

2005 Development Related Ridership Study

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[Washington Metropolitan Area Transit Authority \(WMATA\)](#)

600 Fifth Street, NW
Washington, DC 20001

Cooperating Sponsor:

[Arlington County Commuter Services](#)

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Arlington County, Virginia

RESEARCH SUPPLIER:

Parson's Brinkerhoff

OVERALL STUDY PURPOSE:

To Update the Washington Metropolitan Area Transit Authority's (WMATA) sixteen-year old development related ridership study – a study of the travel behavior of persons going to and from office, residential hotel, and retail sites near Metrorail stations.

- ☛ This effort seeks to determine if modal splits for land uses have changed over time and whether certain physical site characteristics still influence transit ridership.

RESEARCH OBJECTIVES:

Update past figures based on the changed environment and summarize certain data based upon the same typologies.

- ☛ Target high-density commercial office and residential, retail and hotel sites, as well as a new use, "entertainment", types of land uses typically proposed in joint development projects.

METHODOLOGY:

Mode of Data Collection	Questionnaires conducted by self-administered survey forms and oral intercept interviews
Completed Surveys	<ul style="list-style-type: none">- Office – 499 Interviews- Residential – approximately 900 Interviews- Retail – approximately 1300 Interviews- Hotel – 167 Interviews- Entertainment – 974 Interviews
Survey Population	13 Metrorail station areas selected; 49 sites were secured to participate
Criteria for Participation	<ul style="list-style-type: none">- Stations located in the metropolitan core- Stations with surrounding general land uses in early stages of development- Stations with surrounding land uses dominated by an unconventional or atypical single use- Stations with surrounding land uses dominated by low-density residences

SELECTED KEY FINDINGS:

General Observations:

- ☞ Results confirmed previous findings that the walking distance between a site and the Metrorail station affects transit ridership – this was more true for residential sites than for office sites.
- ☞ In urban fringe or outlying locations, residential uses were more reliable in boosting Metrorail ridership than were office uses.
 - Outlying office sites tended to produce trips connected with areas outside the core, which typically are not well served by transit.
- ☞ At the overall site level, survey results showed that high-density, mixed-use environments with good transit access generated higher shares of transit and walk trips – especially midday trips from and visitor trips to office sites, than those areas dominated by a single use.
- ☞ Metro was shown to remain competitive with the automobile in markets where it provides good access and service and had increased its mode share in the core since 1989.
- ☞ In each surveyed land use category, trips recorded to or from the District – the jurisdiction with the greatest number of rail stations and a comprehensive bus network, showed the highest rates of Metrorail and transit use.

Land Use Specifics:

- ☞ Office (17 sites, 15% response rate)
 - A quarter of all workplace respondents said they used Metrorail to commute to work.
 - 44% of District residents responding to the workplace survey used Metrorail to commute to work – District residents accounted for only 14% of all respondents.
 - 16% of Arlington County residents responding to the workplace survey reported using ‘walk or other’ mode to commute to and from work.
 - 76% of workplace survey respondents who have no vehicle at their disposal said they use transit to commute; 63% of those used Metrorail.
 - The sites with the highest midday Metrorail and walk trips were sites with a solid mix of office, retail, and eating establishments.
 - Visitors to the 13 office sites that allowed interviews used Metrorail 15% of the time and used the ‘walk/other’ mode 22% of the time.
 - Office sites on the low end of the transit share scale in 2005 were located in areas with good auto access and ample parking.
 - On the high end, survey results showed that transit mode shares had grown in inner areas – where traffic congestion was high, highway access limited, and parking was constrained.
- ☞ Residential (18 sites; 12% response rate)
 - On average, 45% of trips from these sites were made by transit.
 - 55% of all work or school trips were made by Metrorail.
 - 67% of trips to the District were made on Metrorail.
 - 73% of zero-vehicle households and 42% of single-vehicle households used transit for their reported trips; 66% of zero-vehicle households and 40% of single-vehicle households used Metrorail as their travel mode.
- ☞ Retail (18 sites; 12% response rate)
 - 36% of retail site patron and employee respondents used transit to access the site; 28% of those used Metrorail.
 - 28% used the walk/other mode.
- ☞ Hotel (5 sites)
 - 35% of respondents used transit to access the site; 30% of those used Metrorail.
- ☞ Entertainment (Movie Theaters) (4 sites)
 - 28% used transit; 20% of those used Metrorail.

OTHER FINDINGS:

- ☞ Given that the unit of analysis for this study was the site level, the survey sample size is admittedly small and a plan for collecting additional data throughout the system should be devised to increase the sample size and create a more robust data set.
- ☞ A program focusing on federal sites might prove useful as the region supports an extensive federal workforce; this study was unable to obtain federal participation.
- ☞ Parking pricing at Metrorail station areas was identified as an area needing to be studied.
- ☞ Study findings raised some issues for the Authority with respect to the type of land uses it should promote around its station areas and the trade-offs to examine when making decisions about parking capacity at stations.

OTHER RELATED STUDIES, PLANS & DOCUMENTS:

2003 Arlington County SOV Driving Trip Reduction STUDY

AVAILABLE DOCUMENTS:

Final Report
Executive Summary

KEY WORDS:

Arlington County, Authority Ridership, Commute, Entertainment, Office, Hotel, Metrorail, Residential, Retail, Transit, Transportation, Workplace, Residential, Washington Metropolitan Area