Scenario 4.

A previous study, the *Neches River Bridge Feasibility Study*, reviewed multiple options to increase the capacity across the river. A preferred option was not identified within this study.

The second track across the Neches River on the Beaumont Subdivision has a varied range of potential costs depending on the implementation strategy chosen. This project may be considered a long-range implementation timeframe for planning purposes.

Vidor South Siding Extension

The Vidor South Siding Extension extends the existing 14,000 ft Vidor siding an additional 8,000 ft to the west, closes Canary St (DOT #329474Y), Mockingbird Dr (DOT #329473S), and N Dewitt St (DOT #329472K) and adds a grade separation at SH 105 (DOT #329471D). The project provides a location clear of the main line track for trains to meet and crew change. The proposed improvement location is shown in Appendix A as part of Scenario 4.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a mid-range implementation timeframe for planning purposes.

HB&T – West Belt Subdivision

The HB&T West Belt Subdivision is a double-track railroad within the Houston complex that runs between T&NO Junction at the Harrisburg Subdivision and Belt Junction on the Houston East Belt Subdivision within Harris County. Rail traffic on this subdivision is bidirectional with an average train count of approximately 14 to 30 trains per day. Other railroads have trackage rights along the West Belt Subdivision. The areas adjacent to the West Belt Subdivision's right of way are typically urban residential and commercial within the complex.

Table 5.2.20 details the proposed improvements identified in this study on the HB&T West Belt Subdivision.

Table 5.2.20 Proposed Improvements on HB&T West Belt Subdivision

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
288228X	Grade Separation	York St	HB&T	West Belt	Harris	Houston
288129A	Grade Separation	Commerce St	HB&T	West Belt	Harris	Houston
288098D	Grade Separation	Nance St	HB&T	West Belt	Harris	Houston
288095H	Grade Separation	Lyons Ave	HB&T	West Belt	Harris	Houston
748688W	Crossing Closure	West St	HB&T	West Belt	Harris	Houston
	Railroad	Belt Jct SE Wye Connection	HB&T	West Belt	Harris	Houston
	Railroad	Texas Spur Third Main	HB&T	West Belt	Harris	Houston

Grade Separations

York St at HB&T West Belt Subdivision

York St (DOT #288228X) is currently a four-lane one-way roadway with approximately 1,680 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the HB&T West Belt Subdivision. According to crash data collected over a five-year period, one crash occurred in the vicinity of the York St at-grade crossing.

A conceptual design for this location was prepared as part of the Gulf Coast Rail District West Belt Improvements Study in 2012. Based on this design, York St and Sampson St combine for a single depressed roadway under the West Belt Subdivision. It is anticipated that the grade separation would impact multiple intersections and would require traffic connectivity to adjacent properties and side streets. Additional impacts to businesses adjacent to the proposed grade separation are likely to occur due to right-of-way and access requirements.

The grade separation of York St (with Sampson St) at the West Belt Subdivision is estimated to cost \$46 million. Based on known constraints, this project may be considered a near-

term implementation timeframe for planning purposes. This potential project is included within the Texas State Rail Plan.

Commerce St at HB&T West Belt Subdivision

Commerce St (DOT #288129A) is currently a two-lane roadway with approximately 300 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the HB&T West Belt Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the Commerce St at-grade crossing.

A conceptual design for this location was prepared as part of the Gulf Coast Rail District West Belt Improvements Study in 2012. Based on this design, it is anticipated that the grade separation would require reconstruction of the existing Navigation Blvd underpass and would create a depressed intersection at the location with the need for a pump station. Additional impacts to businesses adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Commerce St at the West Belt Subdivision is estimated to cost \$36 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes. This potential project is included within the Texas State Rail Plan.

Nance St at HB&T West Belt Subdivision

Nance St (DOT #288098D) is currently a two-lane roadway with approximately 650 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the HB&T West Belt Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the Nance St at-grade crossing.

A conceptual design for this location was prepared as part of the Gulf Coast Rail District West Belt Improvements Study in 2012. Based on the design, it is anticipated that the grade separation would realign the Nance St crossing with the railroad, requiring right-of-way acquisition, and would require additional traffic connectivity to adjacent properties and side streets. While most right-of-way acquisition appears to be in vacant properties, additional impacts to businesses adjacent to the proposed grade separation and associated closures may occur due to access requirements.

The grade separation of Nance St at the Houston West Belt Subdivision is estimated to cost \$15 million. Based on known constraints, this project may be considered a near-term

implementation timeframe for planning purposes. This is being contemplated as part of TxDOT's I-45 NHHIP. This potential project is included within the Texas State Rail Plan.

Lyons Ave at HB&T West Belt Subdivision

Lyons Ave (DOT #288095H) is currently a two-lane roadway with approximately 2,110 vehicles per day that crosses the railroad at-grade in the city of Houston in Harris County. The identified grade separation location would separate vehicular traffic from the HB&T West Belt Subdivision. According to crash data collected over a five-year period, no crashes occurred in the vicinity of the Lyons Ave at-grade crossing.

A conceptual design for this location was prepared as part of the Gulf Coast Rail District West Belt Improvements Study in 2012. Based on the design, it is anticipated that the grade separation would impact the Lyons Ave/West St intersection and may require traffic connectivity to adjacent properties and side streets via an Opelousas St extension to West St. The depressed design would require a pump station. Additional impacts to properties adjacent to the proposed grade separation may occur due to right-of-way and access requirements.

The grade separation of Lyons Ave at the Houston West Belt Subdivision is estimated to cost \$15 million. Based on known constraints, this project may be considered a near-term implementation timeframe for planning purposes. This potential project is included within the Texas State Rail Plan.

Crossing Closures

West St at HB&T West Belt Subdivision

West St (DOT #748688W) is a two-lane roadway with an estimated 310 vehicles per day at an at-grade crossing in the city of Houston in Harris County. West St is proposed to be closed at the intersection with the HB&T West Belt Subdivision and Houston Subdivision in order to eliminate the potential for crossing incidents at this at-grade crossing in concert with a proposed grade separation at Lyons Ave and use of the existing grade separation at Jensen Dr. The location of the potential crossing closure and its alternative route are identified in Appendix B.

Access to adjacent properties along West St are anticipated to remain up to the grade crossing closure and through an extension of Opelousas St. The identified alternate route to this crossing location uses the proposed grade separation at Lyons Ave and the existing grade separation at Jensen Dr. The use of West St traffic over a grade separation in lieu of an at-grade crossing eliminates potential vehicle and train conflicts and increases safety.

The crossing closure of West St at the West Belt Subdivision and Houston Subdivision is estimated to cost \$60,000 (not including the Lyons Ave grade separation). Implementation of the crossing closure is anticipated to coincide with the Lyons Ave grade separation project and additional railroad improvements.

Railroad Capacity Enhancements

Belt Junction SE Wye Connection

The Belt Junction SE Wye adds a second track along the Belt Junction SE wye which connects the HB&T West Belt Subdivision with the Houston East Belt Subdivision. A large amount of traffic uses the existing single wye track, adding a second track allows for continue movement in each direction, reducing delays to trains in the terminal. The proposed improvement location is shown in Appendix A as part of Scenario 2.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a mid-range implementation timeframe for planning purposes.

Texas Spur Third Main

The Texas Spur Third Main project adds 14,000 ft of third main track. The project provides a location for trains to sit or pass by the congestion on the HB&T West Belt Subdivision by the BNSF New and Old South Yards. The proposed improvement location is shown in Appendix A as part of Scenario 6.

No fatal-flaw environmental impacts were found during a preliminary environmental review.

This project may be considered a long-range implementation timeframe for planning purposes.

PTRA

The PTRA is run by the Port of Houston Authority, BNSF, UPRR, and KCS and provides services to ports and the Houston Ship Channel area in Harris County. Rail traffic on the tracks is bidirectional with an average train count of approximately 6 trains per day depending on location. The areas adjacent to the PTRA's right of way are typically industrial along the route.

Table 5.2.21 details the proposed improvements identified in this study on the PTRA.

Table 5.2.21 Proposed Improvements on PTRA

DOT #	Type	Improvement	RR Owner	Subdivision	County	City
869706B	Crossing Closure	Medina St	PTRA	-	Harris	Houston
869705U	Crossing Closure	Fennell St	PTRA	-	Harris	Houston

Crossing Closures

Medina St at PTRA

Currently a two-lane roadway with an estimated 560 vehicles per day, Medina St (DOT #869706B) is an at-grade crossing in the city of Houston in Harris County. Medina St is proposed to be closed at the intersection with the PTRA in order to eliminate the potential for crossing incidents at this at-grade crossing in concert with the existing grade separation at Broadway St. The location of the potential crossing closure and its alternative route are identified in Appendix B.

Access to adjacent properties along Medina St are anticipated to remain up to the grade crossing closure. The identified alternate route to this crossing location uses the existing grade separation at Broadway St. The use of Medina St traffic over a grade separation in lieu of an at-grade crossing eliminates potential vehicle and train conflicts and increases safety.

The crossing closure of Medina St at the PTRA is estimated to cost \$60,000. This can be considered a near-term implementation timeframe since grade separation infrastructure is in place at Broadway St.

Fennell St at PTRA

Fennell St (DOT #869705U) is a two-lane roadway with an estimated 320 vehicles per day at an at-grade crossing in the city of Houston in Harris County. Fennell is proposed to be closed at the intersection with the PTRA in order to eliminate the potential for crossing incidents at this at-grade crossing in concert with the existing grade separation at Broadway St. The location of the potential crossing closure and its alternative route are identified in Appendix B.

Access to adjacent properties along Fennell St are anticipated to remain up to the grade crossing closure, and access to the area within the track areas may remain through gates into and out of the area to deter public traffic use. The identified alternate route to this crossing location uses the existing grade separation at Broadway St. The use of Fennell St traffic over a grade separation in lieu of an at-grade crossing eliminates potential vehicle and train conflicts and increases safety.

The crossing closure of Fennell St at the PTRA is estimated to cost \$60,000. This can be considered a near-term implementation timeframe since grade separation infrastructure is in place at Broadway St.

Section 6: Recommendation and Implementation Strategy

This report section identifies a process for moving the potential grade separation, crossing closure, and railroad capacity improvement projects forward through prioritizing improvements, determining an implementation schedule, and adding into local, regional, or state transportation plans. The section also discusses some opportunities for funding these projects through available grant programs and federal, state, and regional programs.

6.1 Implementation Strategies

The grade separation, crossing closure, and rail capacity improvements included in this study are the beginning of a discussion of the regional needs for infrastructure changes at railroad crossings and corridors. These proposed projects are anticipated to reduce vehicular and train delays, increase transportation system capacity, reduce the potential for incidents, and improve the quality of life for roadway users.

Stakeholders within the Houston-Beaumont region should review the initial findings of this report and further evaluate the projects to validate their benefits to the region. Projects, as deemed by the stakeholders, should be included as part of state, regional, and local transportation planning documents as well as planning documents of private stakeholders and identify potential funding for the projects based on anticipated implementation timeframes.

The process for the prioritization of projects for planning and implementation purposes should occur at the state, regional, and local level and include appropriate stakeholders associated with those improvements. At a minimum, those involved in the prioritization process should include:

- TxDOT districts
- H-GAC
- SETRPC
- Gulf Coast Rail District
- Municipalities within region
- Rail Stakeholders (BNSF, HB&T, KCS, PTR, UPRR)

Potential implementation timeframes are included with each project and can assist in prioritization of near-term, mid-range, and long-term improvements. These timeframes are based on potential infrastructure and political challenges associated with each improvement. Considerations should also focus on additional infrastructure needs that may

be required to implement some of the proposed improvements, such as possible adjustment of US 90A overpasses for grade separations at Fondren Road, Gessner Road, and others.

6.2 Funding Opportunities

There are many programs through the USDOT that help fund eligible infrastructure projects through competitive discretionary grants. Some of the well-known programs, such as Rebuilding American Infrastructure with Sustainability and Equity (RAISE) and Infrastructure for Building America (INFRA) grants, have specific requirements related to eligibility, funding match, and project metrics.

The following programs provide opportunities for, at minimum, a portion of funding for the types of projects identified in this study.

Federal Highway Administration Rail-Highways Crossing Program (Section 130)

The Section 130 program, which appropriates funds to states, provides monies for improvements to eliminate hazards and decrease fatalities at roadway-rail crossings. Projects are funded at a 90% federal share. Fifty percent of the state's apportionment of the federal funds are to be used for installation of protective devices at crossings, while the remainder can be spent on any roadway-rail project meeting the program's requirements.

Eligible projects include all roadway-rail public crossing improvements, installation of protective devices (crossing gates/signals and associated railroad infrastructure), and crossing closures. Projects that remove hazards posed by blocked crossings are also considered eligible. Crossing closures can be implemented through the Section 130 program if matching funds are provided by the railroad.

Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grants

Previously known as Transportation Investment Generating Economic Recovery (TIGER), the BUILD Transportation Discretionary Grant program invests in roadway, railroad, transit, and port projects that achieve national objectives. Eligible projects include highway and bridge improvements, public transportation projects, passenger and freight rail improvements, port infrastructure investments, and intermodal projects.

Eligible applicants for BUILD grants include state and local governments, port authorities, metropolitan planning organizations (MPOs), and other political subdivisions of state or local governments. The federal funding percentage for projects under BUILD varies, and typically only up to a certain percentage of the matching funds from the applicant may be federal funds. Funds are split between rural and urban areas.

Infrastructure for Building America (INFRA) Grants

The goals of the INFRA Discretionary Grant program, previously called the Nationally Significant Freight and Highway Projects (NSFHP) program, are to provide Federal financial assistance to highway and freight projects of national or regional significance. Specifically, the program focuses on transportation infrastructure projects that support the key objectives of supporting economic vitality at the national and regional levels, leveraging federal funding to attract non-federal sources of investment, using innovative technology/project delivery/financing, and the accountability of the grant applicant.

Eligible grant applicants for INFRA grants include states, MPOs serving urban areas, local governments, public authorities with transportation functions, port authorities, and political subdivisions. The federal funding percentage for projects under INFRA varies, and typically only up to a certain percentage of the matching funds from the applicant may be federal funds. Funds are split between rural and urban areas.

Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program

The CRISI grant program leverages private, state, and local investments to support safety enhancements and general improvements to infrastructure for both intercity passenger and freight railroads. Types of projects consist of railroad safety technology, capital projects related to intercity passenger rail service, capital projects that reduce congestion and facilitate ridership growth, grade crossing projects, rail line relocation and improvement projects, and shortline/regional railroad infrastructure.

Eligible grant applicants include states, public agencies, political subdivisions of states, Amtrak or other rail carriers providing intercity rail passenger service, and Class II or III railroads. The federal funding percentage for projects under CRISI varies, and typically only up to a certain percentage of the matching funds from the applicant may be federal funds.

Transportation Infrastructure Finance and Innovation Act (TIFIA) Loan Program

TIFIA's strategic goal is to provide credit assistance through direct loans and other methods to increase capital market investment in transportation infrastructure for nationally and regionally significant projects. TIFIA differs from grant programs in that it loans monies at low interest rates (equivalent to U.S. Treasury rates) with repayment up to a 35-year term from substantial completion. The loan program's key objectives are to facilitate projects with significant public benefits and encourage new revenue streams and private participation while limiting federal exposure and risk.

Eligible project sponsors include state governments, special authorities, local governments, and transportation improvement districts. Loans can be procured for highways and bridges,

freight transfer facilities, passenger rail facilities, and surface transportation elements of port projects. The TIFIA program's eligible cost threshold is typically at least \$50 million.

Railroad Rehabilitation and Improvement Financing (RRIF) Loan Program

The RRIF loan program provides direct loans and loan guarantees to finance the development of railroad infrastructure. Funding through the RRIF loan program may be used to improve or rehabilitate intermodal or rail facilities (track, bridges, yards, building, shops, PTC), to develop new intermodal or railroad facilities, or to reimburse planning and design activities related to those types of projects. Similar to TIFIA, the program offers a low interest rate with up to a 35-year repayment period.

Eligible applicants include state and local governments, government-sponsored authorities and corporations, railroads, and limited option freight shippers that own/operate facilities. The RRIF program does not have minimum project cost thresholds.

Federal Railroad Administration (FRA) and Federal Transit Administration (FTA) Funds

The FRA and FTA have other competitive discretionary grant programs beyond those described above that provide assistance in maintaining a state of good repair, improving intercity passenger rail service, and implementing safety and new technologies. While projects included within this study have not been chosen for inclusion of transit for FTA funding, future opportunities may arise which roadway-rail grade separation improvements may be along a future transit corridor and may qualify for certain grant programs.

REDACTED – TO BE PLACED ON PUBLIC FILE

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 36500

CANADIAN PACIFIC RAILWAY LIMITED, ET AL.
—CONTROL—
KANSAS CITY SOUTHERN, ET AL.

Verified Statement of Jon Gabriel and Travis Thowe

Exhibit 2

KCS Service Status Letter

KANSAS CITY SOUTHERN

MAILING ADDRESS: P O BOX 219335 • KANSAS CITY MO 64121-9335

PATRICK J. OTTENSMEYER
PRESIDENT AND CHIEF EXECUTIVE OFFICER
PHONE. (816) 983-1702



FOUNDED 1887
www.kcsouthern.com

April 5, 2018

The Honorable Ann Begeman
Chairman
Surface Transportation Board
395 E Street, S.W.
Washington, DC 20423-0001

The Honorable Deb Miller
Vice Chairman
Surface Transportation Board
395 E Street, S.W.
Washington, DC 20423-0001

RE: Service Status Report, The Kansas City Southern Railway Company

Dear Chairman Begeman and Vice Chairman Miller:

Thank you for your March 16 inquiry into the status and outlook for the network operations of The Kansas City Southern Railway Company (KCSR). KCSR is adequately staffed and adequately equipped to meet expected service demand in 2018, and service demand is generally in line with our internal forecasts. However, KCSR has experienced slowdowns, primarily in the Beaumont-Laredo portion of its network, since last November. While we have taken and continue to take steps to counteract those slowdowns to the extent we can, as the Board knows, the rail system is heavily interconnected. Accordingly, our success in overcoming slowdowns depends on not only our efforts but also the efforts of our connecting and host carriers to overcome issues on their networks or to find rerouting opportunities.

Below, KCSR addresses the informational items listed in the Board's request, followed by discussion of comments made in the National Grain and Feed Association (NGFA) and Automotive Alliance (Alliance) letters.

OUTLOOK FOR KCSR NETWORK RAIL OPERATIONS

Locomotive availability, including current and historic norms for number of road locomotives, serviceable stored locomotives and adequacy of locomotive fleet to meet demand

The current Kansas City Southern (KCS) U.S. and Mexico combined locomotive fleet is comprised of 1,072 locomotives, of which 65 are in storage. This represents an increase of approximately 3% in our active fleet as compared to Q1 2017. The increase in fleet includes 25 short-term leased units we assumed at the end of 2017. KCSR believes that its fleet of available locomotives is adequate to meet current demand.

KCS has no current plans to purchase additional locomotives in 2018, but we are considering a locomotive purchase option to receive additional locomotives in early 2019 in line with our volume growth outlook.

Page 2 - Service Status Report, The Kansas City Southern Railway Company – April 5, 2018

Employee resources, including (1) current T&E headcount vs. historical norms and adequacy of T&E resources to meet demand; (2) recent and historic recrew rates; (3) hiring and training plans for the remainder of 2018; and (4) adequacy of field managerial resources

1. Current T&E headcount, current furloughs & historical comparison:

Our average YTD 2018 U.S. T&E crewbase of 1,268 is up slightly versus our 2017 average count of 1,251. We have not undertaken any layoffs in recent years, and have managed seasonal volumes through temporary furloughs. KCSR does not anticipate any furloughs in the near term and we are in a normal hiring cycle as discussed in more detail below.

2. Recent train recrew rates vs. historic norms

KCSR train recrew rates are normal on the Illinois to Kansas City, Kansas City to New Orleans and Dallas to Meridian segments of the KCSR network.

Historically, KCSR renews trains more frequently between Beaumont and Laredo, TX than on the other segments of our network, due to complexities of moving through Houston. Beginning in November 2017, we began to experience an increase in renews, principally between Beaumont and Kendleton, due to delays in getting across trackage rights through the Houston area. Current recrew rates in this segment are far above normal with YTD recrew rates 58% above this time last year.

3. T&E hiring and training plans for 2018

KCSR is in a typical hiring and training mode to account for attrition and future volume outlook. In 2017, 37 conductors began and 33 completed the 22-week engineer-training course. In 2018, 18 conductors have thus far begun their 22-week engineer's training. Another engineer training class is scheduled to begin June 11 with up to 16 possible slots available.

KCSR had 16 new-hire conductors begin service in January. We had 22 new-hire conductors complete training in March. We have another 50 conductors currently in training, 29 of whom are scheduled to finish toward the end of May, and 21 more about six weeks later. We are presently recruiting for a class of 36 conductors to start in June, and we expect to continue bringing on additional new conductors every two to three months for the remainder of 2018.

4. Field managerial staff

KCSR believes that field managerial forces are adequate under current circumstances. Added managerial work needed due to renews and additional work with our connections seeking to alleviate congestion, such as seeking reroutes, is adequately staffed at this time.

Local service performance, including any specific yards or locations where performance is trending below historic norms

In its weekly service report to the Board, KCSR reports dwell time at its ten largest terminals. Of those ten, average dwell at Baton Rouge, LA and Wylie, TX has improved compared to 2017, while dwell at six others - Shreveport, LA; Artesia, MS; Heavener, OK; Jackson, MS; Kansas City, MO and Leesville, LA – has remained within historic norms.

Page 3 - Service Status Report, The Kansas City Southern Railway Company – April 5, 2018

Two of KCSR's 10 major yards, both in south Texas, are experiencing performance below historic norms due to overall industry congestion in the area:

1. Laredo, TX:

Dwell performance in 2018 at Laredo is elevated 33% as compared to fiscal year 2017. Average inventory in the yard has also increased by 15%. Increases in Laredo Yard inventory and dwell are a direct result of restrictions on KCSR's ability to move trains through the Houston area.

2. Port Arthur, TX:

Dwell in Port Arthur Yard is slightly elevated as compared to 2017. Average inventory in the yard has increased 22%, compared to 2017. Like Laredo Yard, Port Arthur Yard is dependent on fluid operations through Houston.

Demand, including expectations for 2018 service demand, ability to serve that demand, and the accuracy of internal projections vis-à-vis actual volumes to date

KCSR projects demand growth in 2018 for commodity groups that account for a majority of our overall volume. The only exception to that expectation is uncertainty concerning demand for U.S. energy products, due to a decline in coal shipments resulting from closure of a Texas utility plant that we served and uncertainty about the effects on overall frac sand shipping patterns of newly-opened West Texas frac sand mines.

KCSR is capable of meeting expected service demand, subject to a resolution of south Texas service problems. KCSR has leased enough locomotives to compensate for the south Texas service slowdowns, and is adding to its train and engine crew base. Over the past few years, KCS has also substantially increased in its grain car fleet (as detailed below in response to NGFA's letter) and KCSR's affiliate Kansas City Southern de Mexico, S.A. de C.V. (KCSM) has increased its equity share in the TTX-managed automotive equipment pool, increasing the amount of available equipment. KCS believes these investments will enable it to meet expected demand, provided that resolution of south Texas access issues is remedied in the near term.

KCSR's actual carloads for the first quarter of 2018 are tracking slightly below projections. Carloads in the agriculture & mineral and automotive business units have been negatively impacted by congestion in south Texas and problems in the supply of automotive equipment.

Communication initiatives to advise shippers on service issues

KCSR employs multiple mechanisms for keeping our customers informed of all elements of our business as it relates to their shipments. This includes informing them of expected delays.

First, KCS utilizes two Customer Solutions Centers (U.S. and Mexico) to facilitate updates and provide assistance for our shippers. Primarily serving as inbound call centers, our customer solutions analysts maintain relationships with shippers to notify them proactively via email and/or outbound calling when their service has been interrupted beyond a small delay. KCS' Customer Solutions team participates in multiple regular customer conference calls, and publishes a variety of established reports that serve to advise shippers on service status and related issues.

Page 4 - Service Status Report, The Kansas City Southern Railway Company – April 5, 2018

To complement this channel, KCS offers an online account management tool called MyKCS that is available 24/7 for self-service account management and inquiries.

KCS also manages customer communication through a process called Service Status Updates (SSUs). Some of these SSUs provide advance notice of upcoming activities that may affect velocity on portions of our network. An example of one of these notices, showing scheduled maintenance work that has the potential to delay traffic, is attached to this letter. In addition, when there is a delay that exceeds our defined threshold (24 hours for intermodal and 48 hours for carload), a communication is e-mailed to customers detailing the delay, typically including the estimated length of delay as well as a map for reference. These SSUs are posted on our website for reference should a recipient miss a particular communication.

Capacity constraints, focusing on specific locations experiencing sustained congestion from capacity constraints and actions being taken to counter congestion, including reroutes and infrastructure enhancements

To improve fluidity through Houston, KCSR has committed substantial funds to increase capacity on UP's Brownsville Subdivision, where KCSR operates via trackage rights. UP and KCSR have worked cooperatively and have spent roughly \$50.0 million over the past three years on capacity projects designed to improve fluidity on the subdivision. The majority of these projects have been completed or are scheduled to be completed in 2018, with continued investment planned in subsequent years.

In addition, over the past few years, KCSR has completed a number of capacity projects on its own lines in Texas, including a new siding at San Diego, TX; extension of sidings in south Texas; a new R&D track in Laredo Yard, and installation of CTC on both the Laredo and Rosenberg Subdivisions.

THE NGFA LETTER

The NGFA letter did not raise specific concerns with KCSR Ag products service or charges, so KCSR will respond only briefly to some of the general comments in the NGFA letter. NGFA's assertion that Class 1's are shedding resources is not correct with respect to KCSR. As shown above, KCS's locomotive fleet is larger this year than last and, since 2012, the size of the combined KCSR/KCSM grain fleet has grown 33% and shifted from leasing nearly three-fourths of the fleet to owning over 70% of the fleet. KCS is investing in grain transport capacity, not divesting.

KCSR also disagrees with NGFA's assertion that Ag shipping "recovery" plans should be required. KCSR has been trying to work with UP and BNSF on alternatives, as well as alternative routings for empties. While these alternatives have been less than satisfactory to date, 'recovery' plans that prioritize grain over all other commodities will not, in KCSR's view, solve the problem.

THE AUTOMOTIVE ALLIANCE LETTER

While KCSR is a TTX owner, it is not a member of the TTX-managed multi-level pool. However, KCSM is a member of the pool, serving multiple Alliance member auto manufacturing facilities that originate traffic destined to the U.S.

Page 5 - Service Status Report, The Kansas City Southern Railway Company – April 5, 2018

KCS has done its part to increase the capacity of the bi-level and tri-level pool. KCSM has invested in 550 bi-levels over the past two years, and over the past nine years has increased its investment in tri-levels from less than 100 to over 1000. Overall, KCSM's contribution to the bi-level and tri-level pools in the past nine years has increased 124%. Moreover, cycle times of automotive equipment on KCSM in the first portion of the year have been better even than 2017.

Nevertheless, due to certain terminating carriers' inability to adhere to TTX directives to fill KCSM car orders, KCSM's shippable ground count (finished autos awaiting loading and transport) was more than fifty percent above target as of late March. As an originating carrier, KCSM relies on the U.S. roads that terminate traffic to supply KCSM with the empty cars required to meet loading requirements. For the first three weeks of March, KCSM received approximately 50% of the bi-levels ordered.

Service problems in south Texas have compounded problems with accessing automotive equipment to move Alliance members' products. The majority of the empty autorack trains for loading on KCSM are moving through the Houston area on the terminating U.S. carriers to get to KCSM interchange points. The Houston area service problems described elsewhere in this letter affect automotive moves, as well as grain and others.

In summary, while most of the KCSR network is operating normally, KCSR is seeing industry service problems in south Texas, affecting automotive, grain and other types of traffic. KCSR is applying resources and is adequately equipped to meet expected demand, but a continued lack of available reroutes or lack of improvement in the circumstances that are impairing access through Houston will impede our recovery efforts.

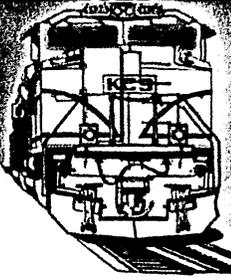
Should you have further questions, please do not hesitate to contact me.

Sincerely,



Patrick J. Ottensmeyer
President & CEO
Kansas City Southern

Enclosure



March 13, 2018 / 13 de marzo de 2018

KCS places a high priority on ensuring our lines are maintained and operating at their optimal performance and Maintenance of Way work is critical to achieving this. Our goal is to minimize any customer inconveniences the work may cause.

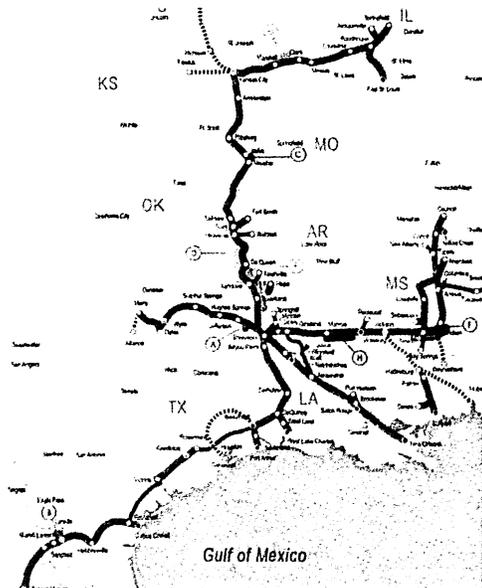
Beginning on April 3, 2018, Kansas City Southern will begin performing maintenance of way improvements on the following areas within the KCSR network.

Greenville Subdivision			
A	June 26, 2018	July 3, 2018	MP 40.4 just east of Jefferson, TX
Laredo Subdivision			
B	June 26, 2018	July 3, 2018	Laredo Yard
Heavener Subdivision			
C	May 15 2018	July 3, 2018	Saginaw, MO (162.5 - 166.9)
Shreveport Subdivision			
D	April 3, 2018	May 8, 2018	Heavener, OK to DeQueen, AR (338 - 433)
E	May 1, 2018	May 8, 2018	Vandervoort, AR to South Texarkana, TX (400-490)
Meridian Subdivision			
F	May 15, 2018	June 5, 2018	Meridian, MS to Morton, MS (vm0-61)
Mexico Subdivision			
G	June 26, 2018	July 3, 2018	Mayview, MO to Armstrong, MO (439-372)
Vicksburg Subdivision			
H	June 12, 2018	June 19, 2018	Delhi, LA & Rayville, LA (30.4 - 58)

There is potential for delays during this time. Our customer service team will be monitoring the impact this maintenance may have on our customers' schedules and will notify those with potential significant impacts.

Should you have any questions related to potential delays or these maintenance efforts, please do not hesitate to contact our [KCSR Customer Solutions](#) team. KCSR Customer Solutions analysts are monitoring the situation and can provide additional information specific to your shipment.

We apologize for any inconvenience and we appreciate your patience as we improve our rails.



Contact KCS

U.S. Customer Solutions:
800-468-6527 (800-GO-TO-KCS)
customer_solutions@kcsouthern.com

Quick Links

- [Website](#)
- [MyKCS](#)
- [News Releases](#)
- [KCS Network Map](#)
- [Service Status Updates](#)
- [Privacy Policy](#)

Contacto KCSM

Mexico Soluciones al Cliente:
01-81-8852-7777 (desde Mexico)
888-812-9512 (desde EEUU)
vozdelcliente@kcsms.com.mx

Enlaces

- [Sitio de Internet](#)
- [MyKCS](#)
- [Comunicados de Prensa \(ingles\)](#)
- [Mapa de la Red KCS](#)
- [Actualizaciones de estado del servicio](#)
- [Política de privacidad](#)

REDACTED – TO BE PLACED ON PUBLIC FILE

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 36500

CANADIAN PACIFIC RAILWAY LIMITED, ET AL.
—CONTROL—
KANSAS CITY SOUTHERN, ET AL.

Verified Statement of Jon Gabriel and Travis Thowe

Exhibit 3

Article: *Rails work to reduce Houston congestion*

https://www.joc.com/rail-intermodal/class-i-railroads/kansas-city-southern-railway/rails-work-reduce-houston-congestion_20190418.html

Rails work to reduce Houston congestion

Ari Ashe, Senior Editor | Apr 18, 2019 6:14PM EDT



Kansas City Southern Railway said on an earnings call that Houston congestion is the single biggest problem it would like to fix in precision scheduled railroading because higher velocities will spread to trains throughout the network. Photo credit: Shutterstock.com

Intermodal shippers moving goods through Houston are facing delays, with Kansas City Southern Railway and Union Pacific Railroad acknowledging congestion and working to address at the rail hub also served by BNSF Railway.

During first-quarter earnings calls, KCS and UP identified Houston as key to fixing their networks through precision scheduled railroading (PSR). The operating model focused on injecting speed and efficiencies into networks hinges on running fewer but longer train sets.

It would be like an airline deciding instead of running 10 half-empty flights, it offers five completely full flights. Every seat has a paying customer, or in the case of a railroad, a load on each railcar. Railroads, unlike airlines, have a finite amount of track rather than a vast horizon. BNSF Railway, KCS, and UP share track near Houston so PSR is supposed to alleviate the congestion.

UP has the largest footprint with two terminals about six miles apart in northeast Houston. Lance Fritz, UP's CEO, said it's a complex market and a challenge for the rails historically. He added that PSR is helping because crews are handling cars less frequently and therefore providing better service.

"We're not the only ones [here]. We have to rely on smooth coordination with other railroads in the area, which we work on every day and we're getting a little better every day," Fritz said on a Thursday earnings call.

UP's terminal dwells have significantly improved in 2019, dropping from 39.1 hours to 29.5 hours year over year in the first quarter, according to the Association of American Railroads (AAR). However, BNSF's performance deteriorated in the first quarter as terminal dwells rose from 27.1 hours to 28.9 hours year over year. KCS doesn't report Houston's terminal dwell to AAR, but it mentioned Houston 15 times on its Apr. 17 earnings call.

Sameh Fahmy, executive vice president of KCS's precision railroading efforts, said Houston is becoming "a bit like Chicago," in that inefficiencies can harm the entire network. He called Houston his biggest challenge because increasing train velocity benefits shippers in other markets to the west and north since congestion leads to trains bunching elsewhere.

"When you have pinch points where the grid is very tight and the capacity is limited, one of the things you want to do is to reduce the number of trains as much as possible. So you consolidate and you combine trains because the slots for every train are limited," Fahmy said.

KCS is also beginning to explore shorter routes around Houston to assist UP and BNSF.

"They help the other railroads because they can take us out of the grid and reduce the congestion," Fahmy said. "it's a nice challenge to have because it is something that has been hindering KCS for a long, long time."

Rail shippers, both intermodal and non-intermodal, will benefit if a unified solution can be implemented by UP's Jim Vena and KCS's Fahmy, both PSR veterans who worked together at Canadian National Railway under the late E. Hunter Harrison, who is credited with refining the operating model.

Contact Ari Ashe at ari.ashe@ihsmarkit.com and follow him on Twitter: [@arijashe](https://twitter.com/arijashe).

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 36500

CANADIAN PACIFIC RAILWAY LIMITED, ET AL.
—CONTROL—
KANSAS CITY SOUTHERN, ET AL.

Verified Statement of Jon Gabriel and Travis Thowe

Exhibit 4

Article: KCS, UP clear a path through Houston

<https://www.trains.com/trn/news-reviews/news-wire/14-kcs-up-clear-a-path-through-houston/>

KCS, UP clear a path through Houston NEWSWIRE

By Bill Stephens | May 14, 2019

Join effort addresses bottleneck in Texas terminal; improvements also coming for KCS border crossing at Laredo



A southbound Kansas City Southern merchandise train with a distributed power unit on the tail end passes the joint customs inspection station in Laredo, Texas, as it crosses the International Railway Bridge over the Rio Grande in November 2017.

Bill Stephens

BOSTON — Kansas City Southern and Union Pacific have worked together to improve the handling of KCS cross-border trains moving through the congested Houston terminal on UP trackage rights.

At its worst, congestion in Houston could force KCS to stage two dozen trains as far away as Shreveport, La., and Kansas City, Mo., to the north and Laredo, Texas, and points in Mexico on the south, says Sameh Fahmy, the executive vice president of Precision Scheduled Railroading at KCS.

But after top operating officials from UP and KCS spent two and a half days at the joint dispatching center in Spring, Texas, in March, velocity is up and the number of parked trains is way down, Fahmy told an investor conference on Tuesday as part of a broader update on the railway's shift to Precision Scheduled Railroading.

"Now we are seeing a huge improvement in Houston," Fahmy says of the effort to identify and fix bottlenecks that slowed KCS through trains and made for inconsistent transit times.

At one point in March, velocity of KCS trains moving through Houston bottomed out at an average of 6 mph, Fahmy says. On Monday average velocity through Houston was 13.5 mph and only two trains were staged on KCS lines, he says.

KCS sometimes contributed to its own operating problems in Houston by not having crews on hand to take trains after they had been staged. The railway has taken steps to fix that problem, Fahmy says.

KCS also is working to smooth operations at Laredo, North America's busiest international freight rail gateway.

By the end of May, KCS expects customs process improvements to eliminate the current six-hour directional windows that govern movements across the International Railway Bridge that spans the Rio Grande. American and Mexican customs officials will begin sharing x-ray images of trains for trains moving in both directions.

The new arrangement will end a significant source of delays: If a southbound train arrives a half-hour after the bridge flips to northbound operation, for example, it might incur a 5½-hour delay until customs officials are in place for southbound traffic, Fahmy explains.

At the north end of its system, KCS has worked with Canadian Pacific to improve merchandise traffic interchange at their joint Knoche Yard in Kansas City.

KCS builds a St. Paul, Minn., block for CP at Shreveport, while CP builds a Shreveport block at St. Paul, and the traffic runs through Kansas City. Both railways were able to abolish a yard job in Kansas City, Fahmy says, which has significantly reduced volumes in East Yard.

From a systemwide perspective, KCS operations are improving but remain what Fahmy calls a work in progress. Average train speeds are up, terminal dwell is down, and car miles per day is up.

REDACTED – TO BE PLACED ON PUBLIC FILE

KCS has consolidated southbound cross-border intermodal trains at its Sanchez Yard in Nuevo Laredo, Mexico, including traffic interchanged with UP at Laredo. Train lengths are up 30%, to 8,500 feet, as train starts were reduced by nearly a third, Fahmy says.

The railway also slashed intermodal transit times in April as part of the changes. [See [“Kansas City Southern adopts faster intermodal schedules to Mexico,”](#) Trains News Wire, April 29, 2019.]

Fahmy spoke at the Bank of America Merrill Lynch 2019 Transportation Conference.

REDACTED – TO BE PLACED ON PUBLIC FILE

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

FINANCE DOCKET NO. 36500

**CANADIAN PACIFIC RAILWAY LIMITED, ET AL.
—CONTROL—
KANSAS CITY SOUTHERN, ET AL.**

Verified Statement of Sarah Whitley Bailiff

My name is Sarah Whitley Bailiff. I am Assistant Vice President of Contracts and Joint Facilities at BNSF Railway Company (“BNSF”), and have held this role since 2007. I have worked at BNSF my entire career, starting in 1988 as an intern, before joining full-time in May 1989 as an attorney in BNSF’s legal department.

As Assistant Vice President of Contracts and Joint Facilities, I lead a BNSF team responsible for drafting, analyzing, negotiating, and administering BNSF’s contracts for shared railroad assets and jointly-owned companies with other rail carriers, including trackage rights agreements and similar joint operating contracts between BNSF and other railways on shared use lines. My team administers over 8,000 miles of trackage rights on foreign lines, over 5,000 miles of foreign carrier trackage rights on BNSF’s network, and over 1,750 miles of haulage rights via foreign carriers. My team also has budgetary responsibility for BNSF’s extensive network of trackage rights and haulage arrangements. In 2021, BNSF’s total expenditures for trackage rights and haulage arrangements, including operating fees and contractually required capital contributions, for its entire extended network on foreign carriers well exceeded a quarter of a billion U.S. dollars.

In their Verified Statement, my colleagues Jon Gabriel and Travis Thowe describe how The Kansas City Southern Railway Company (“KCS”) connects to its Mexican affiliate, the Kansas City Southern de México (“KCSM”), at Laredo, Texas by operating over a through route in Texas, generally paralleling the Gulf of Mexico coast and running through Houston and further eastward to a point of connection with the KCS core network at Beaumont, Texas. This “KCS Texas Gulf Route” consists of a number of connected line segments, all owned and operated by some combination of KCS, BNSF, Union Pacific Railroad Company (“UP”), and the

Houston Belt and Terminal Railroad Company (“HBT”), a terminal company jointly owned and operated by BNSF and UP. (*See* V.S. Gabriel-Thowe 6.) Messrs. Gabriel and Thowe explain that Applicants project that the CP-KCS transaction will result in eight to 11 new CP-KCS trains per day on the KCS Texas Gulf Route – more than doubling current KCS rail traffic volume on most of these line segments. (*Id.* at 5.) Messrs. Gabriel and Thowe also explain that this new traffic volume will likely require capacity improvements not yet identified by Applicants. (*Id.* at 3-4.)

I understand that Applicants have done analyses of capacity improvements that will be needed to handle the traffic increases on a number of their rail lines north of the KCS Texas Gulf Route and that they have presented cost estimates of the required improvements. Having done these analyses on lines north of the KCS Texas Gulf Route, it is particularly striking that Applicants have not identified any capacity improvements on the KCS Texas Gulf Route, over which all of the new Mexico-related traffic that Applicants assume will be diverted to the new CP-KCS will run. The lack of any discussion of these possible capacity needs in the Application is cause for concern that Applicants may seek to avoid responsibility for the capacity-related costs that are caused by their proposed merger.

I also understand that Applicants have stated that capacity-related issues on the KCS Texas Gulf Route caused by the proposed merger might need to be addressed under existing commercial agreements involving the owners of the lines at issue. Applicants stated that “perceived capacity concerns at Houston” might need to be addressed “commercially under the governing trackage rights agreements, which provide for capacity expansions to facilitate increases in KCS traffic.” (Applicants’ Reply to Union Pac.’s “Pet. to Reject Application as Incomplete” 12-13, Nov. 22, 2021.) BNSF is a party to some of those agreements, and I have

included them with my workpapers submitted to the Board. Those agreements have a number of provisions for the sharing of costs among the users of the lines.

Many of the contracts that govern the joint use or ownership of the line segments that comprise the KCS Texas Gulf Route generally allocate costs for additions or betterments (*i.e.*, expansion capital) based on a railroad's historic usage of the line. In these contexts, usage is calculated by dividing a railroad's gross ton miles ("GTMs") over a specific line by the total GTMs on that line. While many trackage rights contracts allocate capital contribution requirements based on GTM-proportionate usage, for jointly-owned assets, capital contributions may be shared on a 50-50 basis. Additions or betterments requiring shared capital contributions may include (but are not limited to) new sidings or extensions thereof, new Centralized Traffic Control, grade separations, and future connections. The contracts vary as to how they deal with other third parties using the lines. Often (but not always) the owner is responsible for paying the costs attributable to the third party, and such owner may have a separate agreement with the third party to recoup those costs.

These cost allocation provisions work well to address organic growth that occurs over time across all users. But the contracts are not designed to properly allocate costs in the context of sharp single-carrier growth caused in the near-term future by an event like the CP-KCS consolidation. Applicants' reference to these existing cost-sharing arrangements as the possible framework for determining how to allocate the costs of capacity improvements, and Applicants' utter failure to address possible capacity needs on the KCS Texas Gulf Route, suggest that Applicants may seek to have BNSF or other railroads pay for some portion of the capacity improvements that would not be needed but for their merger. This

subsidization would be totally inappropriate, anticompetitive, and contrary to the public interest. Merging railroads should be exclusively and fully responsible for the costs of capacity improvements caused by their merger's traffic volume increases. They should not be allowed to impose the costs of a merger on other railroads and the shippers served by other railroads.

If the Board approves the Transaction, I respectfully urge the Board to impose a condition that CP-KCS shall be solely responsible for funding any capital improvements on the KCS Texas Gulf Route that would not be required but for the new CP-KCS traffic that would result from the proposed merger.

VERIFICATION

I, Sarah Whitley Bailiff, declare under penalty of perjury that the foregoing is true and correct. Further, I certify that I am qualified and authorized to file this verified statement.

/s/ Sarah Whitley Bailiff

Sarah Whitley Bailiff

Executed on February 28, 2022.

REDACTED – TO BE PLACED ON PUBLIC FILE

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 36500

CANADIAN PACIFIC RAILWAY LIMITED, ET AL.
—CONTROL—
KANSAS CITY SOUTHERN, ET AL.

Verified Statement of David Reishus, PhD

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO 36500

CANADIAN PACIFIC RAILWAY LIMITED; CANADIAN PACIFIC RAILWAY COMPANY; SOO LINE RAILROAD COMPANY; CENTRAL MAINE & QUEBEC RAILWAY US INC.; DAKOTA, MINNESOTA & EASTERN RAILROAD CORPORATION; AND DELAWARE AND HUDSON RAILWAY COMPANY, INC.

– CONTROL –

KANSAS CITY SOUTHERN, THE KANSAS CITY SOUTHERN RAILWAY COMPANY, GATEWAY EASTERN RAILWAY COMPANY, AND THE TEXAS MEXICAN RAILWAY COMPANY

**Verified Statement of
David Reishus, Ph.D,**

February 28, 2022

TABLE OF CONTENTS

I.	INTRODUCTION.....	1
	A. WITNESS INTRODUCTION	1
	B. BACKGROUND AND ASSIGNMENT	1
	C. SUMMARY OF CONCLUSIONS	2
II.	OVERVIEW OF PROPOSED CP-KCS TRANSACTION	5
III.	ECONOMIC FRAMEWORK FOR ANALYZING COMPETITIVE EFFECTS OF MERGERS	9
	A. VERTICAL RAIL MERGERS	9
	B. VERTICAL INTEGRATION AND VERTICAL FORECLOSURE	11
	1. Single Monopoly Profit.....	12
	2. Modern Understanding of Vertical Foreclosure.....	14
	C. VERTICAL MERGERS AND REGULATORY EVASION	16
	D. SUMMATION.....	19
IV.	EXISTING EVIDENCE ON POTENTIAL FORECLOSURE.....	20
	A. VERTICAL RAIL INTEGRATION AND THE LAREDO GATEWAY	20
	B. EVIDENCE ON LAREDO TRAFFIC IN 2019	25
	1. Dr. Majure’s Method.....	25
	2. Differences in Traffic Type Reveal Differences in Market Outcomes	29
	3. Adjusting for Traffic ‘Served’ by KCS.....	34
	4. Evidence from 2019 Rejects a Presumption of No Foreclosure Against BNSF for Traffic over the Laredo Gateway.....	37
	C. BNSF’S EXPERIENCE WITH THE LAREDO GATEWAY DOES NOT SUPPORT A FINDING OF NO FORECLOSURE.....	38
	1. BNSF’s Laredo Traffic Collapsed Following the Integration of KCS-Tex Mex-KCSM.....	38
	2. BNSF Has Continued to Lose Carload Business to the Integrated KCS-Tex Mex-KCSM	41
	D. SUMMATION.....	44
V.	THE PROPOSED TRANSACTION PROVIDES ADDITIONAL INCENTIVES TO PRECLUDE COMPETITION AT THE LAREDO GATEWAY	45
	A. THE PROPOSED TRANSACTION SUBSTANTIALLY EXPANDS THE TRAFFIC POTENTIALLY SUBJECT TO VERTICAL COMPETITIVE HARM ACROSS THE LAREDO GATEWAY	45

- B. POTENTIAL APPROACHES FOR PREVENTING POTENTIAL VERTICAL COMPETITIVE HARM ACROSS THE LAREDO GATEWAY 48
- VI. MERGER-INDUCED CONGESTION, RAISING RIVAL’S COSTS, AND HARM TO SHIPPERS 51**
 - A. ECONOMICS OF RAIL CONGESTION EXTERNALITIES 51
 - B. MERGER-INDUCED CONGESTION IMPOSED ON OTHER RAILROADS RAISES RIVAL’S COSTS AND CREATES COMPETITIVE HARM..... 53

I. INTRODUCTION

A. WITNESS INTRODUCTION

1. My name is David Reishus. I am an Executive Vice President at Compass Lexecon in Boston, Massachusetts. Compass Lexecon is an economics consulting firm with offices in various cities throughout North America, South America, Europe, and Asia. I earned my M.A. and Ph.D. degrees in economics from Harvard University.

2. Over the past 25 years, I have worked extensively on the organization of markets, competition, and firm behavior in a variety of industries. I have testified before various state, Federal and international bodies on competition issues, primarily in the natural resources, energy, and transportation industries. I have provided testimony multiple times before the Surface Transportation Board (the “STB”) on matters involving competition in the railroad industry.

3. I have analyzed competition issues associated with railroad merger transactions and associated conditions on those mergers. I participated in the analysis of the competitive effects and associated merger conditions for the major railroad consolidations in the 1990s involving Union Pacific/Southern Pacific, Burlington Northern/Santa Fe, and the Conrail transaction. In addition, since then I have testified before (or presented to) the responsible government authorities regarding competitive issues arising from proposed transactions involving railroads in the U.S., Canada, and Mexico. I recently testified on the competitive impacts of the proposed transaction between CSXT and Pan Am Systems. My full vita is attached as Appendix A.

4. The opinions expressed are my own, and do not necessarily represent those of my employers or their other employees.

B. BACKGROUND AND ASSIGNMENT

5. I have been asked by BNSF Railway Company (“BNSF”) to analyze the competitive effects, if any, of the proposed acquisition by Canadian Pacific (“CP”)¹ of Kansas City Southern (“KCS”). KCS encompasses Kansas City Southern Railway (“KCSR”) and affiliates, The Texas Mexican Railway Company (“Tex Mex”) and Kansas City Southern de México, S.A. de C.V.

¹ CP refers collectively to Canadian Pacific Railway Limited, Canadian Pacific Railway and their U.S. rail carrier subsidiaries.

(“KCSM”). The acquisition of KCS by CP (collectively the “Applicants”) would create a post-transaction integrated railroad system (“CP-KCS”) that connects Canada, the U.S., and Mexico.

6. I have been asked to analyze and respond to the submissions of the Applicants regarding the competitive effects of the transaction. In particular, I address the arguments and support in the Verified Statement of W. Robert Majure, Ph.D. (“Majure V.S.”) for his conclusion that a combined CP-KCS is “not likely to impair competition through vertical effects.”² Dr. Majure’s conclusion is empirically grounded on his review of existing KCS Mexico traffic.

7. I have been specifically asked to examine the competitive implications of the proposed transaction with respect to traffic to and from Mexico. KCSM is the current exclusive concessionaire for the Mexican Northeast railway line with border crossings at Laredo and Brownsville. At the Laredo border crossing, KCSM interchanges with Union Pacific Railroad Company (“UP”) and, after traveling over the KCS-owned Tex Mex line, with BNSF at Robstown. Applicants have identified additional traffic for CP-KCS to and from Mexico, either new or diverted from other railroads, as a significant effect of the proposed transaction.

8. Applicants indicate that the proposed transaction would result in economically significant shifts or additions of traffic along portions of the U.S. rail network. I have been asked to explain the economics of congestion and its implications for evaluating the competitive impacts of the proposed transaction.

9. Finally, I have been asked to evaluate the economics of possible remedies with respect to the potential competitive impacts of the proposed transaction.

C. SUMMARY OF CONCLUSIONS

10. The proposed transaction is predominantly an end-to-end merger. As such, the competitive issues from the merger that I identify result from the vertical integration between the Applicants. Potential vertical competitive harm to shippers arises from the relationships between the merged CP-KCS and interconnecting railroads.

11. Under the U.S. regulatory regime, vertical rail mergers have traditionally been viewed as posing little risk of competitive harm. The “one-lump theorem” concludes that any existing market

² Majure V.S. p. 24.

power has already been priced into the railroad that possesses market power relative to any shipper. In this view, vertical integration provides no additional market power to the merging railroads and there will be no competitive harm. This theorem, however, does not apply under different regulatory systems. In particular, under the non-discriminatory pricing regime applicable in Mexico, vertical integration can provide the incentive and ability to foreclose competitive options that result in higher prices and/or reduced service for shippers.

12. Advances in the economic understanding of the potential harms that can arise from vertical mergers have led to a far more skeptical view of the presumption of no harm. This understanding is reflected in the issuance of the 2020 Vertical Merger Guidelines. Although many of these concerns do not readily apply to the rail industry, concerns about bargaining and bundling raise the possibility that vertical mergers can result in higher prices to shippers.

13. The evidence provided by Applicants' expert, Dr. Majure, to argue that the vertical merger poses no competitive threat to shippers, is deficient. Dr. Majure's analysis is limited to an aggregated view of northbound traffic over the Laredo gateway in 2019. The Laredo gateway is the largest and most important trade gateway between the U.S. and Mexico, although southbound traffic accounts for greater volume and {{[REDACTED]}} than northbound traffic. A more detailed and expansive analysis is inconsistent with the absence of competitive harm or vertical foreclosure.

14. The evidence with respect to the Laredo gateway shows:

- KCS' share of traffic in 2019 depends on the nature of the traffic. The experience of carload traffic compared to intermodal and automotive traffic shows very different outcomes.
- KCS captures {{[REDACTED]}} of southbound carload traffic and {{[REDACTED]}} of northbound carload traffic that KCS is capable of diverting.
- BNSF successfully competes for less than {{[REDACTED]}} of the carload traffic over the Laredo gateway that is potentially divertible by KCS in either direction.
- Carload traffic, particularly southbound, accounts for the {{[REDACTED]}} over the Laredo gateway. This evidence is consistent with KCS' ability to foreclose BNSF from competing for traffic that KCS could serve.

15. A review of BNSF historical traffic data shows a sharp decline in all traffic types over the Laredo gateway following the 2005 vertical integration of the KCSM-Tex Mex-KCSR system. Carload traffic fell sharply and has never recovered. BNSF intermodal and automotive traffic was effectively wiped out for a decade following the 2005 vertical integration. Starting in 2016, BNSF was able to move finished automobiles from Mexico mostly under a new contract. BNSF and KCS also reached agreement and cooperation regarding intermodal traffic. The agreement led to a rapid increase of likely incremental, truck-competitive shipments for KCS and KCSM that KCS was unlikely to obtain absent this cooperation. The post-2016 experience of BNSF automotive and intermodal compared to carload traffic highlights the ability and incentive of KCS to compete for or foreclose BNSF and its shippers as economic incentives and circumstances permit.

16. The potential transaction substantially alters the existing incentives of KCS over the Laredo gateway. Applicants' analyses show that the proposed transaction will {{ [REDACTED] }} the revenue over the Laredo gateway that Applicants anticipate obtaining or represent as potentially divertible as a result of the transaction. This large increase in potential revenue provides the merged carriers the incentive to capture traffic for themselves and foreclose competing carriers from obtaining this traffic.

17. A variety of potential remedies for vertical competitive harm over the Laredo gateway exist. Ideal remedies would preserve competitive outcomes while responding to market forces in an easy to administer fashion. A proposal similar to the I-5 Proportional Rate Agreement applied in the UP-SP merger, as suggested by BNSF, meets these criteria. The experience of the I-5 agreement, which has been in effect for 25 years, demonstrates the robustness of this approach for providing market-responsive competitive rates.

18. The Applicants' proposal, as structured, also risks creating competitive harm by raising rival railroads' costs. The proposed transaction anticipates substantial increases in volumes across shared track throughout the Texas Gulf Coast and across the Houston rail complex. To the extent that merger-related increases in traffic stress the existing capacity in this region it will impose congestion related costs on its competitors, UP and BNSF, and their shippers. CP-KCS does not have the economic incentive to internalize these costs. These congestion costs external to KCS would result in an economically inefficient level of congestion that would be borne by CP-KCS' competitors and their shippers. If additional investments are required to expand capacity and

relieve congestion in response to the merger, then any attempt to use existing arrangements to impose costs on the competing carriers would effectively subsidize the merger at the expense of shippers served by their competitors. Consistent with the principle of having the merging parties bear merger-related costs, BNSF seeks for CP-KCS to bear the full cost of any investments in additional capacity required to handle merger-related additional traffic.

II. OVERVIEW OF PROPOSED CP-KCS TRANSACTION

19. The proposed CP-KCS transaction is an “end-to-end” merger. CP and KCS serve no common shippers and connect only in Kansas City. The proposed transaction will combine CP’s network, that extends across Canada, the U.S. Northeast and upper Midwest, with KCS’ smaller network that runs between Kansas City, the U.S. Southeast, and through Texas and, over the KCS-owned Tex Mex, connecting with the KCSM network that serves Northeast Mexico, connecting with Mexico City and Atlantic and Pacific Mexican ports.³ The transaction greatly extends the combined reach of both KCS and CP. As such, the predominant competitive effects of the transaction arise from the vertical, end-to-end nature of the proposed transaction.⁴ (See Figure 1.)

³ STB F.D. No. 36500, Notice of Intent (CP-1/KCS-1), March 22, 2021, p. 4.

⁴ An end-to-end merger may still have horizontal effects through a reduction in geographic competition arising from a reduction in the number of independent railroads serving competitive but geographically dispersed sources or uses of some product. Similarly, the elimination of parallel but non-coextensive routings may result in a loss of horizontal competition in some markets. Per my assignment, I have not analyzed these potential issues.

Figure 1
Overview Map of Proposed Transaction



Source: Majure V.S. Exhibit 1, p. 7.

Note: This map plots the rail networks of CP and KCS including tracks that each railroad either owns or has trackage rights over.

20. CP and KCS have emphasized the transnational nature of the proposed transaction. The transaction creates the first integrated rail pathway connecting the U.S., Mexico, and Canada and Applicants “are convinced that many shippers will choose to use the combined KCS/CP network for United States/Canada/Mexico movements”.⁵ KCS acknowledges that, “[a]ny way you look at

⁵ Verified Statement of Keith Creel, October 29, 2021 (“Creel V.S.”), p. 5; Verified Statement of Patrick J. Ottensmeyer, October 29, 2021 (“Ottensmeyer V.S.”), p. 18.

us, ... KCS is 50% in Mexico.”⁶ Mexico trade is expected to grow significantly; the IMF projects the value of Mexico’s merchandise imports and exports both grow by more than 25% between 2019 and 2025.⁷ Extended access to the fast growing Mexico market with anticipated new and diverted traffic to and from Mexico attributed to the transaction is identified by the Applicants as an important public benefit, and represents a significant source of financial contribution to the Applicants resulting from the merger.⁸

21. The KCS network crosses the Mexico border at Laredo and KCS owns and operates rail lines on both sides of that gateway. Laredo is the most important gateway between the U.S. and Mexico with the most direct access to Monterrey and Mexico City from the heart of the U.S. (See Figure 5 below.) The Laredo rail gateway accounts for 44 percent of the tonnage and 54 percent of the value of freight, equal to more than \$44 billion, carried by railroads across the U.S. Mexican border in 2019.⁹ KCSM is the sole serving Mexican railroad at both Laredo and Brownsville, and KCSM is responsible for moving the majority of the value of freight carried by rail that is exchanged between the U.S. and Mexico.

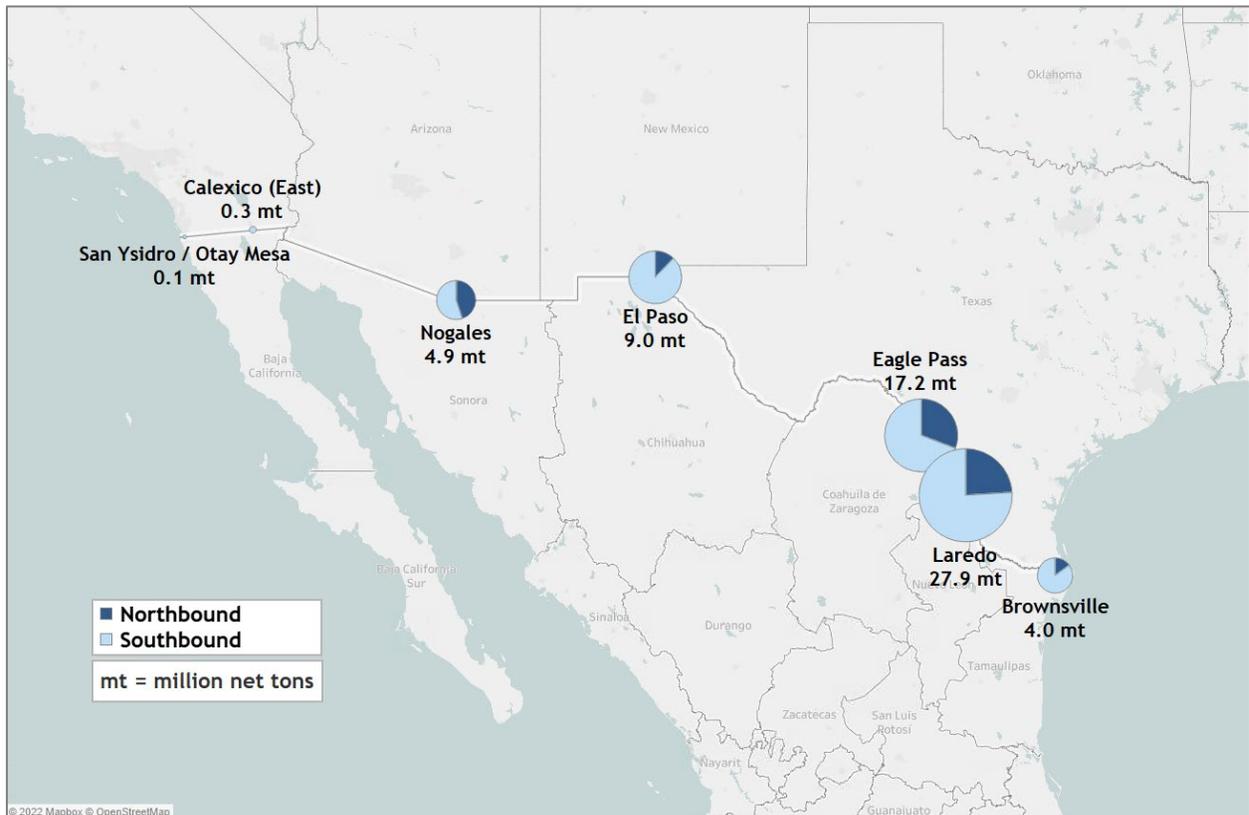
⁶ Ottensmeyer V.S. p. 18.

⁷ International Monetary Fund, Mexico: 2021 Article IV Consultation (November 2021) containing Staff Report for the 2021 Article IV Consultation, (November 2021), IMF Country Report No. 21/240. Washington DC., Table 4A, available at <https://doi.org/10.5089/9781557753144.002> (accessed February 26, 2022).

⁸ See e.g., Ottensmeyer V.S., p. 18. See also Verified Statement of Jonathan Wahba and Michael J. Naatz, October 29, 2021 (“Wahba and Naatz V.S.”), pp. 6-7 and Verified Statement of Richard W. Brown and Nathan S. Zebrowski, October 29, 2021 (“Brown and Zebrowski V.S.”), p. 54.

⁹ See my backup materials.

Figure 2
Rail Shipments by Border Crossing
Freight Tons, By Direction, 2019



Sources: Agencia Reguladora del Transporte Ferroviario (ARTF), *Anuario Estadístico Ferroviario 2019*, Tabla 2-4 & Tabla 2-6.

Notes:

- 1) Shipment volume is recorded by ARTF in million net tons (*toneladas netas*). This measuring unit is used to quantify the net weight of the shipment and serves to determine the applied tariff.
- 2) Northbound and Southbound traffic recorded above reflect Export and Import data from the ARTF respectively.

22. The U.S., Canada, and Mexico apply different legal and administrative systems for regulating rail traffic and service. Traffic over the Laredo gateway, which is anticipated to both grow and divert from other interconnecting railroads as a result of the proposed transaction, is subject to different regulatory regimes applicable to KCSM on the Mexico side, and Tex Mex, KCSR and the interconnecting BNSF and UP carriers on the U.S. side of the gateway. As the transnational aspects of the merger are central to its anticipated effects and claimed benefits, these different regulatory approaches must be considered in evaluating the anticipated effects of the merger. After presenting the economic framework for evaluating vertical end-to-end mergers relevant to this transaction, I return to analyze the Laredo gateway in more detail.

III. ECONOMIC FRAMEWORK FOR ANALYZING COMPETITIVE EFFECTS OF MERGERS

A. VERTICAL RAIL MERGERS

23. Mergers can increase efficiency and provide lower prices and/or better service to the benefit of the merging firms' customers. Conversely, mergers can also reduce the competitive options available to the merged firms' customers and allow the merged firm to raise prices. The economic analysis of mergers and specifically of the competitive effects of mergers is intended to distinguish those mergers that threaten to reduce competition from those that do not meaningfully threaten to reduce competition. There is no economic basis in antitrust principles to block mergers that do not threaten competition, particularly those that will allow the merged firms to achieve merger-related efficiencies and other public benefits through post-merger reduced prices and/or service benefits. Such pro-competitive changes may benefit customers but leave competitors worse off if they are unable to match the efficiency gains. Sound merger policy permits pro-competitive effects of mergers while mitigating any potential reductions in competition that harm consumers. Sound policy is designed to protect competition, not competitors.

24. There are well-documented, pro-competitive benefits associated with railroad mergers.¹⁰ Mergers often allow railroads to improve their networks and their operations to provide higher-quality service for shippers. Network efficiencies may include new, previously unavailable single-line service, which is recognized as typically a higher-quality alternative to interline service. Operational efficiencies can include improved car handling, scheduling, customer service, and network coordination, all of which benefit shippers.

25. When two railroads merge and make common pricing, service and capacity decisions for the combined railroad, there is also the potential for competitive harm arising from a loss in horizontal competition among railroads that reduce the competitive options to shippers. If the reduction in competition is sufficient, prices may rise and/or output fall, harming consumers.

¹⁰ See, Breen, Denis A., "The Union Pacific/Southern Pacific Rail Merger: A Retrospective on Merger Benefits," *Review of Network Economics*, Vol. 3, Issue 3 (2004). See, also, Winston, Clifford, Vikram Maheshri, Scott M. Dennis, "Long-Run Effects of Mergers: The Case of U.S. Western Railroads," *The Journal of Law & Economics*, Vol. 54, No. 2 (2011).

26. Concerns that an end-to-end railroad merger will foreclose competition sometimes arise because the merged railroad will use its newly extended network to harm competition with interline carriers in a manner that will harm shippers. These competitive concerns usually entail some form of vertical foreclosure that reduces the effectiveness of competitors and/or raises rates to shippers. In the context of the U.S. rail industry and corresponding U.S. regulatory framework, since at least the early 1980s and through the 1990s these concerns were given limited weight in the merger reviews conducted by the Interstate Commerce Commission and the STB. Since the imposition in 2000 of the merger moratorium and subsequent updated merger regulations, however, there had not been, until now, a proposed merger between Class I railroads. In this proposed transnational transaction among Class I railroads, differences in regulatory frameworks across nations, and recent advances in the economic understanding of vertical competitive harms require a more thorough consideration of the effects of the proposed transaction.

27. The proposed transaction is primarily an “end-to-end” merger, meaning that the primary economic effect is to connect rail routes end-to-end under common ownership. An end-to-end, or “vertical,” merger combines rail networks that are *complements* rather than competitive *substitutes*. In a purely end-to-end merger there may be no shippers that are directly served by the two merging railroads that would see a reduction in the number of railroads serving these shippers.¹¹

28. Vertical mergers may provide an opportunity to obtain efficiency and service improvements through the provision of single-line service that previously would have required interline service and may be more difficult to achieve through non-merger arrangements. New single-line service is frequently recognized as a primary potential benefit to shippers from the merger of the railroads. In addition, the merged railroad may have the incentive to charge lower through rates than the total of the rates charged by independent interlining railroads each with some market power due to inefficient pricing incentives.¹²

¹¹ An end-to-end merger may still pose concerns regarding a loss of horizontal competition if it results in an economically-relevant reduction in geographic competition or competition across competing lanes. I do not address these issues of horizontal competition in this report.

¹² See Carlton, Dennis W., and Jeffrey M. Perloff, *Modern Industrial Organization*, 4th Ed., Pearson (2005), pp. 415-417. Elimination of double marginalization (EDM) is often viewed as a benefit of vertical integration. See

29. Vertical mergers may pose concerns about potential competitive harm.¹³ These concerns may take the form of foreclosure or raising rivals' costs, either of which may reduce competition to products provided by the vertically-merging entities. In foreclosure, the merged company may refuse to sell required inputs (or, equivalently, establish prices so high or reduce services sufficiently as to make the inputs uneconomic) a competing firm uses to provide a competing service. This can harm existing competitors and customers, provoke exit, or deter entry of other competitors for some portion of the vertical chain of production. In the case of the railroads, this takes the form of refusing to interchange (i.e., closing an economically efficient gateway), or establishing prices and services across a gateway such that the rates are non-commercial or set at a level that reduces competition and results in higher prices to shippers. Similarly, raising rivals' costs can reduce competition by raising the costs of competing service providers.

30. Vertical mergers among railroads pose additional potential competitive issues. In regulated industries, vertical mergers may allow the evasion of price regulation constraints absent additional regulatory restrictions.¹⁴ Where price caps or non-discrimination requirements apply to one railroad or segment, vertical integration may avoid the effect of these regulations and create opportunities for increased rates and/or foreclosure. Similarly, where railroads share use of common assets, the merged entity can benefit itself (and its shippers) by imposing merger-related costs onto competing railroads to the detriment of their competitor and their shippers.

B. VERTICAL INTEGRATION AND VERTICAL FORECLOSURE

31. In evaluating the potential anticompetitive effects arising from a vertical merger, two conditions are considered.¹⁵ First, does the transaction provide the merged firm the *ability* to cause a competing firm to lose business or compete less aggressively by changing the terms at which it provides a product to its competitor. In a railroad merger, this corresponds to whether the merged

U.S. Department of Justice and the Federal Trade Commission, Vertical Merger Guidelines, June 30, 2020 ("Vertical Merger Guidelines"), pp. 11-12. Empirical research on rail transportation of coal finds that double marginalization is not generally present and vertical mergers did not provide an EDM benefit. Alexandrov, Alexei, Russell Pittman & Olga Ukhaneva, "Pricing of Complements in the U.S. freight railroads: Cournot versus Coase," Department of Justice, Antitrust Division, Economic Analysis Group, EAG 18-1, April 3, 2018.

¹³ See Vertical Merger Guidelines for an overview of these concerns.

¹⁴ Riordan, Michael H. and Steven C. Salop, "Evaluating Vertical Mergers: A Post-Chicago Approach," *Antitrust Law Journal* 63, no. 2 (1995): 513-568, pp. 562-563.

¹⁵ See Vertical Merger Guidelines pp. 4-5.

railroad can cause its competitor to lose business by altering the price or service on interchange traffic. Second, does the merger create the *incentive* to engage in foreclosure or increase costs to rivals. If foreclosing an interchange, increasing price, or reducing service over the interchange would increase the profitability of the merged railroad, then it would have the incentive to engage in that behavior. If both conditions are met, then significant competitive concerns warrant scrutiny and potential mitigation.

1. Single Monopoly Profit

32. From the early 1980s, traditional analysis of vertical mergers in railroads has been founded on “the one-lump theory.”¹⁶ The one-lump, or single monopoly profit (SMP), approach arose from the ‘Chicago-school’ analysis of law and economics.¹⁷ Under the one-lump theory, there is a single ‘monopoly’ profit that can be obtained from any shipment or shipper. Any firm that has a monopoly in one product cannot use tying or foreclosure to leverage into additional monopoly profit in another product (i.e., an interconnecting rail route.)

33. This approach argues that vertical foreclosure is essentially impossible. Consider an upstream railroad A that has some market power over a sole-served shipper, X, located on its line, that interchanges downstream with multiple, competing interconnecting railroads for delivery to receiver Y.¹⁸ Competition among the interconnecting railroads drives the price of the downstream segment to marginal cost for that move and railroad A collects all of the available monopoly profit available from the move. Vertical integration with one of the connecting railroads does not change the available profit to the merged entity and does not result in a higher through rate to the shipper. The vertical merger has no effect on prices or the profits earned by the merged railroads.

¹⁶ See Majure V.S. p. 15. See, also, *Western Resources, Inc. v. STB*, 109 F.3d 782, 789 (D.C.Cir.1997); *Kansas City Southern – Control – The Kansas City Southern Railway Company, Gateway Eastern Railway Company, and The Texas Mexican Railway Company*, STB Finance Docket No, 34342, Dec. No 12 (STB served November 29, 2004) (“*Tex Mex Decision*”).

¹⁷ See Riordan, Michael H. (2008), “Competitive Effects of Vertical Integration”, in Paolo Buccirossi, *Handbook of Antitrust Economics*, MIT Press, Cambridge, MA for an explanation of the Chicago-school theory, its limitations, and advances since then.

¹⁸ For railroads, this argument is symmetric and does not depend on whether the railroad with pricing power is the upstream or downstream railroad. The choice of the railroad with the “lump” as the originating carrier is for convenience of exposition.

34. Perfect competition is an unrealistic assumption for railroads. Assume there are only two downstream, interconnecting railroads, B and C, that serve the destination.¹⁹ Assume that competition and bargaining among railroad A, the shipper, and competition between railroads B and C will drive the rate for the downstream interconnecting service to the higher of the marginal costs of railroad B or C.²⁰ Railroad A will collect in its division the full amount of the available profit (the SMP or “one lump”) given its market power over its shipper.

35. Now assume that railroad A merges with railroad B; for simplicity, assume no change in costs or service from the merger. If railroad B has a lower marginal cost for the downstream interconnecting service than railroad C, then the merged railroad A-B will carry the traffic. There is no rate that railroad C could accept that would not reduce railroad A-B’s profit if it were to route traffic over the less efficient railroad. Shipper X’s rate has not increased, the traffic moves over the most efficient route, and the profits of railroads A and B are unchanged.

36. If the vertical merger instead is with the higher cost downstream railroad, the SMP result still applies. If the merging downstream railroad B had a higher marginal cost for the interconnecting segment than railroad C, then the merged railroad A-B would be willing to provide a division to railroad C up to railroad B’s marginal cost for the upstream segment. If railroad C accepts this division, then the merged A-B railroad will interline with railroad C; it will not foreclose railroad C from carrying this traffic. Railroad A-B has at least as high a profit from interchanging with C as if it moved the traffic single-line, and shipper X’s rates have not changed. Under the SMP theory, shipper X is not harmed, railroad A continues to collect its lump, and railroad C will continue to interchange traffic as long as it will do so for a division less than or equal to the marginal cost of railroad B handling that traffic. Note that absent other efficiency changes, the vertical merger should not result in a change in the identity of the interchange railroad.

37. This simple story requires a number of assumptions to apply. First, the “products”—rail transportation—must be provided in fixed proportions. Second, the model assumes either relatively easy entry and/or difficulty of exit on the previously competitive portion of the route so

¹⁹ In this example, it is simplest to assume that railroads B and C serve the same destination to which the traffic would move. This assumption corresponds to the idea that the two portions of the shipment form a well-defined market.

²⁰ Depending on the bargaining outcomes, the rate could be anywhere between the two marginal costs, but this would not affect the results.

that future potential competition cannot be eliminated. Third, the model requires various assumptions about the inability to resell the product, flexibility in how prices can be set and structured, what information is available to various railroads and shippers, and how bargaining occurs among shippers and railroads in the absence of perfect competition.

38. More than many industries, the characteristics of the U.S. railroad industry come closer to meeting the assumptions necessary for the single monopoly theorem to hold. As the “product” involves moving specific rail cars, upstream and downstream railroads move the same fixed quantity. While the possible entry of new railroads is mostly irrelevant, it is also difficult to drive railroads permanently from a market through foreclosure. Likewise, under the U.S. regulatory system, railroads have considerable freedom to adjust prices by route, customer, and commodity in order to attempt to maximize the potential differential profit from different movements.

39. This correspondence between the assumptions of the SMP theory and railroading, however, is not precise. Limitations on the ability to fully capture the “lump” absent vertical integration provide incentives to avoid these limitations through vertical integration. More sophisticated understandings of the effects of limited information regarding demand and costs and the process of bargaining when competition is not perfect imply the unintegrated railroad may not always be able to capture the full lump and the results of SMP theory may not apply.

2. Modern Understanding of Vertical Foreclosure

40. The economic understanding of the potential risks of competitive harm from vertical integration has progressed from the previous SMP orthodoxy. There are now numerous economic models of vertical integration that incorporate a wider range of alternatives regarding upstream and downstream competition, bundling, contracting, information, and bargaining. These studies have identified numerous mechanisms that would provide the incentive to engage in some form of vertical foreclosure and/or changes in pricing strategy that result in higher prices or other competitive harm to customers. These mechanisms generally fall into two broad categories. First, vertical integration may raise rivals’ costs. Second, vertical integration enhances the ability to exercise existing market power that was not fully exploited—either through foreclosure or changes in information and bargaining. In either case, customers may be harmed by the transaction. Recent

reviews of numerous transactions provide indications of competitive harm for some number of vertical transactions.²¹

41. These advancements are reflected in the issuance in 2020 of new Vertical Merger Guidelines by the Department of Justice and Federal Trade Commission (“FTC”).²² The guidelines outline a general approach and a variety of non-exhaustive examples that present concerns about competitive harm from vertical integration. In its commentary, the FTC identified a non-exhaustive list of 40 transactions to demonstrate “the breadth of the [Federal Trade] Commission’s investigations and the theories that the FTC applies to analyze vertical transactions.”²³

42. Although some of the concerns identified in the models would not directly apply to the railroad industry, there are analyses that demonstrate the possibility for anticompetitive outcomes from a vertical merger in industries like railroads. For example, one model, fully consistent with the railroad industry, demonstrates competitive harm to shippers from vertical integration.²⁴ Very briefly, it recognizes that railroads are uncertain about other railroads’ marginal economic cost of providing service. Under these circumstances, an upstream railroad with market power is uncertain about the rates the downstream interconnecting carriers will bid.²⁵ In the attempt to capture as much of the profit as possible, the upstream railroad must trade off the risks of not bidding high enough and failing to capture the full “lump” against bidding too high and not getting the business at all. With this tradeoff, the vertically unintegrated railroad fails to capture the full lump and charges rates that are less than the maximum level. With a vertical merger, the

²¹ See Beck, M. and Fiona Scott Morton, “Evaluating the Evidence on Vertical Mergers,” *Review of Industrial Organization* 59, no. 2 (2021): 273–302.

²² See Vertical Merger Guidelines, Section 4. I note that the FTC has withdrawn support for the guidelines due to a concern on the guidelines’ emphasis on the potential pro-competitive effects of vertical mergers.

²³ FTC, *Commentary on Vertical Merger Enforcement*, December 2020 p. 1.

²⁴ See, e.g., Moresi, Serge, David Reitman, Steven C. Salop, and Yianis Sarafidis, “Vertical Mergers in a Model of Upstream Monopoly and Incomplete Information,” *Review of Industrial Organization* 59, no. 2 (2021): 363-380.

²⁵ For presentation, the railroad with market power is assumed to be upstream. A similar result will occur if there is uncertainty regarding the size of the lump available from alternative destinations and the downstream railroads have better information regarding the size of the potential lump. In terms of bids, this can be thought of as Rule 11 rates for the two segments.

information available to the merged railroad changes and the vertical railroad can raise rates with reduced risk of losing the business.

43. The conclusion of the modern understanding of vertical integration is not that vertical mergers are necessarily anti-competitive. Instead, they show that foreclosure and competitive harm from vertical integration *is* possible. Rather than a presumption of no harm, careful review of the proposed transaction, the markets, and the available evidence are required.

C. VERTICAL MERGERS AND REGULATORY EVASION

44. In the presence of price regulation, vertical integration can permit circumvention of price regulation. This may lead to prices and service offerings that harm customers.²⁶ In the case of maximum price regulation of firms with monopoly or market power, integration by a price regulated upstream monopolist may allow the vertically integrated firm to evade the effects of such regulation.²⁷ Vertical integration may also provide incentives to discriminate in service quality to other downstream firms in order to capture more business within the regulated but integrated firm.

45. Vertical integration of a firm with market power subject to rate non-discrimination requirements can also produce anticompetitive outcomes, leading to higher rates for ultimate customers and/or lower output. Similar to the case of rate-level or rate of return regulation, vertical integration also may provide the incentive to discriminate in service quality to non-integrated firms. These results can occur because the firm subject to price non-discrimination requirements must balance getting high prices from customers with a high willingness to pay against losing business from customers with a low willingness to pay. Vertical integration alters the results of this balancing. With vertical integration the regulated railroad may be able to charge more and may have the incentive to charge higher rates and/or foreclosure against non-integrated downstream firms and end customers.

46. Figure 3 illustrates how this can occur. Since Mexican railroads are subject to price non-discrimination requirements, the example in the figure assumes that there is a single Mexican

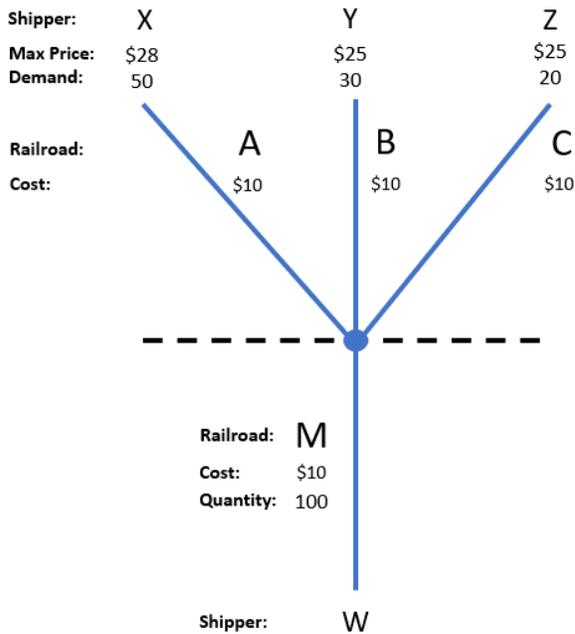
²⁶ U.S. Department of Justice, 1984 Merger Guidelines, Section 4.23

²⁷ See, e.g., Kahn, Alfred E., *The Economics of Regulation*, MIT Press: 1988, v.2, pp. 262-264.

railroad with some degree of market power that interchanges with three U.S. railroads.²⁸ The Mexican railroad (railroad M) is subject to a non-discrimination requirement so that the rate for shipper W to the border gateway is the same regardless of interconnecting U.S. railroad.

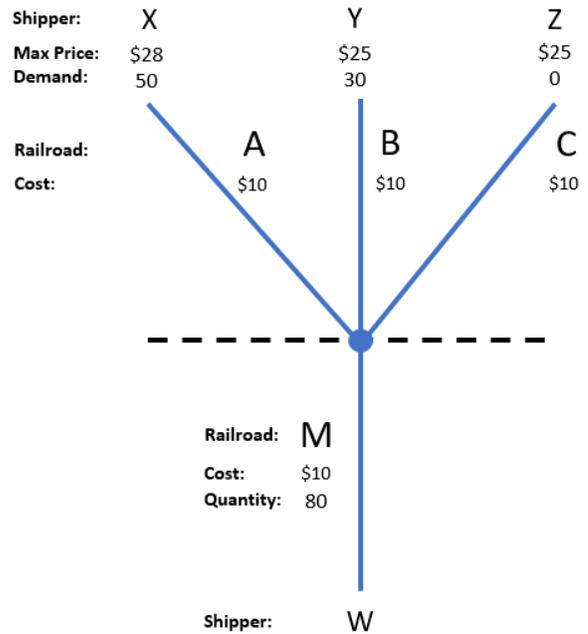
Figure 3
Non-Discrimination Rate Regulation May Provide the Incentive for Vertical Merger and Foreclosure of Interconnecting Railroads and Shippers

As vertically disintegrated firms:



Railroad	Quantity	Price	Cost	Profit
M	100	\$15	\$10	\$500
A	50	\$13	\$10	\$150
B	30	\$10	\$10	\$0
C	20	\$10	\$10	\$0

If M merges with B:



Railroad	Quantity	Price	Cost	Profit
M	80	\$18	\$10	\$640
A	50	\$10	\$10	\$0
B	30	\$7	\$10	-\$90
C	0	\$10	\$10	-
M+B				\$550

47. The illustration in Figure 3 exemplifies how the incentives of a railroad subject to non-discriminatory rate requirements can lead to foreclosure. There is one railroad M subject to non-

²⁸ See Verified Statement of Aaron Dychter, February 28, 2022 (“Dychter V.S.”), pp. 2-5, for a discussion of the relevant Mexican regulatory system.

discrimination regulation with one shipper W, and three interconnecting railroads (A, B, and C) with three receivers (X, Y, and Z, respectively).²⁹ All rail segments have a marginal cost of \$10. The illustration assumes that there are 100 carloads to be moved split across the three interconnecting railroads in different quantities (50, 30, and 20 carloads, respectively) with different maximum rates (\$28, \$25, and \$25, respectively, per carload) that can be charged for the shipments to different receivers across the three interconnecting railroads.³⁰

48. If all of the railroads are independent and railroad M is in a position to capture as much of the available profit as possible, subject to its non-discrimination price regulation, then it sets a single price that maximizes its profit. In the illustration, railroad M sets a rate for its segment of \$15/carload, which is the rate that maximizes its profits. If railroad M were to charge more than \$15/carload, it would lose traffic and profits. (See the table in the left-hand panel of Figure 3.) The other three railroads set their rates to maximize their profits. Railroads B and C earn no incremental economic profit as railroad M is able to obtain all of the lump from the receivers on railroads B and C. However, because receiver X on railroad A is willing to pay more, railroad A can charge more and obtain profits. (Alternatively, if competition precludes railroad A from charging above its cost of \$10, then the rate on shipments to X provides a benefit to shipper W.) As separate railroads, railroad M has a profit of \$500, all shipments with an associated willingness to pay greater than cost move, and there is no foreclosure.

49. If, in the illustration in Figure 3, railroad M merges with railroad B, the economic effects of the non-discrimination constraint change. Railroad M still charges a single, non-discriminatory rate on shipments to all interconnecting railroads, including its newly affiliated railroad B. But the integrated railroad, M+B, can maximize its profit across its whole system. In this case, the profit maximizing rate set by railroad M is higher. (See panel on right side of Figure 3.) Railroad M charges a higher rate of \$18, rather than \$15, so as to capture for itself the value of the higher

²⁹ The analysis in this case does not depend on whether W is a shipper or the receiver—the economic result is the same.

³⁰ This is a simple way to demonstrate arithmetically how different demands affect the choices of the railroads. With multiple receivers, and more realistic demand curves with different elasticities that are not simple fixed quantity and fixed maximum willingness to pay, the example becomes more arithmetically complex but the basic conclusions regarding the incentives for pricing, vertical merger, and foreclosure still apply.

price that is available for shipments to receiver X on railroad A. With this rate, railroad A earns less profit (or else receiver X no longer gets the benefit of lower prices, if railroad A had not previously captured the difference.) Railroad B can adjust its rate so that the combined M+B can still capture the full available profit on movements to shipper Y.³¹ However, given the new higher rate, railroad C is commercially foreclosed and shipments to receiver Z do not occur, despite it being economically efficient for those shipments to occur.³² This change in pricing strategy increases the total profit of the merged railroad, M+B, to \$550 (= \$640 - \$90) compared to the total of \$500 collectively earned by railroads M and B when they were independent of each other. The foreclosure of railroad C is a result of the vertically integrated M+B railroad seeking to maximize its profits.

50. The outcome of vertical integration in the presence of non-discriminatory rate regulation illustrated in Figure 3 is not the only possible outcome of a vertical merger. Foreclosure need not occur, and traffic may not be eliminated, depending on the specific circumstances of the markets. Indeed, if there are multiple shippers (or receivers) on railroad M with different commodities and locations, then railroad M may set different rates for each of these commodity-location on railroad M, but which are the same to each interconnecting railroad. In this case, the incentives of the vertically integrated railroad may play out differently such that some shippers could see lower rates, others higher rates and only a portion of the traffic from some shippers would be foreclosed. Again, the conclusion is not that vertical integration must lead to economically inefficient outcomes that harm shippers, only that it may happen and that further analysis is required. I perform such an analysis below in responding to the claims of Dr. Majure.

D. SUMMATION

51. In summary:

A general presumption that vertical integration is pro-competitive is warranted by a substantial economics literature identifying efficiency benefits of vertical integration,

³¹ These adjustments can occur directly in the rates or through other mechanisms, such as allowances, that would be less readily observable.

³² Note that if receivers Y and Z were actually the same receiver, so that railroads B and C had been competing to serve that receiver, there would be no reduction in the quantity served but railroad C would be precluded from competing.

including empirical studies demonstrating positive effects of vertical integration in various industries. However, there is also a growing body of academic literature identifying possible anticompetitive effects of vertical integration in particular circumstances, including empirical evidence that particular vertical integrations may have had harmful or mixed competitive effects. Moreover, even a convincing demonstration that vertical integration in a particular industry is pro-competitive “on average” does not eliminate the possibility of harmful effects in a significant fraction of cases.³³

This general summary applies to the railroad industry. While it is the case that vertical integration in the railroad industry is typically pro-competitive, it need not always be the case. I now address the evidence with respect to the implications of the proposed transaction with respect to the Laredo gateway.

IV. EXISTING EVIDENCE ON POTENTIAL FORECLOSURE

52. Available evidence does not support a presumption of no competitive concerns arising from the vertical merger between KCS and CP. Dr. Majure looks at a 2019 snapshot of existing KCSM traffic from Mexico to the U.S. over the Laredo gateway to “explore how the alleged incentive to foreclose UP at Laredo has played out.”³⁴ He uses “traffic KCS currently brings to the Laredo gateway to illustrate the balance of vertical effects that is likely to prevail at all the gateways of the combined CP/KCS...”³⁵ He concludes that a “combined CP/KCS is ... not likely to impair competition through vertical effects.”³⁶ The analysis he provides does not justify this conclusion: a more thorough analysis identifies the risks and potential harms that could result from the vertical effects across the Laredo gateway.

A. VERTICAL RAIL INTEGRATION AND THE LAREDO GATEWAY

53. To interpret the evidence regarding the Laredo gateway, it is useful to understand the history and structure of the rail network relative to the gateway. As explained above, Laredo was

³³ See Riordan (2008) p. 48.

³⁴ Majure V.S. p. 18.

³⁵ Majure V.S. p. 11

³⁶ Majure V.S. p. 24.

and still is the most important gateway between the U.S. and Mexico. Access to this gateway has evolved over time. At the time of the STB decision on the UP-SP merger in 1996, Tex Mex and what would become KCSM were both independent railroads. KCS had a minority ownership interest in Tex Mex while the Mexican railroad was under the control of the Mexican government. As part of the UP-SP merger, BNSF received trackage rights to Brownsville and Robstown (for connection to Tex Mex and Laredo) to replace competition previously provided by SP. Tex Mex received ‘overhead’ trackage rights between Robstown and Beaumont by which to connect with KCS.³⁷ In 1997, KCS obtained a minority interest in the new private concession for the Mexican Northeast Railway.

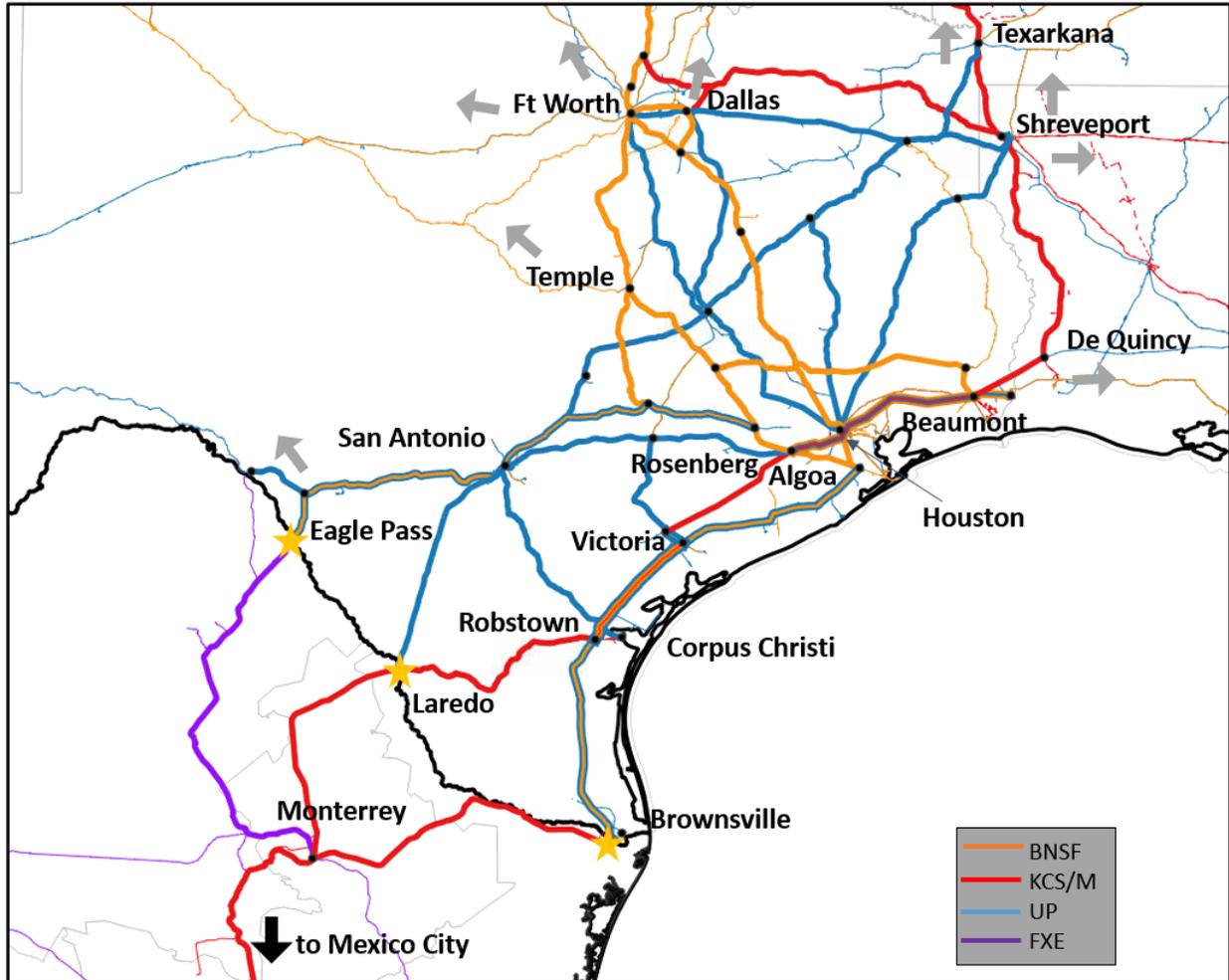
54. In 2005, KCS obtained full ownership and control of both Tex Mex and KCSM. (See Figure 4 for the resulting configuration among UP, BNSF and KCS in Texas and northern Mexico. Note that for many segments that access coastal Texas, multiple railroads have access through trackage rights on lines owned by others.) Starting in 2005, KCS could control and operate the KCSR-Tex Mex-KCSM system as a connected, vertically integrated rail system. Following these transactions, KCS, UP and BNSF all have access to the Laredo and Brownsville gateways, but it is KCS that is vertically integrated into Mexico across the Laredo gateway³⁸. One difference is that UP has direct access to KCSM at Laredo, while BNSF’s access to the Laredo gateway involves an interchange with Tex Mex at Robstown (or Corpus Christi) for a roughly 150-mile leg between Laredo and Robstown.³⁹ Prior to 2005, Tex Mex had been an independent neutral railroad, although one in which KCS had a minority ownership interest.

³⁷ STB F.D. No. 32760, Decision No. 44, August 6, 1996, No. 44 (“UP-SP Decision”), pp. 258, 261.

³⁸ KCSM serves the Brownsville gateway from the south only.

³⁹ I do not distinguish below whether the interchange location is Robstown or Corpus Christi and typically refer to the KCS-BNSF interchange location for the Laredo gateway as Robstown.

**Figure 4
Texas and Laredo Gateway Rail Configuration**



Source: North American Rail Lines, National Transportation Atlas Database (NTAD), Bureau of Transportation Statistics
 Note: Multi-colored lines, like those between Algoa and Beaumont, indicate one or more railroads hold trackage rights along those lines.

55. KCSM operates as a concessionaire over the Mexico Northeast Railway lines. The Northeast concession includes the “so-called ‘golden line’” that connects Mexico City, Saltillo, Monterrey, and the Laredo border crossing, along with lines to the ports of Lazaro Cardenas and Veracruz.⁴⁰ (See Figure 5 below.) This line provides the most direct route between the U.S. heartland, Monterrey, and Mexico City. KCSM serves roughly the eastern part of northern and central Mexico. Ferromex, which operates the Northwest Railway concession, generally serves the western portions of northern Mexico City, with some overlap with KCSM in the central

⁴⁰ OECD (2020), Regulatory Governance of the Rail Sector in Mexico, OECD Publishing, Paris, p. 61.

portion. Ferromex has more track miles and total traffic than KCSM, although KCSM operates at higher density. KCSM’s concession for the Northeast Railway expires in 2047, although it has exclusivity rights only through 2027.⁴¹

**Figure 5
Mexico Rail Concessions**



Source: Edited from Estudio de competencia en el servicio público de transporte ferroviario de carga, Comisión Federal de Competencia Económica, August 2021.

56. The Mexican legal and regulatory system for the rail industry works differently than in the U.S.⁴² There are two significant aspects as it affects KCSM for this analysis. First, KCSM must file maximum rates and not charge above those levels. However, there does not appear to be any effective limit on how high these rates can be so this does not appear to provide an effective constraint on rates. Second, while rates (and service) can vary by commodity, location, and other

⁴¹ Dychter V.S., p. 11-12.

⁴² Dychter V.S., pp. 2-5.

normal business factors, rates (and service) must be non-discriminatory. With regard to pricing traffic to the Laredo gateway, Applicants state: { [REDACTED] } As discussed above, a regulatory regime with non-discrimination requirements at a gateway has implications for the economics of vertical integration.

57. Although not mandated by Mexico regulation, KCS often insists on offering ‘Rule 11’ rates directly to shippers for the Mexico segment, and for traffic that interchanges with BNSF, separately for the Tex Mex Laredo-Robstown segment.⁴⁴ This creates two issues. First, customers must deal with two railroads and BNSF is unable to offer a through rate. Second, BNSF does not know the division being offered by KCS for access over the gateway and must bid or negotiate with the customer in the dark. Bargaining of this sort –where the two legs of a potential move bid independently with no or limited knowledge regarding the rates offered by the other railroad— also presents concerns regarding the effects of vertical integration.

58. As part of the approval of the Tex Mex transaction, KCS agreed and conditions were imposed to maintain the Laredo gateway open to UP and BNSF on “commercially reasonable” terms.⁴⁵ The Applicants point out that they will remain subject to these conditions. As discussed in more detail below, the evidence does not demonstrate that the Laredo gateway has remained effectively open to BNSF for the largest and economically most significant portion of Mexico traffic or that the commitments have constrained KCS’ rates and behavior across the Laredo gateway in any discernible fashion.

⁴³ [REDACTED]

⁴⁴ Verified Statement of Paul M. Hirsch, February 28, 2022 (“Hirsch V.S.”), p. 8.

⁴⁵ Ottensmeyer V.S. p. 21. A request for a proportional rate condition by UP was rejected as the “Board has subscribed to the one-lump theory (as a rebuttable presumption) in approving several end-to-end mergers.” Tex Mex Decision, p. 17.

B. EVIDENCE ON LAREDO TRAFFIC IN 2019

59. Dr. Majure looks at northbound traffic in 2019 from Mexico to the U.S. over the Laredo gateway in an effort to assess whether the foreclosure alleged by UP has occurred.⁴⁶ Dr. Majure divides northbound traffic through Laredo into traffic that is interchanged with UP, traffic that is interchanged with BNSF at Robstown, and traffic carried by KCS beyond the Robstown interchange with BNSF. Dr. Majure also separates this traffic into various categories based on whether the railroads can ‘serve’ the ultimate destination location BEA.⁴⁷ Dr. Majure claims that the first row is ‘KCS served’ “– i.e., traffic that KCS itself could deliver to the ultimate termination.”⁴⁸ I reproduce Dr. Majure’s Exhibit 2 as Table 1 below.

Table 1
Laredo Gateway Traffic, 2019: Northbound
Replication of Majure V.S. Exhibit 2 {{



}}

⁴⁶ Majure V.S. p. 17.

⁴⁷ See note to Majure Exhibit 2, p. 19.

⁴⁸ Majure V.S. p. 18.

60. Dr. Majure concludes from the results in Table 1 above that “the elements required to constitute a vertical concern are not present in a combination of CP and KCS” based on the fact that {{█}} percent of northbound traffic that KCSM interchanges at Laredo goes to UP.⁴⁹ Dr. Majure’s analysis does not support his conclusion for several reasons. First, his analysis is limited to a single point in time, making it impossible to observe a trend that might be the impact of foreclosure. Second, he limits his analysis to northbound traffic only, and ignores the larger volumes of southbound traffic. Third, he establishes no thresholds for what UP or BNSF’s shares would demonstrate that no foreclosure or competitive harm has occurred; he refers only to UP’s share as sizeable.⁵⁰ Fourth, Dr. Majure’s exhibit combines traffic types that should be examined separately, due to their differing market conditions. Fifth, his definition of ‘KCS served’ is flawed. I examine these concerns and their consequences in more detail below.

61. Dr. Majure’s results do not demonstrate a lack of foreclosure or competitive harm with respect to BNSF and shippers served by BNSF. His discussion focusses primarily on UP rather than BNSF, despite the recognition that counting “traffic KCS takes to Robstown, TX to exchange with BNSF as effectively the same as an interchange [by BNSF] at Laredo, ...” Dr. Majure’s results have several implications with respect to competition with BNSF.⁵¹ As seen in Table 1, where “KCS serves”, KCS’ share is {{█}} times that of BNSF ({{█}}). According to Dr. Majure’s exhibit, for locations that KCS *does not* serve, it still moves {{█}} as BNSF does, despite BNSF serving some of this traffic. This cannot be, under Dr. Majure’s definition, the result of KCS “single-line” service as KCS does not serve this traffic and, at least for some of it, BNSF does.

62. Dr. Majure only considered northbound traffic, despite southbound—U.S. exports to Mexico—contributing substantially more carloads of traffic. In 2019, southbound rail traffic measured in carloads was {{█}} greater than northbound traffic over the Laredo gateway;⁵² southbound rail freight volume (measured in tons) over the Laredo gateway was three

⁴⁹ Majure V.S. p. 19.

⁵⁰ Majure V.S. p. 18.

⁵¹ Majure V.S. p. 20.

⁵² Carloads is measured using Dr. Majure’s conversion factor between containers and carloads. Majure V.S. p. 19. Given the higher proportion of manufactured items and automobiles in imports to the U.S., the value of U.S.

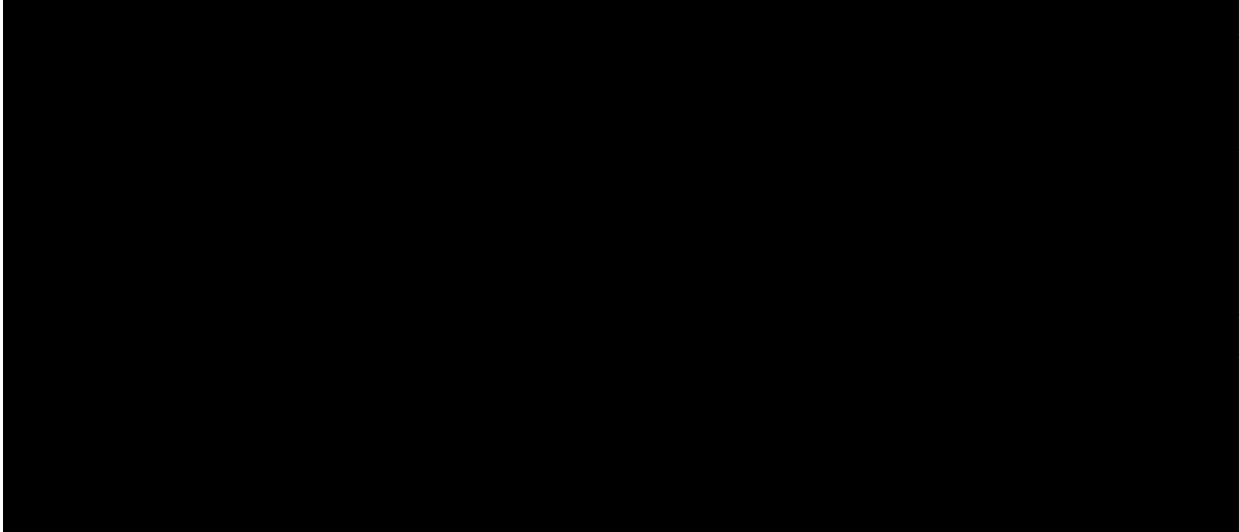
times that for northbound traffic. There is no economic basis for ignoring southbound traffic as KCS (and KCSM's) incentives and ability to leverage access do not depend on direction. As KCSM and KCS typically quote Rule 11 rates directly to shippers for traffic that could interline with BNSF, shippers are in a symmetrical position in interacting with the railroads regardless of the direction of traffic.

63. In Table 2 below, I replicate Dr. Majure's methodology for southbound traffic, with the categorization of 'served' based on the origin location BEA. Southbound volumes are substantially higher than northbound volumes. In stark contrast to KCS' {{█}} percent share of 'KCS-served' northbound traffic in Majure's original Exhibit 2, KCS moves {{█}} percent of the southbound traffic to KCSM over Laredo from 'KCS-served' areas. This is {{█}} UP's share and {{█}} BNSF's share of traffic over the Laredo gateway. (As in Majure's original Exhibit 2, traffic delivered by BNSF at Corpus Christi or Robstown that goes over Laredo is BNSF traffic attributed to the Laredo gateway.) For traffic whose origin location BEA KCS does *not* serve (and CP does), under Dr. Majure's definition, KCS still has {{█}} the traffic of BNSF. For traffic that KCS does not serve, this traffic cannot be the result of KCS' enhanced competitive position as a result of KCS providing single-line service.⁵³ Overall, KCS' share of carload exports from the U.S. over the Laredo gateway is roughly {{█}} that carried by BNSF.

imports moved by rail accounted for 60 percent of total trade moving by rail over the Laredo gateway in 2019. See "Overview of U.S.- North American Freight by Port, Commodity Group, and Mode", available at https://explore.dot.gov/views/Dashboard_PortbyCommodity/Overview?iid=3&isGuestRedirectFromVizportal=y&embed=y (accessed February 19, 2022).

⁵³ See Majure V.S. p. 20.

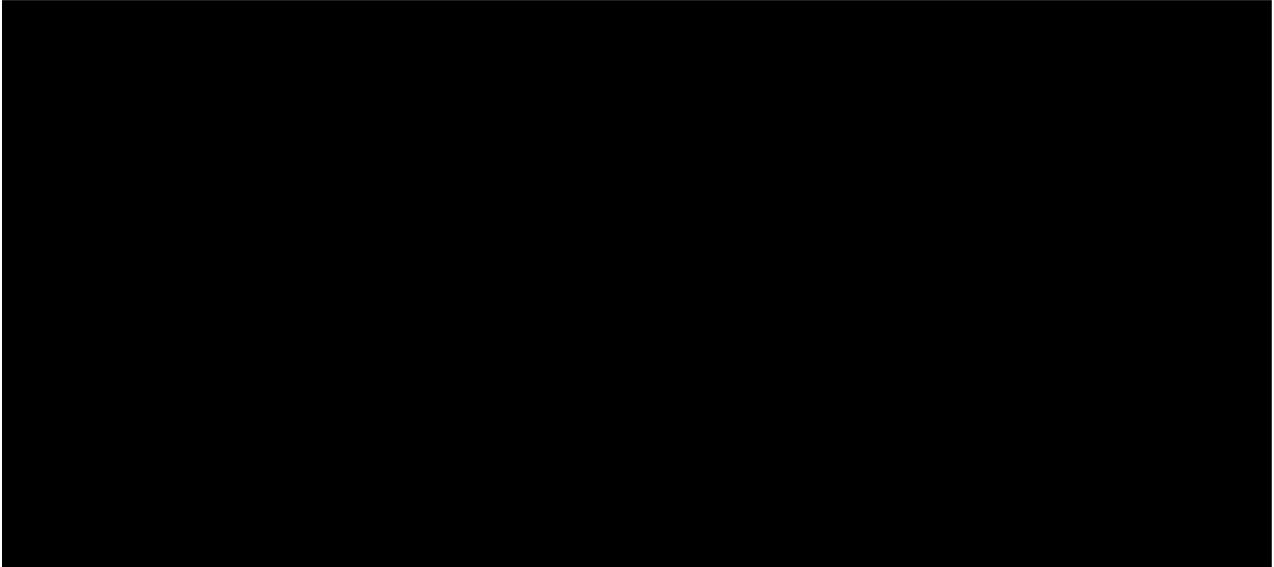
Table 2
Laredo Gateway Traffic, 2019: Southbound
Majure V.S. Exhibit 2-Method {{



}}

64. Table 3 below adopts Dr. Majure’s methodology for all traffic moving over the Laredo gateway. KCS has a share of {{█}} percent of the traffic moving to or from KCSM over the Laredo gateway that it could serve. This is {{█}} BNSF’s share. For traffic that KCS does not serve, KCS still retains {{█}} the traffic that BNSF is able to serve.

Table 3
Total Laredo Gateway Traffic, 2019
Majure V.S. Exhibit 2-Method {{



}}

2. Differences in Traffic Type Reveal Differences in Market Outcomes

65. The competitive factors operating on different types of traffic affect both the incentive and ability of KCS to divert traffic away from interconnecting carriers. In describing Laredo gateway traffic, Dr. Majure does not distinguish among traffic types. Table 4 below breaks out northbound rail exports to the U.S. over the Laredo gateway by carload, automotive and intermodal traffic. Carload traffic is the smallest of the three categories. Automotive traffic, consisting of finished automobiles and non-containerized automotive parts and machinery is the {{ [REDACTED] }} of northbound traffic {{ [REDACTED] }}.⁵⁴ Intermodal traffic represents the {{ [REDACTED] }} count of units and carloads from Mexico through Laredo.⁵⁵

⁵⁴ Automotive traffic is {{ [REDACTED] }}
{{ [REDACTED] }}

⁵⁵ In this table I show intermodal containers, or ‘units’, as opposed to the conversion used by Dr. Majure, see note to Majure V.S. Exhibit 2, p. 19. When presented separately, this is more appropriate as the economic unit for intermodal traffic is the container.

Table 4
Laredo Gateway Traffic, 2019: Northbound
Broken out by Traffic Type {{



}}

66. There are several things to note in Table 4 regarding the northbound traffic through the Laredo gateway. First, BNSF obtains {{ [REDACTED] }} of the northbound carload traffic through Laredo to areas where KCS serves under Dr. Majure’s definition, while KCS receives {{ [REDACTED] }} percent. Even where KCS doesn’t serve, KCS gets almost {{ [REDACTED] }} the carload traffic that BNSF has at the Laredo gateway. The pattern is much different for automotive and intermodal, however. Although KCS’ share of automotive traffic is {{ [REDACTED] }} than BNSF’s share, automotive traffic is {{ [REDACTED] }} UP. Similarly, BNSF’s share of northbound intermodal traffic through the Laredo traffic is {{ [REDACTED] }} than the KCS share. I discuss these differences below.

67. The composition of the larger volume of southbound traffic over the Laredo gateway is very different, representing differences in U.S.-Mexico trade. Table 5 below divides traffic into carload and intermodal with intermodal split between loaded containers carrying freight and

revenue empty containers. (As there were only a total of {{█}} carloads of non-IM automotive carloads going to Mexico, I have combined this with carload traffic.) Southbound carload traffic dominates traffic volumes, and KCS {{█}} this traffic.⁵⁶ KCS has {{█}} percent of ‘KCS-served’ carload traffic, {{█}} percent of carload traffic from origins that KCS does not serve, and {{█}} of all carload traffic. By comparison, BNSF has only {{█}} percent of this important carload traffic; KCS’ share is roughly {{█}} that of BNSF.

Table 5
Laredo Gateway Traffic, 2019: Southbound
Broken out by Traffic Type {{



}}

68. Southbound intermodal traffic is broken out by loaded and empty containers. Unlike for northbound traffic, roughly {{█}} percent of southbound intermodal revenue movements are empty containers. KCS has {{█}} percent of the loaded containers in areas that it serves; the

⁵⁶ When applying Dr. Majure’s factor for comparing intermodal containers to carloads, carload traffic, excluding any automotive traffic, accounts for {{█}} percent of all traffic over the Laredo gateway.

larger volumes of economically less important empty containers are {{ [REDACTED] }}. Overall, KCS and BNSF originate {{ [REDACTED] }} of intermodal containers once areas that KCS does not serve are included.

69. The differences in shares of traffic captured by KCS over the Laredo gateway across the different types of traffic are consistent with the market forces that affect rail transportation and the economic incentives of KCS to capture this traffic and prevent BNSF or UP from serving this traffic.⁵⁷

70. **Intermodal.** Intermodal traffic is highly competitive, predominantly with trucking and among railroads. This is especially true for intermodal movements to and from Mexico. Trucks accounted for 80 percent of the value of trade crossing the border at Laredo in 2019.⁵⁸ Intermodal traffic tends to be relatively low margin traffic and requires competitive pricing and reliable service in order to be competitive with trucks. In important economic areas, multiple railroads have competing intermodal ramps (e.g., Chicago, Dallas, and Monterrey, Mexico). An attempt by a railroad to foreclose a connecting carrier for intermodal traffic that the railroad itself does not serve at both ends is unlikely to result in diversions to and higher margins for the foreclosing carrier, than it would for less competitive traffic. In this case, an attempt to foreclose is likely to lose traffic to trucks or, potentially, other railroads. KCS and KCSM currently have the incentive to work with the interconnecting carriers to compete with trucks and Ferromex for intermodal traffic to and from Mexico at locations it does not directly serve.⁵⁹ Current Laredo traffic shares are generally consistent with these incentives, {{ [REDACTED] }} Mexico intermodal traffic between BNSF and KCSM.⁶⁰

71. **Automotive.** Northbound automotive traffic is an important and rapidly growing segment of KCSM's traffic. In Mexico, KCSM has a strong automotive franchise serving multiple assembly plants as well as other parts manufacturers. Finished automobiles represent high-value

⁵⁷ See Tables B-1 through B-3 in Appendix B for a further breakout of these results.

⁵⁸ See "Overview of U.S.- North American Freight by Port, Commodity Group, and Mode", available at https://explore.dot.gov/views/Dashboard_PortbyCommodity/Overview?:iid=3&:isGuestRedirectFromVizportal=y&:embed=y (accessed February 19, 2022).

⁵⁹ Ferromex is the concessionaire operating Mexico's Northwestern rail routes. See Dychter V.S. pp. 2-5 for more details on the structure of the Mexican freight rail system.

⁶⁰ I discuss this further in section IV.C.

traffic that travels in specialized railcars and while not as service sensitive as intermodal traffic, generally has higher service requirements than carload manifest traffic. Although automobiles originate at specific assembly plants, similar to intermodal, automobiles can be trucked to loading facilities on other railroads and terminate at specialized unloading facilities for ultimate transportation by truck to the final destination. As such, different railroads in the same economic region may have competing auto ramps that can serve the traffic.

72. Automotive traffic tends to move under long-term contracts that encompass multiple locations. In order to supply a national dealer network, auto manufacturers must reach a broad geographic area. Auto manufacturers are large and sophisticated customers and have the ability to engage in competitive negotiations given their ability to bundle traffic across multiple locations. Unlike BNSF and UP, KCS serves few automotive ramps in the U.S. and is limited in its ability to compete for a bundle of traffic to the U.S.⁶¹ For these reasons, despite KCSM's strong position in Mexico, it has limited ability to compete for automotive movements in the U.S. and little incentive to prevent automotive customers from using BNSF or UP for automotive movements.

73. **Carload.** Carload traffic represents a diverse set of commodities generally subject to economic forces that present different opportunities and incentives for KCS to capture traffic for itself. The largest carload commodity groups moved over the Laredo gateway in 2019 are {{ [REDACTED] [REDACTED] }}. These types of commodities are least susceptible to intermodal competition. Likewise, they tend to be less service sensitive than intermodal or automotive traffic and less likely to benefit from improved single-line service. The serving railroad, at either the origin or destination, may have some degree of market power with respect to traffic to shippers they serve, depending on commodity and other aspects of geographic and intramodal competition.

74. Depending on specific commodity and market circumstance, KCS may have the incentive to exercise its available market power through pricing and service changes, like those discussed in section III above, for Mexico traffic. For some carload commodities and customers, KCS may not have a viable shipper in the U.S. available to it for this traffic, and thus would not have an incentive to preclude BNSF or UP from effectively interlining with KCSM across the Laredo gateway. For

⁶¹ See KCS Network Map, available at <https://www.kcsouthern.com/work-with-us/partners/network-map> (accessed February 26, 2022).

other carload commodities and customers, however, the integrated KCS-KCSM may have the ability to capture more of the available margin and traffic by setting rates, service or otherwise foreclosing BNSF or UP from being able to compete effectively for the traffic. Instead, the integrated KCS-KCSM could exercise its full market power on the mover over the gateway.

75. The results in Table 4 and Table 5 above are consistent with these incentives. The ability and incentive for KCS to capture carload traffic is much higher than for intermodal and automotive. Consistent with this, KCS captures a large share of carload traffic relative to more competitive intermodal and automotive traffic. Revenue on carload traffic, rather than intermodal or automotive traffic, accounts for {{█}} percent of the revenue that KCS earns on the U.S. portion of the traffic that it carries across the Laredo gateway.⁶²

3. Adjusting for Traffic ‘Served’ by KCS

76. Dr. Majure’s analysis uses a misleading description of “KCS Serves”; a partial correction in designating traffic for which KCS may be able to compete shows an even starker display of KCS’ ability to capture traffic over the Laredo gateway from BNSF and UP. Dr. Majure described in his note to Exhibit 2, “areas served are based on BEA areas”, and a BEA is labeled as “served” when that carrier is recorded as terminating any traffic in that BEA in either the 2019 Confidential Waybill Sample or the 2019 CP-KCS traffic tapes.⁶³ This is an overly broad definition of ‘KCS Served’, and Dr. Majure’s claim that “KCS could be the single line-carrier of [this] traffic” is not realistic.⁶⁴ For example, in the ‘KCS Serves’ row of Dr. Majure’s Exhibit 2 there are {{█}} carloads that UP moves from Laredo to a station near San Antonio. While KCS does deliver carloads to {{█}} that is located in the San Antonio BEA, it does not serve any stations in the proximity of these UP destinations. (See Figure 4 above

⁶² See my backup materials. Given that KCSM indicates that {{█}}
{{█}} See KCS and CP’s Joint Responses and Objections to UP’s Third Set of Discovery Requests, January 31, 2022, Response to Request No. 176. Revenue KCS earns on the Robstown-Laredo movement for interchange with BNSF is not included in the total. Although small relative to other Laredo-related U.S. revenue, data issues prevent an accurate tabulation.

⁶³ Majure V.S. Exhibit 2, p. 19.

⁶⁴ Majure V.S. p. 19. Dr. Majure, in analyzing the proposed Canadian National-KCS transaction utilized geographically narrower regions (SPLC-6, which roughly corresponds to a city or town) to identify geographic areas of horizontal competitive overlap, recognizing that different shippers and commodities have narrower sets of competitive options. Expert Statement of W. Robert Majure, STB F.D. No. 36514, June 28, 2021, pp. 14-17.

for the location of the KCS lines.) These {{[REDACTED]}} carloads are counted as part of UP's {{[REDACTED]}} percent share from which Dr. Majure draws his conclusion of no vertical competitive concerns. The result of Dr. Majure's assumption to treat all carload traffic in a BEA as 'KCS serves' when KCS has any shipments is to overstate traffic that 'KCS serves.' Inclusion of traffic in the 'KCS serves' category understates KCS' ability to capture traffic that it can compete for.

77. Rather than using Dr. Majure's method, I categorize traffic based on how the Applicants identify potentially competitive traffic that could be diverted across railroads. Applicants' experts, Messrs. Brown and Zebrowski, developed a screening process for estimating traffic that was potentially divertible to a combined CP-KCS system.⁶⁵ The Brown-Zebrowski methodology can be applied to provide a better, if imperfect, categorization of traffic moving through the Laredo gateway that KCS could potentially serve in single-line service in competition against UP and BNSF. I apply the following methodology based on that in the Brown and Zebrowski workpapers: 1) stations that KCS or associated shortlines could potentially serve are identified using the AAR's 2019 Centralized Station Master, 2) for more flexible commodities such as intermodal or automotive movements, stations within 250 radial miles are considered reasonable substitutes.⁶⁶ A similar adjustment is performed for lumber using a 50-mile radius. Note that it is not the case that KCS in fact serves, or could serve, all shippers moving traffic even under this more restrictive categorization at a station.

78. The results of this analysis are shown below in Table 6.⁶⁷ Traffic that is flagged by these rules is categorized as 'KCS serves', and anything else is labeled 'KCS does not serve'. In general, using the Brown-Zebrowski methodology for identifying potentially divertible traffic tends to shift traffic that had been categorized by Dr. Majure as 'KCS serves' into the 'KCS does not serve' category. The primary exception is that for intermodal and delivered automobiles, intermodal and auto ramps located in different cities under the 250 radii (e.g., KCS' facility in Kansas City, MO and UP's facility in Saint Louis, MO) are treated as 'KCS-served' even if KCS has a ramp in only

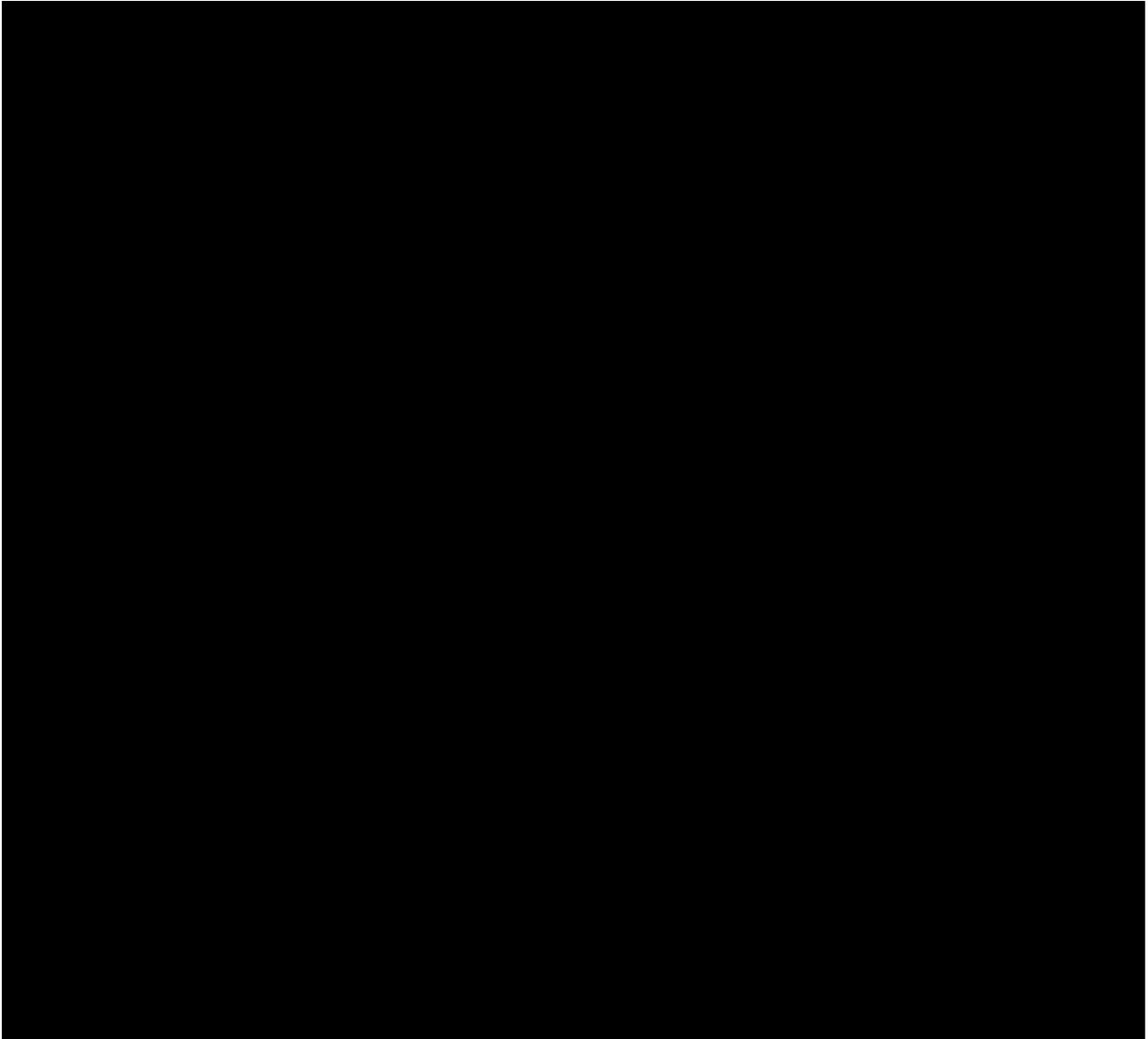
⁶⁵ See Brown and Zebrowski V.S., pp. 12-16. To be consistent with potential incentives to foreclose traffic, I did not treat traffic that would have been deemed non-divertible by Brown and Zebrowski due to differences in circuitry.

⁶⁶ These distances may be unrealistically inclusive as KCS itself maintains intermodal terminals in different cities within these as-the-crow-flies distances.

⁶⁷ See Appendix Table B-4 for northbound plus southbound totals.

one of those locations. As the total volume of traffic through the Laredo gateway is unchanged, the aggregate numbers and shares do not change, but this instead provides a more accurate view of KCS' ability to obtain traffic for which it can compete.

**Table 6
Laredo Gateway Traffic, 2019
'KCS Serves' Determined Using Applicants' Diversion Methodology }}**



}}

79. Table 6 shows that, using a better but still incomplete measure of traffic that KCS does or doesn't serve in the U.S., the competing Laredo gateway interconnecting carriers have little

success in competing for this traffic when KCSM/KCS has the incentive and ability to keep them from doing so.⁶⁸ Using Applicants' experts' definition of potentially divertible traffic, KCS captures more than {{█}} percent of the carload traffic over the Laredo gateway for which it can compete – {{█}} percent northbound and {{█}} percent for the much larger southbound carload volumes. In either direction, BNSF successfully obtains {{█}} of this traffic – {{█}} carloads out of {{█}} carloads 'KCS serves.' For traffic that KCS does not serve, the pattern for intermodal and automotive is similar to before. KCS serves most of the loaded containers from locations its serves, while automotive traffic movements are consistent with the long-term, bundled delivery arrangements among the three railroads discussed above.

4. Evidence from 2019 Rejects a Presumption of No Foreclosure Against BNSF for Traffic over the Laredo Gateway

80. A more careful review of 2019 traffic over the Laredo gateway fails to dispel concerns regarding the ability and incentive of KCS to foreclose BNSF (or UP) for traffic over this gateway. KCS captures most ({{█}} percent) carload traffic, the largest category of traffic over the gateway and the one that generates the {{█}} of KCS revenue north of the border. KCS' carload traffic is more than {{█}} times the traffic that BNSF obtains. For carload traffic that KCS itself can compete for in the U.S. KCS has captured over {{█}} percent of the traffic from UP and BNSF; BNSF obtains less than {{█}} percent.⁶⁹ The picture is less stark for intermodal traffic, for which trucks are the primary competition and for which the ability to attract additional transborder intermodal movements is more likely to represent incremental traffic for KCSM. Similarly, KCS has been {{█}}; this is consistent with KCS' limited U.S. facilities and for traffic that is typically subject to longer-term, bundled contracts covering a potentially wide range of competitive destinations.

⁶⁸ See Appendix Tables B-5 and B-6 for additional breakouts.

⁶⁹ See Appendix Table B-7.

C. BNSF’S EXPERIENCE WITH THE LAREDO GATEWAY DOES NOT SUPPORT A FINDING OF NO FORECLOSURE

81. A single snapshot in time, however, cannot indicate the effect of the control gained by KCS of the Laredo gateway. The data for 2019 shows that apart from intermodal and automotive traffic, BNSF has {{[REDACTED]}} share of traffic. The historical experience of BNSF with respect to the operation of the Laredo gateway, however, raises additional concerns regarding KCS’ ability (and the merged CP-KCS) to prevent BNSF from competing for traffic over the gateway.

1. BNSF’s Laredo Traffic Collapsed Following the Integration of KCS-Tex Mex-KCSM

82. BNSF’s traffic over the Laredo gateway fell dramatically once the integration of KCS, Tex Mex, and KCSM occurred in 2005. From 2000 to 2004, BNSF’s carload traffic over the Laredo gateway averaged {{[REDACTED]}} carloads a year. (See Figure 6 below.) These volumes in the first half of the decade resulted from rapidly growing traffic following the provision of access to the gateway as a competitive replacement for Southern Pacific following the UP/SP merger.⁷⁰ Following the integration of KCSM and Tex Mex into KCS, however, these volumes began falling rapidly so that by 2010, BNSF was moving only {{[REDACTED]}} carloads over the gateway, a decline of {{[REDACTED]}} percent from the pre-KCS-Tex Mex-KCSM integration. According to BNSF, this reversal in BNSF traffic following the KCS integration resulted from substantial rate increases for cross-border movements into Mexico.⁷¹

83. The much-reduced BNSF carload volumes in 2010 still represent a high-water mark for the past decade. BNSF carload volumes over the Laredo gateway have averaged {{[REDACTED]}} cars from 2011 through 2019, a {{[REDACTED]}} percent decrease from the already low 2010 levels. BNSF automotive traffic, which had been modest prior to the KCS-Tex Mex-KCSM integration, effectively disappeared until 2016. (See Figure 6 below.) In 2016 BNSF began moving finished

⁷⁰ Hirsch V.S., p. 5.

⁷¹ Hirsch V.S., p. 7. An increase in rates for connecting traffic following a vertical integration is generally inconsistent with the implication of the simple SMP theory leading to no harm to shippers.

automobiles manufactured in Mexico again, most of which is under a contract that will soon expire.⁷²

Figure 6
BNSF Carload and Automotive Traffic over the Laredo Gateway
2000-2019 {{



}}

84. Prior to the KCS-Tex Mex-KCSM integration in 2005, BNSF carried modest volumes of intermodal traffic. Starting in 2006 BNSF moved {{█}} intermodal traffic over the Laredo gateway for nearly a decade. In 2016, KCS and BNSF reached an agreement regarding pricing,

⁷² Hirsch V.S., p. 13-14.

service and coordination for intermodal traffic that allowed KCS to use BNSF intermodal ramps in the U.S. for traffic to and from the Laredo gateway over BNSF.⁷³ Volumes grew significantly. (See Figure 7 below.) Only with this explicit agreement with KCS was BNSF able to move intermodal traffic to and from the Laredo gateway. {{ [REDACTED] [REDACTED] }}

Figure 7
BNSF Intermodal Traffic over the Laredo Gateway
2000-2019 {{

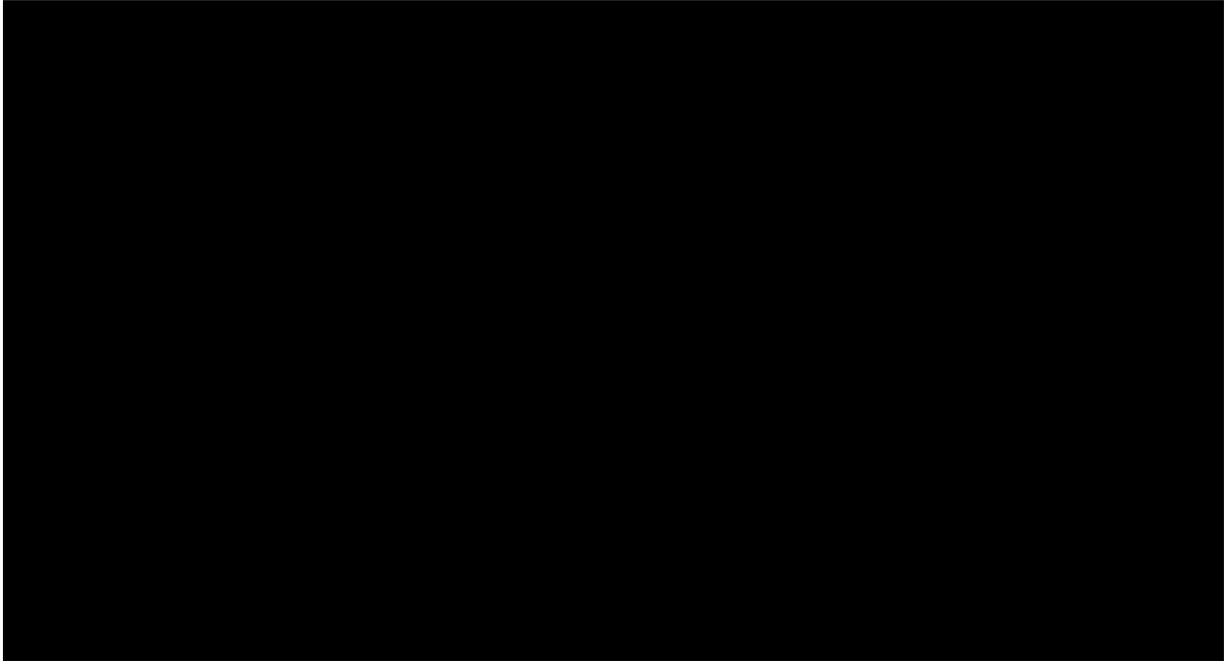


}}

85. Much of the intermodal traffic that BNSF moves under the agreement is likely new traffic from which KCSM and KCS could not have benefited absent BNSF’s participation. The agreement permits KCSM to move traffic between intermodal ramps and locations in the U.S. that KCS does not otherwise reach or does not serve. The experience of intermodal traffic demonstrates

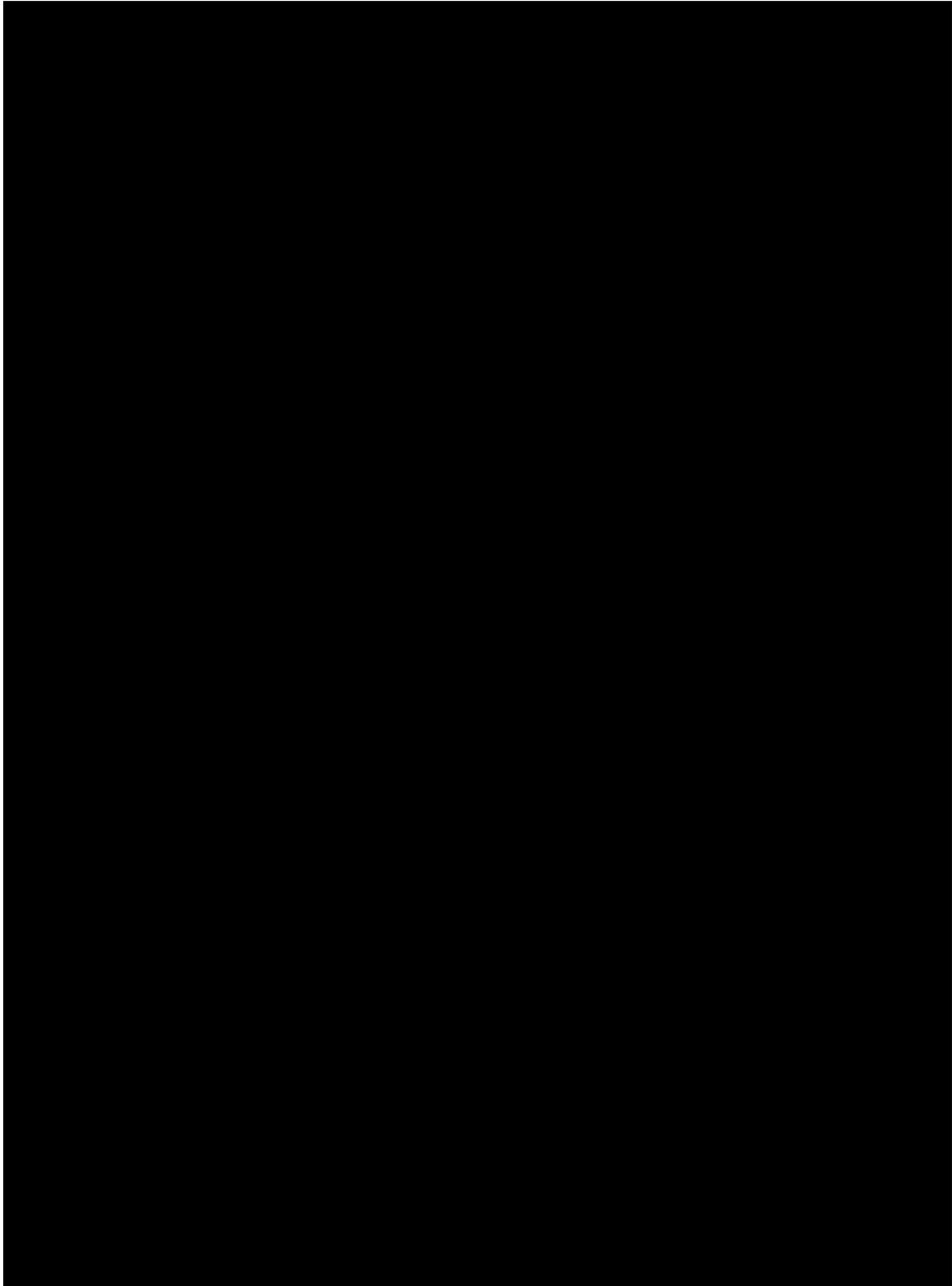
⁷³ See Hirsch V.S. p. 11.

Table 7
BNSF Share of Traffic over the Laredo Gateway
By Traffic Type: 2010, 2015 and 2019 {{



}}

Figure 8
BNSF Share of Traffic over Laredo using KCSM Data]
By Traffic Type: 2010, 2015, 2019 {}



}}

87. BNSF's experience following the KCSR-Tex Mex-KCSM integration is consistent with it being foreclosed for some or much carload traffic. The evidence on current traffic in 2019 and the decline in BNSF traffic following the vertical integration over the Laredo gateway does not demonstrate an absence of vertical concerns.⁷⁷ As explained by Dr. Wilson, BNSF has had to shift away from the Laredo gateway for some carload traffic to use longer routes over other gateways in order to reach customers in Mexico.⁷⁸ Likewise, this evidence does not demonstrate that the existing open gateway commitments applicable to the Laredo gateway have been sufficient to preclude harm to shippers or to competition provided by BNSF.

D. SUMMATION

88. In summary, the evidence with respect to the past and current operation of the Laredo gateway does not demonstrate an absence of foreclosure and instead points toward foreclosure against BNSF and its shippers. KCS has the greatest incentive and ability to keep BNSF from serving shippers for carload traffic (relative to automotive and intermodal traffic); this is also traffic that is relatively less influenced by service improvements that may be provided by single-line service. KCS has reduced BNSF and its carload shippers to a negligible portion of traffic over the Laredo gateway. Following the integration of KCSM and Tex Mex into KCS, BNSF's carload traffic fell substantially in absolute to its current extremely low levels, despite the continuing increase in traffic across the gateway. This pattern is consistent with a foreclosure strategy against BNSF.

89. Following the integration of KCSM and Tex Mex with KCS, BNSF's participation in automotive and intermodal traffic across the Laredo gateway virtually disappeared for a decade. Only around 2016 did BNSF obtain a portion of this traffic. BNSF's ability to obtain a portion of the Mexico automotive traffic occurred as part of larger contractual arrangements involving non-Mexico traffic. The re-introduction of BNSF intermodal traffic came about through an explicit agreement with KCS to cooperate over service and pricing for this intermodal traffic. As intermodal traffic is highly truck competitive and came from origins that KCS does not serve directly, this traffic likely represents incremental traffic that KCS could not otherwise obtain (and

⁷⁷ See Majure V.S. p. 19.

⁷⁸ Verified Statement of William W. Wilson, February 28, 2022, p. 17.

did not obtain for a decade). The experience with intermodal traffic demonstrates that BNSF is competitive over the Laredo gateway when it is in KCS' incentive to cooperate for this traffic and also demonstrates KCS' ability to preclude this traffic when it chooses to do so.

V. THE PROPOSED TRANSACTION PROVIDES ADDITIONAL INCENTIVES TO PRECLUDE COMPETITION AT THE LAREDO GATEWAY

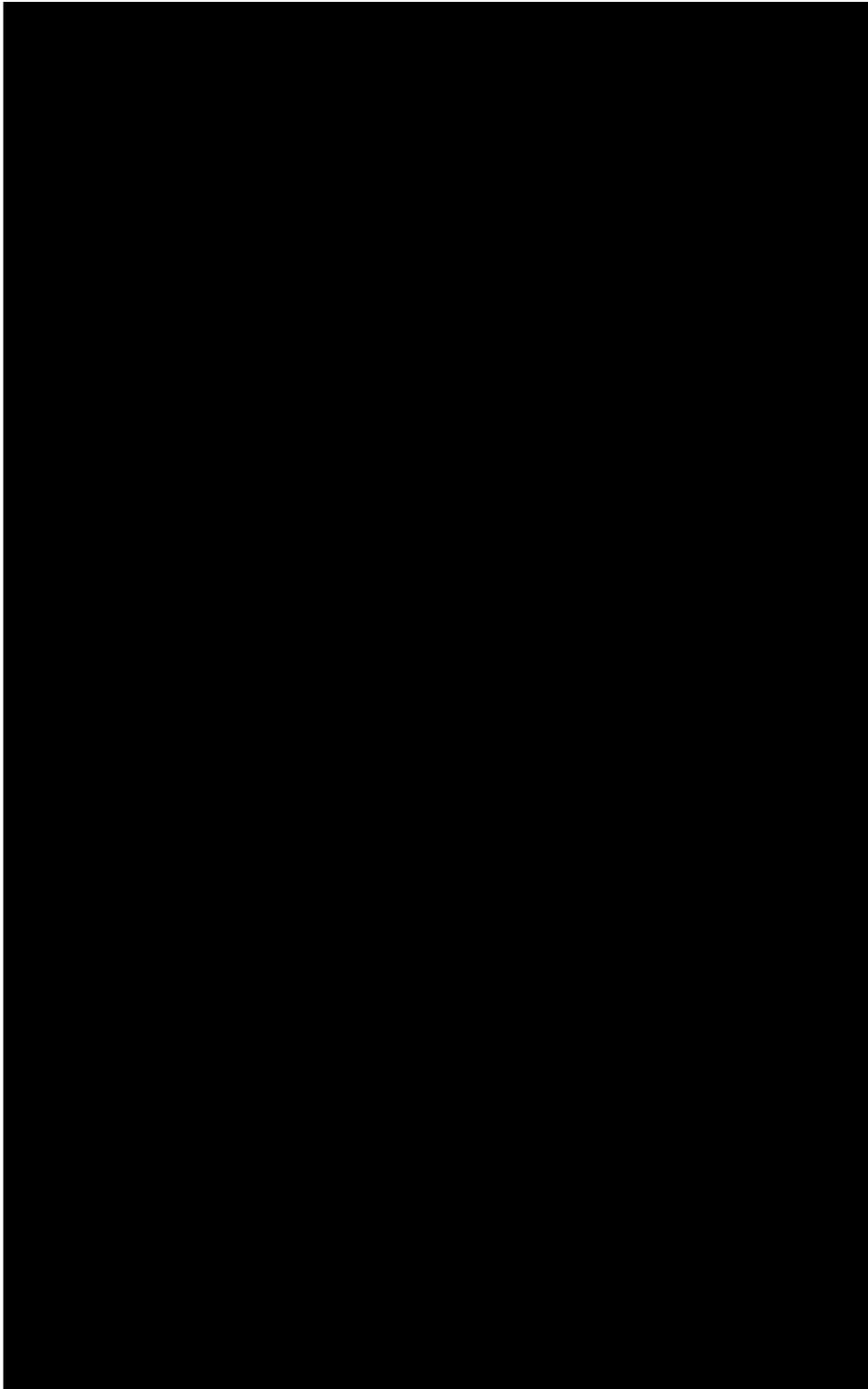
A. THE PROPOSED TRANSACTION SUBSTANTIALLY EXPANDS THE TRAFFIC POTENTIALLY SUBJECT TO VERTICAL COMPETITIVE HARM ACROSS THE LAREDO GATEWAY

90. The combination of CP and KCS will substantially expand the traffic that a KCSM-affiliated railroad can potentially bring over the Laredo gateway. The proposed transaction will expand KCS' currently limited network throughout the Midwest and coast-to-coast across Canada. This will introduce many new locations served directly by a combined CP-KCS and place substantially larger volumes of traffic with access to single-line CP-KCS service and for which the combined carrier will have the incentive and ability to divert to its network. By extending the reach of the KCSM-affiliated North American network the transaction will alter and enhance the incentives of CP-KCS and KCSM to establish prices that divert traffic to the merged carrier.

91. Applicants expound on the pro-competitive benefits of expanded single-line service throughout the expanded network arising from the transaction.⁷⁹ This same vertical integration, however, interacts with and expands the incentives to take advantage of existing regulatory and bargaining opportunities to raise rates to shippers and preclude traffic from competing carriers using the Laredo gateway.

⁷⁹ See Wahba and Naatz V.S., generally.

Figure 9
Existing and Merger-Related Incremental and Potential
Traffic and Revenue Over the Laredo Gateway {{



}}

92. Figure 9 (above) summarizes existing traffic and the potential traffic over the Laredo gateway arising from the proposed transaction.⁸⁰ The first, blue bar is the existing KCS/KCSM traffic that utilizes the gateway, which amounts to roughly {{[REDACTED]}} in freight revenue for the railroad. The next two bars, in orange, is incremental traffic that the Applicants indicate they anticipate diverting or attracting as ‘new’ business, over the gateway; this amounts to {{[REDACTED]}} in incremental revenue to the combined CP-KCS.⁸¹ Finally, the grey bar represents potentially divertible traffic over the gateway, as identified by the Applicants, that they indicate they do not anticipate diverting as a result of their assumed improved single-line service; this amounts to another roughly {{[REDACTED]}} in potentially incremental revenue.⁸² Thus, the incremental revenue that the Applicants anticipate obtaining or could potentially divert would roughly {{[REDACTED]}} the existing revenue that the independent KCS earns from joint KCSM-KCS Laredo gateway traffic between Mexico and the U.S.

93. The magnitude of the incremental traffic and revenue at stake from the proposed transaction necessarily alters the incentives of the combined carrier with respect to traffic over the Laredo gateway. Although BNSF is currently constrained from moving much carload traffic over the Laredo gateway, with the proposed transactions, these constraints can only get tighter. BNSF is currently moving both automotive and intermodal traffic. However, this is among the traffic that is competitive with CP locations and for which CP-KCS has the strongest incentive and ability to obtain from BNSF. Using Dr. Majure’s definition of “serves”, CP serves {{[REDACTED]}} percent of BNSF automotive movements over Laredo that KCS does not serve, and {{[REDACTED]}} percent of the overwhelming majority BNSF intermodal movements that KCS cannot currently serve.⁸³ Indeed, the Applicants indicate that they expect to divert over 63 thousand containers to or from Chicago, BNSF’s {{[REDACTED]}} for Mexico intermodal traffic with KCSM.⁸⁴ Given BNSF’s

⁸⁰ See Appendix Tables B-8 and B-9 for a breakout of intermodal unit and carload counts.

⁸¹ These figures are derived from the Brown and Zebrowski V.S. workpapers and the Wahba and Naatz V.S. workpapers.

⁸² This category is derived from the Brown and Zebrowski V.S., specifically the backup calculations to the first column “Total 2019 Potentially Divertible Movements” from Table 4. Potentially incremental revenue is estimated using the ratio of revenue/carload of diverted traffic, by commodity.

⁸³ See my backup materials.

⁸⁴ Brown and Zebrowski V.S., Table 15. More than {{[REDACTED]}} of these containers are expected to come from BNSF. This diversion alone accounts for {{[REDACTED]}} percent of BNSF’s total containers over the Laredo gateway. See my backup materials.

experience with intermodal showing that willing cooperation of KCS is necessary for successful intermodal movements by BNSF over the Laredo gateway, and the {{ [REDACTED] }} of the BNSF-KCS intermodal agreement, the on-going ability of BNSF and its shippers to maintain competitive intermodal traffic is in doubt.

94. To the extent that KCS and KCSM currently have the incentive and ability to foreclose or otherwise harm shippers through vertical integration over the Laredo gateway, the proposed transaction expands that incentive and ability.

B. POTENTIAL APPROACHES FOR PREVENTING POTENTIAL VERTICAL COMPETITIVE HARM ACROSS THE LAREDO GATEWAY

95. The existing competitive outcomes at the Laredo gateway – and BNSF’s extremely small share of the traffic – have occurred even with an existing open gateway commitment by KCS in effect. As part of the Tex Mex transaction, KCS committed to maintaining the Laredo gateway open on “commercially reasonable” terms; this commitment was imposed by the STB.⁸⁵

96. What this vague open gateway commitment means in practice, however, is unclear. As the Applicants have recently stated: “The Board did not define ‘commercially reasonable’ in its 2004 Tex Mex decision. There are no set metrics; there are no dollar caps. There is no ruler by which [a railroad] could even determine, at this later date and with full hindsight, whether a particular rate offered for one customer ... is ‘commercially reasonable’ without wild speculation.”⁸⁶ Given the absence of any “ruler” by which to determine whether a rate offered by KCSM (and KCS) is “commercially reasonable” or not, it is not surprising that there have been no complaints that this commitment has been violated.

97. There are a variety of potential alternatives to a vague open gateway commitment by which to remedy specific potential competitive harms in the rail transportation industry while permitting the pro-competitive benefits of mergers to be obtained. These can consist of structural approaches (e.g., divestiture, trackage, or haulage rights) or conduct remedies (gateway commitments with

⁸⁵ Tex Mex Decision, p. 6.

⁸⁶ See Applicants’ Reply to UP’s Motion to Compel, February 7, 2022, p. 12. See also Brooks Deposition, p. 161:11:162:15.

verifiable and economic commitments). Both have been widely used in rail mergers. The access that BNSF and KCS have to the Laredo (and BNSF to the Brownsville) gateways are the result of merger conditions intended to preserve competition that would otherwise be lost.⁸⁷ A common approach is to establish rates and/or service commitments based on existing rates with escalation or zone rates with escalation. Escalations are commonly provided based on some external measure of rail costs (e.g., RCAF).

98. A good remedy provides for an effective mechanism that preserves competition yet allows for competitors and competition to respond to market forces. An open gateway commitment at “commercially reasonable” rates is, in theory, highly responsive to market conditions, yet may be ineffective if it provides no useful standard for monitoring and enforcement. Gateway conditions based on current or specified zone rates, with cost-based escalation, preserve current competition and are readily enforceable. Over time, however, the escalation, based on an objective cost measure, may depart from rates that would result from competition.

99. An ideal condition is one that would mimic market outcomes yet provide clear and enforceable rates and service. BNSF discusses a proportional rate-type agreement, modeled after the I-5 Proportional Rate Agreement (“I-5 PRA”) negotiated between BNSF and UP which was then imposed as a condition in the UP-SP merger.⁸⁸ For high-volume gateways, this type of condition can provide an effective and long-term solution for preserving competition in a market-responsive manner. The I-5 PRA provides UP commercial access to BNSF shippers in the Pacific Northwest and Western Canada over the Portland, Oregon gateway for movements to or from western and southwestern U.S. locations by establishing rates that BNSF accepts for its portion of the movement. These are rates that UP can use as a rate that it pays BNSF for its portion of the move while UP can directly quote through rates to the shipper.

100. The I-5 PRA is structured so that the ton-mile rates UP pays BNSF for BNSF’s portion of the moves are based on through rates charged by BNSF for comparable movements in the preceding quarter. These rates vary by region, commodity, and car type and are updated as frequently as quarterly as part of a routine calculation process performed between the parties. By

⁸⁷ UP-SP Decision, pp. 137-138. At the time that BNSF’s access was provided, Tex Mex was a neutral carrier not controlled by KCS.

⁸⁸ Hirsch V.S., pp. 16-17; UP-SP Decision p. 17.

utilizing a third-party to process the BNSF data, competitively sensitive customer information is not shared, yet the rates UP pays for movements across the gateway reflect recent, market-determined rates. This approach permits both competitive *and* market responsive rates across the gateway.

101. The following illustrates at a high level how such an agreement works. BNSF makes single-line shipments from a geographic area in the Pacific Northwest to western or southwestern U.S. in a quarter for some commodity (e.g., lumber) in a car type (e.g., railroad-owned centerbeam flatcars). Then all of these movements and the rates for these movements in a quarter are reported to a third-party. The third-party takes all the movements of this commodity-car type and calculates an average revenue per ton-mile for these movements. In the next quarter (following some lag for processing by the third-party), the relevant per-ton-mile rates for moves of this type is provided in a “matrix” (along with similar calculations for moves of other commodity-car types.) UP can use the per-ton-mile-rate it will pay BNSF for BNSF’s portion of a joint-line movement over the Portland gateway in quoting through rates for shipments of lumber (in this example) originating in the same region in the Pacific Northwest moving in the same equipment.

102. So, if in a quarter, BNSF had a number of lumber shipments, the third party would calculate the revenue per ton-mile for all the movements and take the average. (Let’s say the resulting average from the market transactions was five cents ton-mile.) Then next quarter, if UP wanted to bid on a lumber movement that matched the criteria in terms of region, direction, car type, etc. and, assuming that the BNSF portion (to Portland) of that move is 400 miles, then UP knows it would need to pay BNSF 5 cents times 400 miles, or \$20 per ton, for BNSF’s portion of the move. It could then offer a through rate for the interconnecting move over the gateway. In this fashion, rates are determined consistent with nearly current market conditions. It also keeps information regarding individual shippers and shipper rates charged by BNSF (and UP) private from the other railroad.

103. Although not the only possible method of achieving market-based pricing, a proportional rate agreement would provide a mechanism by which through rates on single-line CP-KCS moves over the Laredo gateway could be used to determine commercially reasonable rates for interline traffic. Any proposal, like the I-5 PRA, would require non-discriminatory service commitments such that the rates that would be paid are reflective of the same level of service in terms of

frequency, travel times, car supply, etc. reflected in the service over the interconnecting (i.e., Mexico) portion of the move as provided by the interconnecting carrier to its vertically integrated affiliate over the gateway.

104. As a market-responsive mechanism, the I-5 PRA has proved to be a remarkably durable and effective pro-competitive condition.⁸⁹ It has been 25 years since the condition went into effect yet remains a market-responsive constraint on interline rates and has generated little conflict or controversy. (I note that KCSM’s concession in Mexico terminates in 2047, 25 years from now.) The I-5 PRA continues to allow UP the ability to price directly to BNSF shippers. Unlike other conditions where escalation is based on cost measures that may over time depart from market specific rates, there is no indication that the I-5 PRA is not generally continuing to provide market-based competitive rates.

VI. MERGER-INDUCED CONGESTION, RAISING RIVAL’S COSTS, AND HARM TO SHIPPERS

A. ECONOMICS OF RAIL CONGESTION EXTERNALITIES

105. Railroad congestion can occur when the use of some line, route, segment, or yard begins to approach the effective capacity of the installed capital and associated available operations and resources. Congestion shows up in reduced average train speeds, delays, variability, and unreliability in service, and higher operating costs in response to these issues. They may also show up in the costs and investments the railroad makes to expand capacity in order to relieve congestion. And given the complexity of rail operations across the rail network, the effects of severe congestion can be felt in other locations and other shippers across the network. For example, congestion can result in the need to re-route traffic over longer routes, reduce car utilization, and have other knock-on effects across the network.⁹⁰

106. The effects of the reduction in service are felt across all shippers that are subject to the congestion or must take alternative measures to overcome these costs. The economic impact of these service disruptions varies across shippers. For some shippers, disruptions and reduced

⁸⁹ See, for example, <https://www.up.com/customers/ind-prod/lumber/i-5/index.htm>

⁹⁰ See Verified Statement of Jon Gabriel and Travis Thowe, February 28, 2022, (“Gabriel and Thowe V.S.”), pp. 3, 8, 17.

service may be nothing more than a nuisance; for others, these effects may have a large economic cost that they would be willing to pay significantly to avoid. To the extent that shippers are willing to pay less for worse service or unwilling to use the provider at all, railroads face reduced revenue and profit arising from congestion.

107. The rail network, and specific track segments, represent a common resource with limited capacity that is shared across shippers and shipments. Additional shipments over this common resource can increase congestion and impose congestion costs on other shippers. This reduces the value of the service to other shippers and may reduce what these other shippers are willing to pay. From the perspective of each shipper the congestion cost imposed on *other* shippers is not a cost to itself. Each shipper cares about its own service, which affects what it is willing to pay, but the shipper does not care about, i.e., internalize, the costs imposed on other shippers that use the shared resource.

108. Congestion costs imposed on others that are not internalized by shippers are widely recognized as an issue in transportation economics that reduces economic efficiency. If shippers do not internalize these costs, then there is an economically inefficient high level of congestion, and correspondingly inefficient prices, quantities, and capacity.

109. The organization of the U.S. rail system and its regulation, however, is generally well-positioned to manage congestion costs efficiently. U.S. railroads, which are typically responsible for the provision of transportation to shippers and for the determination of capacity and the ‘below the wheels’ cost of the rail network themselves, can modify operations, pricing, and routing and can make appropriate investments in operations, capital, and pricing in response to shippers’ demands. A railroad that owns the track and provides service to its shippers over its own track can internalize the costs of congestion. As shippers respond to congestion-related service quality and cost differences, the railroad can adjust pricing, operations and investments as demand adjusts to differences in service levels arising from congestion. The railroad can adjust investments to expand capacity to the extent shippers are willing to bear these costs and adjust service and pricing among shippers to allocate the existing scarce common resource among shippers depending on

their willingness to pay for different service levels.⁹¹ It is unlikely that the economically appropriate level of investment (and corresponding cost) would never result in congestion. The railroad, however, has the incentive to internalize congestion costs across shippers in determining an appropriate level of investment.

B. MERGER-INDUCED CONGESTION IMPOSED ON OTHER RAILROADS RAISES RIVALS' COSTS AND CREATES COMPETITIVE HARM

110. Applicants indicate that the proposed transaction will result in substantial diversions and new traffic to Mexico and through the Texas Gulf Coast route. As explained by Mr. Fisher, this introduces substantial volumes of new traffic into the Gulf Coast route and the Houston complex.⁹² This additional traffic raises the prospects of inefficient routings and drastic measures to maintain fluidity over these lines, and possibly additional investments to provide for appropriate levels of capacity.⁹³ Given the history by which KCS has obtained access over this route, this new, merger-related traffic travels over lines owned by others.⁹⁴ (See Section IV.A and Figure 4 above.) As these volumes increase congestion, potentially with reduced speeds and higher service variability, then this affects not just the new CP-KCS traffic, but existing KCS shippers and existing (and future) shippers on UP and BNSF.

111. CP-KCS will not internalize the costs of congestion suffered by shippers served by other railroads operating over these shared, common resources. Instead, these are costs borne by UP and BNSF and their shippers. CP-KCS' rates to its shippers will reflect the level of congestion and service degradation suffered by CP-KCS' shippers and thus CP-KCS will internalize these effects on *its* shippers. But BNSF and UP and their shippers will also suffer from the congestion-induced service degradation; CP-KCS will not bear these costs imposed on BNSF's and UP's shippers and will not re-route its traffic or adjust its rates accordingly to reflect or incorporate these costs into its decision making.

⁹¹ See, for example, Brueckner, Jan, K. "Airport Congestion When Carriers Have Market Power" *American Economic Review*, 92, no. 5 (2002): 1357-1375 on the internalization and external costs of congestion among competitors using a shared resource subject to congestion costs.

⁹² Verified Statement of Benton V. Fisher, February 28, 2022, Section V.

⁹³ Gabriel and Thowe V.S., pp. 3-4.

⁹⁴ Gabriel and Thowe V.S., pp. 2-8.

112. This effect can be understood by imagining if all the shippers on the shared line were CP-KCS' and not UP's or BNSF's. In this case, the increase in congestion and corresponding increases in costs of the railroad and/or reduced willingness to pay for lower quality service by all the existing shippers would be suffered by CP-KCS. KCS would account for these effects when it determined the rates and amount of new traffic it would bring on the line. If KCS brought too much new traffic on the line it would lose profits due to reduced rates, lost traffic, or higher costs from the existing shippers, so this would restrain how much additional traffic and congestion CP-KCS would introduce onto the line. However, since much of the existing traffic are customers of UP and BNSF, CP-KCS has no incentive to engage in this economically efficient restraint.

113. To the extent that the merger-related increase in traffic requires additional expenditures or investments to expand capacity on the shared lines around Houston and the Gulf Coast, these costs may be also shifted onto UP and BNSF and, ultimately, their shippers. As explained by Ms. Bailiff, Applicants may seek to use the existing arrangements regarding the operation of the shared lines through Houston and the Gulf Coast to shift onto UP and BNSF the costs of investments required to provide economically efficient levels of capacity in response to the merger-related diversions and new traffic traveling over the heavily used shared lines.⁹⁵ The costs of these incremental investments by UP and BNSF would likely be shifted back onto their customers.

114. Additional merger-induced traffic that creates congestion over shared lines generates an economically inefficient competitive benefit to CP-KCS that comes at the expense of UP and BNSF shippers. This can easily be seen. Assume that the merger did not create congestion on the commonly-used lines or did not require additional investments paid for by UP and BNSF. UP and BNSF would be better competitors for traffic that CP-KCS serves if the merger did not degrade UP's or BNSF's existing levels of service or increase their costs of providing that service.

115. Raising rivals' costs (by effectively degrading service that competitors can provide or imposing merger-related costs onto competitors) is an anti-competitive effect of a merger. Again, this can be easily understood. Assume that the economically efficient response is to make investments to expand capacity to reduce congestion resulting from the merger (say back to pre-

⁹⁵ See Verified Statement of Sarah Bailiff, February 28, 2022, pp. 1-2.

merger levels).⁹⁶ To the extent that UP and/or BNSF were required to share in these costs, this has the effect of UP and BNSF subsidizing CP-KCS traffic and its shippers. Such an outcome is not in the public interest and is inconsistent with sound merger policy.

I declare under penalty of perjury that the foregoing is true and correct.

/s/ David Reishus

David Reishus

February 28, 2022

⁹⁶ Note the important distinction between a railroad that was provided access to a merging carrier's line to offset the potential competitive harm of the merger that may impose costs on the *merging* carrier to expand infrastructure in response to the merger-related competitive remedy versus this case where the merging parties may impose merger-related costs on existing *non-merging* competitors.



APPENDIX A

CURRICULUM VITAE

David Reishus

OFFICE: Compass Lexecon
200 State Street, 9th Floor
Boston, MA 02109
(617) 520-0200 main
(617) 520-0209
dreishus@compasslexecon.com

PROFESSIONAL EXPERIENCE

Compass Lexecon
Boston, MA
Executive Vice President, April 2013 – present
Senior Vice President/Senior Managing Director, July 1999 – March 2013

The Economics Resource Group, Inc., Cambridge, MA
President, 1993 – June 1999
Senior Economist, 1990 – 1993

Provides economic analysis and advice on issues of regulation, antitrust, taxation and applied microeconomics to a variety of clients. Develops, manages, and oversees economic analyses for clients and other principals. Responsible for the management and operations of the company.

U.S. Congress, Joint Committee on Taxation, Washington, DC
Economist, 1987 – 1990

Provided economic analysis and development of legislative tax proposals. Responsibilities included corporate and foreign taxation and proposals related to low-income taxpayers, child care, and health issues.

Harvard University, Cambridge, MA
Instructor, 1986 – 1987

Leader of senior thesis tutorial for industrial organization and finance topics. Previously taught Introductory Economics.

Information Resources, Inc., Chicago, IL
Consultant, 1979 – 1980

EDUCATION

Harvard University, Cambridge, MA
Ph.D. in Economics, 1988
Dissertation: “Empirical Essays on the Economics of Taxation and the Firm”
M.A. in Economics, 1983

Northwestern University, Chicago, IL
B.A. in Economics, 1979

TESTIMONY AND OTHER REPORTS

Government of Canada

Before the International Trade Administration, Department of Commerce, Countervailing Duty Investigation of Certain Softwood Lumber Products From Canada (C-122-858), Third Administrative Review. Economic Relationships and Disequilibria Among Lumber, Log and Standing Timber Prices in 2020. Expert Witness Statement, December 29, 2021

Governments of Canada and British Columbia

Before the International Trade Administration, Department of Commerce, Antidumping Duty Investigation of Certain Softwood Lumber Products From Canada (A-122-857), Third Administrative Review. Economic Analysis Regarding Claim of Particular Market Situation for Logs Purchased by Respondents in British Columbia and Alberta. Expert Witness Statement, August 19, 2021.

Governments of Canada and British Columbia

Before the International Trade Administration, Department of Commerce, Countervailing Duty Investigation of Certain Softwood Lumber Products From Canada (C-122-858), Third Administrative Review. Economic Analysis of British Columbia Log Export Permitting Process, Stumpage and Log Markets. Expert Witness Statement, June 14, 2021.

BNSF Railway Company

Before the Surface Transportation Board. Finance Docket No. 32760 (Sub-No. 46) BNSF Railway Company -- Terminal Trackage Rights --Kansas City Southern Railway Company and Union Pacific Railroad Company. Reply Verified Statement, April 12, 2021. Rebuttal Verified Statement, May 11, 2021.

CSX Corporation and CSX Transportation, Inc.

Before the Surface Transportation Board. Finance Docket No. 36472. CSX Corporation and CSX Transportation, Inc., et al.—Control and Merger—Pan Am

Systems, Inc., Pan Am Railways, Inc., Boston and Maine Corporation, Maine Central Railroad Company, Northern Railroad, Pan Am Southern LLC, Portland Terminal Company, Springfield Terminal Railway Company, Stony Brook Railroad Company, and Vermont & Massachusetts Railroad Company. Verified Statement, February 25, 2021. Revised Verified Statement, April 26, 2021. Amended and Supplemented Verified Statement, July 1, 2021. Reply Verified Statement, October 18, 2021. Hearing Participation, January 13-14, 2022.

Government of Canada

World Trade Organization, United States—Countervailing Measures on Supercalendered Paper From Canada, Recourse to Article 22.6 of the DSU by the United States (WT/DS5050). Methodology for Calculating Canada’s Losses From U.S. Application of the OFA-AFA Measure. September 18, 2020. (With Andrew Lemon.)

Government of Canada

Before the International Trade Administration, Department of Commerce, Countervailing Duty Investigation of Certain Softwood Lumber Products From Canada (C-122-858), Second Administrative Review. Economic Analysis of Allegations Relating to Log Markets and Exports from Four Provinces. Expert Witness Statement, August 5, 2020. *Economic Analysis of British Columbia Log Export Permitting Process, Stumpage and Log Markets.* (Also Government of British Columbia.). Expert Witness Statement, August 5, 2020. *Response to Coalition’s Submission of September 15, 2020.* Expert Witness Statement, October 1, 2020.

Association of American Railroads

Before the Surface Transportation Board. Docket No. EP 761, Hearing on Railroad Revenue Adequacy. Response to the “Benchmark Methodology” Proposal Submitted by the American Chemistry Council. Verified Statement, February 13, 2020. (With Joseph Kalt).

Government of Canada

Before the International Trade Administration, Department of Commerce, Countervailing Duty Investigation of Certain Softwood Lumber Products From Canada (C-122-858), First Administrative Review. Response to Petitioner’s Submission of August 12, 2019. Expert Witness Statement, August 26, 2019. *Economic Analysis of Log Export Regulations from Four Provinces.* Expert Witness Statement, April 8, 2020. *Evaluation of the Use of U.S. Export Log Prices as a Canadian Log Price Benchmark.* Expert Witness Statement, June 18, 2020.

Governments of British Columbia and Canada

Before the International Trade Administration, Department of Commerce, Countervailing Duty Investigation of Certain Softwood Lumber Products From Canada (C-122-858), First Administrative Review. Economic Analysis of British Columbia Log Export Permitting Process, Stumpage and Log Markets. Expert

Witness Statement, July 15, 2019. (With Joseph Kalt).

Government of Canada

Before the International Trade Administration, Department of Commerce, In the Matter of Certain Softwood Lumber Products from Canada (A-122-857). Economic Analysis Regarding Claims of Particular Market Situation for Canadian Softwood Lumber By-Products. Expert Witness Statement, July 20, 2017.

Association of Oil Pipe Lines

Before the Federal Energy Regulatory Commission. Docket No. RM17-1-000 Revisions to Indexing Policies and Page 700 of FERC Form No. 6. Declaration, January 19, 2017.

BNSF Railway Company

Before the Surface Transportation Board. Finance Docket No. 32760 (Sub-No. 46) BNSF Railway Company -- Terminal Trackage Rights --Kansas City Southern Railway Company and Union Pacific Railroad Company. Verified Statement, October 23, 2015.

Association of American Railroads

Petition of the Association of American Railroads to Institute a Rulemaking Proceeding to Reintroduce Indirect Competition as a Factor Considered in Market Dominance Determinations for Coal Transported to Utility Generation Facilities; Surface Transportation Board Ex Parte No. 717. Verified Statement, November 14, 2012.

Modis

In the United States District Court for the District of Columbia, Case 1:09-cv-01051-RWR, Modis, Inc. v. Infotran Systems, Inc. and Tien H. Tran v. Modis Inc. and Timothy W. Martin. Expert Report, October 18, 2010. Deposition testimony December 7, 2011.

Government of Canada

In the Matter of Arbitration No. 91312, Canada v. The United States of America. Expert Witness Statement of Joseph P. Kalt and David Reishus, May 12, 2009.

Government of Canada

In the Matter of Arbitration No. 7941, The United States of America v. Canada. Expert Witness Statement, June 29, 2008. Rebuttal Expert Witness Statement, August 11, 2008. (With Joseph Kalt).

Government of Canada

In the Matter of an Arbitration Under Chapter Eleven of the North American Free Trade Agreement Between Merrill & Ring Forestry, L.P. and The Government Of Canada. Expert Report, May 9, 2008. Supplemental Expert Affidavit, March 19, 2009. Oral testimony, May 21, 2009.

Dynegy

In the Circuit Court of Colbert County, State of Alabama, NO. CV-2003-142JMH, Nelson Brothers, LLC v. Cherokee Nitrogen v. Dynege Marketing & Trade; Dynege Inc. Expert Report, August 22, 2007.

Independent Energy Producers Association of California

Before the Federal Energy Regulatory Commission, Docket No. R.06-02-013, Long-Term Procurement Plans, Prepared Testimony of the Independent Energy Producers Association; Prepared Testimony of David Reishus and Joseph Cavicchi on behalf of the IEPA, March 2, 2007.

First Energy

Before the Pennsylvania Public Utility Commission, Petition of Metropolitan Edison Company for Approval of a Rate Transition Plan (Metropolitan Edison Company Docket No. R-00061366) and Petition of Pennsylvania Electric Company for Approval of a Rate Transition Plan (Pennsylvania Electric Company Docket No. R-00061367), Direct Testimony of David A. Reishus, April 10, 2006.

ExpressTrak LLC

In the United States District Court For the District of Columbia, Case No. 02- CV-1773, National Railroad Passenger Corporation v. ExpressTrak, L.L.C., Expert Report, Dated January 3, 2006; revised April 7, 2006. Deposition testimony, March 24 and April 26, 2006.

British Columbia Lumber Trade Council and the Province of British Columbia

Before the International Trade Administration, Department of Commerce, In the Matter of Certain Softwood Lumber Products from Canada (C-122-839). Statement for the First Administrative Review, March 15, 2004 (with Joseph Kalt); Response to Price Impact of Canadian Log Restraints, March 16, 2004 (with Joseph Kalt); Response to Coalition Submission on Pass-Through Issues, April 15, 2004 (with Joseph Kalt); Economics of Arm's-Length Transactions and Subsidy Pass-Through, September 15, 2004 (with Joseph Kalt); Economic Analysis of the Vancouver Log Market, February 28, 2005 (with Joseph Kalt); Comment on the Economic Implications of the Annual Allowable Cut, December 5, 2005 (with Joseph Kalt); Update to Economic Analysis of the Vancouver Log Market, December 5, 2005 (with Joseph Kalt). Reports filed from March 15, 2004 to December 5, 2005.

Multiple Associations of Energy Producers

Before the Public Utilities Commission of the State of California, Rulemakings R.04-04-025 – R.04-04-003, “Prepared Rebuttal Testimony,” October 28, 2005 (with A. Joseph Cavicchi). Oral testimony, January 23 and 24, 2006.

PPL Corporation

United States of America, Before the Federal Energy Regulatory Commission, Docket No. ER05-1416-000, “Affidavit of A. Joseph Cavicchi, Joseph P. Kalt, Ph.D., and David A. Reishus, Ph.D. on Behalf of the PPL Parties,” October 19, 2005.

The Burlington Northern and Santa Fe Railway Company

Before the Surface Transportation Board, Finance Docket No. 34342, Kansas City Southern -- Control -- The Kansas City Southern Railway Company, Gateway Eastern Railway Company, and The Texas Mexican Railway Company. Verified Statement, June 3, 2003; Verified Statement, August 4, 2003; Reply Verified Statement, August 29, 2003.

Dynegy Inc.

United States of America, Before the Federal Energy Regulatory Commission, San Diego Gas & Electric Company v. Sellers of Energy and Ancillary Services, Investigation of Practices of the California ISO and PX; Pub. Utils. Comm'n of the State of California v. Sellers of Long-Term Contracts. Prepared Rebuttal Testimony (with Patrick Wang), March 20, 2003.

Duke Energy Trading and Marketing LLC

United States of America, Before the Federal Energy Regulatory Commission, San Diego Gas & Electric Company v. Sellers of Energy and Ancillary Services into Markets Operated by the California Independent System Operator and the California Power Exchange; Investigation of Practices of the California Independent System Operator and the California Power Exchange. Prepared Rebuttal Testimony (with Patrick Wang), March 20, 2003.

Dynegy Inc.; Duke Energy Services LLC; Mirant Americas, Inc.; Reliant Energy; Williams Energy Marketing and Trading Co.

United States of America, Before the Federal Energy Regulatory Commission, San Diego Gas & Electric Company v. Sellers of Energy and Ancillary Services into Markets Operated by the California Independent System Operator and the California Power Exchange; Investigation of Practices of the California Independent System Operator and the California Power Exchange. Affidavit (with Patrick Wang), October 15, 2002 (revised November 12, 2002).

Association of American Railroads

Review of Rail Access and Competition Issues, Before the Surface Transportation Board, Ex Parte No. 575. Joint Verified Statement (with Joseph Kalt), March 26, 1998.

Crow Tribe of Indians

Report Concerning the Crow Tribe Resort Tax (with Joseph P. Kalt), November 27, 1996; Surrebuttal Report Concerning the Crow Tribe Resort Tax (with Joseph P. Kalt), February 25, 1997; and Report Concerning the Crow Tribe Resort Tax (with Joseph P. Kalt), March 31, 2000.

Sithe Energies

Economic Impact on New York State of the Sithe Plan, Chapter IV of Energizing New York: The Sithe Plan, December 8, 1995.

Massachusetts Department of Environmental Protection
Use of an Economic Test for Distinguishing Legitimate Recycling Activities, July 1993.

SELECTED OTHER CONSULTING EXPERIENCE

Government of Canada

Assisted in developing presentations, responses and submissions and participated in meeting before WTO dispute settlement panel regarding countervailing duties.

Class 1 Railroad

Analyzed competitive issues in arbitration regarding implementation of access agreements.

Major Coal Producers

Analyzed end-market competitive alternatives and pricing behaviors.

Management Company

Analyzed lost profits and other damages arising from contractual dispute in Asian gaming.

Large Integrated Electric Utility

Analyzed cost and rate impacts related to shut down of nuclear plant.

International Oil Company

Analyzed cost structure for major deepwater crude oil exploration and production investment.

Independent Transmission Company

Analyzed risk and financial investment incentives for stand-alone transmission project.

Large Solar Power Provider

Assisted in data analysis of market operations and outcomes.

Merchant Power Generator

Analyzed economic, regulatory and financial issues related to proposed new pipeline investment and novel regulatory regime.

Supermajor Oil Company

Assist in analysis of competition and proposed conditions related to divestiture of regional midstream petroleum product assets.

Electric and Gas Utility Holding Companies

Analyzed potential competitive issues arising from multiple mergers between large electric, gas utility, and interstate gas pipeline companies for use before Federal competition authorities and state regulatory agencies.

Major Regional Hospital

Performed statistical analysis of patient waiting-times and follow-up.

Petroleum Products Pipeline

Analyzed business and regulatory options for large interstate petroleum products pipeline subject to market-based and regulated tariffs.

Dean Foods

Analyzed claims of price fixing and statistical model of antitrust damages for use in class certification.

Group of Class 1 Railroads

Analyzed claims of competitive harm and the development and use of econometric models for pricing, damages and class certification in the context of alleged price-fixing.

Government of Canada

In context of international arbitration under the U.S. Canada Softwood Lumber Agreement, analyzed pricing patterns, effects of risk and government development and timber pricing policies in multiple provinces on the North American lumber markets, Developed dynamic economic models of production and trade capable of determining appropriate export measure adjustments.

Major Energy Traders

Assisted in analyses of claims of market manipulation in physical and financial energy markets.

U.S. Generation Companies

Advise on methods for performing merger analysis and analysis of competitive effects of proposed divestitures.

Western Refining

Analyzed effect of a contested proposed merger involving southwestern refining, wholesale, and marketing operations

AT&T

Analyzed competitive issues in the long-distance telephone market in the context of a class-action price-fixing suit.

Pacific Lumber/Scotia Pacific

Assisted in analysis and projections involving redwood product markets for business valuation in bankruptcy.

TAPS Carriers

Assisted in development of ratemaking analyses for oil pipeline rates.

General Electric & Bechtel

Analyzed derivation of cost of equity, discount factor, and method for contract damages and expropriation of Dabhol power plant in the context of I.C.C. arbitration.

Class 1 Railroad

Analyzed potential competitive harm of vertical rail merger and possible remedies before the Canadian Competition Bureau.

Multinational Oil Companies

Analyzed alternative approaches for identifying, measuring and managing price and fiscal risks in long-term contracts in connection with multiple billion-dollar-plus projects in Africa and Middle East.

Frontier Oil Corporation

Analyzed application of discount factors and method in damages arising from a failed merger.

Amoco

Analyzed marketability and market value of natural gas for purposes of class-action royalty valuation.

Class 1 Railroad

Analyzed claims of vertical market foreclosure and anticompetitive conduct in rail transportation.

Supermajor Oil Company

Performed functional analysis of sources of global value creation for international tax treatment.

Government of Canada

Assisted in analysis of changes in forestry practices and stumpage charges in the context of international trade agreements.

Exxon Corporation and Affiliated Companies

Performed analysis of design and effect of U.K. oil and gas tax system.

CSX Corporation and CSX Transportation, Inc.

Analyzed historical evidence of rail consolidations and the impact of the proposed Conrail transaction on Eastern coal shippers. Evaluated competitive requirements of proposed conditions on the transaction.

Group of Major Oil Companies

Developed and analyzed a database of crude oil purchases for analyzing issues of crude oil valuation at the wellhead in the context of multiple class action litigations.

Koch Pipeline

Assisted in developing product and market definitions relating oil pipeline antitrust allegations.

British Petroleum

Performed economic analysis of alternative organizational forms for operating petroleum assets. Developed advanced financial tools for valuing decision alternatives and contingent assets.

Exxon

Performed economic analysis of certain fuel used and cost allocations among the Prudhoe Bay Unit owners for a royalty dispute with the State of Alaska.

Burlington Northern Railroad/Santa Fe Railroad

Analyzed competitive impacts of proposed railroad merger for use before the Interstate Commerce Commission.

PSI/CINergy

Adapted economic model of regional economy and performed analysis of the economic impact of alternative merger scenarios for a public utility.

El Paso Natural Gas Company

Performed economic analysis of markets and competition for an open-access natural gas pipeline for use in an antitrust case.

Better Home Heat Council, Inc.

Performed economic analysis of a local gas utility's conservation programs effect on consumer fuel-switching decisions and public policy impact for use before the Massachusetts Department of Public Utilities.

Association of American Railroads

Analyzed the impact of market conditions for the exemption of rail transportation of export corn and soybeans from Interstate Commerce Commission regulation.

ARCO Pipe Line Company

Evaluation of market power of petroleum products pipeline in consideration of light-handed regulation for use before the Federal Energy Regulatory Commission.

BP/America

Assisted in the design and implementation of crude oil valuation analyses for royalty litigation.

Williams Natural Gas Pipeline Co.

Prepared pricing analysis of natural gas purchase contracts, performed calculation of damages, and analyzed economic submissions for use in antitrust case.

El Paso Corporation

Various projects including strategic analysis of market opportunities to enhance value of the pipeline and analysis of market competition in gathering and long-distance gas transportation.

Government of British Columbia

Assisted in evaluation of impact of Canadian log export regulations on U.S. and Pacific Rim log and wood products trade and industry.

Atlantic Richfield Company

Provided economic analysis of market structure and conduct for the distribution of motor fuels for use in an antitrust case.

Burlington-Northern Railroad

Assisted in evaluating market impacts of innovative railroad grain car service rate and reservation policy for use before the Interstate Commerce Commission.

PUBLICATIONS AND RESEARCH

“Corporate Reorganizations: Tax Treatment of Corporate Mergers, Acquisitions, and Reorganizations,” *The Encyclopedia of Taxation and Tax Policy*, 2nd ed., The Urban Institute Press, 2006. (Revised and updated.)

“Corporate Reorganizations: Tax Treatment of Corporate Mergers, Acquisitions, and Reorganizations,” *The Encyclopedia of Taxation and Tax Policy*, The Urban Institute Press, 1999.

"Outside Directorships, the Reputation of Managers, and Corporate Performance" (with S. Kaplan), *Journal of Financial Economics*, Vol. 27, No. 2, September 1990.

"Financing Child Care: Who Will Pay for the Kids?," *National Tax Journal*, Vol. XLII, No. 3, September, 1989.

"The Effects of Taxation on the Merger Decision" (with A. Auerbach), in A. Auerbach, ed., *Corporate Takeovers: Causes and Consequences*, University of Chicago Press, 1988.

"Taxes and the Merger Decision" (with A. Auerbach), in J. Coffee, L. Lowenstein, and S. Rose-Ackerman, eds., *Knights, Raiders and Targets*, Oxford University Press, 1988.

"The Impact of Taxation on Mergers and Acquisitions" (with A. Auerbach), in A. Auerbach, ed., *Mergers and Acquisitions*, University of Chicago Press, 1988.

OTHER PROFESSIONAL ACTIVITIES

Presentations to National Bureau of Economic Research, Federal Reserve Bank of Cleveland, Federal Reserve Bank of New York, Harvard University, Tax Economists Forum, National Tax Association, Western Economic Association, The Institute for Energy Law of The Center for American and International Law.

Membership in American Economic Association.

Referee for *Quarterly Journal of Economics*, *Journal of Law and Economics*.

HONORS AND AWARDS

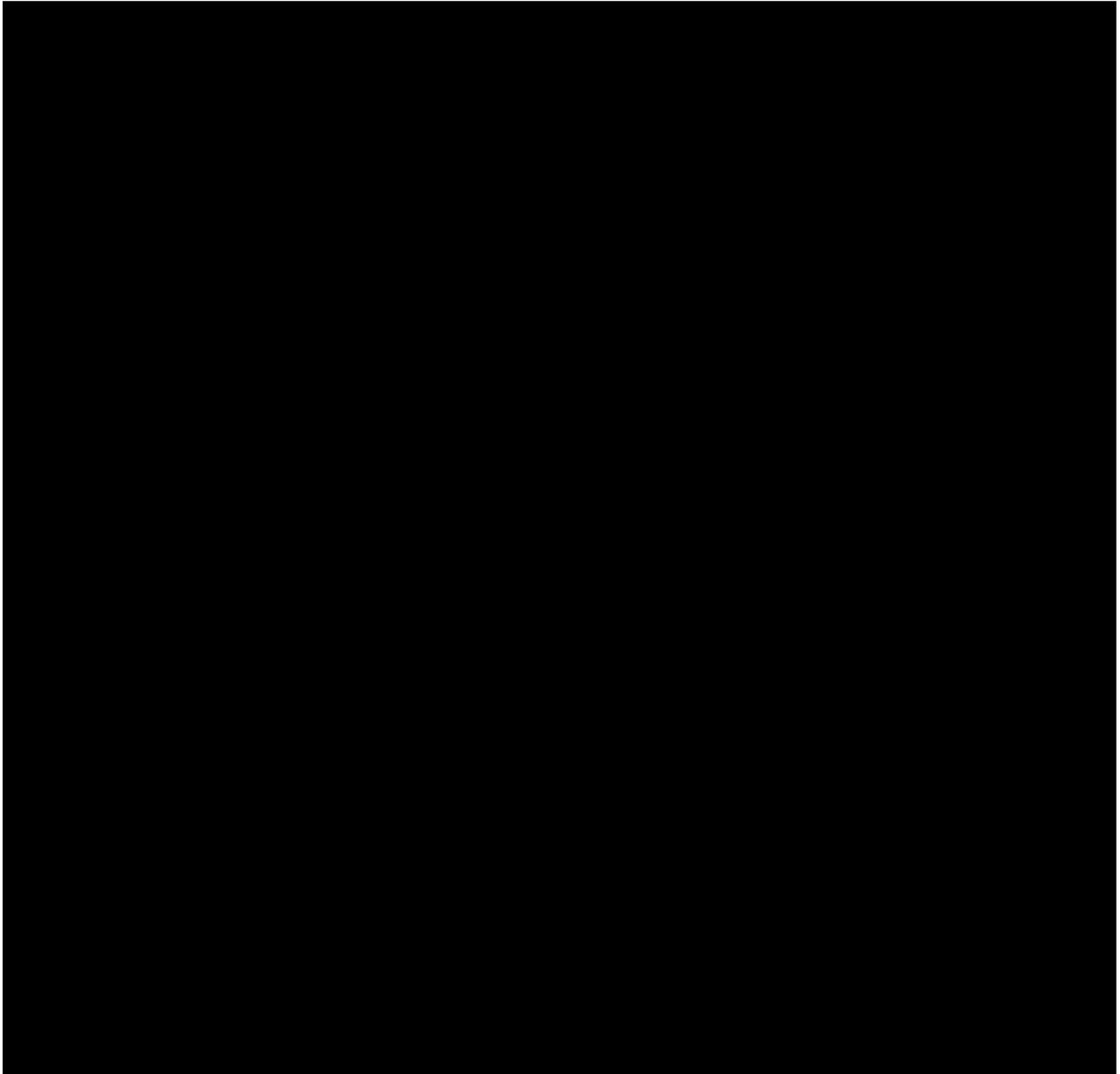
National Science Foundation Fellowship, 1981-1985.

International Foundation of Employee Benefit Plans, Graduate Research Fellowship, 1984.

Phi Beta Kappa, 1979.

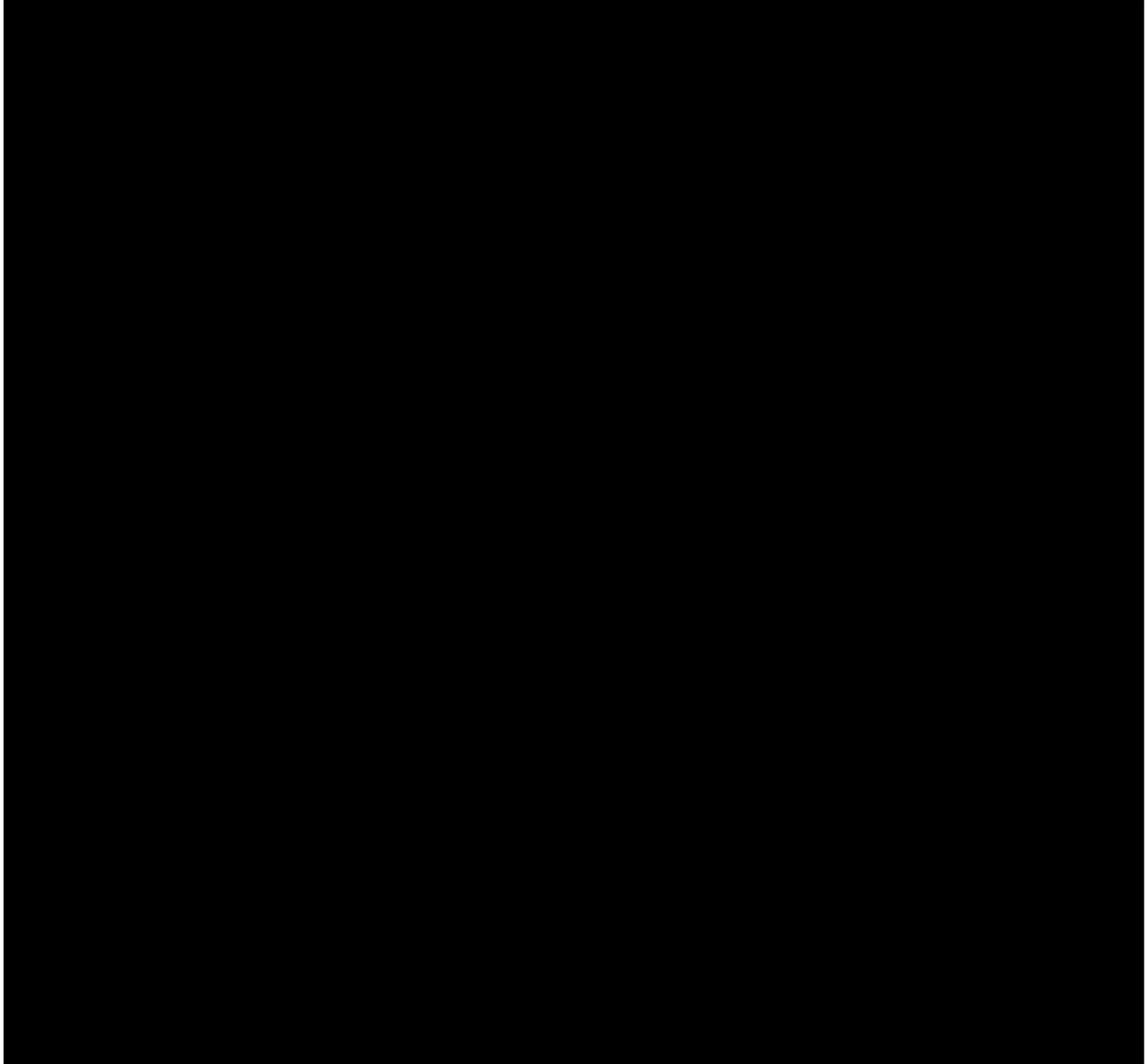
APPENDIX B

Table B-1
Laredo Gateway Traffic, 2019: Northbound
Broken out by Traffic Type and Served Areas
‘Served’ Defined Using BEAs per Dr. Majure {{



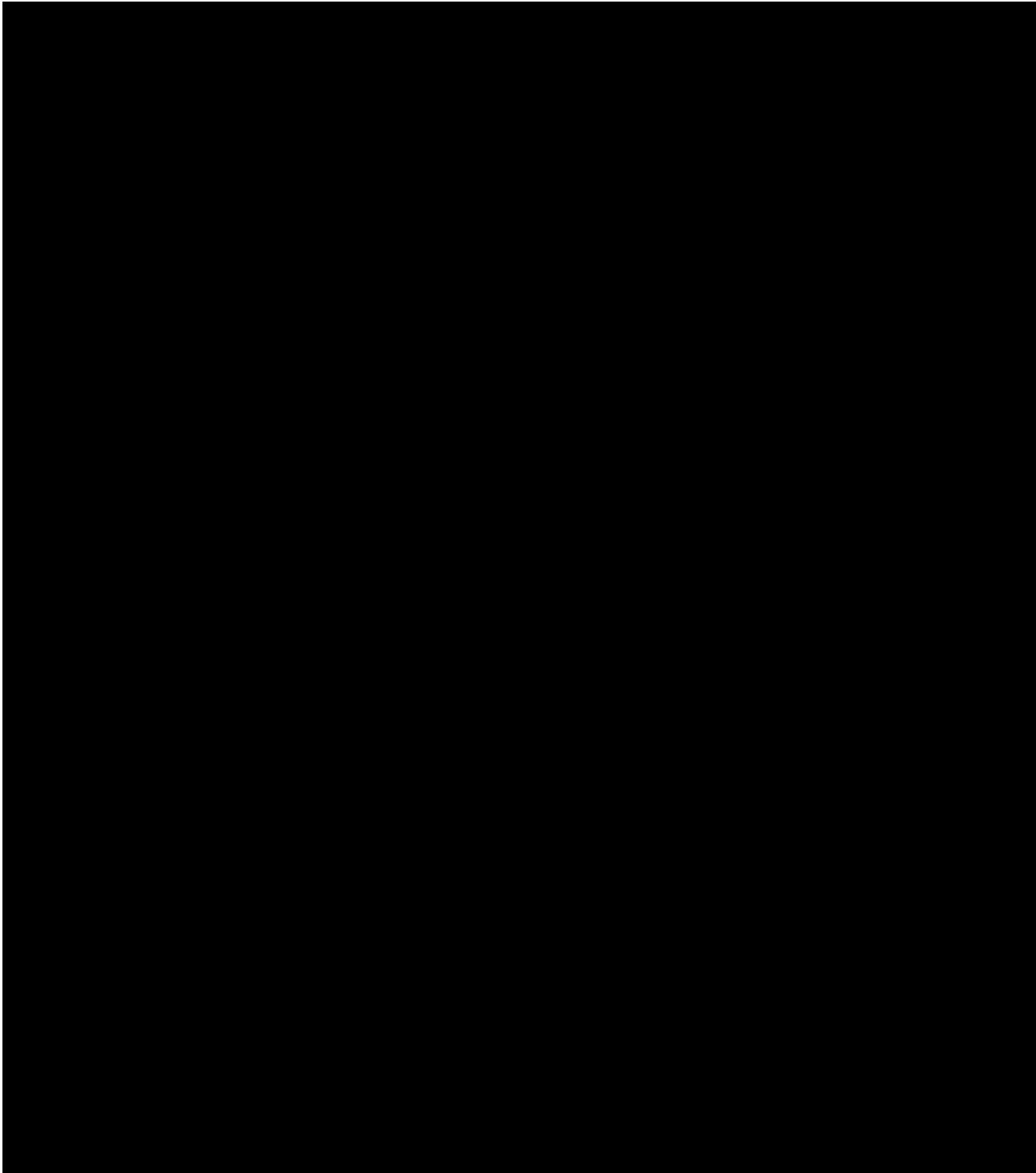
}}

Table B-2
Laredo Gateway Traffic, 2019: Southbound
Broken out by Traffic Type and Served Areas
‘Served’ Defined Using BEAs per Dr. Majure {{



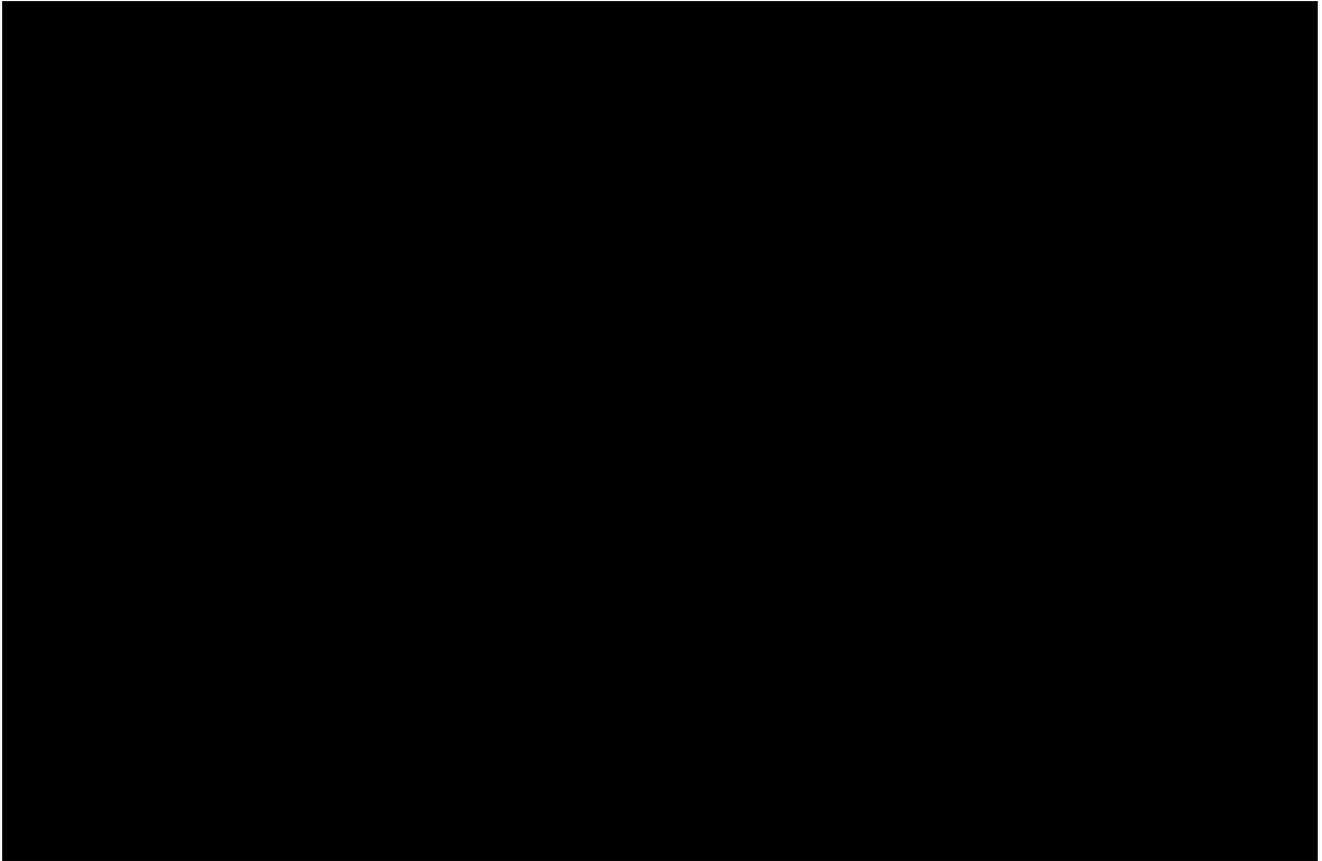
}}

Table B-3
Laredo Gateway Traffic, 2019: Northbound and Southbound Total
Broken out by Traffic Type and Served Areas
‘Served’ Defined Using BEAs per Dr. Majure {{



}}

Table B-4
Laredo Gateway Traffic, 2019: Northbound and Southbound Total
‘KCS Serves’ Determined Using Applicants’ Diversion Methodology {{



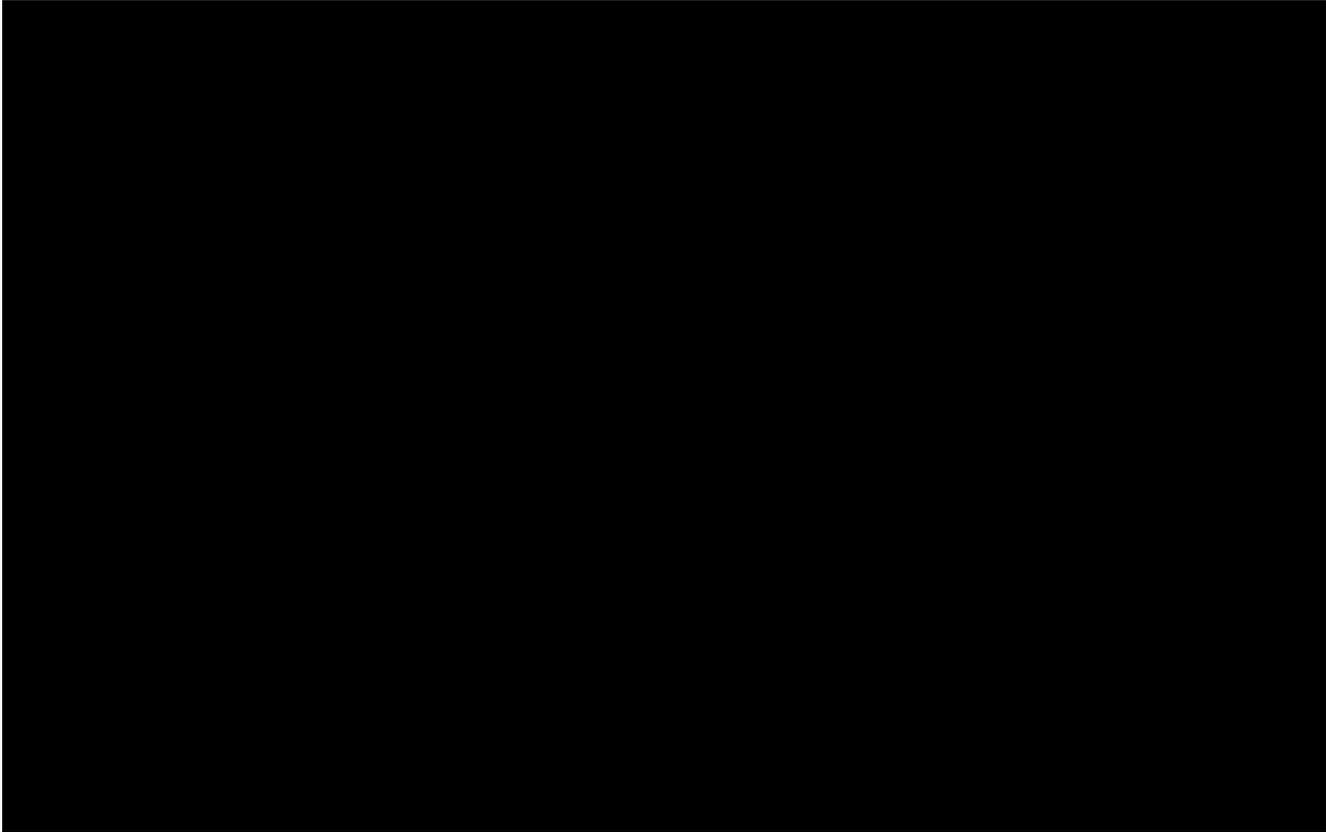
}}

**Table B-5
Laredo Gateway Carload Traffic, 2019: Northbound
KCS, UP, BNSF ‘Serves’ Determined Using Applicants’ Diversion Methodology {{**



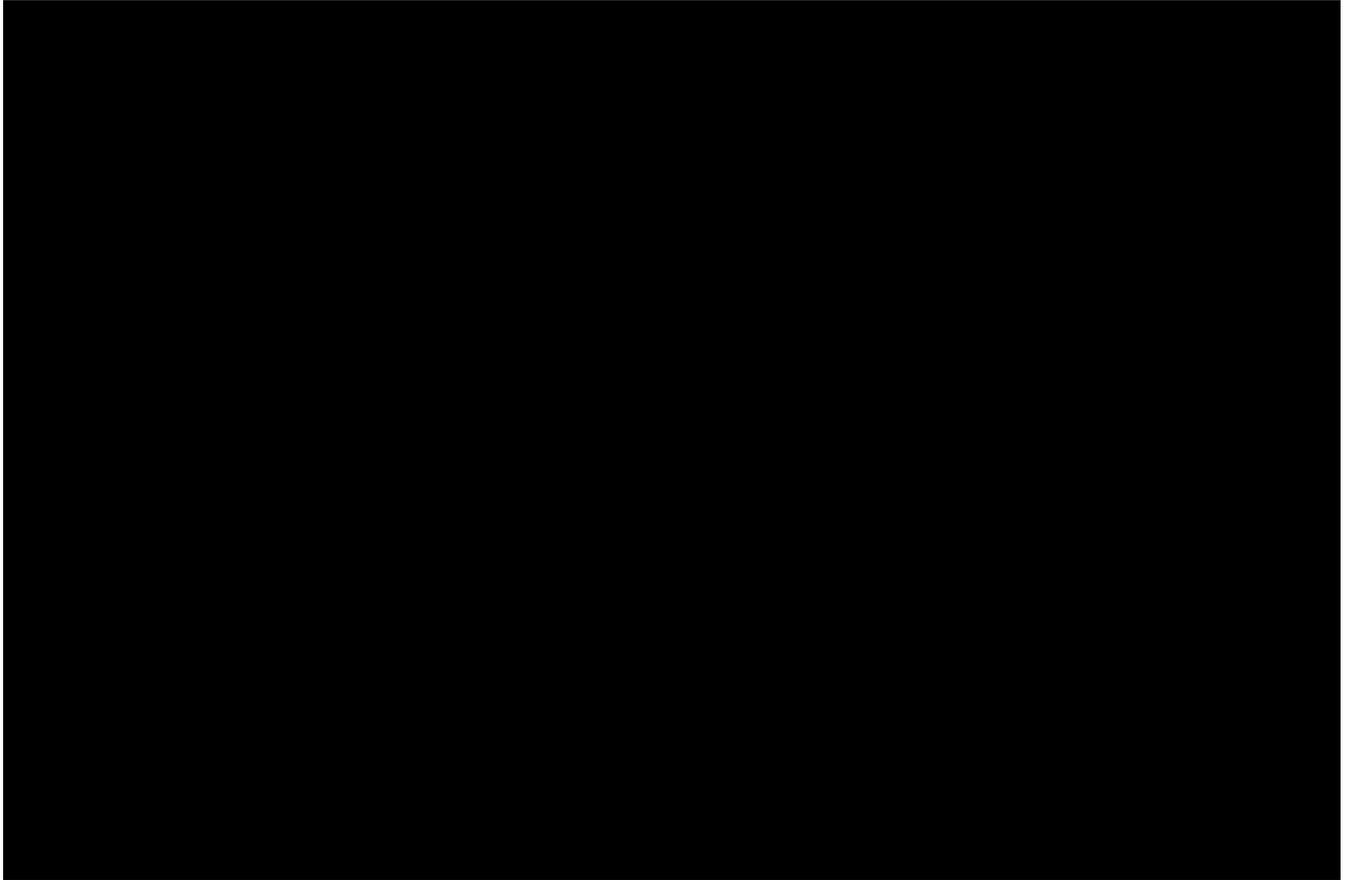
}}

Table B-6
Laredo Gateway Carload Traffic, 2019: Southbound
KCS, UP, BNSF ‘Serves’ Determined Using Applicants’ Diversion Methodology {{



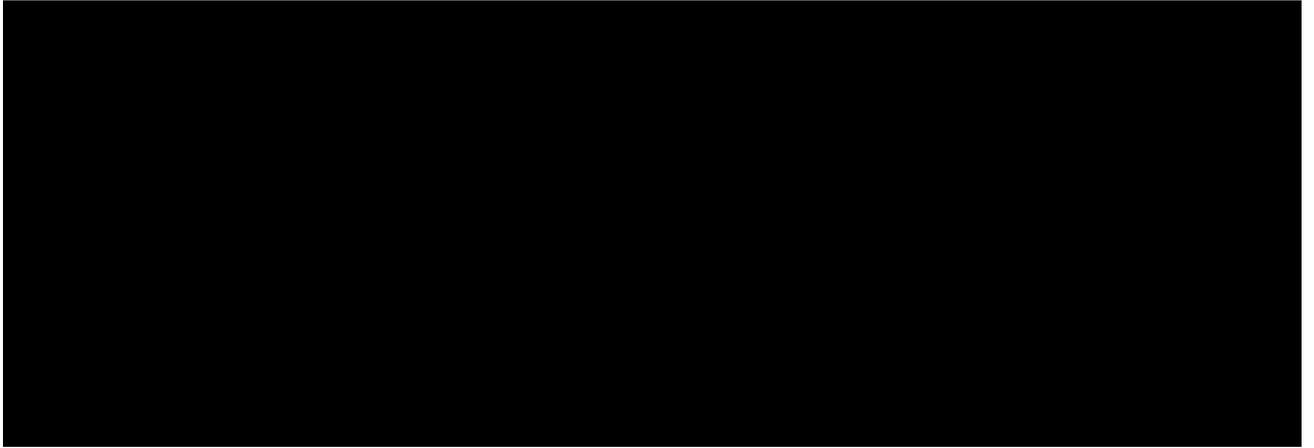
}}

Table B-7
Laredo Gateway Carload Traffic, 2019: Northbound and Southbound Total
KCS, UP, BNSF ‘Serves’ Determined Using Applicants’ Diversion Methodology {{



}}

Table B-8
Current and Potentially Divertible KCSM-KCS Traffic {{



}}



}}

REDACTED – TO BE PLACED ON PUBLIC FILE

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 36500

CANADIAN PACIFIC RAILWAY LIMITED, ET AL.
—CONTROL—
KANSAS CITY SOUTHERN, ET AL.

Verified Statement of Aarón Dychter Poltolarek, PhD

VERIFIED STATEMENT OF AARON DYCHTER

I. INTRODUCTION AND OVERVIEW

1. My name is Aaron Dychter Poltolarek. I am an Economist and obtained a PhD degree from George Washington University in 1979. That same year I became a public servant working for the Mexican Federal Government. I was Undersecretary of Transportation in the Ministry of Infrastructure, Communications and Transport (SICT, as it is called now) for 12 continuous years, from December 1994 to December 2006. Within that period and among my responsibilities, I was in charge of the Railroad Privatization process, which included the design of the strategic scheme, together with the analysis and implementation of economic, technical, legal and regulatory issues. In 2007, I founded and became President of a consulting firm, ADHOC Consultores Asociados, S.C. The firm specializes in Infrastructure Investment Projects, particularly in areas like transportation; in that regard is that I have continued to be involved, among others, in railroad projects and regulation, advising various interested companies, both Mexican and international. BNSF has been a client with ADHOC for over 10 years now.
2. BNSF has asked me to offer my expert testimony on three topics related to the proposed CP/KCS transaction and its connections to the Mexican railroad system.
3. In this testimony, I first provide a brief description of the main elements of the Mexican regulatory regime that are of interest for the transaction and the potentially affected parties.
4. Second, I discuss the scope and limitations associated with the current enforcement of such regulation. In particular, I focus on the limitations of the current system to deal with

elements of potentially anti-competitive strategies that may be at reach for the combined entity. In addition, I describe why the current environment makes it difficult for involved parties to detect deviations from the law. I also describe why such deviations, even if detected, might not translate into a timely resolution without facing an additional hurdle, given the intricacy of the Mexican regulatory system.

5. In the final section of this statement, I explain that, if the imposition of a proportional rate mechanism and guarantees for equal service treatment of BNSF trains which BNSF has proposed do not ensure that the Laredo gateway will remain open, BNSF may request the Surface Transportation Board to grant BNSF direct access to Laredo through trackage rights over KCS. In that event, direct access to Laredo through such trackage rights could be an effective way to facilitate access to the Mexican railroad system when the Mexican Government opens KCSM's concession rail lines to additional competition, which is expected to occur in 2027.

II. BRIEF OVERVIEW OF RELEVANT ELEMENTS OF THE MEXICAN REGULATORY REGIME

6. Starting in 1995, a profound reform of the Mexican railroad system took place. The need for a complete restructuring process capable of modernizing the system was evident due to increasing inefficiencies, lack of effective competition, higher operational costs, the need for growing subsidies to sustain operations, and the low-quality product offered by Ferrocarriles Nacionales de Mexico, the government-owned and run monopoly provider.
7. The deployment of the complete overhaul of the Mexican railroad system was based on the participation of private investment in the form of concessions. Concessionaires committed to make investments on the system and paid substantial concession fees in

exchange for the rights to operate the publicly-owned infrastructure for a considerable period of time. After restructuring, the system consisted of three regional railroad companies (KCSM (formerly TFM), Ferromex and Ferrosur), one neutral interconnection terminal company for the Valley of Mexico, and several additional short lines (see map below). These lines and their corresponding concessionaires delineate the structure of the current Mexican railroad system.



Source: Ministry of Infrastructure, Communications and Transportation (SICT)

8. The operation and provision of railroad services in Mexico is governed by the principles and mandates stipulated in the Law on the Regulation of Rail Services (“Ley Reglamentaria del Servicio Ferroviario (LRSF)”), the Bylaw on Rail Services (“Reglamento del Servicio Ferroviario” (RSF)), the Concession Titles for each set of lines awarded at the end of the last century, and all their modifications. The system is overseen by the SICT and the Railroad Regulatory Agency (“Agencia Reguladora del Transporte Ferroviario” (ARTF)), an agency dependent on and coordinated by the SICT, created in 2015 to strengthen and improve railway regulation; and the Federal Economic Competition Commission (“Comision Federal de Competencia Economica” (COFECE)),

an autonomous body in charge of overseeing, promoting, and guaranteeing competition and free market access across the entire Mexican economy.

9. The Mexican regulatory regime embodies a large number of principles and norms that concessionaires must comply with in their daily operations. KCSM, as current concessionaire of the routes on the Northeastern part of Mexico, has the following rights and obligations on rates and service:
10. Rate-setting freedom and maximum rate registration: KCSM's Concession Title specifies that the "concessionaire may freely fix its rates" and that "they shall be registered." Similarly, the LRSF states that "[c]oncessionaires and permit holders will freely set the tariff rates, in such terms that allow the provision of transport services in satisfactory conditions, in terms of quality, efficiency, competitiveness, safety and permanence."¹
11. Non-discriminatory rates: KCSM's Concession Title requires that, "[i]n applying the tariff rates, the Concessionaire shall refrain from performing bundled sales, price discrimination practices or crossed subsidies." Similarly, the RSF establishes that "the tariff rates will be set freely by the concessionaires and permit holders, provided that they are the same for users under equal conditions for comparable services[.]"²
12. Non-discriminatory service provision: KCSM's Concession Title establishes that railroad services must be provided "in a permanent and uniform manner and in equitable and non-discriminatory conditions regarding timing, quality and price[.]" This also extends to the

¹ Article 2.15 of KCSM's Concession Title, and Article 46 of the LRSF.

² Article 2.15 of KCSM's Concession Title, and Article 170 of the RSF.

provision of terminal and interconnection services to “other concessionaries or with connecting railroads of other countries[.]”³

13. The regulatory conditions described do not paint a full picture of the actual constraints they impose.
14. First, even though there exists an obligation to register maximum tariffs, there is no effective upper limit on rates. Concessionaires are free to register a maximum rate for a specific service that is as high as they please, as long as they do it at least ten business days prior to entry in force.⁴ As a result, if a concessionaire were to have the incentive and ability to impose a generalized, across-the-board increase in its rates such action would comport with Mexican law as long as the new maximum rates are properly registered and justified in advance.⁵
15. Second, the non-discrimination provision on tariff rates aims to avoid monopolistic practices, to prevent discrimination from being used as an anti-competitive tool, and to maintain the principle that mandates equal price for equal service. The non-discrimination provision on tariff rates do not eliminate all types of price discounting such as for volume discounts or difference in service levels (provided they are not used to violate the non-discrimination clause). Concessionaires may offer promotions or discounts to shippers as stated in Article 170 of the RSF.⁶

³ Articles 2.1 and 2.2 of KCSM’s Concession Title.

⁴ Art.170 of the RSF.

⁵ Art. 46 of the LRSF.

⁶ After acknowledging that there may be difficulties in establishing equal tariff rates for comparable services, Art. 170 of the RSF establishes that the “Agency (ARTF) may determine through guidelines the services that will be considered comparable.”

16. To conclude this brief overview on the Mexican regulatory regime, it should be noted that the regulatory body establishes specific penalties for failing to comply with the law in the matter of tariff rates. As an example, the application of freight tariff rates higher than those registered might lead to fines or even the revocation of the concession.⁷

III. DIFFICULTIES TO FULLY RELYING ON THE MEXICAN REGULATORY REGIME TO PREVENT ANTICOMPETITIVE EFFECTS ARISING FROM THE MERGER

17. Despite the presence of two agencies in charge of overseeing concessionaires' compliance with these rules, the Mexican regulatory system for the provision of rail services has not been tested enough yet to vouch for its efficacy in preventing shippers from suffering competitive harm as a consequence of the actions of current or future concessionaires. Similarly, the system has simply not had enough opportunities to prove its ability to guarantee commensurable reparations to harmed shippers.

18. As discussed in the previous section, the conditions imposed by Mexican rules leave service providers with a fair amount of discretion to set and change rates at their will, as long as the registration of maximum rates and non-discrimination conditions are met. I have not seen any public announcement where the regulatory authorities have had the occasion to rule on a dispute originated on the failure to comply with any of the two conditions listed above. There could be several reasons explaining this fact. It could be that railroads have implemented price and service policies that have always complied

⁷ Article 21.VIII of the LRSF stipulates that concessions and permits may be revoked for “[a]pplying freight rates or rates for various services higher than those registered with the Agency.” A similar stipulation is made in Article 59 of the same regulatory document.

with these conditions, or at least did so to an extent that shippers did not feel compelled to litigate.

19. An alternative explanation can be found in the intricacies of the Mexican regulatory and judicial system. Consider the case of a shipper which presumes that it has been treated in a discriminatory manner by a concessionaire. Current regulation allows this shipper to present a formal complaint with the agencies. For this to occur, at least two conditions are necessary. The shipper must have enough evidence to support its claim and compel the agencies to conduct their own investigation, and the shipper must believe the agencies and the judicial system will act in a timely and fair manner that will eventually lead to a satisfactory remedy.
20. In my opinion, the satisfaction of both of these conditions is quite remote in Mexico. On the one hand, shippers are generally quoted confidential rates. In order to prove that it has been unfairly treated by the concessionaire, a shipper must have some knowledge of the rates that similar rail customers are being charged for the same service. Because in Mexico only maximum rates must be registered and railroads are allowed to offer discounts, there is no public, transparent record of the rates and tariffs that railroads effectively charge to shippers. As a result, this lack of transparency makes knowing whether one has been discriminated against is extremely difficult.
21. Similarly, the expected cost-benefit analysis that may justify the initiation of formal complaints is heavily affected by the structure of the regulatory and judicial system in Mexico. More than twenty years after the issuing of the original rules and even after necessary changes such as the creation of the ARTF in 2015 were made, there is still a fair degree of uncertainty regarding how the regulators would actually interpret the non-

discrimination provisions, what kind of reliefs might be ordered, and what actions current concessionaires accused of unfair practices may take to either block or delay the enforcement of remedies.

22. The complaint process could be very time consuming and unpredictable. In a first stage, COFECE and the ARTF would be involved in the analysis of evidence, as well as in the determination of the validity of the claim and the resulting reparations (if any). In a second stage, because all resolutions issued by administrative agencies like COFECE and ARTF are subject to appeal and review by the Mexican judicial system, multiple instances and different courts may be involved in the litigation process after the original resolutions by the administrative agencies are issued. In addition, the lack of precedents makes it difficult for a shipper or other litigating parties to anticipate whether the resulting remedies (if any) would match their own expectations.
23. To the best of my knowledge, there have been two investigations conducted by COFECE on the potential lack of effective competition in the railroad industry. In 2016, a preliminary investigation determined the lack of effective competition conditions on routes of the three main concessionaires (KCSM, Ferromex, and Ferrosur). However, in the final investigation COFECE was unable to conclude that there was an absence of effective competition across the entire network by which to trigger appropriate remedies.⁸
24. One specific instance in which COFECE was able to offer a concluding ruling is an investigation on the absence of competitive conditions on rail routes involving shipments of chemical and petrochemical products in the south area of the state of Veracruz.

⁸ Resolution DC-002-2016 issued by COFECE's Directory on February 22nd, 2018.

COFECE issued its final resolution in January 2020. COFECE found that conditions for effective competition were lacking in twenty routes that KCSM and Grupo Mexico⁹ use to transport these types of products. The investigation concluded that the lack of alternatives to rail shipments implied shippers had almost no bargaining power when negotiating access and tariffs for rail shipment services. COFECE also found railroads' practices regarding the breakdown of prices charged to shippers lacked transparency. These findings enabled ARTF to define a methodology to regulate tariffs for the involved route-product combinations, imposing maximum rates per ton-kilometer.¹⁰

25. The regulatory authorities have also intervened in disputes concerning the exercise of mandatory trackage rights established in the original Concession Titles. Despite being precisely defined in the original terms of the concessions, the two main concessionaires (KCSM and Ferromex) have simply not been able to implement these mandatory trackage rights in practice. Shippers, legislators, and general commentators have expressed their disapproval for the lack of competition between concessionaires resulting from the lack of exercise of these rights. Competition authorities have issued a number of resolutions aimed at promoting the use of these rights.¹¹ All but one of these

⁹ Grupo Mexico is a Mexican conglomerate that currently owns a majority share of Ferromex and Ferrosur, two of the three main concessionaires of the Mexican system.

¹⁰ Resolution DC-003-2018 issued by COFECE's Directory on January 27th, 2020. See also Resolution DC.9/ARTF/DGAJ/02/2020 issued by ARTF on March 6th, 2020.

¹¹ The SICT issued several resolutions between 2002 and 2008:

- Two resolutions issued on March 13, 2002.
 - Conditions and Compensation in the use of Trackage Rights, between TFM and FXE
 - Trackage Right PN-9 between Silao and Celaya, which grants FXE to TFM
- Three resolutions issued on August 5 and 7, 2002.
 - Conditions and Compensation in the Interconnection and Terminal Services, between FXE and TFM
 - Trackage Right N-1 in Monterrey, which grants TFM to FXE

resolutions went through various judicial reviews without a final determination.¹²

Making matters worse, on February 10, 2010 the two main concessionaires (KCSM and Ferromex) signed an understanding whereby they agreed on tariff rates for Trackage Rights and Terminal Services. However, those rates were set at prohibitively high levels for both companies, suggesting a clear intention of not using them, and thus avoiding competition contemplated in the original Concession Titles.

26. The interventions described in this section generally show that the regulatory authorities (ARTF and COFECE) have not been strong enough to ensure the seamless provision of freight services, at reasonable prices, in a competitive manner, and under equal conditions.¹³ For example, a shipper has the option to use KCS, Union Pacific (UP), or BNSF north of the border. KCSM could set rates for shipments to Laredo as high as required to make it uneconomic for the shipper to use BNSF or UP and only allow traffic to move over KCS. This high rate, as long as not above the maximum level and provided on a non-discriminatory basis to all interconnecting railroads at Laredo, may not violate Mexican regulations. Nothing in the Mexican regulatory system would prohibit such

-
- Trackage Right PN-10 in Altamira, which grants FXE to TFM (Port of Altamira)
 - A resolution issued on July 17, 2003.
 - Trackage Right PN-7 in Pedro C. Morales, which grants FXE to TFM
 - A resolution issued on July 23, 2004.
 - Trackage Right DPL-1 in Guadalajara, which grants FXE to TFM
 - A resolution issued on January 20, 2006.
 - Trackage Right PN-10 in Altamira, which grants FXE to TFM (Altamira)
 - A resolution issued on June 26, 2008.
 - Conditions and Compensation in the use of Rights of Way, between TFM and FXE.

¹² The dispute over Trackage Right PN-10 in Altamira between Ferromex and TFM in 2006 was ultimately resolved in favor of Ferromex.

¹³ For example, in a report issued by the OECD in 2016 it was stated that: "In general, the system has worked well, but a deficit in regulatory capacity in the government has proven to be an obstacle in resolving disputes over the use of trackage rights and, in some markets, disputes over access conditions for certain shippers." (OECD, International Transport Forum, 2016).

behavior. Even if this behavior is detected and believed to be improper, the intricacies of the Mexican judicial system may not guarantee a timely and fair remedy for the affected shippers.

27. To conclude this section, it is my opinion that the current scope and limitations of the regulatory system make the reliance on Mexican enforcement and reparation schemes insufficient to guarantee shippers will not be harmed by the CP/KCS merger. Even if KCS/KCSM has not engaged in any differential treatment in the past, the new combined entity may have the incentive to do so. Moreover, the lack of transparency in price setting by the concessionaires, the lack of regulatory precedent and experience in dispute resolution, and the burden and uncertainty of regulatory litigation would make it very difficult to challenge discriminatory conduct if it does occur. In that regard, I consider it is both necessary and desirable for the Surface Transportation Board to introduce mechanisms that not only guarantee “open gateways” and “commercially reasonable terms”, but also aim at discouraging the anti-competitive strategies that may arise as a result of the proposed transaction.

IV. KCSM’S EXCLUSIVITY IN MEXICO AND THE POTENTIAL BENEFITS OF BNSF’S PROSPECTIVE DIRECT ACCESS TO LAREDO

28. KCSM currently operates rail routes in Northeastern Mexico under the terms of the Concession Title issued by the Mexican government in 1997 and its subsequent modifications. The concession for these lines was granted for a period of fifty years and

is therefore due to terminate in 2047.¹⁴ To increase the likelihood of a successful transition from public to private administration and allow concessionaires to make the capital investments the sector was in much need of and obtain their benefits, each concessionaire of Mexico's main lines (KCSM, Ferromex and Ferrosur) was granted exclusivity rights to provide the freight transport service for thirty years, counted from the start of the concession. For KCSM, the current concessionaire of the Northeastern lines, this means the right to be the sole railroad servicing the routes defined in the Concession Title will extend until 2027.¹⁵

29. The existing legal framework does not provide much guidance regarding what should be expected once exclusivity rights come to an end. The Concession Title notes that the SICT "may grant concessions to third parties or rights to other concessionaries in order for them to provide the public service of railroad transportation ... when the concessionaire ceases to have exclusivity rights, as long as it is economically and technically feasible, it is consistent with international tendencies in railroad regulation and reciprocity exists, especially in the case of international agreements."¹⁶ In my view, this provision indicates that, once exclusivity rights end, other rail service providers may be able to request partial or complete access to the routes previously operated under exclusivity.

¹⁴ The Concession Title allows the concessionaires to request an extension once the fifty-year term comes to an end. See, for example, KCSM's Concession Title, article 5.1.

¹⁵ See KCSM's Concession Title, articles 1.4.1 and 1.4.2. Article 1.4.2 clarifies that these exclusivity rights are valid for all lines in the concession except for mandatory trackage and haulage rights specifically defined in other sections of the Concession Title.

¹⁶ KCSM's Concession Title, articles 1.4.2 and 1.4.2.2.

30. In this regard, the applicable law that regulates the provision of railroad services (LRSF) indicates that a concession by the government is required to build and operate railways and to provide public railroad services.¹⁷ In the specific case of loss of exclusivity, interested rail service providers may apply for a concession to use the rail infrastructure and provide rail freight services using the tracks presently operated under exclusivity by the current concessionaire. A number of considerations may enter the decision process determining the approval of the applications. For example, as part of this process, the SICT would be obliged to hear arguments from the original concessionaire and, if needed, publish an invitation to an open bid with a complete term sheet for the concession. The SICT would have the final word in terms of awarding a concession, but this would only be done after receiving the opinions of the ARTF and COFECE.

31. Even though the requirements to apply for a concession are described in the documents that regulate the provision of rail services, the decision made by the SICT may not be free of some discretionary considerations. Among the requirements stated in the applicable law, there are some that are subject to future discretion and interpretation. For example, SICT determinations with respect to the suitability of the applicant's business plan, or the nature of "new conditions" the SICT may establish to approve the request for a concession. This room for discretionary considerations to influence the decision to grant

¹⁷ Access to such concession requires applicants to satisfy certain conditions such as: (i) demonstrating their legal, technical, administrative and financial capacity; (ii) obtaining the approval of the economic profitability of their proposed plans by the Treasury Department of Mexico (Secretaría de Hacienda y Crédito Público); and (iii) satisfy new conditions that the SICT may want to impose. Importantly, the satisfaction of these requirements does not necessarily guarantee the success of the application. See Law on the Regulation of Rail Services, articles 7, 8, 8bis and 9.

a concession suggests that it is in the interest of prospective applicants to present proposals that are as integrally attractive as they can be to the eyes of Mexican regulators.

32. Throughout years, Mexican authorities have repeatedly emphasized their intention to build an efficient public railroad service capable of increasing the competitiveness of Mexican firms and the economy as a whole. Despite the increase in productivity brought about by the privatization of the service, the rail network has not grown over time, and the share of rail freight *vis-à-vis* other means of transportation continues to be low. One of the reasons that may explain this phenomenon is the low intensity of competition within rail routes documented by the Mexican competition authority (COFECE) in a recent report. According to COFECE, once the original concessions were decided, the exclusivity rights granted to concessionaires limited the degree of competition. It must be said, however, that at the time the concessions were awarded COFECE recognized the initial need for exclusivity periods. COFECE now notes that, given the current configuration of the system, effective competition can only happen through open access (which could only take place once the exclusivity periods end) or the construction of new infrastructure.¹⁸ Considering these findings, it seems very possible that the Mexican government will want to implement an effective open access policy once the exclusivity rights of the original concessions come to an end; or in another scenario pursue more competition by at least establishing competitive tariff rates for Trackage Rights and Terminal Services.¹⁹

¹⁸ COFECE's Study on Competition in the Public Freight Railroad Service (2021), pp. 6-9.

¹⁹ It should be noted that Ferromex has obtained two extensions to its exclusivity period in exchange for further investments in railroad infrastructure.

33. Consider now the specific case of KCSM's exclusivity period ending in 2027. It is my understanding that BNSF, one of the major U.S. Class I railroads, may be interested in potentially applying for a concession on the Northeastern Mexican lines currently operated by KCSM once the exclusivity period ends, and potentially for a concession on other Mexican lines. It is my view that, in consonance with the objective and the status quo of the rail system described, Mexican authorities would be pleased to count BNSF among the set of rail service providers in the publicly owned Mexican network.
34. First, BNSF's presence would imply more choices for shippers transporting cargo between Mexican locations and the North of the continent. Second, introducing an additional provider would also increase the ability of Mexican shippers and customers to fulfill their existing and future commitments with a lower degree of uncertainty. Third, BNSF's presence could help mitigate the relative lack of effective competition COFECE has recently identified, potentially leading to lower rates and a better quality of overall service, eventually resulting in a higher share of cargo being transported by rail.
35. Looking at the current configuration of services in the U.S., one concern I would have with a potential BNSF application to operate in the lines currently exploited by KCSM is the fact that BNSF would not be able to independently offer a direct connection between Mexican and U.S. or Canadian locations. It is my understanding that BNSF does not currently have trackage rights between Robstown and Laredo in Texas, which means the ability to connect Mexico to locations north of the border would hinge on the willingness of a combined CP/KCS to provide such service on terms that would enable BNSF to compete effectively. Considering that BNSF would be a new competitor to the combined entity South of the border, such willingness to cooperate should not be taken for granted.

36. The Mexican authorities may therefore be concerned that the grant of a concession to BNSF for access to Mexican lines may not actually provide BNSF with effective access if the combined CP/KCS were to use their control over BNSF's transportation from Robstown to Laredo to frustrate such access. BNSF's chances of obtaining a concession might be harmed if the Mexican authorities were skeptical about BNSF's ability to exercise a newly granted concession. Similarly, BNSF's request for a concession would likely be seen as much stronger by the Mexican authorities if BNSF had direct access to Laredo and was able to move traffic between the United States and Mexico on its own without relying on a competing railroad to support its service.
37. It is my understanding BNSF believes that the imposition of a proportional rate mechanism and guarantees for equal service treatment of BNSF trains that BNSF has proposed should ensure that the Laredo gateway will remain open. But if those remedies do not prove to be sufficient, BNSF may need to ask that the Board provide BNSF with direct access to Laredo through trackage rights over KCS. Direct access to Laredo through trackage rights on KCS could be an effective way to facilitate access to the Mexican railroad system when the Mexican Government opens the KCSM concession lines to additional competition, which is expected to occur in 2027.
38. To obtain such a concession, BNSF would need to be able to demonstrate to the Mexican government that it has a credible plan for accessing Mexico, which would require direct access to Laredo. Were the STB to grant BNSF trackage rights over KCS to Laredo, BNSF's application for a concession on the Northeastern routes currently operated by

KCSM would be substantially strengthened.²⁰ The success of such application would not only increase the set of competitive options for Mexican shippers and customers, but also for their American counterparts, which would now have an extra alternative to transport cargo North and South of the U.S.-Mexican border. That result would in my opinion be in the best interest of both American and Mexican rail regulators.

²⁰ The concessions of the two main lines reaching the Mexico-U.S. border feature a Class I U.S. railroad with some participation in the ownership of the concessionaires; while KCS fully owns KCSM, Union Pacific has a minority share of Ferromex. Both KCS and UP can directly serve the Mexico-U.S. border from the American side. This evidence is consistent with Mexican regulators' preference for granting concessions to railroads that are able to fully connect at the border.

VERIFICATION

I, Aaron Dychter Poltolarek, declare under penalty of perjury that the foregoing is true and correct. Further, I certify that I am qualified and authorized to file this verified statement.

/s/ Aaron Dychter Poltolarek

Aaron Dychter Poltolarek

Executed on February 28, 2022.

REDACTED – TO BE PLACED ON PUBLIC FILE

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 36500

CANADIAN PACIFIC RAILWAY LIMITED, ET AL.
—CONTROL—
KANSAS CITY SOUTHERN, ET AL.

Verified Statement of William W. Wilson, PhD

REDACTED – TO BE PLACED ON PUBLIC FILE

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 36500

CANADIAN PACIFIC RAILWAY LIMITED, ET AL.
—CONTROL—
KANSAS CITY SOUTHERN, ET AL.

Verified Statement of William W. Wilson, PhD

I. Introduction and Summary

I am a Professor at North Dakota State University (“NDSU”) in Agribusiness and Applied Economics with a sabbatical at Stanford University.¹ I was named as a University Distinguished Professor at NDSU in 2007, which is an honorary position. And, in 2016, I was named the CHS Chair in Risk Management and Trading at NDSU, which is an endowed position. In 2017, I was awarded the AAEA 2016 Distinguished Teaching Award (Chicago July 2017). My academic focus is risk and strategy as applied to agriculture and agribusiness with a particular interest on procurement, logistics, ag-technology, international marketing and competition. I have former students who are now in senior positions in many of the large agribusinesses, including commodity companies, railroads, and food and beverage companies. I keep in touch with these former students on a regular basis.

I advise and/or consult for several large agribusiness firms and organizations, biotechnology firms, several major railroads, several major food and beverage companies, and governments in other countries. I served as a Board member of the Minneapolis Grain Exchange for 12 years, on the FGIS Advisory Board, and currently serve as a Board member of several regional firms and NCH Capital (New York City), which is one of the largest investors in world agriculture, including in Ukraine and Russia. I am also a board member of Interamerican Foods (a subsidiary of LaModerna Pasta for whom I consult) who is one of the largest food companies in Mexico, with operations in the United States.

¹ My vitae can be found at https://www.ndsu.edu/fileadmin/agecon/bio_jan_2022.pdf

I have worked extensively for much of my career in rail, logistics, supply chains and risk. I have conducted studies and/or worked with clients on agribusiness topics related to antitrust, rail logistics for several North American and offshore railroads on topics related to car allocation and pricing mechanisms, shuttle train and elevator development, and integration strategies within North America. I have also developed models to analyze congestion and expansion for the Panama Canal, several railroads, and the Army Corps of Engineers on both ports and barge river systems. These have all resulted in publications in the top economic journals. In addition, I have and do work with both grain and food product exports to and from other countries, including Mexico, as well as grain and food product imports from Mexico to the United States. I have worked both with companies expanding from the United States to Mexico, and, from Mexico to the United States.

In total, I have authored over 157 journal articles and 21 book chapters and have had research contracts and endowments exceeding \$36.6 million. I was recognized as one of the top 10 Agricultural Economists in 1995 and, more recently, as one of the top 1% of agricultural economists by RePEc (Research Papers in Economics). I have been asked to speak to the USDA Agricultural Outlook Forum twice, and, in 2022, I spoke on supply chains in agriculture and congestion.

I was asked by BNSF Railway Company (“BNSF”) to address the possible impact of the proposed merger of Canadian Pacific (“CP”) and Kansas City Southern (“KCS”) on markets for the transportation of agricultural commodities to Mexico. Much of my recent work has focused on the growing agricultural trade with Mexico, and I understand that the proponents of the proposed merger have identified transportation of agricultural products

as an important focus and rationale for the proposed merger. I intend to provide the Board with background information on this important transportation market and identify some concerns that I have with the impact of the proposed merger in agricultural markets in the United States.

I will explain below why it is so important for the Surface Transportation Board (“STB”) to ensure that the proposed merger of CP and KCS will not result in a restriction of access to Mexico by U.S. farmers that use BNSF to move their products to Mexico through the important Laredo border gateway. My concern is that BNSF appears to have been effectively excluded from the Laredo gateway since the KCS merged with The Texas Mexican Railway Company (“Tex Mex”), and the expansion of the KCS network to include CP’s origins, including many in Canada, could expand the scope of future exclusion from that important gateway. BNSF’s witness Dr. David Reishus discusses the evidence that is consistent with the foreclosure of BNSF from the Laredo gateway. I am also concerned that the proposed merger could result in a diversion of traffic into and through Houston, which could produce costly and harmful congestion in an important part of the national rail network and supply chain for agricultural trade. Finally, I explain why a general unspecific commitment to maintain an open gateway at Laredo is insufficient in agricultural markets to ensure that access will be open to shippers on BNSF and that a more concrete set of requirements is necessary to protect U.S. farmers and agricultural shippers.

II. Description of Relevant Mexico and U.S. Grain Markets

The Mexico market for agricultural commodities and products has become a very important market for U.S. farmers. In fact, Mexico has become the largest market for U.S. corn and wheat, as shown in Tables 1 and 2.

Table 1. Corn Exports to the Top 5 Importers 2021/21 and 3-Year Average

Top 5 importers¹ of U.S. corn

For the week ending 1/20/2022	Total commitments ²		% change current MY from last MY	Exports ³ 3-yr. avg. 2019-21
	2021/22 current MY	2020/21 last MY		
	1,000 mt -			
Mexico	12,816	10,681	20	14,817
Japan	5,129	7,043	(27)	11,082
China	12,441	11,845	5	7,920
Columbia	2,624	2,426	8	4,491
Korea	78	1,205	(94)	3,302
Top 5 importers	33,088	33,199	(0)	41,613
Total U.S. corn export sales	43,948	48,670	(10)	53,145

Source: Taken from Table 13 of USDA AMS data sets. Available at <https://www.ams.usda.gov/services/transportation-analysis/gtr-datasets>

Table 2. All Wheat Exports to the Top 10 Importers 2021/21 and 3-Year Average

Top 10 importers¹ of all U.S. wheat

For the week ending 1/20/2022	Total Commitments ²		% change current MY from last MY	Exports ³ 3-yr. avg. 2018-20
	2021/22 current MY	2020/21 last MY		
	1,000 mt -			- 1,000 mt -
Mexico	2,974	2,871	4	3,388
Philippines	2,557	2,702	(5)	3,121
Japan	2,058	2,077	(1)	2,567
Korea	1,094	1,473	(26)	1,501
Nigeria	1,807	1,041	74	1,490
China	848	2,580	(67)	1,268
Taiwan	765	942	(19)	1,187
Indonesia	67	915	(93)	1,131
Thailand	522	701	(25)	768
Italy	190	545	(65)	681
Top 10 importers	12,881	15,846	(19)	17,102
Total U.S. wheat export sales	17,205	21,771	(21)	24,617

Source: Taken from Table 15 of USDA AMS data sets. Available at <https://www.ams.usda.gov/services/transportation-analysis/gtr-datasets>

After China, Mexico is the largest export market for U.S. soybeans as shown in

Table 3.

Table 3. Soybean Exports to the Top 5 Importers 2021/21 and 3-Year Average

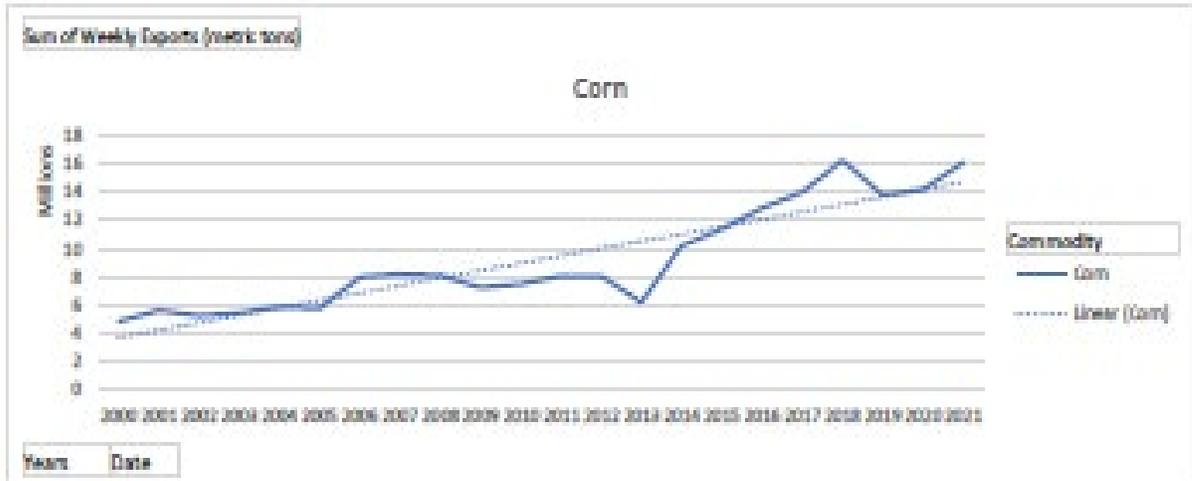
Top 5 importers¹ of U.S. soybeans

For the week ending 1/20/2022	Total commitments ²		% change current MY from last MY	Exports ³ 3-yr. avg. 2018-20
	2021/22 current MY	2020/21 last MY		
				- 1,000 mt -
China	25,424	34,657	(27)	21,666
Mexico	3,860	3,841	0	4,754
Egypt	2,070	2,040	1	3,093
Indonesia	830	1,374	(40)	2,325
Japan	1,430	1,363	5	2,275
Top 5 importers	33,614	43,275	(22)	34,113
Total U.S. soybean export sales	44,134	57,757	(24)	50,758

Source: Taken from Table 14 of USDA AMS data sets. Available at <https://www.ams.usda.gov/services/transportation-analysis/gtr-datasets>

The growth of these export markets has been strong and steady. Mexico has become one of the fastest growing markets for these grains. Indeed, Mexican corn imports increased from just over 4 mmt (million metric tonnes)/year in 2000 to 16 mmt in 2021 (Figure 1). This is a very substantial growth rate.

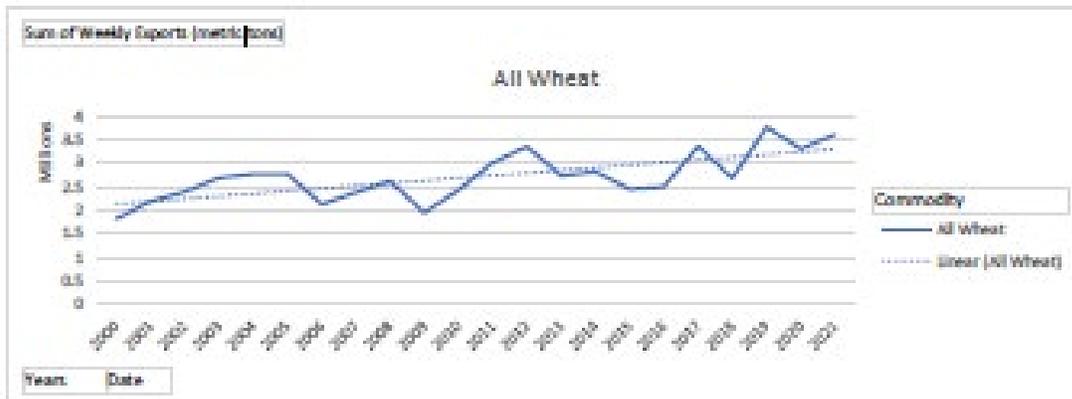
Figure 1. Corn Exports from United States to Mexico



Source: Derived from data in Table 13 of USDA AMS data sets. Available at <https://www.ams.usda.gov/services/transportation-analysis/gtr-datasets>

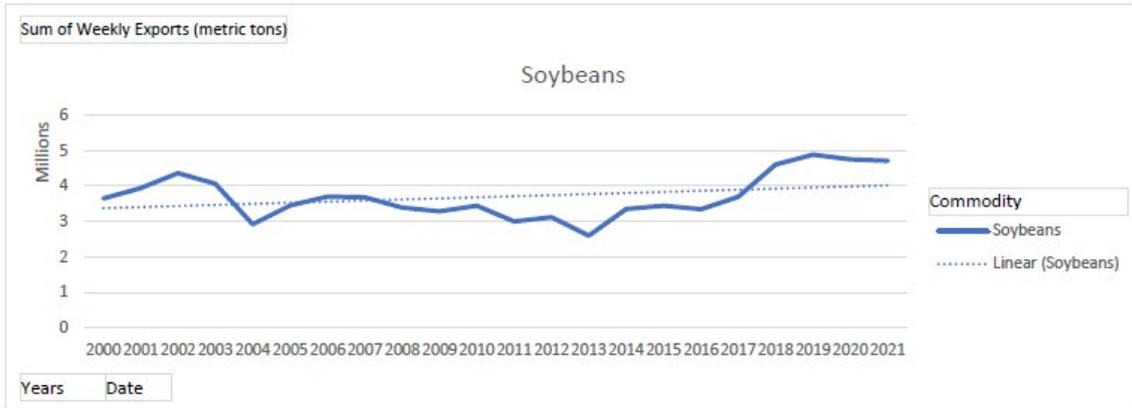
While the growth in exports of the other grains has been less dramatic, the growth has nevertheless been substantial, as shown in Figures 2 and 3.

Figure 2. All Wheat Exports from United States to Mexico



Source: Derived from data in Table 15 of USDA AMS data sets. Available at <https://www.ams.usda.gov/services/transportation-analysis/gtr-datasets>

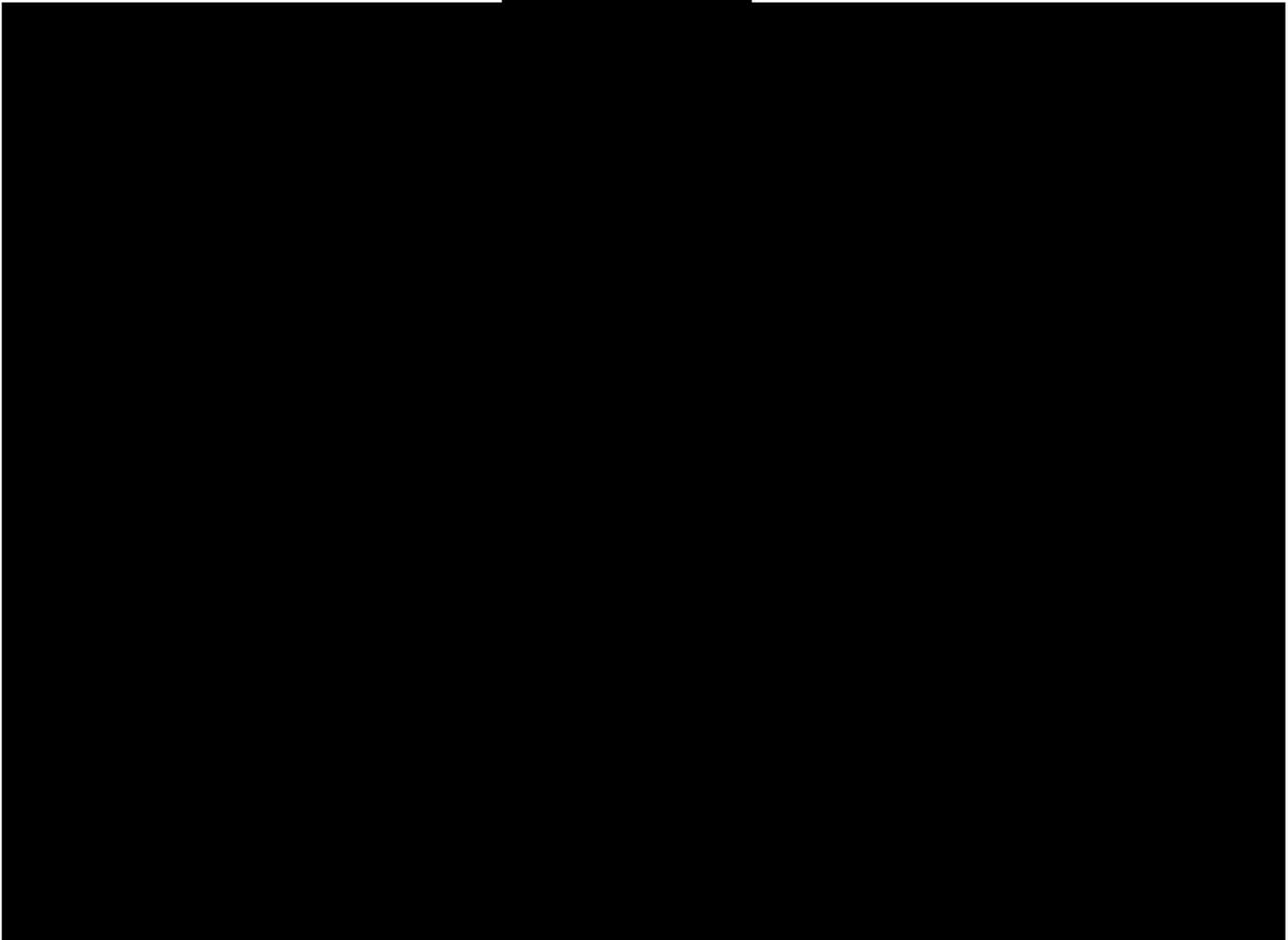
Figure 3. Soybean Exports from United States to Mexico



Source: Derived from data in Table 14 of USDA AMS data sets. Available at <https://www.ams.usda.gov/services/transportation-analysis/gtr-datasets>

The U.S. origins for these grains exported to Mexico are spread out considerably across a large geography. U.S. wheat being shipped to Mexico by rail via the Texas Gateways are shown in Figure 4 below, summarized from the Board's 2015-2019 confidential Carload Waybill Samples (CWS). The northern origins supply Hard Red Spring (HRS) wheat which ultimately competes with similar wheat grown and shipped from Canadian origins. Much of the rest of the wheat is Hard Red Winter (HRW) from Kansas and Texas.

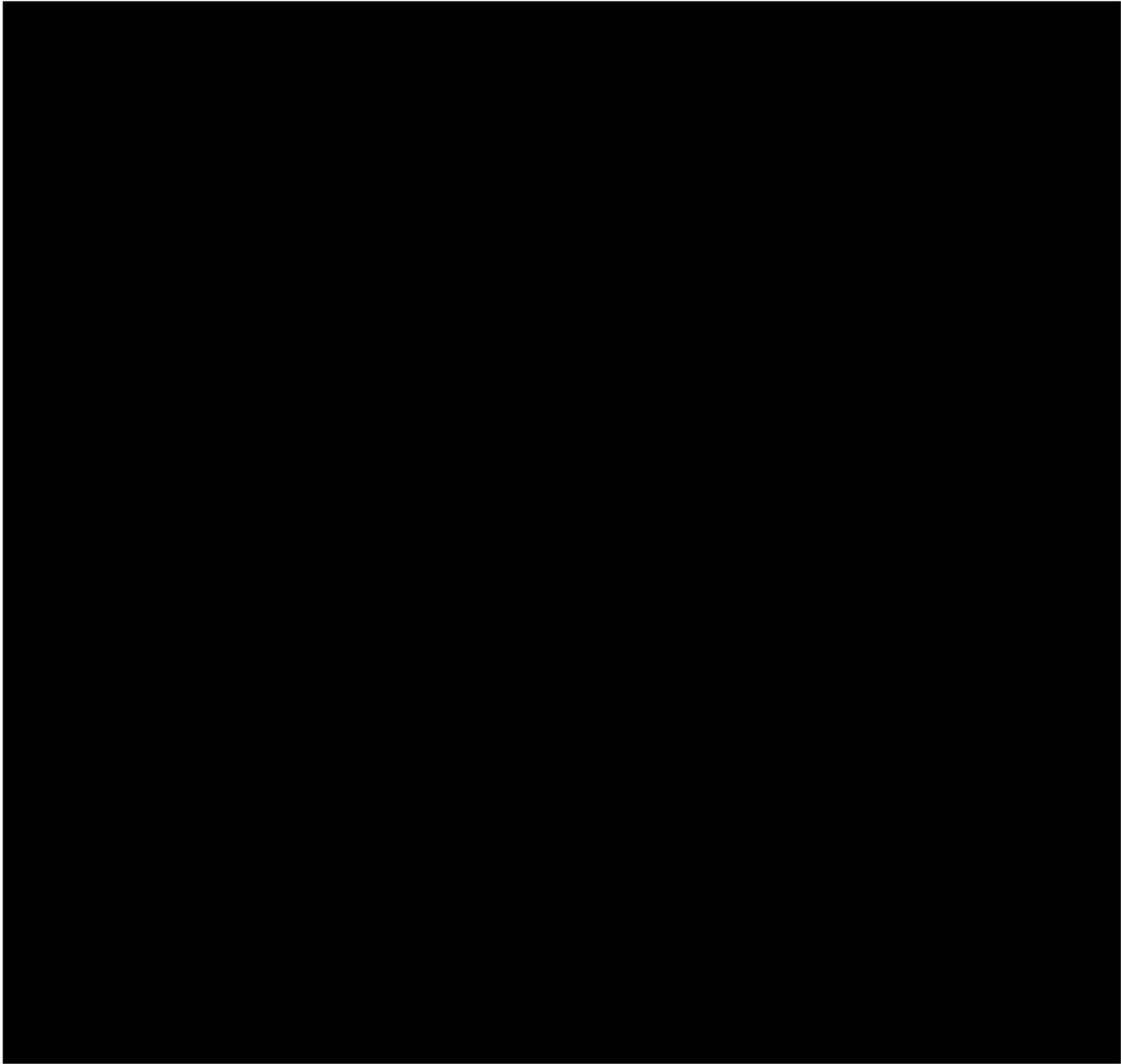
Figure 4. {



}}

U.S. origins for corn exports to Mexico are identified in Figure 5 below. The corn origins are concentrated in eastern Nebraska and Iowa, with a few origins in Texas.

Figure 5. {{ [REDACTED]



}}

Soybeans are a smaller market, and most originations are around eastern Kansas City and western Missouri, as shown in Figure 6 below.

Figure 6. {{ [REDACTED]



}}

Mexican destinations for these grains are depicted in the following maps. As shown, the most dense areas of demand are in the more southern and southeastern states of Mexico. Figure 7 below identifies demand for grains for use as animal feed. This figure is a heat map illustrating “grain consuming animal units,” of GCAUs, by state, which is the best geographic indicator of feed demand.

Figure 7. Mexican Animal Feed Demand (Grain Consuming Animal Unit), by State



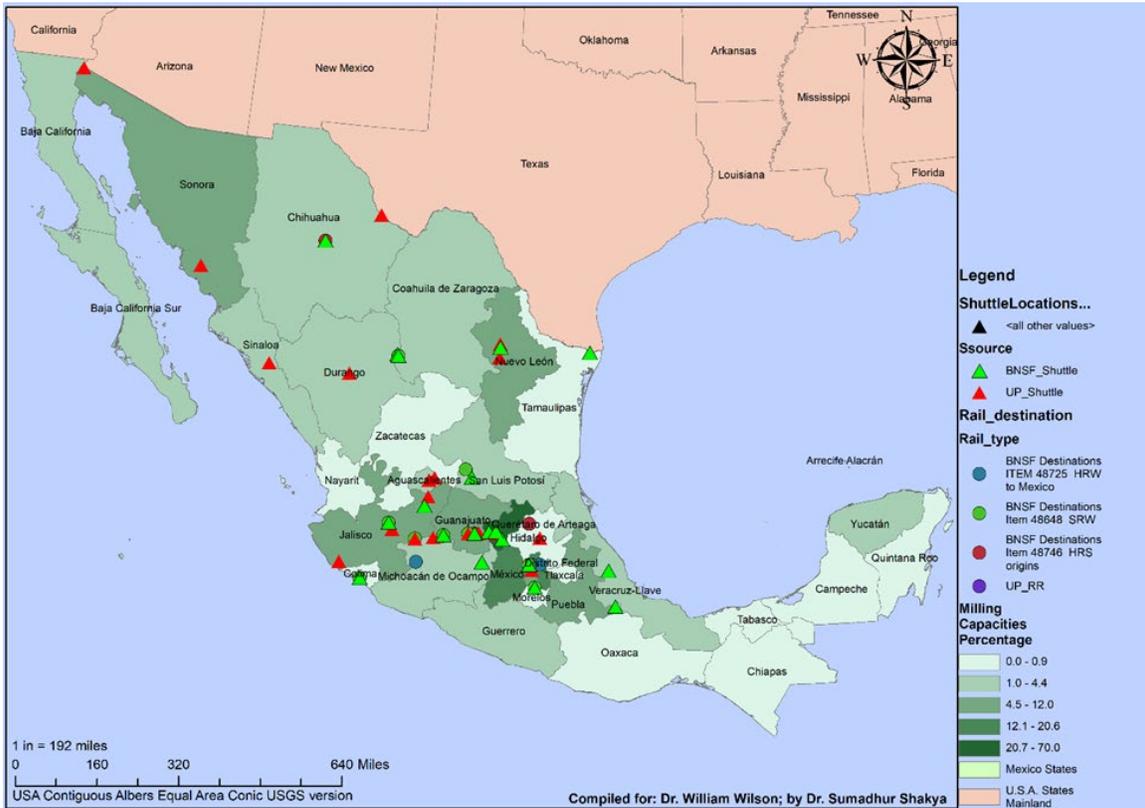
Source: Author's calculations.²

Figure 8 below is a map showing the share of wheat milling capacity by state.

This map shows that the demand for wheat for milling purposes is mostly concentrated in/around Mexico City, and in the southeastern states.

² Data used to develop this map were from multiple sources. Shuttle locations were from the BNSF and UPRR web sites. Data used to derive Grain Consuming Animal Units (GCAU) were from: livestock and poultry numbers from: https://nube.siap.gob.mx/cierre_pecuario/; and, I used the animal specific factors from <https://www.ams.usda.gov/sites/default/files/media/StateGrainStatisticalSummary.pdf>. For cattle and poultry, I used a weighted average of the specific factors (i.e., beef vs dairy and broilers vs layers) based on the State's share of dairy cows and broilers. The shares in the dataset were collected/calculated from: <https://www.gob.mx/siap/documentos/poblacion-ganadera-136762?idiom=es>). For grazing vs feed beef, I used https://www.ers.usda.gov/webdocs/outlooks/37412/8057_ldpm19601.pdf?v=3127.

Figure 8. Mexican Wheat Milling Capacity, Share by State, and Rail Shuttle Locations



Source: Author derivations.³

Finally, it is important that a significant amount grain is exported from the Canadian prairies direct to Mexico by rail, and, from St. Lawrence⁴ and Vancouver to Mexico by ship. In 2017/18 and 2018/19, Canada exported 371,000 and 317,700 mt respectively direct from the Prairies to Mexico by rail.⁵ Exports from St. Lawrence to Mexico were

³ Data used here was from industry contacts. I am not aware of publicly available data on wheat milling capacity for specific locations.

⁴ St. Lawrence generally refers to export (terminal) elevators located in Hamilton, Ont., Montreal, Que., and east. These include Baie Comeau, Montreal, Sorel, Trois Rivières, Port Cartier. See Canada Grain Commission, “Grain Elevators in Canada, Crop Year 2021-2022,” available at <https://www.grainscanada.gc.ca/en/grain-research/statistics/grain-elevators/reports/>.

⁵ See Government of Canada, “Annual Report 2019-2020 Crop Year,” available at <http://grainmonitor.ca/Downloads/AnnualReports/AnnualReport201920.pdf>; Canada Grain Commission, “Grain Elevators in Canada, Crop Year 2021-2022.”

304,000 to 397,000 mt in 2017/18 and 2019/20 respectively.⁶ This is particularly important in the case of wheat. Further, for this case, the movement from St. Lawrence to Mexico, in addition to offshore export, is important. These movements are highly seasonal (due to freezing of the Great Lakes) and facilitated in part by the lower regulated rates in Canada to Thunder Bay. There is then transshipment to the St. Lawrence Seaway, transshipment again to a vessel to Veracruz, for import and shipment to Mexico City by rail. I expect that this water route to Mexico may be important to CP because CP has not had direct rail access to Mexico through the United States. I explain later that it is unclear whether CP has assumed that some of this traffic will be diverted to the new CP-KCS for movement by rail. But if it is, I explain below that it would have to move through Houston, or possibly to Houston for export, which could exacerbate a congestion problem in Houston that would be caused by other grain traffic that CP-KCS will seek to move through Houston.

III. Increasing Integration of U.S. and Mexico Trading and Rail Transportation in Agriculture

I have been involved in research and consulting on grain shipping, marketing and processing in each of the United States and Canada for many years. Based on this experience, these countries are becoming highly integrated or harmonized in most of the competitive and market functions that are important to their industries. Generally, changes in marketing functions and regulation in the United States were adopted first. Subsequently, due in part to competitive pressures and the quest for competitive efficiencies, similar changes then occurred in Canada. For example, in the 1970s and

⁶ Taken from Canada Grain Commission data, available at <https://www.grainscanada.gc.ca/en/grain-research/statistics/canadian-grain-exports-annual/>

1980s, the United States largely deregulated its rail system, and subsequently similar, though not identical changes occurred in Canada. Another example is that U.S. railroads developed forward car allocation mechanisms, and later similar mechanisms were adopted in Canada. U.S. railroads developed and adopted rail shuttle shipments and origin and destinations and subsequently, with some lag, these were similarly developed in Canada.

I am now seeing a similar dynamic occurring in Mexico, which I see as evidence of the increasing importance of the cross-border trade in grain. Indeed today, Mexican processors have become more like those in the United States, or have been merged with US firms, resulting in the adoption of similar technologies and marketing practices, among other things. For example, grain shippers have been rapid and broad-scale adopters of shuttle elevator capabilities, a U.S. innovation. The proliferation of these elevators is shown in the map set out below in Figure 9.

Figure 9. BNSF and UP Shuttle Destinations



Source: BNSF and UPRR Shuttle Locations are from their respective web sites.

The railroads serving Mexican markets have also begun to create elaborate and similar mechanisms to facilitate more efficient border crossings. One example is the *Despacho Previo*, a mechanism designed to provide grain shippers and handling railroads with information about their freight movements to improve logistics planning and reduce congestion and interchange delays at the border.⁷ There are also recent efforts to improve the efficiency of the phyto-sanitary procedures at the border, which would further improve and harmonize these marketing systems.

IV. The Laredo Border Crossing and Risk of Foreclosure

The predominate movements of freight to Mexico are over Laredo. This is primarily due to the fact that a Laredo border crossing provides the most direct route to the more concentrated destination markets in east and southeast Mexico. Following Laredo in importance are Eagle Pass, El Paso, and others. Brownsville is one of the smaller border-crossing points. These border crossings are identified in Figure 10 below.⁸

⁷ Specifically, the *Despacho Previo* is used by each of the BNSF, UPRR and KCS to expedite southbound cross-border shipments. It ultimately seeks to improve efficiency of cross-border shipments, including to reduce congestion and interchange delays at the border. There are multiple links that describe details of this mechanism.

For the BNSF: <https://www.bnsf.com/bnsf-resources/pdf/ship-with-bnsf/maps-and-shipping-locations/mexico/southbound-despacho.pdf> and <https://www.bnsf.com/ship-with-bnsf/maps-and-shipping-locations/mexico/border-processes.page>

For UPRR: <https://www.up.com/customers/mexico/despacho/index.htm>.

For KCS: <https://kcsouthern.com/customer-resources/kcs-despacho-previo>

⁸ These data represent shipments for both U.S. to Mexico and Mexico to the United States. The data represents the total rail volume at each crossing.

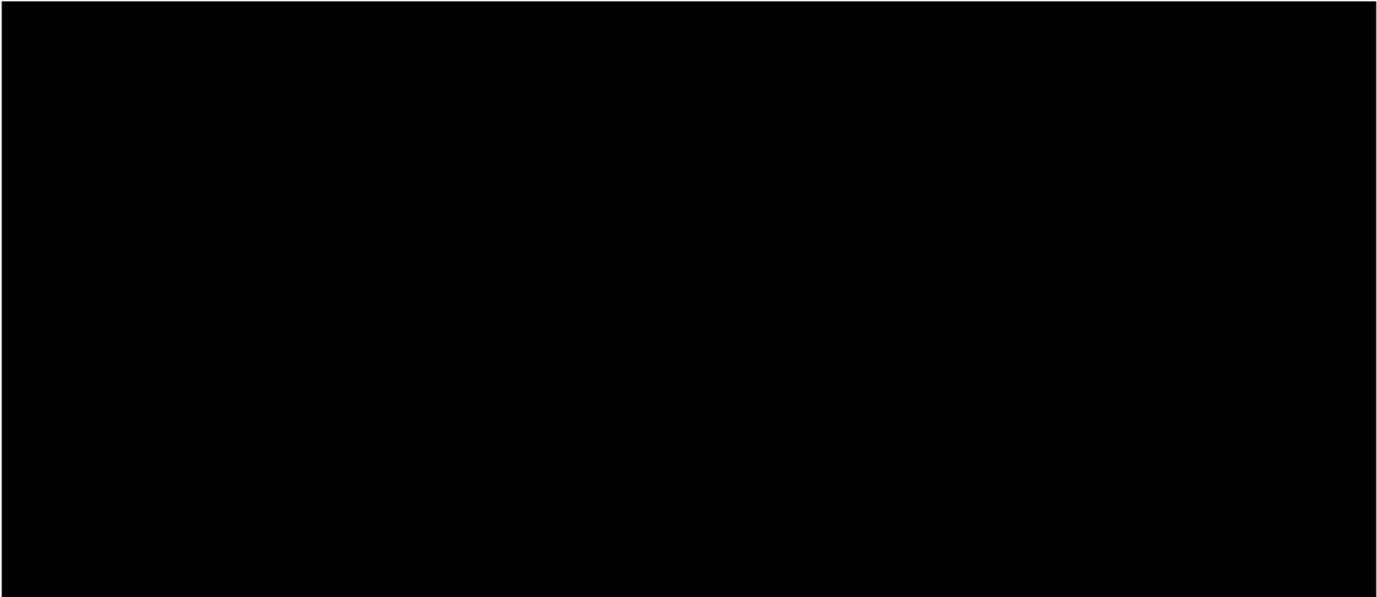
Figure 10. Rail Shipments by Border Crossing Freight Tons, By Directions, 2019



Source: Reishus V.S., Fig. 2.

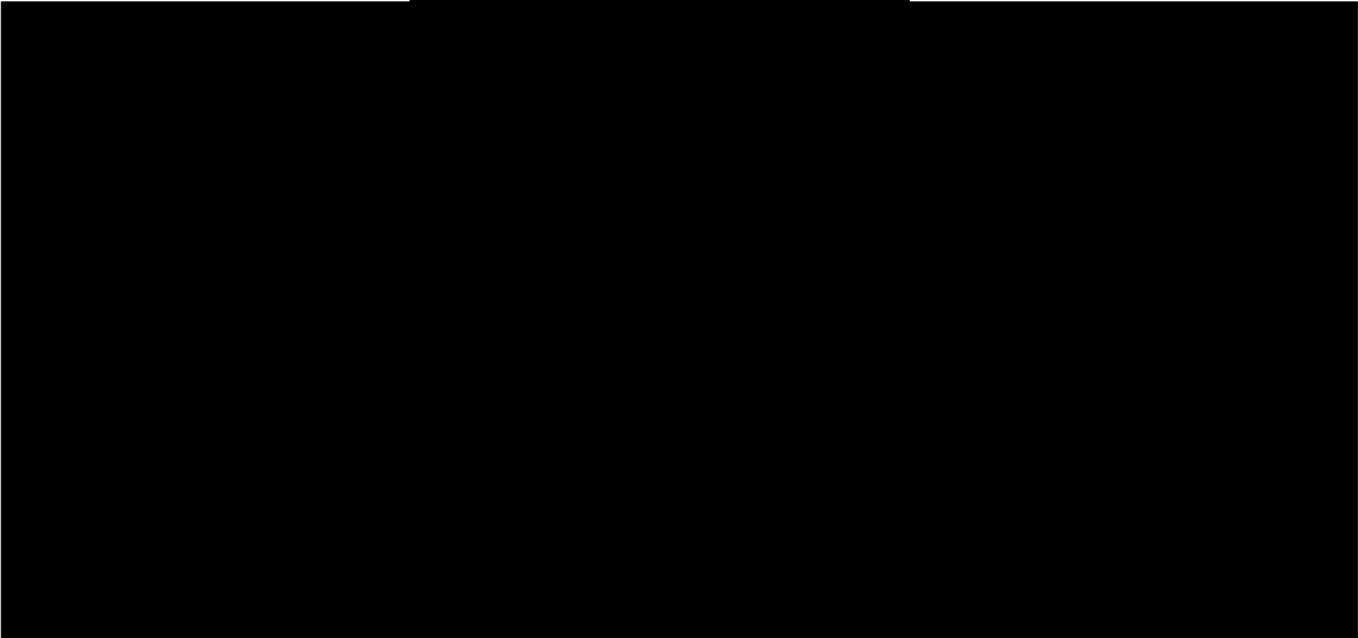
In the early 2000s, BNSF had substantial rail traffic crossing the Mexican border at Laredo. Following the KCS merger with the Tex Mex, there was a precipitous decline in BNSF grain shipments over Laredo. See Figure 11 below. That volume over Laredo has not recovered. With the decline in access to Mexico through Laredo, there was a shift of BNSF's movement of grain to Eagle Pass. Figure 12 below shows that the increase in shipments through Eagle Pass correspond to the decline in traffic moving through Laredo.

Figure 11. {{ [REDACTED]



}}

Figure 12. {{ [REDACTED]



}}

An important consequence of BNSF's loss of access to Mexico through Laredo (as discussed further by Dr. Reishus) and the shift to Eagle Pass was that BNSF had to

provide service to a number of Mexican locations over a longer route, or, not at all. This route shift imposed additional costs on BNSF, making it more difficult for BNSF to compete in many Mexican markets. I show below in Table 4 that significant volumes of BNSF's grain shipments to Mexico would reduce their distances shipped if Laredo had remained open to BNSF.

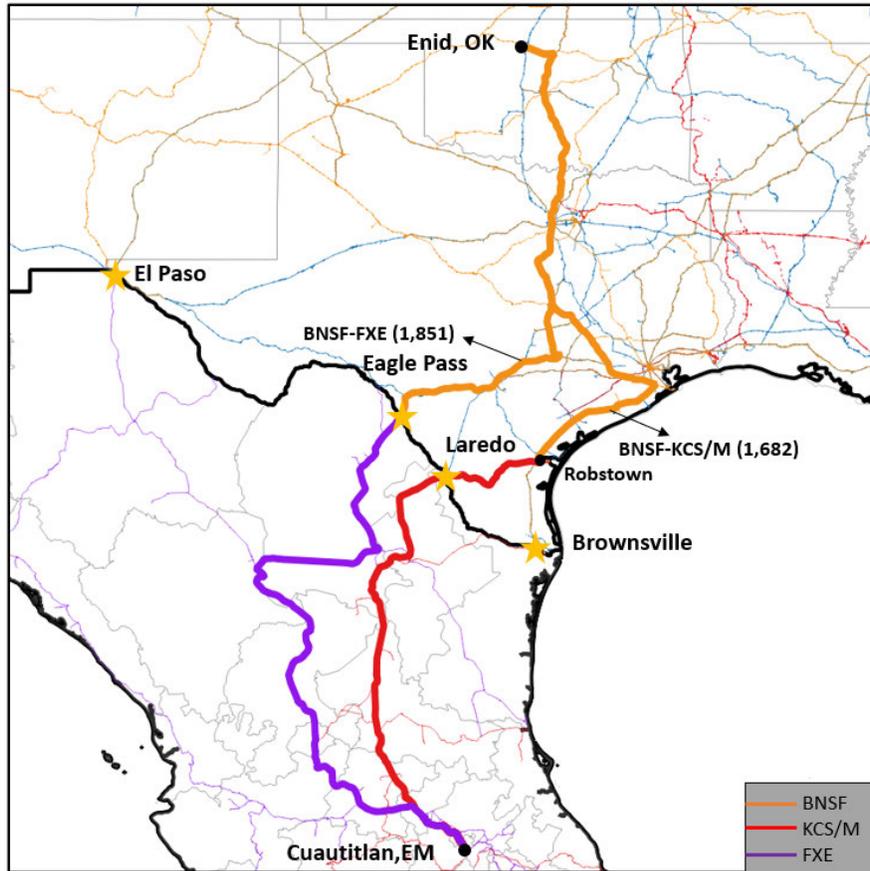
Table 4. {{ [REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

}}

Figure 13 illustrates the routings from Enid, Okla., an important U.S. origin via Eagle Pass and Laredo to {{ [REDACTED] },}} Cuautitlan. This map shows that the Laredo routing is 10% shorter than the more circuitous routing via Eagle Pass that BNSF's shipments actually use.

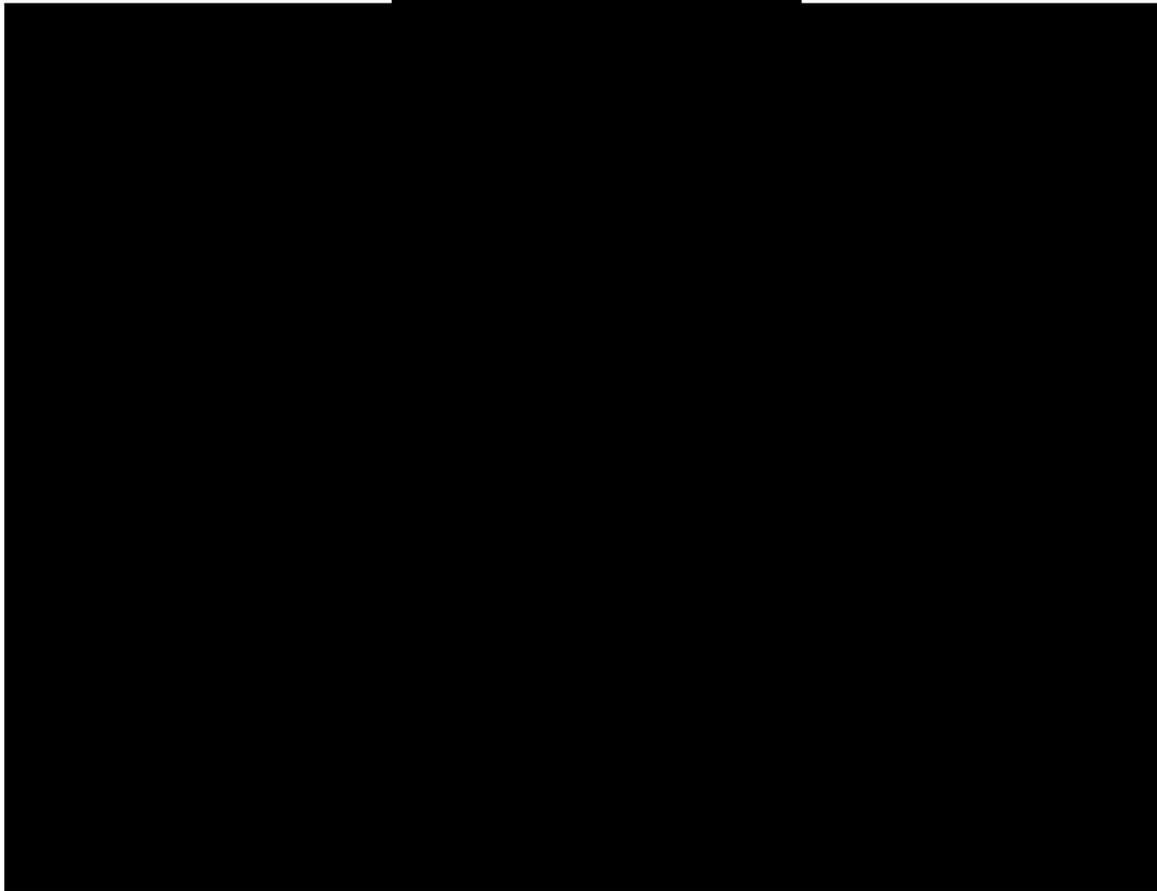
Figure 13. Enid, OK to Cuautitlan, EM: BNSF Laredo (KCSM) Route is 10% shorter than Eagle Pass (FXE) Route



Source: Derived from PCMiller Software

Table 4 only shows movements involving current BNSF Mexican customers. But I noted above in connection with Figure 7 that the density of demand is making it more difficult for BNSF to compete in the important part of the Mexican market where demand is high. Figure 14 below overlays the destinations for BNSF’s grain shipments in southern Mexico with the high-demand regions for grain consumption as animal feed illustrated in Figure 7 above. The circuitry of the route to southern Mexico from Eagle Pass is substantial, making it more difficult for BNSF to compete in that important part of the Mexican market.

Figure 14. {



}}

As illustrated by Figure 13 above, BNSF could reduce its shipping distance to serve Mexico City and the high-demand regions in eastern Mexico by a substantial amount if it were able to access Mexico over Laredo. The more direct and efficient routings available through Laredo would open numerous Mexican market opportunities to farmers served by BNSF.

V. Potential harms created by the proposed merger

The application makes it clear that the proposed merger is expected to have a substantial impact on rail movements of grain. As discussed by BNSF’s witness Mr. Fisher, Applicants expect that 15,800 agricultural carloads would be diverted from other

railroads and transportation modes to the new single-line CP-KCS service. (See Brown/Zebrowski, Table 1 and para. 41-48.) They forecast an addition of 6,600 carloads of agricultural growth traffic on the merged networks. (See Wahba/Naatz, para 27-29.)

The materials supporting the application are not clear about the farm origins that would be affected by these forecast changes in traffic. Some statements suggest that Applicants' focus is on U.S. grain origins. But other materials indicate that Canadian farmers will see new opportunities for rail movements to Mexico in competition with U.S. farmers. The map below (which is Figure 1 from the Wahba/Naatz V.S.), depicts the Applicants' expectations about new market opportunities created by the merger.

Figure 15. CP-KCS Routes for Grain Shipments to Mexico



Source: Wahba and Naatz V.S. 9.

I have two primary concerns about the effects of the proposed merger on U.S. farmers and agricultural products shippers. The first is the harm to BNSF's U.S. shippers resulting from the effective closure of the Laredo gateway for their traffic. I discussed this issue above, noting that after the KCS/Tex Mex merger, BNSF's access to Mexico through Laredo declined precipitously and BNSF was forced to seek alternative and, in some cases, less efficient routes to Mexican markets. The merger would expand the agricultural origin areas that could be favored by the new CP-KCS by restricting BNSF's access to Mexico through Laredo. If history is any guide, the new CP-KCS will favor shippers located on its line, including farmers in Canada shipping grain to Mexico. Any foreclosure of access to Mexico through Laredo imposed by the new CP-KCS could make it harder for U.S. farmers served by BNSF to access growing Mexican markets.

My second concern relates to the real possibility that the substantial additional grain traffic that Applicants expect to move on the new CP-KCS could create serious congestion problems in the Houston area. All the new grain traffic that Applicants assume will be moved on the new CP-KCS to Mexico will have to go through Houston. As I noted previously, the CP may also seek to divert grain movements from the current water vessel route on the St. Lawrence to the new rail route on CP-KCS. Figure 16 map below shows that the rail lines that CP-KCS will need to use to move the additional grain to Mexico all traverse Houston. In contrast, shipment on the BNSF's lines to the Mexican border would avoid the Houston area and not exacerbate congestion and related costs.

Figure 16. Comparison of CPKC and BNSF Rail Routes to Laredo



Source: Fisher V.S., Fig. 5.

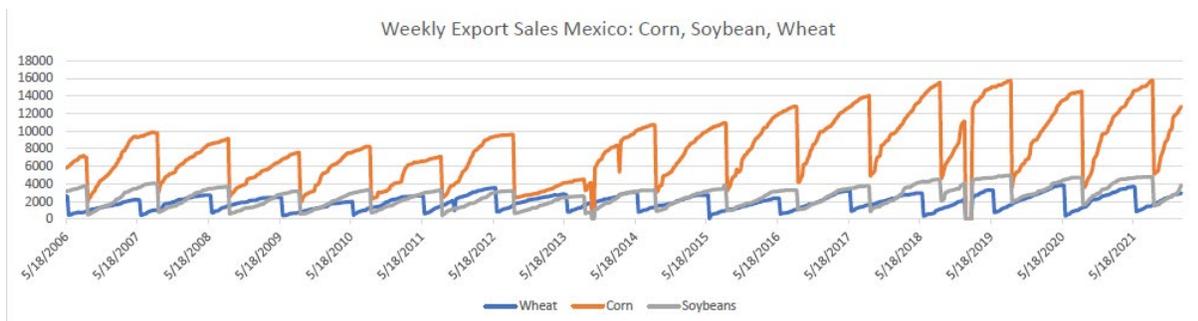
Houston is an important part of the national rail network that has experienced congestion in the past. I understand that Applicants have not identified any capacity expansions or additions that would be needed to support this substantial increase in traffic through Houston. The result is a very substantial risk that Houston will experience congestion as CP-KCS diverts grain traffic to its network for movement to Mexico. To the extent CP-KCS diverts traffic that could be handled by BNSF on the route that goes around Houston, the merger will not only put BNSF and its shippers at a disadvantage, but it will also create problems and add costs for the broad range of traffic that currently uses rail facilities in Houston.

It is important to understand that Houston is a large market for grain transportation even without the added traffic that CP and KCS intend to divert from other railroads (and possibly water vessels). Houston is a major grain export port. In 2020 and 2021, the Texas Gulf received 64,116 and 69,213 cars respectively. Houston is the second largest export

port in terms of rail car deliveries (following the Pacific Northwest).⁹ Hence, if the diversion of traffic through Houston results in increased congestion, it will harm not only the shippers seeking to move traffic to Mexico but also the grain shippers seeking to serve the important Houston area grain markets.

The problem of congestion in Houston would be exacerbated due to the extreme seasonality of Mexican demand. Figure 17 below shows the seasonal movement of exports to Mexico. Demand is highly seasonal due to the timing of Mexican domestic production; imports increase following the Mexican harvest period and is impacted by the size of the Mexican harvest. If any of these shipments are diverted through Houston, the seasonal congestion problems would be exacerbated.

Figure 17. Seasonality of Wheat, Corn and Soybean Imports from the United States to Mexico



Source: Derived from data in Table 13, 14 and 15 of USDA AMS data sets. Available at <https://www.ams.usda.gov/services/transportation-analysis/gtr-datasets>

One of the more important problems impacting agriculture supply chains in recent years has been that of congestion.¹⁰ Indeed, concerns over congestion have been at the forefront of industry and firm policy and planning in the United States in the past couple

⁹ Data as reported by USDA AMS. Texas Ports in this data refers to Houston, Galena Park, Corpus Christi, Beaumont, Brownsville, Galveston, and Lake Charles Public Elevator. Taken from Table 3 and available at <https://www.ams.usda.gov/services/transportation-analysis/gtr-datasets>

¹⁰ As recently as February 2022, congestion concerns for CP's grain shippers were discussed in detail in the trade press. See *AgriWeek*, Feb 21, 2022, p. 2.

of years, focusing on problems of ship availability, port capacity, and growing waiting times. In the past, congestion problems have frequently been seen for grain shippers in barge transportation and in rail shipping through important rail hubs like Chicago. Congestion in Houston would add costs and risks that will ultimately result in reduced prices to growers and higher prices to buyers.¹¹

VI. It Is Important for the STB to Ensure Future Access to Mexico for BNSF's Agricultural Shippers.

The Board should ensure that BNSF and its shippers will have effective access to Mexico through Laredo after the merger of CP and KCS. This will preserve options for U.S. farmers that use BNSF to access the increasingly important Mexican markets. It will also reduce the risk of congestion by ensuring the availability of a route to Laredo on BNSF that avoids the Houston area.

I understand that Applicants have stated that they intend to adhere to an “open gateway” commitment for Laredo movements that was made by KCS in the *KCS/Tex Mex* case. As I explained and illustrated, the evidence presented above suggests that commitment did not keep the Laredo gateway open to BNSF after the Tex Mex merger. For this reason, there is no reason to believe it will be effective in keeping the gateway open with a larger CP-KCS seeking to divert traffic from other railroads to the new CP-KCS lines.

¹¹ I have studied the effect of congestion on cost and prices extensively in the case of ports and barges and I have published articles in journals that illustrate these effects. See W. Wilson, B. Dahl, S. Taylor. "Impacts of Lock Capacity Expansion on Delay Costs for Grain Shipped on the Mississippi River." *Journal of transport economics and policy*, JTEP 2229 45(1): Jan 2011; Lei Fan, William W. Wilson and Bruce, Dahl. "Impacts of Congestion and Port Expansion and on Spatial Competition for Container Imports into the United States" *Transportation and Research Part E: Logistics and Transportation Review.*; Eric DeVuyst, William W Wilson, and Bruce Dahl. "Longer-term forecasting and risks in spatial optimization models: The World Grain Trade." *Transportation Research Part E. Logistics and Transportation Review*, TRE 446 Part E 45 (2009), pp. 472-485.

For a number of additional reasons, I do not believe that a generic and unspecific commitment by Applicants to keep the Laredo gateway open is sufficient to ensure a fair and competitive playing field for access to Mexico. First, CP-KCS will be able to control access to Mexico through Laredo by setting rates in Mexico in a way that favors CP-KCS movements and disfavors movements on BNSF. I am not an expert in Mexican rail rate regulation, but my experience in Mexico is that regulatory processes in Mexico are very uncertain. I would not be confident that rate-setting activities in Mexico could be effectively challenged if there was a reason to believe that improper actions were being taken to favor CP-KCS movements.

Second, there is not enough transparency in the rates that will be charged for movements of grain to Mexico for BNSF to be able to monitor Applicants' general open gateway commitment. My understanding is that agricultural shippers moving grain to Mexico generally receive what is referred to as "Rule 11" rates from KCSM for the Mexican portion of the movement. For movements that originate on BNSF, BNSF would not know what those rates are. If BNSF is unable to obtain the business, BNSF would have no way of knowing whether the manipulation of the KCSM rate was responsible for the loss of business since BNSF would not know the KCSM rates that were offered to the BNSF shipper for a movement that would originate on BNSF and terminate in Mexico.

Third, it is common in agricultural markets for rail carriers to offer allowances or other forms of rebates to shippers. But where an allowance is provided, the rate charged by the rail carrier may not reflect the true cost to the shipper for the transportation. Allowances can therefore be used to mask CP-KCS's pricing strategies. For example, the CP-KCS could raise Mexican rates, but then offer shippers using CP-KCS allowances

that offset the higher rates. Similarly, they could offer an allowance on the U.S./Canadian side to offset the higher Mexican rates. I understand that KCS historically has used allowances in pricing their services. Applicants' witnesses identified that KCS provided \$237 million in allowances and discounts in 2019, reducing overall system-wide revenues by 8%. (See Brown/Zebrowski, Table A4 at page 60). My understanding is that KCS did not provide more specific information regarding the allowances applicable to agricultural products in response to BNSF's discovery requests. In my experience, allowances associated with the transportation of grain are prevalent, rendering tariff rates or other published rates less useful as an indicator of the net price actually paid by particular customers. With the extensive use of allowances, even if BNSF were to know the rates being charged, it would not be possible to know the actual terms being offered.

It is therefore my view that an open gateway commitment should be supported by a more concrete and better-defined mechanism to ensure that BNSF and its U.S. agricultural shippers are not artificially frozen out of the Mexican market. I understand that other BNSF witnesses will discuss possible approaches for the Board to consider.

VII. Conclusion

Mexico is the largest market for U.S. corn and wheat, and second to China for soybeans. Mexico is also one of the fastest growing markets. Further, the Mexican market and industries have become highly integrated into and harmonized with the functions and mechanisms that are applicable to the U.S. marketing system. Indeed, Mexico has rapidly adopted innovative shuttle train receiving locations, improving the cross-border movement of grains. It has also adopted a number of commodity market mechanisms as used in the United States. Many Mexican firms have expanded into the United States,

and U.S. firms have expanded into Mexico. All of this is evidence of a growing cross-border market. The Board needs to ensure that this cross-border trade is open and competitive.

In addition, the proposed merger will very likely result in a substantial increase in grain shipments through Houston, or shipments exported from Houston. Taken together, this increased traffic would more likely result in increased congestion. Applicants do not appear to have any plans for mitigating this congestion risk. If congestion occurs, which is likely, costs will increase, shipments and velocity will be slowed, and prices to farmers will be reduced. This is a risk that can be avoided, or at least mitigated, if BNSF is ensured of competitive access to Mexico through the Laredo border crossing. In that case, some portion of the shipments would be shipped around Houston reducing congestion in that area.

For all these reasons and given the importance of the Mexican markets to U.S. farmers, it is important for the STB to ensure competitive access to Mexico through Laredo with more than general commitments to maintain an open gateway.

VERIFICATION

I, William W. Wilson, declare under penalty of perjury that the foregoing is true and correct. Further, I certify that I am qualified and authorized to file this verified statement.

A handwritten signature in black ink, appearing to read "William W. Wilson". The signature is cursive and somewhat stylized.

William W. Wilson

Executed on February 28, 2022.

REDACTED – TO BE PLACED ON PUBLIC FILE

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 36500

CANADIAN PACIFIC RAILWAY LIMITED, ET AL.
—CONTROL—
KANSAS CITY SOUTHERN, ET AL.

Verified Statement of Benton Fisher

Verified Statement of Benton V. Fisher

I. Introduction & Summary of Testimony

a. Introduction

My name is Benton V. Fisher. I am a Senior Managing Director in the Economic Consulting segment at FTI Consulting. My office is at 8251 Greensboro Drive in McLean, Virginia. I have been involved in the analysis of freight railroad traffic for more than 30 years. Over that time, I have focused on the economic and financial analysis of network industries, in particular, on different aspects of transportation. I have analyzed railroad traffic flows, rates, costs, and service, and the factors that affect them. I have offered expert testimony on more than 100 occasions before the Surface Transportation Board – the US regulatory agency for freight railroads – in cases examining the reasonableness of railroad rates and rulemaking proceedings regarding the establishment, evaluation, revision, and implementation of rules and regulations. I have also offered expert testimony in numerous contract disputes in federal courts and arbitrations regarding complex issues requiring the analysis of economic and operational issues and the evaluation of railroad data.¹

On October 29, 2021, Canadian Pacific Railway (“CP”), The Kansas City Southern Railway (“KCS”), and their related corporate affiliates² submitted a railroad control application in Surface Transportation Board (“STB” or “Board”) Finance Docket No. 36500 seeking Board approval for the proposed combination of their freight railroad systems (the “Transaction”). CP

¹ Exhibit 1 to this statement contains my curriculum vitae.

² References to CP and KCS in this statement include their subsidiary freight railroads, including Kansas City Southern de Mexico (“KCSM”) that connects with KCS and with Union Pacific Railroad (“UP”) in Laredo, Texas.

and KCS are two of the seven Class I freight railroads operating in the US,³ and their combination represents the first time in two decades that two Class I railroads have pursued a merger.

b. Summary of Testimony

I have been asked by BNSF Railway (“BNSF”) to describe a) the new traffic that Applicants have proposed they would handle on their combined network post-Transaction, b) the train service Applicants proposed to operate their increased traffic levels, and c) the additional infrastructure that Applicants proposed would provide adequate capacity for the new trains and traffic. My conclusions are:

1. Applicants identified 509,000 additional revenue shipments⁴ that they would handle annually post-Transaction – nearly two-thirds of which would travel to/from Mexico.
2. Applicants’ presentation indicates that the CPKC⁵ volume increases will likely exceed this 509,000 total.
3. Applicants identified they would operate significantly more trains post-Transaction in order to handle the increased traffic.
4. Applicants concluded that they could handle the considerable growth in traffic and train volumes by constructing additional running tracks in 26 locations.
5. Applicants have not proposed to add any running track capacity for 500 route miles between DeQuincy, Louisiana and Laredo, Texas – the route that CPKC would use to reach Mexico.
6. Applicants’ proposed traffic volume increases in the Houston complex will add thousands of longer trains on lines also used by Amtrak, BNSF, and UP.
7. Applicants’ proposed traffic volume increases in other locations will also impact the service that BNSF can provide to its customers.

³ “Class I” classifies the largest US freight railroads, carriers that generate more than \$900 million in annual transportation revenues. July 12, 2021 STB Decision in *Ex Parte No. 748 Indexing the Annual Operating Revenues of Railroads*.

⁴ References to “shipments” in this statement denote movements of individual intermodal containers or freight cars.

⁵ Following the abbreviation used in the Application, the merged railroad systems are referred to as “CPKC.”

In Section II of this statement, I describe the Transaction-related traffic diversions and growth that Applicants project to move on the combined CP-KCS network. In Section III, I present the results of the Operating Plans that Applicants designed to handle the base period traffic and volume gains. Section IV addresses Applicants’ proposed infrastructure investments to provide additional track capacity needed to transport the increased volumes. Section V focuses on Applicants’ evidence of the impacts on the Houston complex – one of the most significant terminals on the North American continent. And Section VI addresses Applicants’ volume growth in two other areas of importance to BNSF, Ottumwa, Iowa and the Quad Cities of Illinois and Iowa.

II. Traffic Gains on CP-KCS Combined Network

a. Applicants’ Estimate of Diverted and Growth Traffic

i. *Summary*

Applicants indicate that a core element of the proposed Transaction is the new single-line service that a combined CP-KCS would be able to provide. Many of Applicants’ witnesses refer to new services and new opportunities that would result from the merger, and quantify the new traffic volumes that CPKC would handle. In this section, I summarize the additional volumes that Applicants have identified. While the Application and the underlying workpapers include annual traffic projections for many different years, references in this statement to “Traffic Diversions” and “Growth Traffic” reflect the new shipment volumes that Applicants assume CPKC will attract in the first three years post-Transaction. This is consistent with the presentation by Applicants’ witnesses who sponsored estimates of the diversions and growth.

Applicants claim that CPKC will handle 509,470 new revenue shipments as a result of the Transaction.⁶ This total is the sum of three groups of traffic presented by separate sets of witnesses, summarized below. After the summary, I will briefly describe the process and results for each traffic group.

1. Rail Traffic Diversions: Messrs. Richard Brown and Nathaniel Zebrowski jointly sponsor testimony that CPKC would divert 216,675 revenue shipments from other railroads.⁷
2. Truck Traffic Diversions: Mr. Bengt Mutén sponsors testimony that CPKC would divert 64,018 revenue shipments from truck movements to new rail shipments.⁸
3. Growth Initiative Traffic: Messrs. Jonathan Wahba and Michael Naatz jointly sponsor testimony that CPKC would attract an additional 228,797 new revenue shipments, above and beyond the 280,693 diversions identified in groups #1 and #2 above.⁹

ii. Rail Traffic Diversions (Applicants' witnesses Brown and Zebrowski)

Messrs. Brown and Zebrowski state they were “asked by CP to estimate the amount of railroad traffic that would shift from movement on other railroads to the combined CP/KCS system as a result of the new service offerings, more efficient single-line services, and other

⁶ Table 16 to the Verified Statement of Michael Baranowski (“Baranowski VS”).

⁷ Table 1 to the Verified Statement of Richard Brown and Nathaniel Zebrowski (“B/Z VS”). As Applicants disclosed many figures in the public record, I attempt to follow this approach in this statement, and note there are relatively minor differences in some places between the public Application materials and the underlying workpapers that Applicants have designated Highly Confidential.

⁸ Appendix A to the Verified Statement of Bengt Mutén (“Mutén VS”). In this statement I refer to Messrs. Brown, Zebrowski, and Mutén collectively as “the Diversion witnesses.”

⁹ 509,470 total minus 216,675 rail traffic diversions minus 64,018 truck traffic diversions = 228,797. The Highly Confidential workpapers present a miniscule difference with these amounts, indicating {{ [REDACTED] }}. See Baranowski WP “HC – URCS Phase III Calculation For Growth Traffic Input.xlsx,” tab “CP Growth Initiatives.”

changes resulting from the Transaction.”¹⁰ Most of their statement involves describing a 5-step process by which they developed this estimate and presenting their results.

Data Sources: Applicants’ process of estimating rail traffic diversions relied primarily upon 2019 traffic shipment data from their respective railroads – *i.e.*, separate datasets containing records for shipments involving CP, KCS, and KCSM – and the Board’s 2019 confidential Carload Waybill Sample (“CWS”).¹¹ In addition to railroad traffic records, these witnesses also utilized 2017 Freight Analysis Framework data published by the Bureau of Transportation Statistics and 2019 US Department of Trade data to estimate diversions of cereal grains (which account for 6% of Applicants’ total rail traffic diversions).¹²

Process Overview: As indicated above, Messrs. Brown and Zebrowski employed a 5-step approach to estimate the rail traffic diversions. The initial step of their screening process involved identifying movements that a combined CP/KCS system could potentially handle in single-line service. These movements could be interline movements involving either CP or KCS, for which the other would replace the non-Applicants’ portion (referred to as “extended haul” diversions), or existing single-line movements on other railroads for which the entire movement would be diverted to the CP-KCS combination. Messrs. Brown and Zebrowski

¹⁰ B/Z VS at para. 5.

¹¹ B/Z VS at para. 20-21 and Appendix A.

¹² B/Z VS at para. 41 and Table 1. To be clear, the shipment counts cited in the B/Z VS reflect only the number of revenue shipments, and do not include “empty shipments,” *i.e.*, the movements of empty intermodal containers, flatcars, and other freight cars that are required in order to reposition the equipment to the appropriate locations to serve loaded shipments.

identified 1,127,663 revenue shipments from the 2019 traffic files that were “Potentially Divertible to CP/KCS.”¹³

Messrs. Brown and Zebrowski’s second step involved “identify[ing] a smaller number of distinct groupings of traffic representing potential diversion opportunities to facilitate review.”¹⁴ Nearly one-third of the potentially divertible shipments that had been initially identified were eliminated in this very next step, and 766,194 revenue shipments were “assigned . . . for further review.”

Messrs. Brown and Zebrowski’s following step (#3) involved identifying “near-term diversion opportunities” based on feedback from Applicant personnel regarding a series of factors.¹⁵ This resulted in the exclusion of nearly 200,000 shipments. In the next step (#4), the distances of 573,421 revenue shipments were evaluated, and approximately 4,000 were deleted under Applicants’ proposed mileage filter.¹⁶ The final step involved assigning “diversion percentages” to the shipment volumes that had advanced through the first four steps of the screening process. Messrs. Brown and Zebrowski applied percentages that ranged from 25% to 75% varying based on the situation. For example, they assumed that 25% of shipments transported in existing single-line service would divert to new single-line service on the combined CP-KCS system, and that 50% of existing interline service on other carriers would divert to CP-KCS single-line service post-Transaction.¹⁷ The overall result of applying these

¹³ B/Z VS at para. 22-25.

¹⁴ B/Z VS at para. 26.

¹⁵ B/Z VS at para. 27.

¹⁶ B/Z VS at para. 28.

¹⁷ B/Z VS at para. 29-34.

estimates of the likelihood of diversion was that 38% of the volume remaining after Step #4 volume would divert to the new CPKC, *i.e.*, 216,675 of the 569,166 shipments that met the mileage filter criteria.¹⁸ This rail traffic diversion total represents 19% of the initial set of 1.12 million potentially divertible shipments identified by the Applicants.

Before addressing the results, I describe particular aspects of Applicants' identification of rail traffic diversions. First, the vast majority of Applicants' proposed rail traffic diversions reflect a point-to-point match, in that the origin and destination of the shipment is assumed to be fixed. In other words, the new single-line service offered by the combination of CP and KCS would transport the shipments between the same origins and destinations as historically moved. Messrs. Brown and Zebrowski make exceptions to this criterion in at least two areas. The first is a "radial distance adjustment" that allows intermodal, automotive, and lumber shipments to divert to locations other than the actual destination, where there is a nearby station on the combined CP-KCS network.¹⁹ The second, indicated above, involves estimating grain shipment diversions based on an assumed increase in the market share of all US grain exports to Mexico, without identification of specific origins or destinations.²⁰ I note that while Messrs. Brown and Zebrowski limited the source territory to the US, Messrs. Wahba and Naatz identify opportunities for grain diversions to single-line service on the combined CP-KCS from US and Canadian origins.²¹

¹⁸ B/Z VS at Table 5 and Table 1.

¹⁹ Lumber shipments could be diverted to other destinations within 50 miles, and intermodal and automotive shipments to other destinations within 250 miles. B/Z VS at para. 23-24. This assumption of "flexible" destinations up to 250 miles away increases the scope of Applicants' potential diversion of intermodal and automotive shipments from BNSF.

²⁰ B/Z VS at para. 40-44.

²¹ *See, e.g.*, Wahba/Naatz VS at para. 15-18.

Results: Table 1 summarizes the rail traffic diversions estimated by Messrs. Brown and Zebrowski.²² As indicated above, these carload and intermodal container volume figures count only revenue shipments, and do not include the movements of empty equipment necessary to provide the loaded transportation.

Table 1: CPKC Rail Traffic Diversions by Traffic Category
(Brown/Zebrowski Table 1)

Traffic Category	2019 Volume	% of Total
Intermodal	137,416	63%
Automotive	33,218	15%
Intermodal + Automotive Total	170,634	79%
Energy, Chemicals and Plastics	21,143	10%
Grain	15,768	7%
Forest Products	4,616	2%
Metals and Minerals	4,514	2%
Total Rail Traffic Diversions	216,675	

As shown in the table, Applicants’ diversions of intermodal and automotive shipments account for nearly 80% of all rail traffic diversions – and include many shipments diverted from BNSF.²³

Messrs. Brown and Zebrowski also estimated the incremental revenues associated with CPKC’s diversion of these shipments, and Applicants’ Witness Michael Baranowski developed an estimate of the incremental costs of CPKC’s transporting these shipments.²⁴ These figures

²² This table presents the same volumes summarized in Table 1 of the B/Z VS, and identifies each traffic category’s relative proportion of the total. Exhibit 2 lists my workpaper files supporting the calculations relied upon for this statement.

²³ See, e.g., B/Z VS at Tables 15, 17, and 18 and para. 64, and WP “HC – 8 – Diversion Identification.xlsx,” tab “Calculations.”

²⁴ B/Z VS at 91-96 and Baranowski VS at 41-42.

were incorporated in Applicants' Pro Forma Income Statements, which were submitted as Exhibit 17 to the Application.

iii. Truck Traffic Diversions (Applicants' witness Mutén)

In addition to rail traffic diversions, Applicants also estimated shipment volumes that would divert from truck shipment to rail transportation on the combined CP-KCS network post-Transaction. This analysis was submitted in the Verified Statement of Bengt Mutén ("Mutén VS"). Mr. Mutén relied upon 3 sources of 2019 traffic data: 1) truck flows from the IHS Markit Transearch database, 2) intermodal flows from CP and KCS waybill data, and 3) the Board's Carload Waybill Sample.²⁵ Like the rail traffic diversions estimated by Messrs. Brown and Zebrowski, the truck traffic diversions were based on 2019 volumes. Mr. Mutén estimated the likely shift of truck traffic to new single-line intermodal service on the combined CP-KCS network by evaluating certain factors such as the size of the market, the distance travelled, and the availability of single-line service.²⁶ Mr. Mutén concluded that 64,018 revenue shipments will divert from truck movement to CPKC rail transportation post-Transaction.²⁷ Mr. Mutén also estimated the revenues associated with these shipments that CPKC would collect; Mr. Baranowski estimated the incremental costs of CPKC's handling these shipments; and Applicants included these revenues and costs in their Pro Forma Income Statements.²⁸

²⁵ Mutén VS at para. 6.

²⁶ Mr. Mutén excluded from consideration diversions on certain lanes with pre-existing single-line intermodal rail service. Mutén VS at para. 45-51.

²⁷ Appendix A to Mutén VS. Like the rail traffic diversion volumes in the B/Z VS, this figure reflects only the revenue shipments, and does not count the additional movements of empty containers and flatcars to be repositioned to support the revenue service.

²⁸ Mutén VS at 53-54, Baranowski VS at 41-42, and Exhibit 17 to the Application.

iv. Growth Initiative Traffic²⁹ (Applicants’ witnesses Wahba and Naatz)

In addition to the diversion of shipments historically transported by other railroads and trucks, Applicants assume CPKC would transport another 229,000 revenue shipments post-Transaction. Messrs. Jonathan Wahba and Michael Naatz³⁰ present a broad discussion of a number of potential opportunities in different product and geographical markets that the combined CP-KCS could serve with new single-line rail transportation. There are two types of movements that account for most of this traffic. First, Messrs. Wahba and Naatz state “Perhaps most compelling is the opportunity to open an entirely new corridor for containerized cargo moving between Asia and points in the Eastern United States and Canada via the Port of Lázaro Cárdenas.”³¹ Such rail shipments would be among the longest on the North American continent, as Lazaro Cardenas is 900 miles south of KCS’s Laredo gateway, and 2,500 miles from the Chicago gateway to connect with eastern US railroads. Applicants project volume growth of 130,000 revenue shipments annually within the first three years of the Transaction.³²

Second, Messrs. Wahba and Naatz identify additional transportation of crude oil from Canada to Port Arthur, Texas.³³ Referred to as DRUbit, these shipments are projected to exceed 50,000 carloads annually.³⁴ Table 2 summarizes the volumes associated with these examples and other revenue shipments of new growth initiative traffic that Applicants’ estimated CPKC

²⁹ References to this traffic may have slightly differing labels, such as “CP Growth Initiative.” See, e.g., Baranowski WP “HC – URCS Phase III Calculation For Growth Traffic Input.xlsx,” tab “CP Growth Initiatives.”

³⁰ Mr. Wahba is the Vice President of Commercial Integration for CP, and Mr. Naatz is the Executive Vice President and Chief Marketing Office for KCS. Wahba/Naatz VS at para. 1, 4.

³¹ Wahba/Naatz VS at para. 60-65.

³² Wahba/Naatz VS at para. 64.

³³ Wahba/Naatz VS at para. 83-94.

³⁴ DRUbit refers to “diluent recovery unit bitumen.” Wahba/Naatz VS at para. 90 and 92.

would transport post-Transaction.³⁵ As with the rail traffic and truck traffic diversions, Mr. Baranowski estimated the incremental costs of CPKC’s handling these new shipments, and Applicants included these revenues and costs in their Pro Forma Income Statements.³⁶

Table 2: CPKC Growth Initiative Traffic by Traffic Category

Traffic Category	Volume	% of Total
Intermodal	155,000	68%
Automotive	3,000	1%
Intermodal + Automotive Total	158,000	69%
Energy, Chemicals and Plastics	54,000	24%
Grain	6,630	3%
Other Traffic Not Specified in Public Version ³⁷	10,167	4%
Total Growth Initiative Traffic	228,797	

v. Applicants’ Diversions and Growth Traffic by Type

Table 3 summarizes the results of Applicants’ rail diversions, truck diversions, and growth initiative volumes by traffic type. As shown below, more than two-thirds of the new CPKC revenue shipments are intermodal traffic. As another 7% are shipments of finished automobiles, over three-quarters of Applicants’ diverted and growth traffic volumes are shipments of either intermodal containers or finished automobiles.

³⁵ See Wahba/Naatz VS at 27, 29, 50, 64, 74, 82, and 92. While the above compilation is limited to information included in the public version of the Application, more details for this group of projected Transaction-related shipments can be found in Baranowski WP “HC – URCS Phase III Calculation For Growth Traffic Input.xlsx,” tab “CP Growth Initiatives” and Applicants’ Response to Union Pacific’s discovery Request No. 138.

³⁶ Baranowski VS at 41-42 and Exhibit 17 to the Application.

³⁷ Applicants’ Highly Confidential workpapers identify the majority of these volumes as { [REDACTED] }. See, e.g., “HC – URCS Phase III Calculation For Growth Traffic Input.xlsx,” tab “CP Growth Initiatives.”

Table 3: CPKC Diversions and Growth Traffic by Traffic Category

Traffic Category	Volume	% of Total
Intermodal	356,434	70%
Automotive	33,218	7%
Intermodal + Automotive Total	389,652	76%
Energy, Chemicals and Plastics	71,143	14%
Grain	22,398	4%
Forest Products	4,616	1%
Metals and Minerals	4,514	1%
Other Traffic Not Specified in Public Version	17,167	3%
Total Diversions and Growth Traffic	509,490	

vi. Applicants’ Diversions and Growth Traffic moving to/from Mexico

In addition to summarizing CPKC’s diverted and growth traffic volumes by category, an estimate of the new volumes moving to/from Mexico can be developed from the public version of the Application. Table 4 summarizes this traffic, indicating that nearly two-thirds of the new CPKC revenue shipments would travel to/from Mexico. As discussed further below in Section V, all 337,000 new revenue shipments to/from Mexico – and the additional movements of empty equipment associated with these revenue shipments – will travel between Beaumont, Texas and Laredo using CPKC’s only route between DeQuincy and Mexico – a route that involves a mix of line segments owned by KCS and other railroads.³⁸

Table 4: CPKC Diversions and Growth Traffic to/from Mexico via Laredo

	Total Volume	Mexico Shipments	Mexico %
Rail Traffic Diversions	216,675	136,523	63%
Truck Traffic Diversions	64,018	32,693	51%
Growth Initiative Traffic	228,797	168,630	74%
Total Diversions and Growth Traffic	509,490	337,846	66%

³⁸ This route is referred to as the “Texas Gulf Route” in other portions of BNSF’s Comments.

b. Applicants’ Estimated Diversions and Growth Traffic Likely Understate the Additional Volumes that will Traverse the CPKC Network

The above subsections present Applicants’ estimates that CPKC will transport more than one-half million new revenue shipments within three years of the Transaction. The Verified Statements and Highly Confidential workpapers underlying the development of these estimates suggest that even more traffic would divert to the combined CP-KCS network. The following presents five aspects of Applicants’ evidence that indicate the volume increases will likely exceed the 509,490 gain on which their Application and Operating Plan are based.

i. *361,000 “Potentially Divertible Movements” were Dropped from Applicants’ Analysis of Rail Traffic Diversions without “Further Review”*

As described above, Messrs. Brown and Zebrowski employed a multi-step process to identify potential diversions and estimate the portion that “would likely divert” from existing routings by other railroads to new single-line service on the combined CP-KCS network. In the first step of their screening process, they identified 1.1 million shipments. Then, in the very next step, they dropped 361,000 shipments – nearly one-third of what they had just identified as potentially divertible – “to identify a smaller number of distinct groupings of traffic representing potential diversion opportunities to facilitate review in consultation with knowledgeable Applicant personnel.”³⁹ While their description of the rationale for not reviewing all the potentially divertible shipments alone suggests the dropped shipments included movements likely to divert, Messrs. Brown and Zebrowski confirm this: “Some portion of the remaining traffic – *i.e.*, approximately 380,000 carloads/units in over 1,800 different lanes – likely would be attracted to the new service offerings of the CP/KCS system.”⁴⁰

³⁹ B/Z VS at para. 26.

⁴⁰ Ibid.

The Board is already aware of this likely understatement of diversions, as UP put the issue front and center in its November 19, 2021 “Petition to Reject the Application as Incomplete.”⁴¹ In Section I of this Petition, UP identified a series of implications of excluding potentially divertible traffic from consideration, including the downstream impacts on other elements of the Application that are dependent on the future traffic, and concluded that Applicants’ second step “critically undermines their Market Analyses and Operating Plan, as well as the Board’s environmental analysis pursuant to its obligations under NEPA.”⁴²

Finally, Applicants’ Highly Confidential workpapers indicate that {{ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

}}

⁴¹ <https://www.stb.gov/proceedings-actions/search-stb-records/>, 303229.pdf.

⁴² Petition at p. 4-8.

⁴³ In addition to the examples of specific origin-destination lanes in Table 5, many shipments that were dropped in Step #2 may have met Applicants’ “radial distance” criteria described above, suggesting even greater volumes likely to divert.

ii. *The Diversion Witnesses Characterize Many Aspects of their Respective Traffic Analyses as “Conservative” in that They Understate the Likely Levels of Diversions*

In addition to dropping many potentially divertible shipments, Applicants make other decisions that likely understate the total traffic volume that would divert. For starters, the Diversion Witnesses frequently characterize their process and their assumptions as “conservative.” For example, Messrs. Brown and Zebrowski explicitly employ the word “conservative” or a permutation⁴⁴ 5 times. One of the particular sources of understatement of the likely level of diversions is by assuming only 25 percent of existing single-line shipments would divert to new CP-KCS single-line routes.⁴⁵ In Appendix B to their statement, Messrs. Brown and Zebrowski submit a series of analyses of the CWS data that examine the variation in market shares for origin-destination pairs with different combinations of single-line and interline service, and conclude “These data provide statistical support for higher diversion percentages than we have applied.”⁴⁶

While Mr. Muten’s statement does not contain the same number of hits on “conservative,” he offers a broad assessment blanketing his estimate of the diversions from truck shipments: “To avoid overestimating potential diversions, and **in line with the conservative nature of my analysis**, I assigned a ceiling of 70.9 percent as the rail intermodal share of traffic in any lane.”⁴⁷

⁴⁴ “The combination of these factors led us to err on the side of conservatism in estimating the likely lane shares that CP/KCS offerings would achieve.” B/Z VS at para. 32.

⁴⁵ B/Z VS at para. 53.

⁴⁶ Appendix B to B/Z VS at para. 15.

⁴⁷ Muten VS at para. 50, (emphasis added).

iii. *In Developing Their Respective Volume Estimates, the Diversion Witnesses Relied Upon the Board’s Carload Waybill Sample, which Does Not Fully Account for Transborder Shipments*

A third source of understatement of the likely level of rail and truck traffic diversions involves the source data. The Board’s Carload Waybill Sample does not fully represent transborder shipments, especially rail traffic volumes moving to/from Mexico. The Board’s 2019 Carload Waybill Sample Reference Guide (“CWS Reference Guide”) contains a series of tables summarizing the records.⁴⁸ Table 1-14 “Waybills of Mexican Origin” indicates that the 2019 CWS includes 55,440 carloads from origins in Mexico.⁴⁹ Tables 15 and 18 to the Brown/Zebrowski statement collectively indicate more than 75,000 diversions from Mexico of intermodal and automotive shipments alone – and as diversion percentages of 50% or less were applied to most of the traffic eligible for diversion,⁵⁰ their analysis indicates at least 150,000 transborder shipments originating from Mexico.

The detailed records in the Carload Waybill Sample can be examined to indicate { [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

⁴⁸ <https://www.stb.gov/wp-content/uploads/2019-STB-Waybill-Reference-Guide.pdf>

⁴⁹ CWS Reference Guide at p. 19.

⁵⁰ Table 26 to B/Z VS.

⁵¹ 2019 Investor Fact Book at page 18.

https://www.up.com/cs/groups/public/@uprr/@investor/documents/investordocuments/pdf_investor_factbook_2019.pdf

⁵² 2019 Investor Fact Book at page 3.

[REDACTED] [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] }} than UP’s actual traffic levels for Mexico

shipments moving via the Texas gateways.

As Applicants rely upon the Board’s Carload Waybill Sample to estimate the diversions from rail traffic and also from truck traffic, the source data for each of these analyses does not account for all potentially divertible shipments.

iv. *Applicants’ Highly Confidential Workpapers* {[REDACTED]
[REDACTED]}}

The Highly Confidential workpapers include {[REDACTED]

[REDACTED]
[REDACTED] [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

⁵³ The “Percent of 2019 UP Carloads at Border Crossings” pie chart on page 18 of the 2019 Investor Fact Book indicates 44% for Laredo, 24% for Eagle Pass, 22% for El Paso, and 1% for Brownsville, for a total of 91%.

⁵⁴ See, e.g., Operating Plan WP “HC – 01.1 KCS Model – Synergy Growth.xlsx,” tab “Individual Opportunities.”

⁵⁵ {[REDACTED]}}

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

}}

v. *Applicants’ Estimates of New CPKC Diverted and Growth Volumes Do Not Include Organic Growth that Would Occur on the Combined CP-KCS Network over the Next Three Years*

This final subsection identifies another reason the traffic volumes expected to move on the combined CP-KCS network three years post-Transaction will be higher than presented in the Application: organic growth. Applicants explicitly excluded organic growth from the volumes identified in the diversion analyses, and also from the design of an operating plan to transport Transaction-related volumes. To be clear, this may not be inappropriate from the perspective of the Application – which sought to depict the impacts of the Transaction. The fact remains, however, that more volume than has been identified in the Application will be moving on the CP-KCS line segments post-Transaction.

Multiple witnesses confirm that organic growth has been excluded from Applicants’ traffic gains and operating plan:

- Chris De Bruyn submitted a Verified Statement (“De Bruyn VS”) addressing certain financial aspects of the Transaction.⁵⁶ He described the Application’s pro forma financial statements – which include the Exhibit 17 Income Statements that reflect the Transaction-related diversions and growth traffic addressed in the section above: “These pro forma financial statements utilize 2019 standalone financial statements as a base. They do not incorporate any organic growth from CP or KCS since 2019, nor do they take into account either company’s individual anticipated ongoing economic growth from now forward. As a result the figures in the Verified Statement of Dean Vargas and the 2019 pro forma financial statements will differ slightly from those in

⁵⁶ Mr. De Bruyn is the Managing Director – Investor Relations and Treasury for CP. De Bruyn VS at para. 1.

my analysis which is based on the CP and KCS as they are today and with ongoing economic growth moving forward.”⁵⁷

- The Applicants’ Operating Plan witnesses Raymond Elphick and John Orr addressed the locomotive requirements on the combined CP-KCS system post-Transaction: “It is expected additional locomotives would be brought into service to handle organic growth on the CP/KCS system. Given organic growth would occur without the Transaction, it has not been counted as an impact of the Transaction. The combined fleet has sufficient locomotives to accommodate both organic and Transaction related growth.”⁵⁸
- When asked in deposition { [REDACTED] }
[REDACTED]⁵⁹
- The Diversion Witnesses identify that the estimates of rail traffic and truck traffic diversions were based on 2019 datasets, and do not indicate that organic traffic growth was included.

Finally, the expectation of organic growth is { [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] } }.⁶⁰

⁵⁷ De Bruyn VS at para. 13.

⁵⁸ Operating Plan at para. 189, footnote 9.

⁵⁹ February 18, 2022 Deposition of Messrs. Elphick and Orr (Applicants’ Operating Plan witnesses) at pages 161-162.

⁶⁰ See, e.g., Operating Plan workpapers “HC – 01.1 KCS Model – Organic Growth.xlsx,” “HC – 01.1 KCS Model – Synergy Growth.xlsx,” “HC – System Model – Methodology.pdf” at page 5, and “HC – Gross Ton Miles, Train Miles, Train Weights and MGT – Methodology.pdf” at page 2.

III. Applicants’ Operating Plans for Handling Traffic on the CP-KCS Combined Network

In Exhibit 13, Applicants present Operating Plans for the combined CP and KCS railroad system, sponsored by Raymond Elphick and John Orr.⁶¹ This presentation focuses on how the systems will be integrated post-Transaction, and designs train and yard operations necessary to handle the traffic volumes. In addition to providing details on the train and yard service, Applicants’ Operating Plan evidence also addresses the post-Transaction requirements for CPKC’s labor force, equipment, and maintenance of way; the Transaction’s impact on passenger and commuter service and traffic densities by segment; and the line infrastructure and capacity, and yard and terminal capacity.⁶² In this section I focus on the proposed train operations.

Applicants present the results for three scenarios, summarized as follows:

1. Base Plan: Messrs. Elphick and Orr identify that the Base Plan “reflects the pre-Transaction operations of CP and KCS as independent companies,” *i.e.*, the operations and volume levels as of 2019.⁶³
2. Optimized Plan: They explain that the Optimized Plan “reflects the integration and optimization of the operations of CP and KCS as a single, integrated network, but without the additional traffic that CPKC’s new capabilities are likely to attract.”⁶⁴ The operations evaluated with this plan do not incorporate any post-Transaction volume growth.
3. Growth Plan: And finally, they indicate that the Growth Plan “reflects the anticipated traffic levels that the full integration of the CP/KCS network – which will be complete within three years of the Control Date – will handle.”⁶⁵

⁶¹ Mr. Elphick is the Assistant Vice President Service and Product Design for CP, and Mr. Orr is the Executive Vice President-Operations for KCS. Operating Plan at para. 2, 5.

⁶² Applicants’ evidence on line infrastructure and capacity will be discussed in the following section.

⁶³ Operating Plan at para. 11. While the CP and KCS train plans may have been sourced from different points during the 2019-2021 period (*see, e.g.*, para. 75), the Operating Plan confirms that the volumes handled reflect the 2019 levels analyzed by the Diversion Witnesses (“... based on a 2019 base year,” para. 87)

⁶⁴ Operating Plan at para. 11.

⁶⁵ *Ibid.*

System-Wide Results: Table 2 to the Operating Plan presents the summarized results for a variety of operating statistics for each of Applicants’ scenarios. These statistics include a measure of traffic volume (“Gross Ton Miles”), as well as the train activity associated with handling that traffic (“Train Miles (Freight)”) and the number of locomotives used to power each train (“Locomotives/Train”). Table 7 compares the results of Applicants’ Optimized Plan (*i.e.*, before Transaction-related volume growth) and Growth Plan (incorporating Transaction-related volume growth, *i.e.*, including the 509,470 revenue shipments and the associated empty intermodal containers, flatcars, and other freight cars).

Table 7: CPKC Operating Plan Results for Optimized and Growth Scenarios
(Table 2 to Operating Plan⁶⁶)

		Optimized Plan	Growth Plan	% Change
1	Gross Ton Miles (GTM), billions	385.60	461.90	+19.8%
2	Train Miles (Freight), millions	48.26	53.63	+11.1%
3= #1/#2	GTM / Train Miles ("Avg Train Size")	7,990	8,613	+7.8%
4	Locomotives/Trn ("Avg Consist Size")	2.71	2.74	+1.1%
5= #2x#4	Loco Unit Miles (LUM), millions	130.78	146.95	+12.4%
6= #1/#5	Average Gross Tons / Locomotive	2,948	3,143	+6.6%

Table 5 presents several key findings regarding Applicants’ proposed post-Transaction service to handle the volumes that moved on the CP and KCS networks in 2019 along with the additional diverted and growth traffic volumes:

- The Transaction-related growth volumes would increase the total gross ton-miles moving on the CPKC network by 20%. (Line #1 of Table 5 above)

⁶⁶ While these statistics are sourced from Table 2 to the Operating Plan, certain figures are internally inconsistent as reported. For example, 461.9 billion GTM divided by 53.63 million train miles indicates an average train size of 8,613, not 9,000. To remove these inconsistencies, Table 5 includes re-calculated values for Average Train Size (Line #3) and Locomotive Unit Miles (Line #5).

- Applicants propose that CPKC would handle this traffic by running 11% more train-miles. (Line #2)
- As a result of transporting more tons with proportionally fewer trains, each CPKC post-Transaction train would be 8% larger on average, compared to the 2019 Optimized baseline.⁶⁷ (Line #3)
- While Applicants’ Table 2 does not explicitly summarize train length, the significant increase in the average weight indicates that CPKC trains will be proportionally longer as well.
- While each train will transport 8% more tonnage on average, Applicants propose CPKC will do so with 1% more locomotives. As a result, each locomotive will be responsible for powering 7% more tonnage. (Line #6)⁶⁸

Transaction-Related Traffic Changes by Subdivision: Appendix A to the Operating Plan summarizes the impact of the Transaction-related volume growth on the train volumes that will traverse each subdivision. This Appendix presents the average number of trains per day for the Base Plan reflecting 2019 volume levels (“Current Trains / Day”) and separately for the Growth Plan reflecting Year 3 volume levels including diverted and growth traffic (“Future Trains / Day”).⁶⁹ There are 80 subdivisions for which the average number of trains per day will increase by 0.5 trains or more, *i.e.*, at least 180 additional trains per year.⁷⁰ The median increase in daily train volumes across these 80 subdivisions is 26%, which equates to squeezing in an additional

⁶⁷ As Applicant’s Table 2 identifies that the average train size (GTM / Train Miles) for the Optimized Plan was 3.5% higher than the average for the Base Plan, Applicants’ Growth trains are more than 11% larger than the actual CP and KCS trains that operated in the base period.

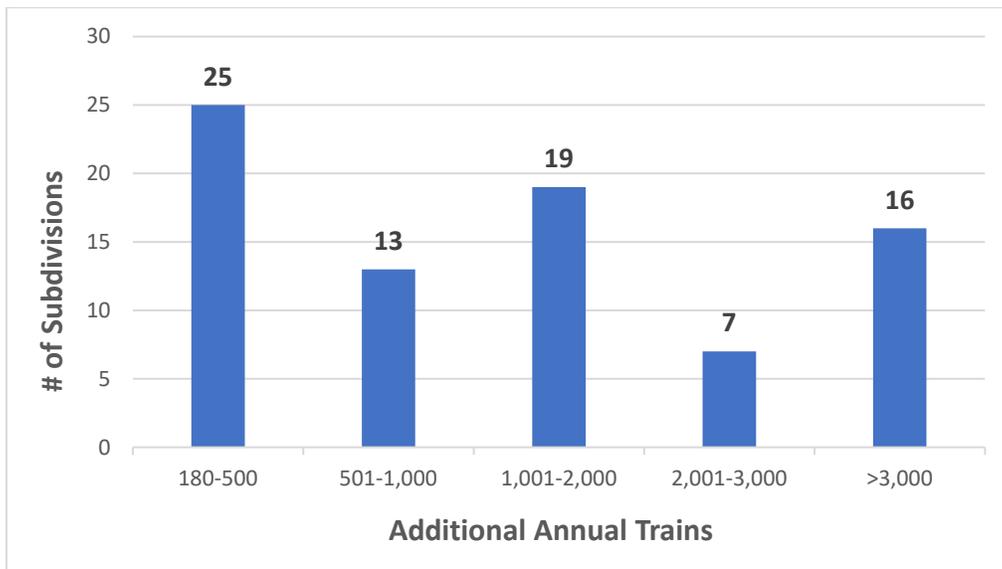
⁶⁸ The Highly Confidential workpapers present {{ [REDACTED] }}. Operating Plan WP “HC – System Model – Methodology.pdf” at page 13.

⁶⁹ Operating Plan at para. 99.

⁷⁰ Operating Plan WP “HC – Trains Per Day and Gross Ton Miles – Working Copy with Haz Breakdown,” tab “Summary Sheet” indicates that these 80 subdivisions account for more than {{ [REDACTED] }} route miles.

week’s worth of trains every month. There are 17 subdivisions – covering more than {{REDACTED}} route miles – for which the number of trains in the Growth Plan is more than twice the volume that is currently moving. Figure 1 summarizes the 80 subdivisions by the magnitude of their train volume increases, identifying that over half (42) will experience more than 1,000 additional trains annually – and 16 subdivisions will see more than 3,000 new trains.

Figure 1: Increases in Annual Train Volumes by Subdivision
(Appendix A to Operating Plan)



Summary: Applicants propose that the Transaction-related traffic growth would add half a million revenue shipments annually (plus empties), increase by 20% the gross ton-miles on the combined CP-KCS network, increase train sizes system-wide by an average of 8% while powering them with 1% more locomotives, add thousands of trains annually on scores of subdivisions across thousands of route miles, and more than double the current daily train volumes on {{REDACTED}} miles.

IV. Capacity / Infrastructure

As described in prior sections, Applicants project that CPKC will transport more than 500,000 new revenue shipments, and it will operate thousands of new trains for thousands of miles. In order to handle this additional growth and new train service, Applicants identify 29 track projects on the combined CP-KCS networks to add necessary capacity. These include 15 extensions of existing sidings, 10 new sidings, 1 instance of double-tracking, and 3 locations where Centralized Traffic Control (“CTC”) systems will be added. Applicants’ estimate they will invest \$276 million over the 2023-2025 period to accomplish these infrastructure investments.⁷¹

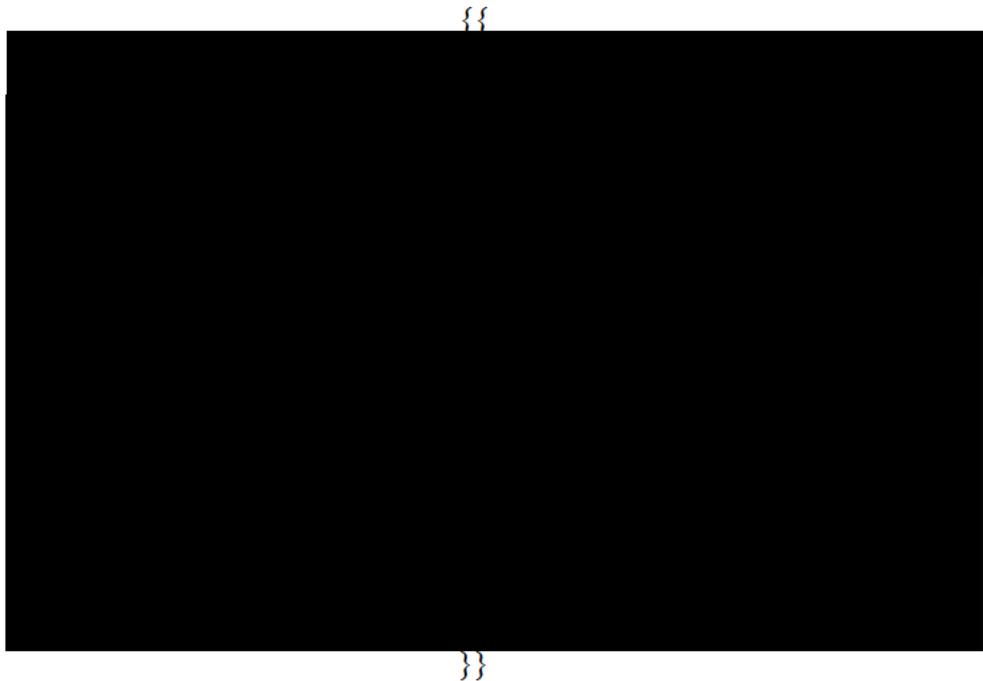
CP and KCS reported a combined total of 5,778 US system-owned route miles in Schedule 700 to their 2019 R-1 reports submitted to the STB.⁷² Schedule 700 also identifies the running track capacities by category: in 2019, CP identified 490 route miles of second main track, passing tracks, and other running tracks, and KCS identified 363 – for a combined Applicants’ total of 853 miles. For purposes of illustration, if the 10 new sidings were each 11,000 feet, the 15 siding extensions each added 6,000 feet, and the new double-track segment

⁷¹ Appendix R to the Operating Plan also identifies “Line Capacity Improvement Projects.” This Appendix lists 33 projects – 4 more than are presented in either Figure 11 or Table 8 in the Operating Plan. These 4 projects are all on the CP lines, and include 39 miles of CTC on the Davenport subdivision and siding projects on the Ottumwa and Laredo (Missouri) subdivisions. The Appendix indicates capital spending of \$0.00M for each of these 4 projects. The Highly Confidential workpapers indicate { [REDACTED]

⁷² See Schedule 700 to the CP and KCS Annual R-1 Reports (Track Class 1, 100% Owned). This total does not include partially or jointly-owned segments, or the routes that CP and KCS each operates over via trackage rights – such as the Texas Gulf Route used by the majority of the Transaction-related traffic diversions and growth.

was 5 miles, Applicants’ total track additions would total 43 miles.⁷³ 43 miles of new running tracks would be an increase of 5% to the second main tracks and passing sidings on the existing CP and KCS networks. Figure 2 summarizes the actual lengths of Applicants’ proposed track additions from the Highly Confidential workpapers, indicating that these line capacity improvement projects would increase total CP-KCS second main and passing track capacity for {{ [REDACTED] }}.

Figure 2: Additional Running Track Capacities



Applicants propose no track infrastructure projects on the Texas Gulf Route south of DeQuincy, Louisiana. As described previously, these lines are critical to the Applicants’ proposal, as they provide the only route by which CPKC will access Mexico – to serve two-

⁷³ $10 \times 11,000 + 15 \times 6,000 = 200,000$ feet, divided by 5,280 feet = 38 miles of new siding capacity, plus 5 miles of double-track = 43 total miles of new capacity. As Table 8 to the Operating Plan identifies \$12.8 million of investment for the new double-track segment, an estimate of 5 miles indicates \$2.6 million per mile, lower than most of the per-mile investments suggested for the siding projects on the KCS segments.

thirds of their diversions and growth traffic. And as also indicated above, Applicants project considerable traffic gains for the lines south of Dequincy: more than 330,000 revenue shipments, and more than 3,000 trains annually will traverse the entire Texas Gulf Route, with train volumes doubling on most of the route.

The Highly Confidential workpapers, however, indicate that Applicants { [REDACTED]

[REDACTED] } }⁷⁶

Finally, Applicants’ recent supplementation of certain capacity workpapers are addressed. On February 11, 2022 – 105 days after filing the Application – Applicants provided “more recent versions of certain” capacity-related workpapers, and also reported that “Applicants have determined that there were typographical errors in the “CP-HC-00007936” file located in folder 10.5.840 in the VDR. Applicants have uploaded a corrected version with the same file

⁷⁴ See Operating Plan WP “HC – Capacity – Methodology.pdf” at page 6.

⁷⁵ Ibid.

⁷⁶ December 14, 2021 “Joint Responses and Objections to BNSF’s Second Set of Discovery Requests,” Response to Interrogatory No. 13. Applicants’ response to Int. No. 13 also claims that [REDACTED]

[REDACTED] }

name.”⁷⁷ The 00007936 file contains { [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

⁷⁷ The more recent workpapers were identified as updating “HC – Kansas City Corridor – Siding Spacing.pdf,” “HC – KCity Sticks With Capital.pdf,” and “HC – KCS Capacity calculations.xlsx.” The last one (KCS Capacity calculations) presents updated calculations of the { [REDACTED]
[REDACTED]
[REDACTED] }.

⁷⁸ Section VI below identifies that BNSF serves local customers on CP’s Davenport subdivision via trackage rights, and that its service will potentially be impacted by three-times the volume traversing the segment between Camanche and Bettendorf.

⁷⁹ Regarding other recently-provided capacity materials, I understand that on February 15, 2022, Applicants produced more than 8,500 Highly Confidential documents identified as “CP System & Operations, RTC Simulations and Related Documents.” This tranche more than doubled the total number of documents that Applicants have provided since filing their Application, including all workpapers, discovery responses, etc. Having received these materials less than two weeks before the filing of this statement, I reserve the right to address these newly-provided items at a later date.

V. **Applicants’ Proposed Traffic Gains and Train Volume Growth in Houston**

a. **Background**

As described above, CPKC’s Texas Gulf Route to/from Mexico involves operating more than 100 miles between Beaumont and Rosenberg, Texas on lines that are jointly-owned by BNSF and UP.⁸⁰ This route traverses the Houston Complex. Houston is one of the most significant terminals on the North American continent. It is a major railroad terminal as well as one of the largest port facilities in the country, and a hub for highway transportation.⁸¹ It is a centerpiece for north/south shipments to Mexico (including those movements to Mexico contemplated by Applicants’ proposal) and also for the shortest US transcontinental route between California, New Orleans, and the east coast.

The Board’s 2019 Carload Waybill Sample provides insights on the considerable reach of freight rail shipments to/from Houston. In 2019, there were 1.25 million shipments that originated or terminated at freight stations on the Joint Line and in the Houston Complex. These include most of the largest commodities that are transported by railroads – intermodal containers, finished automobiles, agricultural products, petroleum products, plastics, chemicals, and many others. At 1.25 million shipments, this volume represents 3.5% of all freight shipments in the country.⁸² In other words, 1 out of every 30 carloads or intermodal containers shipped in the US originates or terminates in Houston. And that total doesn’t include thousands of shipments of

⁸⁰ In this statement I refer to the line segments between Beaumont and Rosenberg as the “Joint Line” or “50/50 Line.”

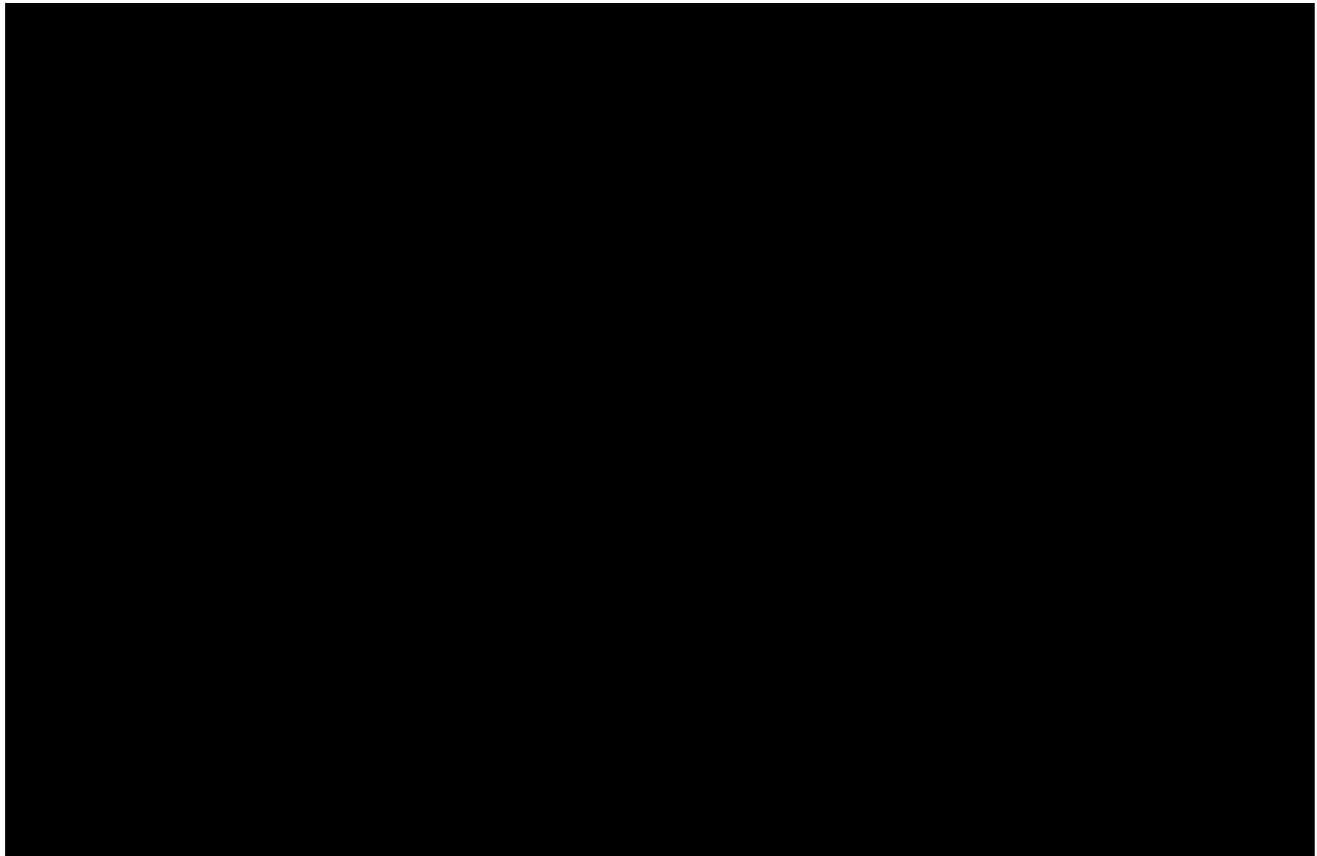
⁸¹ <https://www.houston.org/news/port-houston-no-1-us-cargo-volume>,
https://porthouston.com/wp-content/uploads/PH_Facts_Sheet_r7_id_FINAL.pdf

⁸² Table 1-2 of the 2019 CWS Reference Guide identifies 35.69 million total shipments originating in the US, Canada, and Mexico. <https://www.stb.gov/wp-content/uploads/2019-STB-Waybill-Reference-Guide.pdf>

through traffic moving between California and New Orleans that traverse the route that would be used by CPKC.

All of these shipments will potentially be impacted by the additional 3,000-4,000 trains CPKC proposes to add to the Texas Gulf Route annually. To identify the potential scope of the impact, we identified the origins for shipments inbound to Houston, and the destinations for shipments outbound from Houston – *i.e.*, the “other end” of the move for the 1.25 million Houston-area originations and terminations. Shipments to/from Houston come from 1,300 different locations – representing 45 states, 8 provinces in Canada, and 40 stations in Mexico. Figure 3 plots these locations – the “other end” of the Houston moves – showing that service disruptions in Houston can affect shippers of goods throughout North America.

Figure 3: Origins and Destinations for Shipments to/from the Houston Complex
(2019 Carload Waybill Sample)



}}

Houston was “ground zero” for colossal service disruptions following the merger of two Class I railroads 25 years ago, UP and Southern Pacific Railroad. A 1998 *New York Times* article that presented the myriad challenges that were encountered stated “A 1996 merger with Southern Pacific to form the nation's largest railroad caused what regulators call an unprecedented breakdown in rail traffic through the heart of America that has lasted more than 10 months.”⁸³ The article also highlighted the particular dynamic of service disruptions on railroad networks: the impacts can extend more than 1,000 miles from their source, “But then clogged traffic at the Laredo, Tex., gateway to Mexico backed up trains all the way to Kansas.”

b. Applicants’ New Traffic Movements through the Houston Complex

i. *The Vast Majority of Applicants’ Diverted and Growth Volumes will be New Traffic to the Houston Complex*

Most of Applicants’ projected diverted and growth volumes will traverse the Texas Gulf Route through Houston. Table 4 in Section II.a.vi above summarized that 337,846 of CPKC’s new revenue shipments would move to/from Mexico, representing 66% of all diversions and growth traffic. In addition to these volumes, there are at least another 50,000 carloads of new traffic that will enter Beaumont and turn south towards Port Arthur.⁸⁴ In total, Applicants project that Transaction-related increases in excess of 387,000 new revenue shipments will cross the Neches River Bridge – along with BNSF, UP, Amtrak, and other CPKC trains.⁸⁵

⁸³ Myerson, Allen. “Weary Hands at the Throttle.” *The New York Times*, April 26, 1998. <https://www.nytimes.com/1998/04/26/business/earning-it-weary-hands-at-the-throttle.html>

⁸⁴ These shipments include the DRUbit crude shipments in the Growth Initiative grouping (Wahba/Naatz para. 83-94) and certain rail traffic diversions of { [REDACTED] }.

⁸⁵ See, e.g., Operating Plan at para. 175-176.

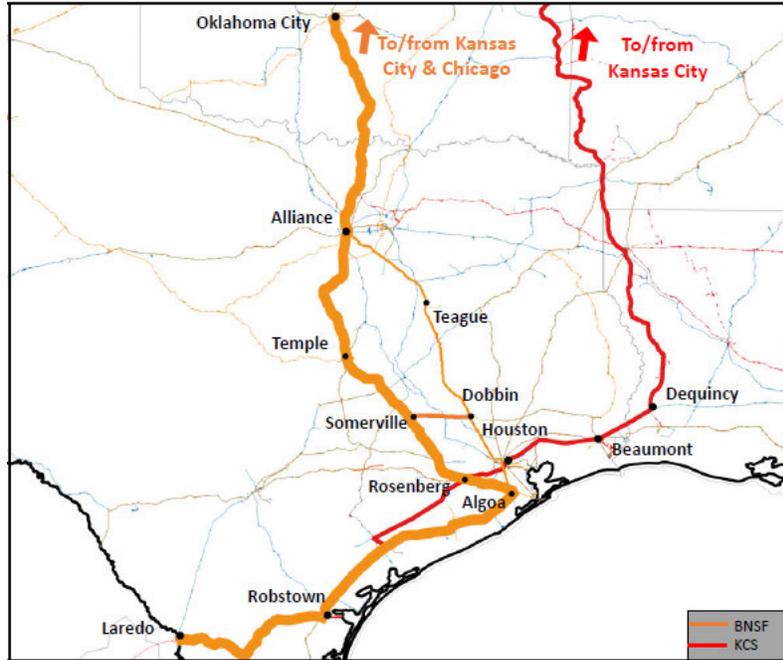
While many of Applicants' new shipments represent diversions from other railroads, the vast majority of the increased volume moving through the Houston Complex is truly new to the Joint Line route, and is not pre-existing volume on this line that merely shifts to CPKC from other railroads (*e.g.*, BNSF or UP). Nearly two-thirds of the 387,846 shipments have yet to move on any railroad, as they represent projections of growth initiative volumes and diverted truck movements. The Lazaro Cardenas intermodal and DRUBit crude traffic summarized in Table 2 above account for most of the Transaction-related growth opportunities that Messrs. Wahba and Naatz identified; all such traffic totals 218,630 shipments⁸⁶ that will be new to the Texas Gulf Route (56% of the Joint Line total). Similarly, the 32,693 truck traffic diversions (8% of the total) moving to/from Mexico identified in Table 4 above are also new rail shipments that will traverse the entire Beaumont-Rosenberg route for the first time.

Regarding the rail traffic diversions (the remaining 35%), to ascertain whether the shipments are new to the Texas Gulf Route or traveled via the Joint Line in 2019 requires examination of Applicants' Highly Confidential workpapers. The shipment details for the diverted traffic lanes provided in the workpapers indicate that 9% of the rail shipments that Applicants proposed to divert to CPKC's Texas Gulf Route {{{ [REDACTED] }}}. Thus, these shipments – which represent 3% of the 387,846 total new shipments – would also be new to the Beaumont-Rosenberg line.

Applicants' Highly Confidential workpapers also indicate that {{{ [REDACTED] }}} were diverted from existing movements over the Laredo gateway. Of this total, {{{ [REDACTED] }}}.

⁸⁶ This total reflects the 168,630 growth shipments moving to/from Mexico in Table 4 above and the 50,000 DRUBit shipments that enter Beaumont to Port Arthur.

Figure 4: BNSF’s Laredo Shipments Do Not Traverse the Beaumont-Rosenberg Joint Line through Houston



In summary, the vast majority of CPKC’s diverted and growth volumes will be new to the Joint Line and Houston Complex. They are not pre-existing volumes that have traversed this route on other railroads’ trains. Fully 65% of the diverted and growth volumes – the growth initiative and truck traffic diversions – are projected to be rail shipments only post-Transaction. And only {{█}} of the rail traffic diversions – comprising {{█}} of all CPKC diverted and growth volumes through Houston – moved over the Joint Line or through the Houston Complex in 2019.⁸⁸

ii. CPKC Would Add more than 3,000 Trains Annually to the Houston Complex

The previous section established that the vast majority of CPKC’s diversions and growth shipments will be new traffic to the Beaumont-Rosenberg Joint Line and Houston Complex.

⁸⁸ This total includes {{█}} for BNSF shipments that analysis of the route information indicated did not traverse the Temple route and {{█}} for shipments that KCS operated over the Texas Gulf Route in 2019.

This section re-visits Applicants’ proposed train operations introduced above in Section III.a, to focus on the significant increase in train volumes that CPKC will operate over these lines.

Figure 1 above identified that there were 16 subdivisions where CPKC would increase annual volumes by more than 3,000 trains – and the 16 include all five subdivisions between Beaumont and Laredo on the Texas Gulf Route. Table 8 presents the train volumes for these five subdivisions from Appendix A to the Operating Plan, indicating that Applicants’ projections would more than double the number of trains on all but one of the subdivisions.

Table 8: CPKC Train Volume Increases for Texas Gulf Route
(Appendix A to Operating Plan)

	Subdivision	Current Trains / Day	Future Trains / Day	Daily Change	Annual Increase	Percent Change
9.	Beaumont	8.9	20.3	+11.4	+4,161	128%
13.	Rosenberg	8.5	17.7	+9.3	+3,395	109%
14.	Victoria to Robstown	7.7	16.8	+9.1	+3,322	118%
15.	KCS Laredo	10.5	19.4	+8.9	+3,249	85%
16.	Beaumont to Rosenberg	7.7	16.0	+8.3	+3,030	108%

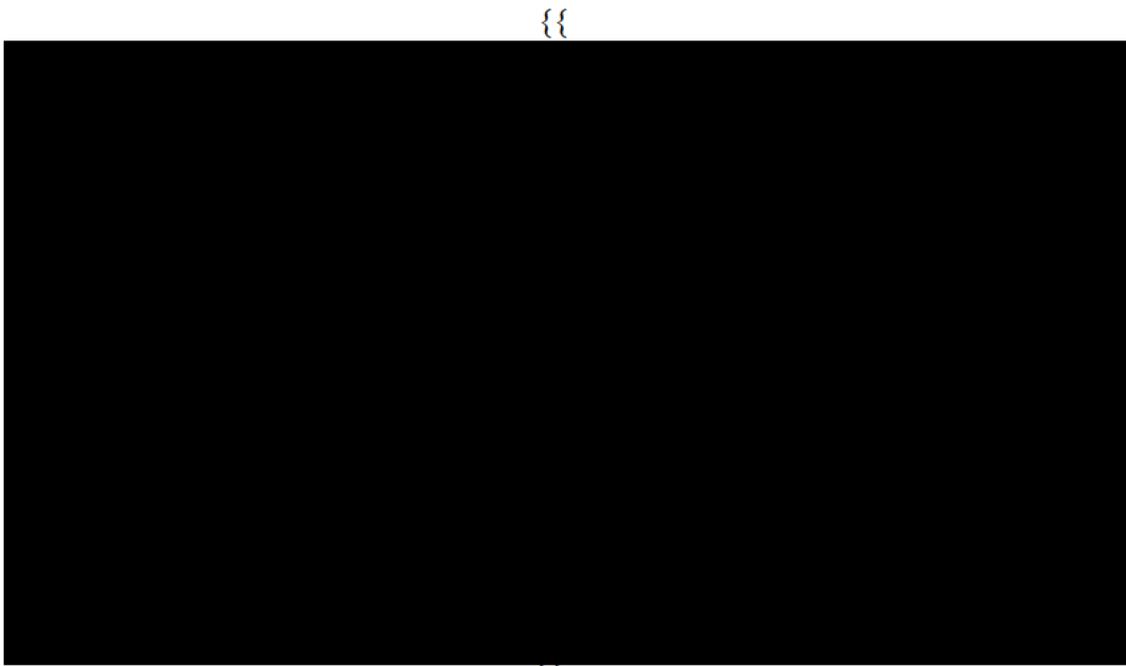
iii. CPKC’s Growth Trains Would Add More, Larger Trains on the Joint Line through the Houston Complex than Historically Moved

In this proceeding, Applicants produced historical Train Event files that identify the size of the KCS trains that moved through Houston.⁸⁹ Figure 5 summarizes the average train sizes for KCS’s road trains traversing the Joint Line in 2019. Those records indicate:

- KCS’s road trains historically averaged {{ [REDACTED] }} feet, varying by train type.
- {{ [REDACTED] }} of KCS’s road trains exceeded 8,000 feet.
- {{ [REDACTED] }} of KCS’s road trains exceeded 9,000 feet.

⁸⁹ Applicants produced KCS’s 2019 Train Event records on December 13, 2021.

Figure 5: Average Train Length, 2019 KCS Road Trains in Houston



Applicants' workpapers do not reveal the different train sizes assumed to transport the specific Transaction-related volume growth by individual segment. That said, there are four related observations pertinent to CPKC's future train sizes through Houston. First, Section III above describes Applicants' conclusion that system-wide, CPKC's trains including the Transaction-related diversions and growth traffic will be 8% larger than under Applicants' Optimized Plan, and 11% larger than the actual historical sizes on CP and KCS. Further, an annual, system-wide average does not reflect that trains will experience different increases in size – and some will be proportionally longer – nor does it reflect the seasonality inherent in rail traffic flows.

Second, when asked in deposition {{ [REDACTED] }},

Applicants' Operating Plan witness Mr. Elphick responded [REDACTED]

[REDACTED] } }⁹⁰

Next, Appendix H to the Operating Plan identifies changes in train operations from the Base Plan scenario to the Optimized Plan scenario that propose longer CPKC trains. These changes include four specific train assignments that would traverse the Joint Line and Houston Complex every day, for which the Operating Plan indicates maximum train lengths of 9,840-10,000 feet for each.⁹¹

Finally, Applicants produced materials documenting a series of monthly meetings that discuss operations on the Joint Line and in the Houston Complex. Documents from the months leading up to Applicants' submitting their Application specifically examined the impact of [REDACTED] [REDACTED] } on operations in the complex.⁹² As noted above, Applicants propose that many CPKC trains will be designed to be materially longer.

I understand that Jon Gabriel and Travis Thowe – BNSF's Vice President, Service Design and General Director of Network Development, respectively – are jointly sponsoring a verified statement ("Gabriel-Thowe VS") that provides a detailed description of the multi-carrier operations on the Joint Line and through the Houston Complex, and identifies the many implications of higher volumes that impact both local service and through trains in that significant railroad terminal.

⁹⁰ February 18, 2022 Deposition of Raymond Elphick and John Orr at p. 63. This statement is consistent with the reference in the Operating Plan to "Optimizing train lengths to 10,000 feet . . ." Operating Plan at para. 234.

⁹¹ Appendix H to Operating Plan at pages 2-5.

⁹² For example, page 3 of the document from the June 30, 2021 meeting states [REDACTED]

[REDACTED] KCSR-C-00011139.

VI. Applicants’ New Traffic Movements in Other Geographic Areas

a. Ottumwa, Iowa

Applicants project that train volumes will more than quadruple on CP’s Ottumwa subdivision post-Transaction, from 4.2 to 18.4 trains per day.⁹⁷ This increase of 14.3 trains per day – 100 additional trains every week – is the 4th largest across all subdivisions on the combined CP-KCS system, and the 2nd largest on CP’s network. In Ottumwa, these new CPKC trains will traverse an at-grade crossing of BNSF’s double-track mainline, its primary route between Colorado, Nebraska, and Wyoming to the west and Chicago and Galesburg, Illinois to the east.

In addition to the significant increase in volume – more than 5,200 trains annually – that will cross BNSF’s double-track mainline at grade, Applicants’ Operating Plan indicates that CPKC trains will be larger, further increasing the time that BNSF’s trains will be forced to wait for the crossing to clear. In this proceeding, Applicants produced historical Train Event files that identify the size of the CP trains that moved through Ottumwa.⁹⁸ Figure 6 summarizes the average train sizes for CP’s road trains in Ottumwa in 2019. Those records indicate:

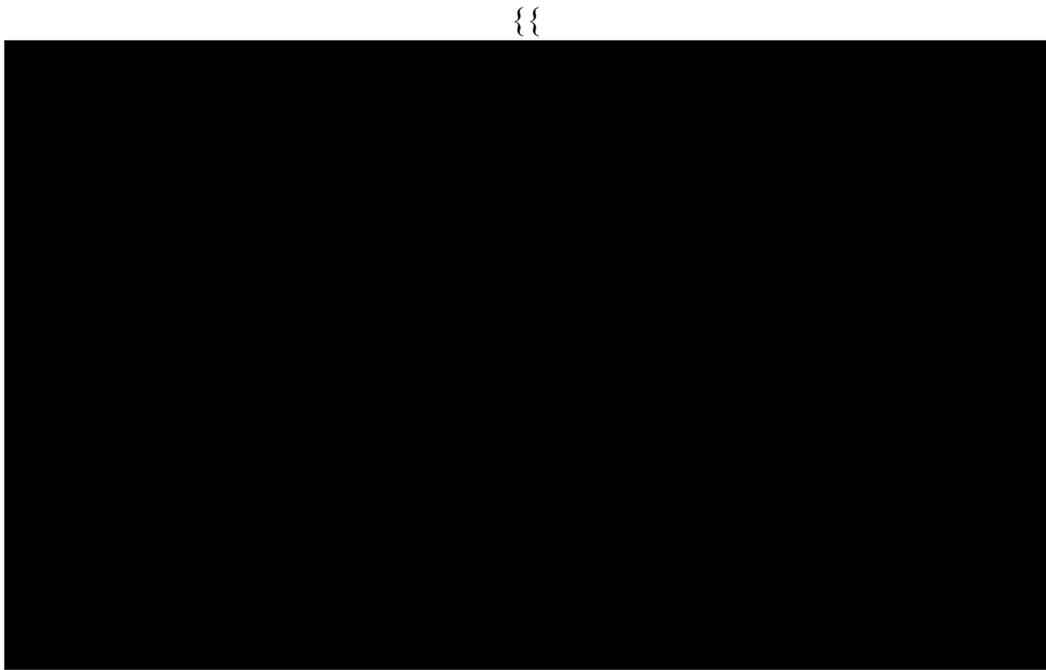
- CP’s road trains historically averaged {{ [REDACTED] }} feet, varying by train type.
- {{ [REDACTED] }} of CP’s road trains exceeded 9,000 feet.
- {{ [REDACTED] }} of CP’s road trains exceeded 10,000 feet.

including the Joint Line. Ms. Bailiff notes the possibility that Applicants may intend to have other railroads including BNSF contribute to costs that would be incurred to build additional capacity to handle the new traffic created by the proposed merger.

⁹⁷ Appendix A to the Operating Plan at page 1.

⁹⁸ Applicants produced CP’s 2019 Train Event records on February 4, 2022.

Figure 6: Average Train Length, 2019 CP Road Trains in Ottumwa



}}

Applicants’ Operating Plan indicates that many CPKC trains traversing Ottumwa will be designed to longer lengths. Appendix H identifies maximum lengths of 10,000 feet for daily trains #260 and #261 operating in each direction on the St. Paul to Kansas City segment.⁹⁹ The forecast of more than four times as many trains – including many longer trains than today’s – will impact operations of BNSF’s double-track mainline route between the mountain states and Chicago. I understand that the Gabriel-Thowe VS also describes the operations at Ottumwa, and identifies the different concerns and constraints associated with that at-grade crossing of two important, high-density routes.

⁹⁹ Appendix H to Operating Plan at page 1. The Appendix identifies that Trains #260 and #261 run all the way to/from Shreveport, and can operate at an even greater maximum length (12,000 feet) for the segments south of Kansas City.

b. Quad Cities, Iowa and Illinois

The Quad Cities of Iowa – Bettendorf and Davenport – are on the CP subdivision with the single largest increase in train volumes: 14.5 trains per day, more than 5,200 trains annually.¹⁰⁰ BNSF operates via trackage rights to serve local customers on CP’s Davenport sub, for roughly 35 miles between Davenport and Clinton, Iowa. BNSF also connects with CP approximately 20 miles north of Clinton, at Savanna, Illinois. CP’s adjacent Davenport North subdivision – which covers most of the segment between Clinton and Savanna – is projected to experience a lesser increase of 10.7 trains per day, and a lower post-Transaction total train volume of 17.5 trains per day. While train volumes on CP’s Davenport and Davenport North subdivisions are close to one another today (within 5%), Applicants project that post-Transaction, train volumes on the Davenport sub where BNSF serves local customers will be 23% higher than Davenport North’s. I understand that the Gabriel-Thowe VS also describes the operations in the Quad Cities, and identifies the challenges CPKC’s considerably higher train volumes would pose for BNSF’s local service to its customers.

¹⁰⁰ Appendix A to the Operating Plan at page 1. This increase is the 3rd highest across all CP and KCS subdivisions, following 2 on KCS.

VERIFICATION

I, Benton V. Fisher, declare under penalty of perjury that the foregoing is true and correct. Further, I certify that I am qualified and authorized to file this verified statement.

/s/ Benton V. Fisher

Benton V. Fisher

Executed on February 28, 2022.

Benton V. Fisher

Senior Managing Director
Economic Consulting

8251 Greensboro Drive, Suite 1111 – McLean, VA 22102

+1 571 830 1051

Benton.Fisher@fticonsulting.com

Education

B.S. in Engineering and
Management Systems,
Princeton University

Benton V. Fisher is a Senior Managing Director of FTI's Network Industries Strategies practice, located in McLean, Virginia. Mr. Fisher has more than 25 years of experience in providing financial, economic, and analytical consulting services to clients dealing with transportation, telecommunications, and postal subjects.

North America's largest railroads have retained FTI both to assist them in making strategic and tactical decisions and to provide expert testimony in litigation. FTI's ability to present a thorough understanding of myriad competitive and regulatory factors has given its clients the tools to implement and advance their business. Mr. Fisher has worked extensively to develop these clients' applications for mergers and acquisitions and expert testimony justifying the reasonableness of their rates before the Surface Transportation Board. In addition to analyzing extensive financial and operating data, Mr. Fisher has worked closely with people within many departments at the railroad as well as outside counsel to ensure that the railroads' presentations are accurate and defensible. Additionally, Mr. Fisher reviews the expert testimony of the railroads' opponents in these proceedings and advises counsel on the course of action to respond.

AT&T and MCI retained FTI to advance its efforts to implement the Telecommunications Act of 1996 in local exchange markets. Mr. Fisher was primarily responsible for reviewing the incumbent local exchange carriers' (ILEC) cost studies, which significantly impacted the ability of FTI's clients to access local markets. Mr. Fisher analyzed the sensitivity of multiple economic components and incorporated this information into various models being relied upon by the parties and regulators to determine the pricing of services. Mr. Fisher was also responsible for preparing testimony that critiqued alternative presentations.

Mr. Fisher assisted in reviewing the U.S. Postal Service's evidence and preparing expert testimony on behalf of interveners in Postal Rate and Fee Changes cases. He has also been retained by a large international consulting

firm to provide statistical and econometric support in their preparation of a long-range implementation plan for improving telecommunications infrastructure in a European country.

Mr. Fisher has sponsored expert testimony in rate reasonableness proceedings before the Surface Transportation Board and in contract disputes in Federal Court and arbitration proceedings.

Mr. Fisher holds a B.S. in Engineering and Management Systems from Princeton University.

Select Railroad Testimony

Surface Transportation Board

January 15, 1999	Docket No. 42022 FMC Corporation and FMC Wyoming Corporation v. Union Pacific Railroad Company, Opening Verified Statement of Christopher D. Kent and Benton V. Fisher
March 31, 1999	Docket No. 42022 FMC Corporation and FMC Wyoming Corporation v. Union Pacific Railroad Company, Reply Verified Statement of Christopher D. Kent and Benton V. Fisher
April 30, 1999	Docket No. 42022 FMC Corporation and FMC Wyoming Corporation v. Union Pacific Railroad Company, Rebuttal Verified Statement of Christopher D. Kent and Benton V. Fisher
July 15, 1999	Docket No. 42038 Minnesota Power, Inc. v. Duluth, Missabe and Iron Range Railway Company, Opening Verified Statement of Christopher D. Kent and Benton V. Fisher
August 30, 1999	Docket No. 42038 Minnesota Power, Inc. v. Duluth, Missabe and Iron Range Railway Company, Reply Verified Statement of Christopher D. Kent and Benton V. Fisher
September 28, 1999	Docket No. 42038 Minnesota Power, Inc. v. Duluth, Missabe and Iron Range Railway Company, Rebuttal Verified Statement of Christopher D. Kent and Benton V. Fisher
June 15, 2000	Docket No. 42051 Wisconsin Power and Light Company v. Union Pacific Railroad Company, Opening Verified Statement of Christopher D. Kent and Benton V. Fisher
August 14, 2000	Docket No. 42051 Wisconsin Power and Light Company v. Union Pacific Railroad Company, Reply Verified Statement of Christopher D. Kent and Benton V. Fisher
September 28, 2000	Docket No. 42051 Wisconsin Power and Light Company v. Union Pacific Railroad Company, Rebuttal Verified Statement of Christopher D. Kent and Benton V. Fisher
December 14, 2000	Docket No. 42054 PPL Montana, LLC v. The Burlington Northern Santa Fe Railway Company, Opening Verified Statement of Christopher D. Kent and Benton V. Fisher
March 13, 2001	Docket No. 42054 PPL Montana, LLC v. The Burlington Northern Santa Fe Railway Company, Reply Verified Statement of Christopher D. Kent and Benton V. Fisher

- May 7, 2001 Docket No. 42054 PPL Montana, LLC v. The Burlington Northern Santa Fe Railway Company, Rebuttal Verified Statement of Christopher D. Kent and Benton V. Fisher
- October 15, 2001 Docket No. 42056 Texas Municipal Power Agency v. The Burlington Northern Santa Fe Railway Company, Opening Verified Statement of Benton V. Fisher
- January 15, 2002 Docket No. 42056 Texas Municipal Power Agency v. The Burlington Northern Santa Fe Railway Company, Reply Verified Statement of Benton V. Fisher
- February 25, 2002 Docket No. 42056 Texas Municipal Power Agency v. The Burlington Northern Santa Fe Railway Company, Rebuttal Verified Statement of Benton V. Fisher
- May 24, 2002 Docket No. 42069 Duke Energy Corporation v. Norfolk Southern Railway Company, Opening Evidence and Argument of Norfolk Southern Railway Company
- June 10, 2002 Docket No. 42072 Carolina Power & Light Company v. Norfolk Southern Railway Company, Opening Evidence and Argument of Norfolk Southern Railway Company
- July 19, 2002 Docket No. 42059 Northern States Power Company Minnesota v. Union Pacific Railroad Company, Union Pacific’s Opening Evidence
- September 30, 2002 Docket No. 42069 Duke Energy Corporation v. Norfolk Southern Railway Company, Reply Evidence and Argument of Norfolk Southern Railway Company
- October 4, 2002 Northern States Power Company Minnesota v. Union Pacific Railroad Company, Union Pacific’s Reply Evidence
- October 11, 2002 Docket No. 42072 Carolina Power & Light Company v. Norfolk Southern Railway Company, Reply Evidence and Argument of Norfolk Southern Railway Company
- November 1, 2002 Docket No. 42059 Northern States Power Company Minnesota v. Union Pacific Railroad Company, Union Pacific’s Rebuttal Evidence
- November 19, 2002 Docket No. 42069 Duke Energy Corporation v. Norfolk Southern Railway Company, Rebuttal Evidence and Argument of Norfolk Southern Railway Company
- November 27, 2002 Docket No. 42072 Carolina Power & Light Company v. Norfolk Southern Railway Company, Rebuttal Evidence and Argument of Norfolk Southern Railway Company
- January 10, 2003 Docket No. 42057 Public Service Company of Colorado D/B/A Xcel Energy v. The Burlington Northern and Santa Fe Railway Company, Opening Evidence and Argument of The Burlington Northern and Santa Fe Railway Company
- February 7, 2003 Docket No. 42058 Arizona Electric Power Cooperative, Inc. v. The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad, Opening Evidence of The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad

- April 4, 2003 Docket No. 42057 Public Service Company of Colorado D/B/A Xcel Energy v. The Burlington Northern and Santa Fe Railway Company, Reply Evidence and Argument of The Burlington Northern and Santa Fe Railway Company
- May 19, 2003 Docket No. 42057 Public Service Company of Colorado D/B/A Xcel Energy v. The Burlington Northern and Santa Fe Railway Company, Rebuttal Evidence and Argument of The Burlington Northern and Santa Fe Railway Company
- May 27, 2003 Docket No. 42058 Arizona Electric Power Cooperative, Inc. v. The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad, Joint Variable Cost Reply Evidence of The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad
- May 27, 2003 Docket No. 42058 Arizona Electric Power Cooperative, Inc. v. The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad, Reply Evidence of The Burlington Northern and Santa Fe Railway Company
- June 13, 2003 Docket No. 42071 Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company, Opening Evidence of The Burlington Northern and Santa Fe Railway Company
- July 3, 2003 Docket No. 42058 Arizona Electric Power Cooperative, Inc. v. The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad, Joint Variable Cost Rebuttal Evidence of The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad
- October 8, 2003 Docket No. 42071 Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company, Reply Evidence of The Burlington Northern and Santa Fe Railway Company
- October 24, 2003 Docket No. 42069 Duke Energy Corporation v. Norfolk Southern Railway Company Supplemental Evidence of Norfolk Southern Railway Company
- October 31, 2003 Docket No. 42069 Duke Energy Corporation v. Norfolk Southern Railway Company, Reply of Norfolk Southern Railway Company to Duke Energy Company’s Supplemental Evidence
- November 24, 2003 Docket No. 42072 Carolina Power & Light Company v. Norfolk Southern Railway Company, Supplemental Evidence of Norfolk Southern Railway Company
- December 2, 2003 Docket No. 42072 Carolina Power & Light Company v. Norfolk Southern Railway Company, Reply of Norfolk Southern Railway Company to Carolina Power & Light Company’s Supplemental Evidence
- January 26, 2004 Docket No. 42058 Arizona Electric Power Cooperative, Inc. v. The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad Company, Joint Supplemental Reply Evidence and Argument of The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad Company

- March 1, 2004 Docket No. 41191 (Sub-No. 1) AEP Texas North Company v. The Burlington Northern and Santa Fe Railway Company, Opening Evidence and Argument of The Burlington Northern and Santa Fe Railway Company
- March 22, 2004 Docket No. 42071 Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company, Supplemental Reply Evidence of The Burlington Northern and Santa Fe Railway Company
- April 29, 2004 Docket No. 42071 Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company, Rebuttal Evidence of The Burlington Northern and Santa Fe Railway Company
- May 24, 2004 Docket No. 41191 (Sub-No. 1) AEP Texas North Company v. The Burlington Northern and Santa Fe Railway Company, Reply Evidence of The Burlington Northern and Santa Fe Railway Company
- July 27, 2004 Docket No. 41191 (Sub-No. 1) AEP Texas North Company v. The Burlington Northern and Santa Fe Railway Company, Rebuttal Evidence of The Burlington Northern and Santa Fe Railway Company
- March 1, 2005 Docket No. 42071 Otter Tail Power Company v. BNSF Railway Company, Supplemental Evidence of BNSF Railway Company
- April 4, 2005 Docket No. 42071 Otter Tail Power Company v BNSF Railway Company, Reply of BNSF Railway Company to Supplemental Evidence
- April 19, 2005 Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, Opening Evidence of BNSF Railway Company
- July 20, 2005 Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, Reply Evidence of BNSF Railway Company
- September 30, 2005 Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, Rebuttal Evidence of BNSF Railway Company
- October 20, 2005 Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, Surrebuttal Evidence of BNSF Railway Company
- June 15, 2006 Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, Reply Supplemental Evidence of BNSF Railway Company
- June 15, 2006 Docket No. 41191 (Sub-No. 1) AEP Texas North Company v. BNSF Railway Company, Reply Supplemental Evidence of BNSF Railway Company
- March 19, 2007 Docket No. 41191 (Sub-No. 1) AEP Texas North Company v. BNSF Railway Company, Reply Third Supplemental Evidence of BNSF Railway Company

- March 26, 2007 Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, Reply Second Supplemental Evidence of BNSF Railway Company
- July 30, 2007 Docket No. 42095 Kansas City Power & Light v. Union Pacific Railroad Company, Union Pacific’s Opening Evidence
- August 20, 2007 Docket No. 42095 Kansas City Power & Light v. Union Pacific Railroad Company, Union Pacific’s Reply Evidence
- February 4, 2008 Docket No. 42099 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Opening Evidence of CSXT
- February 4, 2008 Docket No. 42100 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Opening Evidence of CSXT
- February 4, 2008 Docket No. 42101 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Opening Evidence of CSXT
- March 5, 2008 Docket No. 42099 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Reply Evidence of CSXT
- March 5, 2008 Docket No. 42100 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Reply Evidence of CSXT
- March 5, 2008 Docket No. 42101 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Reply Evidence of CSXT
- April 4, 2008 Docket No. 42099 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Rebuttal Evidence of CSXT
- April 4, 2008 Docket No. 42100 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Rebuttal Evidence of CSXT
- April 4, 2008 Docket No. 42101 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Rebuttal Evidence of CSXT
- July 14, 2008 Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, Third Supplemental Reply Evidence of BNSF Railway Company
- August 8, 2008 Docket No. 41191 (Sub-No. 1) AEP Texas North Company v. BNSF Railway Company, Fourth Supplemental Evidence of BNSF Railway Company
- September 5, 2008 Docket No. 41191 (Sub-No. 1) AEP Texas North Company v. BNSF Railway Company, Fourth Supplemental Reply Evidence of BNSF Railway Company

- October 17, 2008 Docket No. 42110 Seminole Electric Cooperative, Inc. v. CSX Transportation, Inc., CSX Transportation, Inc.'s Reply to Petition for Injunctive Relief, Verified Statement of Benton V. Fisher
- August 24, 2009 Docket No. 42114 US Magnesium, L.L.C. v. Union Pacific Railroad Company, Opening Evidence of Union Pacific Railroad Company
- September 22, 2009 Docket No. 42114 US Magnesium, L.L.C. v. Union Pacific Railroad Company, Reply Evidence of Union Pacific Railroad Company
- October 22, 2009 Docket No. 42114 US Magnesium, L.L.C. v. Union Pacific Railroad Company, Rebuttal Evidence of Union Pacific Railroad Company
- January 19, 2010 Docket No. 42110 Seminole Electric Cooperative, Inc. v. CSX Transportation, Inc., Reply Evidence of CSX Transportation, Inc.
- May 7, 2010 Docket No. 42113 Arizona Electric Power Cooperative, Inc. v. BNSF Railway Company and Union Pacific Railroad Company, Joint Reply Evidence of BNSF Railway Company and Union Pacific Railroad Company
- October 1, 2010 Docket No. 42121 Total Petrochemicals USA, Inc. v. CSX Transportation, Inc., Motion for Expedited Determination of Jurisdiction Over Challenged Rates, Verified Statement of Benton V. Fisher
- November 22, 2010 Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, Comments of BNSF Railway Company on Remand, Joint Verified Statement of Michael R. Baranowski and Benton V. Fisher
- January 6, 2011 Docket No. 42056 Texas Municipal Power Agency v. BNSF Railway Company, BNSF Reply to TMPA Petition for Enforcement of Decision, Joint Verified Statement of Michael R. Baranowski and Benton V. Fisher
- July 5, 2011 Docket No. 42123 M&G Polymers USA, LLC v. CSX Transportation, Inc., Reply Market Dominance Evidence of CSX Transportation, Inc.
- August 1, 2011 Docket No. 42125 E.I. DuPont De Nemours and Company v. Norfolk Southern Railway Company, Norfolk Southern Railway's Reply to Second Motion to Compel, Joint Verified Statement of Benton V. Fisher and Michael Matelis
- August 5, 2011 Docket No. 42121 Total Petrochemicals USA, Inc. v. CSX Transportation, Inc. , Reply Market Dominance Evidence of CSX Transportation, Inc.
- August 15, 2011 Docket No. 42124 State of Montana v. BNSF Railway Company, BNSF Railway Company's Reply Evidence and Argument, Verified Statement of Benton V. Fisher
- October 24, 2011 Docket No. 42120 Cargill, Inc. v. BNSF Railway Company, BNSF Railway Company's Reply Evidence and Argument, Verified Statement of Benton V. Fisher

- October 28, 2011 Docket No. FD 35506 Western Coal Traffic League - Petition for Declaratory Order, Opening Evidence of BNSF Railway Company, Joint Verified Statement of Michael R. Baranowski and Benton V. Fisher
- November 10, 2011 Docket No. 42127 Intermountain Power Agency v. Union Pacific Railroad Company, Reply Evidence of Union Pacific Railroad Company
- November 28, 2011 Docket No. FD 35506 Western Coal Traffic League - Petition for Declaratory Order, Reply Evidence of BNSF Railway Company, Joint Reply Verified Statement of Michael R. Baranowski and Benton V. Fisher
- December 14, 2011 Docket No. 42132 Canexus Chemicals Canada L.P. v. BNSF Railway Company, BNSF Motion to Permit Consideration of 2011 TIH Movements from BNSF Traffic Data in Selecting Comparison Group, Verified Statement of Benton V. Fisher
- February 13, 2012 Docket No. 42132 Canexus Chemicals Canada L.P. v. BNSF Railway Company, Opening Evidence of BNSF Railway Company, Verified Statement of Benton V. Fisher
- March 13, 2012 Docket No. 42132 Canexus Chemicals Canada L.P. v. BNSF Railway Company, Reply Evidence of BNSF Railway Company
- April 12, 2012 Docket No. 42132 Canexus Chemicals Canada L.P. v. BNSF Railway Company, Rebuttal Evidence of BNSF Railway Company
- May 10, 2012 Docket No. 42056 Texas Municipal Power Agency v. BNSF Railway Company, BNSF Reply to TMPA Petition to Reopen and Modify Rate Prescription, Joint Verified Statement of Michael R. Baranowski and Benton V. Fisher
- November 30, 2012 Docket No. 42125 E.I. DuPont De Nemours & Company v. Norfolk Southern Railway Company, Reply Evidence of Norfolk Southern Railway Company
- January 7, 2013 Docket No. 42130 SunBelt Chlor Alkali Partnership v. Norfolk Southern Railway Company, Reply Evidence of Norfolk Southern Railway Company
- April 12, 2013 Docket No. 42136, Intermountain Power Agency v. Union Pacific Railroad Company, Reply Evidence of Union Pacific Railroad Company
- June 20, 2013 Ex Parte 431 (Sub-No. 4) Review of the General Purpose Costing System, Comments of the Association of American Railroads, Joint Verified Statement of Michael R. Baranowski and Benton V. Fisher
- September 5, 2013 Ex Parte 431 (Sub-No. 4) Review of the General Purpose Costing System, Reply Comments of the Association of American Railroads, Joint Verified Statement of Michael R. Baranowski and Benton V. Fisher
- September 23, 2013 Docket No. 42113 Arizona Electric Power Cooperative, Inc. v. BNSF Railway Company and Union Pacific Railroad Company. BNSF's Position on Disputed Issues Relating to Reinstating the Rate Prescription

- June 26, 2014 Ex Parte 665 (Sub-No. 1) Rail Transportation of Grain, Rate Regulation Review, Joint Verified Statement of Benton V. Fisher and Kaustuv Chakrabarti Supporting BNSF Opening Filing
- July 21, 2014 Docket No. 42121 Total Petrochemicals & Refining USA, Inc. v. CSX Transportation, Inc., Reply Evidence of CSX Transportation, Inc.
- August 25, 2014 Ex Parte 665 (Sub-No. 1) Rail Transportation of Grain, Rate Regulation Review, Joint Verified Statement of Benton V. Fisher and Kaustuv Chakrabarti Supporting BNSF Reply Filing
- September 19, 2014 Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, BNSF Railway Company's Reply Comments on Remand, Joint Verified Statement of Benton V. Fisher and Robert Fisher
- September 4, 2015 Docket No. FD 35743 Application of the National Railroad Passenger Corporation Under 49 U.S.C. § 24308(a) - Canadian National Railway Company, Opening Evidence of Illinois Central Railroad Company and Grand Trunk Western Railroad, Joint Verified Statement of Michael Baranowski and Benton Fisher
- October 7, 2015 Docket No. 42121 Total Petrochemicals & Refining USA, Inc. v. CSX Transportation, Inc., Supplemental and Compliance Evidence of CSX Transportation, Inc.
- November 20, 2015 Docket No. NOR 42121 Total Petrochemicals & Refining USA, Inc. v. CSX Transportation, Inc., CSX Transportation, Inc.'s Reply to Supplemental and Compliance Evidence
- March 7, 2016 Docket No. NOR 42142 Consumers Energy Company v. CSX Transportation, Inc., Reply Evidence of CSX Transportation, Inc.
- July 26, 2016 Ex Parte No. 704 (Sub-No. 1) Review of Commodity, Boxcar, and TOFC/COFC Exemptions, Comments of the Association of American Railroads, Verified Statement of Michael R. Baranowski and Benton V. Fisher
- August 26, 2016 Ex Parte No. 704 (Sub-No. 1) Review of Commodity, Boxcar, and TOFC/COFC Exemptions, Reply Comments of the Association of American Railroads, Verified Statement of Michael R. Baranowski and Benton V. Fisher
- August 29, 2016 Ex Parte No. 733 Expediting Rate Cases, Reply Comments of the Association of American Railroads, Verified Statement of Benton V. Fisher
- August 29, 2016 Ex Parte No. 733 Expediting Rate Cases, Reply Comments of CSX Transportation, Inc., Joint Verified Statement of Benton V. Fisher and Michael W. Matelis
- October 11, 2016 Ex Parte No. 431 (Sub-No. 4) Review of the General Purpose Costing System, Comment of the Association of American Railroads, Verified Statement of Michael R. Baranowski and Benton V. Fisher

November 7, 2016 Ex Parte No. 431 (Sub-No. 4) Review of the General Purpose Costing System, Reply Comments of the Association of American Railroads, Verified Statement of Michael R. Baranowski and Benton V. Fisher

March 6, 2017 Docket No. NOR 42142 Consumers Energy Company v. CSX Transportation, Inc., Supplemental Reply Evidence of CSX Transportation, Inc.

January 29, 2021 Ex Parte No. 704 (Sub-No. 1) Review of Commodity, Boxcar, and TOFC/COFC Exemptions, Comments of the Association of American Railroads, Verified Statement of Michael R. Baranowski and Benton V. Fisher

U.S. District Court for the Eastern District of North Carolina

March 17, 2006 Civil Action No. 4:05-CV-55-D, PCS Phosphate Company v. Norfolk Southern Corporation and Norfolk Southern Railway Company, Report by Benton V. Fisher

U.S. District Court for the Eastern District of California

January 18, 2010 E.D. Cal. Case No. 08-CV-1086-AWI, BNSF Railway Company v. San Joaquin Valley Railroad Co., et al.

U.S. District Court for the Western District of Washington

March 15, 2021 Case No. 2:15-CV-00543-RSL, Swinomish Indian Tribal Community v. BNSF Railway Company, Rebuttal Expert Report of Benton V. Fisher.

Arbitrations and Mediations

July 10, 2009 JAMS Ref. # 1220039135; In the Matter of the Arbitration Between Pacer International, Inc., d/b/a/ Pacer Stacktrain (f/k/a APL Land Transport Services, Inc.), American President Lines, Ltd. And APL Co. Pte. Ltd. And Union Pacific Railroad Company; Rebuttal Expert Report of Benton V. Fisher

November 15, 2017 AAA No. 01-17-0001-2768, CSX Transportation, Inc. v. First Coast Railroad, Inc. etc., Expert Report of Benton V. Fisher

December 11, 2017 AAA No. 01-17-0001-2768, CSX Transportation, Inc. v. First Coast Railroad, Inc. etc., Rebuttal Expert Report of Benton V. Fisher

March 20, 2018 AAA No. 01-17-0001-2768, CSX Transportation, Inc. v. First Coast Railroad, Inc. etc., Amended Expert Report of Benton V. Fisher

July 31, 2020 British Columbia International Commercial Arbitration Centre DCA-2102, Arbitration between BNSF Railway Company and Canadian National Railway Company, Expert Report of Benton Fisher

Exhibit 2

List of Workpaper Files for Fisher V.S.

BNSF Shipment Data

BNSF Shipment Data Fields (HC).xlsx
BNSF Subforecast Groups (HC).xlsx
BNSF_2019_LAREDO (HC).xlsx

Diversions and Growth Traffic

Growth Traffic and Trains (HC).xlsx
Growth Traffic and Trains (PUBLIC).xlsx
Growth Traffic Route RR Source (HC).xlsx
Traffic Lane Examples (HC).xlsx

Infrastructure

Additional Running Tracks (HC).xlsx
Additional Running Tracks (PUBLIC).xlsx

Operations

2019 CP Ottumwa Train Lengths (HC).xlsx
2019 KCS Houston Train Lengths (HC).xlsx
BNSF 2019 Houston Routings Laredo (HC).xlsx
KCS 2019 Joint Facility Expenses (PUBLIC).xlsx

STB Carload Waybill Sample

CWS_2019_UP_MX_Summary (HC).txt
CWS_2019_UP_MX_Summary (HC).xlsx
Houston_CWS_2019_Query (HC).txt
Houston_CWS_2019_Summary (HC).xlsx

CERTIFICATE OF SERVICE

I hereby certify that I have caused the foregoing *Comments of BNSF Railway Company* to be served electronically or by first-class mail, postage pre-paid, on the Secretary of Transportation, the Attorney General of the United States, Applicants' representatives, Administrative Law Judge Thomas McCarthy, and all parties of record in this proceeding.

/s/ Onika K. Williams

Onika K. Williams

Attorney for BNSF Railway Company

February 28, 2022