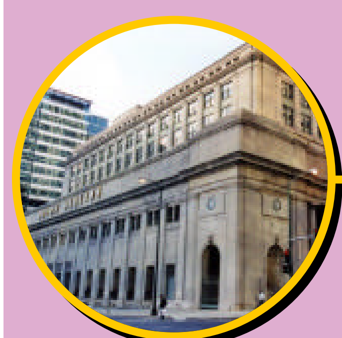
Chicago Department
of Transportation

Downtown Trolley Rider Survey

DRAFT REPORT



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Downtown Trolley Rider Survey

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1. INTRODUCTION

To investigate demographics, travel patterns, attitudes, and spending levels for users of the downtown trolley system, the Chicago Department of Transportation (CDOT) conducted a trolley rider survey on nine days, encompassing weekday, weekend and special event days during July and August of 2002. The intent of the survey was to understand trolley users and gauge the potential impact of the trolley services in attracting tourist trips to the city's most popular destinations. Nearly 200 rider intercept surveys were performed at eight key locations along the trolley routes. Wilbur Smith Associates (WSA) was retained by CDOT to perform the survey analysis and to assess the financial impact that trolley riders make to the city.

2 CHICAGO DOWNTOWN TROLLEY SYSTEM

The city of Chicago is a world-class destination for both business and leisure travelers. In 2000, Chicago was the #1 U.S. destinations with over 13 million domestic business travelers[1]. On the leisure side, Chicago is strong as well, serving as one of the top U.S. destinations for domestic leisure travel. It is home to seven major cultural attractions that serve over one million visitors a year. In 2002 8.4 million people visited Navy Pier, 1.7 million visited the Shedd Aquarium, 1.6 million the Field Museum, and 1.3 million the Sears Tower[2]. The city of Chicago also hosts a number of well-known festivals including the Taste of Chicago, the Air and Water Show, Venetian Night, and multiple day musical events focused on Blues, Country & Western, Jazz, and Gospel that attract from a quarter-million to three million visitors each. The North Michigan Avenue 'Magnificent Mile' shopping area is a national and regional destination with many one-of-a-kind stores and a wealth of specialty shops. In addition the downtown area is a booming residential area and serves as a vital employment hub with half a million commuters coming in to work on an average weekday.

The downtown is made of distinct districts including the Loop, the North Michigan Avenue area, River North, the South Loop, and Streeterville. Immediately outside the downtown are the flourishing neighborhoods of Old Town, the Near West Side, Little Italy, and Chinatown. Downtown Chicago is richly served by commuter rail, heavy rail and bus, which provide many travel options for the local resident. Visitors to Chicago, however, find that the existing transit service does not readily connect them to their tourist attractions. A trip from Navy Pier to the Field Museum, for example, is about two miles in length. Too far to walk, too interesting a route to travel in a taxicab, and totally inefficient to traverse and park using private automobile, this leg of a busy visitor's day would be served perfectly with a cultural, shopping, and hotel connector link. Visitors arriving in Chicago from city neighborhoods, or from the metropolitan region, find themselves at a downtown terminus longing for a seamless transfer link for museum hopping or shopping. Finally, there is a finite amount of parking supply at destinations such as the Museum Campus, Navy Pier and North Michigan Avenue. Acknowledging that the quality of life of the business and leisure traveler to Chicago would be enhanced with the addition of a downtown transit connector, the city of Chicago in 2000 developed an operating plan for and commenced service of a rubber-tired trolley system. The Chicago Downtown Trolley was born.

The Chicago Department of Transportation (CDOT) launched a single pilot trolley route linking Water Tower Park and the Museum Campus during the summer of 2000. By 2001, three routes were in service with operational and route changes being implemented as the needs of the trolley riders were identified. Five trolley routes were providing service in summer 2002 and two more new routes were added in 2003 linking visitors to cultural, recreational and shopping destinations mainly in downtown but also linking downtown with Chinatown, Lincoln Park, and Pilsen. The three trolley lines that are the focus of this report are the Red (Shopping), the Yellow (Navy Pier) and the Green (Museum) lines that serve major attractions in the Chicago downtown area (Figure 1). No fare is charged to ride these trolleys.

[1] http://www.chicago.il.org/stats/travel_overview.html, August 2003
[2] http://www.chicago.il.org/stats/attendance.htm, August 2003

Figure 1: Chicago Downtown Trolleys

Red Trolley (Shopping)

The Red Trolley, called Shopping Line, operates between Union and Ogilvie Metra commuter rail stations in downtown Chicago and Water Tower with 4.0 mile round trip service at 11 stations. The route follows Michigan Avenue between Chicago Avenue and Randolph Street (north-south) then uses Adams Street westbound and Washington Street eastbound in the downtown Chicago area. Stations are as follows:

- Water Tower Park
- Nordstrom –North Bridge Shopping
- Tribune Tower
- Boulevard Towers/Illinois Center
- Hit or Miss (Cultural Center)
- Block 37 East Gate (Field's)
- Marshall Field's
- Burger King (CTA Red) (Palmer House)
- 2 N. Riverside (Metra Ogilvie)
- 190 W. Adams (Metra LaSalle St. Station, Sears Tower)
- 120 S. Riverside (Metra Union Station)

Yellow Trolley (Metra to Navy Pier)

The Yellow or Gold Trolley, also called the Metra Navy Pier Line, operates between Union and Ogilvie Metra commuter rail stations and Navy Pier with 5.4 mile round trip service at 11 stations. The route serves Navy Pier, then zigzags down Lake Shore, Wacker and Stetson to the State Street area (north-south) then along Adams Street westbound and Washington Street eastbound in the downtown Chicago area. Stations are as follows:

- Navy Pier Headlands
- Navy Pier Entrance 1
- Navy Pier Entrance 2
- Hyatt Regency Hotel
- Behind 233 N. Michigan (Hyatt)
- Block 37 – East Gate
- Marshall Field's State Street
- Burger King (Palmer House)
- 2 N. Riverside (Metra Ogilvie Station)
- 190 W. Adams (Metra LaSalle St Station, Sears Tower)
- 120 S. Riverside (Metra Union Station)

Green Trolley (Metra Museum Line)

The Green Trolley, called Metra Museum Line, operates between Union/Ogilvie Metra stations via the Roosevelt Road CTA rapid transit station to the Museum Campus with 6.7-mile service at 10 stations. The route serves the Chicago Museum Campus connecting the Union and Ogilvie Metra stations via Adams Street westbound and Washington Street eastbound in the downtown Chicago area, South Michigan Avenue to Roosevelt Read, then east to the Museum Campus. The stations are as follows:

- Old Navy (Marshall Field's)
- Across from the Art Institute (Orchestra Hall)
- 2 N. Riverside (Metra Ogilvie Station)
- 190 W. Adams (Metra LaSalle St Station, Sears Tower)
- 120 S. Riverside (Metra Union)
- Spertus Museum (hotels)
- CTA Orange/Green/Red Lines at Roosevelt/State
- Field Museum
- Shedd Aquarium
- Adler Planetarium

Operating hours for the three trolley routes are 10 AM to 6 PM with service approximately every 20 minutes. They provide seasonally varying services and are aimed at linking both visitors and residents of Chicago to Navy Pier, museums, and other recreational, cultural, and shopping destinations along Michigan Avenue and State Street. Weekday service is provided during the Holiday Season/Spring Break in March and April, during all of the summer weeks between Memorial Day and Labor Day, and during the Winter Holiday Season in December and January. Weekend service is provided year-around. Services characteristics for the three routes are summarized in Table 1.

There are four additional trolley services in the city of Chicago: The Blue Trolley (Navy Pier), the Orange Trolley (Pilsen and Chinatown), the Purple Trolley (Lincoln Park Express) and the Brown Trolley (Lincoln

Park Shuttle). The Blue Trolley is of interest because it operates completely within the downtown Chicago study area and it serves Navy Pier, the most visited attraction in downtown Chicago.

Blue Trolley (Navy Pier)

Unlike the three trolley lines discussed above, the Blue Trolley is operated by the Illinois-Grand Corridor Transportation Management Association and has been in operation since January 1999. This trolley operates between Grand & State which is a Red Line CTA rapid transit rail station and Navy Pier with 2.5 mile round trip service at 16 stations. The route follows Grand Avenue (westbound operation) and Illinois Street (eastbound operation) to and from Navy Pier. Service hours are Sunday through Thursday 10 AM to 11 PM and Friday and Saturday 10 AM to 1 AM with service approximately every 20 minutes. It provides all-year service and is aimed at serving residents of the Grand Illinois Corridor as well as visitors to Navy Pier and other destinations in the area. It was launched in part to address a growing parking problem in the Navy Pier area. Table 1 includes the Blue Line operating statistics as well.

Table 1: Downtown Trolley Service Characteristics

Trolley Characteristics	Red Trolley (Shopping)	Yellow Trolley (Navy Pier)	Green Trolley (Museum)	Blue Trolley (Navy Pier)
Route Description	Metra ⇔ North Michigan	Metra ⇔ Navy Pier	Metra ⇔ Museum	CTA Rail ⇔ Navy Pier
One-Way Route Mile	2.0 Mile	2.7 Mile	3.4 Mile	1.3 Mile
Number of Stops	11	11	10	16
Trolley Operator	Chicago DOT			Illinois-Grand Corridor TMA
Operating Hours & Frequency of Service	10:00 AM - 6:00 PM 20 Minute Headway			Sun - Thur: 10 AM -11 PM Fri - Sat: 10 AM - 1 AM 20 Minute Headway
Operating Period - Jan-Mar, Sep-Nov - April – Aug, December	Weekend Only Daily			Daily Daily
2002 Monthly Ridership - February (4 weekends) - July (31 days)	9,000 94,300	6,000 75,150	4,000 102,350	30,500 (28 days) 192,890

Trolley Ridership

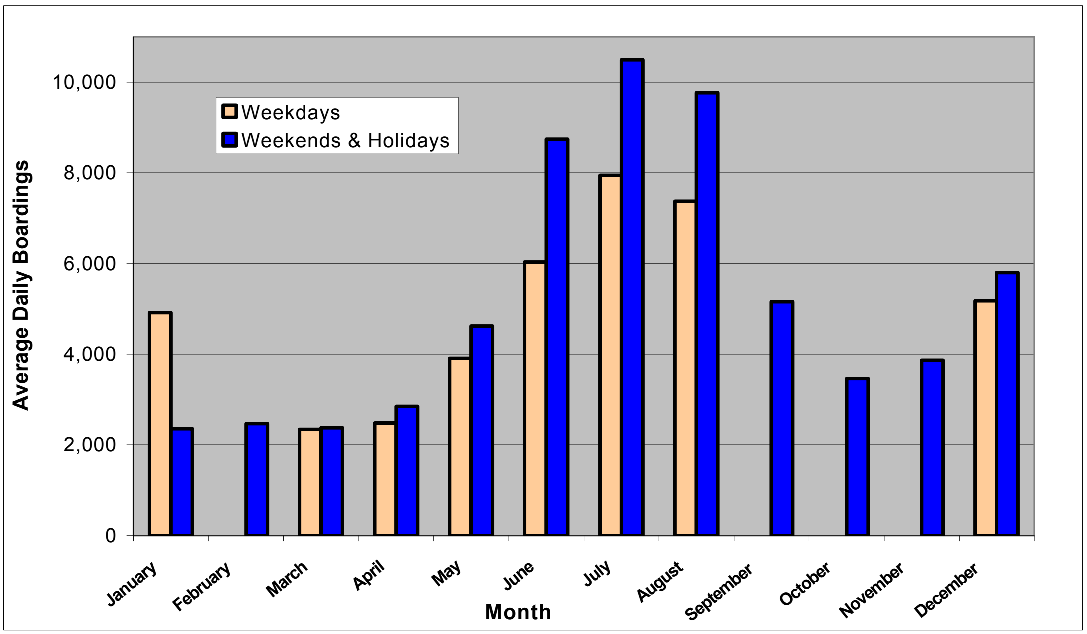
Trolley boardings were collected by CDOT for each month in 2002 both on weekdays and weekends/holidays. Table 2 presents yearly ridership for the three trolleys: the Red, Yellow and the Green. The three routes served a total of 1.15 million unlinked trips during 2002.

Table 2: Year 2002 Trolley Ridership

2002 Yearly Trolley Ridership	Red Trolley (Shopping)	Yellow Trolley (Navy Pier)	Green Trolley (Museum)	Total
Weekday	217,588	152,530	203,655	573,773
Weekend/Holiday	226,946	163,745	184,121	574,812
Total	**444,534**	**316,275**	**387,776**	**1,148,585**

During 2002, a total of 96 weekday and 108 weekend days saw service. In order to compare trolley ridership, average daily boardings by month were calculated so that comparison could be made between months such as March that had only a few incidences of weekday service and months like August where service was provided on every weekday in the month. Early January 2002 boardings were estimated using January 2003 values. Because of their position in the calendar for 2002, for this study Friday, November 29 (the Friday after Thanksgiving), and Friday July 5 were treated as holidays. Figure 2 shows the seasonal variations of trolley ridership for both weekdays and weekends/holidays.

Figure 2: Year 2002 Average Daily Boardings
(Total of Red, Yellow, and Green Trolley Boardings)



Generally speaking, the study year begins with a low rate of ridership, gains momentum as the summer approaches, attains its highest level of ridership in the summer, and then levels off with the fall and winter. A late year ridership spike coincides with the Winter Holiday Season extending into the New Year. Some of observations are:

- Summer months from June to August are the highest performing months with average daily boardings ranging from 8,700 to 10,500 for weekends or holidays, and 6,000 to 8,000 for weekdays
- The Winter Holiday Season in December-January outperforms the Spring Holiday interval in March-April by a factor of 2.1 for weekdays and 1.6 weekends
- Throughout the year, the average weekend always attracts more riders than the average weekday with the exception of the New Year holiday week during which weekdays outpace weekends by a factor of 5 to 4

3 TROLLEY SURVEY

During July and August of 2002, CDOT conducted a random intercept survey to investigate the behavior and profile of trolley riders. Potential respondents were approached at one of eight downtown locations where they were waiting to board a trolley. A leader or spokesperson was identified, approached, and invited to participate in the survey and this person provided information about the entire party of travelers. He or she was asked fifteen detailed questions about their home town, state or country, the purpose of their trolley trip, mode of access to the trolley, which line they were about to board, the amount they were planning to spend on the day's outing, previous knowledge of the service, and a set of qualitative questions to investigate their satisfaction and willingness to pay for the trolley which is currently free. The overall goal of the survey was to capture a representative set of trolley users on a typical summer weekday or weekend and probe their attitudes toward the downtown trolley. A copy of the survey instrument can be found in Appendix A.

Eight locations were used as points from which to conduct the survey: Union Station, Ogilvie Station, Marshall Field's State Street, Michigan & Illinois Street, Navy Pier, Water Tower, Michigan & Adams, and the Museum Campus. Three trolley lines were the focus of the survey: the Red Shopping, the Green Museum, and the Yellow Navy Pier. 94% of the survey respondents were boarding one of these three lines. The balance planned to use the Blue Trolley. These survey respondents were picked up because of stations shared between the three target lines and the Blue. 182 parties representing almost 600 trolley riders were surveyed from these eight locations as shown in Figure 3.

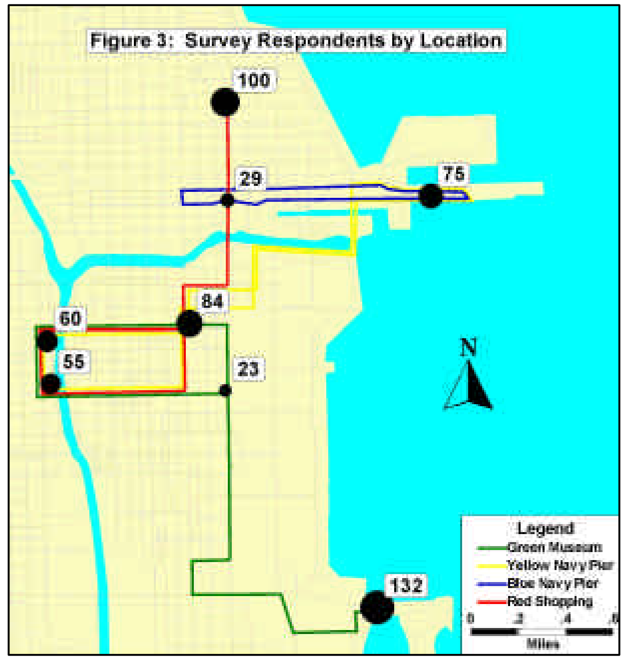


Figure 3: Survey Respondents by Location

The trolley surveys aimed to collect information on riders who used the service on both weekdays and weekends or holidays. Weekdays are defined as Monday through Friday unless the day is a national holiday such as Fourth of July. Weekends/holidays are defined as Saturdays, Sundays, and Holidays. During the summer of 2002, the Fourth of July fell on a Thursday, and the Friday, July 5 was chosen as one of the nine survey days. Review of the ridership data for this Friday indicates that its ridership level was the same or higher than the ridership for an average weekend day. Thus it was judged to be a weekend/holiday for the purpose of survey analysis. The trolley survey was therefore administered on three weekdays and one holiday in July, and on three weekdays and two weekends in August. A total of 85 parties made up of 232 riders were surveyed during these six weekdays and 97 parties made up of 347 riders were collected for the 3 weekend/holiday survey days. Relatively more surveys were collected during weekend/holiday survey days due to their higher ridership. Trolley boardings per weekday were about 7,650 and over 10,000 for an average weekend/holiday day according to the 2002 July and August ridership statistics provided by CDOT.

Table 3: Trolley Survey Sample Size

Day Type	No. of days in July and August of 2002	Days Surveyed	% of Days Surveyed	Traveling Parties Surveyed	Trolley Riders Surveyed	Average 2002 July- August Daily Ridership
Weekday	43	6	14%	85	232	7,650
Weekend/Holiday	19	3	16%	97	347	10,115
Total	**62**	**9**	**15%**	**182**	**579**	**8,405** (Average)

The remaining report is comprised of five sections: trolley rider profile, trip characteristics, rider attitudes and the estimated financial contribution that trolley riders make to the city. Rider profile includes trip purposes, party size, age and gender, visit length, lodging type and residential locations of trolley users. Trip characteristics contain analysis of mode of arrival to downtown Chicago, frequency of trolley use, trolley transfers and alternate mode for downtown travel. Rider attitudes include satisfaction level, willingness to pay and trolley influence on a potential return trips to the Chicago downtown. Trolley service impact focuses on the trolley user expenditure patterns and their resulting economic contribution to Chicago. A summary of the survey results concludes this report.

4 TROLLEY RIDER PROFILE

Chicago downtown trolley riders have a unique profile. Since the impetus behind the development of the trolley system was to provide downtown circulation for visitors and tourists, it is no surprise that the majority of riders are using trolley for non-work recreational purposes. The Museum Campus, Navy Pier, and the Michigan Avenue Shopping district are the overwhelming destinations of the trolley riders. Weekends typically attract more riders than weekdays. Trolley riders have exhibited different profiles depending on where they came from. Visitors from Midwest states outside the Chicago metropolitan area, for example, were more likely to be in town for three days or less, while visitors from other part of the U.S. stayed for about four days, one day longer than Midwesterners. Detailed profiles of the trolley riders are presented below.

Origins of Trolley Users

An overview of the survey data suggests that the distance between trolley users' home locations and downtown Chicago has an influence on their travel choices and activity patterns. It is assumed that the closer a person lives to downtown Chicago, the higher is their propensity to visit, and revisit, Chicago. To quantify the potential impact of the provision of trolley service on Chicago tourism, five trolley user markets were defined among the trolley riders:

- Residents of Chicago
- Residents of the Metropolitan Chicago area outside the city
- Midwesterners
- U.S. residents outside the Midwest
- International Visitors

Residents of Chicago identified themselves as such to the survey staff, also providing a zip code or neighborhood. Persons who live in the metropolitan region outside the city of Chicago limits were asked for the name of their suburb or town; these were all within the six county region. The next group, Midwesterners, is defined as people who live in locations within approximately 300 miles of Chicago. This includes the eight Midwestern states of Illinois, Indiana, Ohio, Michigan, Wisconsin, Minnesota, Iowa and Missouri. As expected, about 65% of the trolley users are either from the Chicago metropolitan area or from the remaining eight Midwestern states (Table 4). Among this group, 12% of the trolley riders call Chicago home. 19% of them reside in the metropolitan Chicago suburbs and 34% have homes outside the greater Chicago area but in the Midwest. Among the five markets, the second highest percentage of trolley riders, 29%, lives in other states of U.S. outside the Midwest, with the populous states of California, Texas, New York and Florida showing relatively strong numbers. International visitors make up 6% of the total trolley riders.

Table 4 shows the number of parties and the resulting number of persons queried in the survey process. Of a total of 172 parties, thirteen of these, representing 34 visitors, or 6% of the total, are international visitors. This 6% of the surveyed riders being international visitors fits very well with the 2002 estimate (5.9%) by the Chicago Convention and Tourism Board for international as a percentage of all visitors to Chicago.[3] However, if this small international sample size is further stratified and analyzed, the results will not have the statistical validity of a larger sampling. In the analysis that follows, the international visitor survey responses are tabulated and presented whenever possible but the reader is urged to use them with caution due to the limited sample size.

[3] http://www.chicago.il.org/stats/trended_volumes.htm, August 2003

Table 4: Trolley User Market

Origins of Trolley Riders	Parties Surveyed		Riders Surveyed	
	Number	Percent	Number	Percent
Chicagoans	26	15%	67	12%
Suburbanites	34	20%	107	19%
Midwesterners	56	33%	189	34%
U.S. Travelers	43	25%	161	29%
International Visitors	13	8%	34	6%
Total	**172**	100%	558	100%

Note: 10 survey parties resulting in 21 surveyed riders did not supply their residential location information.

It is worth mentioning that this geographical distribution of the origins of the trolley users exhibited different characteristics that those in the survey conducted for the Navy Pier visitors by the Metropolitan Pier and Exposition Authority (MPEA) in October 2002[4]. Nearly 75% of the visitors to Navy Pier came from the Chicago metropolitan area, as compared to only 31% for the Red-Yellow-Green trolley survey. Different survey periods, fall vs. summer, single vs. multiple trolley line, or differing proportions of visitors surveyed for weekend and weekday may contribute to this home origin difference.

Rider Demographics

Trolley users were recruited using an intercept survey approach at eight key trolley stops where the travelers were awaiting the arrival of the transit vehicle. As part of the question sequence, the main respondent was asked the size of the party which was recorded. There was no explicit question posed to this person on the gender and age composition of the party. Instead, during the survey conduct, interviewers recorded the gender and estimated the age of the travelers in the party. No effort was made to determine the relationship of the persons traveling in the survey group. The gender and age information, therefore, was estimated rather than by getting direct answers from the survey respondents. The following points highlight some of the key observations from the interviewers' databases.

- The overall profile of the trolley rider is a thirty or forty-year-old adult traveling in a group of two or more
- Half of the survey riders were composed of groups containing three to six persons. These groups may be four or five similar age adults 'bumming around' or may be made up of one or more adults with two or three children
- Duos on the trolley are most likely to be one male and one female or two females; the ages of the pairs of travelers are often similar, whether same or opposite gender; the other most likely duo is one adult and one child
- Solo travelers make up a small but important part of the market – they are more likely to be female than male

Party Size

Survey respondents were asked to report the number of persons traveling in their party. Four analysis groups were developed to address the different profiles of solo travelers, pairs, family-sized groups (3 to 6), and field trip-sized parties of over 6. Of total trolley rider groups, 14% were traveling alone, 30% were traveling in pairs, 52% were traveling in groups of 3-6, and 4% were traveling in very large groups. The party

[4] Resident Survey Report, prepared by the Illinois-Grand Corridor Transportation Management Association, 2003

size varied by market with Chicagoans most likely to travel alone, and an overwhelming 71% of Midwesterners traveling in family-sized groups.

The average trolley rider party size was calculated by market showing that Chicago residents tend to travel in the smallest size groups averaging 2.58, and Midwesterners in the highest averaging 3.42. The average for international visitors is 2.83 excluding one group of twenty-three persons; including this very large group brings the average party size for international visitors was 4.38.

Other observations are discussed below:

- Chicago residents – This market tended toward small groups with 35% traveling alone
- Suburban visitors – Family-size groups containing three to six persons made up one-half of this market
- Midwesterners – Family-sized groups dominated (71%) this group and almost no respondents (2%) were traveling alone
- U.S. – Pairs of travelers account for 40% of this group, the highest proportion among all the markets
- International – Similar to the Chicagoans, half of this group either travel alone or in pairs with the second highest proportions traveling alone among the five trolley markets
- Large parties, six or more persons, traveled almost exclusively during the weekends.
- The party size averaged 3.6 on the weekend and 2.7 on the weekday

Table 5: Trolley Rider Party Size

Trolley Rider Market	Persons in Party				Total	Average Party Size
	1	2	3 to 6	over 6		
Chicagoans	35%	23%	38%	4%	100%	2.58
Suburbanites	18%	26%	50%	6%	100%	3.15
Midwesterners	2%	27%	71%	<1%	100%	3.42
U.S. Travelers	10%	40%	43%	7%	100%	3.29
International Visitors	23%	31%	38%	8%	100%	2.83
Total	**14%**	**30%**	**52%**	**4%**	**100%**	**3.16**

Trip Purpose

Trolley rider trip purposes were selected to provide detail on the many recreational purposes that inspire people to visit downtown Chicago. As part of the survey, trolley riders were requested to name the purpose of their trolley trip. The survey staff also prompted the respondents with these purposes: shopping, museums, restaurant, entertainment, sightseeing, visiting family or friends, work, and convention/meeting. Multiple answers were permitted as indicated in Table 6. About 38% of the survey respondents reported two or more trip purposes. These responses were consistent for users of a recreational type of trolley service who might be expected to explore Chicago while making one or two scheduled stops. This was particularly pronounced among the U.S. Traveler market with 67% of them having multiple trip purposes.

Table 6: Trolley Trip Purpose

Trolley Rider Market	Business	Museum	Shop	Sightseeing	Visit Family/ Restaurant	Beach / Entertainment	Total
Chicagoans	6%	21%	39%	28%	25%	4%	124%
Suburbanites	2%	39%	43%	13%	25%	7%	129%
Midwesterners	3%	38%	34%	24%	17%	5%	121%
U.S. Travelers	3%	48%	32%	50%	25%	8%	167%
International Visitors	<1%	24%	41%	68%	12%	<1%	144%
Total	**3%**	**38%**	**36%**	**33%**	**22%**	**6%**	**138%**

Given the trolley service's orientation, museum, shop, and sightseeing dominated trolley user purposes. However, somewhat different objectives among the five trolley user markets were also noticed below. As expected, most sightseeing and museum trips occurred during the weekends or holidays.

- Chicago residents used trolley for shopping, sightseeing or eating at restaurants
- Suburban and Midwestern visitors came to downtown more likely for shopping and visiting museums
- U.S. Travelers tended to use the trolley system for sightseeing or accessing museums.
- International travelers were most likely to visit Chicago for sightseeing and shopping purposes

It is also worth mentioning that the survey instrument was designed to collect the trolley trip purposes. Main purposes for those out-of-town visitors could be related either to business or leisure travel.

Length of Visit

Out-of town trolley riders were asked how many days they would be in Chicago. Due to a small sample size and some missing responses from the International visitors, this analysis focuses on the Midwesterners and other U.S. Visitors. Visits of three or four days were the trend across both markets with the persons traveling in from more distant states tending to stay in Chicago longer. Midwesterners showed a tendency (70%) to stay for three or fewer days while less than half of U.S. visitors stayed for this shorter length of time. U.S. travelers were more likely to spend a whole week in Chicago with nearly one-in-five staying six to seven days. On the average, U. S. travelers stayed one day longer than Midwesterners (3.81 vs. 2.98). The survey also indicates that one-day visitors from all markets were more likely to visit downtown Chicago during weekends.

Table 7: Visit Length

Out of Town Trolley Users	Number of Days Visited								Average Visit Length
	1	2	3	4	5	6	7	Total	
Midwesterners	16%	13%	41%	19%	8%	3%	<1%	100%	2.98
U.S. Travelers	11%	8%	28%	23%	11%	8%	10%	100%	3.81
Total	**13%**	**11%**	**34%**	**21%**	**10%**	**6%**	**5%**	**100%**	3.43

Lodging Type

The trolley survey asked out-of-towners where in the Chicago area they were staying. Respondents answered friend/family, hotel, or camping/recreational vehicles (RV). Due to the small sample size and the large proportion of missing values for the variable, this analysis focuses on Midwesterners and on U.S. and international visitors staying either at hotels or with friends or family. Over three-quarters of out-of-towners using the trolley stayed in area hotels with the balance staying with family or friends. As shown in the following table, a noticeably higher proportion of Midwesterners (88%) stayed at hotels as compared to travelers from the U.S and other countries.

Table 8: Lodging Type

Out-of-Town Trolley Users	Lodging Type		
	Friends/Family	Hotel	Total
Midwesterners	12%	88%	100%
U.S. & Int. Travelers	41%	64%	100%
Total	26%	77%	100%

Those survey respondents who were staying in a hotel while using the trolley system were asked to provide the name of their hotel. About 18% of the surveyed parties were staying in a hotel and agreed to give the name. No zip code or address was requested. Of responding parties about three-quarters (73%) were staying in a hotel in the downtown area which includes the North and South Michigan Avenue, Printer's Row, and State Street hotel districts. The other 27% were staying at a hotel in the O'Hare area, Schaumburg, or the Western Suburbs.

5 TROLLEY TRIP CHARACTERISTICS

Trip characteristics of the trolley riders can be analyzed by looking at the trolley route used; trolley usage and transfers per day; mode of access to trolley, and potential alternatives to trolley.

Trolley Route Used

Three trolley routes were the focus of the survey: Red Shopping, Yellow Metra-Navy Pier, and Green Metra-Museum. Since two of the survey intercept locations were located at spots where the Blue Trolley stopped, riders of the Blue Trolley were inadvertently represented in the survey. Table 9 excludes those survey records for the Blue Line. Overall, the Red Shopping Trolley is the line most frequently used by survey respondents with 42% of them preparing to board this line, followed closely by the Green Metra-Museum at 41% and then the Yellow Navy Pier Line at 18%. Some of the reasons that the Red is so popular may be that the Red serves 'hotel row' along North Michigan Avenue, providing a high number of visitors for potential trolley trip generation. This same corridor is known as the 'Magnificent Mile' and attracts a very high number of shoppers. The popularity of the Green Trolley is likely due to the fact that over 38% of surveyed trips cited museum as their primary purpose.

The table also shows that Chicago residents and Suburban visitors have almost identical profiles in using trolley routes with the highest proportions riding the Red Line. Midwesterners and U.S. travelers exhibit a shift towards use of the Green Line, with U.S. travelers showing a strong 55% use of the Green Trolley as a share of all trolley use, consistent with museum as a popular trip purpose. Note that the survey respondent determined the route that was to be used at the time of interview.

Table 9: Trolley Route Used

Trolley Rider Market	Red Trolley (Shopping)	Yellow Trolley (Navy Pier)	Green Trolley (Museum)	Total
Chicagoans	55%	13%	32%	100%
Suburbanites	54%	13%	33%	100%
Midwesterners	36%	24%	40%	100%
U.S. Travelers	31%	14%	55%	100%
International Visitors	56%	24%	21%	100%
Total	**42%**	**18%**	**41%**	**100%**

Analysis of the trolley boardings by the three routes for the two survey months: July and August of 2002 (Table 10) indicates a possible over sampling of the riders from the Red Trolley and under sampling for the Yellow Trolley. Since CDOT has other available surveys, including the Blue Trolley Resident Survey and the Navy Pier Visitors Survey, both of which are for the Navy Pier destination that the Yellow Trolley serves, over sampling of the Red riders, was perhaps designed intentionally. Interpretation of the survey results, such as trip purposes, should keep the sampling scheme in mind.

Table 10: July-August 2002 Trolley Ridership

July-August 2002 Trolley Ridership	Red Trolley (Shopping)	Yellow Trolley (Navy Pier)	Green Trolley (Museum)	Total
Weekday	57,534	45,393	63,975	166,902
Weekend/Holiday	61,529	44,131	56,567	162,227
Total	**119,063**	**89,524**	**120,542**	**329,129**
Weekday	34%	27%	38%	100%
Weekend/Holiday	38%	27%	35%	100%
Total	**36%**	**27%**	**37%**	**100%**

Trolley Trips per Day

Trolley riders were asked how many times they expected to use a trolley during the study day. A large majority of the trolley riders (82%) thought they would make two or more trolley trips during the day. The Red, Green and Yellow Trolleys suspend service at 6 P.M. on all service days, too early for many tourists to end their days. This service span may contribute to the relatively high number of respondents, (18%) who thought they would be on the trolley only once that day. An average of 2.5 boardings per rider per day across all the markets, combined with the expectation that a transfer will occur, show that, even if the trolley is not used for the trip home, it is an expected part of the day's recreational circuit pictured by many visitors to Chicago.

Table 11 below also shows that suburban visitors were the most likely of all groups to reject a one-trip day (only 4% planned one trip) while about one-fifth of out-of-town visitors thought they would use the trolley just once. Knowledge of the trolley system may explain the difference. Midwesterners and U.S. Travelers were the most active in the highest register of trolley boardings expected; about 7-8% of these groups planned to board five or more times on the study day.

Average boardings-per-day is an important variable because it can be used to calculate the number of trolley customers from trolley ridership statistics. Trolley customer numbers can then be used to quantify the spending levels of the trolley riders and their financial contribution to the Chicago economy.

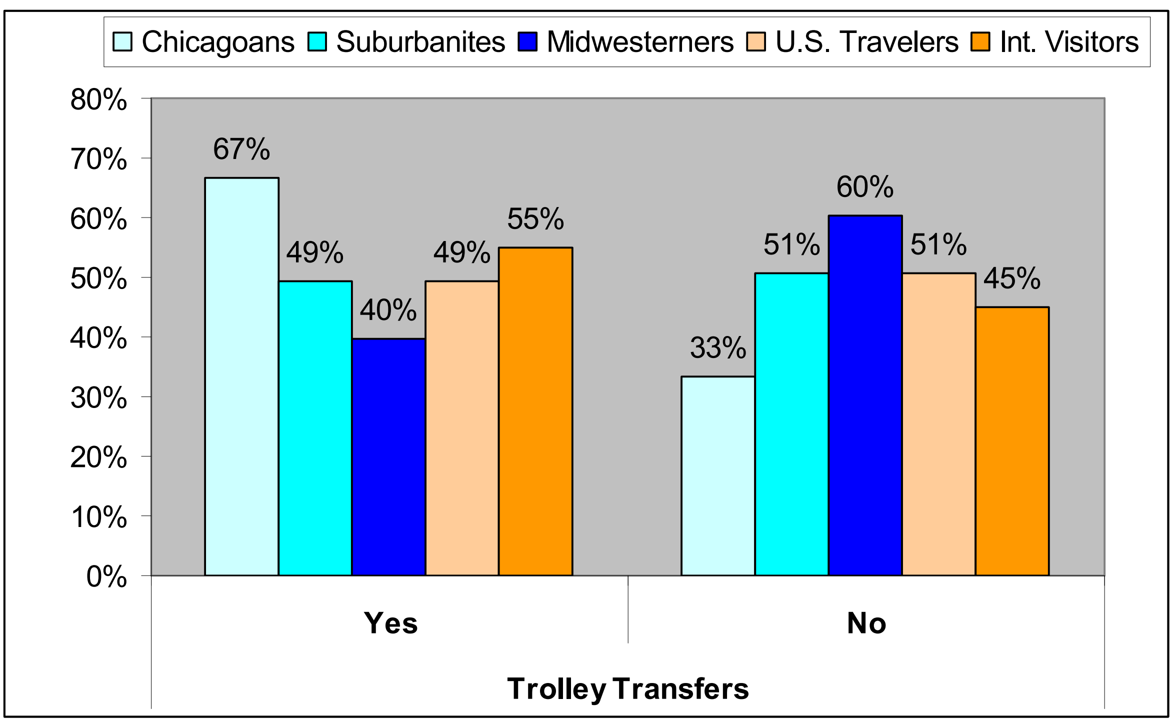
Table 11: Number of Trolley Boardings Per Day

Trolley Rider Market	Daily Trolley Boardings						Average Boardings per Rider
	1	2	3	4	5 or More	Total	
Chicagoans	16%	43%	24%	16%	<1%	100%	2.40
Suburbanites	4%	43%	31%	19%	4%	100%	2.79
Midwesterners	21%	43%	13%	16%	7%	100%	2.49
U.S. Travelers	24%	50%	6%	12%	8%	100%	2.33
International Visitors	19%	28%	28%	25%	<1%	100%	2.59
Total	**18%**	**44%**	**17%**	**16%**	**5%**	**100%**	**2.50**

Trolley Transfers

Trolley riders were asked if they expected to make a transfer on the upcoming trolley trip. About half said yes and half said no. The Chicago residents were most likely (67%) to say yes to making a transfer, perhaps because they are more knowledgeable about the trolley coverage than are the other groups.

Figure 4: Trolley Transfer Rate by Market



Mode of Access to Downtown

Trolley riders were asked their mode of access to the Chicago downtown. Over 380 trolley riders who did not stay at a downtown hotel or did not live in downtown areas answered this question. If the visitor, for example, were staying with family or friends, their mode of access would be recorded in this table. Modes used were auto, Amtrak, Metra, CTA rail, bus, shuttle, taxi and walk. Across all markets, and, in particular, among Chicago residents and suburban visitors, public transportation was shown to be an important feeder of the trolley system, with a 66% share overall. Auto accounted for 24%. Most of these auto users drove to downtown during weekends (75%), parked and used the trolley systems, perhaps to avoid multiple parking costs. A higher proportion of Metra riders were found on the weekend compared to the weekdays, a finding that may be due to the $5 unlimited weekend fares on Metra rail with up to three kids riding free with each paying adult.

Table 12: Mode of Access to Chicago Downtown

Trolley Rider Market	Mode of Access to Chicago Downtown						Total
	Auto	Chicago Public Transportation				Other	
		Metra	CTA Rail	CTA Bus	Sub - Total		
Chicagoans	3%	27%	43%	21%	91%	6%	100%
Suburbanites	27%	63%	8%	3%	73%	0%	100%
Midwesterners	23%	41%	14%	0%	55%	23%	100%
U.S. Travelers	38%	30%	23%	0%	53%	9%	100%
International Visitors	30%	50%	<1%	10%	60%	10%	100%
Total	24%	43%	18%	5%	66%	10%	100%

Other observations by trolley market are:

- Chicago residents were the most likely to access downtown and thus the trolley from a public transportation transfer points - 43% from CTA rail, 27% from Metra and 21% from bus
- Suburban visitors were also a high user of public transit to get to downtown. They overwhelmingly (63%) used Metra to get to the trolley system with 27% entering by auto
- Midwesterners, in addition to using Metra and Auto to get to downtown, showed the highest percentage of persons using ‘Other’ mode much of which is made up of Amtrak and walk modes. 10% of Midwesterners took Amtrak and 10% walk to the trolley system, likely from the downtown home of friends or family
- U.S visitors had the highest percentage in using autos to get to downtown.

Alternative to Trolley

Survey respondents were asked how they would get around if the trolley service were not in operation. Over one-third of respondents indicated that they would walk (34%), followed closely by taxi (29%) and bus (28%). CTA bus, which runs parallel to trolley lines and also has bus stops adjacent to the trolley stops, is chosen by 28% of persons to replace trolley. CTA rail subway, which provides 24-hour trains within the north-south trolley service area, is chosen by 9% of the trolley riders. CTA rail use appears more often during the week as opposed to weekends while walk and taxi are more likely to be selected as alternatives by weekend visitors.

Table 13: Alternative to Trolley

Trolley Rider Market	Alternative to Trolley				Total
	Rail	Bus	Taxi	Walk	
Chicagoans	23%	38%	4%	35%	100%
Suburbanites	8%	21%	45%	26%	100%
Midwesterners	8%	27%	22%	42%	100%
U.S. Travelers	6%	32%	38%	25%	100%
International Visitors	<1%	10%	17%	73%	100%
Total	9%	28%	29%	34%	100%

Other survey findings by market are described below:

- Chicagoans – Walk and bus dominate but this group alone has a significant percentage of trolley riders who would consider rail or bus if no trolley were available, perhaps demonstrating local knowledge of the transit system
- Suburbanites –This group is the most inclined to use a taxi (45%) to replace trolley
- Midwesterners – This group is prepared to walk in 42% of the cases and is also open to replacing trolley with bus mode. The high incidence of walk mode being considered may relate to their locating in a hotel convenient to their desired visitor destinations (refers to Table 8 in lodging type section)
- U.S. Travelers – This group, tending towards taxi use to replace trolley, is also a strong proponent of walk and bus and willing to consider rail
- International Visitors– this group contains a high percentage of walkers – almost three-quarters of international visitors would walk if trolley were not available

6 TROLLEY RIDER ATTITUDE

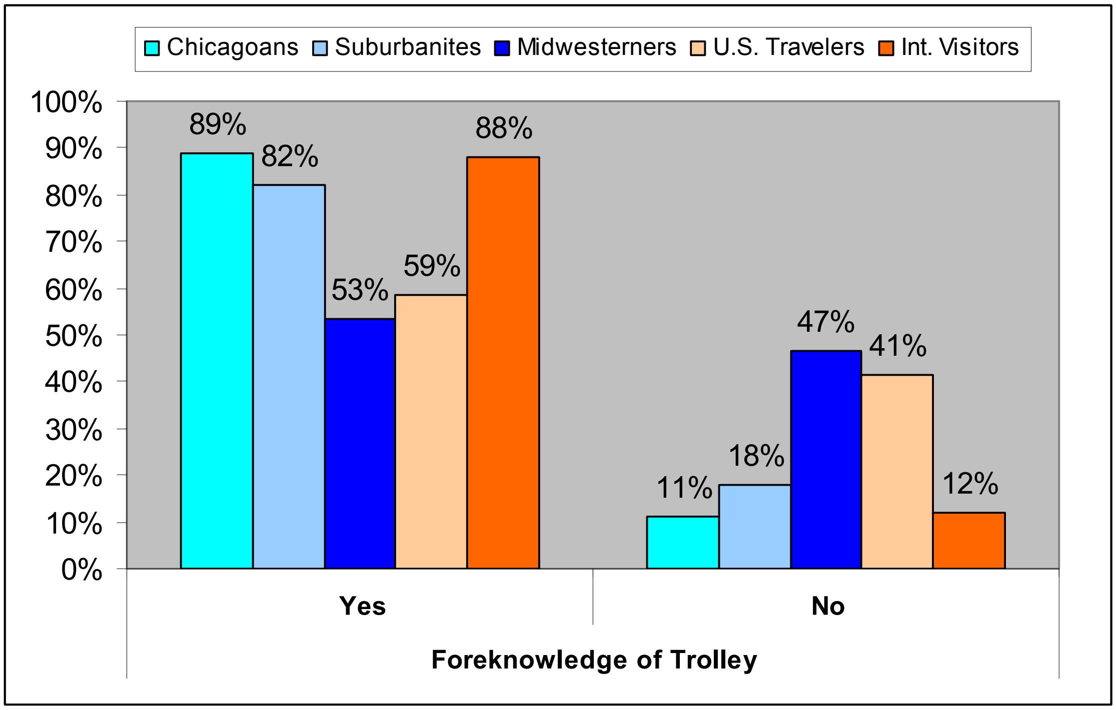
One of the reasons for conducting the CDOT trolley survey was to investigate (1) foreknowledge of the trolley service, (2) the manner in which the trolley riders discovered the service, (3) how they rate the service, (4) whether it influences their future plans to visit downtown Chicago and (5) how much they might pay for it. These questions were posed to the survey respondents and the results were positive toward the trolley service.

Foreknowledge of Service

Trolley riders were asked if they had foreknowledge of the service. On average, about two-thirds of trolley riders, across all markets, were aware that trolley service existed. Other findings are:

- Chicago residents and suburban visitors were the most likely of any groups to already know about the trolley
- Midwesterners and visitors from the U.S. were divided on foreknowledge with about half knowing and half not knowing of the existence of the trolley
- International visitors – Similar to the residents of the Chicago metropolitan area, this group had a surprising high percentage of people (88%) who were already aware of the trolley service. This could be the result of their careful pre-trip plans for the international travel

Figure 5: Foreknowledge of Trolley Services



Learn About Trolley

This question is an important one but one that appears to have been asked on only three survey dates in July. It also does not appear on the later version of the survey instrument (Appendix A) implying that survey staff in the field may perhaps have dropped it to reduce the interview time. In spite of the small sample for this question, it is possible to generate some trends from the survey regarding how riders learn about the trolley service. The responses that were collected point to the influence of signage, trolley information available at hotels, local contacts, and the Internet.

Overall, 45% of trolley riders learned about the trolley from signage located near one of their boarding points or by travel information maps and signage at various locations, including Navy Pier, the Metra stations, Great Lakes Naval Base, and at the trolley stops throughout the service area. An additional 24% of respondents learned about the trolley from a local resident, family member or recalled it from a previous visit. Internet and newspapers informed 18% of the riders. Hotels themselves are the means by which 13% of the trolley riders learn about the service. Information on the trolley is made available at many hotel front desks and the trolley stops immediately outside some downtown hotels.

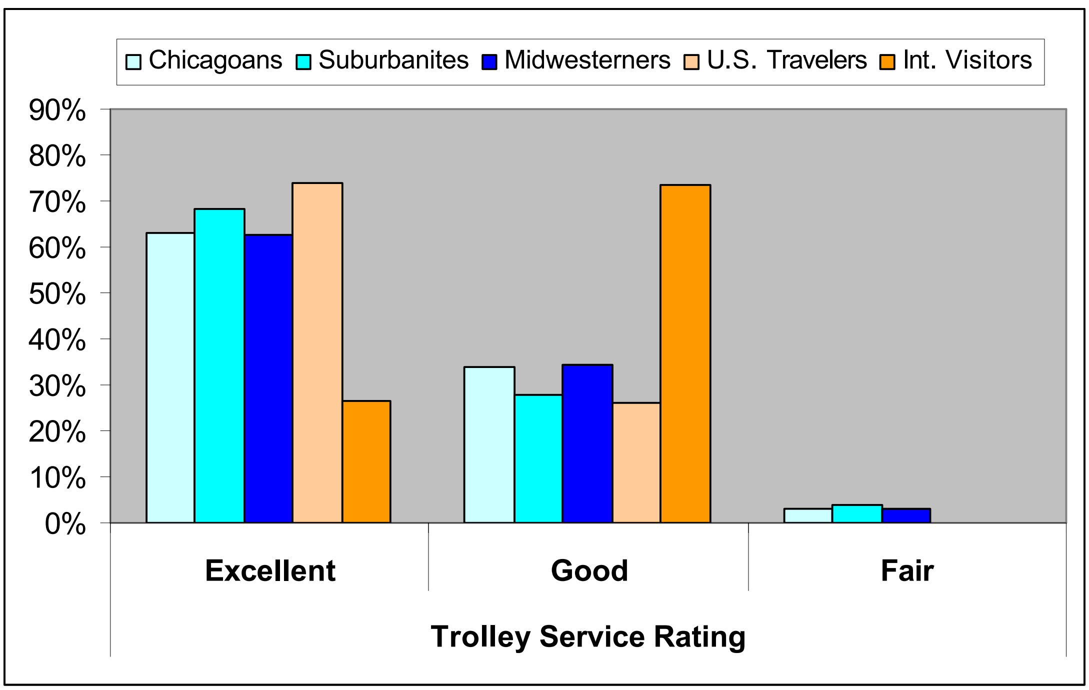
Table 14: Learn About Trolley

Trolley Rider Market	Learn About Trolley				Total
	Hotel	Internet / Newspaper	Local Resident / Family Member / Prior Visit	Signs	
Chicagoans		24%		76%	100%
Suburbanites		62%		38%	100%
Midwesterners	24%	5%	42%	29%	100%
U.S. Travelers	13%	7%	27%	53%	100%
Total	**13%**	**18%**	**24%**	**45%**	**100%**

Rating of Trolley Service

Trolley riders were asked to rate the service. 434 of the 579 travelers surveyed (75%) replied to this question. Almost two-thirds of them (64%) said the service was excellent. Only 2% gave the lowest rating of ‘Fair’. These results were consistent across the markets with the exception of the International group. They were more likely to rate the service ‘Good’ (74%) instead of ‘Excellent’ (26%).

Figure 6: Trolley Service Rating by Market



Trolley Influence

Trolley riders were asked if the service influenced their desire to visit downtown Chicago again. They could choose ‘None’, ‘Somewhat’ or ‘Very Much’. The totals across all markets show that 38% say that it has very much of an effect and 40% of riders say that the trolley has no effect on their desire to return to Chicago. Other important findings are:

- Two markets, the U.S. and the International travelers, indicate the least influence of trolley over their future travel plans. One possible reason for this result is that these visitors come a great distance and will see the most famous Chicago sites regardless of the presence or absence of a trolley system
- 40% of Suburban and Midwest visitors, on the other hand, said that the trolley system had a strong influence on their future plans. It is possible that the trolley is unifying the downtown experience in a manner that inspires repeat visitors. As will be seen in the section on spending levels, the Midwestern visitors generate a disproportionately high percentage of total visitor spending. This finding, paired with the fact that 40% of them are strongly influenced by the trolley service, has implications regarding which visitor group may be amenable to marketing strategies.

Table 15: Trolley Influence

Trolley Rider Market	Trolley Influence			Total
	Very Much	Somewhat	None	
Suburbanites	41%	28%	31%	100%
Midwesterners	40%	21%	38%	100%
U.S. Travelers	35%	17%	48%	100%
International Visitors	32%	24%	44%	100%
Total	**38%**	**22%**	**40%**	**100%**

Willingness to Pay for Trolley Service

Trolley riders were asked two questions 'Are you willing to pay for the trolley service?' and 'How much are you willing to pay?' Over 95% of survey respondents answered these questions.

Across all markets, more than 93% of trolley riders would be willing to pay something for the trolley services. 64% of the surveyed riders expressed willingness to pay up to one dollar and 28% up to 50 cents. Only 7% would not want to pay anything for the trolley service. Other findings by market are:

- Chicago residents were the group most likely to reject any payment for the trolley service, followed by Midwesterners. These trends, however, are still very small compared to the overall acceptance of a payment scheme
- Four out of five suburban visitors are willing to pay one dollar for the trolley
- International visitors were willing to pay but tended to stop at 50 cents as opposed to one dollar

Table 16: Willingness to Pay

Trolley Rider Market	Willingness to Pay			Total
	None	$0.50	$1.00	
Chicagoans	16%	30%	54%	100%
Suburbanites	3%	17%	80%	100%
Midwesterners	10%	21%	69%	100%
U.S. Travelers	4%	39%	57%	100%
Int. Visitors	<1%	56%	44%	100%
Total	**7%**	**28%**	**64%**	**100%**

7 TROLLEY USER EXPENDITURE

Average Expenditure per Trolley Customer

One of the main reasons that the trolley survey was conducted was to estimate the spending levels of trolley riders. The survey questionnaire was set up to ask first for boarding information such as the trolley line to be used, main destination, and the mode of access. Survey staff then determined visually the party size, genders and ages of the trolley rider group. Lastly, the survey staff member asked the question, 'Altogether, not including hotel room, about how much do you plan to spend today for your party? Include admission, gifts, food and shopping'. Staff was instructed to give the respondent time to think, as the spending level was an important question and one that required a few moments of thought. Also, the respondent was shown a card with six spending levels printed on it in bold face type (See Appendix A) so that they would not have to utter the dollar amount, just point to it. The six spending levels were: less than $20, $20-$40, $40-$75, $75-$100, $100-$200 and over $200.

Recall that the person who stepped forward and agreed to the trolley interview may be considered the 'leader' or host of the group. We can be fairly sure that this person had in mind an itinerary for the day, had identified one or more key destinations for the group, and had a good idea of how much money he or she was about to lay out for the group to make that day's outing memorable and complete. Household income level was not requested. Once the lead survey respondent provided a total spending amount for the group, this value could be divided by the number of persons in the party to get a number called the average spending per trolley customer per day. This number is used to analyze the spending patterns and to arrive at a yearly spending estimate for trolley riders.

Because spending level was reported as a range, for example $20-$40, it was necessary to develop assumptions on what value between $20 and $40 would be used for analysis. Four assumptions were developed:

- Assumption 1 – Mid-Value (50% of the range)
- Assumption 2 – Two-thirds Value (67% of the range)
- Assumption 3 – Three-quarter Value (75%) of the range
- Assumption 4 – 85% of the Range

The trolley survey was analyzed for the spending patterns by market group and tabulated by the four assumptions (Table 17). Averages for all trolley riders and for out-of-town domestic travelers were produced as well. The highest daily spending is made by the Midwestern visitors. The lowest daily spending is made by Chicago residents. The average daily spending for out-of-town domestic travelers ranges from $47 under Assumption 1 to $62 under Assumption 4. Average spending for all groups is somewhat lower than the average for out-of town visitors due to the lower spending levels of Chicago and suburban visitors.

Table 17: Average Spending Per Trolley Customer Per Day
(Excluding Hotel Room Expense)

Trolley Rider Market	Average Spending per Customer per Day			
	Assumption 1	**Assumption 2**	**Assumption 3**	**Assumption 4**
Chicagoans	$26	$33	$35	$37
Suburbanites	$36	$43	$45	$49
Midwesterners	$51	$60	$63	$66
U.S. Travelers	$43	$53	$55	$58
International Visitors	$44	$49	$52	$55
Average Spending	**$42**	**$51**	**$53**	**$56**
Average for Out-of-Town Domestic Travelers	**$47**	**$57**	**$59**	**$62**

Average Expenditure per Chicago Visitor

Chicago visitor spending was researched by contacting a variety of local sources for the availability of recent visitor data and trends. The Chicago Convention and Tourism Bureau collects and maintains visitor statistics including daily spending averages for domestic business and leisure travelers to Chicago. They use the services of a national market research firm that maintains an extensive database monitoring U.S. travel by means of ongoing syndicated traveler surveys. This survey estimates that the average leisure traveler in 2000 spent $61.60 per day, not including transportation to and from Chicago and hotel room. The average business traveler spent $62.50. Transportation here is defined as the mode used to travel into and out of Chicago including private vehicle, air, rail, bus, or other such as tour bus. Estimates made by the Tourism Bureau are that approximately 60% of domestic leisure travelers drive or ride in an automobile to get to Chicago with the balance arriving by air or other means.

Table 18: 2000 Average Expenditures Per Person Per Day
(Overnight Domestic Travelers to the City of Chicago)

Type of Expense	Leisure	Business
Transportation	$29.00	$59.00
Room	$21.40	$73.80
Food	$24.70	$33.30
Shopping	$17.90	$14.30
Entertainment	$15.20	$10.00
Miscellaneous	$3.80	$4.90
Daily Average - Total	**$112.00**	**$195.30**
Daily Average - Excl Transp. & Room	**$61.60**	**$62.50**

Sources: D.K.Shifflet and Associates,
http://www.chicago.il.org/stats/leisure_expend.htm &
http://www.chicago.il.org/stats/business_expend.htm, August 2003

The range of spending represented by the trolley survey parties for out-of-town domestic travelers excluding transportation and room expenses is $47 for Assumption 1, $57 for Assumption 2, $59 for Assumption 3, and $62 for Assumption 4. These values are consistent with the spending averages produced by the Chicago Convention and Tourism Bureau.

Trolley Rider Room Expense Assumption

The Trolley survey did not collect the hotel expense information instead focusing on getting respondents to estimate carefully the amount they were planning to spend on the other expenses related to their day. To fully assess the financial contributions of the trolley riders to the city of Chicago, the hotel room expenditure should be included in addition to those expenses shown in Table 17.

As reported by the Chicago Convention and Tourism Bureau, business persons spend over three times as much on a hotel room as do leisure visitors. One reason for this difference is that leisure travelers are more likely than business travelers to share lodging with family members thereby reducing the price per person for a hotel room. An average hotel room expense is therefore calculated from these city-wide averages weighted by the observed percentage of domestic and leisure travelers to Chicago (Table 19). Note that the average room expenditure per Chicago visitor per day calculated by the Tourism Bureau already takes into account lodging types, hotel rates, and party size.

Table 19:
Average Hotel Room Expenditures Per Person Per Day
(Overnight Domestic Travelers to the city of Chicago)

Type of Expense	Domestic Leisure	Domestic Business
Hotel Room Expense (Table 18)	$21.40	$73.80
2000 Travel Volume (Millions of Visitors) *	17.49	12.87
Average Hotel Room Expenditure	**$43.61**	

* Source: Chicago Convention and Tourism Bureau
http://www.chicago.il.org/stats/travel_overview.html, August 2003

Table 19 shows the average cost of a hotel room in Chicago for all domestic visitors. The weighted average for one night in a hotel in Chicago is $43.61. This average hotel expenses are used to amplify the daily cost information for all of the out-of-town visitors in quantifying financial contributions of the trolley riders to the city of Chicago.

Trolley User Spending Patterns

Assumption 3 has been analyzed for the spending levels by market and is shown in Table 20. The average room rate of $43.61 is added to the daily cost for the three out-of-town markets, Midwesterners, U.S. travelers, and International Visitors. Average spending per trolley customer is $97 per day taking into account that only the out-of-town visitors will be purchasing a night in a hotel.

Excluding hotel expenditure, the distribution of trolley rider market by spending category is summarized in Table 20. In general, the lower three spending categories, comprising everything under $75 per person per day, represent 84% of all trolley riders. The nearer-in markets, Chicago and suburban, spend less per capita than do the out-of-town markets, particularly when there is no hotel room cost. Midwesterners lead the spending with $63 per person per day, 80% more than Chicagoans spend and almost 20% over the average. Additionally, 20% of the Midwesterners spend in the $75 to $100 range. Over 6% of out-of-town visitors spend $100-$200 per person.

Table 20: Trolley User Spending Patterns by Market

Trolley Rider Market	Spending Level (Assumption 3)						Total	Average Spending per Customer per Day	
	<$20	$20-40	$40-75	$75-100	$100-200	$200+			
	$15.00	$35.00	$66.25	$93.75	$175.00	$350.00		w/o Room	with Room
Chicagoans	45%	34%	16%	3%	1%	0%	100%	$35	$35
Suburbanites	36%	32%	22%	6%	3%	1%	100%	$45	$45
Midwesterners	19%	24%	30%	20%	6%	1%	100%	$63	$106
U.S. Travelers	24%	28%	34%	7%	7%	0%	100%	$55	$99
Int. Visitors	50%	25%	3%	13%	6%	3%	100%	$52	$96
Total	29%	28%	27%	11%	5%	1%	100%	$53	$97

Spending patterns by market are described below:

- Chicago Residents (*Average $35, no hotel cost*) – This group has the second highest proportion of trolley riders who spend in the lowest (under $20 per day) category (45%). It also has the highest proportion of riders who spend under $40 total per day
- Suburbanites (*Average $45, no hotel cost*) –This group has some of the same spending characteristics as the Chicagoans, but with the dollar level somewhat higher. The lowest spending level (under $20 per day) covers 36% of suburbanites with the balance of the group spending more.
- Midwestern Visitors (*Average $106, with hotel*) – This group spend strongly in the highest ranges with only 19% spending under $20 per person. Purposes array is similar to the other markets but it appears that they spend more at the destinations they choose to visit. A tremendous 20% of these riders spend $75-$100 per person.
- U.S Travelers (*Average $99, with hotel*) – This group is second only to the Midwestern visitors with respect to spending. A low 24% spend in the lowest set of spenders with a broad representation of spending across all levels.
- International Visitors (*Average $96, with hotel*) – This group has a broad distribution of spending levels with 50% spending in the lowest range and 22% spending $75 or more. Survey sample is small and may be capturing a mix of hotel dwellers and international travelers staying with friends or relatives that do not truly represent international visitors.

Trolley User Financial Contribution

Once the average spending per day per trolley customer has been established, it is possible to develop an approach to estimating the financial contribution that trolley riders represent to the city of Chicago per year. First the total yearly boardings by trolley market are tabulated. These totals are then divided by the average boardings per day of trolley riders to yield the number of trolley customers per year (Table 21). The number of customers is then multiplied by the appropriate spending level and by the average length of visit to obtain the yearly expenditure levels by market[5]. Each of the four spending level assumptions is processed and the results are presented in Table 22.

[5] Chicago residents and suburban visitors are assumed to have a visit length of one day.

Table 21: Year 2002 Total Trolley Customers

Origins of Trolley Riders	% Riders by Market (Survey Results)	Yearly Trolley Boardings by Market	Average Boardings Per Day (Survey Results)	Yearly Trolley Customers
Chicagoans	12%	137,913	2.40	57,392
Suburbanites	19%	220,248	2.79	78,818
Midwesterners	34%	389,037	2.49	56,110
U.S. Travelers	29%	331,402	2.33	142,282
International Visitors	6%	69,985	2.59	26,982
Total	**100%**	**1,148,585** (CDOT Statistics)	**2.50**	**459,765**

Table 22: Estimated Total Trolley Rider Spending in 2002

Trolley Rider Market	Yearly Trolley Customers		Average Spending per Customer per Visit-Day (Including Room Expense)	Estimated Year 2002 Total Trolley Rider Spending per Visit-Day	Average Visit Length (Day)	Estimated Year 2002 Total Trolley Rider Spending
Chicagoans	57,392	Assumption 1	$26	$1,471,210	1.00	$1,471,210
Suburbanites	78,818		$36	$2,824,925	1.00	$2,824,925
Midwesterners	156,110		$95	$14,764,281	2.98	$44,031,527
U.S. Travelers	142,282		$86	$12,290,233	3.81	$46,815,469
Int. Visitors	26,982		$88	$2,363,232	3.81	$9,001,930
Total	**459,765**		**$85**	**$39,253,803**	**2.65**	**$104,145,061**
Chicagoans	57,392	Assumption 2	$33	$1,900,495	1.00	$1,900,495
Suburbanites	78,818		$43	$3,363,760	1.00	$3,363,760
Midwesterners	156,110		$104	$16,194,861	2.98	$48,297,947
U.S. Travelers	142,282		$96	$13,684,463	3.81	$52,126,312
Int. Visitors	26,982		$93	$2,508,726	3.81	$9,556,139
Total	**459,765**		**$94**	**$43,437,402**	**2.65**	**$115,244,653**
Chicagoans	57,392	Assumption 3	$35	$2,009,797	1.00	$2,009,797
Suburbanites	78,818		$45	$3,537,601	1.00	$3,537,601
Midwesterners	156,110		$106	$16,585,220	2.98	$49,462,116
U.S. Travelers	142,282		$99	$14,041,139	3.81	$53,484,950
Int. Visitors	26,982		$96	$2,577,194	3.81	$9,816,944
Total	**459,765**		**$97**	**$44,593,307**	**2.65**	**$118,311,409**
Chicagoans	57,392	Assumption 4	$37	$2,146,424	1.00	$2,146,424
Suburbanites	78,818		$49	$3,887,494	1.00	$3,887,494
Midwesterners	156,110		$109	$17,073,169	2.98	$50,917,327
U.S. Travelers	142,282		$102	$14,486,985	3.81	$55,183,249
Int. Visitors	26,982		$99	$2,662,778	3.81	$10,142,950
Total	**459,765**		**$100**	**$46,088,164**	**2.65**	**$122,277,444**

Key findings are summarized below:

- The Red-Yellow-Green Trolley system attracted 1.15 million boardings in 2002, equivalent to almost 500,000 trolley customers
- Under Assumption 1, the most conservative estimate, Red-Yellow-Green trolley riders as a whole account for over $104 million dollars in spending in 2002. Other assumptions, such as Assumption 4, which results in daily spending estimates commensurate with those of D.K. Shifflet, would have over $122 million dollars spent by the three trolley line users in 2002
- Using Assumption 3 as an example, Midwesterners and U.S. Visitors are, far and away, the biggest spenders on an annual basis with each group accounting for over $49 million annually. These two groups make up 63% of all trolley riders but produce over 87% of spending. Their average stays of 3-4 days present the opportunity to increase spending by a potential factor of three or four as compared to the spending levels of local residents
- International travelers, while big spenders, are a small part (6%) of the visitor market and thus provide a proportionately small part of the total spending
- Chicago residents and suburban visitors play a small role relative to the out-of-town markets with regard to yearly spending because they are a smaller percentage of trolley riders, their per capita spending is lower, and they usually made one-day visits.
- 38% of all trolley riders said that the trolley service 'Very Much' influenced their desire to return to downtown Chicago. This 38%, multiplied by the total yearly spending of all trolley riders, represents a potential $50 million 'sphere of influence' of discretionary money from highly satisfied trolley riders with possible plans to return to Chicago.

8. CONCLUSION

Three trolley routes, the Red Shopping, the Yellow Navy Pier, and the Green Museum, are operated by the city of Chicago to link hotels, transit, and important visitor destinations. A trolley rider survey was conducted in July and August of 2002 to investigate the behavior of trolley riders during a typical summer weekday and weekend. This survey obtained their travel party profile, trip characteristics, and their satisfaction with and willingness to pay for the trolley. Five trolley rider markets were identified: Chicago residents, suburban visitors, Midwesterners, U.S. travelers, and International visitors. The survey was then used to estimate the spending levels of trolley riders and to estimate their contribution to the Chicago economy.

Trolley Rider Profile

- In 2002, the Red-Yellow-Green Trolley Lines attracted 1.15 million boardings, equivalent to almost 500,000 trolley customers
- 63% of trolley riders are U.S. out-of-towners, originating in the Midwest or in other U.S. states
- The average trolley customer is a thirty or forty-year-old person traveling in a group of two or more; more than half of trolley parties are composed of groups of three to six persons
- Museum, shop, and sightseeing dominated trolley users' trip purposes
- The farther a visitor travels to reach Chicago, the longer he or she is likely to stay. U.S. travelers, on average, are more likely to make four day visits while Midwesterners stayed an average of three days
- Over three-quarters of domestic out-of-towners stayed in hotels, most of these in the downtown area.

Trolley Trip Characteristics

- Over 82% of trolley customers expected to get on the trolley two times or more during the day. The average boardings per rider was 2.50
- Public transportation is the major feeder system of the three trolley lines – 66% of trolley riders who are not in hotels access the trolley by public transit.
- Trolley riders would walk, use taxi or ride a bus if trolley were not available

Customer Satisfaction

- Two-thirds of riders thought the trolley service was excellent; only 2% gave it the lowest rating which was ‘Fair’
- Asked whether the trolley influenced their decision to come back to downtown Chicago, 38% of survey respondents answered very much
- 93% of trolley riders would be willing to pay for the service with 28% willing to pay up to 50 cents and 64% willing to pay up to one dollar
- Two-thirds of trolley riders had foreknowledge of the trolley service
- Signage was the means by which the largest percentage of riders (45%) learned about the trolley. Others were the Internet, friends and family, previous visit, and hotels.

Spending Levels

- Depending on the assumption of dollar range, out-of-town domestic travelers spend between $47 and $62 per person per day on non-hotel items; these values are consistent with average daily spending for both leisure and business travelers to Chicago according to the Chicago Convention and Tourism Bureau
- Trolley riders as a whole are estimated to spend between $104 and $122 million dollars in Chicago in 2002
- Midwesterners and U.S. Visitors are the biggest spenders on an annual basis with combined spending of $100 million annually, accounting for over 87% of all trolley rider expenditure. These two groups spent more per day, visited longer, and were the major markets among the trolley riders. This finding, paired with the fact that 40% of Midwesterners and 35% of U.S. Visitors are strongly influenced by the trolley service, has implications regarding which visitor groups may be amenable to marketing strategies
- 38% of all trolley riders said that the trolley service ‘Very Much’ influenced their desire to return to downtown Chicago. This represents a potential $50 million ‘sphere of influence’ of discretionary money from highly satisfied trolley riders with possible plans to return to Chicago.

Chicago is the capital city of the Midwest and one of the most popular tourist cities in the U.S. It serves a score of states with museums, shopping, professional sports, architecture, music, festivals and various one-of-a-kind special events. The city of Chicago has taken an active role in enhancing these attractions with the introduction and support of a free trolley system, making this wealth of activities more accessible to everyone. The trolley service has compressed the distance between popular downtown tourist attractions and simultaneously provided the pleasure of a sightseeing trolley ride. The 2002 Trolley Rider Survey provides an informative snapshot of how, why, when and where this transit-adventurous segment of downtown Chicago visitors gets around during a typical summer day. The survey and related market information confirm that the Red-Yellow-Green Trolley system enhances a visitor’s experience of Chicago, creates a 'sphere of influence' equivalent to $50 million yearly on the economy of the city, and fosters tourism in the City of Chicago.

Appendix A

Trolley Surveys **Day of Week and Date:____________________**
Revised: July 26, 2002 **Time:__________ ( ) AM ( ) PM**

Stop...location__________________

Interviewer:____________ Interviewer Phone__________

Hello, my name is ____________ and I work for the Chicago Department of Transportation and we are carrying out a survey about the free Trolley service. The information you give us will be used to help us improve the Trolley service and to plan for next year. May I ask you a few questions?
IF NO..FIND ANOTHER RESPONDENT.

1. What brings you to downtown Chicago today? What is the purpose of your visit?
____

____

1a. IF NO ANSWER READ FOLLOWING CHOICES::
( ) Shopping ( ) Museums ( ) Restaurant ( ) Entertainment ( ) Sightseeing ( ) Visit friends or family ( ) Work ( ) Convention or meeting

1b.IF MENTION SHOPPING. What stores or shopping centers will you visit?
____

1c. IF MENTION MUSEUMS: Which museums will you visit?

____

2. ASK OF ALL: How many people are in your party (friends, family members)?
________Persons

3. ASK OF ALL: Did you know about the trolleys before you got downtown? ( ) Yes ( ) No

4. ASK OF ALL: By the end of the day, how many times will you have used the trolley today?______ TIMES. Did you or will you have to make transfers between trolley routes to get to where you want to go? ( ) No ( ) Yes

5. If trolleys were not available how would you get around downtown?

____

6. READ CHOICES IF RESPONDENT DOESN=T GIVE ANSWER.
( ) CTA bus ( ) CTA Rail ( ) Taxi ( ) Walk ( ) Drive ( ) Would not have come downtown Other - please specify ___________

7. And how did you arrive downtown today? READ CHOICES:
(   ) Auto   (   ) CTA bus (   ) CTA rail   (   ) Metra commuter rail   (   ) Other ____________
(   ) Am staying in downtown Chicago

8. POINT TO SIGN WITH BUS ROUTES Which trolley route are you taking for this trip?
(   ) Red (   ) Green (   ) Blue (   ) Yellow (   ) Orange-Chinatown/Pilsen

9. Overall how satisfied are you with the Central Area trolley service: READ ALTERNATIVES
(   ) Excellent (   ) Good   (   ) Fair (   ) Poor

10. Thinking about the trolleys service and your visit to downtown Chicago. How does having the trolley service affect your decision to visit Downtown Chicago again.
Does it make you (READ CHOICES:
(   ) Much more likely to visit downtown Chicago more frequently
(   ) Somewhat more likely to visit more frequently
(   ) Doesn=t influence my decision to visit

11. As you know the trolley service is free, but:
If the trolley cost 50 cents for each ride would you be willing to pay? (   ) Yes (   ) No...IF NOT SKIP TO Q 12
IF YES: If trolley cost $1.00 for each ride would you be willing to pay?   (   ) Yes (   ) No

12. **ASK OF ALL**: Do you live in the Chicago Area?   (   ) Yes   (   ) No... SKIP TO Q. 14
13. IF YES: Do you live in the City or a suburb?
(   ) City.....what is your zip code?______________or neighborhood______________
(   ) Suburb....name of suburb?__________________

14 IF NO, DOES NOT LIVE IN CHICAGO AREA:
For how many days will you be in Chicago? _______ Days
What town do you live in? Town_____________ State____________________
Where are you staying in Chicago? READ ALTERNATIVE: (   ) Hotel:name:____________
(   ) Friends or family   (   ) Other ______

15. **ASK OF ALL**: Take a minute to think about this. SHOW CARD: Altogether, not including hotel room, about how much do you plan to spend today for your party.. including admissions, gifts, food, shopping.   GIVE RESPONDENT TIME TO THINK. THIS IS AN IMPORTANT QUESTION.
(   ) A - Less than $20   (   ) B- $20-40   (   ) C- $40-75 (   ) D- $75-$100 (   ) E- $100 -$200
( ) Over $200

16. ALL: RECORD FROM OBSERVATIONS: Approx age: _____
Sex - record from observation: (   ) Male (   ) Female

Others accompanying respondent (family or friends): RECORD BY LOOKING IF FAMILY OR FRIENDS ARE WITH RESPONDENT, YOU DON=T HAVE TO ASK.

Person 1	M	F	Age: ______
Person 2	M	F	Age: ______
Person 3	M	F	Age: ______
Person 4	M	F	Age: ______

Thank you very much for your help.

A: Less than $20

B: $20-$40

C: $40-$75

D: $75-$100

E: $100 - $200

F: Over $200