

University of Washington

Stadium Expansion Parking Plan and Transportation Management Report



2016 Report

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Executive Summary

In 2016 the Husky Stadium Expansion Parking Plan and Transportation Management Program (TMP) continued to meet its primary goal of accommodating peak football crowds while reducing parking impacts in nearby residential areas. Performance in 2016 improved over 2015 measures in several categories – including carpooling, mass transit, and boat. The 2016 survey was also the first to collect data on the use of link light rail and transportation networking companies (TNCs, e.g. Lyft and Uber).

This report outlines the findings of the 2016 TMP monitoring efforts. In 2016, data was collected through two intercept surveys of game attendees as they entered the gates at Husky Stadium on Friday, September 30, 2016, and Saturday, October 22, 2016. For the purposes of this report, the data analysis will focus on the October 22 game. Paid game attendance on October 22 was 65,796; actual game attendance was 54,898.¹ With 878 valid survey responses, intercept survey result estimates are within +/- 3.28% at a 95% confidence level. 2015 serves as the most recent comparison year to 2016.

Key findings according to 2016 data:

- Game attendees traveled to the stadium using these modes:
 - 37.1% carpoolled (traveled in automobiles with more than one person), compared to 30.4% in 2015.
 - 3.1% drove alone, compared to 2.3% in 2015.
 - 7.6% reported using a TNC, the first time such data was recorded.
 - A total of 47.8% of respondents drove to the game, compared to 32.7% in 2015. Average automobile occupancy, not including TNCs, was 3.1 persons per car, up from 2.78 in 2015.
 - 31.2% arrived by transit (light rail or Metro bus), up from 19.6% in 2015.
 - 15.8% walked to the game, down from 35.7% in 2015.
 - 3.4% arrived by boat, up from 2.6% in 2015.
 - 0.7% arrived by bicycle, down from 0.9% in 2015.
- The change in mode split between driving and non-driving options following TMP implementation exceeds projections in the 1986 *Stadium Expansion Parking Plan and Transportation Management Program*. Projected mode shares compare to actual 2016 mode shares as follows:

| Mode | Projected Share (%) | Actual Share (%) |
|------------|---------------------|------------------|
| Automobile | 71 | 47.8 |
| Transit | 16 | 31.2 |
| Walk | 8.1 | 15.8 |
| Boat | 3.9 | 3.4 |

- The number of vehicles parked in the neighborhood impact areas was 1,257 in 2016, comparable to 1,253 vehicles in 2015.

¹ In 2010 Intercollegiate Athletics began monitoring *actual* game attendance in addition to *paid* game attendance (based on sales). The latter now serves as the baseline for future TMP monitoring, so only actual game attendance numbers are reported in the 2016 Report.

Background

In 1987, Husky Stadium was expanded 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, high volumes of people travel to and from Husky Stadium over short periods of time. The TMP serves to monitor and reduce the number and impact of automobiles in the area before and after football games and to reduce parking impacts on surrounding neighborhoods. The University of Washington (UW) is responsible for encouraging patrons to either carpool or use non-automobile transportation options, such as walking, mass transit or bicycling. The City of Seattle is responsible for traffic management and parking enforcement in residential parking zones.

Seattle City Council Resolution 27435 requires UW and the City to collect data during each football season, which is then used to monitor the performance of the TMP. Data collected in 1986 serves as a baseline for comparing impacts after the stadium expansion in 1987. This document summarizes the data collected for the 2015 season and compares it to past seasons.

In 2012, the stadium was renovated and now accommodates 70,138 spectators. The renovations included changing sight lines for existing seating, revamping the south side stands, and adding a parking garage to the south side of the stadium. Husky Stadium reopened in 2013.

In March of 2016, Link light rail's University of Washington Station opened, bringing fast and frequent transit service just steps away from the stadium entrance.

Introduction

The University of Washington (UW) hosted seven football games at Husky Stadium during the 2016 season, listed in Table 1.

| Date | Opponent | Actual Game Attendance | Sales Attendance |
|--------------------|------------------------------|------------------------|------------------|
| September 3, 2016 | Rutgers University | 45,477 | 58,640 |
| September 10, 2016 | Idaho | 47,932 | 60,678 |
| September 17, 2016 | Portland State | 39,498 | 57,151 |
| September 30, 2016 | Stanford | 63,733 | 72,027 |
| October 22, 2016 | Oregon State | 54,898 | 65,796 |
| November 12, 2016 | Univ. of Southern California | 62,815 | 72,364 |
| November 19, 2016 | Arizona State | 51,352 | 65,467 |
| AVERAGE | | 52,244 | 64,589 |


 = Survey Date

Table 1 Husky football games, 2016

During the 2016 season, the Husky Stadium Expansion Parking Plan and Transportation Management Program (TMP) was executed to provide transportation options to football fans and to discourage single occupant vehicle (SOV) trips to the stadium. Non-SOV modes, including carpooling, transit and charter buses, walking, boating, and bicycling were encouraged.

The purpose of this document is to monitor the effectiveness of the TMP during the 2016 season using the following indicators:

- Mode choice
- Average automobile occupancy
- Parking location choice
- Neighborhood parking impacts

This report explains the TMP efforts in 2016, details the methodology used to collect the data related to performance indicators, and discusses the results. It illustrates mode choice in 2016 and makes comparisons to previous years. Finally, this report describes impacts on neighborhood parking areas and draws conclusions about the TMP's effectiveness in 2016.

Transportation Management Plan Elements

Carpool Incentives

The TMP uses a pricing system to incentivize carpooling. During the 2016 season, game day parking on campus cost \$30 for vehicles with three or more persons, \$40 for vehicles with less than three persons, \$100 for charter buses, \$120 for motor homes, and an additional \$30 fee for trailers.

Transit

One goal of the TMP is to encourage football game patrons to ride public transit to the stadium. In addition to regular bus service, King County Metro operated two kinds of game day service, which began operating approximately 2 hours before kickoff:

- 1) Husky Special Service, which provided bus transit along routes from Ballard to Lake City/Sandpoint (additional details about this service are provided below).
- 2) Route 725 also provided transportation to Husky Stadium. Riders paid the regular fare on all pre-game routes.

For the first time in Husky football season history, Sound Transit also provided Link Light Rail service directly to Husky Stadium.

Husky Special Service

During each Saturday game day in 2016, service was provided along routes from Ballard to Lake City/Sandpoint. King County Metro increased buses along the regular routes 44, 48, 65, and 75. Fans traveling to Ballard on Route 715 were referred to Route 44. Route 725 also provided transportation to Husky Stadium. These buses begin operating approximately 90 minutes before kickoff. The riders paid the regular route fare on all pre-game routes. These special service routes charged regular Metro fare on the inbound trip and were fare free for the post-game trip. Before 2013, these and other Metro buses had been free to ticket holders on game day. For the seven home games in the 2016 football season, Metro ran an average of 24 trips to the stadium prior to each game and 24 trips away from each game on routes 725 and Ballard.

Metro discontinued the Special Bus Service from Downtown Seattle and encouraged fans to ride the Sound Transit Link light rail.

Park and Ride Service

In 2016, King County Metro provided Saturday game day buses from eight regional Park and Ride lots, shown in Figure 1. Round trip tickets cost \$5 per game if purchased individually or \$4 per game if purchased as a season pass (\$28 per season). Parking at the Park and Ride lots was free. Buses began boarding at the lots two hours prior to kickoff, with 20-minute interval departures.

Following the games, fans boarded the buses at specified locations to return to the designated lots, as shown in Figure 1. The final buses departed approximately 50 minutes

prior to kickoff, except the last buses from Federal Way and South Renton, which left 60 minutes prior to kickoff.

| Location (Route #) | Color | Address |
|---------------------------|--------------|-----------------------|
| Eastgate (718) | Gold | 14200 SE Eastgate Way |
| Federal Way (723) | Brown | 2500 S 320th Street |
| Houghton (724) | Green | 7024 116th Avenue NE |
| Kingsgate (724) | Green | 12837 116th Avenue NE |
| Northgate (75) | Yellow | 10200 1st Avenue NE |
| Shoreline (720) | Blue | 19000 Aurora Avenue N |
| South Kirkland (717) | Red | 3801 108th Avenue NE |
| South Renton (719) | White | 301 S. 7th Street |

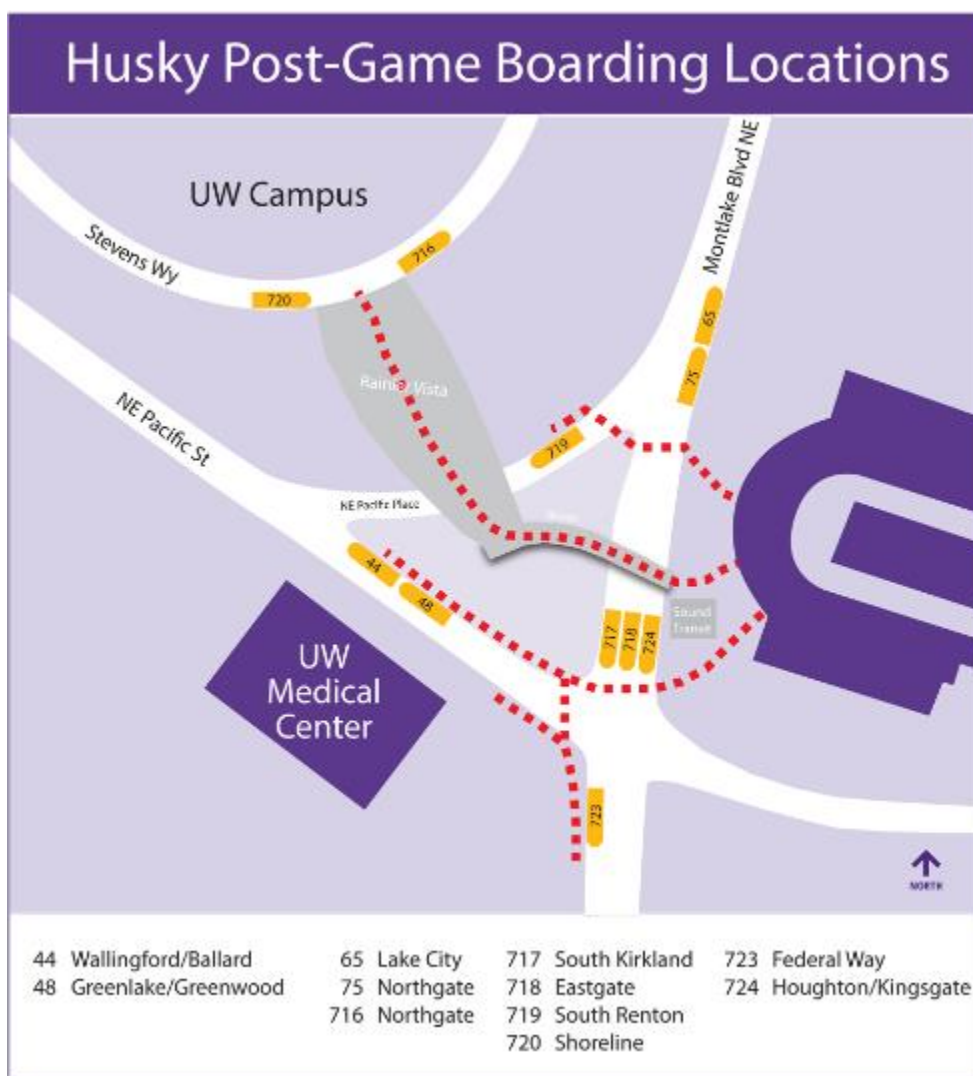


Figure 1 Location of Park and Ride buses, 2016

Boats

Boat Shuttles

In 2016, guests could anchor their private vessels in Union Bay and a boat shuttle service would assist them in getting to Husky Stadium. The shuttle service took patrons to the Husky Stadium boat dock and returned them to their boats after the game for a fee of \$10 per person (children under 2 ride for free).

Boat Moorage

For the 2016 season, the season rate for boat moorage remained the same, but single game docking was given a more dynamic structure to increase the sales of season permits. The Full

Season Pass ranged from \$270 to \$1,025, while the game-day fares ranged from \$55 to \$215 depending on the boat size and game. The shuttle fees and season docking fees remained the same as 2015 season.

Charter Boats and Buses

Several Seattle restaurants, hotels, and clubs featured activities that included a chartered bus or chartered boat ride to Husky Stadium during a home football game.

Bicycles

Free bicycle valet parking was provided at the Rainier Vista (south of Drumheller fountain) during football season. Fans could leave their bike with an attendant who parked and monitored bicycles throughout the game, addressing issues of bicycle parking capacity and security. Signage along popular bicycle routes directed bicyclists to the free secure bike parking at the Rainier Vista bike valet. Bicycling was also promoted on the [“Gameday Transportation” website](#). In addition to the bike valet, patrons could find bicycle parking at numerous racks located around the stadium.

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 issued \$53 citations to non-residents who park in the restricted zones.

Marketing

Intercollegiate Athletics (ICA) posted transportation information on the official Husky Football website, www.gohuskies.com/huskygameday. The web site focused on providing information to assist patrons in using one of the modes encouraged in the TMP. The website provided contact information as well as information about transit, boating, walking, biking, and parking. UW Transportation Services (UW TS) also promoted the bike valet service for game days with signage directing attendees who bicycled to the valet and tags placed on bike racks encouraging attendees to use the bike valet service if they were going to the game.

Data Collection

Data collection consisted of the following efforts:

- 1) Survey of game attendees conducted by UW TS at two football games during the season,
- 2) Bus ridership data collected by King County Metro,
- 3) Link light rail ridership data collected by Sound Transit
- 4) Campus parking data collected by UW TS,
- 5) Parking citations data collected by the Seattle Police Department, and
- 6) Boat passenger, stadium lot counts, and game attendance data collected by ICA.

Survey Methodology

On Saturday, October 22, 2016, UW TS conducted a survey of football game attendees as they passed through the gates at Husky Stadium. The kickoff time was 3:30 PM, and surveys began at 12:30 PM. The weather on the survey day was sunny, with a high of 61°F and a low of 54°F.

Forty-five surveyors in teams of two and three were dispatched to all stadium entrances, proportional to the number of game attendees estimated to enter through each gate.

The 2016 survey included two new modes – Link light rail and transportation networking companies (TNCs), such as Uber and Lyft.

Teams were instructed to conduct the survey according to the following instructions:

1. When you approach the patron, say, **“Hello, I am with the University of Washington and we’re conducting a quick, 4 question survey. Did you drive or ride in a car driven to the game today?”** Begin walking with them to their destination.
2. If they refuse to answer your question, circle **“REFUSED”** on the survey form.
3. If they answer yes, circle **“YES”** on the survey form then ask:
 - a. **“How many passengers, including you, came to the game in that vehicle?”**
 - b. Circle their answer in question 2 on the form.
 - c. Then say, **“Please point to your approximate parking location on this map”** and show them the map.
 - d. When they point to an area, circle the corresponding letter on the survey form. If the patron was dropped off and the driver of the car did not park and come to the game circle **“X: Dropped off, did not park.”**
 - e. **“What is your Home Zip Code?”**
 - f. Write down Zip Code.
4. If they answered no to your first question, circle **“NO”** on the survey form and ask:
 - a. **“What type of transportation did you use to come to the game today?”**
 - b. Circle the mode they said, then ask:
 - c. **“What is your home Zip Code?”**

- d. Write down Zip Code.
5. End the survey with, **“Thank you; enjoy the game.”**
6. While one partner administers the survey, the other counts out the next 40th person and prepares to signal their partner.

Of the 1,102 attempted surveys, 878 yielded usable responses, for a response rate of 79.7%. With an actual attendance of 65,796 the results are within +/- 3.28% margin of error at 95% confidence.

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. The travel behavior of game workers is not known.

Like most surveys, this one was subject to non-response error as a result of people who refused to take the survey. Transportation surveys also suffer from social desirability bias. For example, respondents can have a tendency to say that they carpooled when in fact they drove alone in order to portray themselves favorably to the surveyors. Little can be done to suppress social desirability biases; however, it is expected that the proportion of this bias remains constant over time and therefore the data still gives accurate information about relative changes in traveler behavior.

Distinguishing private vehicles from TNCs:

It was noted during data collection training that, due to the sequence of questions, respondents using a TNC might not respond consistently. For example, it might become apparent in part 1, or it might become apparent in part 3a. Survey takers were thus encouraged to change the respondent's answer about driving from “yes” to “no” and indicate “TNC.”

The challenge was more of data entry than data collection. When an answer was changed, it sometimes appeared that questions in the skip logic were unanswered or incomplete, when in fact they were not applicable because the answer was changed. In future surveys, questions will be worded and sequenced to better guide the respondents who have taken TNCs.

Survey Results

Mode Choice

The introduction of Link light rail service to Husky Stadium boosted transit usage to 31.2%, its highest rate since 2011. Less than half of all attendees traveled to the game by car, including 37.1% by carpool, 3.1% by SOV, and 7.6% by TNCs (which do not park during the game). Metro and charter buses accounted for 19.9%. Table 2 and Figure 2 show attendee mode share.

| Mode | # Responses | % Responses | Survey Day | Season Average |
|--------------|-------------|-------------|---------------|----------------|
| Carpool | 326 | 37.1 | 20,384 | 19,398 |
| Transit | 276 | 31.2 | 17,132 | 16,304 |
| Walk | 139 | 15.8 | 8,691 | 8,271 |
| Boat | 30 | 3.4 | 1,876 | 1,785 |
| SOV | 27 | 3.1 | 1,688 | 1,607 |
| TNC | 67 | 7.6 | 4,189 | 3,987 |
| Bike | 6 | 0.7 | 375 | 357 |
| Other | 9 | 1.0 | 563 | 536 |
| Total | 878 | 100% | 54,898 | 52,244 |

Table 2 Survey response and projected mode share, 2016

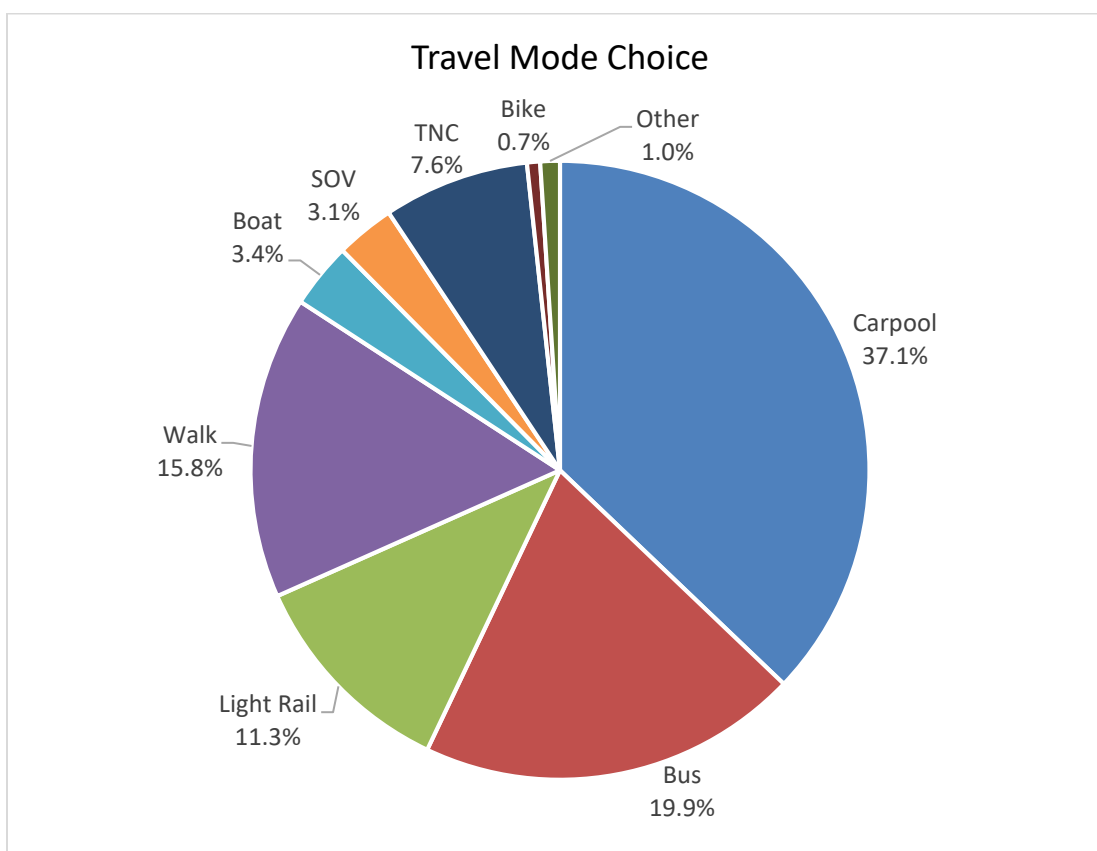


Figure 2 Mode share, 2016

Table 3 provides a historical comparison of travel mode choice over the ten years of the intercept survey (there was no survey in 2012 because games were held at CenturyLink Field due to Husky Stadium renovation). The two biggest mode shifts between 2015 and 2016 were in transit and walking. Link light rail service boosted transit utilization due to its direct proximity to the stadium.

| Mode | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2013 | 2014 | 2015 | 2016 |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|
| Carpool | 52.1 | 46.3 | 47.6 | 37.9 | 49.5 | 45.0 | 48.9 | 43.1 | 41.9 | 43.4 | 30.4 | 37.1 |
| Transit | 29.9 | 27.8 | 23.0 | 32.5 | 21.7 | 25.1 | 30.2 | 32.2 | 25.3 | 25.4 | 19.6 | 31.2 |
| Walk | 8.2 | 13.5 | 18.0 | 22.3 | 18.4 | 17.7 | 12.5 | 14.5 | 20.6 | 18.8 | 35.7 | 15.8 |
| Boat | 4.0 | 6.1 | 4.4 | 1.5 | 2.4 | 4.8 | 5.0 | 4.5 | 5.2 | 3.9 | 2.6 | 3.4 |
| SOV | 3.9 | 4.3 | 4.2 | 2.5 | 5.4 | 3.9 | 2.9 | 2.3 | 2.9 | 3.6 | 2.3 | 3.1 |
| Bike | 0.7 | 0.7 | 1.0 | 0.2 | 1.1 | 0.9 | 0.0 | 0.5 | 0.5 | 0.8 | 0.9 | 0.7 |
| Other | 1.2 | 1.4 | 1.8 | 3.3 | 1.5 | 2.8 | 0.5 | 2.9 | 3.5 | 3.6 | 8.7 | 1.0 |

Table 3 Travel mode choice distribution, 2004 - 2016

Automobile Occupancy and Parking

The majority of people who traveled to the game by car came via carpool; only 3.1% of those who came in an automobile drove alone. Automobile occupancy is summarized in Table 4 Automobile occupancy and share, 2016 below.

| Automobile Occupancy | Share (%) |
|-----------------------------|------------------|
| 1 | 6.1 |
| 2 | 42.1 |
| 3 | 12.7 |
| 4 | 25.4 |
| 5+ | 13.8 |

Table 4 Automobile occupancy and share, 2016

On the survey day, approximately 22,072 people arrived in 7,317 vehicles, with an average automobile occupancy of 3.0. These vehicles parked in one of four areas:

- Campus parking lots
- Retail areas (University Way corridor and University Village)
- Neighborhoods within the TMP parking impact area
- Areas outside the TMP parking impact area

Based on average occupancies by parking area, the number of cars parked in each of the four areas are estimated and listed in Table 5.

| Parking Area | Passengers | Automobiles | Average Occupancy |
|---------------------|-------------------|--------------------|--------------------------|
| Campus | 12,503 | 4,040 | 3.1 |
| Retail | 2,231 | 643 | 3.5 |
| Neighborhood | 3,096 | 1,126 | 2.8 |
| Out of Area | 643 | 181 | 3.6 |
| Don't know | 2,070 | 724 | 2.9 |
| Drop Off | 1,528 | 603 | 2.5 |
| Total | 22,072 | 7,317 | 3.0 |

Table 5 Average occupancy of parked automobiles, 2016

Additionally, 4,189 people arrived in cars operated by TNCs. These cars do contribute to on-street congestion, but do not need to park. Occupancy information for TNC trips was not recorded consistently by survey volunteers, so is omitted from this report.

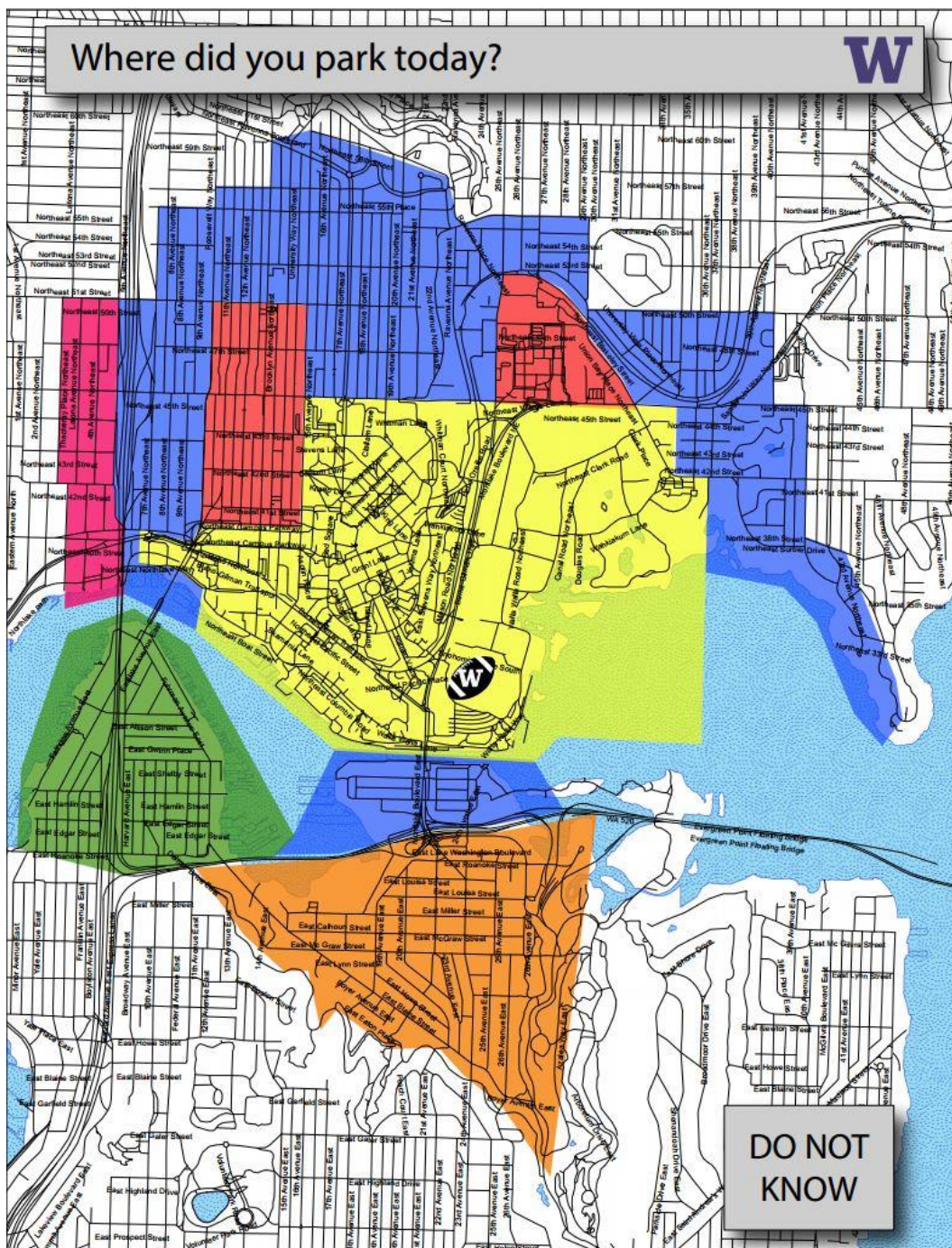


Figure 3 Map used to indicate parking locations

Figure 3 is a map shown to all spectators when asked where they parked. The red, blue, green and orange areas are neighborhood impact areas surrounding Husky Stadium. These are residential areas with varying levels of public or permit parking. The red sections are the retail areas primarily around University Village. The yellow section identifies on-campus parking. The white area on the map is not considered an impact zone for Gameday parking.

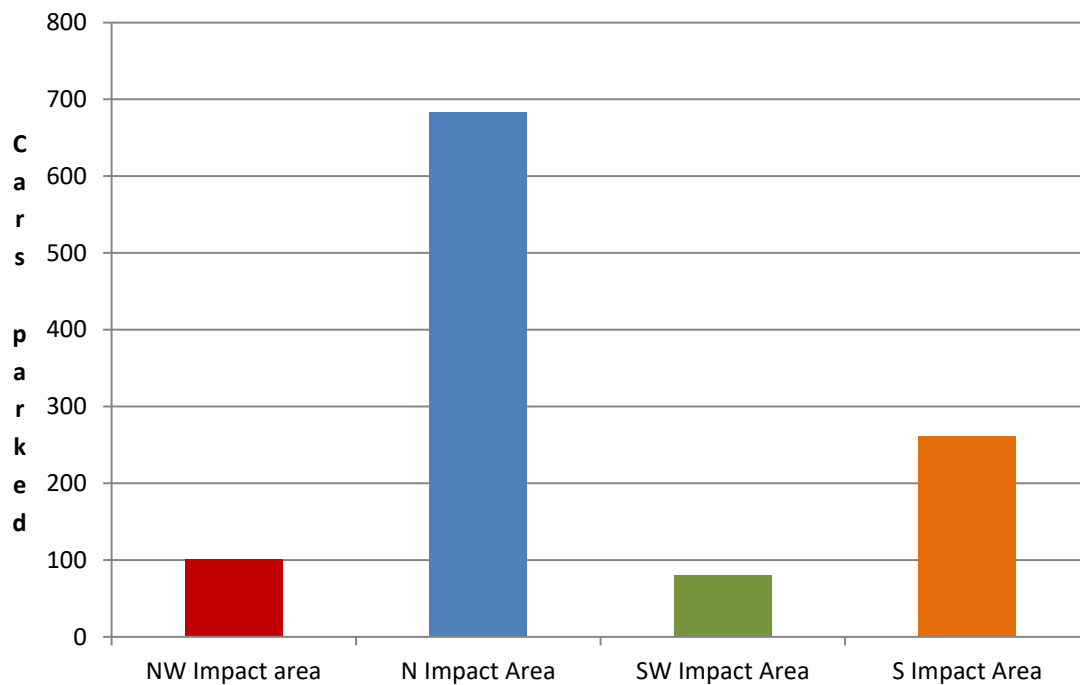


Figure 4 Breakdown of parking in impact areas, 2016

Figure 4 above shows the amount of cars parked in specific neighborhood impact areas. The northwest (red) area had 101 cars parked, the northern (blue) area had 683 cars parked, the southwest (green) area had 80 cars parked, and the south (orange) area had 261 cars parked on survey day. These numbers, added together, comprise 15.4% of total cars parked on the survey day.

Overall game day parking location choices are illustrated in Figure 5.

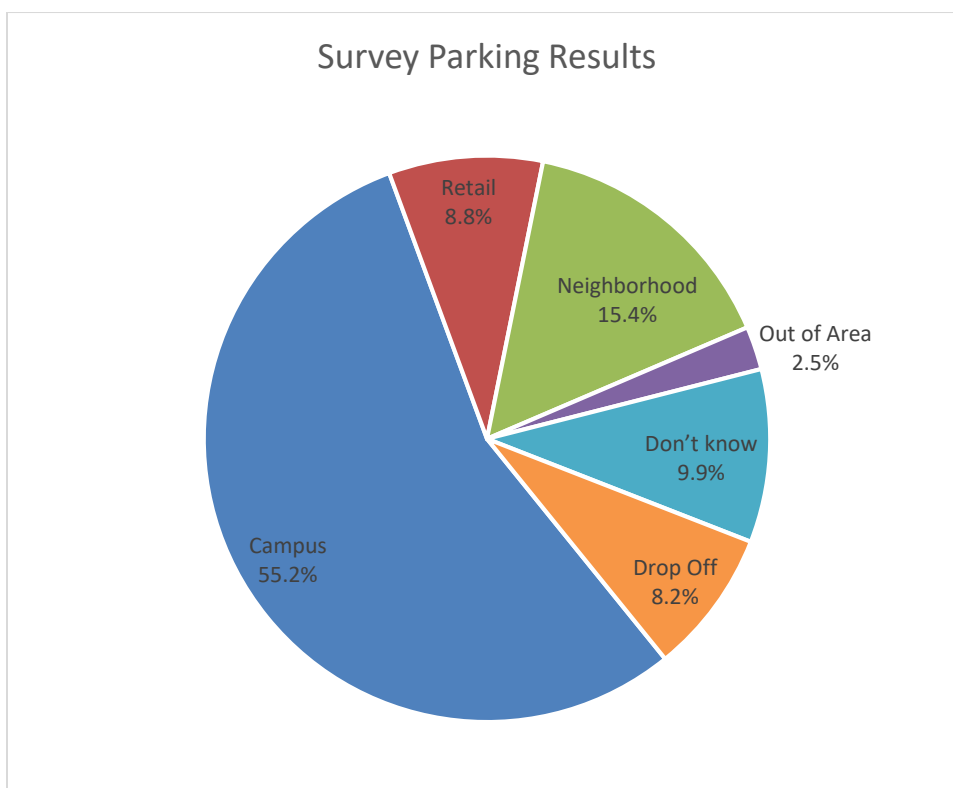


Figure 5 Distribution of automobiles in different parking areas, 2016

Of the attendees who arrived by car, 55.2% parked on campus in approximately 4,040 automobiles. The share of attendees arriving by automobile and the number of cars estimated to have parked on campus was similar to 2015.

Adjusting for passenger occupancy per vehicle to determine the distribution of cars, 36.5% of vehicles parked in surrounding neighborhoods, retail areas or unidentified locations, an increase from 2015's 33.5%. Approximately 8.2% of vehicles dropped passengers off without parking for the Husky Football game, compared to 6.1% in 2015. The magnitude of change in this number is likely due to changes in how the survey instrument treated TNCs in 2016.

About 1,126 cars were parked within neighborhoods identified as parking impact areas and approximately 643 cars were parked in retail areas. About 181 cars were parked in neighborhoods outside the impact areas. The share of cars parked in impact areas including neighborhoods and retail areas compared similarly between 24.1% in 2015 to 24.2% in 2016.

Transit

In 2016, 31.2% of attendees arrived by charter bus or transit. This represents a significant increase in transit mode share from 2015's 19.6%, largely due to the introduction of Link light rail service at the University of Washington Station, just steps from the stadium entrance. 11.3% of all trips were taken on light rail, while Metro and charter buses held at 19.9%.

UW Transportation Services and King County Metro Bus Ridership Estimates:

In addition to the intercept survey, data on bus ridership to Husky football games are collected in the following ways:

- Parking lot attendants count charter bus passengers in various lots. In 2016 charter bus counts were not conducted and are not included in this year's report.
- King County Metro employees count Park and Ride bus passengers as they board the buses.
- King County Metro employees count regular transit and Husky Special riders when they leave buses at the stadium. A significant number of passengers may leave the buses before they reach the stadium and then walk several blocks to reach the ticket gates. These passengers are not counted. Passengers going to the game who take routes that stop elsewhere in the University District are also not counted.

Data for charter buses was not collected in 2016. For 2016, the average King County Metro passenger count for pre-game was 8,340 and post-game was 8,469. This count should be considered a low estimate of actual bus ridership as it doesn't fully count regular Metro service passengers or all charter bus passengers.

| Game | <u>Pregame</u> | | | <u>Postgame</u> | | |
|----------------|---|------------|---------------------|-----------------|------------|---------------------|
| | Trips | Passengers | Passengers per Trip | Trips | Passengers | Passengers per Trip |
| 9/03/16 | 147 | 8,616 | 58.6 | 121 | 9,280 | 76.7 |
| 9/10/16 | 151 | 7,746 | 51.3 | 122 | 8,155 | 66.8 |
| 9/17/16 | 134 | 7,818 | 58.3 | 125 | 7,056 | 56.4 |
| 9/30/16 | Metro did not operate Park and Ride Shuttles for this game. | | | | | |
| 10/22/16 | 144 | 8,992 | 62.4 | 131 | 9,862 | 75.3 |
| 11/12/16 | 130 | 7,532 | 57.9 | 120 | 6,836 | 57.0 |
| 11/19/16 | 131 | 6,488 | 49.5 | 128 | 6,576 | 51.4 |
| Average | 139 | 7,865 | 56.4 | 135 | 7,961 | 63.9 |

= Survey
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Table 6 Metro Park and Ride, Husky Special and Regular Service, 2016

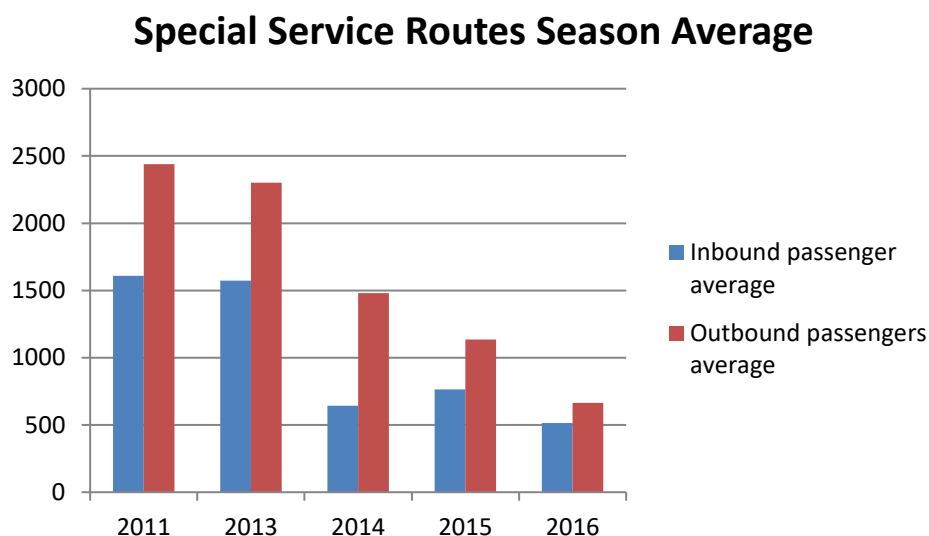


Figure 6 Seasonal passenger average for Husky Special service routes, 2011-2016

According to Metro’s data, the 2016 seasonal passenger average per game was 515 for inbound and 665 for outbound service on special routes. In 2015 the season average was 765 passengers arrived by special service routes and 1,136 passengers used the routes to leave the stadium.

Walking

Approximately 15.8% of the attendees walked to the stadium on game day, down from 35.7% in 2015. 2015 saw the highest count by far of attendees who walked to the stadium in survey history, though this count may be due to irregularities in how data was collected. 2016 numbers are in keeping with previously observed trends.

Boats

Based on game day survey data, 3.4% of people arrived by boat on the survey game day, an increase from 2.6% in 2015. This is low, but consistent with previously observed boat mode shares. People arriving by boat primarily enter through the SE gates. The refusal rate was higher at this gate than the other gates, which may have led to an under representation of boat travel.

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.

During the 2016 season, ICA's counts and estimation methods yielded an average of approximately 2,089 people arriving at Husky Stadium per game, representing 4.7% of game attendees. This is consistent with past ICA estimates. In 2016, the average game had 6 charter boats carrying a total of 1,186 attendees.

ICA uses boat occupancy factors for moored boats (3, 4, 6, 8, and 10 passengers for 0-20', 21-30', 31-40', 41-60', and 61-100' boats, respectively) and actual occupancy can change from year to year, which can lead to under or over estimation.

Bicycles

In 2016, approximately 0.7% of surveyed attendees (375 attendees) arrived by bicycle, slightly less than in 2015. In addition to survey responses, TS also conducted a count of bikes parked at the bike valet and around Husky Stadium on the survey game day.

The bike valet had 132 bikes on the survey day, compared to 52 in 2015. The count of bicycles around Husky Stadium yielded 263 bicycles, compared to 118 in 2015.

Transportation Networking Companies

This year was the first survey to include TNCs in the data collection. Approximately 8% of survey responses indicated Uber, Lyft, Sidecar, or some other TNC. Accordingly, UW made preparations in advance of the game to coordinate with Uber on pick-up, drop-off, and wayfinding for game goers who used this mode. Signs were placed along at the 15th Avenue Gatehouse and along Stevens Way to guide travelers to TNC staging areas. For example, ICA worked with Uber to have attendees walk to a specific part of campus to be picked up by Uber after the game. Now that a baseline has been established, we can track this mode going forward.

Other

In 2016, approximately 1% of survey responses indicated 'Other' for travel mode, down significantly from 8.7% in 2015. These 'Other' modes may include motorcycle, taxi, and limousine. It is quite likely that the drop in this category corresponds to the addition of the TNC mode as a choice on the survey.

Pre-Expansion Comparison

Figure 7 compares actual 2016 bus and automobile mode shares and vehicles parked on campus with a 1984 baseline and post-expansion projections (from the 1986 Stadium Expansion Plan TMP) using survey game day data. The actuals are better than the expectations of the 1986 *Stadium Expansion Parking Plan and Transportation Management Program* in all major categories. At 47.8%, the percentage of patrons who came by car was much lower than 1986's projections of 71% and the total number of cars parked has declined rather than growing slightly as the 1986 projections assumed. With 19.6% of attendees arriving by bus and an additional 11.3% by light rail in 2016, transit ridership has exceeded 1986's projection of 16%.

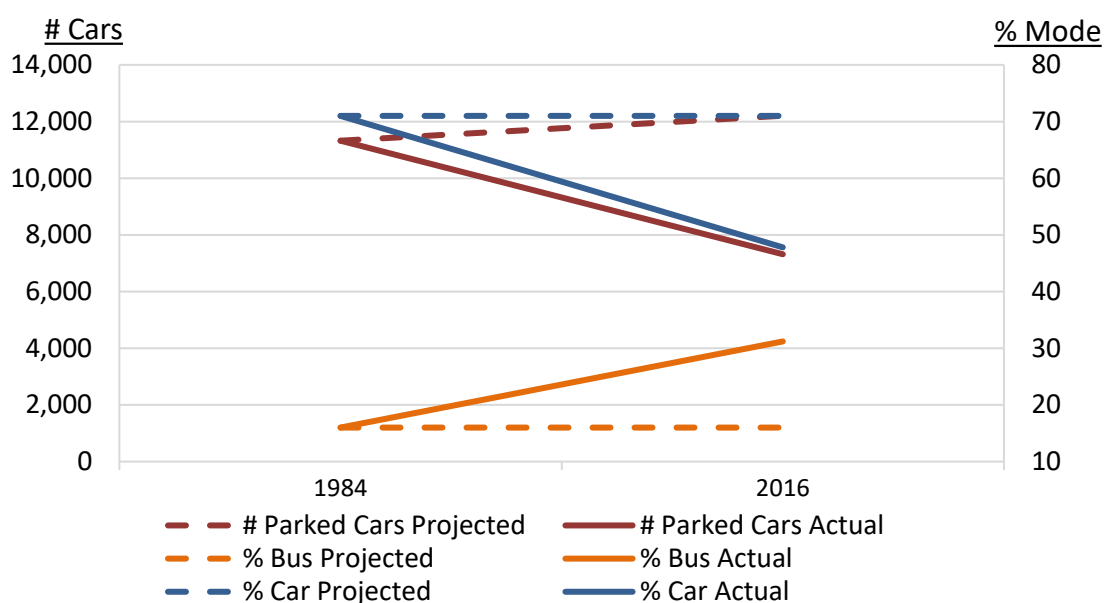


Figure 7 Comparison of Baseline, Actual, and Projected Travel Behavior

Neighborhood Parking Impact Areas

Figure 3 shows the neighborhood parking impact areas defined in City Council Resolution 27435. Portions of these parking impact areas have Special Event RPZs (Residential Parking Zones) for football game days. On the October 22nd survey day, an estimated 3,096 people parked in the neighborhood parking impact areas in 1,126 automobiles, a decrease over 2015's survey day with 3,235 people in 1,253 automobiles. In addition to the cars parked in impact areas, an estimated 181 cars parked in neighborhoods outside of the impact areas.

The 1986 *Stadium Expansion Parking Plan and Transportation Management Program* cited the need for the City of Seattle to increase enforcement and monitoring in neighborhood parking

impact areas during Husky games. The Seattle Police Department provided a summary of parking citations issued in neighborhood parking impact areas during all seven games for the 2016 season. On average, 188 citations were issued per game, an increase from 170 average citations per game in 2016. The number of RPZ citations increased slightly from the 2015 season; in 2015 there were 144 citations, while in 2016 there were 157 citations. Beginning in 2013, the University had requested additional enforcement of the RPZs and this was likely a contributor to the increased citations from some past years. The average citation given out per officer hour for the 2016 season was 0.66, similar to 0.69 in 2015.

| Year | Average police resources per game | | Average citations per game | | | Average citations per officer hour |
|------|--------------------------------------|-------------------|-------------------------------|-------|-------|--|
| | Parking enforcement officers | Overtime hours | RPZ | Other | Total | |
| 2010 | 26 | 155 | 96 | 30 | 126 | 0.81 |
| 2011 | 26 | 166 | 85 | 55 | 140 | 0.84 |
| 2013 | 31 | 209 | 184 | 35 | 219 | 1.05 |
| 2014 | 34 | 228 | 139 | 18 | 157 | 0.69 |
| 2015 | 39 | 246 | 144 | 26 | 170 | 0.69 |
| 2016 | 45 | 259 | 157 | 14 | 171 | 0.66 |

Table 7 Parking citation statistics in neighborhoods around Husky stadium



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