



# Using GIS to Examine Taxpayer Demographics Around Development Projects

A Look at Washington, DC

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Betty Alleyne  
District of Columbia  
Office of Revenue Analysis

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## Purpose of the Study

- By using development data, the study examined changes in the demographics of individual income tax filers within a specified distance from selected development projects between 2001 and 2005.

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## Methodology

- Used individual income tax data for TY2001 and TY2005 and development data for projects that were completed in 2003.
- Geocoded each taxpayer record and development project.
- Created half mile and two mile buffers around each development project using the GIS buffer tool.
- Compared taxpayer demographics in TY2001 with those in TY2005.

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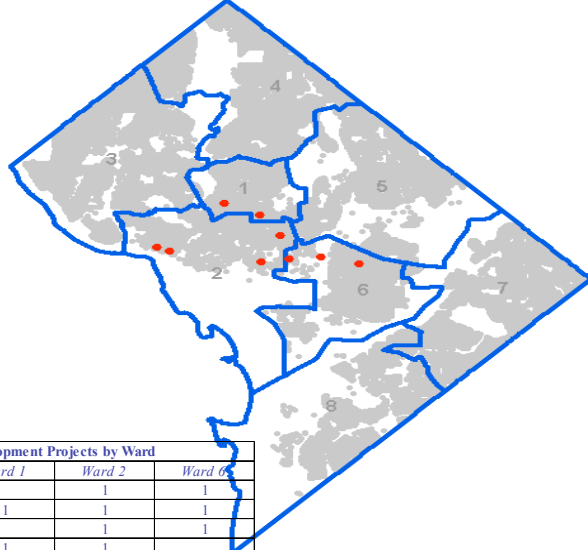
## The Data and Variables

- **Data Sources**
  - D.C. Office of Tax and Revenue for the taxpayer data
  - Washington, DC Economic Partnership for the project data
- Presented the development projects and taxpayer demographics by ward for TY2001 and TY2005.
- **Data Limitations**

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## Washington, DC Development Projects for Wards 1, 2 and 6



Type of Project	Development Projects by Ward		
	Ward 1	Ward 2	Ward 6
Community	1	1	1
Mixed Use	1	1	1
Office	1	1	1
Retail	1	1	1
<b>Total</b>	<b>2</b>	<b>4</b>	<b>3</b>

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## Taxpayer Demographics for Ward 1

	Ward-Level	Percent Change Between 2001 and 2005			
		0.5 Miles from Mixed-Use Project	2 Miles from Mixed-Use Project	0.5 Miles from Retail Project	2 Miles from Retail Project
Number of Filers	38.2%	47.8%	38.5%	52.8%	39.1%
<b>Filer Type Distribution</b>					
Single	6.6%	4.7%	6.4%	3.7%	6.6%
Joint	-20.9%	-8.4%	-21.1%	-19.2%	-23.1%
MFCS	41.8%	76.2%	36.6%	38.8%	26.7%
MFS	-4.4%	-1.4%	-5.6%	2.6%	-7.3%
Head of Household	-20.4%	-27.2%	-20.4%	-31.9%	-20.9%
Dependent	-21.0%	-22.5%	-17.8%	-33.2%	-21.7%
<b>DCAGI Distribution</b>					
Less than \$30,000	-17.5%	-19.4%	-17.1%	-21.5%	-17.0%
\$30,000 - \$50,000	13.0%	2.4%	6.5%	4.5%	7.9%
\$50,000 - \$75,000	23.5%	16.5%	20.1%	18.1%	18.1%
\$75,000 - \$100,000	37.4%	33.5%	33.1%	24.8%	24.6%
\$100,000 - \$150,000	44.4%	50.5%	46.9%	43.0%	33.3%
Greater than \$150,000	67.0%	96.8%	33.7%	30.7%	20.2%
<b>Average DCAGI</b>					
Single	22.5%	23.3%	16.2%	14.8%	13.6%
Joint	25.8%	37.3%	13.1%	29.3%	10.0%
MFCS	15.8%	26.6%	-19.7%	-3.1%	-17.6%
MFS	47.0%	41.5%	-66.7%	72.2%	-63.1%
Head of Household	11.0%	18.3%	10.4%	6.3%	8.5%
Dependent	24.6%	-27.9%	20.1%	7.5%	29.5%
<b>Deduction Type Distribution</b>					
Itemize	9.7%	13.4%	6.8%	7.8%	3.8%
Standard	2.7%	-1.6%	3.4%	2.0%	5.2%
<b>EITC Distribution</b>					
Number	-14.7%	-17.5%	-14.3%	-23.4%	-15.3%
<b>LITC Distribution</b>					
Number	-8.1%	-14.7%	0.0%	-11.8%	-1.2%
<b>Filers With Dependents Distribution</b>					
Number of Filers	-26.8%	-29.2%	-35.2%	-42.7%	-38.2%

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## Findings for Ward 1

- The increase in the total number of filers was larger within a half mile of the mixed use and retail projects than the ward.
- There was growth in the share of single filers for the ward and around the development; however the change was larger for the ward than it was at the half-mile radius.
- The share of head of household filers declined, but the decline was larger around the development than for the ward.
- The findings show a larger growth in single filers and a larger decline in the head of household filers within the project vicinity than for the ward.
- The results imply a displacement of low-income filers closer to the development.
  - The decline in the share of low-income filers was larger for the half mile radius around the mixed-use and retail projects than it was for the two mile radius and the ward.
  - The percentage of EITC filers declined; the decline was larger around the retail and mixed use development than for the ward.

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## Taxpayer Demographics for Ward 2

	Percent Change Between 2001 and 2005								
	Ward-Level	0.5 Miles from Community Project	2 Miles from Community Project	0.5 Miles from Mixed-Use Project	2 Miles from Mixed-Use Project	0.5 Miles from Office Project	2 Miles from Office Project	0.5 Miles from Retail Project	2 Miles from Retail Project
Number of Filers	46.6%	37.4%	39.4%	32.8%	49.2%	80.8%	42.8%	29.0%	48.0%
<b>Filer Type Distribution</b>									
Single	5.2%	8.9%	6.6%	8.9%	4.9%	4.7%	6.0%	9.0%	5.1%
Joint	-24.1%	-19.4%	-19.9%	-31.5%	-23.8%	-21.9%	-20.3%	-28.4%	-25.3%
MFCFS	24.1%	61.9%	43.5%	10.8%	19.2%	111.4%	41.9%	9.8%	14.3%
MFS	-4.6%	1.6%	-7.1%	-6.7%	-9.7%	0.0%	-8.3%	20.8%	-8.7%
Head of Household	-26.8%	-22.3%	-22.3%	-14.2%	-28.5%	-37.6%	-25.2%	-26.2%	-26.4%
Dependent	-24.3%	-4.7%	-13.6%	-26.9%	-29.1%	-5.3%	-14.0%	-26.8%	-29.9%
<b>DCAIGI Distribution</b>									
Less than \$30,000	-18.1%	-22.4%	-17.5%	-9.5%	-17.9%	-26.3%	-17.6%	-11.8%	-15.9%
\$30,000 - \$50,000	6.6%	12.8%	5.7%	19.4%	4.9%	1.0%	4.0%	34.3%	4.1%
\$50,000 - \$75,000	15.3%	32.0%	18.2%	9.8%	16.3%	28.0%	13.1%	10.5%	14.9%
\$75,000 - \$100,000	15.0%	64.8%	32.4%	-13.3%	13.6%	92.3%	24.6%	-18.5%	9.8%
\$100,000 - \$150,000	27.9%	99.9%	48.0%	-1.2%	21.4%	67.4%	38.3%	-1.8%	18.9%
Greater than \$150,000	9.8%	162.8%	45.4%	1.5%	7.5%	85.7%	36.5%	2.2%	3.1%
<b>Average DCAIGI</b>									
Single	8.2%	36.5%	18.6%	7.2%	8.1%	14.9%	13.8%	6.0%	6.6%
Joint	-0.1%	62.8%	14.4%	12.2%	3.1%	6.5%	9.5%	9.7%	-1.9%
MFCFS	-9.0%	33.3%	-2.5%	-2.6%	-18.8%	64.5%	-7.3%	3.5%	-20.2%
MFS	-78.9%	20.0%	-58.6%	-73.0%	-72.3%	-31.7%	-68.5%	-85.4%	-71.9%
Head of Household	13.4%	16.5%	10.7%	21.0%	3.9%	-41.3%	17.4%	-50.8%	3.3%
Dependent	32.3%	18.7%	11.3%	22.3%	29.9%	6.8%	9.4%	6.7%	34.5%
<b>Deduction Type Distribution</b>									
Itemize	1.7%	18.5%	8.0%	-5.7%	0.1%	33.2%	6.6%	-6.8%	-1.5%
Standard	6.6%	-1.7%	2.5%	25.5%	7.9%	-10.5%	2.9%	28.4%	9.8%
<b>EITC Distribution</b>									
Number	-19.9%	-19.7%	-15.4%	0.0%	-20.1%	-37.5%	-16.7%	21.1%	-13.9%
<b>LITC Distribution</b>									
Number	0.0%	-11.1%	-2.1%	85.1%	1.7%	-6.2%	0.0%	25.9%	5.9%
<b>Filers With Dependents Distribution</b>									
Number of Filers	-52.9%	-25.2%	-33.8%	-69.6%	-55.8%	-58.1%	-39.6%	-57.4%	-59.4%

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## Findings for Ward 2

- The average DC AGI for married filers declined at the ward level, while that of single filers increased also at the ward level.
  - However, there was growth for both filer types within proximity of the development projects.
  - The findings suggest that development projects attract high incomes filers.
- The results indicate that within the vicinity of the development there was a greater decline in the share of low income filers and filers with dependents relative to the ward suggesting that the development does not attract low-income filers or filers with families.
  - At the ward level there was a decline of 18 percent in the share of filers with incomes less than \$30,000, but the decline was smaller than the decline at the half mile radius around the community (22 percent) and office (26 percent) projects.
- The decline in the share of the number of filers with dependents was larger closer to the mixed-use (69 percent), office (58 percent) and retail (57 percent) projects than for the ward.

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## Taxpayer Demographics for Ward 6

	Percent Change Between 2001 and 2005						
	Ward	0.5 Miles from Community Project	2 Miles from Community Project	0.5 Miles from Mixed-Use Project	2 Miles from Mixed-Use Project	0.5 Miles from Office Project	2 Miles from Office Project
Number of Filers	31.2%	28.0%	24.9%	76.1%	38.7%	29.5%	31.9%
Filer Type Distribution							
Single	4.2%	4.0%	5.0%	17.5%	5.9%	7.5%	6.0%
Joint	-16.4%	-6.7%	-15.9%	-23.9%	-17.9%	-13.9%	-16.5%
MFCS	58.2%	65.2%	51.5%	105.5%	48.7%	102.7%	54.0%
MFS	-8.6%	-6.9%	-3.9%	-4.1%	-3.2%	-10.1%	-7.0%
Head of Household	-19.3%	-25.0%	-13.5%	-35.0%	-23.1%	-16.8%	-18.3%
Dependent	-2.6%	-5.8%	0.0%	23.3%	-6.6%	32.1%	-8.0%
DCAAGI Distribution							
Less than \$30,000	-17.0%	-17.6%	-15.5%	-22.9%	-17.9%	-13.0%	-17.5%
\$30,000 - \$50,000	-1.9%	-8.6%	-2.6%	1.2%	3.3%	-1.3%	2.0%
\$50,000 - \$75,000	9.6%	6.1%	19.3%	61.0%	14.1%	19.6%	17.7%
\$75,000 - \$100,000	22.2%	21.5%	37.1%	98.0%	27.6%	55.4%	37.9%
\$100,000 - \$150,000	42.8%	65.0%	61.3%	124.5%	45.6%	65.3%	56.7%
Greater than \$150,000	74.2%	143.3%	89.1%	182.3%	56.8%	197.9%	84.4%
Average DCAGI							
Single	19.7%	21.8%	24.7%	40.1%	18.8%	26.8%	24.0%
Joint	11.8%	36.4%	17.5%	77.1%	11.1%	8.5%	9.8%
MFCS	12.2%	30.7%	21.3%	35.0%	9.6%	25.1%	20.8%
MFS	11.6%	15.9%	10.8%	28.8%	-63.0%	50.8%	11.3%
Head of Household	21.9%	18.5%	16.2%	20.3%	16.7%	13.7%	17.8%
Dependent	22.4%	24.6%	19.4%	65.8%	9.2%	-2.9%	13.0%
Deduction Type Distribution							
Itemize	9.0%	10.3%	10.4%	31.8%	8.3%	11.4%	11.0%
Standard	0.1%	-1.8%	1.2%	-5.9%	1.7%	1.4%	0.4%
EITC Distribution							
Number	-12.4%	-8.7%	-7.4%	-27.4%	-15.8%	-5.8%	-11.5%
LITC Distribution							
Number	5.6%	8.6%	5.2%	-28.1%	-1.7%	20.1%	0.0%
Filers With Dependents Distribution							
Number of Filers	-29.5%	-27.8%	-22.7%	-39.2%	-35.4%	-19.0%	-28.5%

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## Findings for Ward 6

- The results suggest that proximity to development contributes to a larger growth in the share of high-income filers and homeowners.
  - The increase in the share of filers with incomes greater than \$75,000 was larger within the vicinity of the development projects than it was for the ward, with the most noticeable growth around mixed-use development.
  - The share of itemizers increased by a larger amount within the vicinity of the projects than for the ward, especially around the mixed use project
- The decline in the share of EITC filers was larger around the mixed use project than it was for the ward and the other project types.
- There was a decline in the proportion of filers with dependents.
  - The decline was larger for mixed-use project than for the ward and the community and office projects.
- Unlike the attraction of high-income filers to development projects, the findings suggest that low-income filers and filers with dependents are displaced within the vicinity of development projects, specifically mixed-use projects.

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## Conclusion

- Based on the findings, proximity to mixed-use development has a greater impact on taxpayer demographics.
- The study indicates a greater displacement of low-income filers and filers with dependents around the development than in the ward.
- Therefore the type of development site can influence the behavior of taxpayer demographics within wards and across wards.
- A balanced approach to economic development policy ought to take into account the likely displacement of specific demographic groups.

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