APPENDICES

LESSONS FROM PERKS
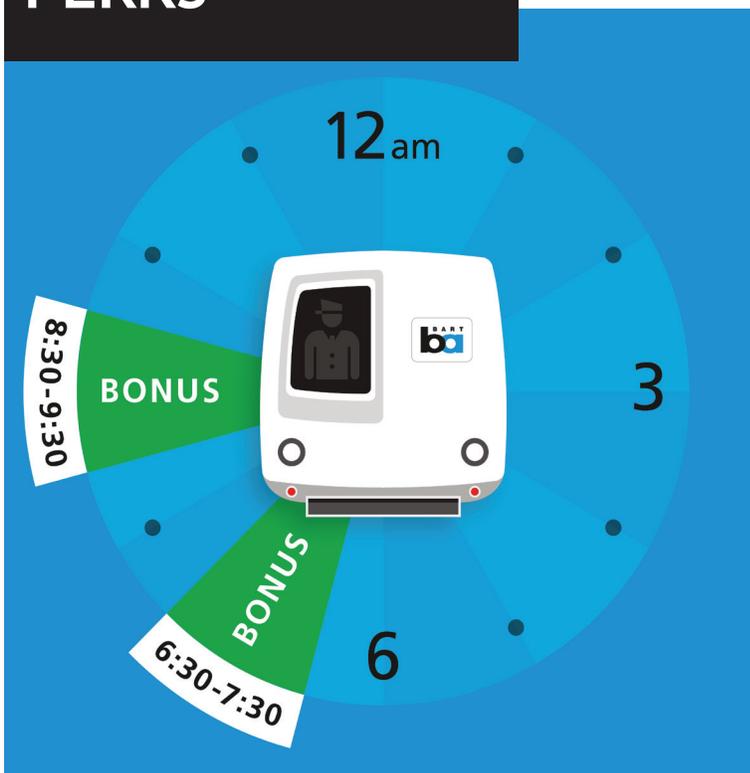
Evaluation Findings from the BART Perks Test Program

12am

BONUS 8:30-9:30

BONUS 6:30-7:30

3

6

SAN FRANCISCO COUNTY TRANSPORTATION AUTHORITY

BART ba

DEPARTMENT OF TRANSPORTATION · UNITED STATES OF AMERICA

JUNE, 2018

APPENDIX A: DEMOGRAPHICS

This appendix includes additional analysis completed regarding demographics of participants. Within these categories, Perks participants had demographics generally comparable to all BART riders or non-participants surveyed.

Gender

Table A- 1. Participation by Gender

	MALE	FEMALE	ANOTHER GENDER	N/A	TOTAL	N
ALL BART RIDERS	47.5%	47.9%	0.7%	3.9%	100.0%	5342
ALL CLIPPER USERS	48%	51%	1%		100.0%	n/a
PARTICIPANTS	46.4%	49.2%	0.5%	3.9%	100.0%	8432
NON-PARTICIPANTS	47.1%	49.6%	0.8%	2.4%	100.0%	709

Income Range

Table A- 2. Participation by Income

	<$25	$25-$34	$35-$39	$40-$49	$50-$59	$60-$74	$75-$99	>$100K	TOTAL	N
ALL BART RIDERS	15.7%	7.4%	3.8%	6.3%	7.9%	9.6%	12.3%	37.2%	100.0%	4892
ALL CLIPPER USERS	12%	6%	3%	6%	8%	9%	14%	43%	100.0%	n/a
PARTICIPANTS	3.1%	2.9%	1.9%	4.1%	5.2%	9.3%	15.0%	58.6%	100.0%	6781
NON-PARTICIPANTS	8.9%	6.5%	2.4%	6.6%	8.1%	8.9%	14.7%	43.9%	100.0%	619

Smartphone Availability

Table A- 3. Participation by Smartphone Availability

	YES	NO	DON'T KNOW	TOTAL	N
PARTICIPANTS	98.2%	1.5%	0.3%	100.0%	8420
NON-PARTICIPANTS	96.8%	3.1%	0.1%	100.0%	709

Note: Information on smartphone availability for all BART riders or Clipper users is not available.

Household Size

This table shows that participants are slightly more likely to come from smaller 2-person households, and less likely to come from larger households.

Table A- 4. Participation by Household Size

	1 PERSON	2 PEOPLE	3 PEOPLE	4 PEOPLE	5 PEOPLE	6+ PEOPLE	TOTAL	N
ALL BART RIDERS	18.3%	31.8%	20.8%	17.3%	6.4%	5.4%	100.0%	5202
ALL CLIPPER USERS	17.9%	34.0%	21.0%	17.1%	5.6%	4.5%	100.0%	n/a
PARTICIPANTS	18.1%	38.4%	19.0%	16.3%	5.2%	3.0%	100.0%	8432
NON-PARTICIPANTS	16.6%	35.3%	22.0%	14.7%	7.2%	4.2%	100.0%	709

APPENDIX B: PARTICIPANT / NON-PARTICIPANT SURVEY RESULTS

This appendix provides a summary of select responses from the two participant surveys compared to responses of the non-participant survey.

Table B- 1. Usual Work Arrival Time

WORK ARRIVAL TIME	PERKS PARTICIPANTS ROUND 1	PERKS PARTICIPANTS ROUND 2	NON-PARTICIPANTS
BEFORE 7:30 A.M.	13.5%	12.4%	18.6%
BETWEEN 7:30 AND 8:00 A.M.	16.8%	17.8%	13.7%
BETWEEN 8:01 AND 8:30 A.M.	15.7%	15.3%	14.0%
BETWEEN 8:31 AND 9:00 A.M.	16.4%	16.0%	14.8%
BETWEEN 9:01 AND 9:30 A.M.	19.4%	20.3%	14.4%
AFTER 9:30 A.M.	18.3%	18.2%	24.5%
N	8432	5829	709

Table B- 2. Rating of Length of Lines at Exit Gates at Your Work Station

LENGTH OF LINES	PERKS PARTICIPANTS ROUND 1	PERKS PARTICIPANTS ROUND 2	NON-PARTICIPANTS
1 - POOR	9.5%	9.4%	4.3%
2	8.3%	7.9%	6.8%
3	13.4%	12.9%	10.6%
4	18.6%	17.8%	14.6%
5	19.0%	19.2%	19.0%
6	18.0%	19.5%	22.3%
7 - EXCELLENT	13.2%	13.3%	22.4%
N	8403	5808	705

Figure B- 1. Frequency of Standing
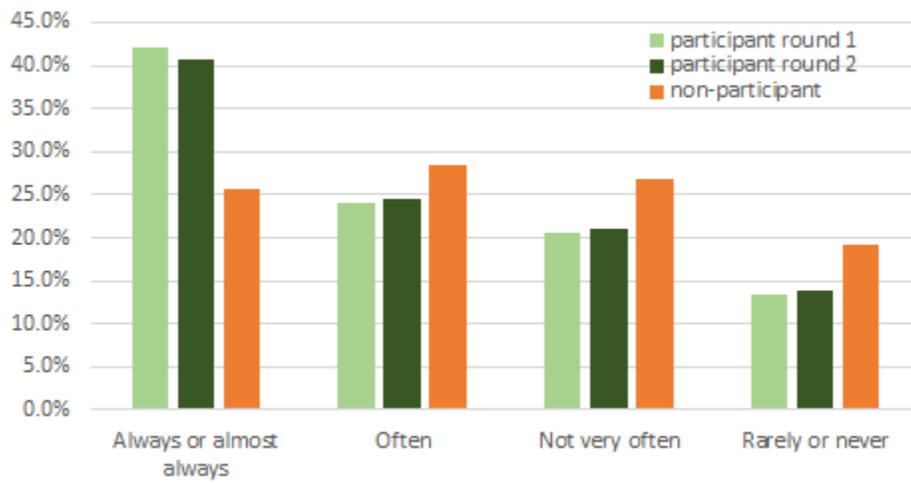
APPENDIX C: CHANGE IN PEAK HOUR TRAVEL

This appendix provides detail on the cross-sectional analysis summarized in Chapter 4.

Commute Frequency

Table C - 1 and Table C - 2 summarize the percent shift in total trips by hour from the BART Perks program by traveler commute frequency for the system overall and in the Transbay corridor, respectively. In both tables, noticeable reductions in peak hour shares are observable across all commute frequencies, with the most pronounced reductions made by infrequent commuters (0-1 times/week) and very frequent commuters (>3.5 times/week). The high reduction by infrequent commuters may be explained more by the lack of variability in their travel patterns rather than due to their participation in Perks.

Table C - 1. Shift in Total Trips by Hour by BART Commute Frequency

SHARES OF TRIPS BY PERIOD- CHANGE DURING VERSUS PRE	0 TO 1 TIMES/WEEK	1 TO 2.5 TIMES/WEEK	2.5 TO 3.5 TIMES/WEEK	OVER 3.5 TIMES/WEEK
EARLY A.M.	-12.6%	-3.4%	-6.7%	-3.2%
EARLY BONUS HOUR	-9.0%	1.1%	5.0%	7.2%
PEAK HOUR	-16.9%	-11.0%	-10.8%	-13.0%
LATE BONUS HOUR	-4.8%	5.0%	8.2%	7.8%

Table C - 2. Shift in A.M. Westbound Transbay Trips by Hour by BART Commute Frequency

SHARES OF TRIPS BY PERIOD- CHANGE DURING VERSUS PRE	0 TO 1 TIMES/WEEK	1 TO 2.5 TIMES/WEEK	2.5 TO 3.5 TIMES/WEEK	OVER 3.5 TIMES/WEEK
EARLY A.M.	-2.2%	-2.6%	-6.3%	-2.1%
EARLY BONUS HOUR	-5.4%	1.7%	3.2%	6.5%
PEAK HOUR	-20.7%	-13.1%	-10.1%	-15.0%
LATE BONUS HOUR	-0.1%	6.7%	8.1%	11.6%

Excluding infrequent commuters, Figure C - 1 illustrates the change in peak hour trips by commute frequency and shows that those who commute most frequently exhibited the greatest relative drop in the share of peak hour trips, but there is not a clear linear relationship between commute frequency and degree of shift.

Figure C - 1. Percent Reduction in Peak Hour Trips by Commute Frequency

Commute Distance

Staff summarized the percent shift in total trips by hour from the BART Perks program by traveler commute distance for the system overall and in the Transbay corridor, respectively. Staff observed reductions in peak hour shares across all commute distances, with the most pronounced reductions made by longer distance commuters. Overall, it shows more shifting to the earlier bonus hour than to the late bonus hour, with this pattern especially pronounced amongst the longest distance commuters.

Figure C - 2 illustrates the change in peak hour trips by commute distance and shows that those who commute the longest distance overall showed the greatest reduction in peak hour trips. It also shows a comparable reduction in peak hour trips in the A.M. Transbay inbound travel market.

Figure C - 2. Percent Reduction in Peak Hour Trips by Commute Distance
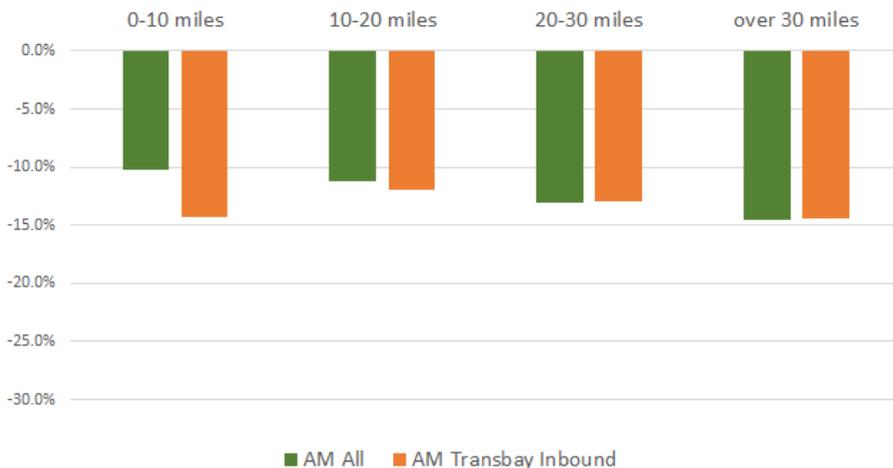
Table C - 3 shows that participants with trips greater than 30 miles long shifted at higher rates to the earlier bonus hour as well as the early morning period before then. In contrast, participants with shorter commute distances shifted to the early and late bonus hours at similar rates.

Table C - 3. Shift in Total Trips by Hour by BART Commute Distance

| SHARES OF TRIPS BY PERIOD- CHANGE DURING VERSUS PRE	0-10 MILES	10-20 MILES	20-30 MILES	OVER 30 MILES	TOTAL
EARLY A.M.	-5.7%	-7.0%	-6.5%	7.4%	-3.5%
EARLY BONUS HOUR	5.9%	8.9%	9.0%	8.9%	8.5%
PEAK HOUR	-10.2%	-11.2%	-13.1%	-14.5%	-11.8%
LATE BONUS HOUR	5.1%	7.4%	7.6%	2.6%	5.8%

Table C - 4. Shift in A.M. Inbound Transbay Trips by Hour by BART Commute Distance: All Participants

SHARES OF TRIPS BY PERIOD- CHANGE DURING VERSUS PRE	0-10 MILES	10-20 MILES	20-30 MILES	OVER 30 MILES	TOTAL
EARLY A.M.	0.7%	-7.2%	-7.8%	8.6%	-2.7%
EARLY BONUS HOUR	4.2%	7.4%	8.9%	8.7%	8.0%
PEAK HOUR	-14.3%	-12.0%	-13.0%	-14.4%	-13.2%
LATE BONUS HOUR	8.6%	8.5%	8.3%	3.1%	7.4%

Age Range

There were minimal differences in percent reduction of peak hour trips across age ranges below 65. Participants age 65 and over had the greatest percent reduction, which is likely due to a small sample size of participants in that subgroup (270 participants were aged 65 or older, out of almost 18,000 total participants) or to older participants having more scheduling flexibility than others.
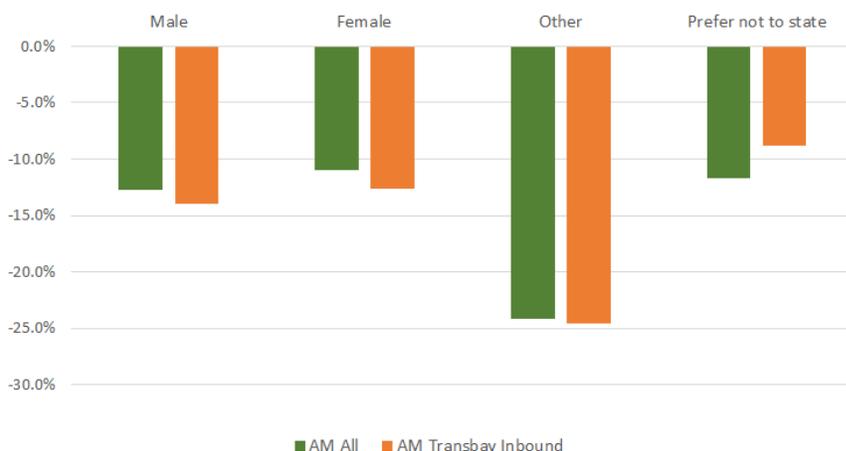
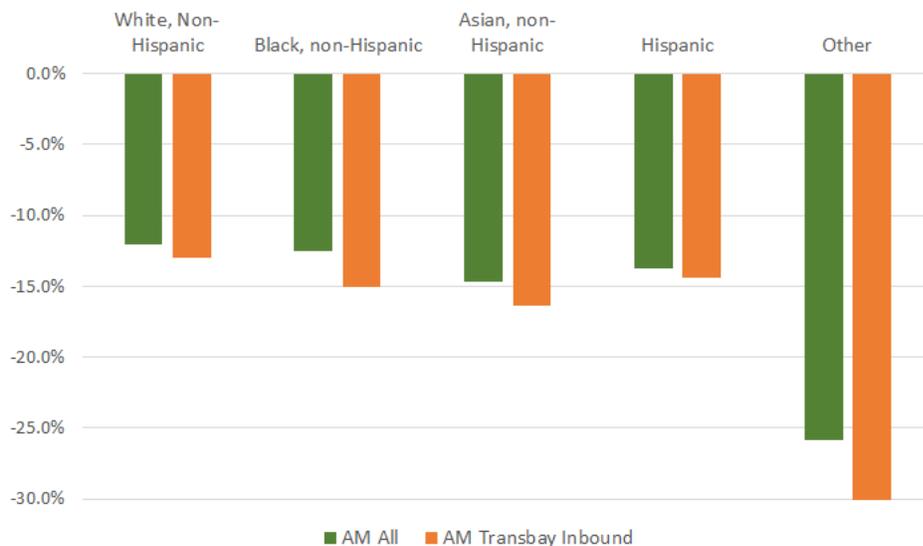Figure C - 3. Percent Reduction in Peak Hour Trips by Age
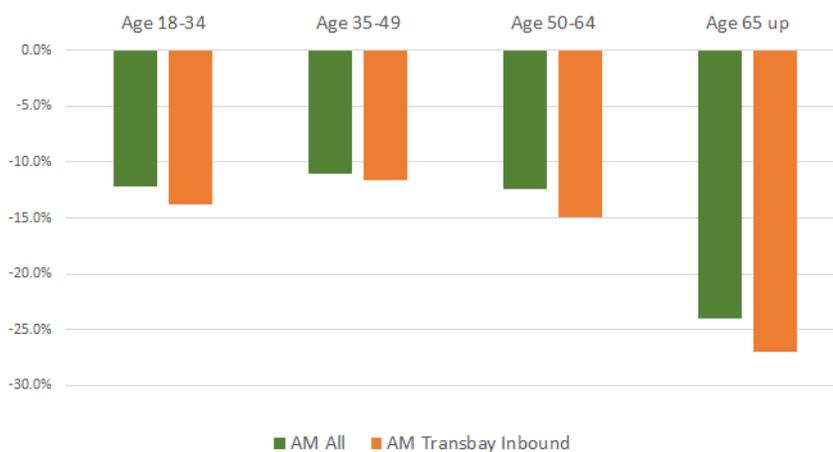
Gender

Table C - 4 summarizes the reduction in peak hour trips by gender, and illustrates that men showed slightly greater reductions in peak hour trips, although people who did not identify as either male or female had even greater reductions in peak hour travel. Similar to participants age 65 and over, there was a small sample size of participants that did not identify their gender.

Figure C - 4. Percent Reduction in Peak Hour Trips by Gender

Race/Ethnicity

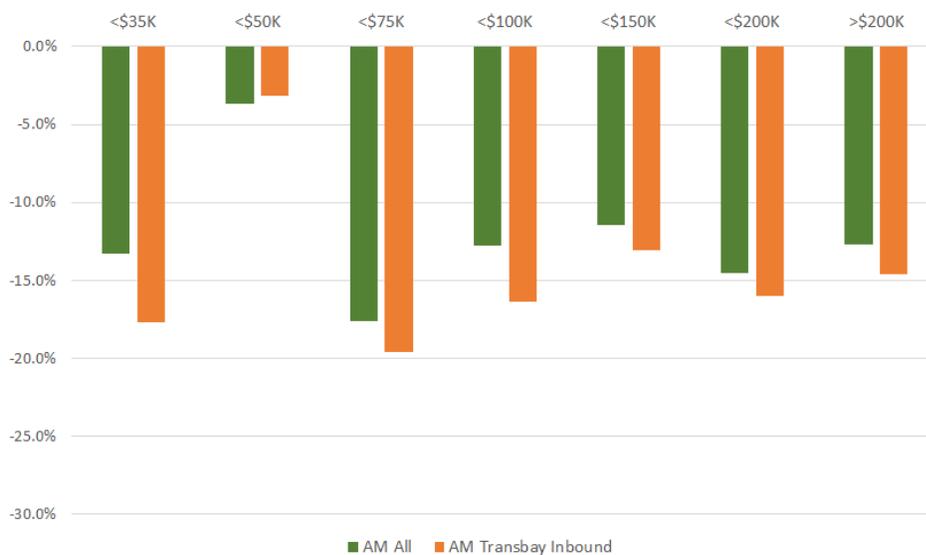Figure C - 5. Percent Reduction in Peak Hour Trips by Race/Ethnicity

Type of Work

Participants who worked in education, government and information technology sectors shifted at the highest rates compared to participants in other types of work.

Figure C - 6. Percent Reduction in Peak Hour Trips by Industry Sector

Income Range

Figure C - 7. Percent Reduction in Peak Hour Trips by Income

Satisfaction

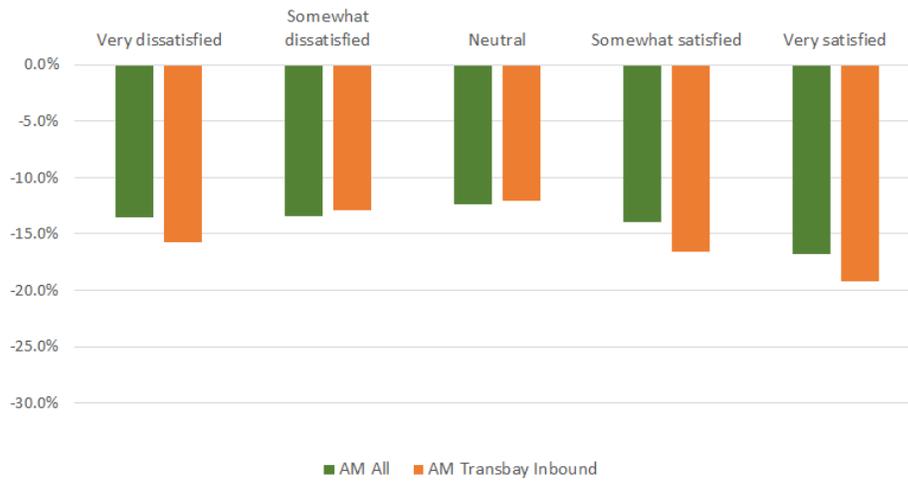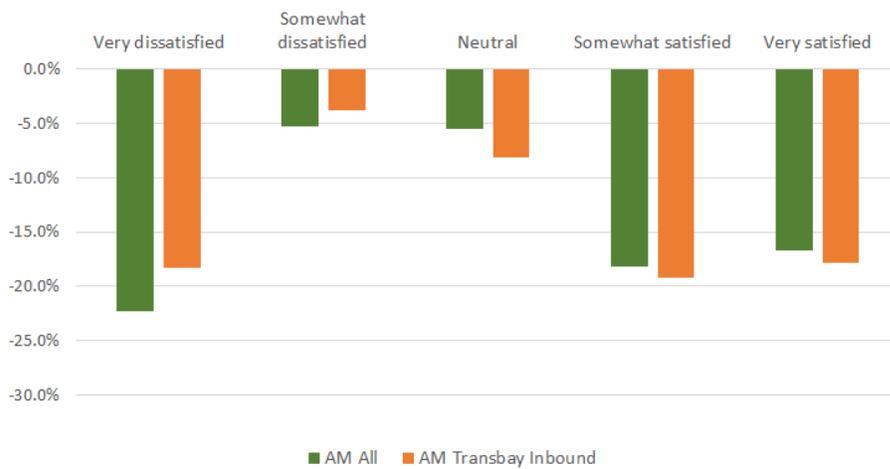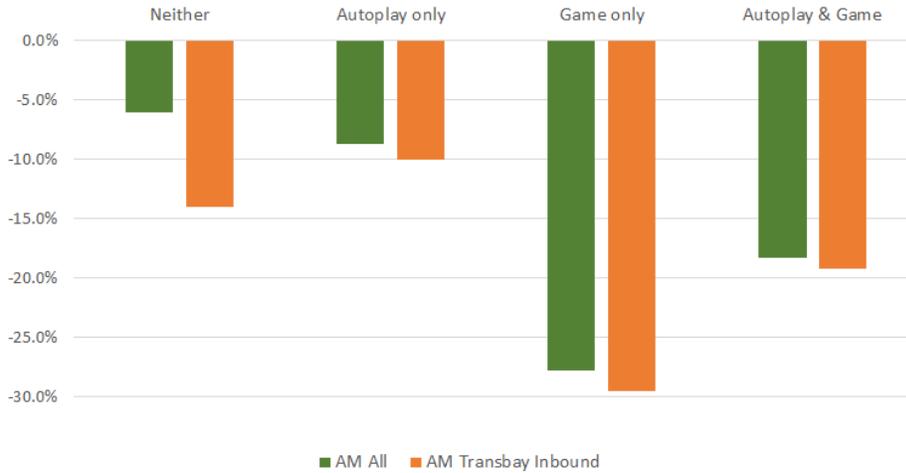Figure C - 8. Percent Reduction in Peak Hour Trips by Satisfaction with BART

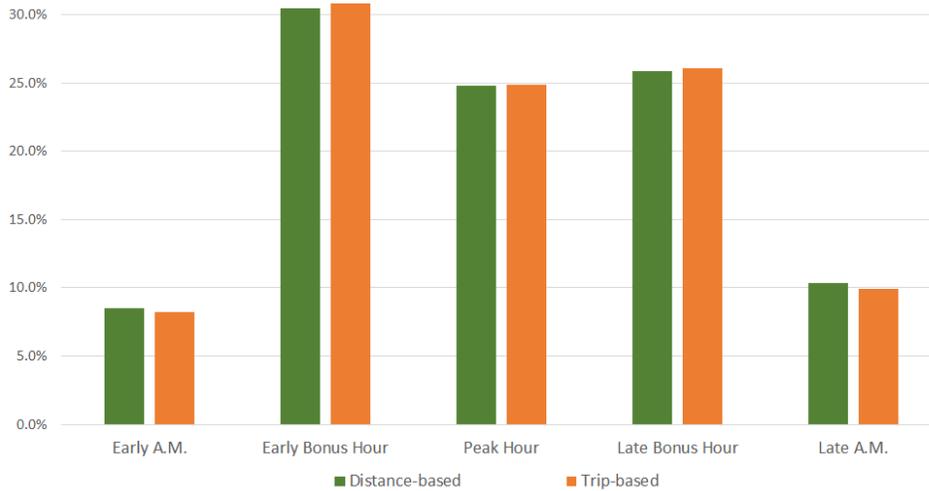Figure C - 9. Percent Reduction in Peak Hour Trips by Satisfaction with BART Perks Program

Game Engagement

Figure C - 10. Percent Reduction in Peak Hour Trips by Game Engagement

Mileage vs. Trip-based

Figure C - 11. System-wide Share of Trips by Hour and Trip Distance for Mileage-based and Trip-based Incentives

APPENDIX D: ENGAGEMENT AND REDEMPTION

Participant Engagement and Status

Status & Age Range

Table D - 1 summarizes the distribution of engagement level within each age group. While there were not significant differences in status trajectory by age group, it appears that participants aged 35-49 achieved and maintained the highest status, while participants aged 65 and over generally maintained the lowest status levels. Age 65+ had the highest share in Group E (35.3%), showing a large portion of the age group ended up in the lowest status and were not as engaged as others.

Table D - 1. Change in Status by Age

GROUP	A	B	C	D	E		
	ALWAYS 4	EARLY 4, ALWAYS 2+	EARLY 3, ALWAYS 2+	EARLY 4, DROP BELOW 2	EARLY 3, DROP BELOW 2	OTHER	N
AGE 18-34	22.5%	24.0%	15.3%	9.7%	24.4%	4.1%	4921
AGE 35-49	26.3%	26.0%	14.0%	7.6%	22.4%	3.7%	2818
AGE 50-64	28.7%	21.5%	12.4%	7.8%	25.7%	3.9%	1006
AGE 65 UP	27.7%	12.6%	11.8%	2.5%	35.3%	10.1%	119
N	2167	2143	1285	774	2134	358	8861

Status & Game Engagement

Participants were able to use points earned to win cash prizes by either using an autoplay function that was essentially a random rewards generator, or by playing a simple game. Those who used both autoplay and played the game interactively achieved and maintained the highest status levels, while those who neither used autoplay nor the game (and thus chose the cash-buyout) had the lowest status levels. Participants who played the game only had higher status than participants who autoplayed only.

Table D - 2. Change in Status by Game Engagement

GROUP	A	B	C	D	E		
	ALWAYS 4	EARLY 4, ALWAYS 2+	EARLY 3, ALWAYS 2+	EARLY 4, DROP BELOW 2	EARLY 3, DROP BELOW 2	OTHER	N
AUTOPLAY ONLY	20.4%	23.5%	15.1%	8.7%	27.8%	4.5%	6017
GAME ONLY	37.3%	21.4%	9.0%	9.3%	19.9%	3.1%	322
AUTOPLAY & GAME	34.3%	27.6%	14.4%	8.6%	13.8%	1.3%	2390

NEITHER	0.0%	2.3%	3.0%	9.1%	51.5%	34.1%	132
N	2167	2143	1285	774	2134	358	8861

Status and Satisfaction with BART and Perks

Table D - 3 summarizes status achievement and trajectory by satisfaction with BART overall. Interestingly, those participants who achieved and maintained the highest status were the least satisfied with BART, while those with the lowest status appeared to be slightly more satisfied with BART.

Table D - 3. Change in Status by Satisfaction with BART (Round 2 Survey)

GROUP	A	B	C	D	E		
	ALWAYS 4	EARLY 4, ALWAYS 2+	EARLY 3, ALWAYS 2+	EARLY 4, DROP BELOW 2	EARLY 3, DROP BELOW 2	OTHER	N
VERY DISSATISFIED	35.4%	24.0%	10.5%	6.9%	21.1%	2.1%	421
SOMEWHAT DISSATISFIED	30.7%	25.7%	13.5%	7.2%	20.4%	2.5%	942
NEUTRAL	28.0%	22.4%	15.5%	9.2%	21.1%	3.8%	1009
SOMEWHAT SATISFIED	25.6%	25.4%	14.5%	7.8%	22.6%	4.2%	2421
VERY SATISFIED	24.1%	21.9%	15.0%	9.9%	24.7%	4.4%	607

Table D - 4 reports status achievement and trajectory by satisfaction with the BART Perks program specifically. Unsurprisingly, those with the highest status levels were most satisfied with the program, while those with the lowest status were most dissatisfied.

Table D - 4. Change in Status by Satisfaction with BART Perks Program (Round 2 Survey)

GROUP	A	B	C	D	E		
	ALWAYS 4	EARLY 4, ALWAYS 2+	EARLY 3, ALWAYS 2+	EARLY 4, DROP BELOW 2	EARLY 3, DROP BELOW 2	OTHER	N
VERY DISSATISFIED	19.1%	14.7%	8.8%	10.3%	41.2%	5.9%	68
SOMEWHAT DISSATISFIED	13.3%	20.4%	17.6%	7.1%	35.7%	5.9%	255
NEUTRAL	18.8%	21.0%	14.5%	8.3%	29.8%	7.6%	805
SOMEWHAT SATISFIED	35.5%	24.3%	13.5%	8.3%	15.8%	2.6%	1876
VERY SATISFIED	26.0%	26.3%	14.4%	8.1%	22.3%	3.0%	2396

Table D - 5. Share of Points Redeemed by Source by Age

	18 TO 24	25 TO 34	35 TO 44	45 TO 54	55 TO 64	65+	N/A
AUTOPLAY	75.3%	79.3%	84.8%	85.6%	86.3%	95.2%	74.1%
GAME	24.0%	19.7%	14.2%	13.8%	13.0%	4.8%	24.2%

Reward Earnings

Rewards by Age Range

Figure D - 1 shows that, on average, people aged 45 to 64 earned the most points. The highest level of average earnings was by people who preferred not to state their age, although this group represented approximately 1% of all program participants.

Figure D - 1. Average Points Awarded by Age
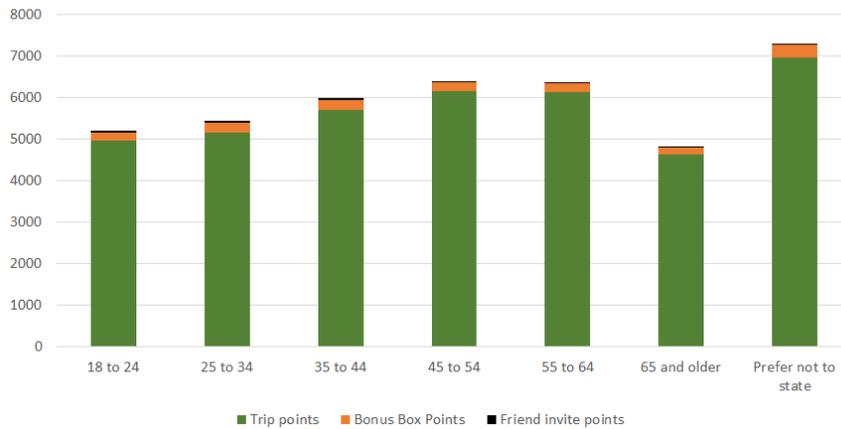
Rewards by Type of Work

There was a significant variation in the rewards earned by type of work. People in Finance and Banking had the highest levels of rewards earning, while people working in education and service industries had the lowest levels of rewards earnings, excluding those unemployed or retired. Workers in the IT and Retail industries had the highest levels of rewards from friend invites, although these comprised a very small share of the total awards even for workers in these industries.

Figure D - 2. Average Points Awarded by Type of Work
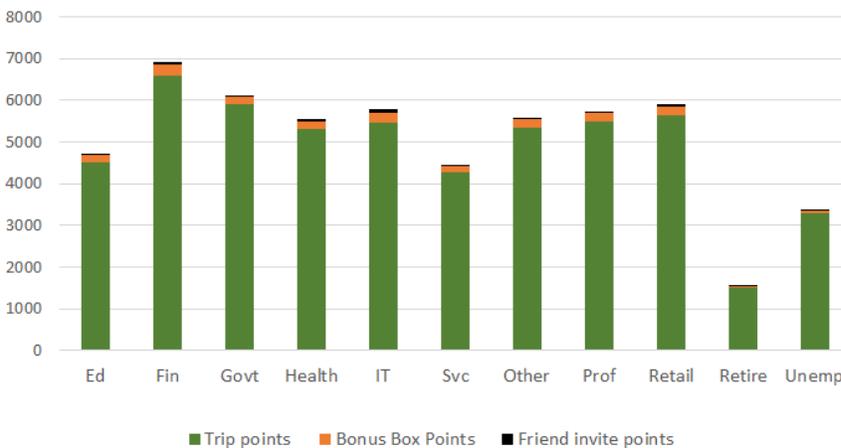
Rewards Redemption

Redemption by Type of Work

Variations in redemption were also observed by employment sector and by income, as shown in Table D - 6 and Table D - 7. Government, Education and Service sector employees redeemed points using the game at higher rates than participants in other sectors.

Table D - 6. Share of Points Redeemed by Source Type of Work

	ED	FIN	GOVT	HEALTH	IT	SVC	OTHER	PROF	RETAIL	RETIRE	UNEMP
AUTOPLAY	79.5%	84.3%	78.2%	82.5%	80.1%	78.9%	85.7%	82.9%	82.8%	89.6%	83.1%
GAME	19.5%	14.9%	20.7%	16.1%	19.3%	20.1%	13.5%	16.3%	16.2%	10.4%	15.6%

Redemption by Income Range

Very low and moderate-income participants tended to redeem points through the game at higher rates than other income levels, although the pattern there had some exceptions.

Table D - 7. Share of Points Redeemed by Income Range

	<$25K	$35K	$40K	$50K	$60K	$75K	$100K	$150K	$200K	>$200K	N/A
AUTOPLAY	76.4%	83.0%	85.7%	77.5%	78.1%	82.7%	82.7%	82.8%	83.4%	81.8%	80.2%
GAME	22.6%	16.9%	13.9%	21.3%	21.0%	16.7%	16.3%	16.4%	16.1%	17.7%	18.2%

APPENDIX E: SUMMARY OF OPEN-ENDED RESPONSES

Perks participants provided over 7,000 open-ended responses to the program. The table below provides a classification of responses by minor theme and major theme. Table E - 1 lists the major themes and Table E - 2 lists both the major and minor themes.

Table E - 1. Major Themes: Open-Ended Responses

THEME #	DESCRIPTION	NUMBER OF RESPONSES
1	Desire for different or expanded ways to earn points	1869
2	Increase or improve rewards	1120
3	Provide different payout options	1241
4	Positive comments about the program	658
5	Didn't like Spin-to-Win/Autoplay component	454
6	Other	1980

Table E - 2. Open-Ended Responses by Major and Minor Themes

	SURVEY 1	SURVEY 2	SUM	MAJOR THEME #
Desire for different bonus hours	559	333	892	1
General positive comment	329	303	632	4
Desire for evening bonus hours	356	259	615	1
Desire for rewards through Clipper	335	233	568	3
Rewards are too low	286	210	496	2
Didn't like PayPal	118	167	285	3
Didn't like the Spin-to-Win game	85	121	206	5
Desire for better rewards	275	119	394	2
Desire for miscellaneous other reward	3	95	98	3
Commented on BART service	111	90	201	6
Found program complicated/difficult to understand	142	83	225	6
Desire for alternative point calculation/earning	3	73	76	1
Desire for improved website	79	65	144	6

Desire for more payout options	120	57	177	3
Desire for more frequent rewards	69	57	126	2
General negative comment	37	56	93	1
Desire for more ways to earn points	69	53	122	1
Had issues with PayPal	113	52	165	6
Desire for off-peak fare discount	42	48	90	6
Found Spin-to-Win game complicated	21	46	67	5
Felt that there was a low probability of winning the game	81	45	126	5
Doubted the effectiveness of the program	32	40	72	6
Desire for more transparency of the award system	27	40	67	6
Desire for an app	52	39	91	6
Desire for improved game design	91	37	128	6
Desire for improved marketing	45	36	81	6
Felt that the program had no impact on their travel behavior	24	36	60	6
Preferred points per mile base earning structure (Note: only tallied for survey 2 after point earning structure had changed)	n/a	33	33	6
Desire for better tracking system	35	33	68	6
Desire for rewards for loyalty	3	29	32	6
Desire for BART parking related reward	27	28	55	2
Miscellaneous comment on communications of program	2	28	30	6
Desire for rewards by travel distance	11	27	38	1
Desire for reward levels to be linked to cost of BART	3	27	30	2
Desire for better notification of activity	91	25	116	6
Desire for reward of a free BART ride	39	25	64	3
Didn't like AutoPlay for Spin-to-Win game	32	22	54	5
Desire for different games	26	22	48	6
Desire for better instructions for program	17	22	39	6
Had strict working hours barrier	20	19	39	6
Felt that the program changed their travel behavior	8	18	26	4
Desire for reward of a discounted BART ticket	3	17	20	3
Desire for station specific bonus hours	22	16	38	6
Desire for a weekend travel bonus	2	16	18	1

Desire for better user engagement	19	15	34	6
Had problems with the system settings	23	13	36	6
Liked AutoPlay for Spin-to-Win game	10	13	23	6
Would prefer if money spent on incentives went to BART improvements instead	2	8	10	6
Liked the email notices	1	8	9	6
Liked PayPal	3	7	10	6
Desire to see program partnership with other transit agencies	1	7	8	6
Found website to be not mobile compatible	19	5	24	6
Could not register multiple Clipper cards	15	5	20	6
Desire for more points during non-peak hours	6	5	11	1
Felt that there were errors with point calculation	9	4	13	6
Desire for rewards to go to charity	7	4	11	3
Felt it was difficult to accumulate points	17	2	19	2
Desire for better customer service	9	2	11	6
Desire for reward of seating on BART	2	2	4	3
Desire for reward for taking other transportation alternatives	13	1	14	3
Desire for points to be displayed at fare gates	3	1	4	6
Desire for program to link to BARTtable rider discounts, giveaways and events program	3	1	4	6
Desire for reward if you are a Clipper Card Auto-load user	2	1	3	1
Don't use Clipper	1	1	2	6
Felt they had a better chance to win with Autoplay	3	0	3	6
Can't register discount ticket	1	0	1	6
Felt they were less likely to win with Autoplay	1	0	1	5
Desire for rewards for not using congested stations	1	0	1	1
Felt program was unfair for shorter trips	1	0	1	6