VMT Data Description Notes

2023-06-22

Contents

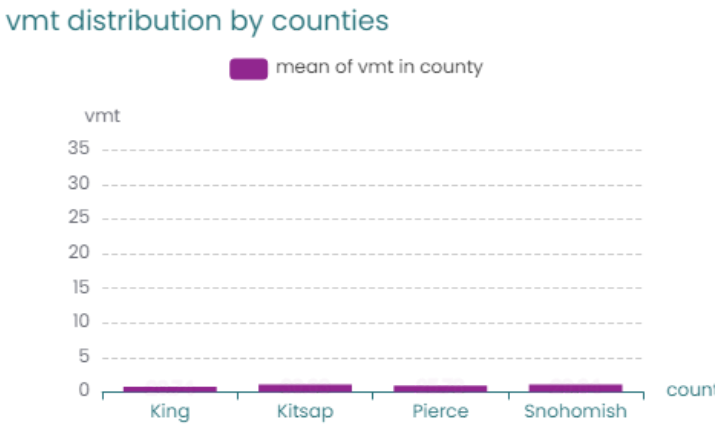
Regional VMT stat

- total VMT in the region: 72213541.9621298
- total adults in the region: 24157561.6161587
- total employed adults in the region: 16477261.3765869
- average VMT per person in the region: 2.9892728

Basic stat for person-level vmt

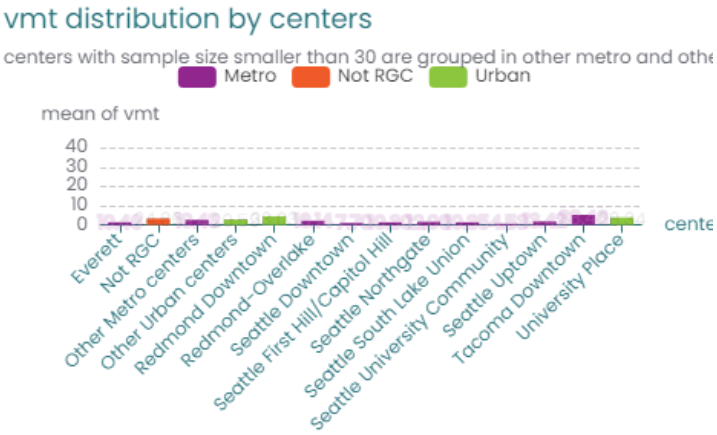
vmt in counties and centers

```
## # A tibble: 4 x 5
##   sample_county sample_size   vmt_sum  pop_sum vmt_mean
##   <chr>               <int>     <dbl>    <dbl>    <dbl>
## 1 King                55167 33553127. 1617414.     20.7
## 2 Kitsap               4077  5710341.  186458.     30.6
## 3 Pierce              11298 16141617.  626013.     25.8
## 4 Snohomish            6976 16808457.  567174.     29.6
```



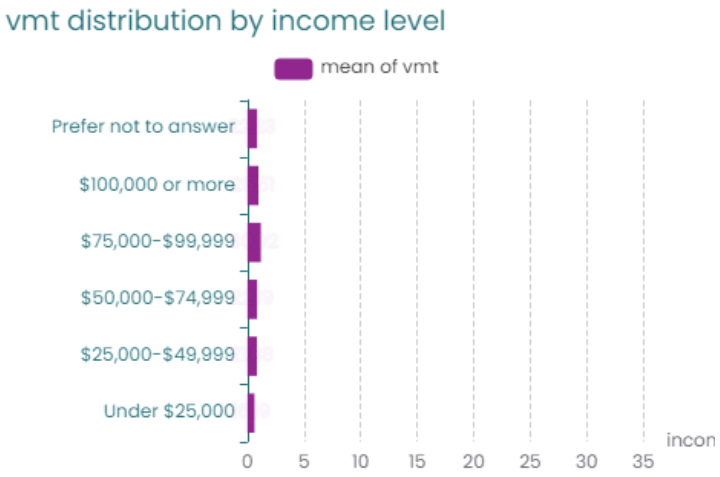

```
## # A tibble: 14 x 5
##    big_rgc_grp                    sample_size   vmt_sum  pop_sum vmt_mean
```

```
##    <chr>                              <int>     <dbl>    <dbl>    <dbl>
##  1 Everett                              415   148812.   14227.    10.5
##  2 Not RGC                            60842 67702843. 2723107.    24.9
##  3 Other Metro centers                  141   263312.   13554.    19.4
##  4 Other Urban centers                 1421  1678132.   81518.    20.6
##  5 Redmond Downtown                    1848   124185.    3760.    33.0
##  6 Redmond-Overlake                     163    33063.    2049.    16.1
##  7 Seattle Downtown                    3217   216349.   28090.     7.70
##  8 Seattle First Hill/Capitol Hill     3087   402792.   39118.    10.3
##  9 Seattle Northgate                   1525   175470.   14555.    12.1
## 10 Seattle South Lake Union             828   131963.   12747.    10.4
## 11 Seattle University Community        2044    94616.   20905.     4.53
## 12 Seattle Uptown                       999   205619.   15317.    13.4
## 13 Tacoma Downtown                      696   910679.   23676.    38.5
## 14 University Place                     292   125706.    4435.    28.3
```


vmt distribution by centers
centers with sample size smaller than 30 are grouped in other metro and othe
Metro
Not RGC
Urban
mean of vmt
40
30
20
10
0
cente
Everett
Not RGC
Other Metro centers
Other Urban centers
Redmond Downtown
Redmond-Overlake
Seattle Downtown
Seattle First Hill/Capitol Hill
Seattle Northgate
Seattle South Lake Union
Seattle University Community
Seattle Uptown
Tacoma Downtown
University Place

vmt by income group

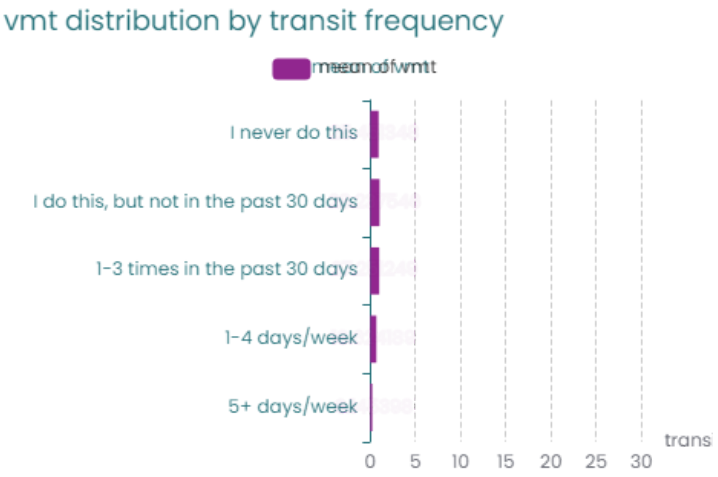
```
## # A tibble: 6 x 5
##   hhincome_broad       sample_size   vmt_sum  pop_sum vmt_mean
##   <fct>                      <int>     <dbl>    <dbl>    <dbl>
## 1 Under $25,000               3655  4934047.  304765.     16.2
## 2 $25,000-$49,999             8260  9500350.  434161.     21.9
## 3 $50,000-$74,999            12397  9931263.  447599.     22.2
## 4 $75,000-$99,999            10903 12147397.  392899.     30.9
## 5 $100,000 or more           38714 32572982. 1276928.     25.5
## 6 Prefer not to answer        3589  3127503.  140708.     22.2
```


vmt distribution by income level
mean of vmt
Prefer not to answer
$100,000 or more
$75,000-$99,999
$50,000-$74,999
$25,000-$49,999
Under $25,000
incon
0
5
10
15
20
25
30
35

vmt by transit frequency

- frequent transit users have significantly lower vmt

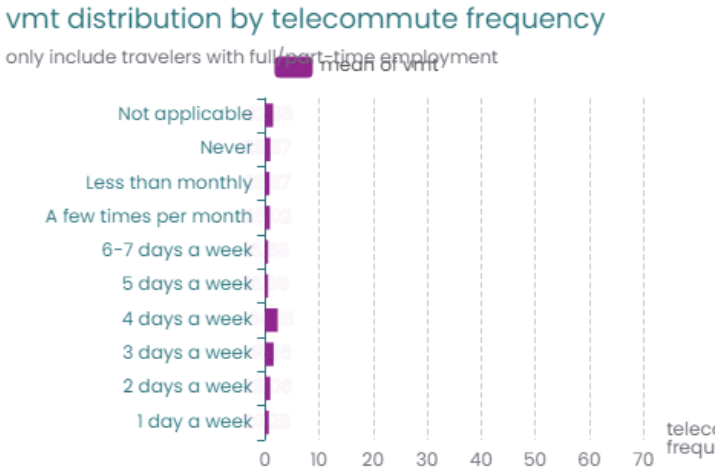
```
## # A tibble: 6 x 5
##   freq_transit_simple                    sample_size   vmt_sum  pop_sum vmt_mean
##   <fct>                                        <int>     <dbl>    <dbl>    <dbl>
## 1 5+ days/week                                  6231  1441854.  234623.     6.15
## 2 1-4 days/week                                10498  4573632.  245575.    18.6
## 3 1-3 times in the past 30 days                10064  8896203.  326451.    27.3
## 4 I do this, but not in the past 30 days       11571 18590528.  658362.    28.2
## 5 I never do this                              26332 37788438. 1484732.    25.5
## 6 <NA>                                         12822   922887.   47316.    19.5
```


vmt distribution by transit frequency
I never do this
I do this, but not in the past 30 days
1-3 times in the past 30 days
1-4 days/week
5+ days/week
trans
0
5
10
15
20
25
30

vmt by telecommute frequency

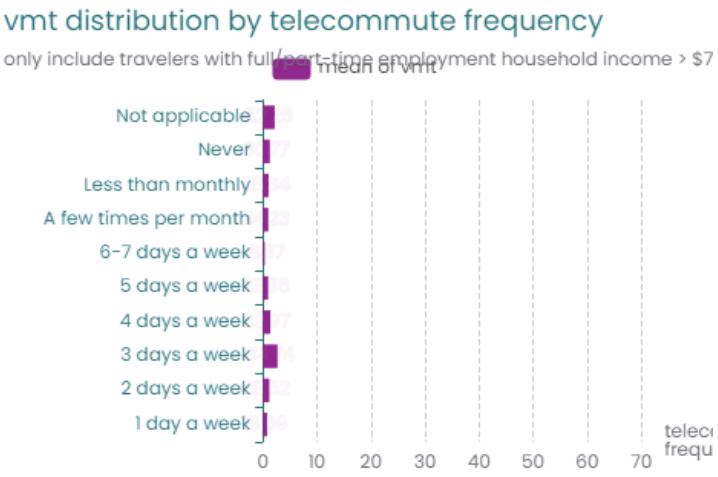
- people who telework 3-4 days/week have the highest vmt, while people who telework 5 days/week have the lowest

```
## # A tibble: 11 x 5
##    telecommute_freq      sample_size   vmt_sum pop_sum vmt_mean
##    <chr>                       <int>     <dbl>   <dbl>    <dbl>
##  1 1 day a week                 3512  1967479.  96996.     20.3
##  2 2 days a week                1508  1509856.  53803.     28.1
##  3 3 days a week                 656   808023.  17893.     45.2
##  4 4 days a week                 372  1660868.  25098.     66.2
##  5 5 days a week                1571  1405446.  85893.     16.4
##  6 6-7 days a week               374   474918.  28448.     16.7
##  7 A few times per month        6754  5213082. 200386.     26.0
##  8 Less than monthly            8685  5774811. 241919.     23.9
##  9 Never                       18153 24872812. 876694.     28.4
## 10 Not applicable               2778  5102163. 120446.     42.4
## 11 <NA>                         3393  2036104. 111485.     18.3
```



- **only including high income group** (household income higher than $75,000)

```
## # A tibble: 11 x 5
##    telecommute_freq      sample_size   vmt_sum pop_sum vmt_mean
##    <chr>                       <int>     <dbl>   <dbl>    <dbl>
##  1 1 day a week                 2688  1324813.  70892.    18.7
##  2 2 days a week                1144  1317019.  46172.    28.5
##  3 3 days a week                 454   777626.  12011.    64.7
##  4 4 days a week                 171   300342.   9109.    33.0
##  5 5 days a week                 841   801778.  34318.    23.4
##  6 6-7 days a week               214    52389.   6261.     8.37
##  7 A few times per month        5332  3775352. 155786.    24.2
##  8 Less than monthly            6785  4631399. 182755.    25.3
##  9 Never                       10592 16490265. 535870.    30.8
## 10 Not applicable               1196  1811406.  34660.    52.3
## 11 <NA>                         2317  1727757.  74547.    23.2
```


vmt distribution by telecommute frequency
only include travelers with full/part-time employment household income > $7
mean of vmt
Not applicable
Never
Less than monthly
A few times per month
6-7 days a week
5 days a week
4 days a week
3 days a week
2 days a week
1 day a week
0
10
20
30
40
50
60
70

person-level vmt and transit/parking subsidy

- how does vmt correlate with transit pass and free/subsidized parking at work?
  - people that are offered a transit pass have lower vmt than those not offered one
  - people that are offered free/subsidized parking at work have higher vmt than those not offered
- transit pass vs transit frequency: people that are offered a free transit pass tend to use transit more frequently
- transit frequency vs drive trips: 50% of people who takes transit 5+ days/week also drive

vmt by commute benefits

```
## # A tibble: 4 x 6
##   benefits    sample_size   vmt_sum  pop_sum vmt_mean type
##   <fct>             <int>     <dbl>    <dbl>    <dbl> <chr>
## 1 Offered           28329 42166561. 1266793.     33.3 free/reimbursed parking a~
## 2 Not offered        2663  3558970.  119919.     29.7 free/reimbursed parking a~
## 3 Offered           23598 16110664.  650946.     24.7 transit pass
## 4 Not offered       19150 27971266.  910016.     30.7 transit pass
```


vmt effects
only include travelers with full/part-time employment
Offered
Not offered
mean of vmt
35
30
25
20
15
10
5
0
free/reimbursed parking at work
transit pass
comr
bene

transit pass vs transit frequency