

# How can we best visualize worker movement throughout the day?

@USCensusBureau #commuting #ACS #dataviz #SEHSD #SDA

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START

## READ THIS

### What is Dynamic Daytime Population?

The number of people in a county that are either commuting to or from work, are at work, or are at home in 15-minute increments.

### Why are these data important?

Dynamic daytime population estimates provide users such as emergency management agencies, emergency responders, planners, developers, transportation planners, and policy makers information about the estimated number of people that are in a county within any given 15-minute interval.

## SEE THE DATA

state	county	state_name	county_name	mltime	time	AtWork	moa_AtWork	CntHomeOut	moa_CntHomeOut	CntWksOut	moa_CntWksOut	C
011	001	District of C	District of Columbia	0	12:00am	20,959	935	4,419	519	136	87	
011	001	District of C	District of Columbia	15	12:15am	20,323	924	4,177	496	48	49	
011	001	District of C	District of Columbia	30	12:30am	19,531	905	3,932	374	11	17	
011	001	District of C	District of Columbia	45	12:45am	18,435	897	3,613	456	11	17	
011	001	District of C	District of Columbia	100	1:00am	17,557	867	2,977	437	51	45	
011	001	District of C	District of Columbia	115	1:15am	16,727	878	3,454	464	97	62	
011	001	District of C	District of Columbia	130	1:30am	15,900	864	2,971	465	118	67	
011	001	District of C	District of Columbia	145	1:45am	15,250	840	3,047	477	81	57	
011	001	District of C	District of Columbia	200	2:00am	14,600	821	2,855	346	235	104	
011	001	District of C	District of Columbia	215	2:15am	14,060	830	2,541	345	180	96	
011	001	District of C	District of Columbia	230	2:30am	13,425	820	2,113	349	53	49	
011	001	District of C	District of Columbia	245	2:45am	13,046	819	2,162	312	37	36	
011	001	District of C	District of Columbia	300	3:00am	12,675	815	1,765	249	247	126	
011	001	District of C	District of Columbia	315	3:15am	12,636	849	1,636	261	204	110	
011	001	District of C	District of Columbia	330	3:30am	12,632	808	1,325	210	193	142	
011	001	District of C	District of Columbia	345	3:45am	12,647	841	1,170	254	160	138	
011	001	District of C	District of Columbia	400	4:00am	12,896	837	1,059	241	863	228	

## What we need you to do:

Review the following elements of this poster. Then...we need feedback on:

- 1) The assumptions and the visualizations.
- 2) Anything else you'd like to see with these data. For example, mode of transportation?

## UNDERSTAND THE DATA

- Estimates are for counties with over 250,000 persons.
- Broken up into 15-minute intervals.
- All time is in military time.
- Include workers in transit, at home, at work, and non-workers.
- Use time of departure, travel time, and hours worked in week to estimate whether in transit or at work or at home.
- Contain margins of error for each estimate

## REVIEW THE ASSUMPTIONS

1



Only shows workers who worked last week. No students, tourists, shoppers, or other non-work related travel.

2

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			



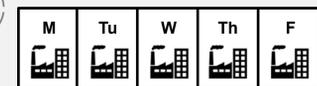
All workers work the same 5 days a week and equal time each day.

3



Non-work times (such as unpaid lunches) are not factored into the work day.

4



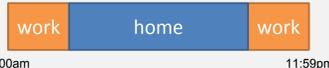
Workers work at the same location all 5 days.

5



Everyone, when not working or commuting, is in their place of residence.

6



If a worker's work shift or commute crosses midnight, it will appear as split between two parts of the day – the beginning and end.

7



Counties that are passed through during commutes are not reflected in the data.

8



It takes the same amount of time for a worker's morning commute as their evening commute.

9



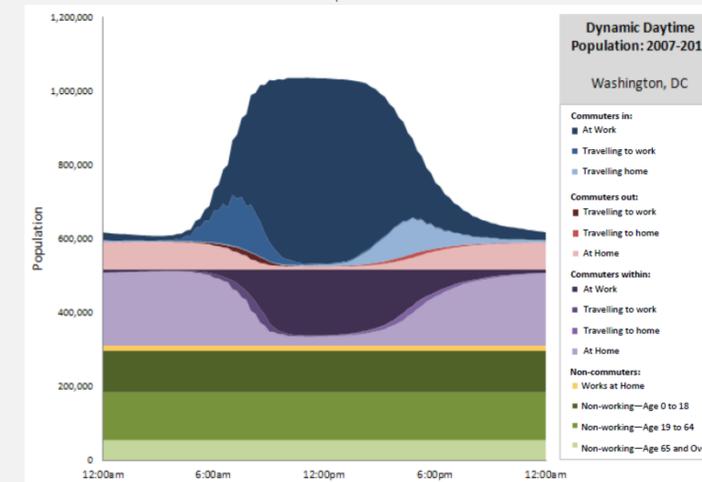
The worker's commute is the same each day.

10



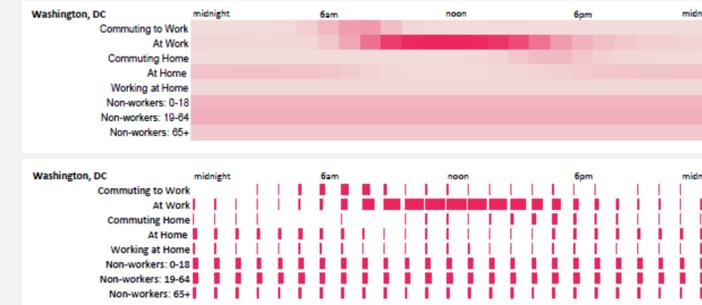
Outlier commuters, such as commuting from a foreign country outside Canada or Mexico, are included.

## VISUALIZE SIZE



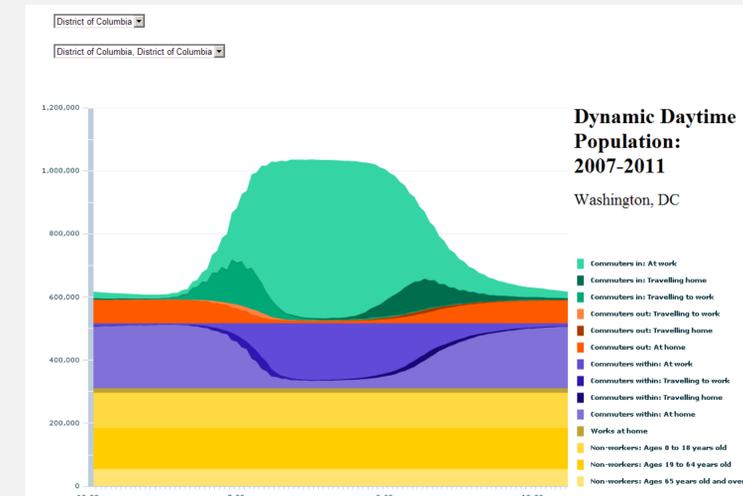
This diagram shows the number of commuters, workers at home, and non-workers within the District of Columbia throughout the day. This diagram allows the user to compare size of subpopulations throughout the 24-hour day.

## VISUALIZE PROPORTION



These diagrams show an aggregated version of the categories. It also allows the user to quickly see the differences in proportion among the categories.

## VISUALIZE WITH DATAFERRETT



These graphs were created using the hot report writer in the Census Bureau's DataFerrett data dissemination tool. The top graph shows all of the categories of dynamic daytime population estimates.

The bottom graph depicts the user's ability to roll over the graph to only show a certain category and a pop-up box displaying the time and population estimate for that category.

Additionally, the user can roll over the legend to display only a specified category and gray out the rest.

User can roll over graph to display stats and/or view a specific category.

ANSWER THE QUESTIONS ON THE FEEDBACK SURVEY. RETURN COMPLETED SURVEY HERE.

