



6/20/2013

22393203 - Toronto Union-Pearson Express

Ridership: Exclusion per Committee Direction Forecasts

Owner	Steer Davies Gleave
Project	22393203 - Toronto Union-Pearson Express
Version	3
File	Info

Workbook Properties

Owner

Steer Davies Gleave

Project No

22393203

Project Name

Toronto Union-Pearson Express

Subject

Description

Ridership

Decision per Committee Direction

Forecasts

Version

3.0

Version Control

	Precursor	Version	Description	Source Data	Developed by		Issued by	
1		1.0	Draft forecasts	Capture Model v2.4	SEB	28-May-13	SEB	28-May-13
2		2.0	Draft final output incorporating peak hour forecasts and corrections	Capture Model v2.6	SEB	5-Jun-13	JXR	5-Jun-13
3		3.0	Final output incorporating additional data and charts	Capture Model v2.6 and supporting spreadsheets	SEB	19-Jun-13	JXR	20-Jun-13
4								
5								
6								
7								
8								
9								
10								

END

Forecasts >

Header	Long Plaque Station
Project	2300201 - Terminal/Boarding Station
Report	Assumptions
Sheet	4

UPE Service Assumptions

Dates

UPE Opening Date 4/5/2015

	Year 1	Year 2	Year 3	Year 4
Year	2015	2016	2017	2018
Range Up	55%	80%	90%	100%

Exclusion per Committee Direction

Assumed Passengers per Vehicle

Bus	1.06
Car (Terminal)	1.11
Car (Reduced)	1.16
Stop off	1.23
Rental Car	1.14

END

Owner	Steer Davies Gleave
Project	22393293 Toronto Union Pearson Express
Version	5
Sheet	Air Traffic

Annual Billy Bishop Forecast

Year	Passengers
2005	0
2006	19,117
2007	262,254
2008	508,574
2009	770,680
2010	1,130,625
2011	1,500,000
2012	1,900,000
2013	2,260,562
2014	2,545,823
2015	2,761,115
2016	2,953,263
2017	3,151,869
2018	3,296,653
2019	3,410,219
2020	3,454,219
2021	3,498,489
2022	3,498,489
2023	3,498,489
2024	3,498,489
2025	3,498,489
2026	3,498,489
2027	3,498,489
2028	3,498,489
2029	3,498,489
2030	3,498,489
2031	3,498,489

Annual LBPIA Forecast Air Traffic by Flight Sector

Year	Domestic	Transborder	International	Total
2000	12.3	9.8	6.8	28.9
2005	12.9	8.8	8.2	29.9
2010	12.7	8.6	10.6	31.9
2015	13.8	9.9	12.8	36.5
2020	14.7	11.0	14.9	40.6
2025	16.0	12.3	16.9	45.1
2030	17.0	13.3	18.6	48.9
2035	17.6	14.1	20.0	51.7

Proportions entering or leaving LBPIA by Hour

Direction	Hour of Day																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Arriving in Toronto	2.4%	1.4%	0.9%	0.3%	0.2%	1.5%	3.3%	3.4%	3.0%	2.0%	3.4%	3.6%	4.6%	5.0%	6.5%	8.7%	7.9%	6.7%	7.6%	8.8%	6.2%	5.7%	3.5%	3.6%
Departing Toronto	0.9%	0.9%	0.1%	0.0%	0.0%	0.0%	5.6%	4.3%	7.6%	6.7%	6.0%	3.7%	3.9%	3.7%	4.7%	5.8%	6.5%	8.9%	5.4%	6.7%	6.0%	4.6%	3.1%	
Total	1.7%	1.1%	0.5%	0.2%	0.1%	0.8%	4.4%	3.8%	5.3%	4.4%	4.7%	3.6%	4.3%	4.4%	5.6%	6.7%	6.8%	6.6%	8.2%	7.1%	6.5%	5.8%	4.1%	3.4%

END

Owner	Steer Davies Gleave
Project	22393203 - Toronto Union-Pearson Express
Version	3
Sheet	In-Scope Demand

In-Scope Demand Waterfall Chart Data

Total LBPIA passengers	40.6	stop	blank	down	up	Taxi	Car (Terminal	Car (Reduced	Drop Off	Express Bus	Rental Car
Total LBPIA passengers		40.6	40.6	-	-						
Transferring passengers	-10.9	29.7		29.7	10.9						
Out of hours passengers	-1.8	27.8		27.8	1.8						
Out of scope OD passengers	-14.7	13.2		13.2	14.7						
Non-competitive modes	-1.3	11.9		11.9	1.3						
Passengers in scope		11.9	11.9	-	-						
Passengers in scope by mode						4.9	0.4	0.5	4.8	0.5	0.9

Inputs
Key Stage Inputs

END

Exclusion per Committee Direction

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Exclusion per Committee Direction

Notes: Based on the 2010 Census
Report: 2010 Census of the United States
Source: Census 2010
Date: 2/20/2012

Payroll for 1000s are weighted by the population

Total UPE Demand - Total (1000s, excluding ramp up)

Zone	2010	2011	2012	2013	2014	2015
1	49	48	50	52	50	23
2	66	13	1	74	50	1
3	65	65	65	65	65	1
4	13	13	13	13	13	1
5	146	146	146	146	146	1
6	21	21	21	21	21	1
7	21	21	21	21	21	1
8	21	21	21	21	21	1
9	21	21	21	21	21	1
10	101	104	107	109	116	120
11	96	105	105	105	105	105
12	94	92	92	92	92	92
13	9	9	9	9	9	9
14	10	12	1	5	12	13
15	3	3	3	3	4	4
16	889	842	1,010	1,072	1,187	1,320
17	171	181	182	182	182	182
18	210	202	201	240	202	201
19	44	48	5	5	50	49
20	18	18	18	18	21	21
21	24	24	1	1	24	24
22	34	34	32	30	40	48
23	2	2	2	2	2	2
24	14	14	13	13	13	13
25	14	14	13	13	13	13
26	14	14	13	13	13	13
27	14	14	13	13	13	13
28	14	14	13	13	13	13
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30	14	14	13	13	13	13
31	14	14	13	13	13	13
32	14	14	13	13	13	13
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34	14	14	13	13	13	13
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36	14	14	13	13	13	13
37	14	14	13	13	13	13
38	14	14	13	13	13	13
39	14	14	13	13	13	13
40	14	14	13	13	13	13
41	14	14	13	13	13	13
42	14	14	13	13	13	13
43	14	14	13	13	13	13
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46	14	14	13	13	13	13
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224	14	14	13	13	13	13
225	14	14	13	13	13	13
226	14	14	13	13	13	13
227	14					

Station	Stell Drive (Green)
Project	2210505 - RAMP (Major Transit Station)
Day/line	A
Event	Peak hour (A, Upbound)

Peak Hour UPE Ridership -- All Years, excluding ramp up

Year	2016	2018	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
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Average Day

Boarding (To Airport)	Union	224	229	235	240	246	252	258	264	271	278	284	289	294	299	304	309	312
	Bloor	47	47	48	49	50	51	52	53	55	56	58	59	59	60	61	61	62
	Weston	21	21	21	22	22	22	22	23	23	24	24	24	24	25	25	25	25
	Woodbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak hour 16:00 Total	292	298	304	311	317	325	332	340	349	357	366	371	377	383	389	395	399

Alighting (From Airport)	Union	245	251	257	263	269	276	282	289	297	304	311	317	322	327	333	338	342
	Bloor	51	52	53	54	54	56	57	58	60	62	63	64	65	66	67	67	68
	Weston	23	23	23	24	24	24	25	25	26	26	26	27	27	27	27	27	27
	Woodbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak hour 16:00 Total	319	326	333	340	347	356	364	373	382	391	401	407	413	420	426	433	438

Average August Weekday

Boarding (To Airport)	Union	182	229	263	298	304	311	320	328	337	346	355	363	369	376	383	389	395
	Bloor	42	53	61	69	70	71	73	76	78	80	83	84	86	87	88	90	91
	Weston	16	22	26	29	29	30	30	31	31	32	32	32	33	33	33	33	34
	Woodbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak hour 16:00 Total	242	304	349	395	403	412	423	434	445	457	469	479	487	495	504	512	520

Alighting (From Airport)	Union	194	244	280	318	325	332	341	350	360	369	379	388	395	402	410	417	423
	Bloor	45	57	65	73	75	76	78	81	83	86	89	91	92	94	95	97	98
	Weston	19	24	27	30	31	32	32	33	33	34	34	35	35	36	36	36	36
	Woodbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak hour 16:00 Total	258	324	372	422	430	439	450	463	476	489	502	513	522	531	540	550	559

Highest Day (Friday in August)

Boarding (To Airport)	Union	199	237	273	310	316	324	333	341	350	360	369	378	385	391	396	405	412
	Bloor	44	55	63	71	72	74	75	78	80	83	86	87	89	90	91	92	94
	Weston	19	23	26	30	30	31	31	32	32	33	34	34	34	34	34	35	35
	Woodbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak hour 16:00 Total	251	315	362	410	418	429	440	451	463	475	487	499	507	515	524	532	541

Alighting (From Airport)	Union	199	237	272	309	316	323	332	340	350	359	369	377	384	391	396	406	413
	Bloor	44	55	63	71	72	74	75	78	80	83	86	87	89	90	91	92	94
	Weston	19	23	26	30	30	31	31	32	32	33	34	34	34	34	35	35	35
	Woodbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak hour 16:00 Total	251	315	362	410	418	427	439	450	463	475	488	499	508	516	525	534	544

Peak Hour UPE Ridership -- All Years, including ramp up

Year	2016	2018	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
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Average Day

Boarding (To Airport)	Union	146	184	211	240	246	252	258	264	271	278	284	289	294	299	304	309	312
	Bloor	30	38	43	49	50	51	52	53	55	56	58	59	60	61	61	61	62
	Weston	14	17	19	22	22	22	22	23	23	24	24	24	24	25	25	25	25
	Woodbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak hour 16:00 Total	190	239	274	311	317	325	332	340	349	357	366	371	377	383	389	395	399

Alighting (From Airport)	Union	159	201	231	263	269	276	282	289	297	304	311	317	322	327	333	338	342
	Bloor	33	42	47	54	54	56	57	58	60	62	63	64	65	66	67	67	68
	Weston	15	19	21	24	24	24	25	25	26	26	26	27	27	27	27	27	27
	Woodbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak hour 16:00 Total	207	261	300	340	347	356	364	373	382	391	401	407	413	420	426	433	438

Average August Weekday

Boarding (To Airport)	Union	118	183	236	298	304	311	320	328	337	346	355	363	369	376	383	389	395
	Bloor	26	42	55	69	70	71	73	76	78	80	83	84	86	87	88	90	91
	Weston	12	18	23	29	29	30	30	31	31	32	32	33	33	33	33	33	34
	Woodbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak hour 16:00 Total	157	243	314	395	403	412	423	434	445	457	469	479	487	495	504	512	520

Alighting (From Airport)	Union	126	195	252	318	325	332	341	350	360	369	379	388	395	402	410	417	423
	Bloor	29	44	57	71	73	75	76	79	81	84	88	90	91	92	94	95	97
	Weston	12	18	24	30	31	31	32	32	33	34	34	35	35	36	36	36	36
	Woodbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak hour 16:00 Total	166	259	335	422	430	439	450	463	476	489	502	513	522	531	540	550	559

Highest Day (Friday in August)

Boarding (To Airport)	Union	123	190	245	310	316	324	333	341	350	360	369	378	385	391	396	405	412
	Bloor	26	44	57	71	72	74	75	78	80	83	86	87	89	90	91	92	94
	Weston	12	19	24	30	30	31	31	32	32	33	34	34	34	34	34	35	35
	Woodbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak hour 16:00 Total	163	253	326	410	418	429	440	451	463	475	487	499	507	515	524	532	541

Alighting (From Airport)	Union	123	189	245	309	316	323	332	340	350	359	369	377	384	391	396	406	413
	Bloor	29	44	57	71	73	75	76	79	81	84	88	90	91	92	94	95	97
	Weston	12	18	24	30	30	31	31	32	32	33	34	34	34	34	35	35	36
	Woodbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak hour 16:00 Total	163	252	325	410	418	427	439	450	463	475	488	499	508	516	525	534	544

END

Exclusion per Committee Direction

Owner	Steele Davies Cleavage
Project	22393203 - Toronto Union-Pearson Express
Version	3
Sheet	Hourly Capture

UPE Demand by Direction, Sector, Period and Hour2020no ramp up effect required

Arr/Dep	Ramp Up?	Hour of Day																								Peak hour	Peak Demand
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
From Airport	NO RAMP UP	69	0	0	0	0	7	75	140	138	115	91	136	137	164	185	224	356	342	273	272	298	223	204	142	16	356
To Airport	NO RAMP UP	2	0	0	0	0	75	243	300	252	177	164	137	172	174	189	240	325	271	257	218	163	112	55	30	16	325

END

Owner	Stear Davies Gleave
Project	22-393203 - Toronto Union Pearson Express
Version	1
Sheet	Benchmarking

Airport Link Benchmarking - Volume vs Market Share

North America

Airport	Pax Volume (m)	Transit Market Share
Toronto Pearson (UPE)	41	8.3%
Toronto Pearson (UPE + bus)	41	15.3%
Atlanta	90	14.0%
Baltimore/Washington	20	12.0%
Boston	28	18.0%
Chicago Midway	17	9.0%
Chicago O'Hare	89	12.0%
Denver	51	14.0%
St Louis Lambert	14	6.0%
Cleveland Hopkins	11	6.0%
Philadelphia	32	7.0%
Dallas/Fort Worth	57	8.0%
Indianapolis	8	9.0%
Los Angeles	60	13.0%
Las Vegas	46	12.0%
New Orleans	8	15.0%
New York JFK	48	19.0%
New York LaGuardia	25	8.0%
Newark Liberty	36	14.0%
Oakland	12	15.0%
Orlando	35	11.0%
Phoenix	42	9.0%
Portland	15	10.0%
San Francisco	36	23.0%
San Diego	18	9.0%
Seattle	31	11.0%
Tampa	19	7.0%
Washington Reagan National	18	17.0%
Washington Dulles	24	8.0%

Outside North America

Airport	Pax Volume (m)	Rail Market Share
London Gatwick	34	20.0%
London Heathrow	67	24.0%
London Stansted	22	28.0%
Zurich	22	42.0%
Oslo Gardemoen	19	39.0%
Tokyo Narita	36	36.0%
Amsterdam Schiphol	47	35.0%
Copenhagen Kastrup	21	33.0%
Madrid Barajas	51	31.0%
Munich Franz Josef Strauss	34	31.0%
Vienna	20	30.0%
Hong Kong	48	28.0%
Paris Roissy CDG	61	28.0%
Frankfurt	53	27.0%
Valencia	6	25.1%
Stockholm Arlanda	18	18.0%
Dusseldorf	18	18.0%
Brussels	15	16.0%
Manchester	21	14.0%
Paris Orly	26	14.0%
Kuala Lumpur	28	12.0%
New York JFK	48	8.0%
Sydney Kingsford Smith	32	10.0%
Shanghai Pudong	28	6.0%

END

Exclusion per Committee Direction

Owner	Steer Davies Gleave
Project	22383203 - Toronto Union-Pearson Express
Version	3
Sheet	Sensitivity Annual

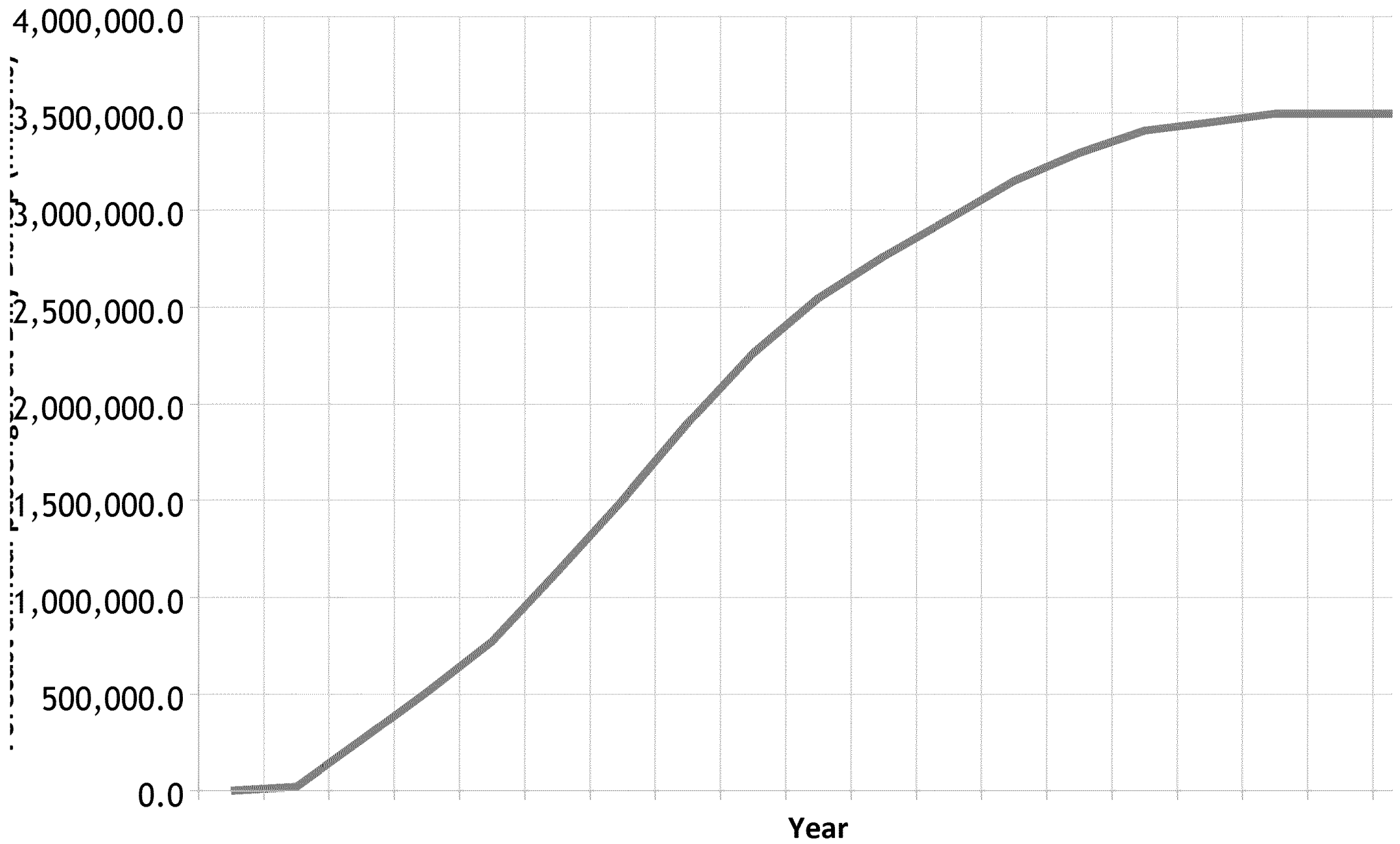
ARL Ridership Exclusion per Committee Direction (incorporating part year 2015)

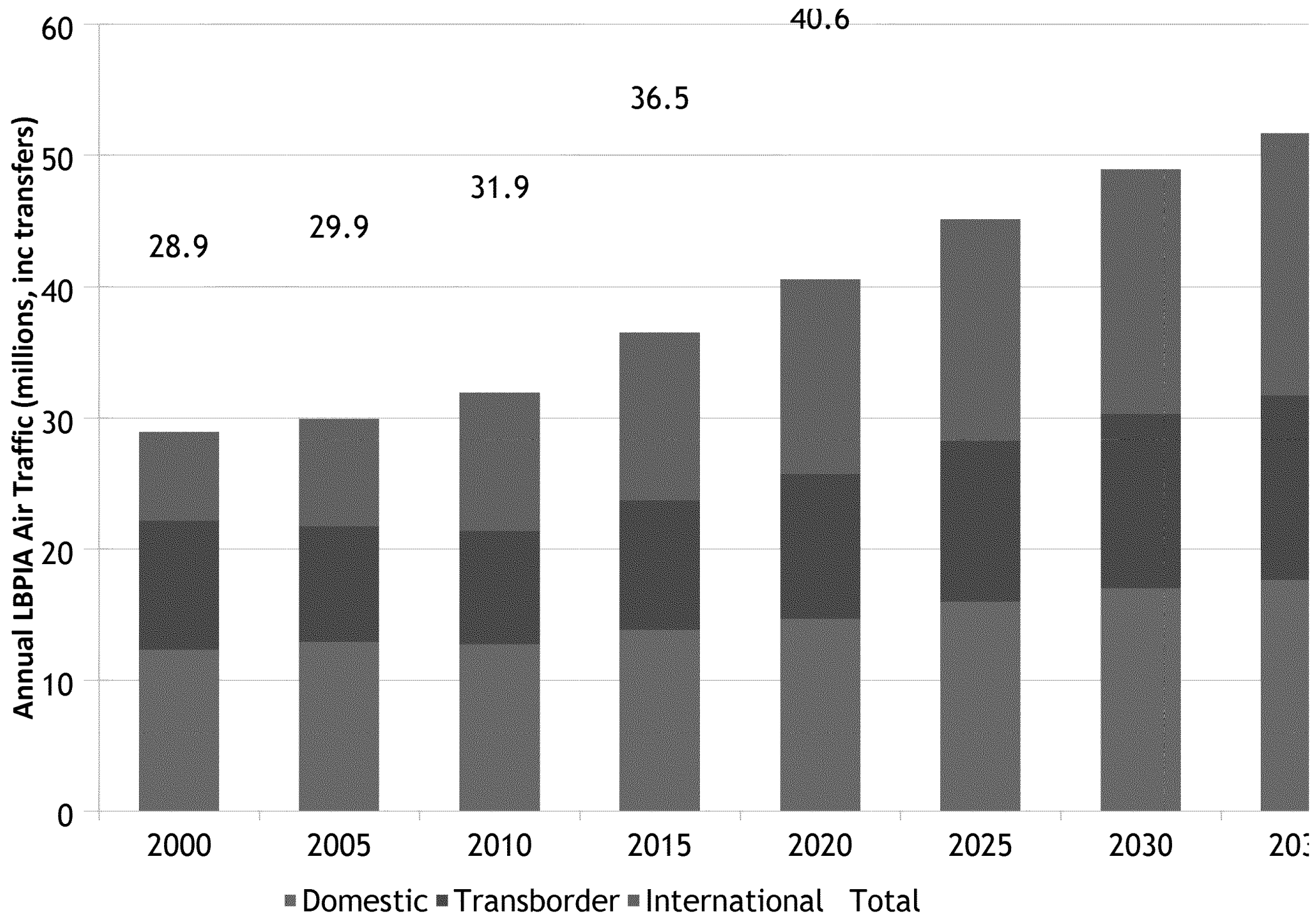
Year		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Exclusion per Committee Direction																		
Forecast ARL ridership (one-way)	millions	1.26	2.12	2.42	2.74	2.79	2.84	2.90	2.95	3.01	3.07	3.13	3.18	3.22	3.26	3.31	3.35	3.38
Exclusion per Committee Direction																		
Forecast ARL ridership (one-way)	millions	1.37	2.31	2.64	2.98	3.03	3.09	3.15	3.21	3.27	3.34	3.40	3.45	3.49	3.54	3.59	3.63	3.66
Exclusion per Committee Direction																		

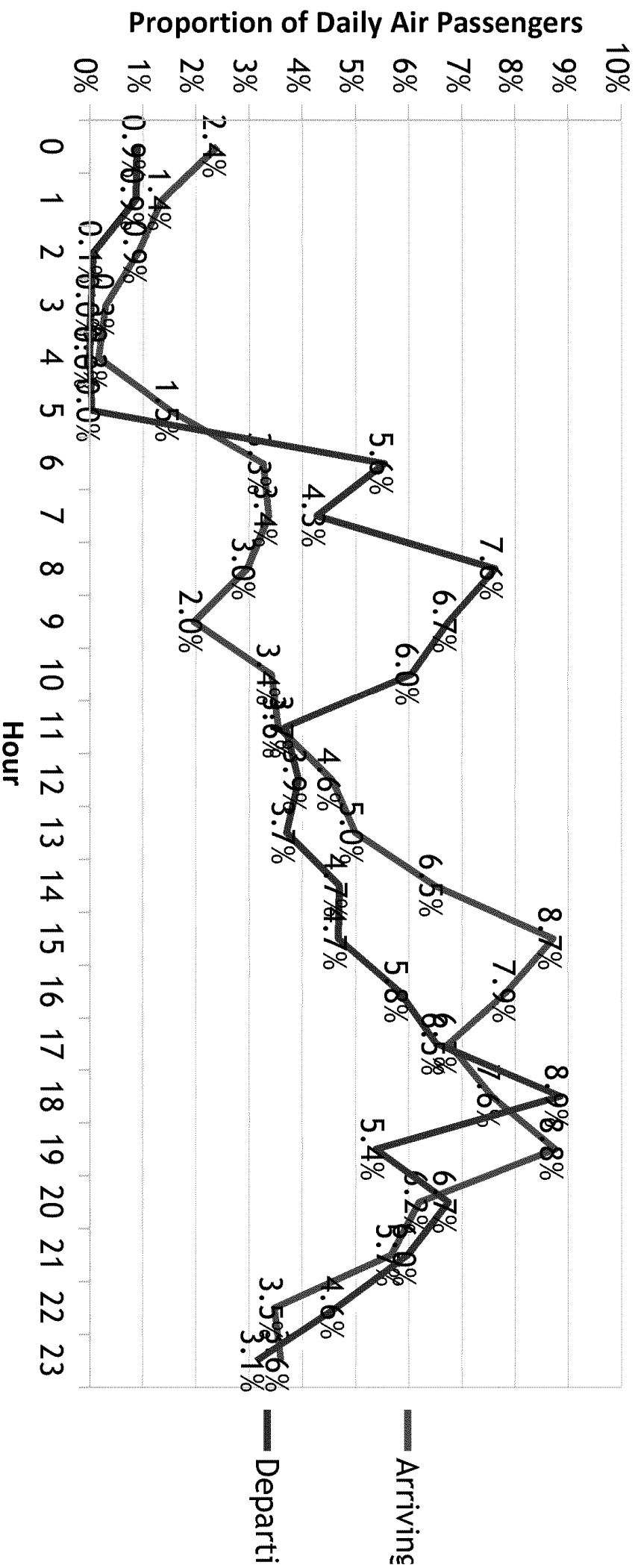
END

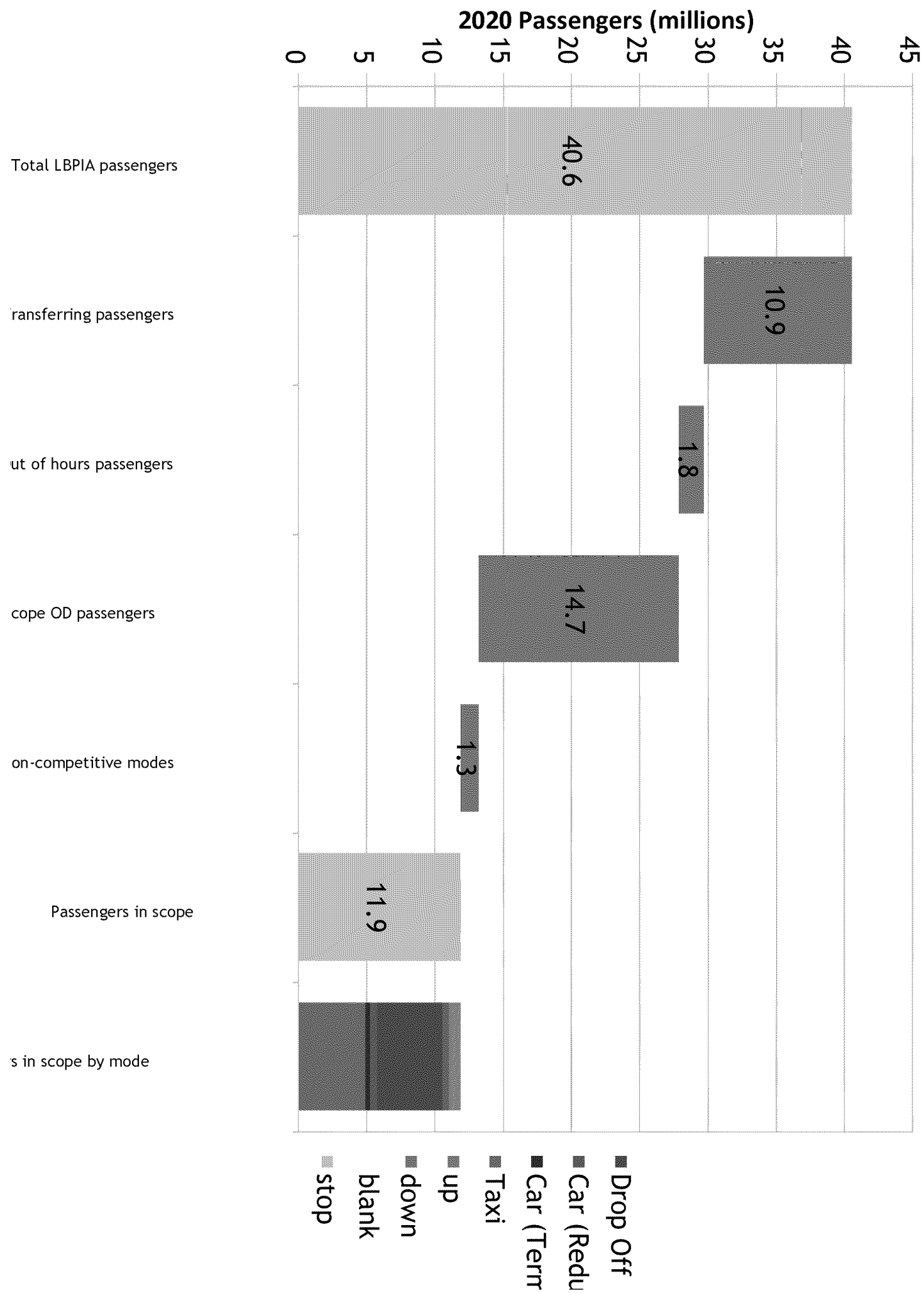
Exclusion per Committee Direction

Charts >



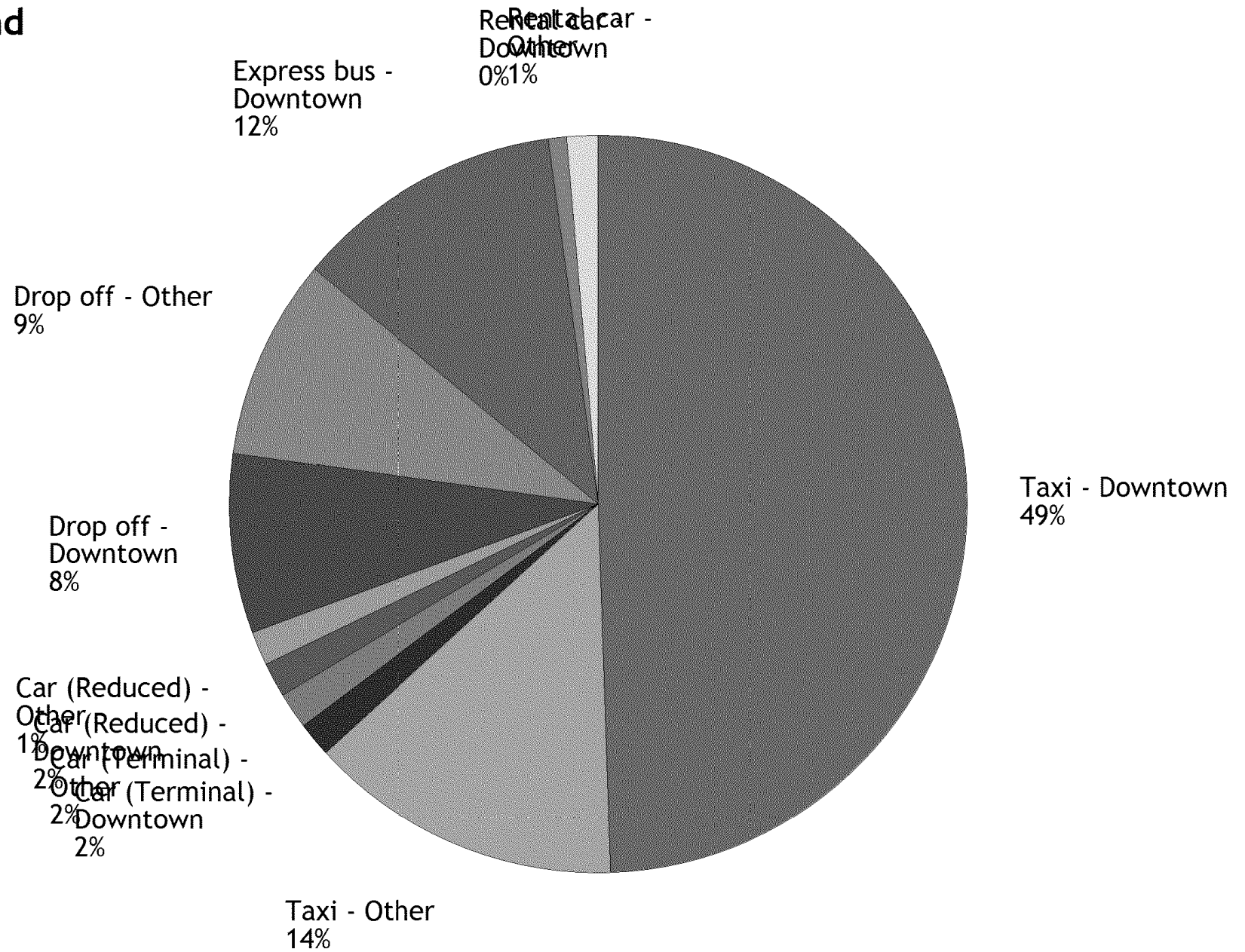


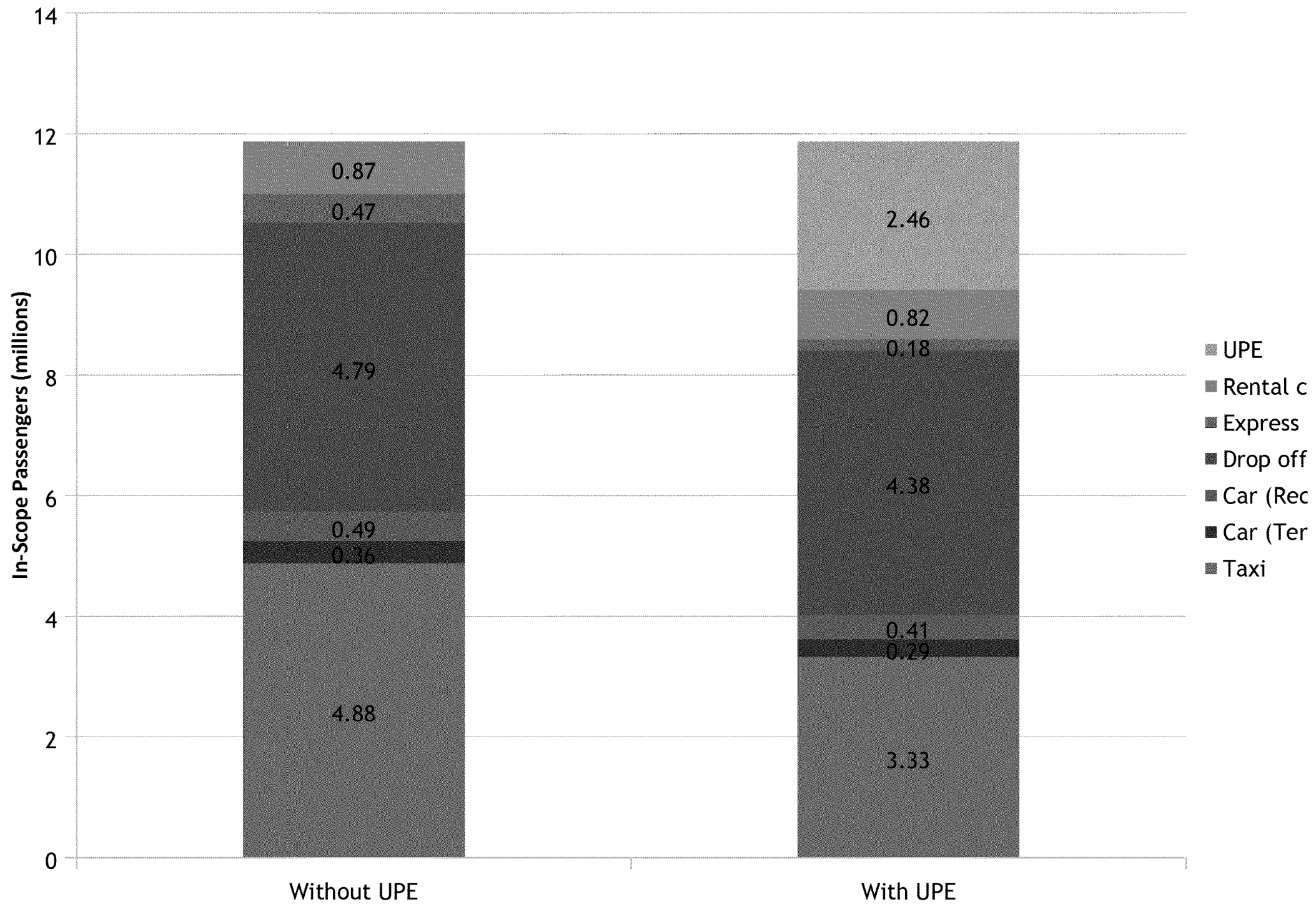


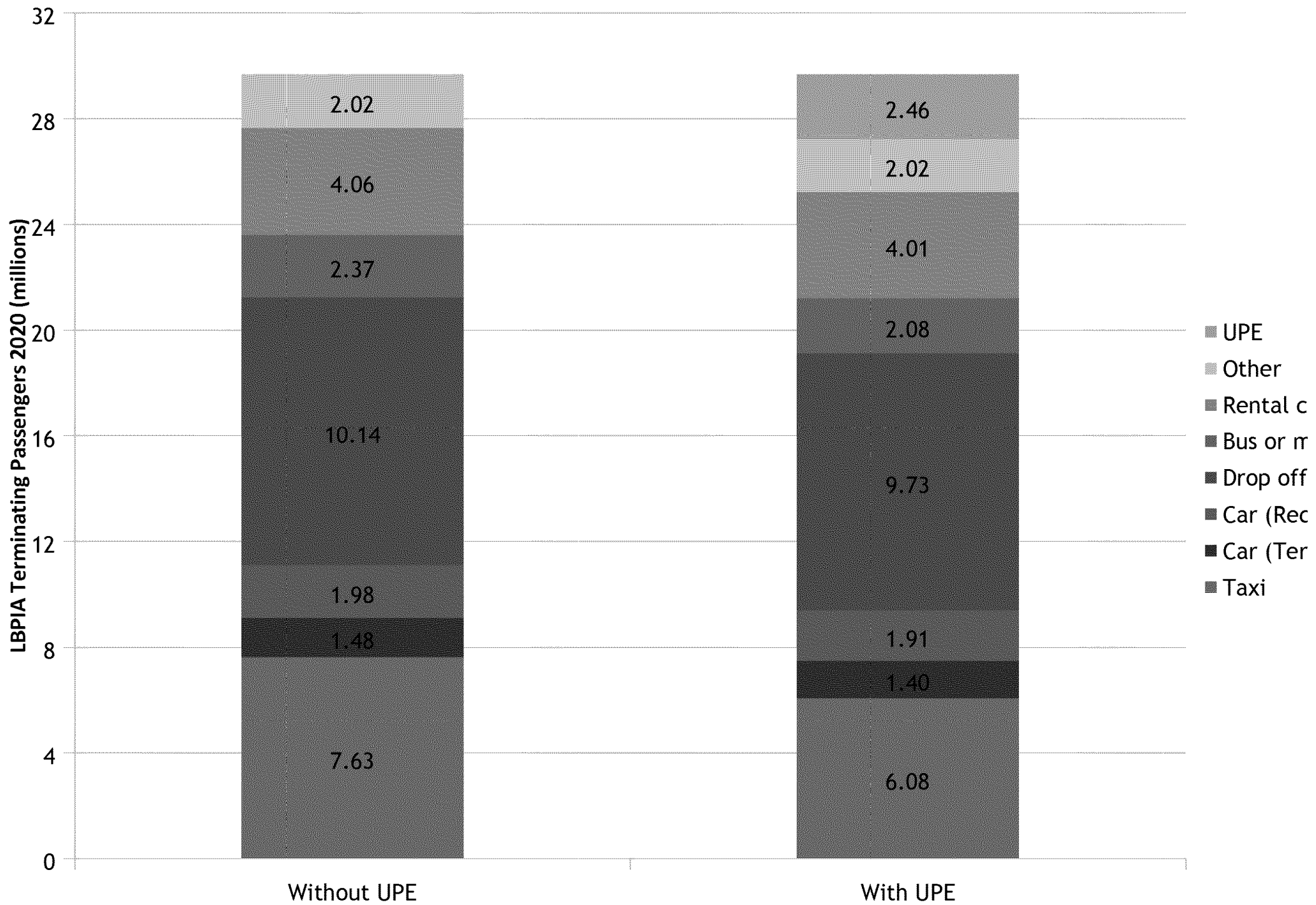


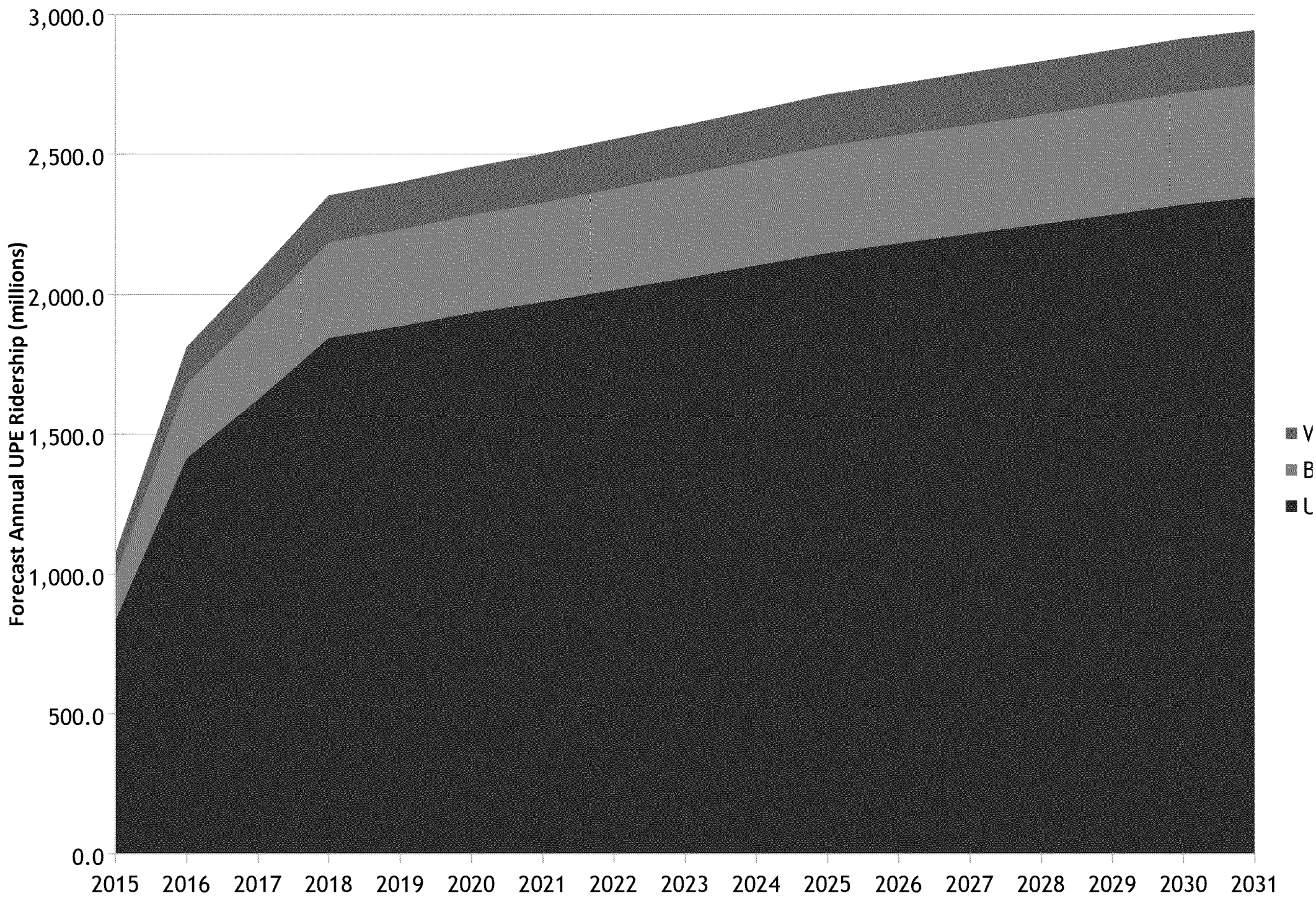
Exclusion per Committee Direction

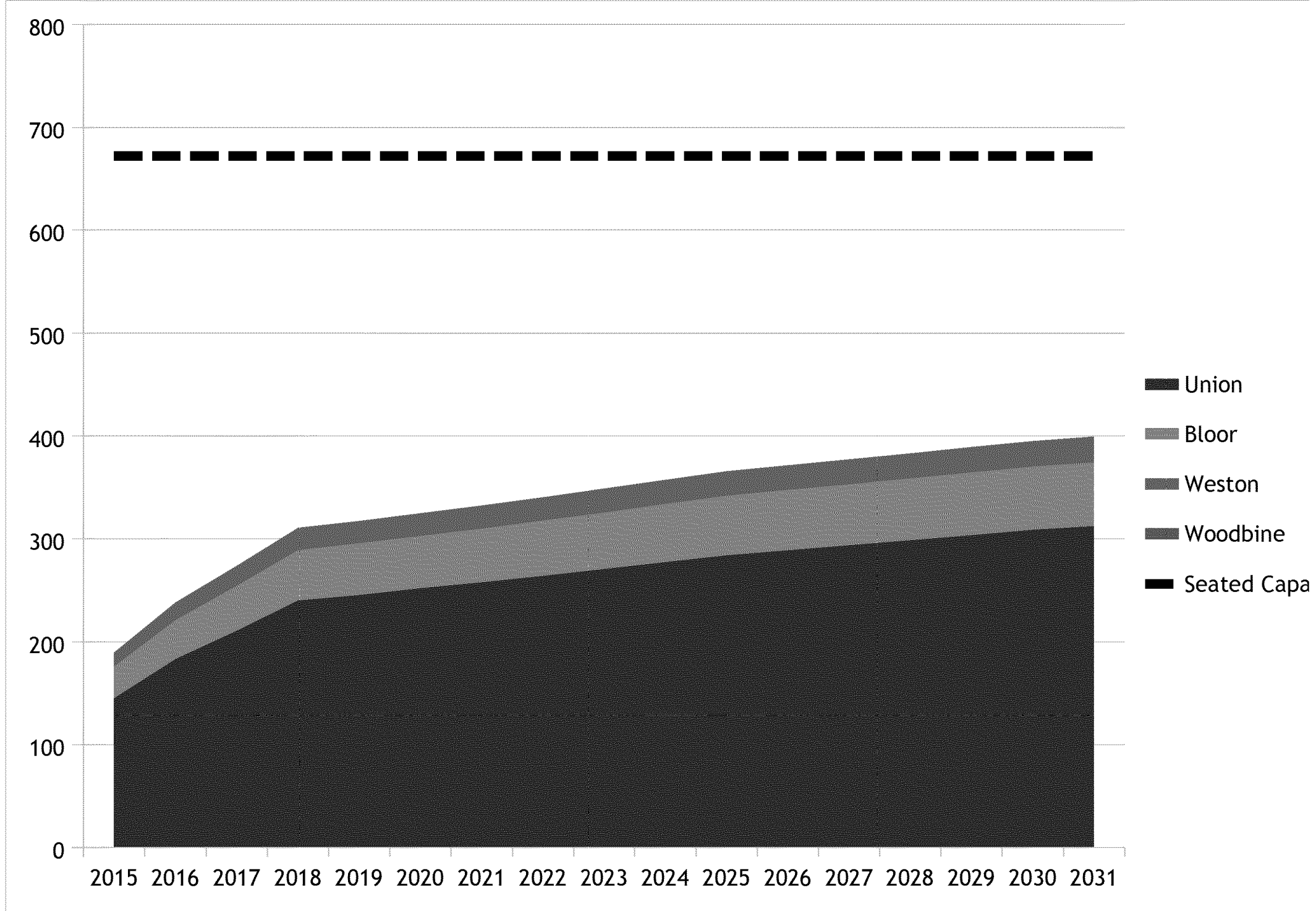
2020 UPE passenger demand composition by original mode

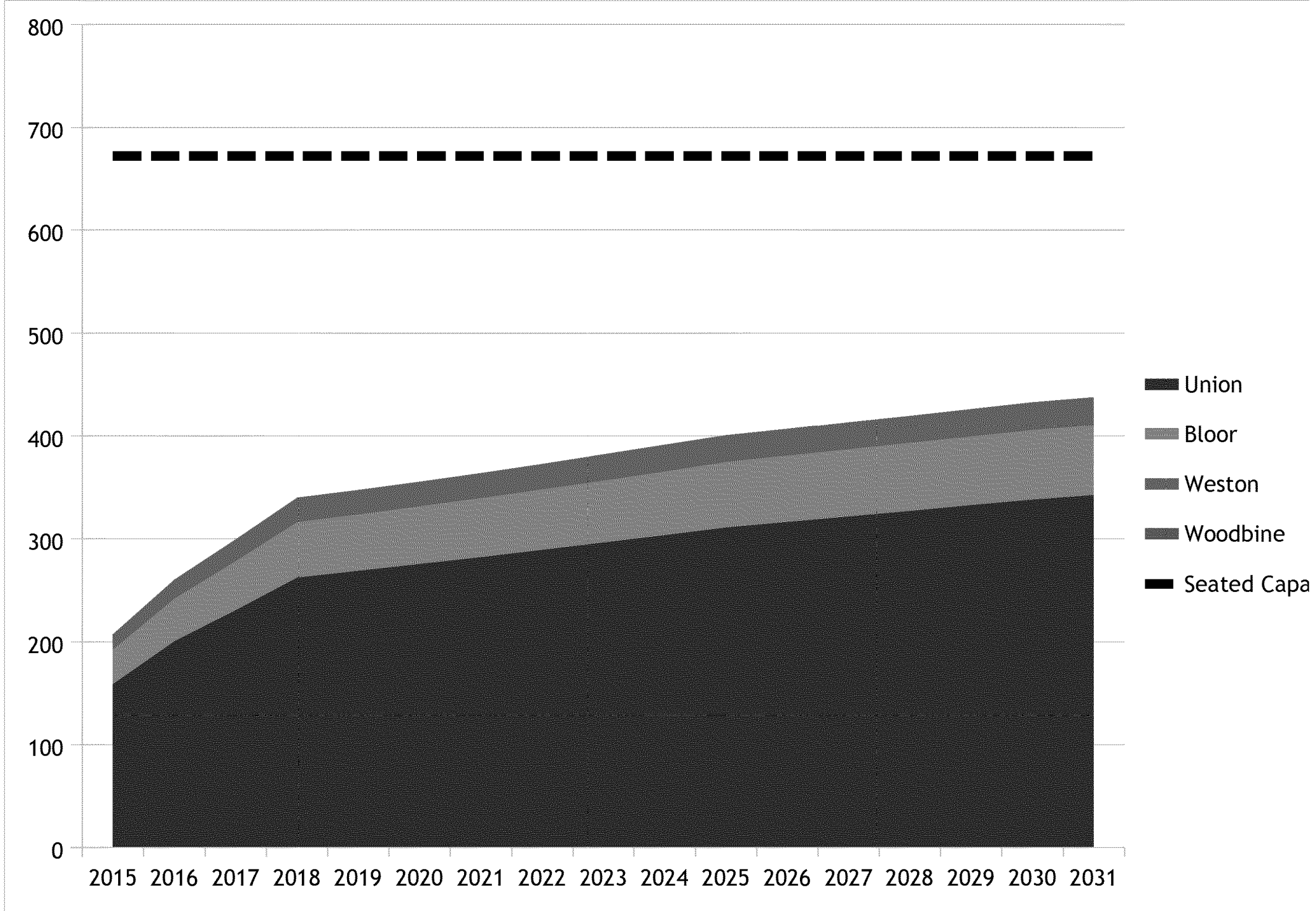


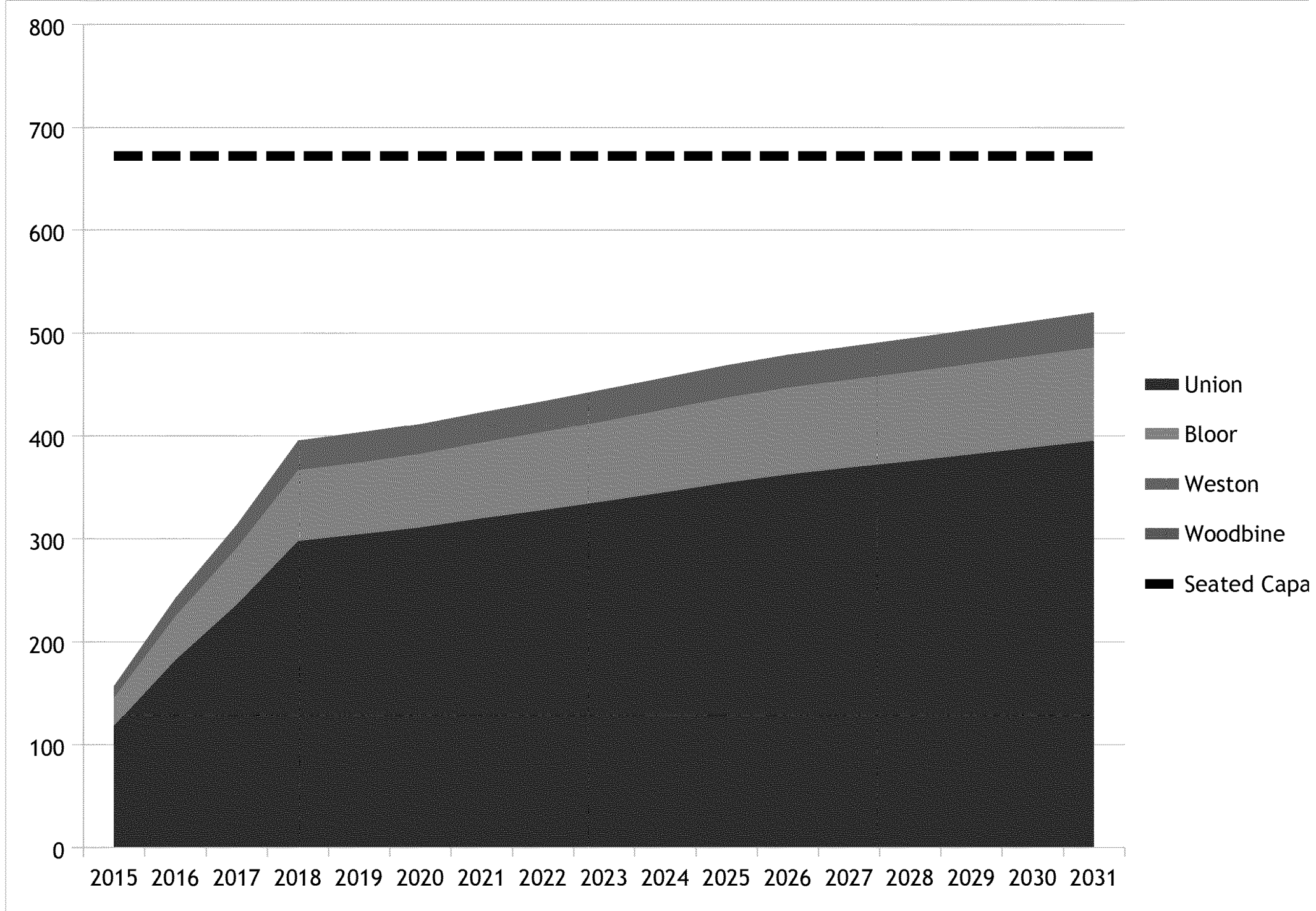


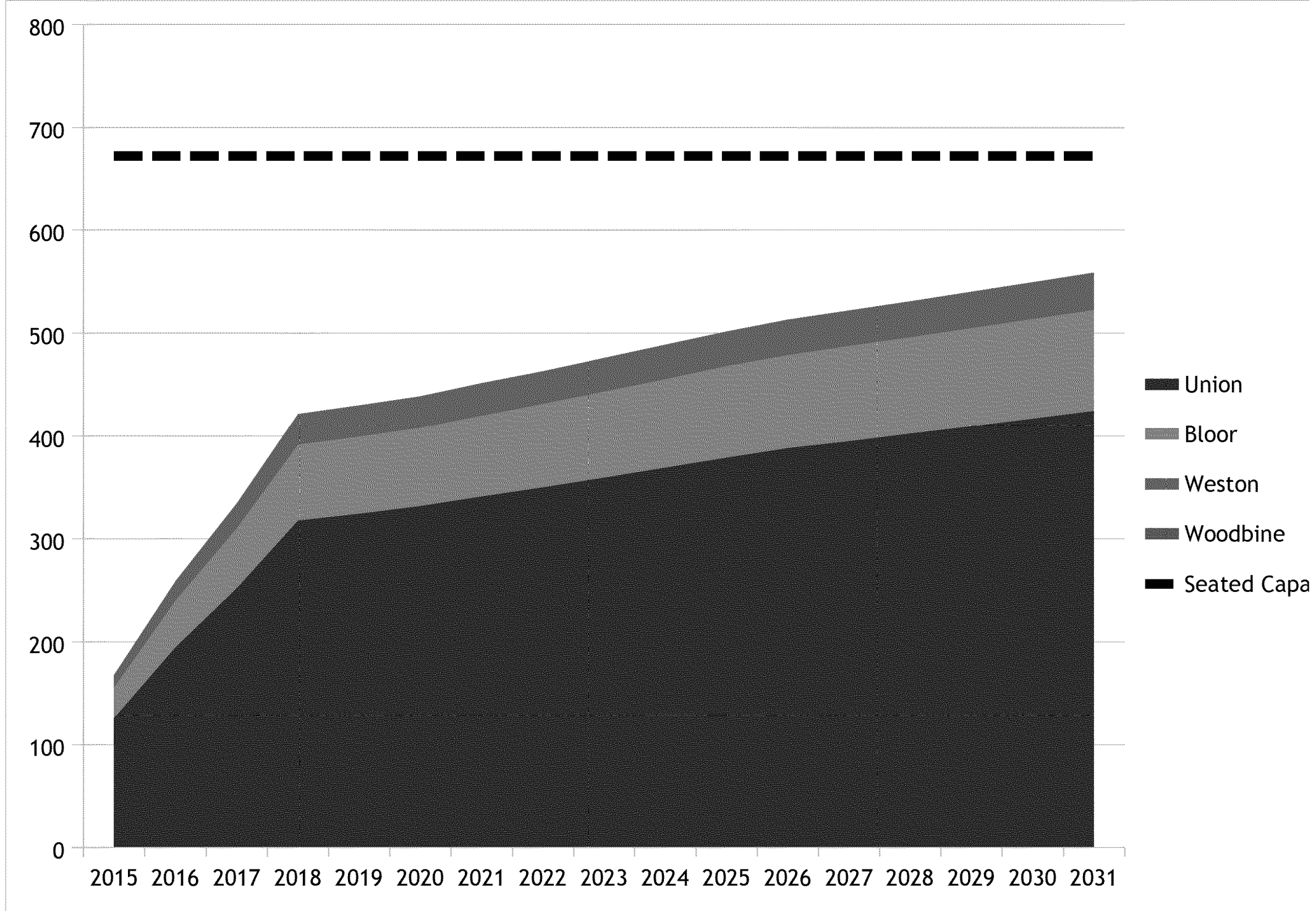


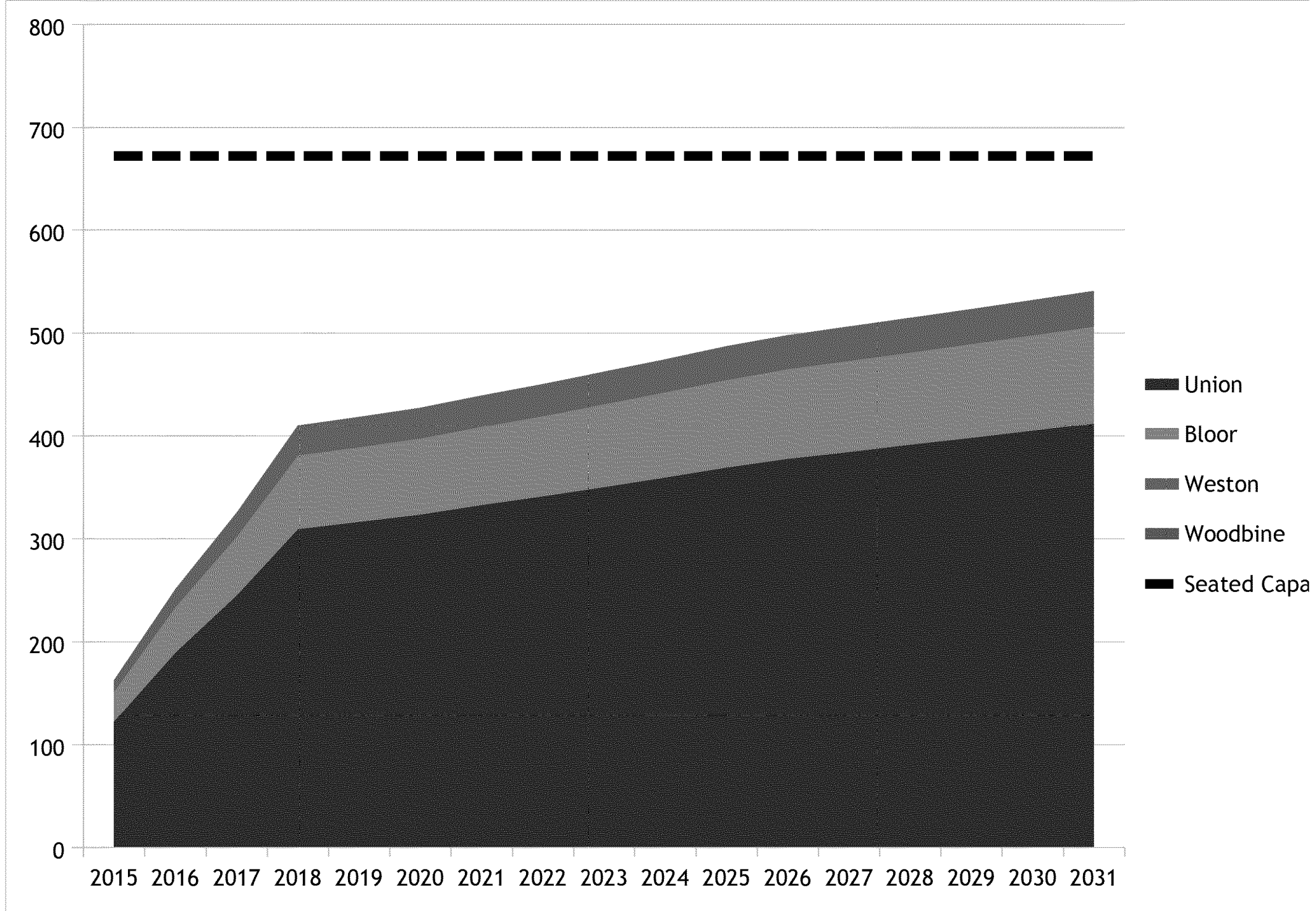


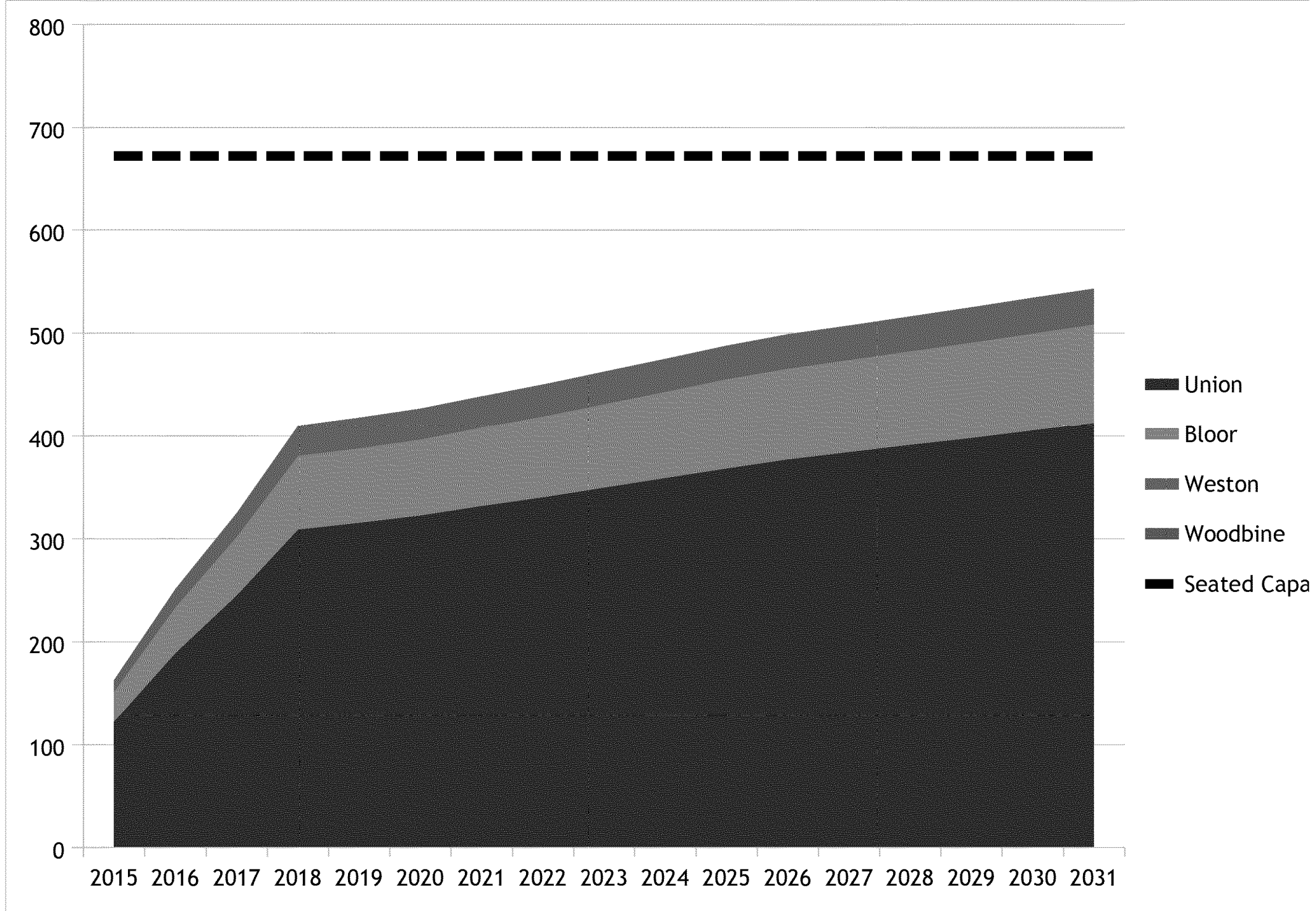


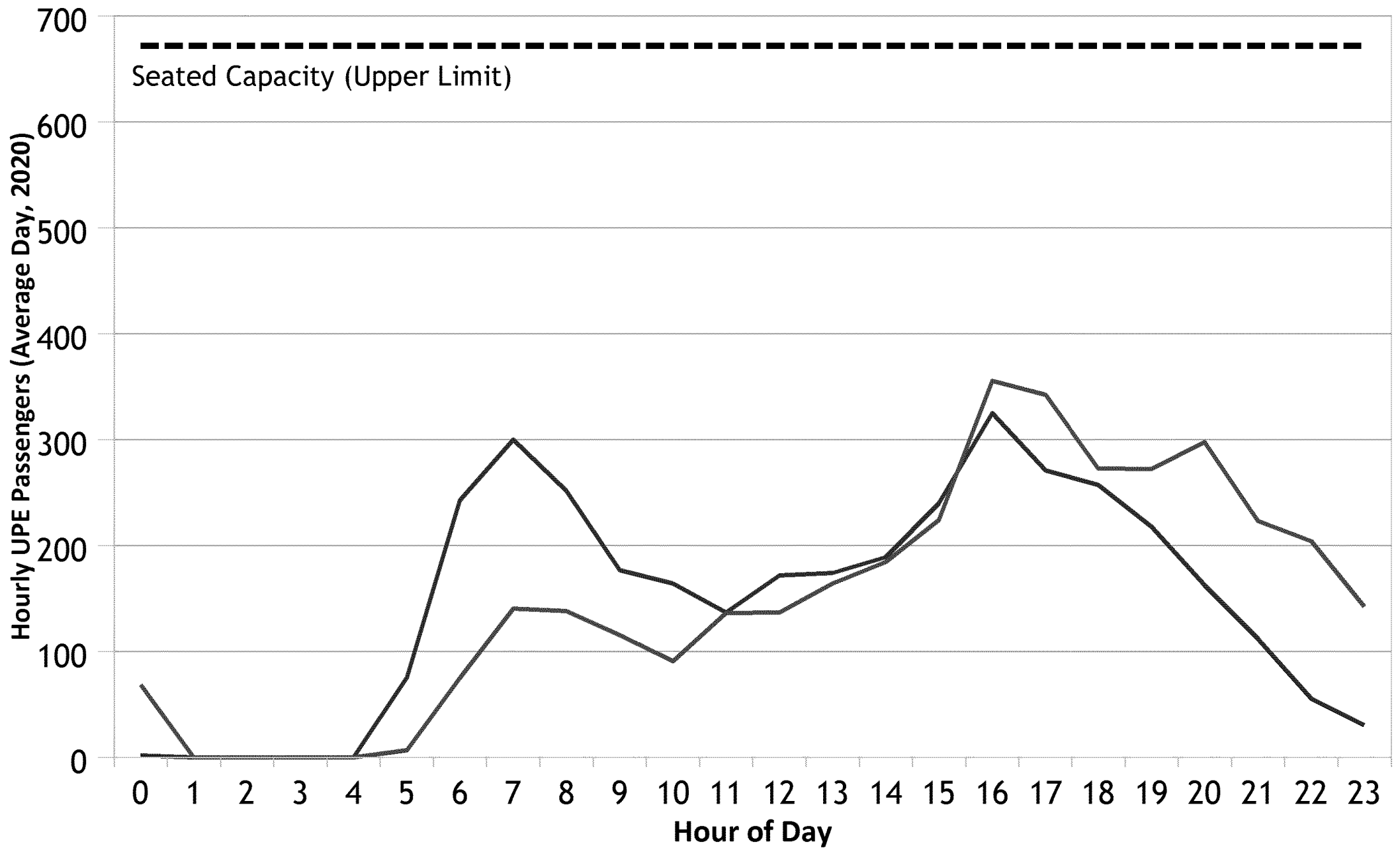




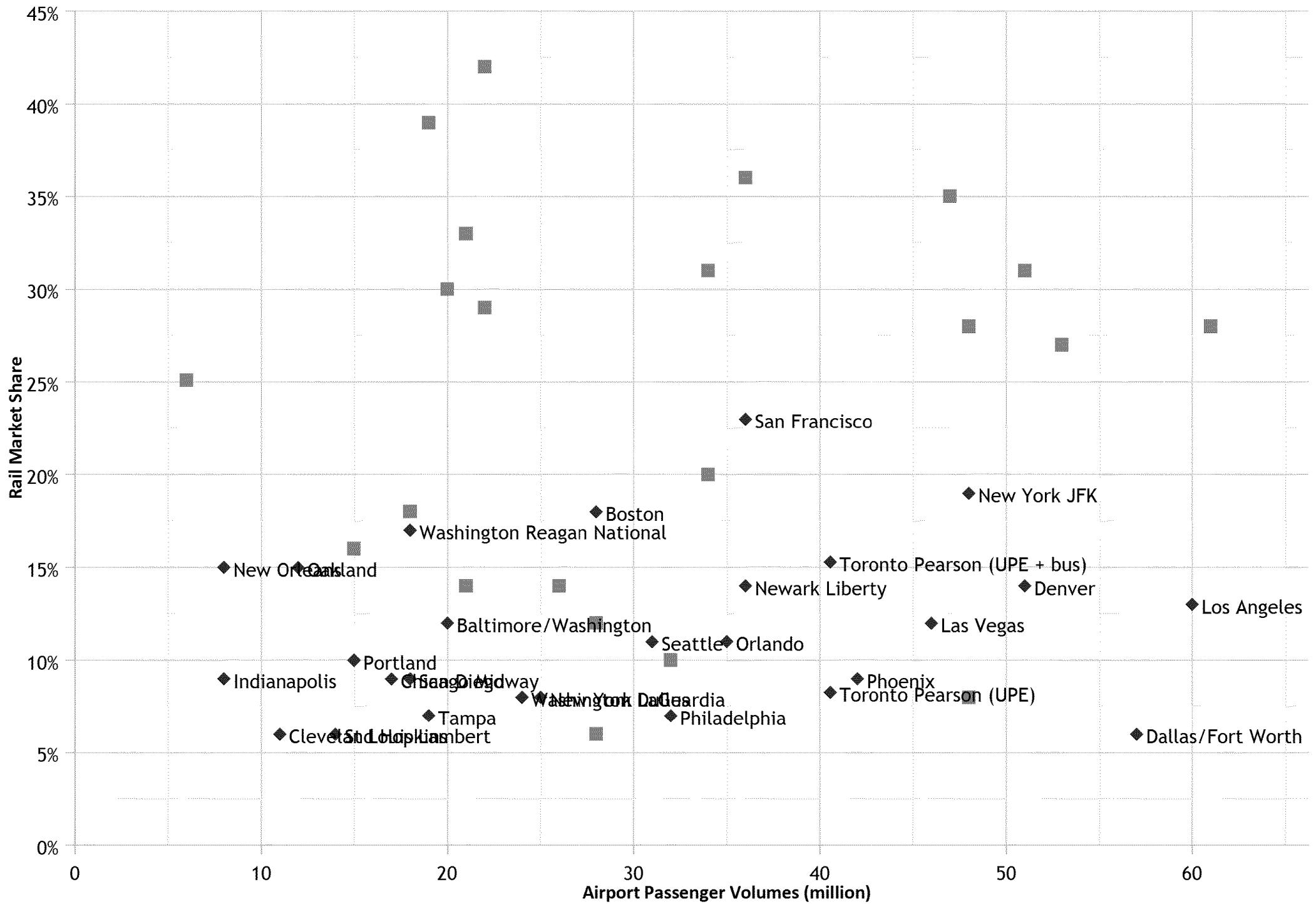


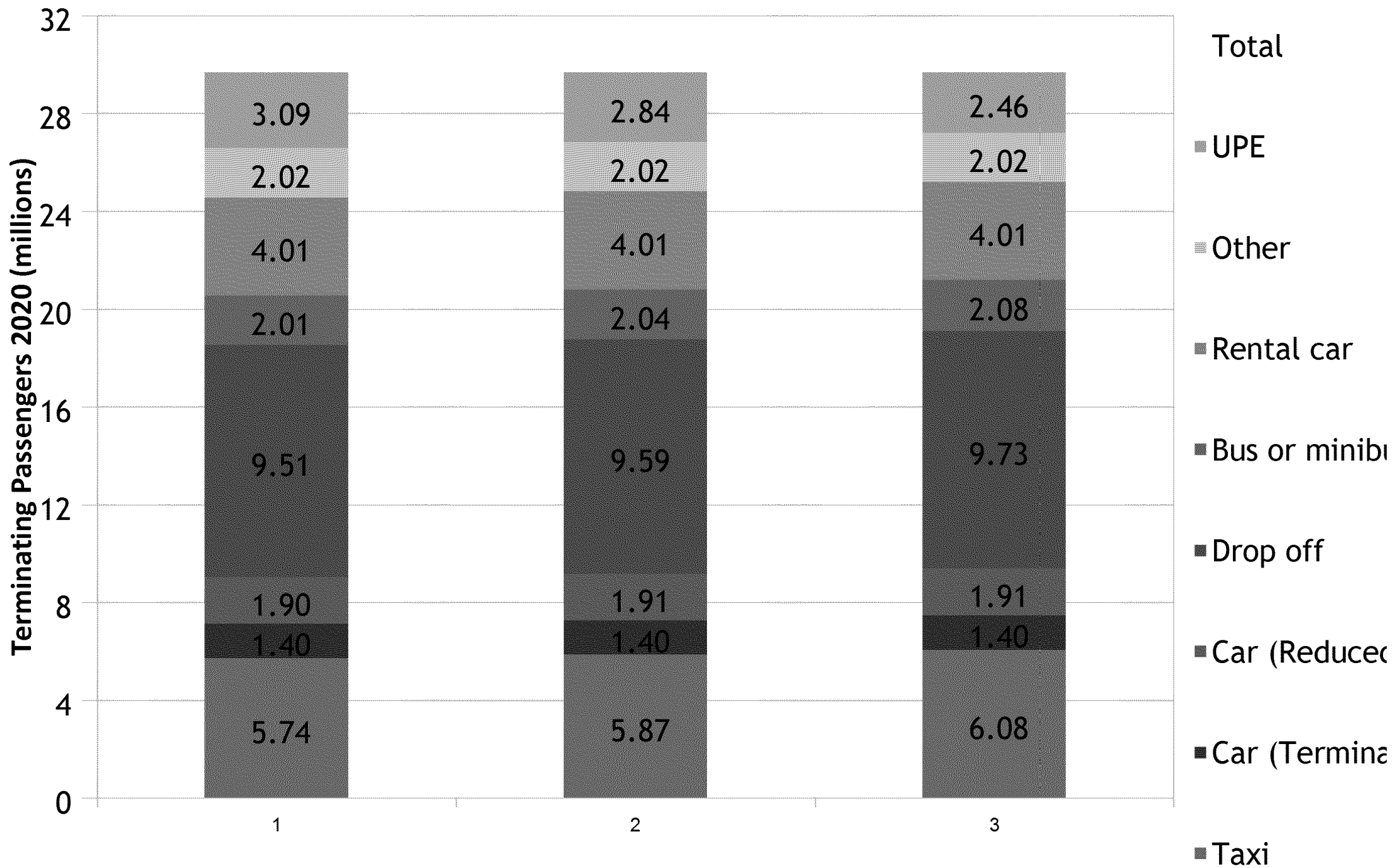






— To Airport — From Airport - - 2 car capacity





Exclusion per Committee Direction

Exclusion per Committee Direction

Exclusion per Committee Direction

