Mobilizing Justice: Montreal Fair Pass Pilot

João Pedro Figueira Amorim Parga

This version: July 29, 2024

This version contains only the updated tables and visualizations from the new report. The text can be found at the onedrive link.

# 1. Descriptive analysis

## 1.1 Who took the survey?

### 1.1.1 Table age

This subsection contains a general description of who took the first wave of the survey…

| **Characteristic** | **N = 3,380**1 |
| --- | --- |
| Age groups (Control and Treatment) |  |
| Control (50-64) | 1,600 (54%) |
| Treatment (65-over) | 1,366 (46%) |
| Missing | 414 |
| Age groups (5 years intervals) |  |
| Age 50-54 | 338 (12%) |
| Age 55-59 | 486 (17%) |
| Age 60-64 | 754 (26%) |
| Age 65-69 | 588 (20%) |
| Age 70-74 | 420 (14%) |
| Age 75-79 | 226 (7.7%) |
| Age 80-84 | 96 (3.3%) |
| Age 85-89 | 20 (0.7%) |
| Age 90 and over | 8 (0.3%) |
| Missing | 444 |
| 1n (%) | |

### 1.1.2 Table invariable characteristics through time

| **Characteristic** | **Control (50-64)**, N = 1,6001 | **Treatment (65-over)**, N = 1,3661 | **Total**, N = 29661 |
| --- | --- | --- | --- |
| Visible minority |  |  |  |
| Non-visible minority | 1,392 (89%) | 1,268 (94%) | 2,660 (91%) |
| Visible minority | 154 (9.8%) | 70 (5.2%) | 224 (7.7%) |
| Native NA origins | 24 (1.5%) | 8 (0.6%) | 32 (1.1%) |
| Missing | 30 | 20 | 50 |
| Is Immigrant |  |  |  |
| No | 1,292 (81%) | 1,180 (87%) | 2,472 (84%) |
| Yes | 296 (19%) | 172 (13%) | 468 (16%) |
| Missing | 12 | 14 | 26 |
| Gender |  |  |  |
| Female | 878 (55%) | 746 (55%) | 1,624 (55%) |
| Male | 702 (44%) | 608 (45%) | 1,310 (44%) |
| Other | 6 (0.4%) | 6 (0.4%) | 12 (0.4%) |
| Missing | 14 | 6 | 20 |
| Has post-secondary education |  |  |  |
| Yes | 1,296 (83%) | 1,100 (82%) | 2,396 (82%) |
| No | 274 (17%) | 242 (18%) | 516 (18%) |
| Missing | 30 | 24 | 54 |
| 1n (%) | | | |

### 1.1.3 Table response rate

how to get response rate?

|  | **First** | | | **Second** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Characteristic** | **Control (50-64)**, N = 8001 | **Treatment (65-over)**, N = 6831 | **Total**, N = 14831 | **Control (50-64)**, N = 8001 | **Treatment (65-over)**, N = 6831 | **Total**, N = 14831 |
| Any mobility limitation |  |  |  |  |  |  |
| No | 720 (93%) | 624 (93%) | 1,344 (93%) | 434 (92%) | 429 (93%) | 863 (92%) |
| Yes | 56 (7.2%) | 48 (7.1%) | 104 (7.2%) | 38 (8.1%) | 32 (6.9%) | 70 (7.5%) |
| Missing | 24 | 11 | 35 | 328 | 222 | 550 |
| Any functional limitation |  |  |  |  |  |  |
| No | 599 (77%) | 529 (79%) | 1,128 (78%) | 381 (81%) | 367 (79%) | 748 (80%) |
| Yes | 177 (23%) | 143 (21%) | 320 (22%) | 92 (19%) | 95 (21%) | 187 (20%) |
| Missing | 24 | 11 | 35 | 327 | 221 | 548 |
| Employment |  |  |  |  |  |  |
| Retired | 209 (26%) | 590 (87%) | 799 (54%) | 156 (32%) | 408 (87%) | 564 (59%) |
| Employed full-time | 392 (49%) | 45 (6.6%) | 437 (30%) | 219 (46%) | 26 (5.6%) | 245 (26%) |
| Employed part-time | 95 (12%) | 34 (5.0%) | 129 (8.8%) | 53 (11%) | 28 (6.0%) | 81 (8.5%) |
| Unemployed | 59 (7.4%) | 2 (0.3%) | 61 (4.1%) | 29 (6.0%) | 2 (0.4%) | 31 (3.3%) |
| Other | 21 (2.6%) | 7 (1.0%) | 28 (1.9%) | 10 (2.1%) | 2 (0.4%) | 12 (1.3%) |
| Full-time parent/homemaker | 17 (2.1%) | 1 (0.1%) | 18 (1.2%) | 14 (2.9%) | 1 (0.2%) | 15 (1.6%) |
| Missing | 7 | 4 | 11 | 319 | 216 | 535 |
| Annual income groups |  |  |  |  |  |  |
| Less than $15,000 | 58 (8.1%) | 13 (2.2%) | 71 (5.4%) | 35 (7.9%) | 6 (1.4%) | 41 (4.8%) |
| $15,000 to $29,999 | 121 (17%) | 182 (31%) | 303 (23%) | 66 (15%) | 118 (28%) | 184 (21%) |
| $30,000 to $59,999 | 254 (36%) | 192 (32%) | 446 (34%) | 149 (34%) | 143 (34%) | 292 (34%) |
| $60,000 to $89,999 | 124 (17%) | 121 (20%) | 245 (19%) | 91 (21%) | 92 (22%) | 183 (21%) |
| $90,000 to $119,999 | 89 (12%) | 46 (7.7%) | 135 (10%) | 60 (14%) | 33 (8.0%) | 93 (11%) |
| $120,000 to $149,999 | 35 (4.9%) | 23 (3.9%) | 58 (4.4%) | 22 (5.0%) | 14 (3.4%) | 36 (4.2%) |
| $150,000 to $179,999 | 17 (2.4%) | 10 (1.7%) | 27 (2.1%) | 10 (2.3%) | 7 (1.7%) | 17 (2.0%) |
| $180,000 to $209,999 | 8 (1.1%) | 4 (0.7%) | 12 (0.9%) | 5 (1.1%) | 2 (0.5%) | 7 (0.8%) |
| $210,000 or more | 9 (1.3%) | 3 (0.5%) | 12 (0.9%) | 4 (0.9%) | 0 (0%) | 4 (0.5%) |
| Missing | 85 | 89 | 174 | 358 | 268 | 626 |
| Household below LIM |  |  |  |  |  |  |
| No | 491 (69%) | 391 (66%) | 882 (68%) | 322 (73%) | 283 (68%) | 605 (71%) |
| Yes | 217 (31%) | 199 (34%) | 416 (32%) | 120 (27%) | 131 (32%) | 251 (29%) |
| Missing | 92 | 93 | 185 | 358 | 269 | 627 |
| Single-person household |  |  |  |  |  |  |
| No | 473 (60%) | 323 (48%) | 796 (54%) | 277 (57%) | 222 (48%) | 499 (53%) |
| Yes | 318 (40%) | 354 (52%) | 672 (46%) | 205 (43%) | 243 (52%) | 448 (47%) |
| Missing | 9 | 6 | 15 | 318 | 218 | 536 |
| Has Vehicle in Household |  |  |  |  |  |  |
| Yes | 474 (59%) | 417 (61%) | 891 (60%) | 289 (60%) | 277 (59%) | 566 (60%) |
| No | 323 (41%) | 262 (39%) | 585 (40%) | 193 (40%) | 190 (41%) | 383 (40%) |
| Missing | 3 | 4 | 7 | 318 | 216 | 534 |
| 1n (%) | | | | | | |

### 1.1.4 Table VARIABLE demographics through time

|  | **First** | | | **Second** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Characteristic** | **Control (50-64)**, N = 8001 | **Treatment (65-over)**, N = 6831 | **Total**, N = 14831 | **Control (50-64)**, N = 8001 | **Treatment (65-over)**, N = 6831 | **Total**, N = 14831 |
| Any mobility limitation |  |  |  |  |  |  |
| No | 720 (93%) | 624 (93%) | 1,344 (93%) | 434 (92%) | 429 (93%) | 863 (92%) |
| Yes | 56 (7.2%) | 48 (7.1%) | 104 (7.2%) | 38 (8.1%) | 32 (6.9%) | 70 (7.5%) |
| Missing | 24 | 11 | 35 | 328 | 222 | 550 |
| Any functional limitation |  |  |  |  |  |  |
| No | 599 (77%) | 529 (79%) | 1,128 (78%) | 381 (81%) | 367 (79%) | 748 (80%) |
| Yes | 177 (23%) | 143 (21%) | 320 (22%) | 92 (19%) | 95 (21%) | 187 (20%) |
| Missing | 24 | 11 | 35 | 327 | 221 | 548 |
| Employment |  |  |  |  |  |  |
| Retired | 209 (26%) | 590 (87%) | 799 (54%) | 156 (32%) | 408 (87%) | 564 (59%) |
| Employed full-time | 392 (49%) | 45 (6.6%) | 437 (30%) | 219 (46%) | 26 (5.6%) | 245 (26%) |
| Employed part-time | 95 (12%) | 34 (5.0%) | 129 (8.8%) | 53 (11%) | 28 (6.0%) | 81 (8.5%) |
| Unemployed | 59 (7.4%) | 2 (0.3%) | 61 (4.1%) | 29 (6.0%) | 2 (0.4%) | 31 (3.3%) |
| Other | 21 (2.6%) | 7 (1.0%) | 28 (1.9%) | 10 (2.1%) | 2 (0.4%) | 12 (1.3%) |
| Full-time parent/homemaker | 17 (2.1%) | 1 (0.1%) | 18 (1.2%) | 14 (2.9%) | 1 (0.2%) | 15 (1.6%) |
| Missing | 7 | 4 | 11 | 319 | 216 | 535 |
| Annual income groups |  |  |  |  |  |  |
| Less than $15,000 | 58 (8.1%) | 13 (2.2%) | 71 (5.4%) | 35 (7.9%) | 6 (1.4%) | 41 (4.8%) |
| $15,000 to $29,999 | 121 (17%) | 182 (31%) | 303 (23%) | 66 (15%) | 118 (28%) | 184 (21%) |
| $30,000 to $59,999 | 254 (36%) | 192 (32%) | 446 (34%) | 149 (34%) | 143 (34%) | 292 (34%) |
| $60,000 to $89,999 | 124 (17%) | 121 (20%) | 245 (19%) | 91 (21%) | 92 (22%) | 183 (21%) |
| $90,000 to $119,999 | 89 (12%) | 46 (7.7%) | 135 (10%) | 60 (14%) | 33 (8.0%) | 93 (11%) |
| $120,000 to $149,999 | 35 (4.9%) | 23 (3.9%) | 58 (4.4%) | 22 (5.0%) | 14 (3.4%) | 36 (4.2%) |
| $150,000 to $179,999 | 17 (2.4%) | 10 (1.7%) | 27 (2.1%) | 10 (2.3%) | 7 (1.7%) | 17 (2.0%) |
| $180,000 to $209,999 | 8 (1.1%) | 4 (0.7%) | 12 (0.9%) | 5 (1.1%) | 2 (0.5%) | 7 (0.8%) |
| $210,000 or more | 9 (1.3%) | 3 (0.5%) | 12 (0.9%) | 4 (0.9%) | 0 (0%) | 4 (0.5%) |
| Missing | 85 | 89 | 174 | 358 | 268 | 626 |
| Household below LIM |  |  |  |  |  |  |
| No | 491 (69%) | 391 (66%) | 882 (68%) | 322 (73%) | 283 (68%) | 605 (71%) |
| Yes | 217 (31%) | 199 (34%) | 416 (32%) | 120 (27%) | 131 (32%) | 251 (29%) |
| Missing | 92 | 93 | 185 | 358 | 269 | 627 |
| Single-person household |  |  |  |  |  |  |
| No | 473 (60%) | 323 (48%) | 796 (54%) | 277 (57%) | 222 (48%) | 499 (53%) |
| Yes | 318 (40%) | 354 (52%) | 672 (46%) | 205 (43%) | 243 (52%) | 448 (47%) |
| Missing | 9 | 6 | 15 | 318 | 218 | 536 |
| Has Vehicle in Household |  |  |  |  |  |  |
| Yes | 474 (59%) | 417 (61%) | 891 (60%) | 289 (60%) | 277 (59%) | 566 (60%) |
| No | 323 (41%) | 262 (39%) | 585 (40%) | 193 (40%) | 190 (41%) | 383 (40%) |
| Missing | 3 | 4 | 7 | 318 | 216 | 534 |
| 1n (%) | | | | | | |

, any\_mobility\_limitation , any\_functional\_limitation , employment , income\_groups , in\_lim , lone\_household

## 1.2 What is their travel behavior?

, has\_vehicle\_household

### 1.2.1 Transit use, cost barriers, and suppressed demand

The table below displays the cross-tabulations with respondents’ travel behavior by their age groups, i.e., over 65 years old (Treatment) and between 50 and 64 years old (Control). Seventy percent of the individuals over 65 years old have the Free 65+ fare loaded into their Opus card. The relative percentage of people that declared riding transit as much as they liked was higher in the treatment group (73%) than in the control (66%). Nonetheless, 85% of the treatment group said that the cost of transit has prevented them from taking a trip using public transit, compared to 66% of the control. Additionally, the treatment group reported a higher percentage (73%) of respondents that declared having difficulty meeting transport expenses when compared to the control (52%). These results deserve further investigation: is suppressed demand an issue disproportionately affecting people that do not have access to the fare-free program? And how will these results change with time after the implementation of the fare-free policy?

Regarding suppressed transit demand because of transit costs, control and treatment behavior are similar. Active modes of transportation are the most common form of replacement for those who reported not taking a transit trip because of transit cost - more than 40% for both control and treatment. Not taking the trip at all is the second most common option (27% for the whole sample), followed by using the car (24%) as the alternative trip modal choice.

# 2. Update

## 2.1 Old analysis (1st wave only (demographics?))

q111 age\_groups\_control\_treat n  
 <char> <char> <int>  
1: No Control (50-64) 447  
2: No Treatment (65-over) 65  
3: Yes Control (50-64) 37  
4: Yes Treatment (65-over) 402  
5: <NA> Control (50-64) 316  
6: <NA> Treatment (65-over) 216  
7: <NA> <NA> 207

df\_both %>% filter(wave==“Second”) %>% count(q111, age\_groups\_control\_treat)

## 2.2 Update old (1st and 2nd wave combined)

Awareness of free pass and how did that translate to its use

awereness\_free\_pass age\_groups\_control\_treat n  
 <fctr> <char> <int>  
1: No Control (50-64) 77  
2: No Treatment (65-over) 26  
3: No <NA> 14  
4: Yes Control (50-64) 709  
5: Yes Treatment (65-over) 647  
6: Yes <NA> 88  
7: <NA> Control (50-64) 14  
8: <NA> Treatment (65-over) 10  
9: <NA> <NA> 105

has\_free\_pass\_wave1 age\_groups\_control\_treat n  
 <fctr> <char> <int>  
1: No Treatment (65-over) 201  
2: No <NA> 16  
3: Yes Treatment (65-over) 461  
4: Yes <NA> 28  
5: <NA> Control (50-64) 800  
6: <NA> Treatment (65-over) 21  
7: <NA> <NA> 163

has\_free\_pass\_wave1\_categories age\_groups\_control\_treat n  
 <fctr> <char> <int>  
 1: Yes Control (50-64) 3  
 2: Yes Treatment (65-over) 461  
 3: Yes <NA> 28  
 4: No, but I’m planning to get it soon Control (50-64) 3  
 5: No, but I’m planning to get it soon Treatment (65-over) 185  
 6: No, but I’m planning to get it soon <NA> 13  
 7: No, but I’m not planning to get it Treatment (65-over) 16  
 8: No, but I’m not planning to get it <NA> 3  
 9: <NA> Control (50-64) 794  
10: <NA> Treatment (65-over) 21  
11: <NA> <NA> 163

fare\_type\_before\_pass\_q98 age\_groups\_control\_treat n  
 <fctr> <char> <int>  
 1: Monthly or more Treatment (65-over) 74  
 2: Monthly or more <NA> 5  
 3: Limited daily Treatment (65-over) 265  
 4: Limited daily <NA> 17  
 5: 3-day or weekly Treatment (65-over) 3  
 6: 3-day or weekly <NA> 1  
 7: Unlimited daily Treatment (65-over) 10  
 8: Unlimited daily <NA> 1  
 9: Other Treatment (65-over) 10  
10: <NA> Treatment (65-over) 99  
11: <NA> <NA> 4

fare\_type\_before\_pass\_q99 age\_groups\_control\_treat n  
 <fctr> <char> <int>  
1: <NA> Treatment (65-over) 461  
2: <NA> <NA> 28

q111 age\_groups\_control\_treat n  
 <char> <char> <int>  
1: No Control (50-64) 447  
2: No Treatment (65-over) 65  
3: Yes Control (50-64) 37  
4: Yes Treatment (65-over) 402  
5: <NA> Control (50-64) 316  
6: <NA> Treatment (65-over) 216  
7: <NA> <NA> 207

## 2.3 New analysis only (2nd wave only)