**2005 Development Related Ridership Study**

**SPONSOR:**

Washington Metropolitan Area Transit Authority (WMATA)
600 Fifth Street, NW
Washington, DC 20001

Cooperating Sponsor:
Arlington County Commuter Services
Contact:
Howard Jennings, Research Director
Arlington Transportation Partners
1735 N. Lynn Street, Suite 102
Arlington, VA 22209
703 683-6630
hjennings@transpartners.com

ACCS is a section of the Division of Transportation, Department of Environmental Services
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:

<table>
<thead>
<tr>
<th>Mode of Data Collection</th>
<th>Questionnaires conducted by self-administered survey forms and oral intercept interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed Surveys</td>
<td>- Office – 499 Interviews &lt;br&gt;- Residential – approximately 900 Interviews &lt;br&gt;- Retail – approximately 1300 Interviews &lt;br&gt;- Hotel – 167 Interviews &lt;br&gt;- Entertainment – 974 Interviews</td>
</tr>
<tr>
<td>Survey Population</td>
<td>13 Metrorail station areas selected; 49 sites were secured to participate</td>
</tr>
<tr>
<td>Criteria for Participation</td>
<td>- Stations located in the metropolitan core &lt;br&gt;- Stations with surrounding general land uses in early stages of development &lt;br&gt;- Stations with surrounding land uses dominated by an unconventional or atypical single use &lt;br&gt;- Stations with surrounding land uses dominated by low-density residences</td>
</tr>
</tbody>
</table>

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 sties 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  
| Execuitive Summary |

KEY WORDS:

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