Chapter 2. Background Research

One of the most significant generators of parking demand for downtown districts is the travel patterns of those commuting into the district for work. The background tasks for Phase I therefore began with a review of Downtown employment and employee travel characteristics.

Employee Profile

This section presents a profile of transportation behavior among Ann Arbor’s Downtown employees. The data used for this profile were collected from two primary sources: US Census Data (2000 and 1990), and a November 2005 report summarizing extensive surveys of downtown employees as part of an evaluation of the getDowntown go!pass program (“Go!pass Report”). The profile presents a summary of Downtown employment levels, the means by which employees commute, the number of daily commuting vehicles brought into the area, and the distance from which employees commute. The profile concludes with a comparison of employment levels and levels of capacity within the DDA’s parking system between 1990 and 2005.

The Study Area

For comparative purposes, statistical profiles were generated for the following designated areas:

- Central Business District – Represented by Census Tract 4001;
- Downtown District – Consisting of Census Tracts 4001, 4002, 4003, 4005, 4006, 4007, and 4008;
- City of Ann Arbor;
- Washtenaw County; and
- State of Michigan.

The narrative discussion of the Downtown Employee Profile is focused on the Downtown District, as defined above. The official boundary of the Downtown District is drawn more narrowly, encompassing just one complete Census Tract (4001), along with minor portions of the six directly adjacent tracts. The Employment Profile was drawn from data covering all seven of these central tracts in order to provide a broader sense of travel behavior in this area. This broader study area will also account for DDA parking locations within the official boundaries, which are likely to accommodate demand generated by employment from the surrounding areas.

Identifying characteristics unique to the more narrowly-defined official Downtown District is important, however, as this district is more directly oriented to CBD, rather than campus-
oriented, conditions. Therefore, travel characteristics within Census Tract 4001 are isolated to represent these conditions.

**Employment**

Approximately half of all employment within the City of Ann Arbor is located within its Downtown District. In 2000 there were nearly 50,000 jobs, outnumbering residents in the same area by about 18,000 (see Figure 2-1). Roughly half of Downtown jobs (25,341) are located in Census Tract 4002, which extends northeasterly from the center of Downtown, and constitutes part of the “Downtown to Northeast” corridor that was a focus of the Mayor’s June 2006 “Transportation Vision.” This vision calls for enhanced transit service along the corridor in response to its “rapid growth and positive economic developments.”

In comparison, 20 percent of Downtown employees work in the more narrowly defined CBD area (9,476).

**Figure 2-1 Downtown Residential and Employment Populations (Year 2000)**

<table>
<thead>
<tr>
<th></th>
<th>Residents</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBD</td>
<td>1,248</td>
<td>9,476</td>
</tr>
<tr>
<td>Downtown District</td>
<td>30,361</td>
<td>48,523</td>
</tr>
<tr>
<td>Ann Arbor</td>
<td>114,024</td>
<td>98,478</td>
</tr>
<tr>
<td>Washtenaw</td>
<td>322,895</td>
<td>199,852</td>
</tr>
<tr>
<td>Michigan</td>
<td>9,938,444</td>
<td>4,512,085</td>
</tr>
</tbody>
</table>

Source: United States Census

**Commute Modes**

**Single-Occupancy Vehicles**

Single-occupancy vehicles (SOV) were the primary commute mode for 60 percent of Downtown employees in 2000 (see Figure 2-2). Surveys documented in the Go!pass Report indicate that by 2005 the Downtown SOV rate had dropped to 56 percent. The 2000 rate within the CBD area was slightly higher at 65 percent.

Regionally, SOV utilization increases among employees as the employment area grows beyond the Downtown District. In 2000, Downtown SOV commuting was about 12 percent lower than the City average, which in turn was slightly lower than the Washtenaw County average. The County average was more than five percent less than the statewide average of 83 percent.

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Figure 2-2  Commuter Mode Splits (Year 2000)

<table>
<thead>
<tr>
<th></th>
<th>Employees</th>
<th>Drove alone</th>
<th>Bus</th>
<th>Walked</th>
<th>Bicycle</th>
<th>Car Pool</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBD</td>
<td>9,476</td>
<td>65.39%</td>
<td>5.99%</td>
<td>15.64%</td>
<td>1.88%</td>
<td>10.06%</td>
</tr>
<tr>
<td>Downtown District</td>
<td>48,523</td>
<td>59.84%</td>
<td>7.56%</td>
<td>18.61%</td>
<td>2.46%</td>
<td>9.63%</td>
</tr>
<tr>
<td>Ann Arbor</td>
<td>98,478</td>
<td>72.10%</td>
<td>4.53%</td>
<td>9.44%</td>
<td>1.34%</td>
<td>9.40%</td>
</tr>
<tr>
<td>Washtenaw</td>
<td>199,852</td>
<td>77.52%</td>
<td>2.63%</td>
<td>6.26%</td>
<td>0.76%</td>
<td>9.32%</td>
</tr>
<tr>
<td>Michigan</td>
<td>4,512,085</td>
<td>83.21%</td>
<td>1.21%</td>
<td>2.25%</td>
<td>0.22%</td>
<td>9.67%</td>
</tr>
</tbody>
</table>

**Transit**

As presented in Figure 2-2, Downtown employees rely on transit more than six times the Michigan average. While transit’s commute share drops the further jobs are located away from Downtown, employees within Washtenaw County still use transit more than twice the statewide average of 1.2 percent. Proximity to the urban core is not the only scale of transit usage, however, as employees in the CBD area use transit less frequently than the overall Downtown rate – 6 versus 8 percent.

The City of Ann Arbor, its Chamber of Commerce, the AATA, and the DDA have sponsored a “Universal” transit pass program since 2000, in which employers purchase bulk transit passes at a deep discount to offer to their employees. Part of the Chamber’s Get Downtown program, the go!pass program provides annual unlimited-ride passes for Ann Arbor Transportation Authority (AATA) fixed route service to all Downtown employers at a cost of $5 each. To participate, employers must purchase a pass for each of their full-time employees. While the program has met with a mixture of successes and setbacks, transit’s mode share has increased by six percent since it began.

**Walking**

An exceptionally high walking rate may be one reason that transit usage is not higher among Downtown and CBD employees. Nearly one in five Downtown employees walk as their primary means of commuting. While high walking rates are common among large university communities, the walking rate among CBD-area employees remains a relatively substantial 16 percent. Some findings from the go!pass study also indicate a high propensity for walking among Downtown employees, including:

- 15 percent of respondents in 2005 cited walking as their primary commute mode, while only 8 percent cited living within a half-mile of work (typically considered the upper limit of what is considered “walking distance”);
- Over 13 percent of those living at least two miles from work cited walking as their primary mode of commuting; and
- Nearly 80 percent of those who lived within one-half mile of work cited walking as their primary mode of commuting.
Active transportation is a particularly popular alternative to SOV commuting among Downtown employees, with walk and bike commuting accounting for over 20 percent of daily work trips (see Figure 2-3).

**Biking**

Biking is another alternative mode that enjoys popular support among Downtown employees, although less so among CBD-area employees. Downtown employees bike to work twice as often as the citywide average, which in turn is six times higher than the state average. While the overall numbers are not large, together with the considerable number of walking commuters, bicycling among Downtown employees indicates a population highly supportive of active transportation options.

**Figure 2-3  Active Transportation (AT) Commuting**

<table>
<thead>
<tr>
<th></th>
<th>Employees</th>
<th>Walked</th>
<th>Bicycle</th>
<th>AT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBD</td>
<td>9,476</td>
<td>15.64%</td>
<td>1.88%</td>
<td>17.51%</td>
</tr>
<tr>
<td>Downtown District</td>
<td>48,523</td>
<td>18.61%</td>
<td>2.46%</td>
<td>21.07%</td>
</tr>
<tr>
<td>Ann Arbor</td>
<td>98,478</td>
<td>9.44%</td>
<td>1.34%</td>
<td>10.78%</td>
</tr>
<tr>
<td>Washtenaw</td>
<td>199,852</td>
<td>6.26%</td>
<td>0.76%</td>
<td>7.02%</td>
</tr>
<tr>
<td>Michigan</td>
<td>4,512,085</td>
<td>2.25%</td>
<td>0.22%</td>
<td>2.47%</td>
</tr>
</tbody>
</table>

**Carpool/Vanpool/Rideshare**

Carpooling is the one transportation activity for which average commute shares change very little between employees of Downtown, the City of Ann Arbor, Washtenaw County, and the State of Michigan. This is somewhat unexpected for a downtown area, where parking supply tends to be more constricted and parking fees tend to be higher. High rates among other non-SOV modes, however, may indicate that more active forms of transportation enjoy greater appeal among the local population.

AATA offers significant support for carpool, vanpool, and ridesharing activities as part of its AATA Rideshare program, including:

- A Guaranteed Ride Home program that offers up to six cab reimbursements of up to $50 each for carpooling, vanpooling, and ridesharing employees who unexpectedly need to leave work early or stay late;
- Free computerized carpool, vanpool, and rideshare matching services; and
- On-site information presentations and other promotional assistance.

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2 This support complies with the Authority’s goal of moving more people with fewer vehicular trips, though not necessarily though transit ridership.
Impact of Choice – Traffic Volumes in Downtown

Commuters Per Private Vehicle

Downtown’s commuter patterns result in approximately 33,000 private vehicles driven into Downtown each day (see Figure 2-4), mostly between 8AM and 9AM. This amounts to approximately 1.45 employees arriving in Downtown for every private vehicle driven. This rate drops consistently as population boundaries move further away from Downtown, with a statewide average of just 1.14 passengers per private vehicle.

Figure 2-4  Employees Per Private Vehicle

<table>
<thead>
<tr>
<th></th>
<th>Employees</th>
<th>Private Vehicles</th>
<th>Employees/ PV</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBD</td>
<td>9,476</td>
<td>6,921</td>
<td>1.37</td>
</tr>
<tr>
<td>Downtown District</td>
<td>48,523</td>
<td>33,415</td>
<td>1.45</td>
</tr>
<tr>
<td>Ann Arbor</td>
<td>98,478</td>
<td>75,388</td>
<td>1.31</td>
</tr>
<tr>
<td>Washtenaw</td>
<td>199,852</td>
<td>163,439</td>
<td>1.22</td>
</tr>
<tr>
<td>Michigan</td>
<td>4,512,085</td>
<td>3,953,300</td>
<td>1.14</td>
</tr>
</tbody>
</table>

Source: United States Census

Figure 2-5 presents the rates of employees per private vehicle among the seven Downtown census tracts. Rates are highest among tracts to the south and east, indicating the impact of university-based employment patterns.
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Figure 2-5   Employees / Private Commute Vehicle

GIS Data Source: City of Ann Arbor, ESRI, US Census 2000
In comparison, Figure 2-6 provides a projection of what could be expected should the city, county, and state occupancy rates be applied to downtown. For example, when using a base of Downtown as 0, the occupancy rates for Ann Arbor produce an extra 3,700 more cars.

**Figure 2-6  Impact of Vehicle Occupancy**

<table>
<thead>
<tr>
<th></th>
<th>Employees</th>
<th>Private Vehicles</th>
<th>Employees/ PV</th>
<th>Downtown Vehicles if This Occupancy Rate</th>
<th>Added Downtown Vehicles if This Occupancy Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Downtown</td>
<td>48,523</td>
<td>33,415</td>
<td>1.45</td>
<td>33,415</td>
<td>0</td>
</tr>
<tr>
<td>Ann Arbor</td>
<td>98,478</td>
<td>75,388</td>
<td>1.31</td>
<td>37,146</td>
<td>3,731</td>
</tr>
<tr>
<td>Washtenaw</td>
<td>199,852</td>
<td>163,439</td>
<td>1.22</td>
<td>39,682</td>
<td>6,267</td>
</tr>
<tr>
<td>Michigan</td>
<td>4,512,085</td>
<td>3,953,300</td>
<td>1.14</td>
<td>42,514</td>
<td>9,099</td>
</tr>
</tbody>
</table>

Source: United States Census

**Commute Distance**

Over 60 percent of Downtown employees live within 10 miles of work, and 34 percent live within two miles of work. As presented in Figure 2-7 and Figure 2-8, transit service within two miles of Downtown is fairly abundant, with most households located within a half-mile of fixed route AATA bus service.

Figure 2-7 presents a map of census tracts from which Downtown employees commuted in 2000. Shading represents the volume of commuters who reside in each tract, with darker shading indicating a greater number of employee residents. Downtown commuters originate heavily from areas to the northeast and southeast. As indicated in the map, significant transit service is provided in these areas, with most residents living within a mile of fixed route AATA bus service.

Figure 2-8 presents a map of census tracts from which the CBD area draws most of its employees. Compared to the commuter shed for Downtown, the CBD tends to draw more heavily from closer-in tracts directly to the south. These areas offer excellent transit access, with most households being within a quarter-mile of fixed route service.
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Figure 2-8  Commuters to CBD-Area Jobs

GIS Data Source: City of Ann Arbor, ESRI, US Census 2000

No. of Commuters into Downtown Central Business District by Census Tract

- < 100
- 100 - 150
- 151 - 200
- 201 - 300
- > 300

AATA Routes

Downtown Ann Arbor

City of Ann Arbor

5 Mile Buffer from Downtown Center
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Parking

According to the Go!pass Report, the cost and availability of parking were cited as key factors in affecting commute patterns. Other parking-related findings contained in the Go!pass Report include:

- Over 60 percent of employees stated that parking was easy or very easy to find;
- Roughly 62 percent of employees who were offered on-site parking at work must pay for it; and
- The average cost of parking is $92 per month.

Parking Demand and the DDA Parking System

Both employment levels and demand for parking have remained fairly consistent since 1990. According to surveys described in the Go!pass Report, roughly 26 percent of Downtown employees park at work. The remaining demand utilizes approximately 24,000 parking spaces per day for Downtown commuters.

TDM in Downtown - Stakeholder Interview

One August 7th, 2006, the Project Team conducted a telephone interview with Erica Briggs of the City of Ann Arbor Chamber of Commerce. Ms. Briggs is the director of the Chamber’s getDowntown program which promotes commuting options and sponsors the go!pass transit benefit program. This program allows employers to provide unlimited ride passes for Ann Arbor Transportation Authority services to their employees at the annual cost of $5 per pass; the program is financially subsidized by the DDA.

General Comments

Ms. Briggs expressed support for the study and interest in participating in the project’s advisory committee. She suggested that the study maintain a focus on, not just parking, but the transportation issues related to parking. She also suggested an additional question for the project’s parker survey: Are the parkers paying for their own parking, or using a permit provided (or subsidized) by an employer?

She explained that many employees receive free monthly permits, or subsidies for permits, for DDA parking spaces. These permits are either purchased by their employer, or are wrapped into the employer’s lease agreement.

According to Ms. Briggs, while the City of Ann Arbor does participate in the go!pass program (except for the Fire and Police departments which are exempt from participating), the City could be more of a TDM leader in the community. Specifically, the City could be better at promoting go!pass and other available TDM programs to its employees, and providing active-commute amenities such as showers, lockers, and on-site secure bike parking.
State of the Go!Pass Program

The Chamber of Commerce is focused on developing an alternative to charging employers for go!pass program participation. The implementation of the $5 annual fee, and the mandate that passes be purchased for all full-time employees, resulted in a 50 percent drop in pass use in 2003. While the pass saves both employees and employers more than the $5 annual fee, the program has yet to recover from this drop in ridership. The fee was initiated with the goal of creating a sense of “buy-in” that might encourage participating employers to promote pass use and make the most of the program’s benefits. The COC has concluded that this has not worked, and it is looking into options for returning to offering passes free of charge, with the goal of getting passes into the hands of all Downtown employees.

The original goal of the program was to reduce the cost of meeting employee parking demand for downtown employers, especially small businesses. Steady increases in fuel costs have had a positive impact on employer participation. Ms. Briggs noted one Downtown firm that had long resisted participating recently sought to enroll, citing that their employees had begun to ask for it in response to the increased cost of driving.

Bicycle Commuting

Ms. Briggs stated that she was in close contact with the bicycling community, and presented the following perspective on bike commuting:

- A lack of showers and lockers presents significant barriers to commuting by bike. It was suggested that zoning could require new buildings to provide such facilities.
- The COC has sponsored “Curb Your Car Month” and “Bike Winter” campaigns to increase non-auto commuting. These events have enjoyed popular support and participation.
- DDA-provided bike lockers are great. The biking community would like to see more bike hoops throughout Downtown.

Promoting TDM in Ann Arbor

Ms. Briggs suggested that City-sponsored parking offered as an incentive to bring Google to Downtown should include requirements for a TDM program to manage parking demand. The COC supports Google locating Downtown, and believes that it will need, and should receive, ample parking as part of its negotiations with the City. She would like a commitment to an active TDM program be part of the deal however.

She cited Madison, WI as a good example to follow for working with employers/buildings/landlords to implement TDM programs.
At the conclusion of the conversation, Ms. Briggs expressed interest in participating in the project’s Advisory Committee, and provided the following documents for purposes of the study:

- August 2006 go!pass Statistics (excel spreadsheet); and
- Opportunities for Parking Cash-Out in Downtown Ann Arbor by D. Scott TenBrink, August, 2005.

**Zoning and Land Use**

The City of Ann Arbor regulates land uses within its municipal boundaries through the Code of the City of Ann Arbor (Codified through Ord. No. 7-06, enacted March 20, 2006; Supplement No. 23, Update 1), and most specifically, Title V Zoning and Planning. The City’s vehicular and bicycle off-street parking requirements for developments within the Downtown District, including requirements for new and re-use developments, are presented below. Downtown’s existing land use conditions are presented in Figure 2-9.
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Figure 2-9  Downtown Ann Arbor Existing Land Uses

Land Uses
- Residential
- Public & University
- Mixed Use, Industrial, Commercial & Office
- Recreation
- Transportation, Communication & Utilities
- Vacant
- DDA District Boundary

GIS Data Source: City of Ann Arbor
Ann Arbor Parking Requirements

The City of Ann Arbor requires that parking spaces are available for the use of occupants, employees, or other users of the building for which the space was provided. Parking spaces can be provided on the principal parcel or off-site within 500 feet of the parcel if the parcels are zoned the same, or the second parcel is zoned “P.” Reasonable charges to the occupants of the building for use of the parking spaces or bicycle parking spaces are permitted.

The City Administrator oversees the regulation of parking in the city, and demand-based rates are established by a resolution of the City Council. The required number of vehicular and bicycle parking spaces is determined by the land use and type. If the property owner deems parking requirements to be excessive they may apply to the City for a deferment of up to 40% of the required spaces.

Parking space dimensions are at minimum 9’ x 18’ or 8’ x 18’ if marked for small cars. Technical details about parking size, illumination and design are in 5:168.

Parking Regulations for the Downtown Development Authority District

The Downtown Development Authority district has additional parking standards. No off-street parking is required for structures that do not exceed the normal maximum permitted PUD floor area or for structures zoned PUD where floor area does not exceed 300% of lot area. However, structures that exceed the normal maximum floor area by providing floor area premiums, or PUD-zoned structures that exceed 300% of lot area, must provide a greater supply of parking. These larger structures require one off-street parking space for each 1,000 square feet of usable floor area for residential uses, and 1 space for each 500 square feet for non-residential uses. The required parking spaces may be provided in a public parking lot or structure pursuant to an agreement with the city. As an alternative, these required parking spaces may also be provided privately on- or off-site if shown on an approved site plan.

No bicycle parking is required for development within the DDA district.

The Downtown area includes sites zoned with the following designations (see Figure 2-10):

- O – Office
- PL – Public Lands
- P – Parking
- R4C – Multiple Family Dwellings
- C1 – Local Business
- C1A – Campus Business
- C1A/R – Campus Business/Residential
- C2A – Central Business
- C2A/R – Commercial/Residential
- C3 – Fringe Commercial
- M1 – Limited Industrial
- M1A – Limited Light Industrial
- PUD – Planned Unit Development
- ORL – Office/Research/Limited Industrial
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Parking Lots

Chapter 59:5:161 defines a parking lot as “the total surface area on 1 parcel of 1,200 or more square feet or 5 parking spaces used for parking and maneuvering of motor vehicles.” This also includes unenclosed parking structures. The Code does not include regulations for commercial valet parking services.

Regulation of Parking Uses on Residential Lots

Motor vehicles are not allowed to be parked on the front open space of a residential lot, except on a driveway. In residential zones with multi-family uses, parking spaces or lots are permitted behind the front setback line in front open spaces, if the following are met:

- Greater than 100 feet street frontage;
- 20,000 square feet land area; and
- 20 dwelling units.
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