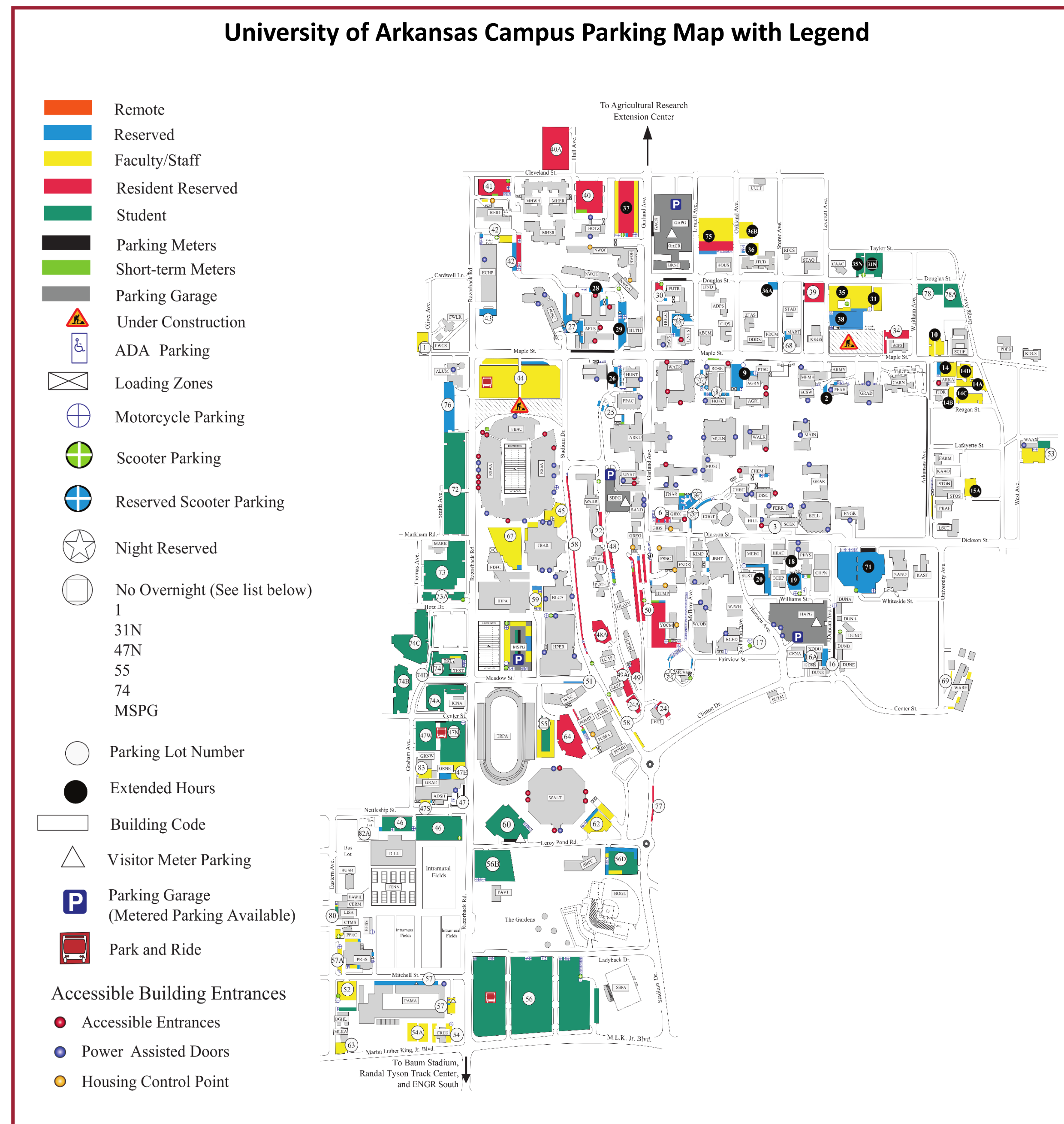


Simplifying Campus Parking

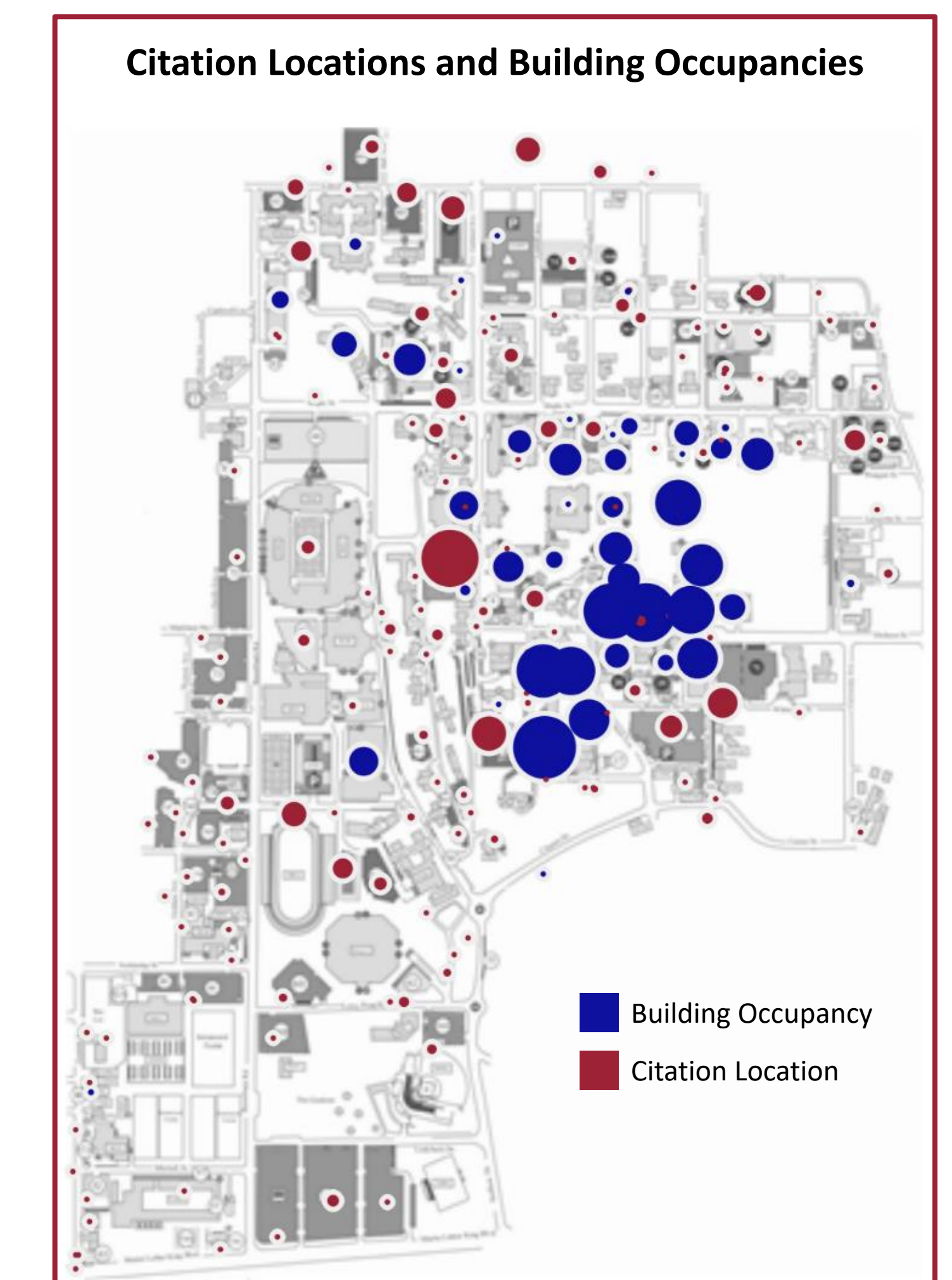
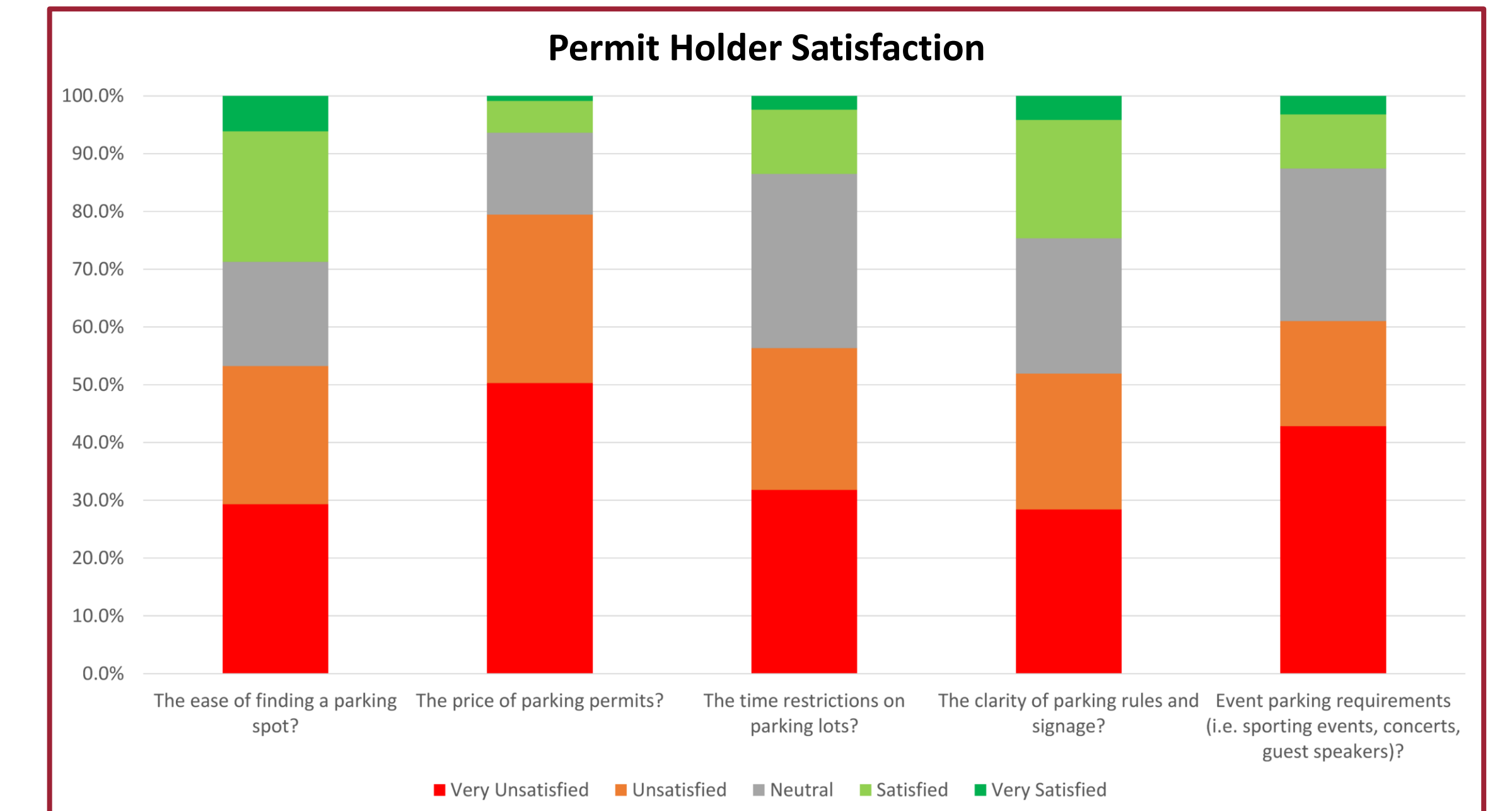
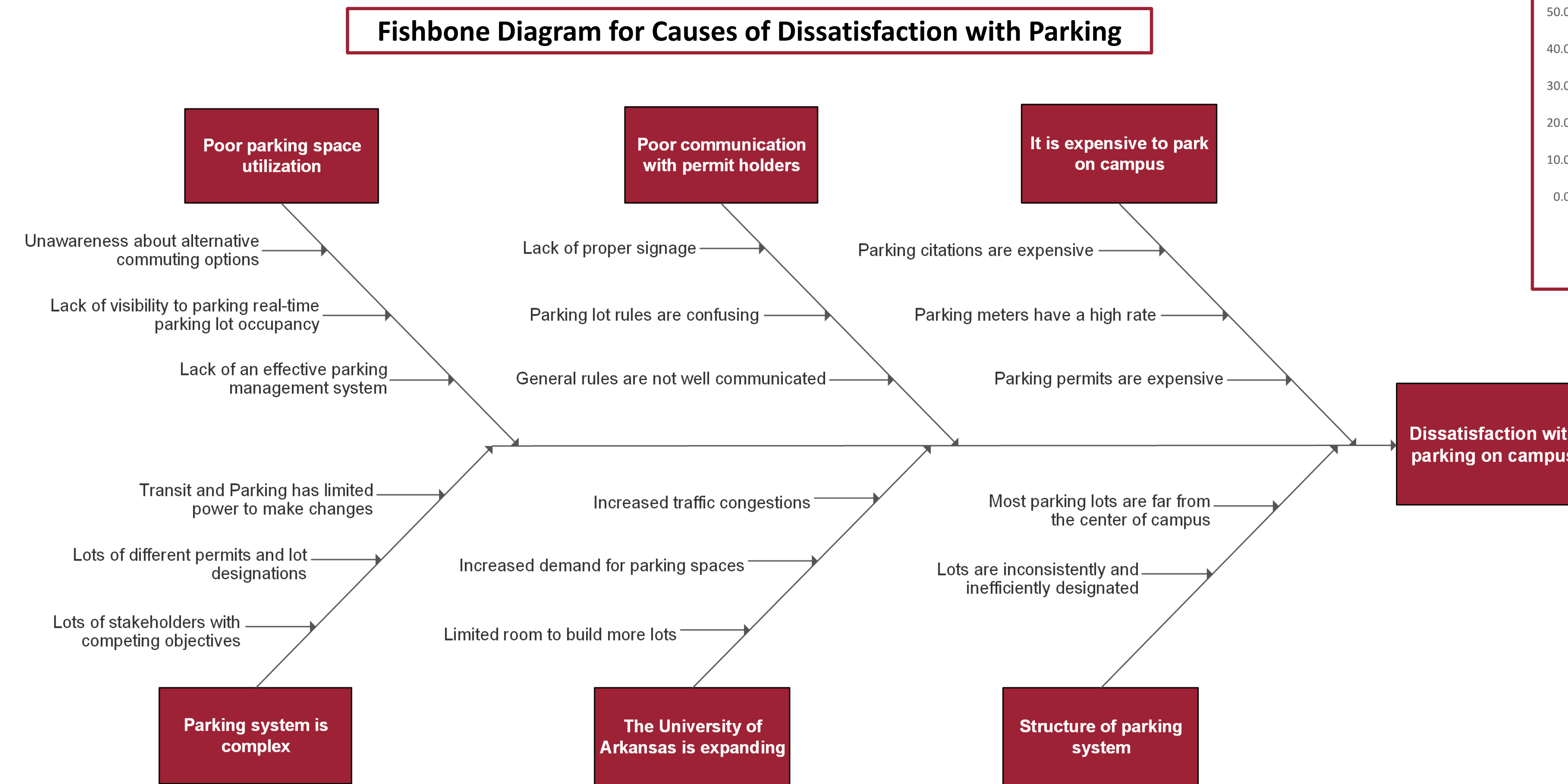
For Increased User Satisfaction and Improved Decision Making

Mireille Ineza | Chris Manjarrez | Ryan Sanders, PM | Jake Washkowiak

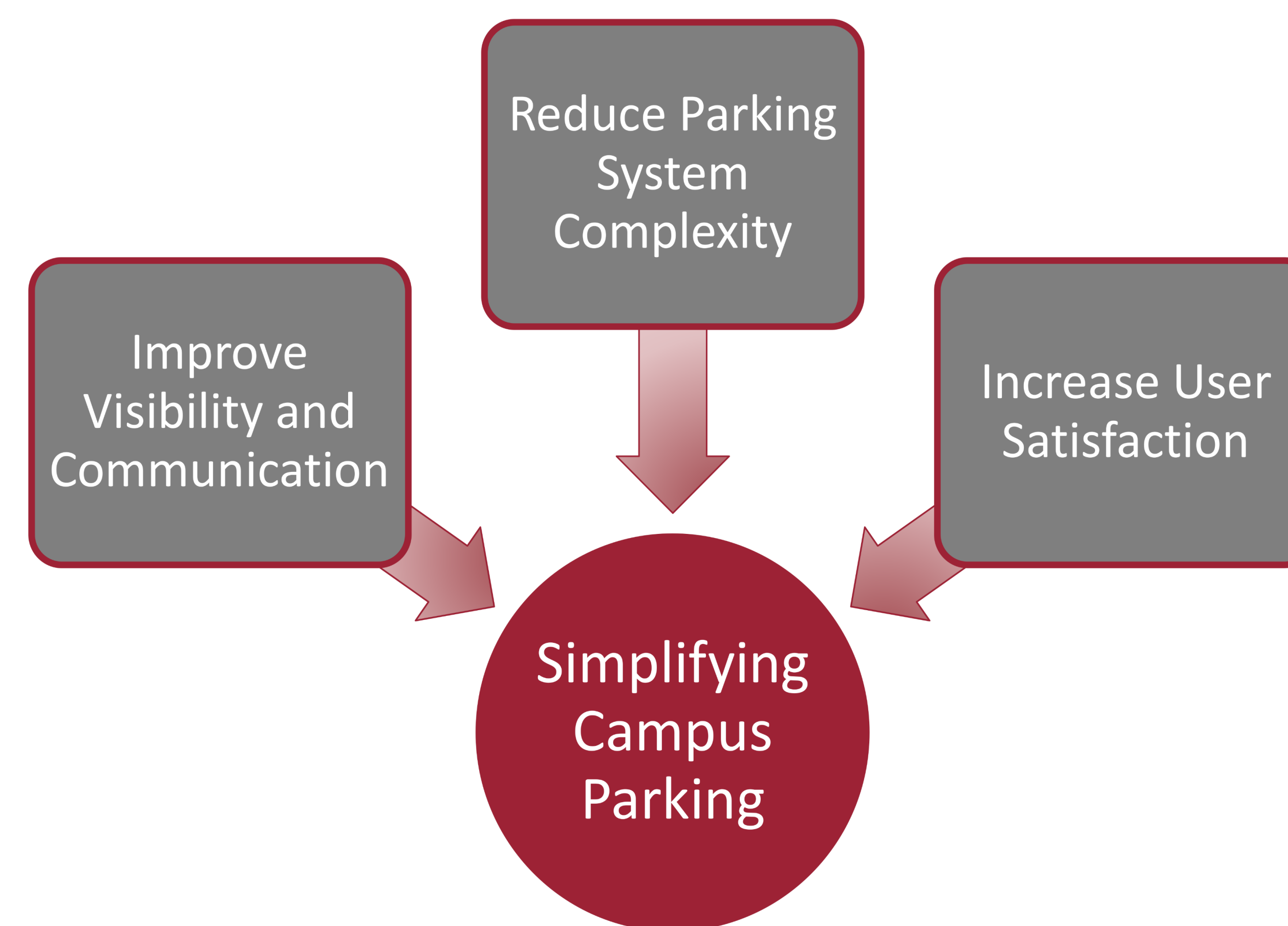
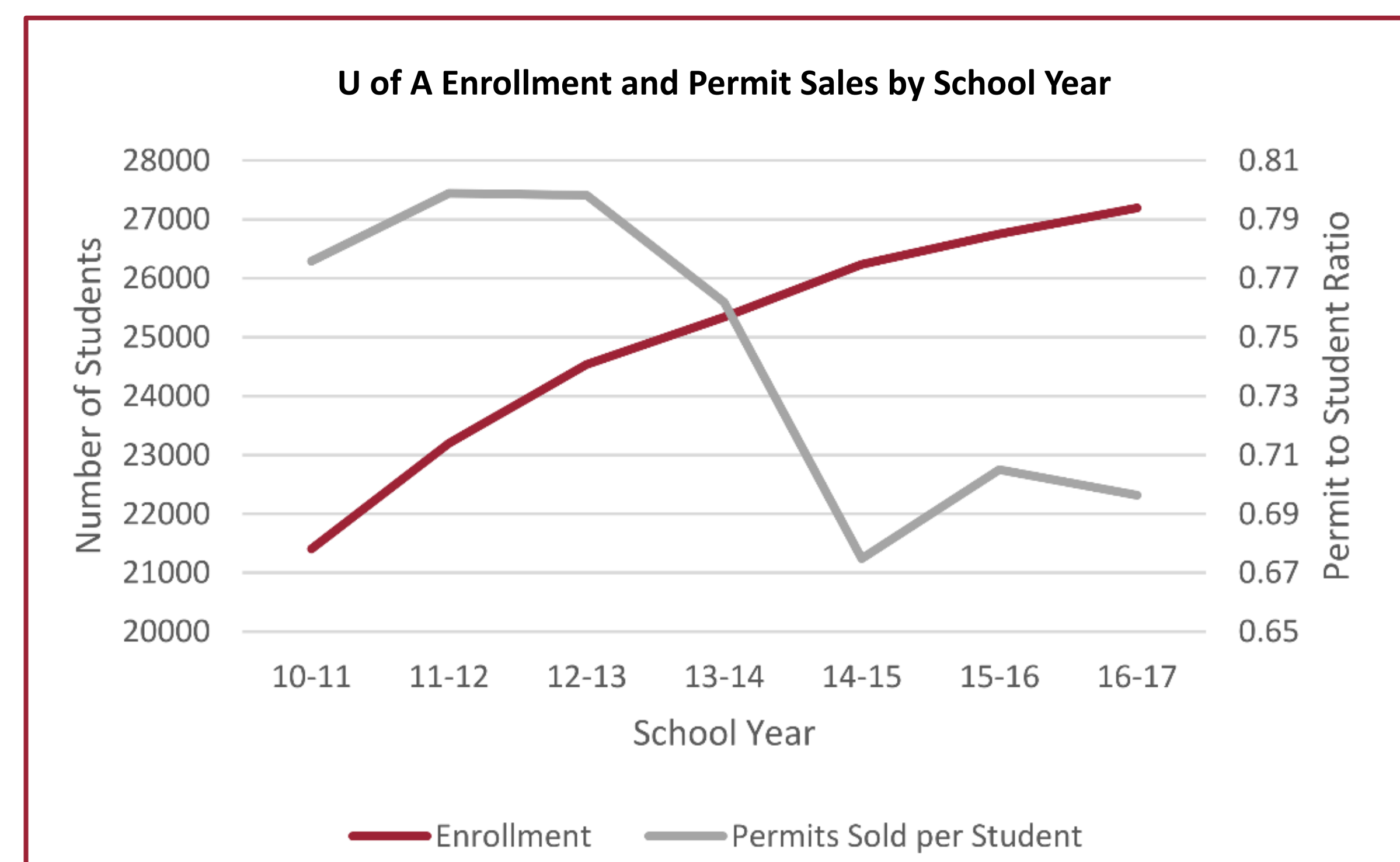
Faculty Advisor: Dr. Chaovalitwongse | Industry Partner: Gary Smith



Several methods of stakeholder analysis were performed in order to identify the root causes of dissatisfaction with campus parking. Stakeholder analysis of the Transit and Parking Department itself was done through weekly meetings with the Gary Smith, the Director of Transit and Parking, and Debbie Wood, the Business Manager of the department. In order to connect customers of Transit and Parking, an online survey was issued to all permit holders and revealed high levels of dissatisfaction in the parking system.

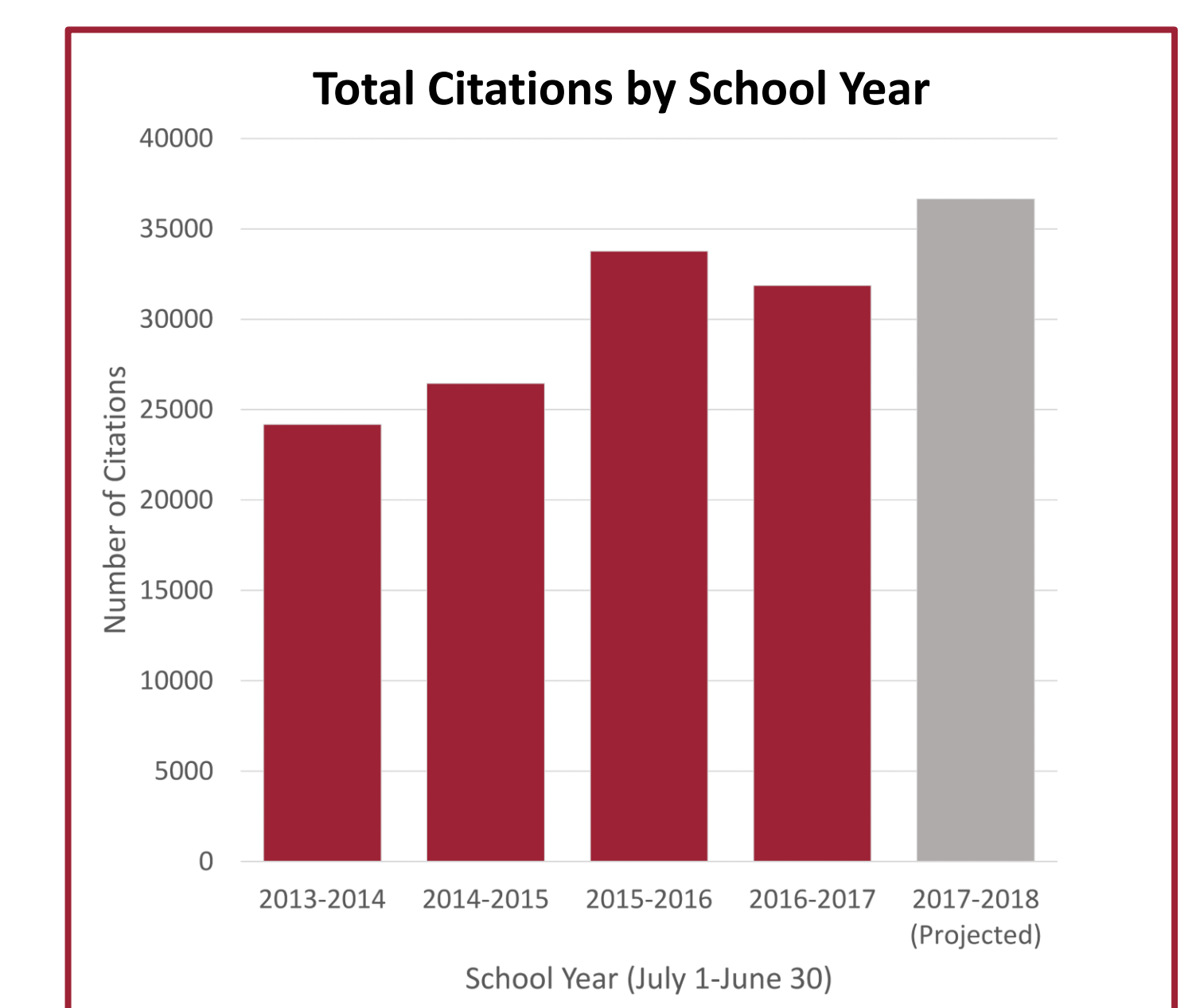


The University of Arkansas Transit and Parking Department controls, regulates, and maintains all of the institution's public transit services and parking facilities. This department is self-sufficient and does not rely on University funds for new parking and other expenses. Due to the high cost of parking structures, as well as the growing University enrollment, Transit and Parking is constantly in search of creative, low-cost solutions to improve their system.



Preliminary data analysis paired with our stakeholder analysis highlighted several areas of concern, including poor communication, confusing parking rules, and low satisfaction levels with the current parking system. This led to the establishment of our three objectives for simplifying campus parking: improve visibility and communication, reduce the complexity of parking, and increase customer satisfaction.

Transit and Parking provided our team with a variety of different data sets to perform analysis on. Key preliminary findings showed that the number of citations was on an upward trend and that many students have classes far from general student parking.



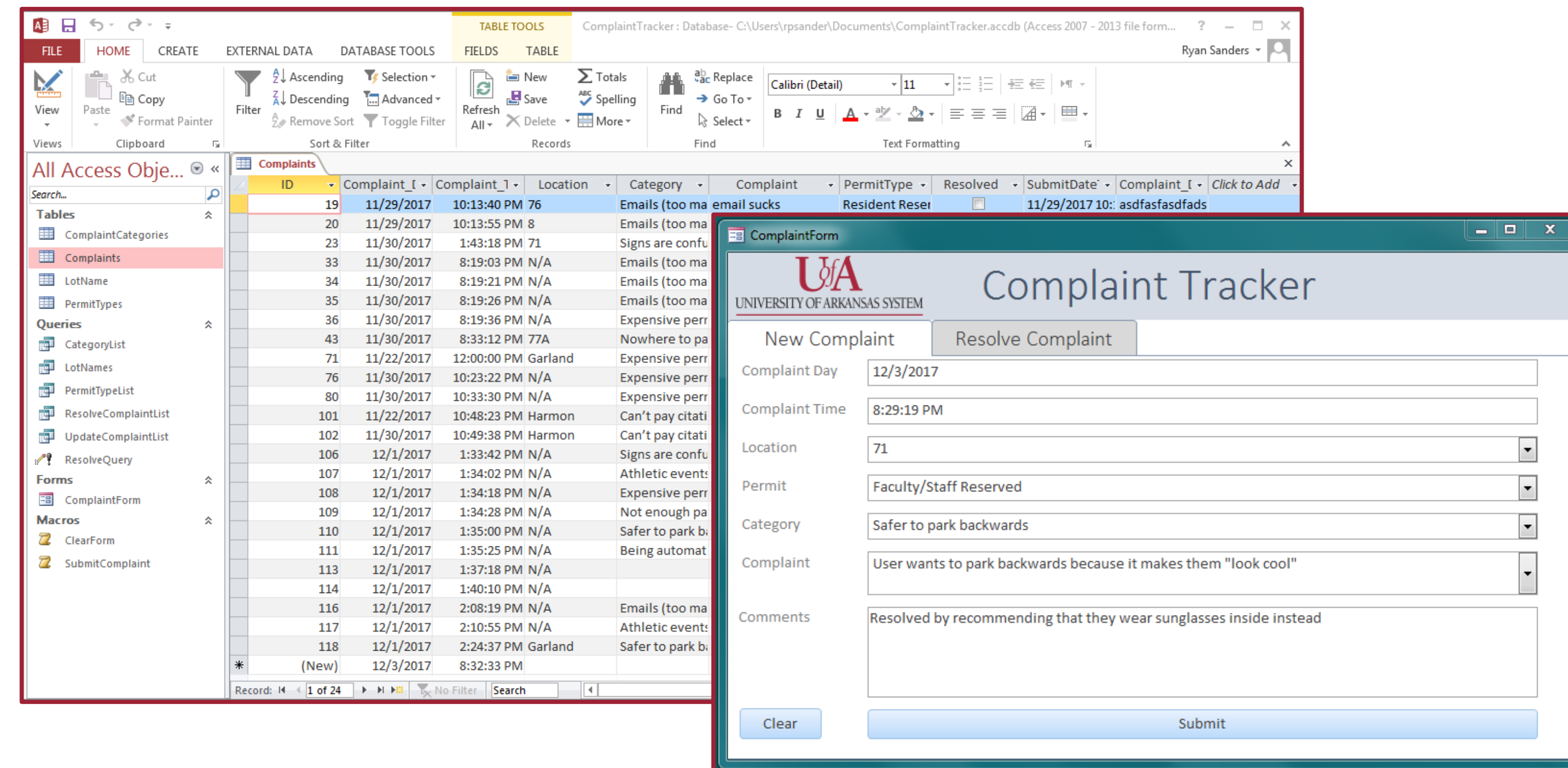
Simplifying Campus Parking

For Increased User Satisfaction and Improved Decision Making

Mireille Ineza | Chris Manjarrez | Ryan Sanders, PM | Jake Washkowiak

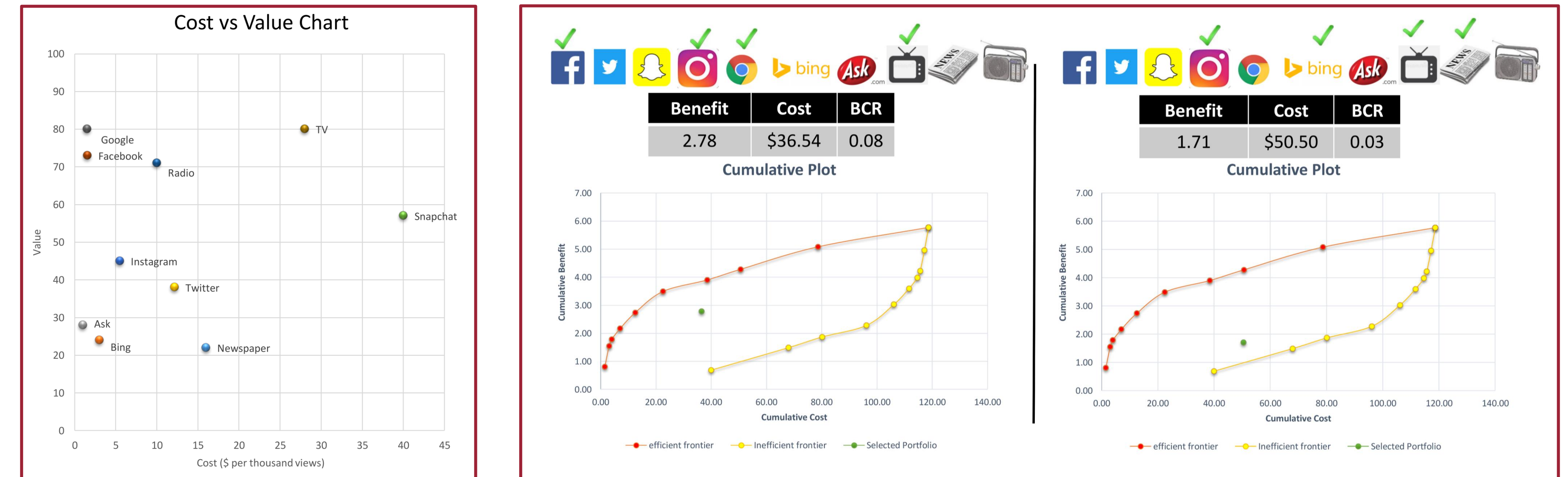
Faculty Advisor: Dr. Chaovalitwongse | Industry Partner: Gary Smith

Complaint Tracker – Access Database to Store and Create Reports on Complaints



Previously, Transit and Parking had no formal way to keep track of complaints they received. This database will give them the ability to monitor customer satisfaction.

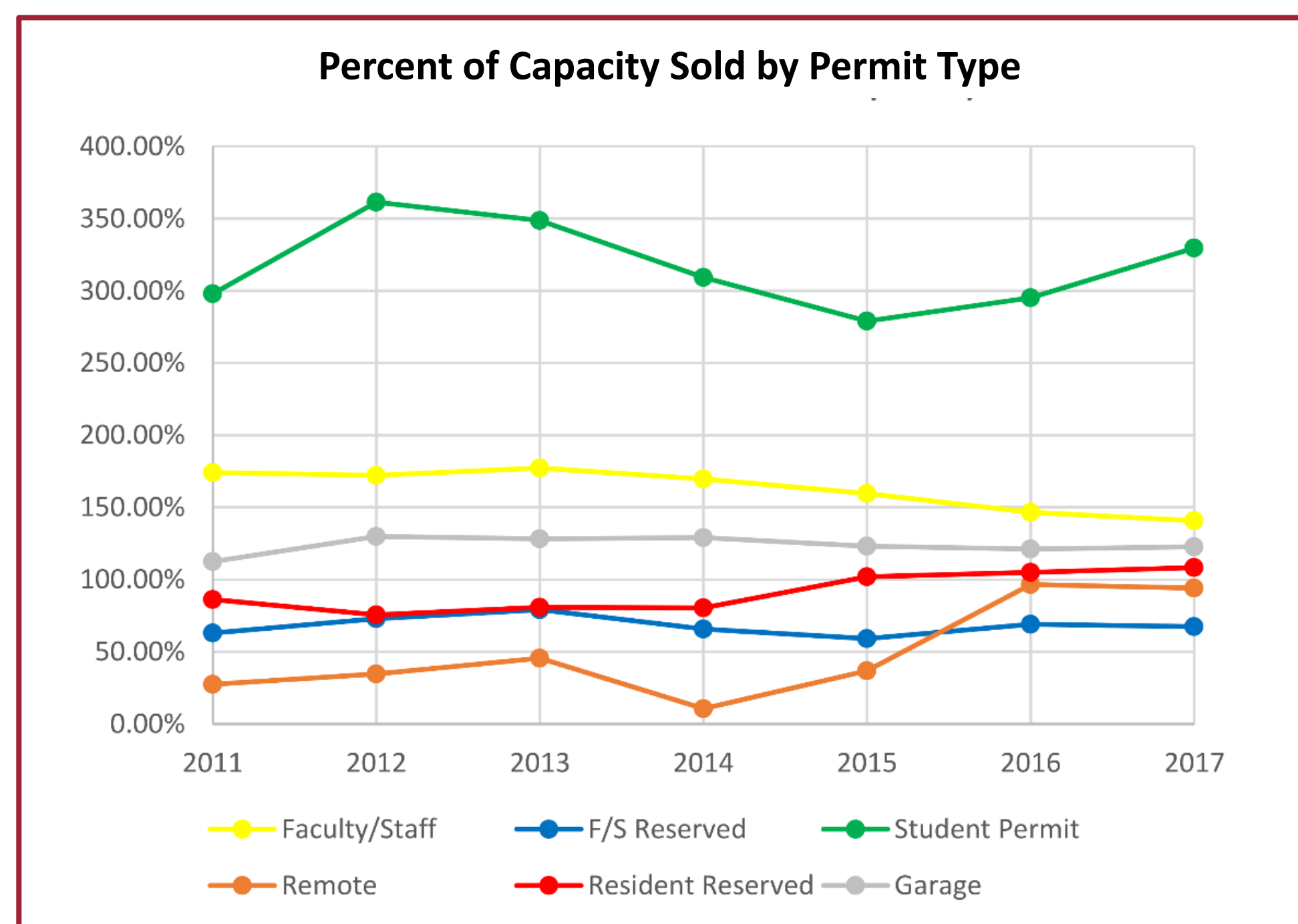
Ad Campaign – Multi-Objective Decision Analysis and Portfolio Analysis



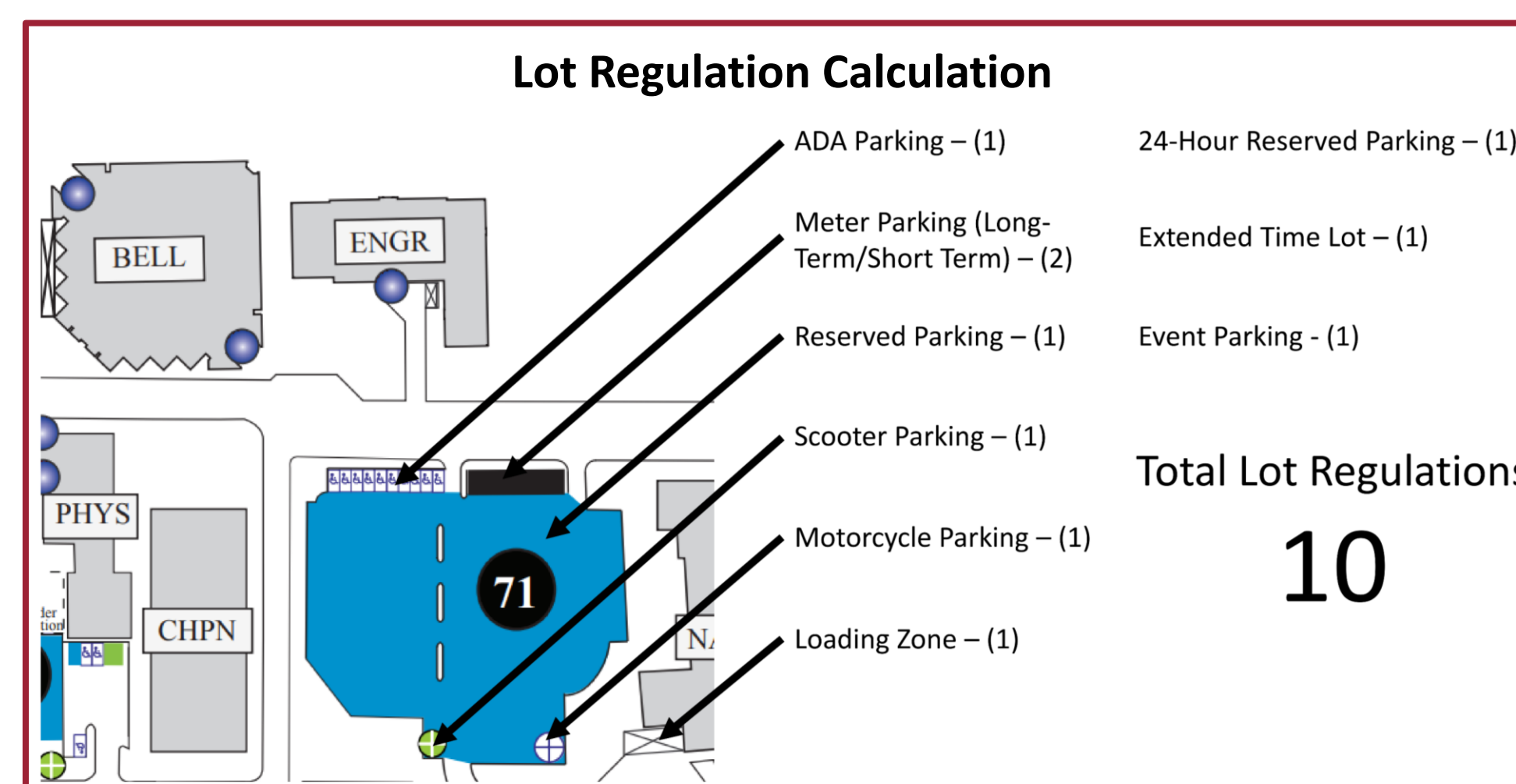
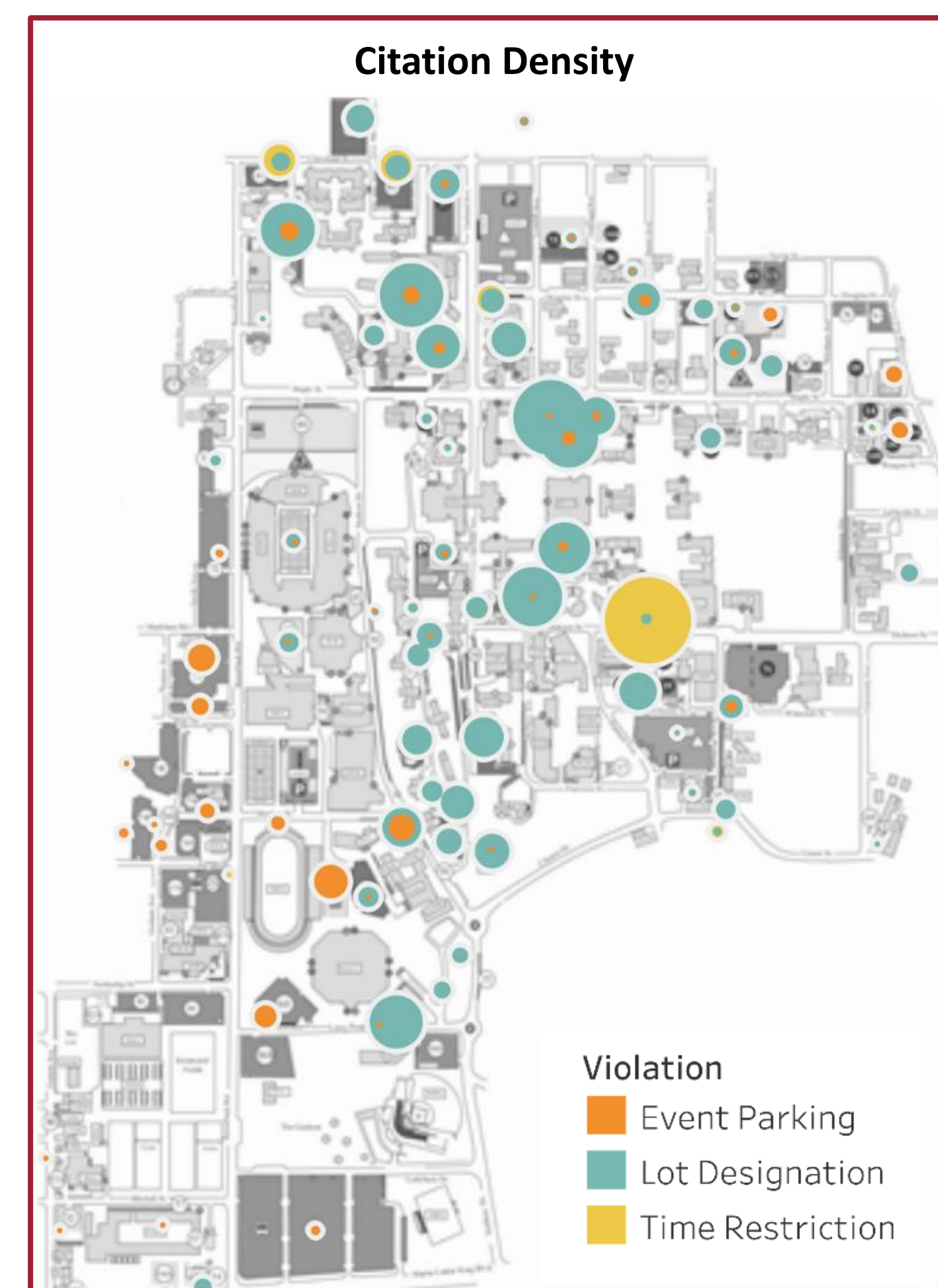
In order to help improve their image and communicate better with customers, Transit and Parking would like to launch an advertising campaign. To help them decide which advertising avenue would be the most cost-effective, we performed a Multi-Objective Decision Analysis and a Portfolio Analysis.

Simplifying
Campus
Parking

Methodology – Percent of Permit Capacity Sold and Lot Complexity



Due to early findings, we focused our analysis on lot designations, time restrictions, and event parking requirements. Based off our calculations of citation density, lot complexity, and permit sales ratio, we made three levels of recommendations to Transit and Parking.



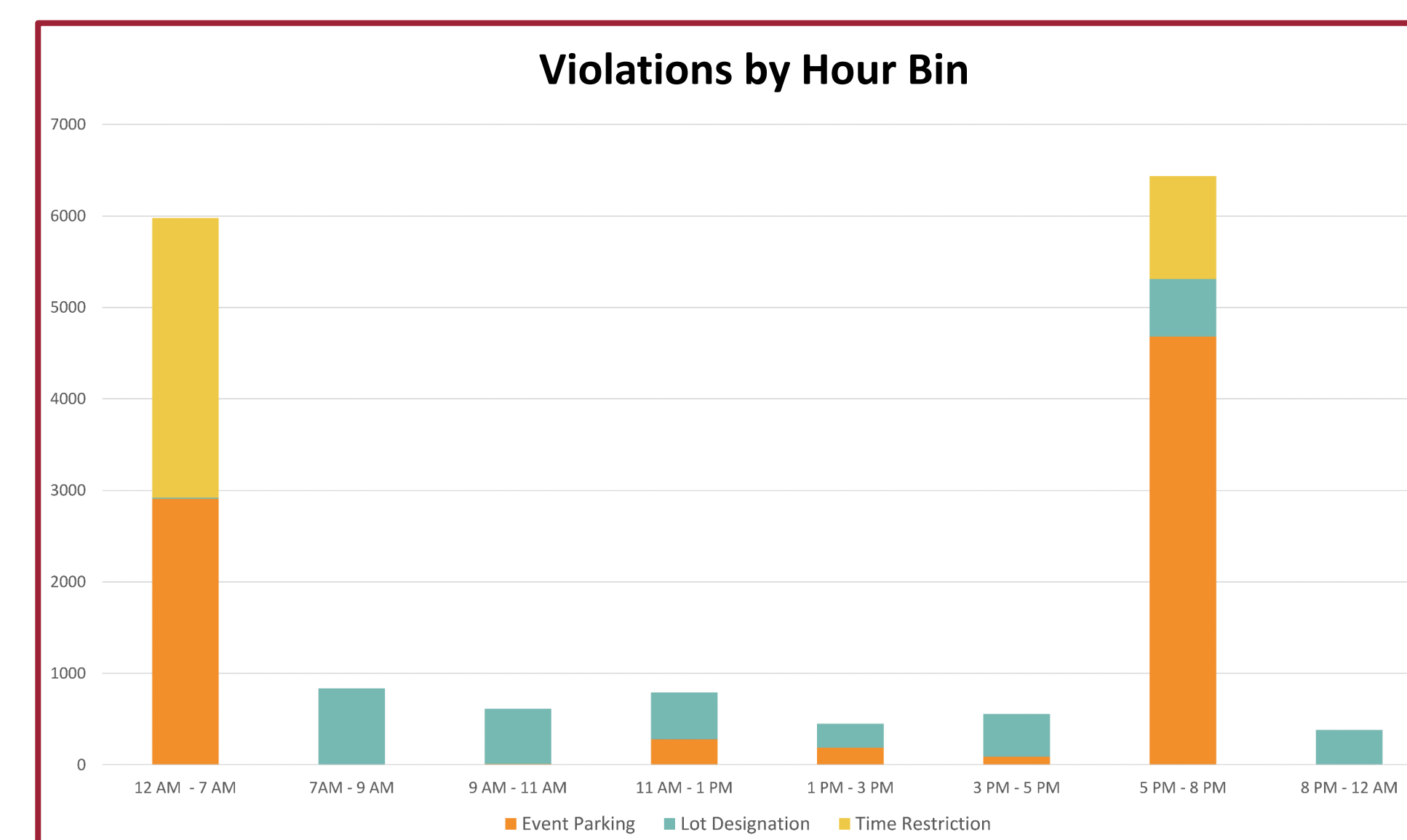
$$Lot\ Complexity = \sum_{i \in S} LR_i (1 + \frac{V_i}{C})$$

$S = \{time\ restriction, event\ parking, lot\ designation\}$
 $LR = number\ of\ regulations$
 $V = total\ violations\ recorded$
 $C = lot\ capacity$

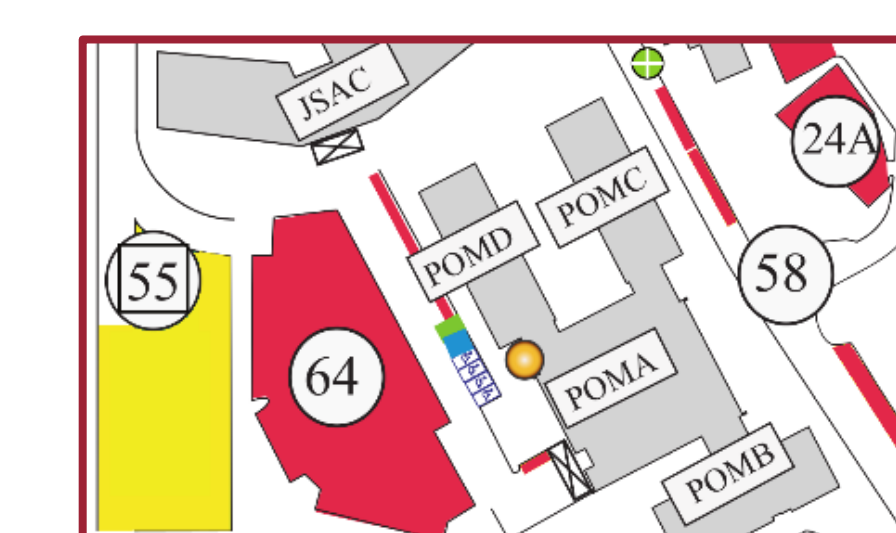
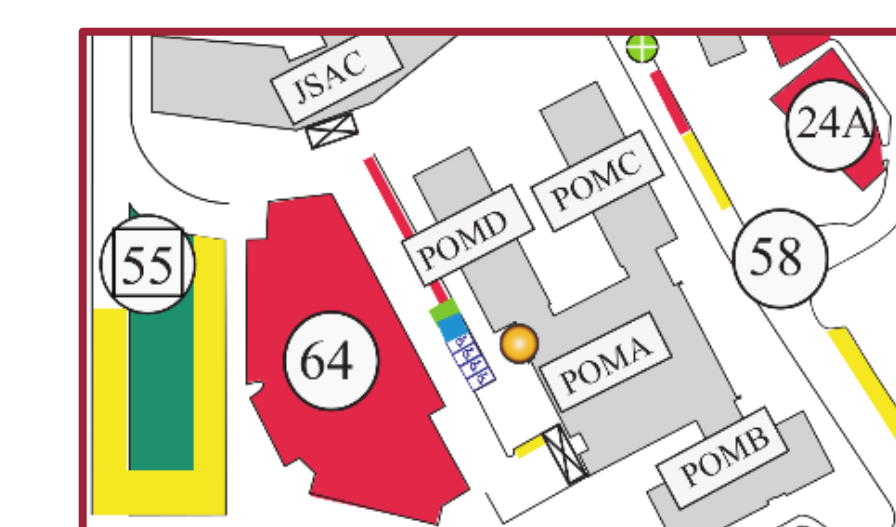
Recommended Lot Changes – Three Different Levels Proposed for Reduced Parking Complexity

Based on our analysis of citation density, lot complexity, permit sales, and potential revenue, we formed three levels of potential changes that could be made to the parking system to reduce complexity and make the parking system easier for customers to understand. These were presented to the Transit, Parking and Traffic Committee for consideration.

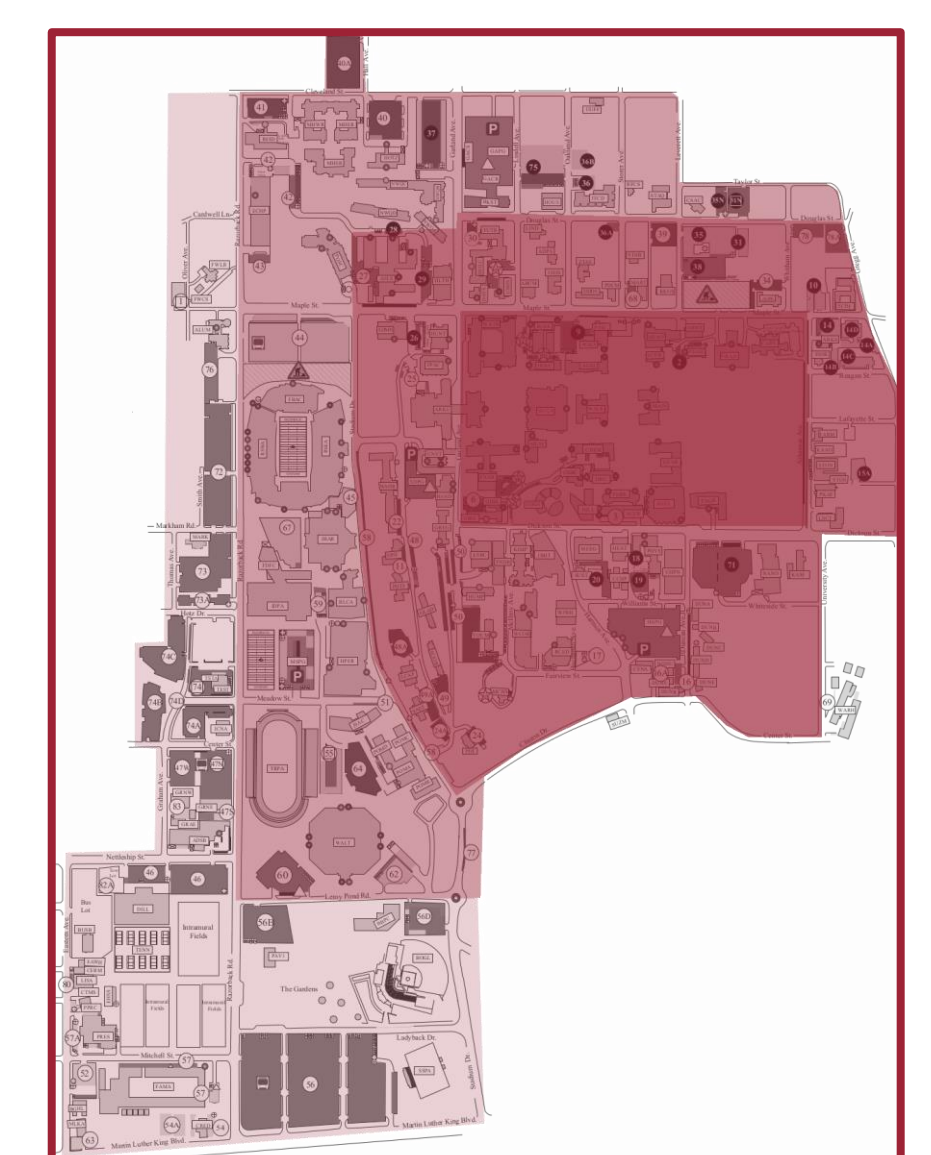
	Current System	Level 1 Changes - Time Restrictions	Level 2 Changes - Lot Redesignation	Level 3 Changes - Zone System
Complexity	552.71	483.73	465.47	276.75
Complexity Reduction	-	12.5%	15.8%	49.9%
Revenue Change	-	\$0.00	\$293,529	\$155,580



Level 1 Changes would reduce the number of time restrictions on parking.



Level 2 changes would limit the number of lots with multiple permit designations.



Level 3 is a total reformation of parking into a much less complex zoning system.