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November 3, 2022

William Brennan,
Chief Economist and Director
Office of Economics
Surface Transportation Board
395 E Street SW
Washington, DC 20423

Re: Waybill Sample Data Request for USDA-Sponsored Project

Dear Dr. Brennan:

Please consider this request for access to the unmasked Carload Waybill Sample (CWS) from 2017 to 2020, and 2021 when available. This request is made to complete the objectives of a cooperative research agreement (# 22-TMTSD-CA-0009) with the U.S. Department of Agriculture (USDA) on price benchmarking. In partnership with USDA, Frank Wolak, Professor of Economics of Stanford University, and I (Emeritus Professor of Economics of the University of Oregon) are the principal investigators. Specifically, we request CWS data for corn, soybeans, and wheat (five-digit STCCs 01132, 01144, and 01137). In addition to the principal investigators, we request access for a Stanford graduate student, Rodrigo Naumann, and three USDA economists: Jesse Gastelle, Peter Caffarelli, and Adam Sparger. We request access through December 31, 2024 to complete the project and associated academic paper.

The central purpose of the project is to develop and estimate price benchmarks for agricultural products. Data on coal and chemicals are needed to fit the analysis into a larger context. The analysis will estimate benchmarks for the years and commodities requested, examine the sensitivity of the benchmark approach to different samples, benchmark thresholds and out-of-sample applications, and compare the price benchmark approach to the three-benchmark simplified approach to rate relief currently in place at the Surface Transportation Board (STB).

USDA's cooperative agreement continues our line of research that examines benchmarking as an approach to identify potentially unreasonable rates charged by railroads. Railroads produce an exceptionally large number of outputs, delineated by commodity, origin-destination pairs and shipment type (single car, multiple car, and unit train shipments), use different pricing regimes (tariff, contract and exempt), and face competition by different railroads and modes of transportation. These factors along with differences across origin-destination pairs make analysis of shipment level cost very difficult, if not impossible, without extreme assumptions. Under work for the National Academies, we developed and refined benchmark models which used the CWS. This work offered a straightforward way to determine whether a rate charged by the railroad for a specific movement is potentially unreasonable.

The unmasked CWS contains shipment-level price and attribute data, which is required for the benchmarking analysis, and to our knowledge, comparable price data does not exist elsewhere. Hence, the waybill data are necessary to estimate the benchmarks and compare with the three-benchmark simplified approach.

The fields required include those necessary to calculate a shipment's rate (with and without surcharges), total distance and short line distance, cars and tons, interchanges, car ownership, and expansion factors, along with railroad name, date, commodity and location identifiers, and whether the shipment involved is a contract or tariff rate and whether it was a rebilled shipment. The specific fields are provided in the Excel attachment and identified with an x in column A. However, to avoid any special programming on STB's part, it is worth noting the principal investigators and their USDA colleagues have extensive experience working with the complete waybill file and prefer the complete waybill file.

We fully understand and will comply with the confidentiality standards and submit any research output using these data to the Director of the Office of Economics for confidentiality compliance review.

If you have any questions, comments, or concerns, please contact us. Our contact information is given below.

Sincerely,



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	Field	Data Description	Number of Positions	Form	Columns
	1	Unique Serial Number	6	N	1–6
	2	Waybill Number	6	N	7–12
x	3	Waybill Date (mmddccyy)	8	N	13–20
	4	Accounting Period (mmccyy)	6	N	21–26
x	5	Number of Carloads	4	N	27–30
x	6	Car Initial	4	A	31–34
x	7	Car Number	6	N	35–40
x	8	Intermodal TOFC/COFC Service Code	3	A/N	41–43
x	9	Number of TOFC/COFCs	4	N	44–47
	10	TOFC/COFC Initial	4	A	48–51
	11	TOFC/COFC Number	6	N	52–57
x	12	Commodity Code (STCC)	7	N	58–64
x	13	Billed Weight	9	N	65–73
x	14	Actual Weight	9	N	74–82
x	15	Freight Revenue	9	N	83–91
x	16	Transit Charges	9	N	92–100
x	17	Miscellaneous Charges	9	N	101–109
	18	Inter/Intra State Code	1	N	110
x	19	Transit Code	1	N	111
x	20	All Rail/Intermodal Code	1	N	112
x	21	Type Move (import/export)	1	N	113
x	22	Type Move Via Water	1	N	114
	23	Substituted Truck for Rail	1	N	115
x	24	Shortline Miles	4	N	116–119
x	25	Rebill Code	1	N	120
	26	Stratum Identification	1	N	121
	27	Subsample Code	1	N	122
x	28	Intermodal Equipment Flag	1	N	123
x	29	Calculated Rate Flag	1	N	124
	30	Waybill Identifier (MRI only)	25	A/N	125–149
x	31	Reporting Railroad	3	N	150–152
x	32	Origin FSAC	5	N	153–157
x	33	Origin Railroad	3	N	158–160
x	34	Interchange #1 Rule 260	5	A	161–165
x	35	First Bridge RR	3	N	166–168
x	36	Interchange #2 Rule 260	5	A	169–173
x	37	Second Bridge RR	3	N	174–176
x	38	Interchange #3 Rule 260	5	A	177–181
x	39	Third Bridge RR	3	N	182–184
x	40	Interchange #4 Rule 260	5	A	185–189
x	41	Fourth Bridge RR	3	N	190–192
x	42	Interchange #5 Rule 260	5	A	193–197
x	43	Fifth Bridge RR	3	N	198–200

x	44	Interchange #6 Rule 260	5	A	201–205
x	45	Sixth Bridge RR	3	N	206–208
x	46	Interchange #7 Rule 260	5	A	209–213
x	51	Termination Railroad	3	N	214–216
x	52	Termination FSAC	5	N	217–221
	53	Population Count	8	N	222–229
	54	Stratum Count	6	N	230–235
	55	Reporting Period Length	1	N	236
x	56	Car Owner's Mark	4	A	237–240
x	57	Car Lessee's Mark	4	A	241–244
x	58	Car Capacity	5	N	245–249
	59	Nominal Car Capacity - Expired	3	N	250–252
	60	Tare Weight of Car	4	N	253–256
	61	Outside Length	5	N	257–261
	62	Outside Width	4	N	262–265
	63	Outside Height	4	N	266–269
	64	Extreme Outside Height	4	N	270–273
	65	Type of Wheel Bearings and Brakes	1	A	274
	66	Number of Axles	1	A/N	275
	67	Draft Gear	2	N	276–277
	68	Number of Articulated Units	1	N	278
	69	Pool Code Number	7	N	279–285
	70	AAR Equipment Type Code	4	A/N	286–289
	71	Mechanical Designation Code	4	A	290–293
	72	Licensing State (TOFC)	2	A	294–295
	73	Maximum Weight on Rail	3	N	296–298
x	74	Origin SPLC	6	N	299–304
x	75	Destination SPLC	6	N	305–310
x	76	STCC w/o Hazardous (49) Codes	7	N	311–317
x	77	Origin Railroad Alpha	4	A	318–321
x	78	First Interchange RR Alpha	4	A	322–325
x	79	Second Interchange RR Alpha	4	A	326–329
x	80	Third Interchange RR Alpha	4	A	330–333
x	81	Fourth Interchange RR Alpha	4	A	334–337
x	82	Fifth Interchange RR Alpha	4	A	338–341
x	83	Sixth Interchange RR Alpha	4	A	342–345
x	86	Termination Railroad Alpha	4	A	346–349
x	87	Junction Frequency	1	N	350
x	88	Theoretical Expansion Factor	3	N	351–353
x	89	Routing Error Flag	1	A	354
x	90	STB Car Type	2	N	355–356
x	92	AAR/RAILINC Error Codes	6	N	357–362
x	93	Car Ownership Category	1	A	363
	94	AAR Trailer/Container Equipment Type Code	4	A/N	364–367

x	95	Deregulation Date (ccyymmdd)	8	N	368–375
x	96	Deregulation Flag	1	A	376
x	97	Service Type	1	N	377
x	98	Expanded Carloads	6	N	378–383
x	99	Billed Weight in Tons	7	N	384–390
x	100	Expanded Tons	8	N	391–398
x	101	Expanded Trailer/Container Count	6	N	399–404
x	102	Expanded Total Revenue	10	N	405–414
x	103	Origin Railroad Split Revenue	10	N	415–424
x	104	First Interchange RR Split Revenue	10	N	425–434
x	105	Second Interchange RR Split Revenue	10	N	435–444
x	106	Third Interchange RR Split Revenue	10	N	445–454
x	107	Fourth Interchange RR Split Revenue	10	N	455–464
x	108	Fifth Interchange RR Split Revenue	10	N	465–474
x	109	Sixth Interchange RR Split Revenue	10	N	475–484
x	112	Termination Railroad Split Revenue	10	N	485–494
x	113	First Railroad Distance	5	N	495–499
x	114	Second Railroad Distance	5	N	500–504
x	115	Third Railroad Distance	5	N	505–509
x	116	Fourth Railroad Distance	5	N	510–514
x	117	Fifth Railroad Distance	5	N	515–519
x	118	Sixth Railroad Distance	5	N	520–524
x	119	Seventh Railroad Distance	5	N	525–529
x	122	Termination Railroad Distance	5	N	530–534
x	123	Total Distance	5	N	535–539
x	124	Fuel Surcharge	2	A	540–541
	125	First Junction State Alpha	2	A	542–543
	126	Second Junction State Alpha	2	A	544–545
	127	Third Junction State Alpha	2	A	546–547
	128	Fourth Junction State Alpha	2	A	548–549
	129	Fifth Junction State Alpha	2	A	550–551
	130	Sixth Junction State Alpha	2	A	552–553
	131	Seventh Junction State Alpha	2	A	554–555
x	134	Termination State Alpha	2	A	556–557
x	135	Origin BEA Area	3	N	558–560
x	136	Termination BEA Area	3	N	561–563
x	137	Origin FIPS Code	5	N	564–568
x	138	Termination FIPS Code	5	N	569–573
	139	Origin Freight Area	2	N	574–575
	140	Termination Freight Area	2	N	576–577
	141	Origin Freight Territory	1	N	578
	142	Termination Freight Territory	1	N	579
	143	Origin SMSA	4	N	580–583
	144	Termination SMSA	4	N	584–587

145	Origin NET3 Number	5	N	588–592
146	First Junction NET3 Number	5	N	593–597
147	Second Junction NET3 Number	5	N	598–602
148	Third Junction NET3 Number	5	N	603–607
149	Fourth Junction NET3 Number	5	N	608–612
150	Fifth Junction NET3 Number	5	N	613–617
151	Sixth Junction NET3 Number	5	N	618–622
152	Seventh Junction NET3 Number	5	N	623–627
155	Termination NET3 Number	5	N	628–632
156	State Through Indicators (1 = State Used in Waybill Routing)	52	N	633–684
	Alabama	1	N	633
	Arizona	1	N	634
	Arkansas	1	N	635
	California	1	N	636
	Colorado	1	N	637
	Connecticut	1	N	638
	Delaware	1	N	639
	District of Columbia	1	N	640
	Florida	1	N	641
	Georgia	1	N	642
	Idaho	1	N	643
	Illinois	1	N	644
	Indiana	1	N	645
	Iowa	1	N	646
	Kansas	1	N	647
	Kentucky	1	N	648
	Louisiana	1	N	649
	Maine	1	N	650
	Maryland	1	N	651
	Massachusetts	1	N	652
	Michigan	1	N	653
	Minnesota	1	N	654
	Mississippi	1	N	655
	Missouri	1	N	656
	Montana	1	N	657
	Nebraska	1	N	658
	Nevada	1	N	659
	New Hampshire	1	N	660
	New Jersey	1	N	661
	New Mexico	1	N	662
	New York	1	N	663
	North Carolina	1	N	664
	North Dakota	1	N	665

	Ohio	1	N	666
	Oklahoma	1	N	667
	Oregon	1	N	668
	Pennsylvania	1	N	669
	Rhode Island	1	N	670
	South Carolina	1	N	671
	South Dakota	1	N	672
	Tennessee	1	N	673
	Texas	1	N	674
	Utah	1	N	675
	Vermont	1	N	676
	Virginia	1	N	677
	Washington	1	N	678
	West Virginia	1	N	679
	Wisconsin	1	N	680
	Wyoming	1	N	681
	Canada	1	N	682
	Mexico	1	N	683
	All Other	1	N	684
157	International Harmonized Code	12	A	685–696
158	Standard Industrial Classification	4	A	697–700
159	International S. I. C.	4	A	701–704
160	Dominion of Canada Code	3	A	705–707
161	CS54 Group Code	2	A	708–709
162	Origin Freight Station Type	4	A	710–713
163	Destination Freight Station Type	4	A	714–717
164	Origin Freight Station Rating ZIP	9	N	718–726
165	Dest. Freight Station Rating ZIP	9	N	727–735
166	Origin Rate Base SPLC	9	A	736–744
167	Destination Rate Base SPLC	9	A	745–753
168	Origin Switch Limit SPLC	9	A	754–762
169	Destination Switch Limit SPLC	9	A	763–771
170	Origin Customs Flag	1	A	772
171	Destination Customs Flag	1	A	773
x 172	Origin Grain Flag	1	A	774
x 173	Destination Grain Flag	1	A	775
174	Origin Automobile Ramp Facility Code	1	A	776
175	Dest. Automobile Ramp Facility Code	1	A	777
x 176	Origin Intermodal Flag	1	A	778
x 177	Destination Intermodal Flag	1	A	779
193	Transborder Flag	1	N	780
x 194	Origin Railroad Country Code	2	A	781–782
195	First Interchange Railroad Country Code	2	A	783–784
196	Second Interchange Railroad Country Code	2	A	785–786

	197	Third Interchange Railroad Country Code	2	A	787-788
	198	Fourth Interchange Railroad Country Code	2	A	789-790
	199	Fifth Interchange Railroad Country Code	2	A	791-792
	200	Sixth Interchange Railroad Country Code	2	A	793-794
x	201	Termination Railroad Country Code	2	A	795-796
x	202	Fuel Surcharge	9	N	797-805
	179	Blank (Space reserved for future changes)	13	A/N	806-818
	180	Origin Census Region	4	A	819-822
	181	Termination Census Region	4	A	823-826
x	182	Exact Expansion Factor	7	N	827-833
x	183	Total Variable Cost	8	N	834-841
	185	Railroad 1 Variable Cost	8	N	842-849
	186	Railroad 2 Variable Cost	8	N	850-857
	187	Railroad 3 Variable Cost	8	N	858-865
	188	Railroad 4 Variable Cost	7	N	866-872
	189	Railroad 5 Variable Cost	7	N	873-879
	190	Railroad 6 Variable Cost	7	N	880-886
	191	Railroad 7 Variable Cost	7	N	887-893
	192	Railroad 8 Variable Cost	7	N	894-900
	203	Unique Tracking Number	13	N	901-913