University of Washington

Stadium Expansion Parking Plan and Transportation Management Program

2005 Report
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Executive Summary

After eighteen years of operation, the Husky Stadium Expansion Parking Plan and Transportation Management Program (TMP) continued to fulfill its primary goal of "accommodating a sellout crowd of 72,200 with less reliance on parking in the residential areas near campus." The mode split targets set in the TMP have been surpassed.

This report outlines the findings of the 2005 TMP monitoring efforts. In 2005, data were collected by conducting a random intercept survey of game attendees as they entered the gates at Husky Stadium on October 22nd. 921 surveys were attempted, with 720 responses, a response rate of 78%. Reported game attendance was 64,096 on the survey date. Results are estimated within a confidence interval of +/- 3.6% at 95% confidence.

Key findings of this report are presented below:

- Game attendees traveled to the stadium using these modes:
  - 46.3% carpooled in 2005, compared to 52.1% in 2004. 4.3% drove alone, compared 3.9% in 2004. The average auto occupancy in 2005 was 2.98 persons per car, up from 2.7 in 2004.
  - 27.8% arrived by transit or charter bus, compared to 29.9% in 2004.
  - 13.5% walked to the game, up from 8.2% in 2004.
  - 6.1% arrived by boat vs. 4.0% in 2004.
  - 0.7% arrived by bicycle, the same as in 2004.

- The change in mode split following the implementation of the TMP is greater than anticipated in the 1986 TMP plan. Projected mode shares compare to actual 2005 mode shares as follows:
  - Projected auto use was 72% vs. actual auto use of 49.6%.
  - Projected transit and charter bus use was 16% vs. actual transit and charter bus use of 27.8%.
  - Projected use of walking was 8.1% vs. actual use of walking of 13.5%.
  - Projected boat use was 3.9% vs. actual boat use of 6.1%.

- Roughly 2,900 vehicles parked in surrounding neighborhood parking impact areas in 2005, down from 3,900 vehicles in 2004. Based on a sample of two games, over 200 total parking citations were issued per game.
Introduction

The University of Washington hosted six football games at Husky Stadium during the 2005 season, listed in Table 1:

Table 1. 2005 Husky Football Games

<table>
<thead>
<tr>
<th>Date</th>
<th>Kickoff Time</th>
<th>Opponent</th>
<th>Reported Game Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 10th</td>
<td>12:30 pm</td>
<td>California</td>
<td>57,775</td>
</tr>
<tr>
<td>September 17th</td>
<td>12:30 pm</td>
<td>Idaho</td>
<td>61,183</td>
</tr>
<tr>
<td>September 24th</td>
<td>12:30 pm</td>
<td>Notre Dame</td>
<td>71,473</td>
</tr>
<tr>
<td>October 22nd</td>
<td>12:30 pm</td>
<td>USC</td>
<td>64,096</td>
</tr>
<tr>
<td>November 5th</td>
<td>3:30 pm</td>
<td>Oregon State</td>
<td>60,717</td>
</tr>
<tr>
<td>November 19th</td>
<td>12:30 pm</td>
<td>Washington State</td>
<td>70,713</td>
</tr>
<tr>
<td><strong>Season Average</strong></td>
<td></td>
<td></td>
<td><strong>64,326</strong></td>
</tr>
</tbody>
</table>

During the 2005 season, the Husky Stadium Expansion Parking Plan and Transportation Management Program (TMP) was executed to provide transportation options and to discourage guests from driving alone. Alternative modes of transportation were fostered and encouraged, including:

- carpool
- transit
- charter buses
- boats
- bicycles

The purpose of this document is to monitor the effectiveness of the TMP during the 2005 season. To monitor TMP effectiveness, the University uses several indicators:

- transportation mode choice
- average auto occupancy
- neighborhood parking impacts
- patron origin
- duration of exiting traffic

This report explains the TMP efforts in 2005. It details the methodology used to collect the data related to performance indicators and discusses the results. It illustrates travel mode choice in 2005 and draws comparisons to previous years. Finally, it describes the neighborhood parking impact areas and draws conclusions about the success of the TMP in 2005.
Background

In 1987, Husky Stadium was enlarged to accommodate 72,200 spectators. The TMP was first implemented in 1987 to mitigate the additional impacts of traffic on the surrounding community. Due to the nature of football games, large volumes of people travel to and from Husky Stadium over short time periods. The TMP is in place to reduce the number and impact of vehicles in the area before and after football games and to reduce parking impacts on surrounding neighborhoods. The University of Washington is responsible for encouraging football attendees to not drive or to drive together, and the City of Seattle is responsible for traffic management.

The Seattle City Council Resolution 27435, relative to the TMP, requires the University and City of Seattle to collect data during each football season. The data are used to monitor the performance of the TMP. The 1986 data collection is a baseline for comparing impacts after the stadium expansion in 1987. This document summarizes the data collected for the 2005 season and compares them to the past data.

TMP Elements

Carpool Incentives

The TMP uses a pricing system to provide incentives for carpooling. During the 2005 season, parking on campus cost $10.00 for vehicles with three or more persons, $20.00 for vehicles with less than three persons, $30.00 for buses and $40.00 for motor homes and campers. In addition to financial incentives to carpool, the TMP uses marketing information to encourage carpooling. The 2005 Husky Football Transportation Guide highlighted the Event Ridematch feature provided by RideshareOnline. The regional ridematching service designed by King County Metro allows game attendees to find others going to the game with whom they might share a ride.

Transit

Free Regular Service

One of the goals of the TMP is to encourage football game attendees to ride public transit to the stadium. All ticket-holders may ride King County Metro buses free to the stadium by showing their game ticket to their bus driver. Sound Transit Express route 550 is also free between Bellevue and downtown Seattle, where passengers can transfer to buses headed to the stadium.
Free Park & Ride Service

King County Metro provided special game day bus service in 2005 from eight Park & Ride lots in the region, shown in Figure 1. To use the Park & Ride service, fans park for free at the Park & Ride lots and show their game tickets to ride free on Metro buses to Husky Stadium. Buses begin boarding at the lots two hours before the kickoff, and leave every 20 minutes. Following the games, fans board the buses at special locations, as shown in Figure 2, to return to the designated lots.

Figure 1. Park & Ride Lot Locations

On average, Metro provided 176 inbound and 139 outbound Park and Ride bus trips each game. An average of 9,931 passengers rode to Husky Stadium on the Park & Ride Service. The average number of return passengers for the 2005 football season was 9,873.

Figure 2. Park & Ride Post-game Boarding Location

Free Husky Special Service

King County Metro operated five special bus routes to Husky Stadium during each game in 2005. Service was provided from downtown Seattle, Ballard, and Lake City. Over the course of the 2005 season, Husky Special Service carried 7,288 passengers to Husky Stadium in 173 trips. Figure 3 illustrates these special routes.

Figure 3. Special Routes to Husky Stadium
Figure 3. Husky Special Transit Service
**Boat Shuttles**

In 2005, passengers in boats anchored offshore could flag down a boat shuttle service. The shuttle took the fans to the Husky Stadium boat dock for free. After the game, the shuttle returned the fans to their boats for a cost of $5 per person.

**Boat Moorage**

For private vessels, boat moorage was available on a season or single game basis in 2005. The price of the permit was dependent on the length of the vessel. Single game permits were available through the Tyee Office by the Thursday before each home game.

**Charter Boats and Buses**

Several Seattle restaurants, hotels, and clubs featured activities that included a chartered bus or boat ride to a Husky football game. A list of organizations that sponsored charter buses was provided on the U-PASS website.

**Bicycles**

In 2005, the University of Washington Transportation Office continued its program to provide bike lock-up space by placing bicycle racks near stadium entrances during the football season. Bicycling was also promoted in the Husky Football Transportation Guide.

**Restricted Parking Zone**

In some surrounding neighborhoods, Special Event Restricted Parking Zones (RPZ) limited game day parking to neighborhood residents. Seattle’s parking enforcement officers give $44 citations to non-residents who park in the restricted zones.

**Marketing**

The Transportation Office produces and distributes a Husky Football Transportation Guide every year. In 2005, more than 18,000 brochures were printed and mailed to season ticket holders and individuals who requested the information. The guide focused on providing information to help game attendees use one of the modes encouraged in the TMP (walking, biking, carpooling, taking the bus). Contact information was provided, as well as information about parking and post-game traffic routing. Individuals who purchased their tickets on-line received a link to the electronic version of the guide. The information was available on-line at the University’s U-PASS web site (www.washington.edu/upass/news_and_reports/notices/football.html).
Data Collection

Data collection consisted of a survey of game attendees conducted by the UW Transportation Office at one football game in the season, as well as bus ridership data collected by Metro Transit, campus parking and charter bus data collected by the UW Parking Services, and boat passengers and game attendance data collected by the UW Intercollegiate Athletics.

Survey Process

On October 22nd, 2005 the UW Transportation Office conducted a survey of football game attendees as they passed through the gates at Husky Stadium. The weather was unseasonably warm and sunny. Twenty-six surveyors in teams of two were distributed to the seven stadium gates, proportional to the number of game attendees estimated to enter through each gate. The teams surveyed every 70th patron who entered the gate and attempted 921 random surveys.

Surveyors were instructed to ask the following questions, in this order:

Q1  Did you drive or ride in a car driven to the game today?

If respondent answered ‘yes’ to Q1:

Q1-a  How many passengers, including you, came to the game in that vehicle?

Q1-b  Please point to your approximate parking location on this map. [Respondent was shown a map of the area, with campus, retail areas, and the neighborhoods in the Special Event Parking Zone each identified by a different color background, see Figure 5].

If respondent answered ‘no’ to Q1:

Q2  By which transportation mode did you come to the game today?

Regardless of response to Q1:

Q3  What is your home zip code?

The survey map is shown in Figure 4.
Figure 4. Map used to indicate parking location
Implementation of 2004 Survey Recommendations

Several suggestions were made at the conclusion of the 2004 survey about possible improvements to the survey methodology. Following is a list of the suggestions and how they were addressed in 2004.

Better coordinate with City of Seattle regarding RPZs. The Transportation Office discussed data collection needs with Seattle Department of Transportation (SDOT) prior to the season. SDOT agreed to provide data on the number of tickets issued by parking enforcement officers assigned to the neighborhood impact areas. SDOT also conducted a pre-season check for signage in RPZ areas. SDOT provided parking violation data for three games during the 2005 season.

Change wording on Survey. On the survey sheet, change the wording for Q#2 to “Including yourself, # people in car?” This recommendation was intended to ensure that the surveyor includes the ‘including yourself’ phrase in the question. The wording on the survey sheet was changed accordingly in 2005.

Do survey earlier in season. If possible, conduct the survey earlier than November. This year, the survey was conducted on October 22nd.

Data Collection Outcomes

921 surveys were attempted, with 720 responses, a response rate of 78%. With a total population of 64,096 fans (reported paid attendance), the results are within a confidence interval of +/- 3.6% at 95% confidence, which is considered an acceptable confidence interval.

The population was defined as game attendees who pass through the gates, and the sample was taken from only this population. This population did not include game workers who did not pass through the gates, although these workers account for approximately 800 trips to the game. It is not known which proportion of game workers travel by which mode.

Like most surveys, this survey was subject to a non-response error as a result of people who refused to take the survey.
Results

Travel Mode Choice
Approximately half of all attendees traveled to the game by auto, including 46.3% in a carpool and 4.3% in a single-occupant vehicle (SOV). Taking the bus and walking were the next most popular travel modes. Mode choices are listed in Tables 2, 3 and 4 and illustrated in Figure 5.

Table 3 provides a historical comparison of travel mode choice over the three years of the intercept survey. Bus mode share declined by approximately two percent per year. The carpool mode share in 2005, while lower than 2004, was higher than 2003. The SOV mode share increased every year since 2003, but the increase from 2004 to 2005 was much lower than from 2003 to 2004.

Table 4 provides estimates of bus mode share based on reported transit and charter bus ridership for the period 2003 to 2005. These estimates do not yield the same downward trend as survey estimates of bus ridership shown in Table 3. Given the discrepancy between these estimates, the small number of sampling years and the surveys’ margin of error, readers should use caution when interpreting the trends shown in Table 3.

Table 2. Travel Mode Choice

<table>
<thead>
<tr>
<th>Mode</th>
<th>Responses</th>
<th>Percentage of Responses</th>
<th>Share of Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpool</td>
<td>333</td>
<td>46.3%</td>
<td>29,751</td>
</tr>
<tr>
<td>Bus</td>
<td>200</td>
<td>27.8%</td>
<td>17,868</td>
</tr>
<tr>
<td>Walk</td>
<td>97</td>
<td>13.5%</td>
<td>8,666</td>
</tr>
<tr>
<td>Boat</td>
<td>44</td>
<td>6.1%</td>
<td>3,931</td>
</tr>
<tr>
<td>SOV</td>
<td>31</td>
<td>4.3%</td>
<td>2,770</td>
</tr>
<tr>
<td>Bike</td>
<td>5</td>
<td>0.7%</td>
<td>447</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
<td>1.4%</td>
<td>893</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>720</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>64,326</strong></td>
</tr>
</tbody>
</table>

* estimates based on average paid attendance for the 2005 football season as reported by Intercollegiate Athletics (ICA)
Table 3. Travel Mode Choice, 2003-2005

<table>
<thead>
<tr>
<th>Mode</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpool</td>
<td>45.4%</td>
<td>52.1%</td>
<td>46.3%</td>
</tr>
<tr>
<td>Bus</td>
<td>31.7%</td>
<td>29.9%</td>
<td>27.8%</td>
</tr>
<tr>
<td>Walk</td>
<td>13.2%</td>
<td>8.2%</td>
<td>13.5%</td>
</tr>
<tr>
<td>Boat</td>
<td>5.2%</td>
<td>4.0%</td>
<td>6.1%</td>
</tr>
<tr>
<td>SOV</td>
<td>1.8%</td>
<td>3.9%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Bike</td>
<td>1.6%</td>
<td>0.7%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Other</td>
<td>1.0%</td>
<td>1.2%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

* Estimates based on average paid attendance for the 2003-2005 football seasons as reported by Intercollegiate Athletics (ICA)

Table 4. Bus Mode Share, 2003-2005

<table>
<thead>
<tr>
<th>Year</th>
<th>Reported Transit Ridership</th>
<th>Reported Charter Bus Ridership</th>
<th>Total Reported Bus Ridership</th>
<th>Reported Attendance</th>
<th>Calculated Bus Mode Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>13,500</td>
<td>1,100</td>
<td>14,600</td>
<td>70,525</td>
<td>20.7%</td>
</tr>
<tr>
<td>2004</td>
<td>11,000</td>
<td>900</td>
<td>11,900</td>
<td>64,629</td>
<td>18.4%</td>
</tr>
<tr>
<td>2005</td>
<td>11,500</td>
<td>700</td>
<td>12,200</td>
<td>64,326</td>
<td>19.0%</td>
</tr>
</tbody>
</table>

* Estimates based on average paid attendance for the 2003-2005 football seasons as reported by Intercollegiate Athletics (ICA)

Figure 5: Mode Choice
As in previous years, game attendance is based on reported paid attendance, not actual attendance. To the extent that paid attendance exceeds actual attendance, the estimated number of people traveling by each mode is overestimated.

**Auto Occupancy and Parking**

Most people (91%) who traveled to the game by auto came in a carpool. Only 9% of those who came in an automobile drove alone. Auto occupancy is summarized in Table 5.

<table>
<thead>
<tr>
<th>Auto Occupancy</th>
<th>Percent of Attendees Who Arrived in Autos</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8.5%</td>
</tr>
<tr>
<td>2</td>
<td>44.2%</td>
</tr>
<tr>
<td>3</td>
<td>14.8%</td>
</tr>
<tr>
<td>4</td>
<td>19.8%</td>
</tr>
<tr>
<td>5+</td>
<td>12.6%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

The average auto occupancy was 2.98 people. Therefore, on an average game, roughly 32,400 people arrived in 11,000 vehicles. These vehicles were parked in one of four areas:

- campus parking lots
- retail areas (University Way area and University Village)
- neighborhoods within the TMP parking impact area
- neighborhoods outside the TMP parking impact area

Based on average occupancies by parking area, the number of autos parked in each of the four areas were estimated and listed in Table 6.

<table>
<thead>
<tr>
<th>Parking Area</th>
<th>Total Occupancy*</th>
<th>Average Occupancy</th>
<th>Autos*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A - campus</td>
<td>18,315</td>
<td>3.07</td>
<td>5,969</td>
</tr>
<tr>
<td>B - retail</td>
<td>1,876</td>
<td>2.48</td>
<td>758</td>
</tr>
<tr>
<td>C - neighborhood</td>
<td>8,041</td>
<td>2.80</td>
<td>2,872</td>
</tr>
<tr>
<td>D - out of area</td>
<td>1,340</td>
<td>1.93</td>
<td>693</td>
</tr>
<tr>
<td>E - didn't know</td>
<td>1,161</td>
<td>4.00</td>
<td>290</td>
</tr>
<tr>
<td>X - dropped off</td>
<td>1,697</td>
<td>3.63</td>
<td>467</td>
</tr>
<tr>
<td>Total</td>
<td>32,431</td>
<td>2.98</td>
<td>11,049</td>
</tr>
</tbody>
</table>

* estimates based on average paid attendance for the 2005 football season as reported by ICA
In Figure 4 on page 8, TMP neighborhood parking impact areas are illustrated in blue, campus is shown in yellow, retail areas are indicated by orange, and neighborhoods outside of the TMP parking impact areas are white.

Approximately 56.3% of attendees who arrived in autos parked on campus in approximately 6,000 vehicles. Campus parking is up from 2004, when 53.5% parked on campus. Average occupancy for autos parked on campus was approximately three people per vehicle.

Game day parking location choices are illustrated in Figure 6.

![Parking Area Choice](image)

**Figure 6. Parking Area Choice for Game Attendees Arriving by Auto**

Surrounding areas were impacted by parking. Over 43% of autos parked off campus or in unidentified areas. Over 2,800 autos parked within the neighborhoods identified as parking impact areas, and over 700 autos parked in neighborhoods outside the impact areas. Approximately 750 autos parked in retail areas.
UW Parking Services Estimate of Vehicles Parked on Campus:
Over the 2005 Husky football season the average number of vehicles parked on campus on game days, as counted by Parking Services, was 9,338. This count included autos carrying people not attending the football game. To assess how many of those vehicles might be associated with people who came to campus for non-game related reasons, counts were conducted on the three Saturdays in October, 2005 with no home football game. Counts were conducted in the same lots included in the game day counts. These counts yielded, on average, just under 2,000 vehicles. If 2,000 autos came to campus on game days for non-game related purposes, approximately 7,338 of the 9,338 vehicles counted by Parking Services would have come to campus for the football game. This estimate is higher than the survey’s estimate of 5,948 autos parked on campus by game attendees.

Buses
More than a quarter of respondents (28%) arrived by transit or charter bus. This represents about 17,900 people who arrived by bus on a typical game day.

Bus ridership varies for “Band Day”, when marching bands from area high schools perform during one game each season. The bands travel to the stadium on charter buses. Band Day was held on September 19th during the Idaho game. Approximately 3,075 participants arrived in 84 buses.

UW Parking Services and Metro Transit Estimates of Bus Ridership:
Data on bus ridership to Husky football games are collected in the following ways:

- Parking lot attendants count charter bus passengers.
- Metro transit workers count Park & Ride bus passengers as they board the buses.
- Metro counts regular transit and Husky Special riders when they alight buses at the stadium. However, a significant number of passengers may alight the buses before they reach the stadium and then walk several blocks to the stadium. These passengers are not counted. Passengers going to the game who take routes that stop elsewhere in the University District are also not counted.

During the 2005 football season, these counting methods yielded an average of 700 people on charter buses and 11,500 people on transit buses, for an average of 12,200 people who arrived at each game by bus (12,214 arrived by bus on October 22nd).

Using the Metro Transit and Parking Services estimates of bus ridership, and ICA’s estimates of total average attendance, approximately 19% of game attendees alighted at Husky Stadium from a Metro Transit or Charter bus on an average game day during the 2005 season. This compares to 28% of survey respondents, or an estimated 17,900 people per game.
Table 7. Average number of Metro Bus Trips and Passengers (Metro Estimates)

<table>
<thead>
<tr>
<th>Metro</th>
<th>10-Sep</th>
<th>17-Sep</th>
<th>24-Sep</th>
<th>22-Oct</th>
<th>5-Nov</th>
<th>19-Nov</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Pregame Trips</td>
<td>224</td>
<td>205</td>
<td>239</td>
<td>230</td>
<td>208</td>
<td>254</td>
<td>227</td>
</tr>
<tr>
<td>Total Postgame Trips</td>
<td>162</td>
<td>152</td>
<td>197</td>
<td>169</td>
<td>160</td>
<td>182</td>
<td>170</td>
</tr>
<tr>
<td>Pregame Passengers</td>
<td>11,100</td>
<td>9,613</td>
<td>13,682</td>
<td>11,399</td>
<td>9,290</td>
<td>13,816</td>
<td>11,483</td>
</tr>
<tr>
<td>Postgame Passengers</td>
<td>11,917</td>
<td>10,302</td>
<td>13,492</td>
<td>11,972</td>
<td>9,739</td>
<td>14,302</td>
<td>11,954</td>
</tr>
</tbody>
</table>

**Walking**

Approximately 8,600 (13.5%) walked to the stadium, up from 8.2% in 2004. Better weather may have contributed to a higher proportion of walkers in 2005.

**Boats**

It is estimated that 3,917 people (6.1%) arrived by boat.

**UW Intercollegiate Athletics Boat Passenger Estimate:**

ICA counts the number of boats and estimates the number of passengers based on boat size at each Husky football game. Charter boat companies provide ICA with actual passenger counts from the charter boats. ICA uses boat shuttle ticket sales to count the number of passengers in boats anchored off shore.

In the 2005 season, these estimation methods yielded an average of approximately 3,070 people on 250 boats. 4,147 people arrived by boat on October 22nd.

Using ICA’s estimates of the average number of boat passengers and average attendance, approximately 6.5% of game attendees arrived by boat. This compares to 6.1% of survey respondents, or 3,917 people.

**Bicycles**

It is estimated that 445 people (0.7%) arrived by bicycle. Despite better weather in 2005, the proportion of bicyclists was similar to 2004 (0.6%).

**Other**

Approximately 890 people (1.4%) arrived by other travel modes. These other modes could include motorcycle, taxi, and limousine.
**Patron Origin**

In 2004, a question regarding home zip code was included in the survey for the first time. Answers to this question provide an understanding of patron origin and a general gauge of patron density throughout the region. The zip code question was included in the survey in 2005.

King County was the origin for 57.8% of patrons, Pierce County for 4.1%, Snohomish County for 13.0%, and 25.1% of patrons came from outside of the three counties. Compared to 2004, a greater proportion of patrons originated in King County, while lower proportions originated in Pierce County and outside the area. Figure 7 depicts patron distributions by zip code.

![Figure 7. Patron Origin by Zip Code*](image-url)
Figure 8 shows the distributions of patrons who arrived by automobile.

Figure 8. Automobile Patron Origin by Zip Code*
Figure 9 depicts the distributions of patrons who arrived by bus.

*Given the limited number of respondents in many zip codes, the margin of error for individual zip codes in Figures 7, 8 and 9 may be greater than for the survey as a whole.
**Out-Traffic Management System**

Parking Services collects data on traffic leaving parking areas for each game. The data gives a performance indicator for the traffic management system, which includes Seattle Police operations. Table 8 details the time elapsed in minutes between when vehicles began exiting the E1 and E12 parking lots and when the lots were significantly clear of vehicles.

Table 8. Out Traffic Duration

<table>
<thead>
<tr>
<th></th>
<th>Sept 10</th>
<th>Sept 17</th>
<th>Sept 24</th>
<th>Oct 22</th>
<th>Nov 05</th>
<th>Nov 19</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>E12 Vehicles Cleared</strong></td>
<td>70 min</td>
<td>80 min</td>
<td>60 min</td>
<td>60 min</td>
<td>150 min</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>E1 Vehicles Cleared</strong></td>
<td>75 min</td>
<td>60 min</td>
<td>80 min</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*N/A: Not Available. Data were not collected on these dates.*
Pre-Expansion Comparison

Figures 10, 11, and 12 illustrate Historical comparisons for bus passengers, attendees arriving by automobile, and vehicles parked on campus, respectively. The figures show comparisons between the current year and 1984 (before stadium expansion and to post-expansion projections (from the 1986 Stadium Expansion Plan TMP, based on a sellout crowd of 72,200). Data for 2005 are from the intercept survey conducted at the October 22nd game. The comparisons show that the desired modal shifts surpass the expectations of the 1986 Stadium Expansion Parking Plan TMP.

Figure 10. Historical Comparison: Bus Passengers
**Number of Attendees Arriving by Automobile: A Historical Comparison**

- 1984: 79%
- Post-Expansion Projection: 72%
- 2005: 51%

*Figure 11. Historical Comparison: Arriving by Automobile*

**Total Number of Vehicles Parked on Campus: A Historical Comparison**

- 1984: 11,325
- Post Expansion Projection: 12,205
- 2005*: 9,338

*In all instances, data represent the total number of vehicles parked on campus (on a game day, vehicles parked by game patrons, as well as other visitors to campus). In 2005, counts conducted by Parking Services estimated an average of 9,338 vehicles parked on game days, compared to approximately 2,000 vehicles parked on campus during typical non-game Saturdays.*

*Figure 12. Historical Comparison: Vehicles Parked on Campus*
Neighborhood Parking

Impact Areas
Figure 5 on page 8 shows the neighborhood parking impact areas (in blue) that are defined in City Council Resolution 27435. Portions of these parking impact areas have Special Event RPZs for football game days. On average during the 2005 football season, an estimated 8,000 people parked in the neighborhood parking impact areas in 2,900 autos on each game day, compared to 9,300 people in 3,900 vehicles in 2004. Game attendees parked an additional 700 vehicles in neighborhoods outside of the parking impact areas, compared to 1,000 vehicles in 2004.

The 1986 Stadium Expansion Parking Plan and Transportation Management Program cites the need for the City of Seattle to increase enforcement and monitoring in neighborhood parking impact areas. In 2005, the Seattle Department of Transportation (SDOT) provided a summary of parking citations issued in neighborhood parking impact areas during the first three home games of the season. On average, 196 citations were issued per game: 85 north of the Montlake Bridge and 111 south of the Montlake Bridge.
Conclusions

The TMP successfully encouraged fans to travel to the game by alternative modes. Over one quarter of all game attendees arrived at the stadium in transit and charter buses. Another 13.5% walked to the stadium. Also, carpool parking price incentives appear to be successful, resulting in higher average auto occupancy in campus parking lots compared to other parking areas.

It is estimated that approximately 2,900 autos parked in residential neighborhoods identified as parking impact areas. Approximately 200 parking citations were issued by SDOT per game.