Final Report *April 2008*

University *of* Arizona NEEDS ASSESSMENT STUDY

Pima Association of Governments

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UNIVERSITY OF ARIZONA NEEDS ASSESSMENT STUDY

Final Report

Prepared for

PIMA ASSOCIATION OF GOVERNMENTS
AND
THE UNIVERSITY OF ARIZONA

Prepared by

April 2008

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1. INTRODUCTION

PROJECT BACKGROUND

Over the past 10 years the University of Arizona (UA) has increased in size from a total student plus employee head count population of 46,300 to 51,300 in 2006[1]. This makes the University one of the largest activity centers within metropolitan Tucson, attracting tens of thousands of person trips every weekday by all available modes of transportation. The growth of the University has occurred at the same time that Pima County population has increased from 866,000 to 980,000[2]. The increase in size of both the UA and the region, coupled with the University's location along major commuting arterials within the City of Tucson, has resulted in significant congestion and conflicts between modes of travel both within and around the campus. The congestion has increased even with significant efforts by both the UA and the City of Tucson to provide multimodal transportation system improvements to increase the supply of transportation, separate alternative modes of travel, and manage travel demand. The rapid growth has simply outpaced the effectiveness of the implemented transportation supply and demand management measures.

The 1997 *University Area Circulation Study* provided numerous recommendations to mitigate traffic congestion and conflicts between pedestrian, bicycle, and vehicular traffic. Many of these recommendations have been implemented, some have been partially implemented and some have not been implemented. For example, new parking garages have been built, transit service improved, and the residential parking permit program expanded, but the recommended pedestrian and bicycle improvements have only been partially implemented. As a result, some of the identified problems still exist, and some new problems have developed.

The *2003 University of Arizona Comprehensive Plan* provides a vision for the UA campus to support 40,000 full time equivalent students (FTES) and a University community of 75,000. This is an additional 5,500 FTES over the year 2006 enrollment and an increase in the University community (exclusive of visitors) of approximately 23,700. This level of University growth will add significant levels of traffic to an already congested roadway network within the UA planning area.

The *Comprehensive Plan* includes observations on existing transportation system conditions and deficiencies, and the included *Parking and Transportation Report* provides many strong recommendations for the improvement of the campus area circulation system. The *Parking and Transportation Report* is particularly emphatic regarding future parking conditions on campus, indicating that "…the number of projected spaces falls far short of the projected demand for parking… Attempting to meet this shortfall in spaces through further increases in on-campus parking is a problem in the extreme."[3] Thus the projected shortfall in parking and the anticipated increase in traffic congestion must be overcome through a reduction in automobile travel to campus through increased use of alternative modes, more on-campus housing, and implementation of travel demand management strategies targeted to reduce automobile travel to and from campus. **It should be noted that the current University administration is committed to a position of "smart growth" for the University that does not cap total UA student population at 40,000. Therefore, the need to provide alternatives to automobile travel will likely be greater than that anticipated in the *Comprehensive Plan.***

[1] Source*: University of Arizona Fact Book 2006-07*, Office of Institutional Research & Evaluation.

[2] Source: Online PAG Regional Data Center 1997 and 2006 population estimates.

[3] *2003 University Comprehensive Plan*, Appendix 4: Parking and Transportation Report, page 89.

The *Comprehensive Plan* also contains numerous goals, objectives, and policies that are specifically designed to address traffic congestion and the multimodal transportation needs of the campus area. These goals, objectives, and policies are to be implemented within the context of the *Comprehensive Plan's* guidelines for an Open Space Framework which provides corridors for pedestrian and bicycle circulation within the campus and connecting to the surrounding community. The "Plan Highlights" for each Precinct Plan within the *Comprehensive Plan* provide a summary project list for campus development. Only a very few of the transportation related projects have been implemented, for example, the Warren Avenue research corridor pedestrian and bicycle facility in Precinct 2. While the *Comprehensive Plan* provides strong general direction it stops short of recommending specific strategies to curb the anticipated growth in automobile travel to the UA. There is also a need to go beyond the prior planning work and provide more detail on the "what, when, where and how much" of specific projects so that the UA and the City of Tucson can program these projects into their respective five-year Transportation Improvement Programs.

PLANNED TRANSPORTATION SYSTEM IMPROVEMENTS

The Pima Association of Governments *2030 Regional Transportation Plan* (RTP) provides for some multimodal transportation system improvements in the UA campus area. These improvements are summarized graphically in Exhibit 1-1. The 2030 RTP provides roadway improvements to Grant Road and Broadway Boulevard, and intersection improvements at Speedway Boulevard/Euclid Avenue and Campbell Avenue/6th Street. Transit improvements include new rapid bus routes along Speedway and Broadway Boulevards, and a new modern street car connecting the UA area to the Tohono Tadai Transit Center and the downtown. The modern street car is also planned to extend to the east along Broadway Boulevard, connecting to the UA along Campbell Avenue. Modest bicycle and pedestrian improvements are also included. However, as Exhibit 1-1 also indicates, year 2030 traffic congestion in the UA area is expected to be heavy to severe.

The 2006 *Regional Transportation Authority (RTA) Plan* includes many of the 2030 RTP planned improvements, but also expands upon the RTP by providing additional multimodal features. The RTA improvements are summarized graphically in Exhibit 1-2.

The RTA roadway improvements include the Grant Road and Broadway Boulevard widening projects. Additional bike lanes and sidewalk improvements are included in the RTA as well as more extensive transit service improvements than are included in the RTP. The modern street car connection from the UA to the downtown is planned to be implemented as part of the RTA improvement package. Details of the transit system improvements planned through year 2011 are compiled in the *2007-2011 Tucson Regional Short Range Transit Report* (November 2006).

PROJECT GOALS AND OBJECTIVES

The primary goals and objectives of this study included the following:

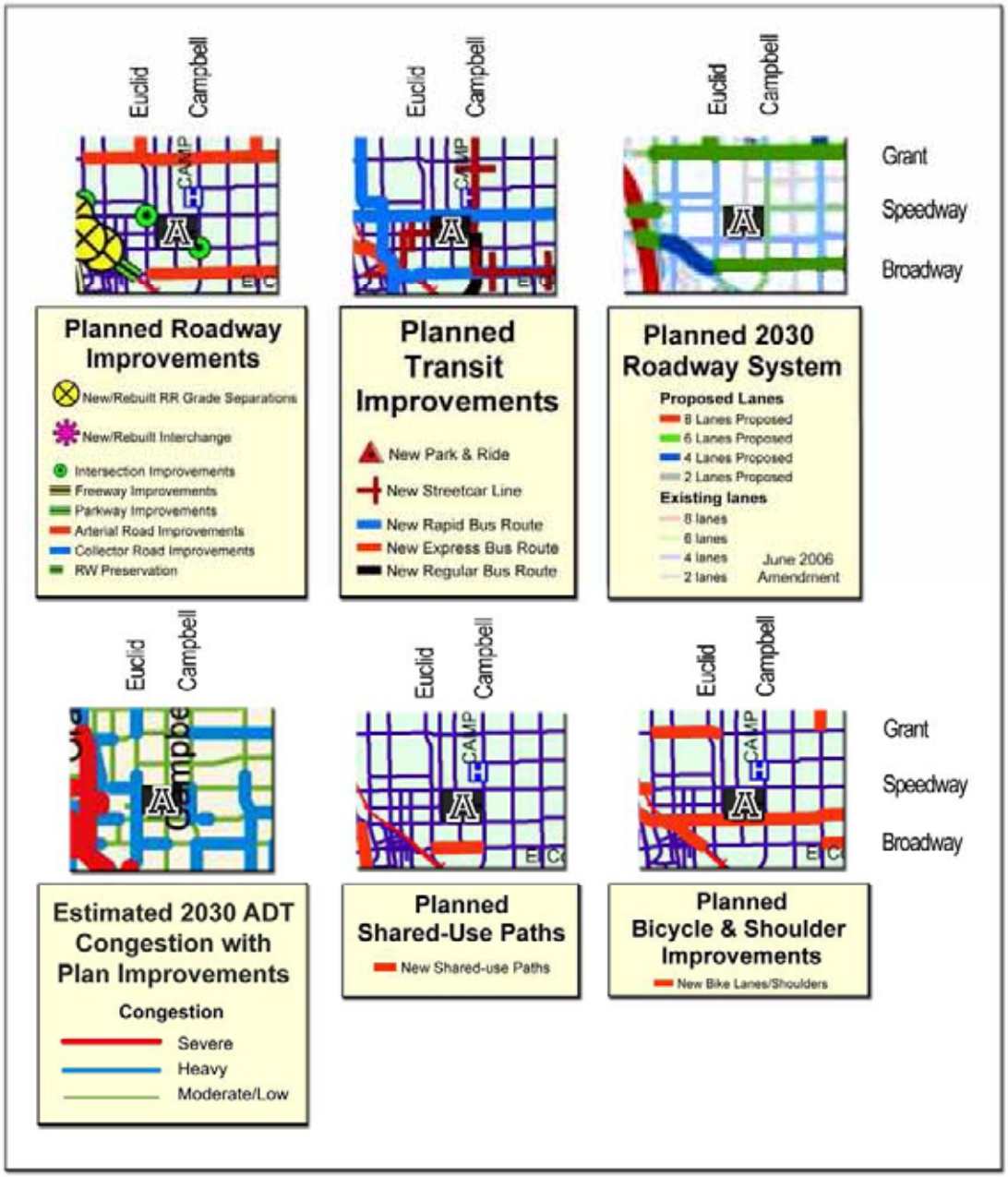
- Provide the University with a general assessment of the existing and short-term future travel demand to and from campus by existing transportation modes.
- Provide a general means for developing planning level estimates of the potential impacts of TDM measures on automobile use for UA trips.
- Identify the target UA community for various TDM strategies.

- Develop recommendations for specific travel demand management (TDM) measures to assist the University and the City of Tucson in addressing the growing congestion and traffic issues within the UA planning area.
- Provide recommendations for a process by which the UA can take better advantage of regional project funding available through the Pima Association of Governments (PAG) Transportation Improvement Program (TIP).
- Provide recommendations for future projects to address transportation system improvement needs within the campus planning area.
- Provide an inventory of specific alternative mode transportation facilities within the UA planning area.
- Schedule and conduct an open-house to gather public input on the recommended travel demand management solutions.

PROJECT STUDY AREA

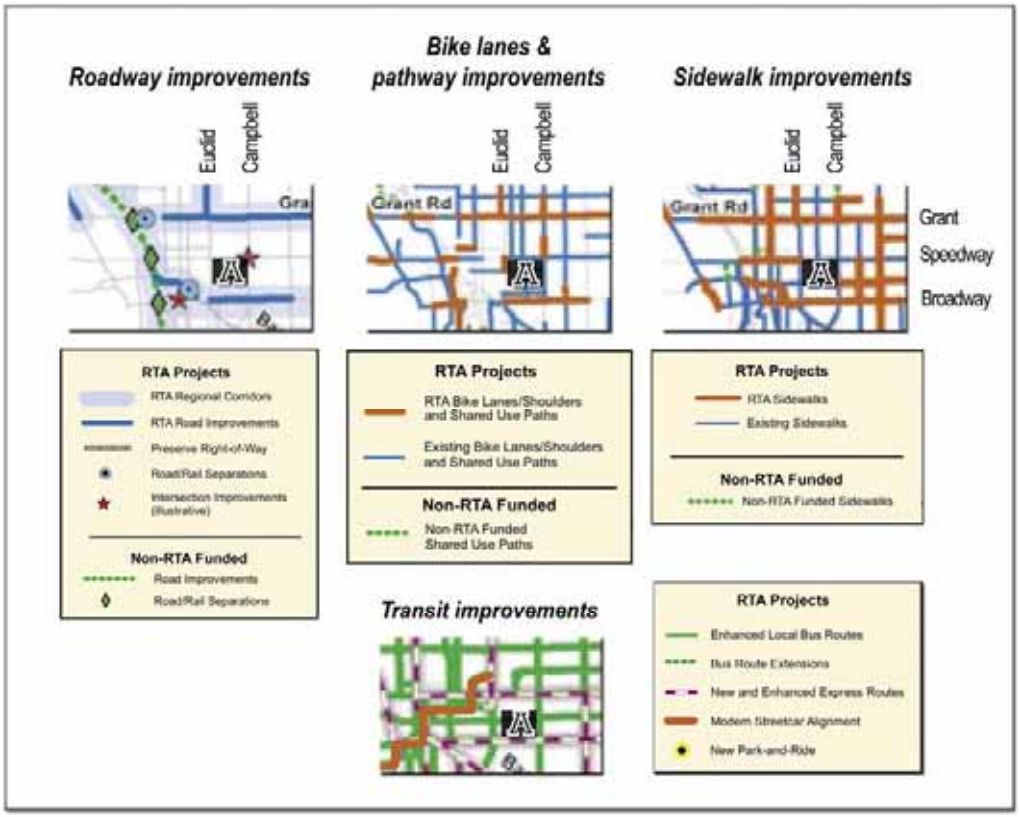
The study area for this project was selected to generally coincide with the planning area included in the *2003 University of Arizona Comprehensive Plan.* The Study Area as defined for this project is the area bounded by Euclid Avenue on the west, Campbell Avenue on the east, Broadway Boulevard on the south and Lester Street on the north. The Study Area is approximately 1.4 square miles in area and includes all of the UA main campus and the University Medical Center campus and UMC Hospital located north of the main campus. The project Study Area is graphically illustrated in Exhibit 1-3.

Exhibit 1-1
SUMMARY OF 2030 RTP IMPROVEMENTS IN THE UA AREA AND FORECAST CONGESTION LEVELS



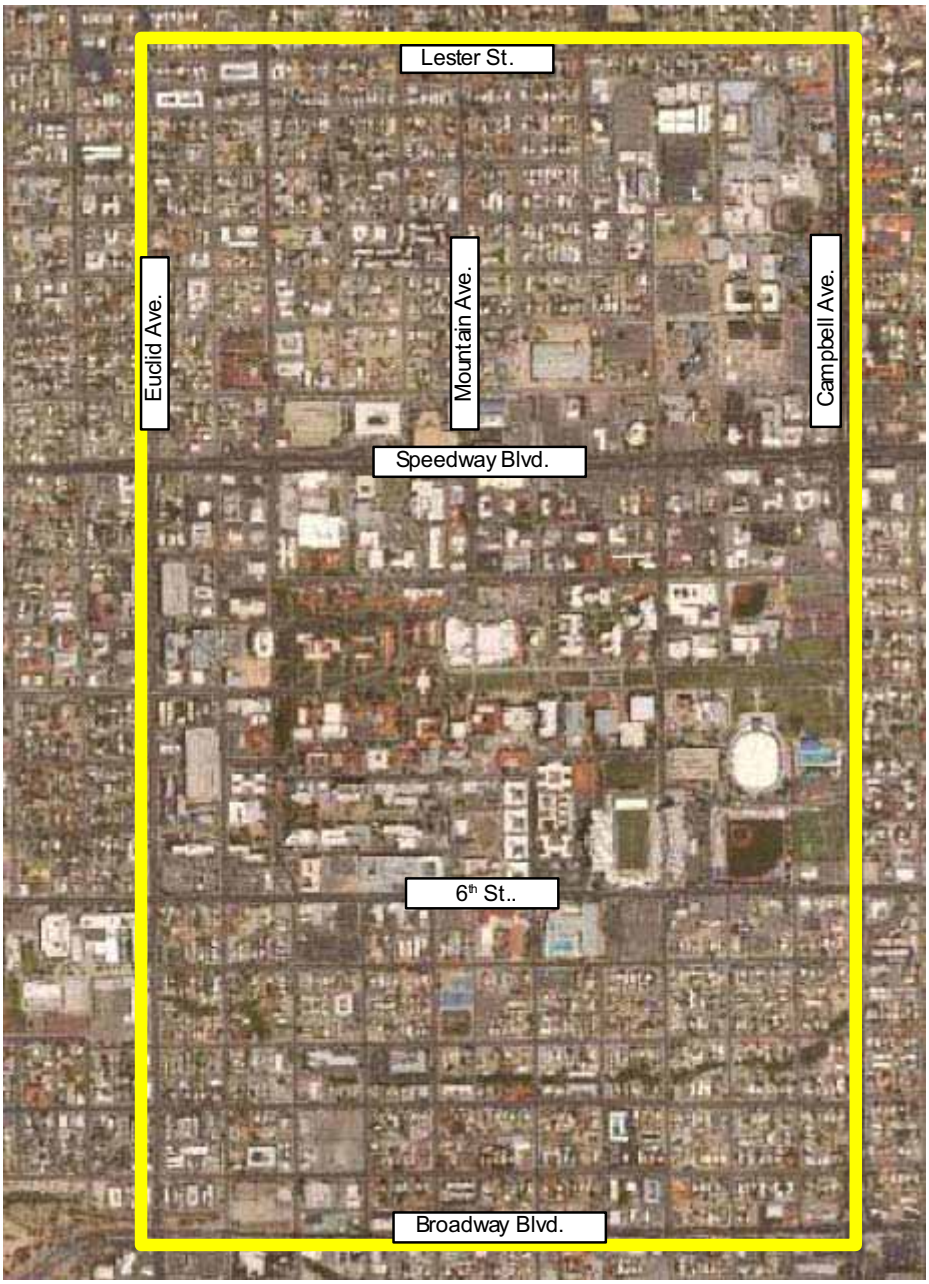
Source: PAG 2030 Regional Transportation Plan, Adopted June 29, 2006.

Exhibit 1-2
RTA TRANSPORTATION SYSTEM IMPROVEMENTS NEAR THE UA



Source: Pima Association of Governments, Regional Transportation Authority, *Our Mobility Tucson, Arizona – A $2.1 Billion Regional Transportation Plan,* May 16, 2006.

Exhibit 1-3
PROJECT STUDY AREA



2. PREVIOUS PLANS AND STUDIES

Planning documents and previous studies were compiled for review as an element of this study. The list of the documents reviewed is provided in Exhibit 2-1. The review focused on the identification of transportation system projects, policies, and travel demand management recommendations having the potential to reduce traffic congestion specifically in the University planning area. Therefore, not all of the compiled materials contained information relevant to this assessment. The purpose of this review was to provide the following information:

- Previous recommendations to reduce congestion in the UA planning area that had not already been implemented, are not contained in the PAG Transportation Improvement Program (TIP), and are not included in the Regional Transportation Authority (RTA) funded projects. Long range projects contained in the PAG 2030 Regional Transportation Plan, and unfunded projects from the PAG TIP were included in the list of potential projects for further consideration.
- Assess whether these previous recommendations still have the potential to provide a viable approach to traffic congestion relief in the UA area.
- Identify recommendations with the potential to provide projects which the UA might advance to the PAG Regional TIP for funding consideration. This latter consideration is addressed in a later section of this report.

The documents and studies were prepared by, or for, one or more of the following agencies:

- The University of Arizona
- The City of Tucson
- The Pima Association of Governments

The status of previous recommendations gathered from these studies was reviewed by the Project Team and the Project Technical Advisory Committee (TAC) to determine the extent to which these recommendations had resulted in projects that were either implemented, programmed for implementation, planned for implementation, or abandoned. The remaining recommendations were summarized for further consideration.

The summary of the viable recommendations gathered from previous plans and studies is provided in Exhibit 2-2. These recommendations were grouped into six categories which generally describe how congestion is addressed by the recommendation. These categories are the following:

- Decrease Automobile Use
- Increase Alternative Mode Use
- Centralize UA Population
- Spread Travel Demand
- Decrease UA Trips
- Increase Roadway Capacity

These same categories and many of the recommendations contained in Exhibit 2-2 were also used to develop and evaluate TDM measures as part of this study effort, and to combine the recommendations from previous studies with the recommendations developed during this study.

Exhibit 2-1
SUMMARY OF DOCUMENTS COMPILED FOR REVIEW

- University of Arizona, City of Tucson, and PAG, *University of Arizona Circulation Study*, 1997.
- University of Arizona, *2003 Comprehensive Campus Plan*, 2003.
- University of Arizona, *Space Needs Analysis for the Campus Master Plan*, 2002.
- University of Arizona, Fact Book 2005-2006.
- University of Arizona, *Off-Campus Housing Guide and Commuter Resource Book*, 2006.
- University of Arizona, *Campus Parking Map 2006-2007.*
- University of Arizona, *Shuttle Service Guide 2006-2007.*
- City of Tucson, *University Area Plan,* May 1989.
- City of Tucson, *Tucson Transit On Board Origin and Destination Survey*, 2005.
- City of Tucson, *Major Transit Investment Study*, Final Report and supporting documents, 2004-2006.
- City of Tucson*, Draft 2007-2011 Tucson Regional Short Range Transit Report*, November 2006.
- City of Tucson, SunTran, *Tucson System-Wide Transit Map*, 2006.
- PAG, *2030 Regional Transportation Plan*, Adopted June 29, 2006.
- PAG Regional Transportation Authority, *Our Mobility, A $2.1 Billion Regional Transportation Plan*, 2006.
- PAG, *5-Year Regional Transportation Improvement Program 2007-2011*, 2006.
- PAG, *State Transportation System Mobility and Regional Circulation Needs Feasibility Study* (PAG Loop Study), Working Papers 1, 2, and 3, 2005-2006.
- PAG, *Transit Element of the 2030 Regional Transportation Plan*, Technical Memos 1, 2, and 3, 2002-2003.
- PAG, *Tucson Metro Bike Map,* September 2006.
- PAG, *Regional Plan for Bicycling,* July 2000.
- PAG, *Regional Pedestrian Plan*, July 2000.

Exhibit 2-2
SUMMARY OF RECOMMENDATIONS FROM PREVIOUS PLANS AND STUDIES FOR FURTHER CONSIDERATION

DECREASE AUTOMOBILE USE

- **TDM Measures, Policies, or Goals**
  1. Decrease the overall number of cars on campus by a percentage basis compared to the increasing population with the exception of needing to serve the hospital and clinics at the current ratio as they grow. This will be accomplished by:
     a. Park and ride lots serviced by shuttle buses. [8]

INCREASE ALTERNATIVE MODE USE

- **Projects**
  1. Warren Avenue Corridor Improvement near Hillenbrand Stadium. [8]
  2. Helen Street: Street enhancement. [8]
  3. Mountain Avenue corridor improvements including enhancing alternate modes of travel. [7]
  4. Various pedestrian related improvements in neighborhoods adjacent to the UA. [7]
  5. Separate bicycle and pedestrian traffic through grade and material changes on the mall and along bicycle routes. [7]
  6. Implement traffic control measures for bicycles/pedestrians to reduce conflicts. [7]
  7. Enhance bike and pedestrian signage and striping markings throughout campus. [7]
  8. Provide:
     a. More pedestrian scale lighting and shading. [7]
     b. Wider sidewalks. [7]
     c. Separation of pedestrian use areas from bicycle and vehicular traffic through change in grade, materials and possibly bollards. [7]
  9. Between University and North Campus Drive: New courtyards and pedestrian path. [8]
  10. West of Old Main: Pedestrian zone. [8]
  11. Park Avenue: Bicycle lanes and other bicycle improvements proposed (City of Tucson project). [7]
  12. Reconstruct the intersection of the Highland bike route and the University bike route on the Mall. [7]
  13. Extended bike route access south on Warren Avenue to the Mall. [7]
  14. Improve the Highland bike route north of the Mall. [7]
  15. Ensure that traffic signals on the periphery of campus are bicycle activated. [7]
  16. Improve and expand bicycle parking facilities. [7]
  17. Tyndall Avenue: Enhancements and bicycle parking. [8]
  18. Transit Streetcar AHSC to Tohono Tadai via Campbell/Prince. [2]
  19. Transit Streetcar UA to El Con. [2]
  20. New limited stop/skip stop service along Speedway, Broadway, 6th Street/Wilmot/Stella from East Tucson to downtown Tucson. [4]
  21. In peak periods skip stop service on Campbell/Kino Parkway from Cortaro Farms Road connecting Tucson Mall, UA, and Tucson International Airport. [4]
  22. New limited stop/skip stop service from Pima CC West to Downtown Tucson/UA. [4]
  23. Bus Rapid Transit/Light Rail Transit recommended along Oracle Road/6th Avenue connecting Oro Valley, Tucson Mall, Downtown Tucson, and 6th/12th Avenue to South Tucson, Tucson International Airport and Southeast Industrial Area under Alternative 3. [4]
  24. Bus Rapid Transit/Light Rail Transit recommended along Broadway/Speedway/6th Street Corridors connecting East Tucson to UA and Downtown Tucson under Alternative 3. [4]
  25. Euclid/5th Street HAWK pedestrian crossing. [3]
  26. Euclid/2nd Street HAWK pedestrian crossing. [3]
  27. Undertake efforts to design and implement multi-modal streetscape designs and neighborhood buffer treatments for the following streets providing access to the UA regional activity center:
     a. Highland Avenue from Broadway to Sixth Street. [1]
     b. Mountain Avenue from Speedway to Grant Road. [1]
     c. Speedway Boulevard. [1]
     d. Park Avenue. [1]
     e. Euclid Avenue. [1]
     f. Campbell Avenue. [1]
     g. Sixth Street. [1]
     h. University Boulevard. [1]

- **TDM Measures, Policies and Goals**

1. Decrease the overall number of cars on campus by a percentage basis compared to the increasing population with the exception of needing to serve the Hospital and Clinics at the current ratio as they grow. This will be accomplished by:
   a. Increase in Sun Tran service. [8]
   b. An increase in ride sharing. [8]
   c. Higher utilization of bicycle facilities. [8]
2. More delineation of bicycle routes to reduce conflict between pedestrians and wheeled vehicles. [8]
3. Standard pedestrian amenities, such as seating drinking fountains, night lighting and defensible space. [8]
4. Reduced vehicular penetration of campus. [8]
5. Traffic calming devices at most points of vehicular/pedestrian overlap (conflict) within the campus.[8]
6. Raised pedestrian crosswalks at locations where the primary pedestrian system crosses the campus roadway system. [8]
7. Redistribution of pedestrian space versus automobile space on all campus streets. [8]
8. Narrowing roadways and widening sidewalks on typical cross sections of mixed use corridors. [8]
9. A bicycle path and lane system comprising 7.4 miles of route within the campus, both on street and off street paths with some segments of multi use paths. [8]
10. Addition of smaller bicycle parking areas along the bicycle route system where space is available away from main pedestrian areas to reduce conflicts between the modes. [8]
11. Raised pedestrian crossings where they cross bicycle traffic to act as a calming device for bicycle traffic. [8]
12. Support the continued development of alternate modes of transportation facilities throughout the University Area, including the expansion of existing transit, bicycle, and pedestrian access to the UA regional activity center. [1]
13. Encourage the University to continue to support the development and utilization of alternate modes of transportation through rideshare incentives, SunTran bus pass program, further restriction on parking, improved bicycle facilities, implementation of proposed campus shuttle system. [1]
14. Provide more convenient transit service that meet needs of those who are dependent on public transportation for their mobility needs and those who can choose between driving and taking public transit. [4]
15. Improve inter-modal connections and access to transit service for a variety of users, including pedestrians, as well as those who rely on park-and-ride services. [4]
16. Reduce transit travel times so that they are more competitive with auto travel times. [4]
17. To help mitigate future traffic congestion and reduce necessary additional street/highway capacity, increase transit ridership by those who can choose between driving and taking public transportation. [4]
18. Pursue necessary local, state, and federal funding to support transit improvements. [4]
19. Improve the overall image of public transit through improved maintenance, innovative marketing strategies, and the use of modern equipment and facilities. [4]
20. Clarify campus navigation through clear pedestrian and bike paths. [8]
21. Provide attractive, shaded and well lit paths. [8]
22. Create a compact, walkable and pedestrian oriented campus. [8]
23. To create and maintain a balanced multi-modal transportation system that provides choices among all modes, reduces reliance on any single mode and takes advantage of the inherent benefits of each mode. [8]
24. Create a pedestrian, transit and bicycle-oriented circulation system on campus while maintaining access for emergency and service vehicles. [8]
25. Encourage and endorse the University area land use decisions that will better support the transit, bicycle, and pedestrian systems, and improve the quality of life. [8]
26. Develop off-campus park and ride lots and the supporting shuttle system to serve the University campus community. [8]
27. Provide transit passes to all University populations at a user cost far below that of the current annual pass cost. [8]
28. Revamp the route structures of the campus shuttle system, beginning the transition from loops to a radial route configuration. [8]
29. Serve off-campus park and ride lots with high frequency transit service into the campus. [8]
30. Traffic calming in adjacent neighborhoods. [8]
31. Revise street cross sections to shift balance in favor of other modes of transportation rather than automobiles to better serve pedestrians and cyclists and to slow the automobile traffic. [8]
32. To reach 800 miles of roadway bikeways by the year 2010. [5]
33. Engineer by planning, designing, constructing and maintaining bicycle facilities that meet or exceed standards and guidelines. [5]
34. Encourage the increased use of bicycles for transportation and recreation. [5]
35. Promote development and design of pedestrian facilities that are direct, safe, comfortable, interesting and provide continuity. [7]
36. Promote the enhancement, improvement and maintenance of the regional pedestrian system. [6]
37. Identify and secure funding sources to implement pedestrian programs and projects. [6]

CENTRALIZE UA POPULATION

- **Projects**
  1. 2nd Street: Residence hall additions with pedestrian path. [8]
  2. Between First Street and Second Street near Campbell Avenue: Infill residential units. [8]
  3. Former TUSD site: New graduate and married student housing between Park Avenue and Fremont Avenue north of Broadway Boulevard and south of Eighth Street. [8]
- **TDM Measures, Policies and Goals**
  1. Encourage the University to provide for student housing needs and related services within the boundaries of the campus planning area. [1]
  2. Encourage more on campus and near campus housing so pedestrian and bicycle accessibility can be maximized. [7]
  3. Decrease the overall number of cars on campus by a percentage basis compared to the increasing population with the exception of needing to serve the Hospital and Clinics at the current ratio as they grow. This will be accomplished by:
     a. On campus housing. [8]

SPREAD TRAVEL DEMAND

- **TDM Measures, Policies and Goals**
  1. Revised class schedule shifting the starting time by 20-30 minutes from the current on-hour schedule for both the University and Tucson High School. [7]
  2. Flexible work hours for non-academic staff. [7]
  3. Longer hours of operation for the University including more evening classes. [7]
  4. Examine possible modifications to the University work and class schedules that could provide positive impact to the community circulation system. [8]

DECREASE UA TRIPS

- **TDM Measures, Policies and Goals**
  1. Telecommuting options for students, faculty and staff. [7]

INCREASE ROADWAY CAPACITY

- **Projects**
  1. Speedway/Euclid intersection: add turn lanes to improve capacity. [2]

Sources:

1. *University Area Plan,* May 1989.
2. Pima Association of Governments, *2030 Regional Transportation Plan,* Adopted June 29, 2006.
3. Pima Association of Governments, *5 Year Regional Transportation Improvement Program (TIP 2007-2011),* September 28, 2006, Plus Amendments.
4. Pima Association of Governments, *Transit Element of the 2030 Regional Transportation Plan, Technical Memorandum No. 3, Phase 3: Recommended Transit Service and Facility Improvements,* October 2003.
5. Pima Association of Governments, *Regional Plan for Bicycling,* July 2000.
6. Pima Association of Governments, *Regional Pedestrian Plan*, July 2000.
7. *University Area Circulation Study, February 1997.*
8. *University of Arizona Comprehensive Campus Plan, June 2003.*

3. EXISTING AND FUTURE CONDITIONS

THE UNIVERSITY OF ARIZONA COMMUNITY POPULATION

Understanding the characteristics and size of the UA community is a key element in determining the types of potential travel demand management (TDM) strategies and other improvements to address parking and congestion issues in the UA area. It is most important to understand the travel demand and mode choice characteristics of the various groups that make up the UA community and that are most likely to travel to the UA on a regular daily basis during the peak travel periods of the day. Employees that only come to campus for major sporting events or do not work at a site located within the study area are not considered a key element of the UA community for the purposes of this study.

Data from the spring semester 2007 UA enrollment and employment records were provided by the University. After eliminating ancillary employees (part time employees, typically working major sporting events and other activities) and all student employees, the total University population for the purposes of this study was estimated at 47,815. Data for the existing condition and the year 2010 are provided in Exhibit 3-1. Forecast data are taken from the *Space Needs Analysis for the Campus Master Plan,* May 2002. **It should be noted that while the travel forecasts developed for this study were based on a student enrollment limited to 40,000, the current University administration is committed to "smart growth" for the university community, which does not limit enrollment to the 40,000 student level.**

The data contained in Exhibit 3-1 differs slightly for the data contained in The *University of Arizona 2006-2007 Fact Book,* which indicates a total head count population of students to be 36,805 and employees (excluding student employees) to be 11,520. These data differ primarily because of the time during the year that the data are prepared and the exclusion of ancillary employees from the study database.

Exhibit 3-1
ESTIMATED UNIVERSITY POPULATION FOR THIS STUDY

	2007 Spring Semester [1]	Percent of Total Population	Estimated Year 2010	Percent Increase
Total Students	34,116	71.3%	40,000 [2]	17
Off-Campus	28,725	60.0%	32,900 [2]	15
On-Campus	5,391	11.2%	7,100 [2]	32
UA Employees	10,647	22.3%	12,500 [3]	17
UMC Employees	3,052 [4]	6.4%	3,600 [3]	18
Total Population	**47,815**	**100.0%**	**56,100**	**17**

1. Source: UA Student and Employee Address Databases, Spring Semester 2007. Employee data excludes all student employees, ancillary employees, and employees that do not work on the main UA campus.
2. *Space Needs Analysis for the Campus Master Plan,* May 2002.
3. Assumes the same growth rate as that for Students from 2006-2007 to 2010.
4. Average based on PAG TRP 2006 and 2007 data indicating 2,890 and 3,214 employees, respectively.

UMC employees are not reported as UA employees and are not included in the *Fact Book* figures. Based on UMC employment figures provided by UMC through the PAG Travel Reduction Program, it is estimated that there were 3,052 UMC employees for the 2006-2007 year.

From a transportation perspective, there are four separate UA community groups. These are:

- On-campus students
- Off-campus students
- UA Employees
- UMC Employees

The following group characteristics have a direct impact on the travel demand generated by each group and the potential effectiveness of demand management options applied to each group:

- Number of individuals in each group.
- Existing mode choice for trips to the UA by members of the group.
- Residential distance from campus.

The assessment of these characteristics for each UA community group is provided later in this document.

SOURCES OF TRAVEL RELATED DATA FOR EACH UA COMMUNITY GROUP

Four primary sources of recent travel related data were available. Not all sources of data applied to each UA community group, but sufficient data were available to develop the travel related information needed for this study. These sources of data were the following:

- **U-Pass Student Survey Conducted for Sun Tran** – This survey of 422 UA students was conducted in March 2007. The survey was specifically designed to assess student knowledge and use of the subsidized student Sun Tran bus pass, U-Pass. Three questions included in the survey were specifically helpful for this study:
  - Do you live on or off campus?
  - How do you normally get to and from class from where you live?
  - How far from campus to you live?

  The complete data from the survey was acquired for this study. Review of the data determined that there were 409 surveys with sufficient information to be useful. Of the 409 surveys, 91 were from students living on-campus, and 318 were form off-campus students.

- **Pima Association of Governments (PAG) Travel Reduction Program (TRP) Employee Survey 2005** – The PAG TRP survey of major employers contains detailed work-trip travel related data regarding mode choice, travel distance and travel time for the home-to-work trip. The 2005 PAG survey included both UA and UMC employees. The complete survey data were provided by PAG for this study and included the following:
  - 6,947 UA employee surveys representing a 73.1percent response rate.
  - 2,650 UMC employee surveys representing a 94.9 percent response rate.

- **UA employee and student parking permit and bus pass data for the 2006-2007 academic year** – These data were provided by the UA Parking and Transportation Services for the employees and students that purchase parking permits and/or bus passes.

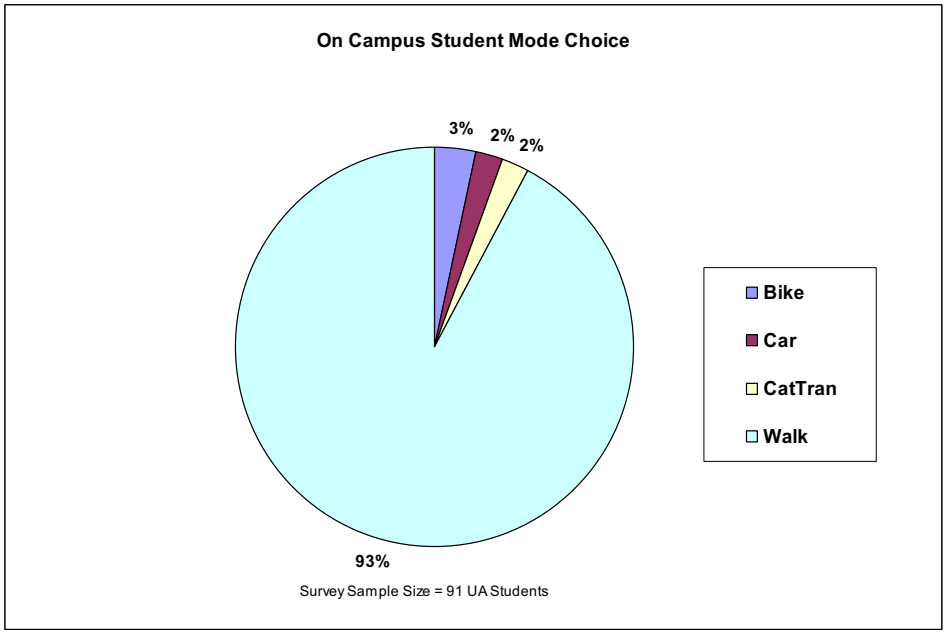
- **UA employee and student administrative database** – These data, provided by UA Campus Facilities Planning, included information on employee and student residential address (all names were stripped from the data provided), employee type, student type, and student class. These data were merged with the employee and student parking permit and bus pass database into a single database providing information for all UA employees and students.

EXISTING STUDENT MODE CHOICE AND PERMIT DATA

On-Campus Students

A total of 5,391 students lived on-campus during the 2007 spring semester. The estimated mode choice distribution from the U-Pass survey of 91 on-campus students is provided in Exhibit 2-2. The vast majority (93%) of on-campus students walk to class.

Exhibit 3-2
ON-CAMPUS STUDENT MODE CHOICE



Source: Sun Tran U-Pass Survey, March 2007.

Data on the type of parking permits and bus passes purchased by on-campus students is provided in Exhibit 2-3.

- 1,878 (35%) on-campus students purchase a parking permit of some type.
- 1,188 (22%) on-campus students purchase a garage parking permit.
- Only about three percent of on-campus students purchase a bus pass.

Exhibit 3-3
ON-CAMPUS STUDENT PARKING
PERMIT AND BUS PASS DATA

	On Campus Students	
Permit Type	Number	%
No Permit	3,184	59.1%
Garage	1,188	22.0%
Lot Specific	28	0.5%
Zone 1	294	5.5%
South of Sixth	363	6.7%
Street Specific	5	0.1%
Motorcycle	14	0.3%
Disabled Lot	2	0.0%
Disabled Garage	5	0.1%
Stored Value Bus Pass	23	0.4%
Academic/Semester Bus Pass	133	2.5%
Annual Bus Pass	13	0.2%
Bicycle	139	2.6%
Cat Tran Pass		0.0%
Total	5,391	100.0%

Source: UA Parking and Transportation Services database, 2006-2007 academic year.

Off-Campus Students

An illustration of the residential location for off-campus students is provided in Exhibit 3-4. A summary table indicating the number of students living within a specified distance from campus is provided in Exhibit 3-5. ArcView was used to establish distance rings from the boundary of the study area, and this was used to estimate the number of students living in each distance ring for the address matched data. The review of these data provides the following information:

- 28,725 total student records for off-campus students.
- 16,077 records were address matched to Pima County's Geographical Information System (GIS) database, providing a 56% match rate.
- 66 percent of the students live within five miles of campus.
- 29 percent live within one mile of campus.
- The spatial representation of off-campus student residential location indicates a high concentration of students surrounding the campus area, and then extending primarily to the north and east of campus.

Exhibit 3-4
OFF-CAMPUS STUDENT RESIDENTIAL LOCATION

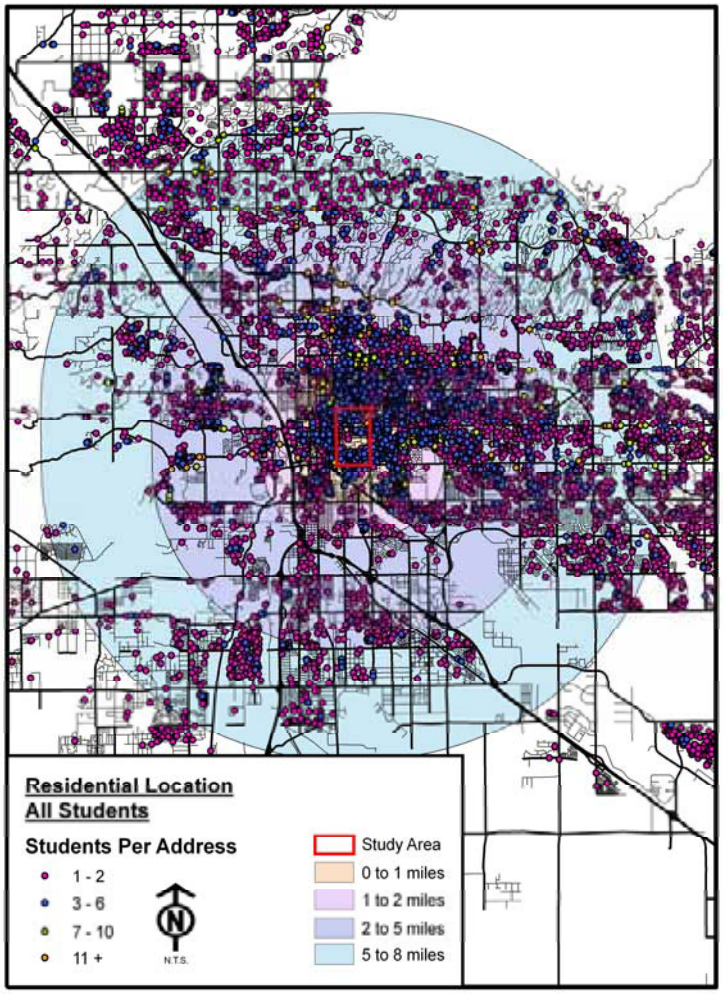


Exhibit 3-5
ADDRESS MATCHED RESIDENTIAL LOCATION AND DISTANCE FROM CAMPUS FOR OFF-CAMPUS STUDENTS

Distance From Campus (Miles)	Address Match	
	Number	%
0 to 1	4,699	29.2%
1 to 2	1,884	11.7%
2 to 5	3,978	24.7%
5 to 8	2,614	16.3%
8+	2,902	18.1%
Total	**16,077**	**100.0%**

Exhibit 3-6 provides a comparison of the proportion of off-campus students living a specified distance from campus for data from two independent sources, the U-Pass Survey, and the address match from the UA database. A statistical comparison of the distributions using the Chi Square Goodness of Fit test indicates that these distributions are the same at a 95 percent confidence level. Because the address match data represents a much larger sample, the distribution from the address match data was used to estimate the total number of students by distance from campus.

Exhibit 3-6
PERCENT OF STUDENTS BY DISTANCE FROM CAMPUS

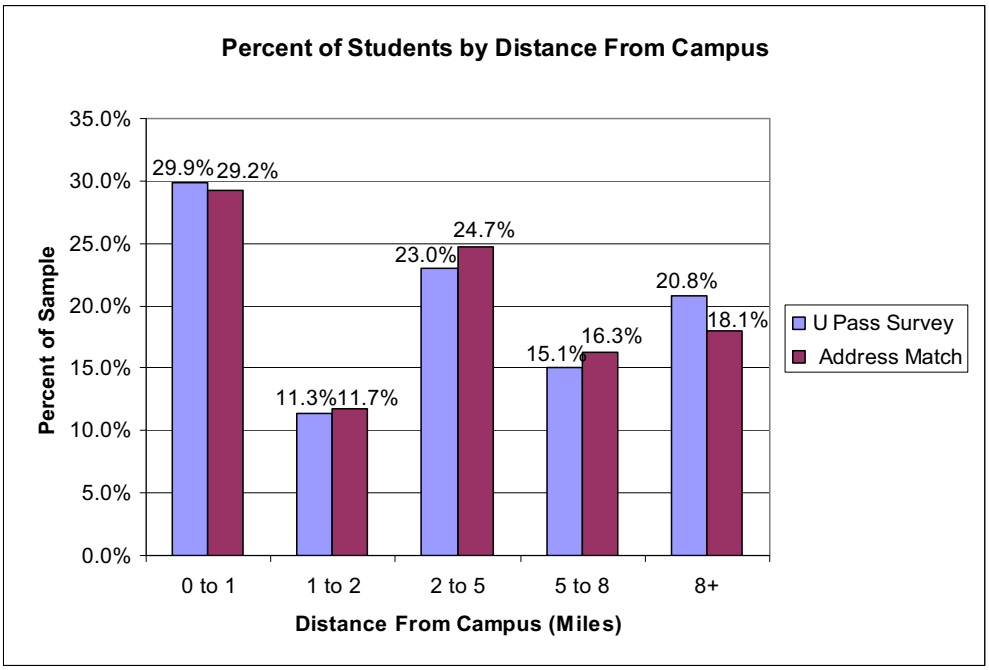


Exhibit 3-7 provides the overall mode choice distribution for off-campus students provided by the U-Pass Survey. The U-Pass Survey data was also used to develop the mode choice distributions for off-campus students by distance from campus shown in Exhibit 3-8. A statistical analysis of the mode choice distribution by distance from campus indicated that mode choice for off-campus students is dependent on distance with a very high confidence level (Chi Square Test of Independence, 99.5% confidence level). As distance increases, auto mode choice increases while walk and bicycle mode choices decrease. Sun Tran bus mode choice percentage is highest in the two to five-mile distance from campus.

Exhibit 3-7
OFF-CAMPUS STUDENT MODE CHOICE

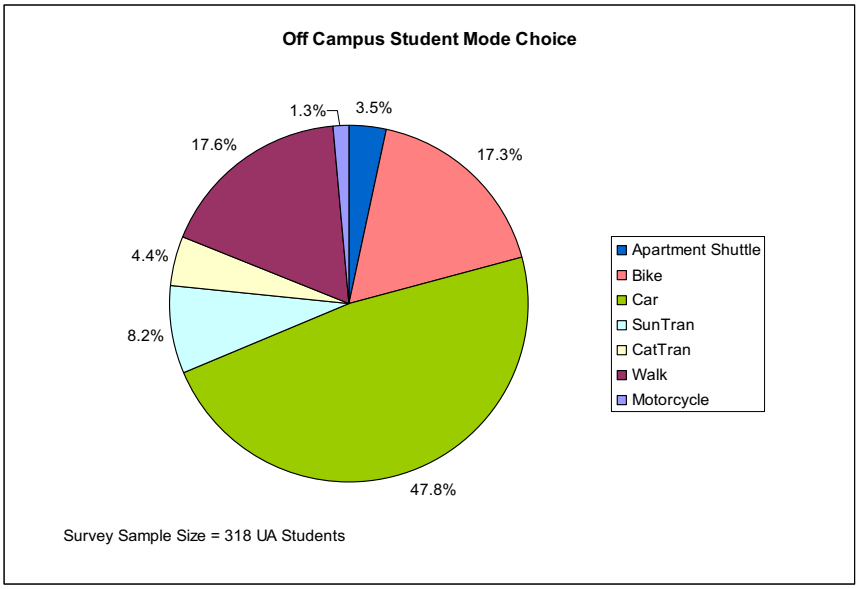


Exhibit 3-8
OFF-CAMPUS STUDENT MODE CHOICE VERSUS DISTANCE FROM CAMPUS

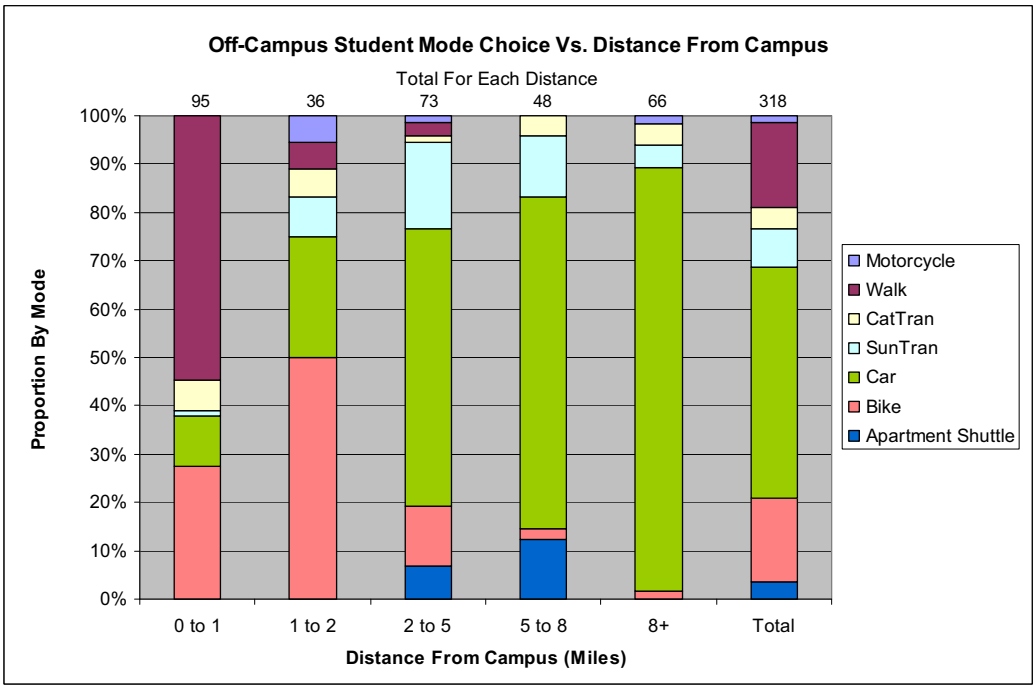


Exhibit 3-9 provides a summary of the number of off-campus students purchasing parking permits and bus passes from the UA database. A comparison of these data with the mode choice data indicates the following:

- 47 percent travel to class by auto.
- 32 percent (9,269) buy a parking permit.
- 1.6 students arrive by auto per parking permit. The levels of carpooling, parking in UA adjacent neighborhoods, or paying daily for parking by off-campus students are unknown.
- Eight percent ride Sun Tran, but only five percent buy a bus pass.
- 60 percent of off-campus students do not have a permit of any type.

Exhibit 3-9
OFF-CAMPUS STUDENT PARKING PERMIT AND BUS PASS DATA

	Off Campus Students	
Permit Type	Number	%
No Permit	17,222	60.0%
Garage	4,534	15.8%
Lot Specific	1,032	3.6%
Zone 1	2,522	8.8%
South of Sixth	1,160	4.0%
Street Specific	21	0.1%
Motorcycle	256	0.9%
Disabled Lot	56	0.2%
Disabled Garage	50	0.2%
Stored Value Bus Pass	16	0.1%
Academic/Semester Bus Pass	1,032	3.6%
Annual Bus Pass	387	1.3%
Bicycle	221	0.8%
Cat Tran Pass	216	0.8%
Total	28,725	100.0%

Source: UA Parking and Transportation Services database, 2006-2007.

The mode choice estimates by distance from campus from the U-Pass survey were applied to the total population of off-campus students. The number of students in each distance category is based on the proportions from the UA address match data provided in Exhibit 3-5. The results of the distributions of the number of students by mode and distance from campus are provided in Exhibit 3-10. The overall distribution by mode differs slightly from that shown in Exhibit 3-7 because it is based on the sum of the number of students across the distance parameter.

Exhibit 3-11 provides the distribution of the number of off-campus students by permit type and distance from campus. These data along with the data in Exhibit 3-9 provide valuable insight into the size and location of potential target populations for TDM measures.

- Nearly as many students arrive by car from two to five miles away (4,089) as from eight-plus miles (4,558).

- The students living two to five-miles away represent a large and potentially the best target for reducing auto use for trips to campus, as this group also demonstrates the highest percent of Sun Tran use.
- Students living five to eight miles and eight-plus miles from campus are also a potential target to reduce auto use, but these groups may be more difficult to move to alternative modes.
- 1.6 students arrive by car per parking permit sold. This ratio varies directly with distance from campus from 0.7 to 2.0. For students living in the zero to one mile and one to two mile groups the ratio of auto use to parking permits is less than one, suggesting that permits purchased do not always translate into the use of a car to get to campus. For students living farther away the ratio is greater than one, suggesting carpooling, students parking in neighborhoods, or paying daily parking fees.
- 55 percent of off-campus students with parking permits live within five miles of campus.
- 43 percent of students living within five miles of campus arrive by auto.

Exhibit 3-10
ESTIMATED NUMBER OF OFF-CAMPUS STUDENTS
BY MODE AND DISTANCE FROM CAMPUS

	Distance from Campus in Miles						
Mode Choice	0 to 1	1 to 2	2 to 5	5 to 8	8+	Total	%
Car	884	841	4,089	3,211	4,558	13,583	47.3%
Bicycle	2,298	1,682	876	97	79	5,032	17.5%
Walk	4,596	187	195	0	0	4,977	17.3%
Sun Tran	88	280	1,266	584	236	2,454	8.5%
CatTran	530	187	97	195	236	1,245	4.3%
Apartment Shuttle	0	0	487	584	0	1,071	3.7%
Motorcycle	0	187	97	0	79	363	1.3%
Total	8,396	3,364	7,108	4,670	5,187	28,725	100.0%
%	29.2%	11.7%	24.7%	16.3%	18.1%	100.0%	

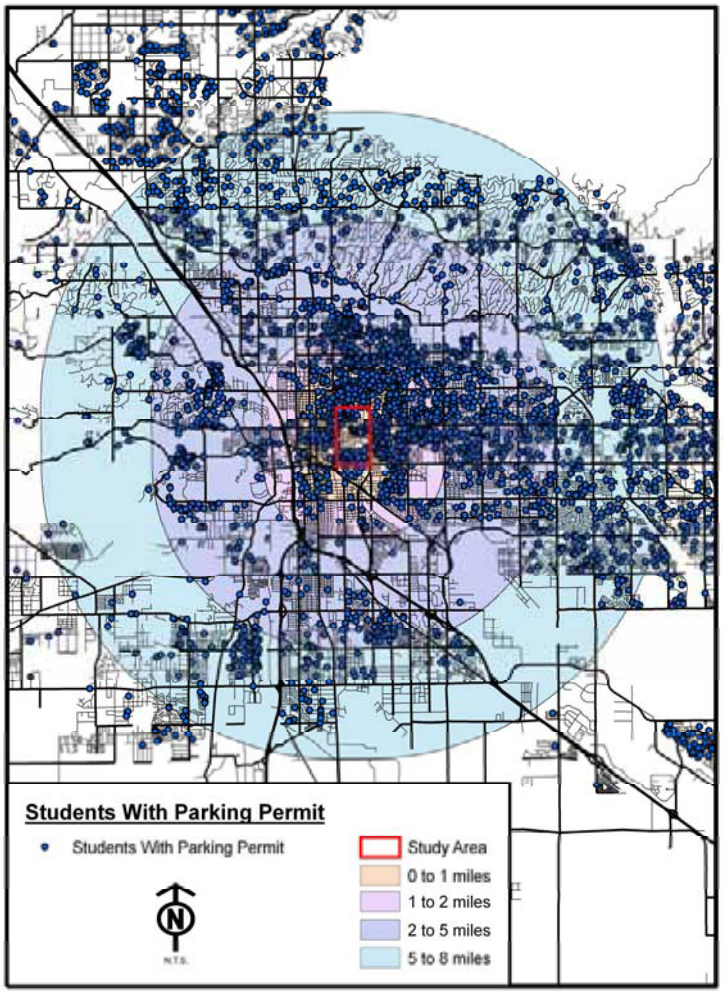
Exhibit 3-11
ESTIMATED NUMBER OF OFF-CAMPUS STUDENTS
BY PERMIT TYPE AND DISTANCE FROM CAMPUS

	Distance from Campus in Miles						
Permit Type	0 to 1	1 to 2	2 to 5	5 to 8	8+	Total	%
No Permit	6,608	1,957	3,673	2,407	2,641	17,285	60.2%
Parking (all types)	1,263	993	2,830	1,957	2,270	9,314	32.4%
Sun Tran (all types)	265	228	504	244	188	1,429	5.0%
Motorcycle	82	33	68	33	41	256	0.9%
Bicycle	130	38	21	14	21	224	0.8%
Cat Tran Pass	48	116	11	16	26	217	0.8%
Total	8,396	3,364	7,108	4,670	5,187	28,725	100.0%

Exhibit 3-12 illustrates the residential location distribution of off-campus students that purchase parking permits of any type. These data and the data provided in previous exhibits suggest the following:

- There is a substantial potential to reduce auto travel to campus by focusing TDMs on the student group living within five miles of campus, particularly the group living in the two to five-mile range.
- The spatial orientation of residential location for students with parking permits is similar to that exhibited for students in general, with a high concentration to the north and east of campus.
- Since students living within two miles of campus show a lower level of auto use per parking permit purchased it may be easier for these students to do without a parking permit.
- Examples of TDM options for consideration that are directed at off-campus students include the following:
  - Provision of a neighborhood transit circulator, particularly to the north and east of campus, extending out to approximately five miles from campus.
  - Establishing a UA transit shuttle system along existing bus routes, using small buses that operate at a high frequency of service, and with stops on campus.
  - The application of a universal bus pass given to all students.
  - Pay per use parking only, no parking permits.
  - Student rideshare matching.
  - Distance differential parking pass fee (closer in pay more).
  - Increased parking permit cost.

Exhibit 3-12
RESIDENTIAL LOCATION FOR OFF-CAMPUS STUDENTS WITH PARKING PERMITS



EXISTING UA AND UMC EMPLOYEE RESIDENTIAL LOCATION, MODE CHOICE, AND PERMIT DATA

An illustration of the residential location for UA employees is provided in Exhibit 3-13. ArcView was used to establish distance rings from the boundary of the study area, and this was used to estimate the number of UA employees living in each distance ring from the address matched data. An address database for UMC employees was not available for this study, so the PAG TRP Survey data on residential distance from campus was used for UMC employees.

Exhibit 3-13
UA EMPLOYEE RESIDENTIAL LOCATION

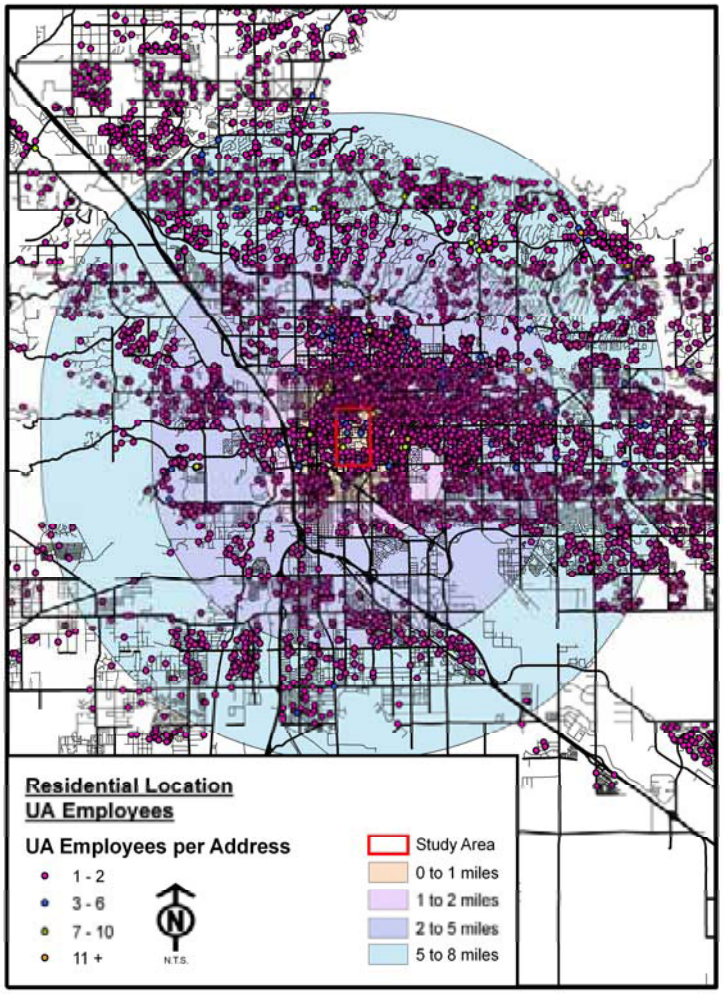
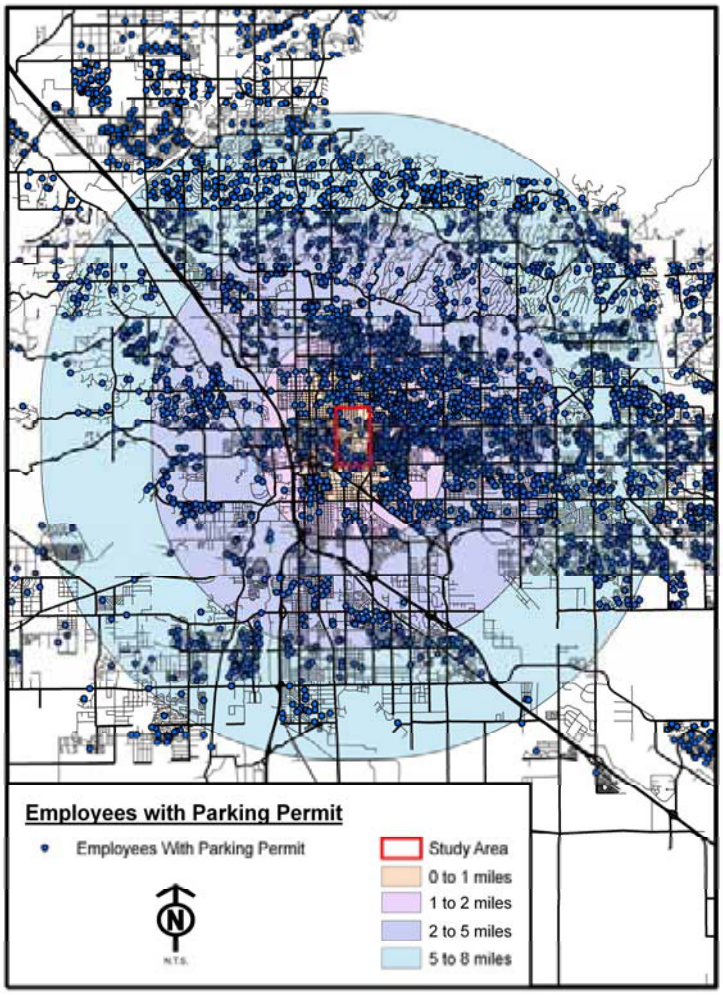


Exhibit 3-14 illustrates the residential location distribution of UA employees that purchase parking permits of any type. These data and the data provided in previous exhibits suggest the following:

- 44 percent of employees with parking permits live within five miles of campus.
- 57 percent of employees living within five miles of campus arrive by auto.
- There is a substantial potential to reduce auto travel to campus by focusing TDMs on the UA employee group living within five miles of campus, particularly the group living in the two to five-mile range.
- The spatial orientation of residential location for employees with parking permits is similar to that exhibited for employees and off-campus students in general, with a high concentration to the north and east of campus.
- Example TDM options for consideration that are directed at UA employees are similar to those indicated for off-campus students, and include the following:

- Provision of a neighborhood transit circulator, particularly to the north and east of campus, extending out to approximately five miles from campus.
- Establishing a UA transit shuttle system along existing bus routes, using small buses that operate at a high frequency of service, and with stops on campus.
- The application of a universal bus pass given to all employees.
- Pay per use parking only, no parking permits.
- Distance differential parking pass fee (closer in pay more).
- Increased parking permit cost.

Exhibit 3-14
RESIDENTIAL LOCATION FOR UA
EMPLOYEES WITH PARKING PERMITS



A summary table indicating the number of UA and UMC employees living within a specified distance from campus is provided in Exhibit 3-15. The review of these data provides the following information:

- 10,647 total UA employee records included in the address database.
- 7,447 address matches for a 76 percent match rate.

- 53 percent of UA employees and 22 percent of UMC employees live within five miles of campus.
- 18 percent of UA employees and 2 percent of UMC employees live within one mile of campus.
- The spatial representation of UA employee residential location indicates a high concentration of employees surrounding the campus area, and then extending primarily to the north and east of campus. This is similar to the spatial distribution of off-campus students.
- The residential location distributions of UA and UMC employees are significantly different statistically (Chi Square Goodness of Fit Test with a 95 percent confidence level). UMC employees live farther away from campus than UA employees with a much higher percent of UMC employees (63%) living eight-plus miles from campus than UA employees (24%).
- The difference in the residential distance from campus between the UA and UMC employees suggests that these two groups should be treated separately in this analysis.

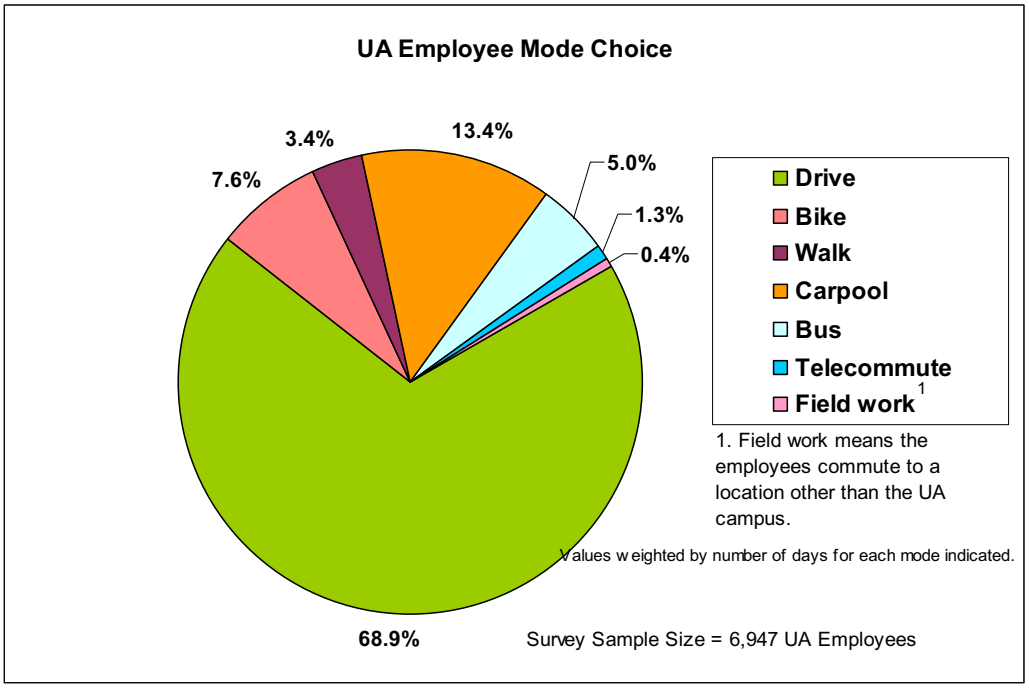
Exhibit 3-15
UA AND UMC EMPLOYEE RESIDENTIAL DISTANCE FROM CAMPUS

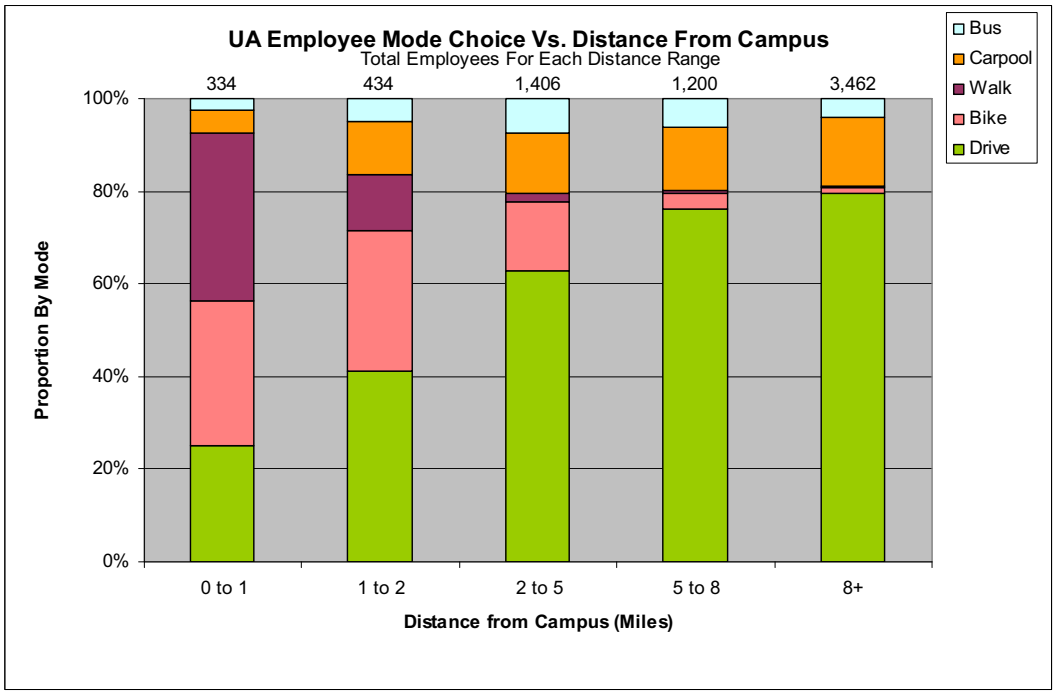
Distance From Campus (Miles)	UA Employee Address Match		UMC TRP Survey		Total	
	Number	%	Number	%	Number	%
0 to 1	1,929	18%	68	2%	1,996	15%
1 to 2	1,044	10%	113	4%	1,157	8%
2 to 5	2,612	25%	474	16%	3,086	23%
5 to 8	2,492	23%	468	15%	2,960	22%
8+	2,571	24%	1,929	63%	4,499	33%
Total	10,647	100.0%	3,052	100.0%	13,699	100.0%

Exhibit 3-16 shows UA employee mode choice overall and as a function of distance from campus. The mode choice distribution is dependent on distance from the UA (Chi Square Test for Independence, 95 percent Confidence Level). Exhibit 3-16 provides data on the number of UA employees purchasing various parking permits and bus passes. Comparison of the information in these exhibits indicates the following:

- 69 percent of UA employees drive to work, but only 48 percent buy a parking permit.
- 5 percent ride a Sun Tran bus, while 7 percent buy a bus pass.
- 13 percent carpool
- UA employees have an overall auto occupancy of 1.2.
- 8 percent ride a bicycle to campus, but only 0.2 percent register their bicycles.
- 43 percent do not buy a permit of any type.
- Mode choice for UA employees is dependent on distance from campus (Chi Square Test of Independence, 95 percent confidence level).
- 1.4 UA employees drive to campus per parking permit purchased.

Exhibit 3-16
UA EMPLOYEE MODE CHOICE





Source: PAG TRP Survey data, 2005.

Exhibit 3-17
NUMBER OF UA EMPLOYEES PURCHASING PARKING PERMITS AND BUS PASSES

	UA Employees	
Permit Type	Number	%
No Permit	4,590	43.1%
Garage	2,777	26.1%
Lot Specific	492	4.6%
Zone 1	1,410	13.2%
South of Sixth	332	3.1%
Street Specific	15	0.1%
Motorcycle	80	0.8%
Disabled Lot	108	1.0%
Disabled Garage	82	0.8%
Stored Value Bus Pass	40	0.4%
Academic/Semester Bus Pass	254	2.4%
Annual Bus Pass	429	4.0%
Bicycle	20	0.2%
Cat Tran Pass	18	0.2%
Total	10,647	100.0%

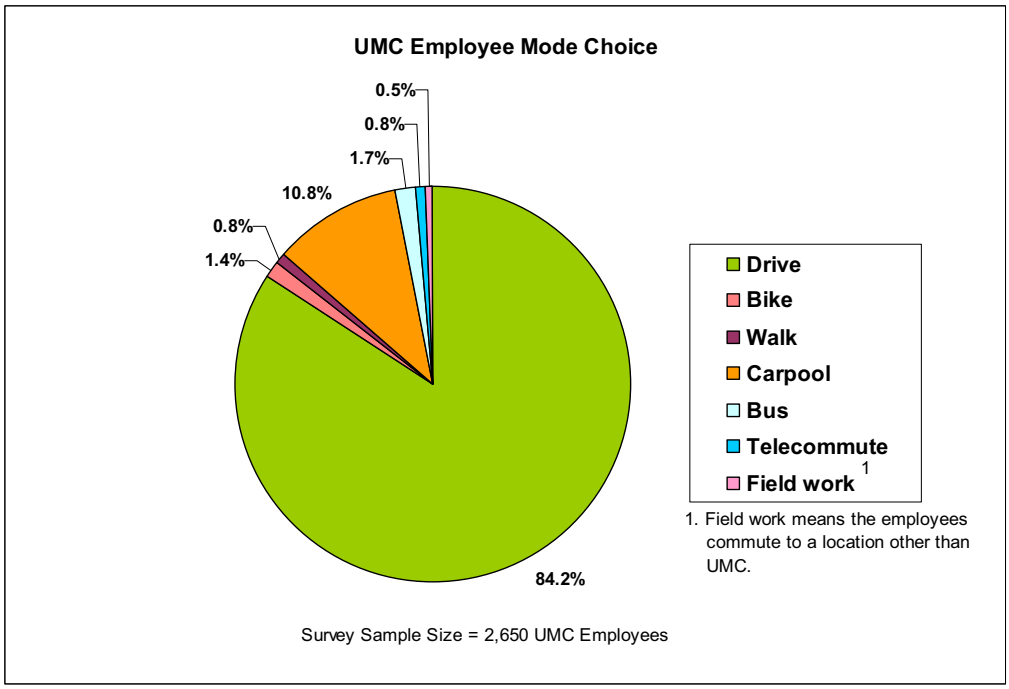
Source: UA Parking and Transportation Services database, 2006-2007.

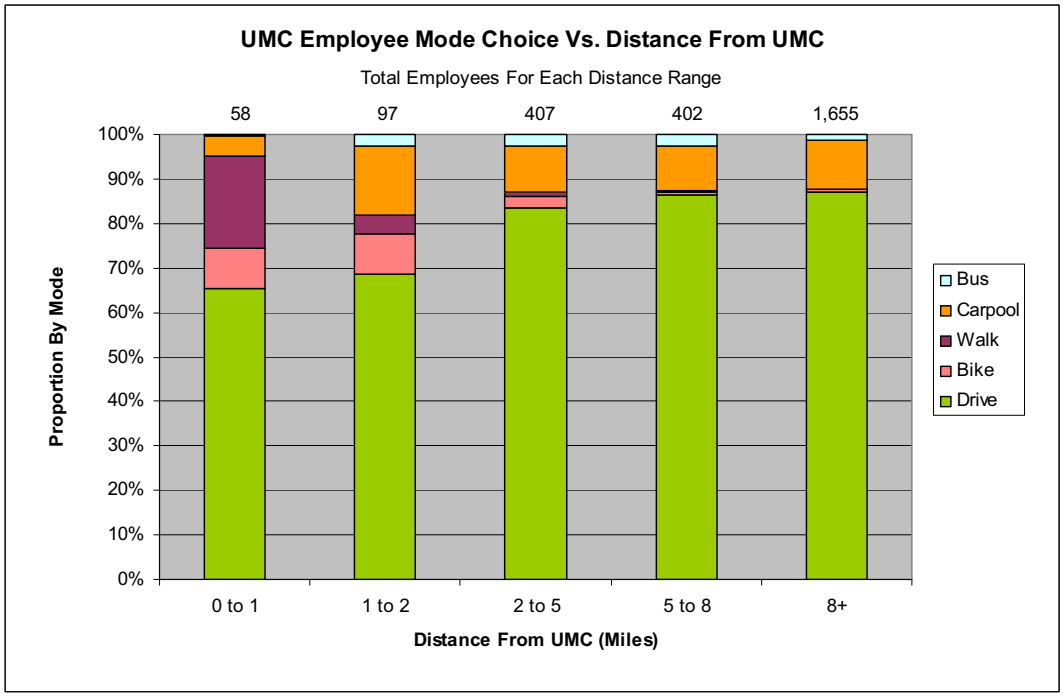
Exhibit 3-18 shows UMC employee mode choice overall and as a function of distance from campus. Comparison of the information in Exhibit 3-17 to data for UA employees indicates the following:

- The mode choice distribution of UMC employees is significantly different from that of UA employees (Chi Square with 95% confidence level).
- More UMC employees drive and fewer use all other modes than UA employees.
- 84 percent of UMC employees drive to work.
- 11 percent of UMC employees carpool.
- UMC employee overall auto occupancy is 1.1.
- 1.4 percent ride a bicycle to UMC.
- 1.7 percent take the bus.

The mode choice distribution for UMC employees is dependent on the distance from UMC (Chi Square Test for Independence, 95 percent Confidence Level). It should also be noted that parking is free for UMC employees, which may contribute to the higher levels of drive mode choice for this group.

Exhibit 3-18
UMC EMPLOYEE MODE CHOICE





Source: PAG TRP Survey data, 2005.

Estimated Overall UA and UMC Employee Mode Share by Distance from Campus

For the purpose of developing a mode share estimate of the total number of employees currently using each mode of travel as a function of distance from campus, the following assumptions and methods were used for this study.

- UA employees will be treated as a separate group.
  - The number of individuals in each distance group was estimated based on the combined total distribution from the address match data shown in Exhibit 3-15.
  - The mode share distribution for each distance group was based on the 2005 PAG TRP Survey results shown in Exhibit 3-16.
- UMC employees will be treated as a separate group.
  - The number of individuals in each distance group was based on the distribution from the 2005 PAG TRP Survey shown in Exhibit 3-15.
  - The mode share distribution for each distance group was based on the 2005 PAG TRP Survey results shown in Exhibit 3-18.

The estimated number of UA employees by mode and distance from campus is provided in Exhibit 3-19. The estimated number of employees by permit type and distance from campus is provided in Exhibit 3-20.

Exhibit 3-19
ESTIMATED NUMBER OF UA EMPLOYEES BY MODE AND DISTANCE FROM CAMPUS

	Distance from Campus in Miles						
Mode Choice	**0 to 1**	**1 to 2**	**2 to 5**	**5 to 8**	**8+**	**Total**	**%**
Drive	810	567	1,821	1,963	2,080	7,241	68.0%
Bike	510	209	218	41	18	997	9.4%
Walk	386	55	17	5	3	467	4.4%
Carpool	155	156	371	349	384	1,414	13.3%
Bus	67	57	185	133	86	528	5.0%
Total	1,929	1,044	2,612	2,492	2,571	10,647	100.0%
%	18.1%	9.8%	24.5%	23.4%	24.1%	100.0%	

Note that the above estimates exclude Telecommute and Field Work with a combined total of 1.7% of the mode share.

Exhibit 3-20
ESTIMATED NUMBER OF UA EMPLOYEES BY PERMIT TYPE AND DISTANCE FROM CAMPUS

	Distance from Campus in Miles						
Permit Type	**0 to 1**	**1 to 2**	**2 to 5**	**5 to 8**	**8+**	**Total**	**%**
No Permit	1,271	514	1,020	879	964	4,648	43.7%
Parking (all types)	525	396	1,305	1,454	1,476	5,157	48.4%
Sun Tran (all types)	93	109	264	145	109	721	6.8%
Motorcycle	18	9	19	14	21	80	0.8%
Bicycle	16	5	1	0	0	22	0.2%
Cat Tran Pass	6	10	3	0	0	19	0.2%
Total	**1,929**	**1,044**	**2,612**	**2,492**	**2,571**	**10,647**	**100.0%**

The estimated total number of UMC employees by mode and distance from UMC is provided in Exhibit 3-21. Comparison of these data with the data in Exhibit 2-19 indicated the following:

- UMC employees live farther from campus than UA employees.
- Only 21 percent of UMC employees live within five miles of campus compared to 52 percent of UA employees.
- 63 percent of UMC employees live 8+ miles from campus, compared to only 24 percent of UA employees.

Exhibit 3-21
ESTIMATED NUMBER OF UMC EMPLOYEES
BY MODE AND DISTANCE FROM UMC

	Distance from UMC in Miles						
Mode Choice	0 to 1	1 to 2	2 to 5	5 to 8	8+	Total	%
Drive	44	77	396	404	1,681	2,603	85.3%
Bike	6	10	12	4	11	43	1.4%
Walk	14	5	5	0	0	24	0.8%
Carpool	3	18	50	48	214	331	10.9%
Bus	0	3	12	12	23	51	1.7%
Total	68	113	474	468	1,929	3,052	100.0%
%	2.2%	3.7%	15.5%	15.3%	63.2%	100.0%	

TOTAL COMBINED STUDENT AND EMPLOYEE MODE CHOICE FOR 2007

The estimates of individuals by mode and distance from campus contained in Exhibits 3-10, 3-19, and 3-21 were combined to provide a total estimate of the number of the UA community by mode and distance from campus. These data are shown in Exhibit 3-22, and represent a means to determine the target populations for TDM measures. For the lack of available data, the auto occupancy for off-campus students was assumed to be equal to that of UA employees (1.2 persons per vehicle) for the purpose of estimating the total level of carpooling. The combined estimate of mode choice by distance from the study area is provided in Exhibit 3-23. Review of the mode choice estimates indicates the following:

- 59 percent of the total population of interest in this study lives within five miles of campus.
- 40 percent of the drive mode choice (8,556) lives within five miles of campus.
- 42,280 auto trips are made to and from campus by students and employees each day.
- 21,140 student and employee autos come to campus each day.
- 18,537 UA students and UA employees drive to campus each day, but only 16,848 permits are purchased, an overall drive/permit ratio of 1.1.
- Nine percent carpool, indicating that 59 percent arrive by auto.
- 14 percent ride a bicycle.
- 13 percent walk.
- Seven percent take a Sun Tran bus.
- Three percent use Cat Tran (some Cat Tran users drive to a remote parking lot first).

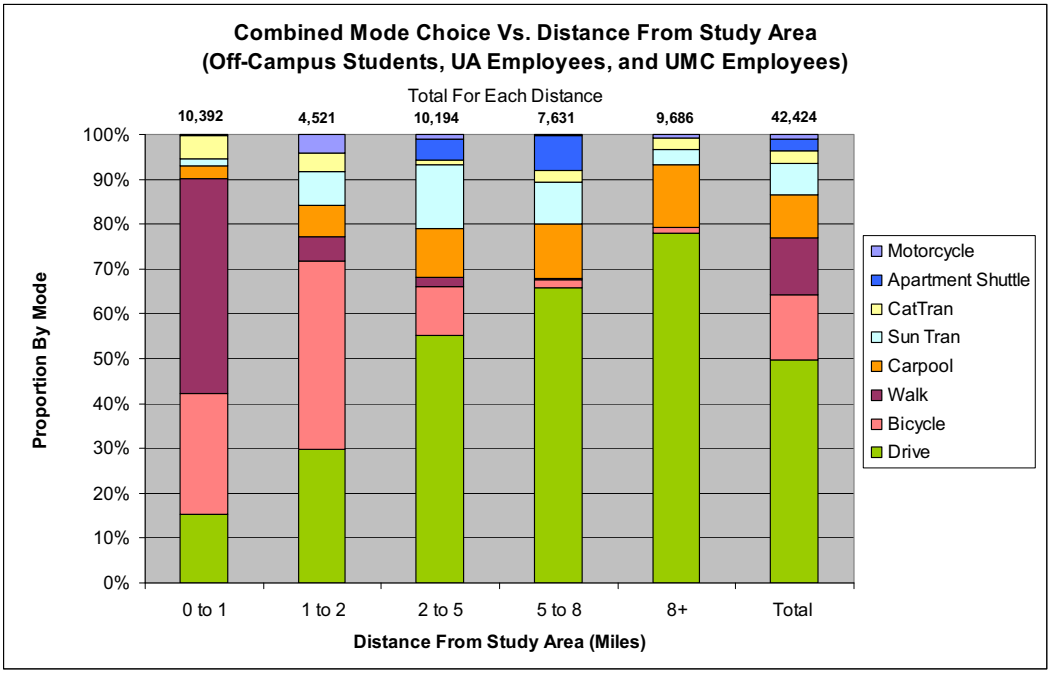
- 2.5 percent are estimated to use privately operated apartment shuttles. These are all students.
- One percent ride a motorcycle.
- Off-campus students make up 53 percent of the drive mode, UA employees 35 percent, and UMC employees 12 percent.

Exhibit 3-22
2007 ESTIMATED TOTAL NUMBER OF PERSONS
BY MODE AND DISTANCE FROM THE STUDY AREA

Mode Choice	Distance from Study Area in Miles						
	0 to 1	1 to 2	2 to 5	5 to 8	8+	Total	%
Drive	1,585	1,345	5,625	5,026	7,559	21,140	49.8%
Bicycle	2,805	1,902	1,106	142	107	6,062	14.3%
Walk	4,978	247	216	6	3	5,451	12.8%
Carpool	304	313	1,102	929	1,357	4,005	9.4%
Sun Tran	155	340	1,463	727	345	3,030	7.1%
CatTran	528	187	97	194	236	1,242	2.9%
Apartment Shuttle	0	0	487	582	0	1,069	2.5%
Motorcycle	35	187	97	26	79	424	1.0%
Total	**10,392**	**4,521**	**10,194**	**7,631**	**9,686**	**42,424**	**100.0%**
%	24.5%	10.7%	24.0%	18.0%	22.8%	100.0%	

Assumes auto occupancy of 1.2 for off-campus students.
Excludes all On-Campus Students
Motorcycle 0 to 1 and 5 to 8 mile numbers adjusted to provide overall 1.0% mode choice.

Exhibit 3-23
2007 ESTIMATED TOTAL MODE CHOICE VERSUS DISTANCE



YEAR 2010 TRAVEL DEMAND FORECAST BY MODE

The 2010 estimated mode choice and distance from campus values are based on the assumption that the overall distribution by distance from campus and mode remains the same as the existing condition. That is, nothing is done to change the status quo, except that an additional 1,688 students will be housed on-campus.[1] The 2010 forecast of the combined number of students, UA employees, and UMC employees by mode and distance from campus is provided in Exhibit 3-24. This combined forecast is based on the 2010 total UA population shown in Exhibit 3-1 and the existing distribution of employees and students by mode and distance from campus shown in Exhibit 3-22. Year 2010 mode choice by distance from campus is also presented graphically in Exhibit 3-25. A comparison of the year 2010 forecast and the estimates for the existing condition indicate the following:

- The number of estimated daily auto trips to and from campus is forecast to increase 15 percent from 42,280 to 48,816, or 6,536 auto trips to and from campus per day.
- The number of automobiles coming to campus is estimated to increase by **3,265** per day for students and employees.
- It is estimated that the year 2010 travel demand will increase AM peak-hour traffic by 556 vehicles to a total of 4,145 vehicles per hour.
- It is estimated that the year 2010 travel demand will increase the PM peak-hour traffic by 569 vehicles to a total of 4,248 vehicles per hour.
- The year 2010 travel demand forecast indicates that there will be a substantial portion (20 percent) of the UA population living within 5 miles of campus and driving to work.
- 30 percent of the UA population will live more than 5 miles from campus and drive to work.

It should be noted that while the forecast travel demand by mode for the university community is based on a student enrollment of 40,000, the procedure used to develop the forecast is completely scalable, and can be applied to estimate travel demand for higher levels of growth. This procedure can also be used to estimate the potential impacts of certain types of travel demand management strategies on auto travel, by estimating the size of the university community impacted. This latter point is demonstrated through a few examples provided in Chapter 4 of this document (see **Options to Reduce Automobile Use and Roadway Congestion,** page 4-1).

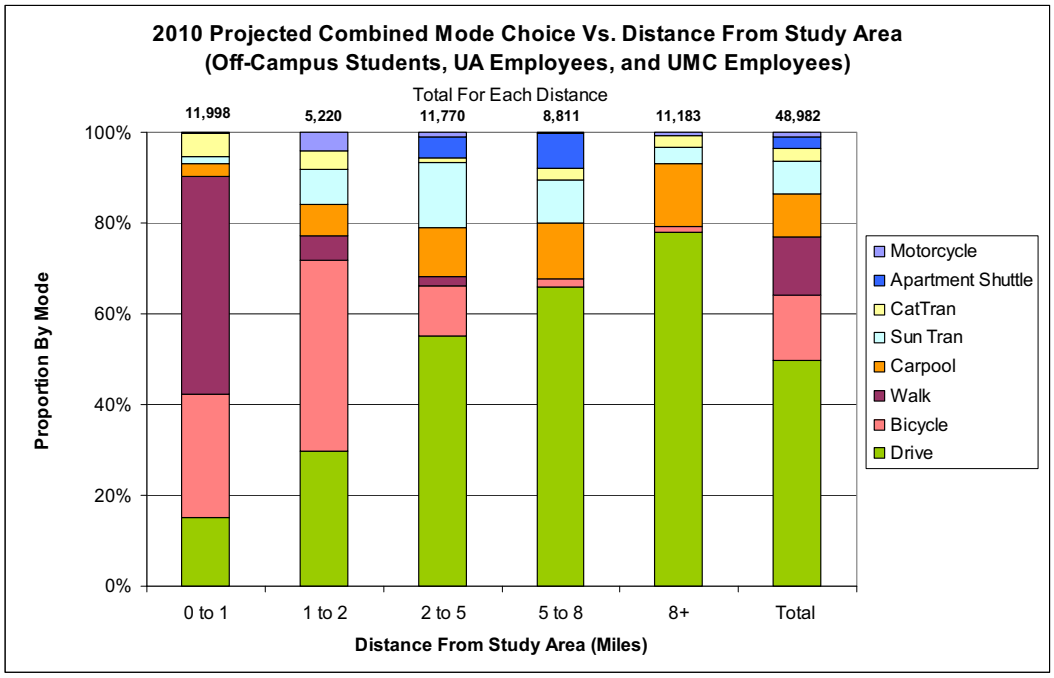
[1] This estimate is based on forecasts and development recommendations contained in the *Space Needs Analysis for the Campus Master Plan,* May 2002.

Exhibit 3-24
YEAR 2010 NUMBER OF PERSONS BY MODE AND DISTANCE FROM STUDY AREA

Mode Choice	Distance from Campus in Miles						
	0 to 1	1 to 2	2 to 5	5 to 8	8+	Total	%
Drive	1,830	1,553	6,494	5,803	8,727	24,408	49.8%
Bicycle	3,238	2,195	1,278	164	124	6,999	14.3%
Walk	5,748	285	250	7	4	6,294	12.8%
Carpool	351	362	1,272	1,073	1,567	4,625	9.4%
Sun Tran	179	392	1,689	839	399	3,498	7.1%
CatTran	610	216	112	224	272	1,434	2.9%
Apartment Shuttle	0	0	562	672	0	1,234	2.5%
Motorcycle	41	216	112	30	91	490	1.0%
Total	**11,998**	**5,220**	**11,770**	**8,811**	**11,183**	**48,982**	**100.0%**
%	24.5%	10.7%	24.0%	18.0%	22.8%	100.0%	

Assumes auto occupancy of 1.2 for off-campus students.
Excludes all On-Campus Students
Motorcycle 0 to 1 and 5 to 8 mile numbers adjusted to provide overall 1.0% mode choice.

Exhibit 3-25
YEAR 2010 MODE CHOICE BY DISTANCE FROM STUDY AREA



EXISTING TRANSIT SERVICE SERVING THE UNIVERSITY

The University area is currently served by Sun Tran, a fixed-route bus system operated by the City of Tucson, CatTran, a shuttle service operated by the University, and complementary paratransit service also operated by the City. A third City operation, TICET, a local downtown circulator, connects at the downtown Ronstadt Transit Center with many of the SunTran routes that serve the University. The Ronstadt Center is the closest transit center to the UA, and is also served by other SunTran routes connecting throughout the metropolitan Tucson area. Pursuant to the Regional Transportation Plan enacted by area voters in 2006, a number of public transportation improvements directly impacting the University area, including a new modern streetcar service, are programmed along with more evening and weekend service. Private shuttle service to the UA is also provided by several student apartment communities.

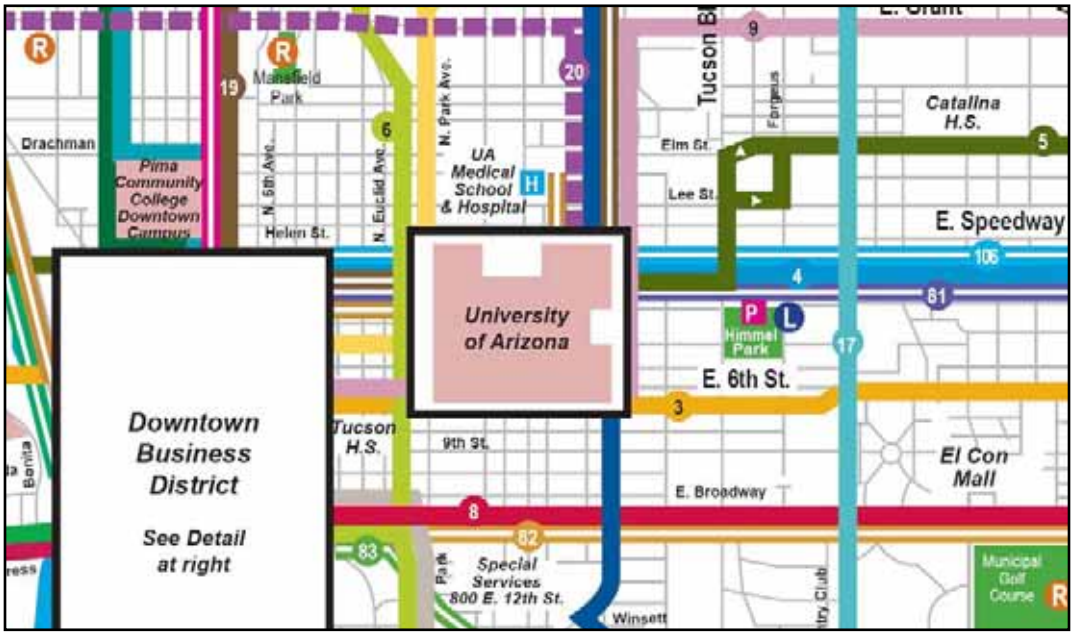
Sun Tran routes serving the University area are shown in Exhibit 3-26 along with a detail of the routes serving the main UA campus. Exhibit 3-26 illustrates the importance of the transit system to the University and shows the significant amount of service available on or adjacent to campus. Exhibit 3-27 provides the locations of Sun Tran bus stops near the UA and indicates the presence/absence of shelters at the stops along these routes.

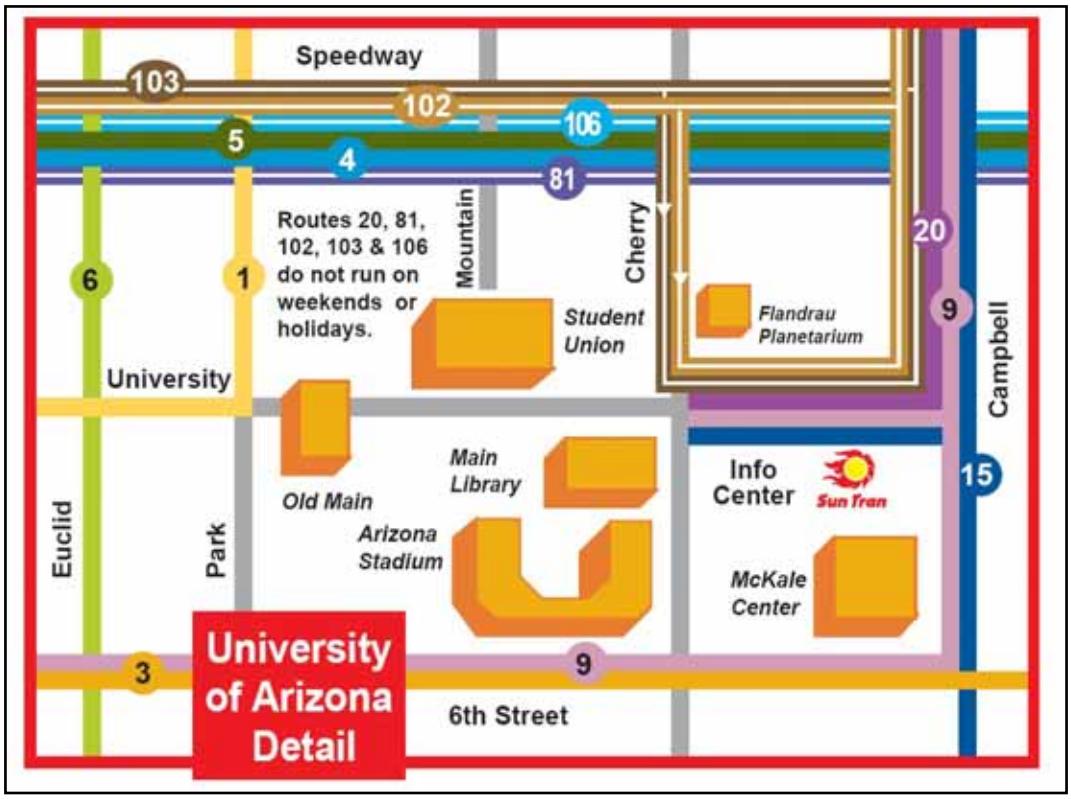
Existing CatTran shuttle routes are shown in Exhibit 3-28. The CatTran Shuttle operates Monday trough Friday, except holidays observed by the University. The shuttle also serves remote park-n-ride lots along the Orange, Mauve, and USA routes. The shuttle is available to all students and employees with a valid UA identification card. A CatTran service summary is provided in Exhibit 3-29. A summary of CatTran shuttle ridership for 2006-2007 is provided in Exhibit 3-30.

The historic Old Pueblo Trolley operates on Fridays, Saturdays, and Sundays between the West Entrance of the University on University Boulevard and the 4th Avenue district. The Old Pueblo Trolley alignment, with improvements such as double-tracking, will comprise a segment of the new modern streetcar system that is currently in the planning stages of implementation. The modern streetcar is currently anticipated to be fully operating by 2016, and will extend westward from the current end of the Old Pueblo Trolley operation on 4th Avenue through a new 4th Avenue underpass programmed to be constructed under the Union Pacific Railroad, past the Southern Pacific station, and on through downtown to the Rio Nuevo area as shown in Exhibit 3-31. The streetcar will extend eastward through the University campus to the vicinity of the Arizona Health Sciences Center.

A survey was conducted to investigate privately funded shuttle service to campus provided by various off campus housing communities. A list of all student housing communities indicated to provide UA shuttle service to its tenants was developed from the *University of Arizona, Off-Campus Housing Guide and Commuter Resource Book, Housing Locater, 2007.* This publication lists all student housing near campus and lists details of each community including whether or not it provides shuttle service to the UA. A telephone interview process was conducted to provide details on the shuttle service provided. Six housing communities were verified to provide UA shuttle service. A summary of the information gathered from the telephone interview process is provided in Exhibit 3-32.

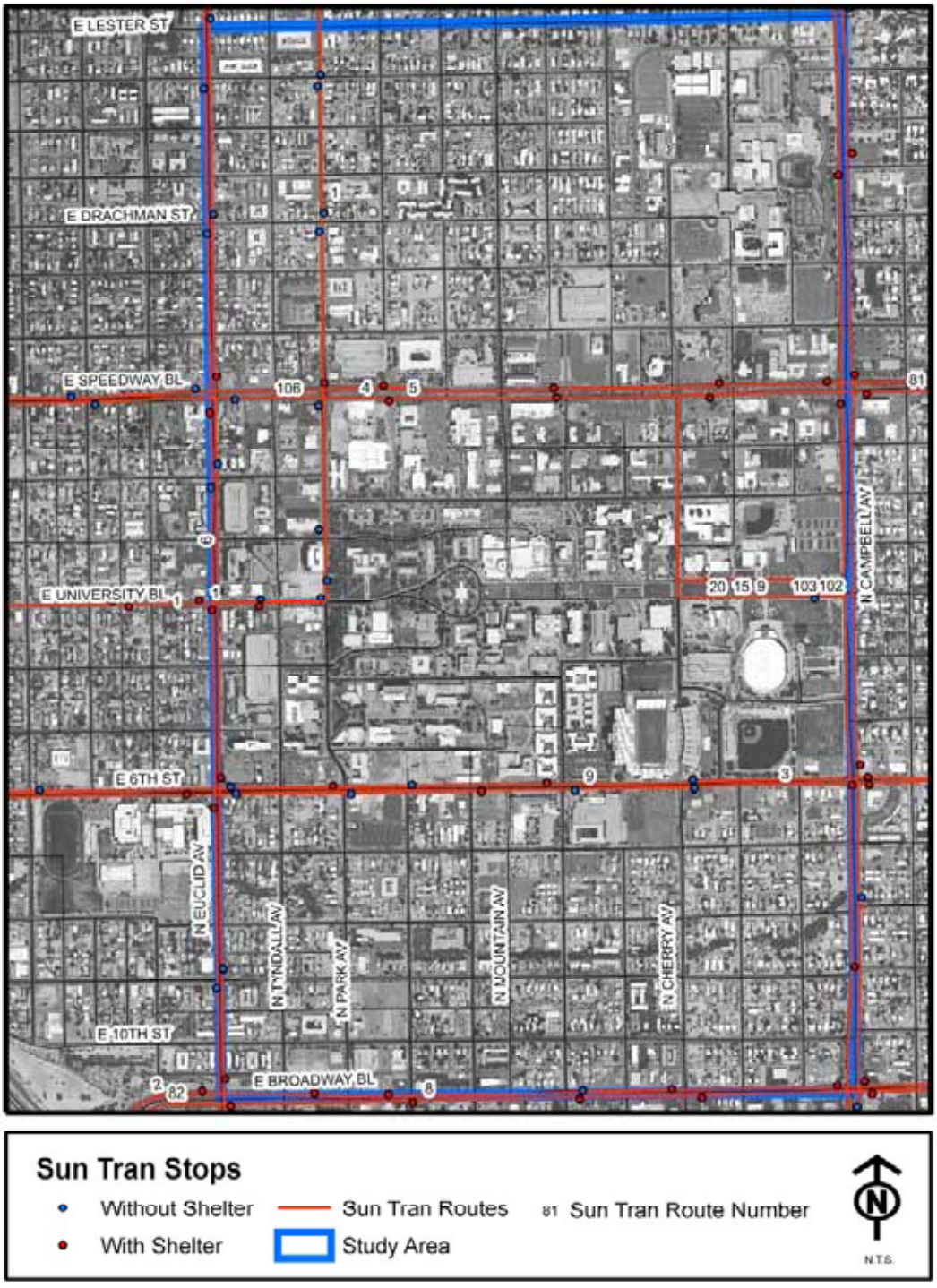
Exhibit 3-26
SUN TRAN BUS ROUTES NEAR THE UA





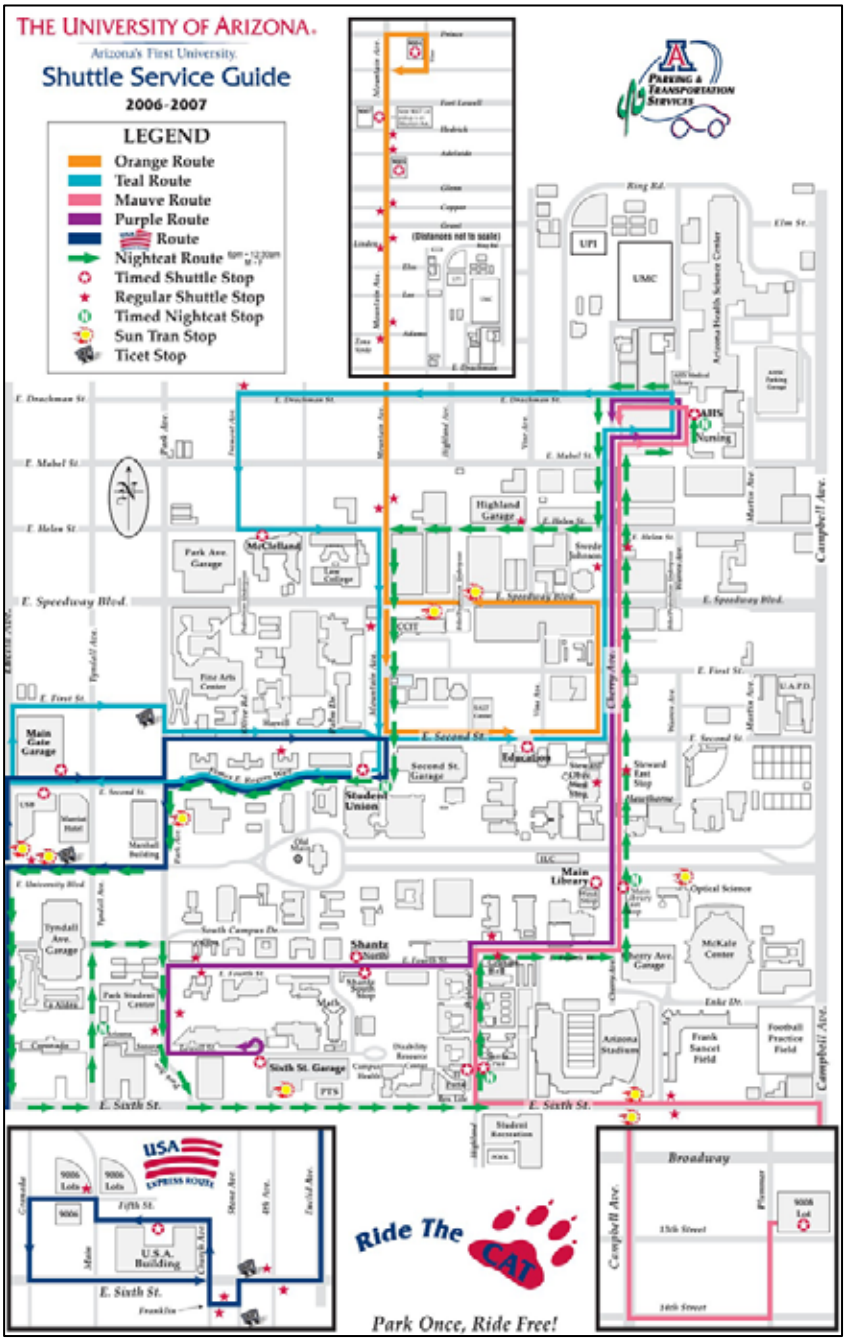
Source: SunTran

Exhibit 3-27
SUN TRAN BUS STOP LOCATIONS AT UA



Source: Sun Tran 2007.

Exhibit 3-28
EXISTING CATTRAN SERVICE MAP



Source: UA Parking and Transportation Services.

Exhibit 3-29
CATTRAN SERVICE SUMMARY

Route	Key Stops on Campus (Time Points)	Service Hours	Average Headway
U.S.A.	U.S.A. Building, 9006 Loop, Main Gate Garage, Student Union	12	15 min.
Purple	6th Street Garage, Shantz South, Main Library, AHS/Nursing	12	13.5 min.
Mauve	9008 Loop, N. Highland (East), Main Library, AHS/Nursing, N. Highland (West)	12	15 min.
Teal	ASHC Med. Library, McClelland Hall, Student Union, Main Gate Garage, Education Building	12	12 min.
Orange	9004 Loop, 9007 Lot, 9005 Lot, Education Building	12	16.7 min.

Source: University of Arizona, *CatTran Shuttle Service Guide*, 2007.

Exhibit 3-30
CATTRAN SHUTTLE RIDERSHIP

Parking and Transportation Services / Alternative Transportation Fiscal Year 2006 - 2007 Shuttle Service Cat Tran Ridership History

Month	FY 06-07 Cat Tran Ridership							Comparison to Last Year (05-06 FY)		
	USA	MAUVE	ORANGE	PURPLE	TEAL	NIGHTCAT	TOTAL	L.Y. TOTAL	Variance	%
Jul-06	925	0	0	5,312	7,883	0	14,120	12,140	1,980	16.3%
Aug-06	4,095	7,329	8,563	9,275	17,174	449	46,885	33,352	13,533	40.6%
Sep-06	6,043	13,574	15,791	11,424	23,447	829	71,108	62,211	8,897	14.3%
Oct-06	6,411	13,365	16,229	11,747	22,874	728	71,354	63,219	8,135	12.9%
Nov-06	4,912	10,072	12,889	9,178	16,714	478	54,243	50,581	3,662	7.2%
Dec-06	2,131	3,477	4,176	3,971	7,610	217	21,582	22,631	-1,049	-4.6%
Jan-07	4,327	7,418	9,260	7,150	13,612	471	42,238	38,049	4,189	11.0%
Feb-07	4,901	8,238	11,707	8,712	16,133	574	50,265	46,862	3,403	7.3%
Mar-07	4,433	7,422	9,014	7,735	14,222	412	43,238	42,585	653	1.5%
Apr-07	4,837	9,128	10,508	9,162	16,930	675	51,240	46,058	5,182	11.3%
YTD TOTALS	**43,015**	**80,023**	**98,137**	**83,666**	**156,599**	**4,833**	**466,273**	**417,688**	**48,585**	**11.6%**

Source: University of Arizona Parking & Transportation Services.

Exhibit 3-31
PROPOSED MODERN STREET CAR ROUTE

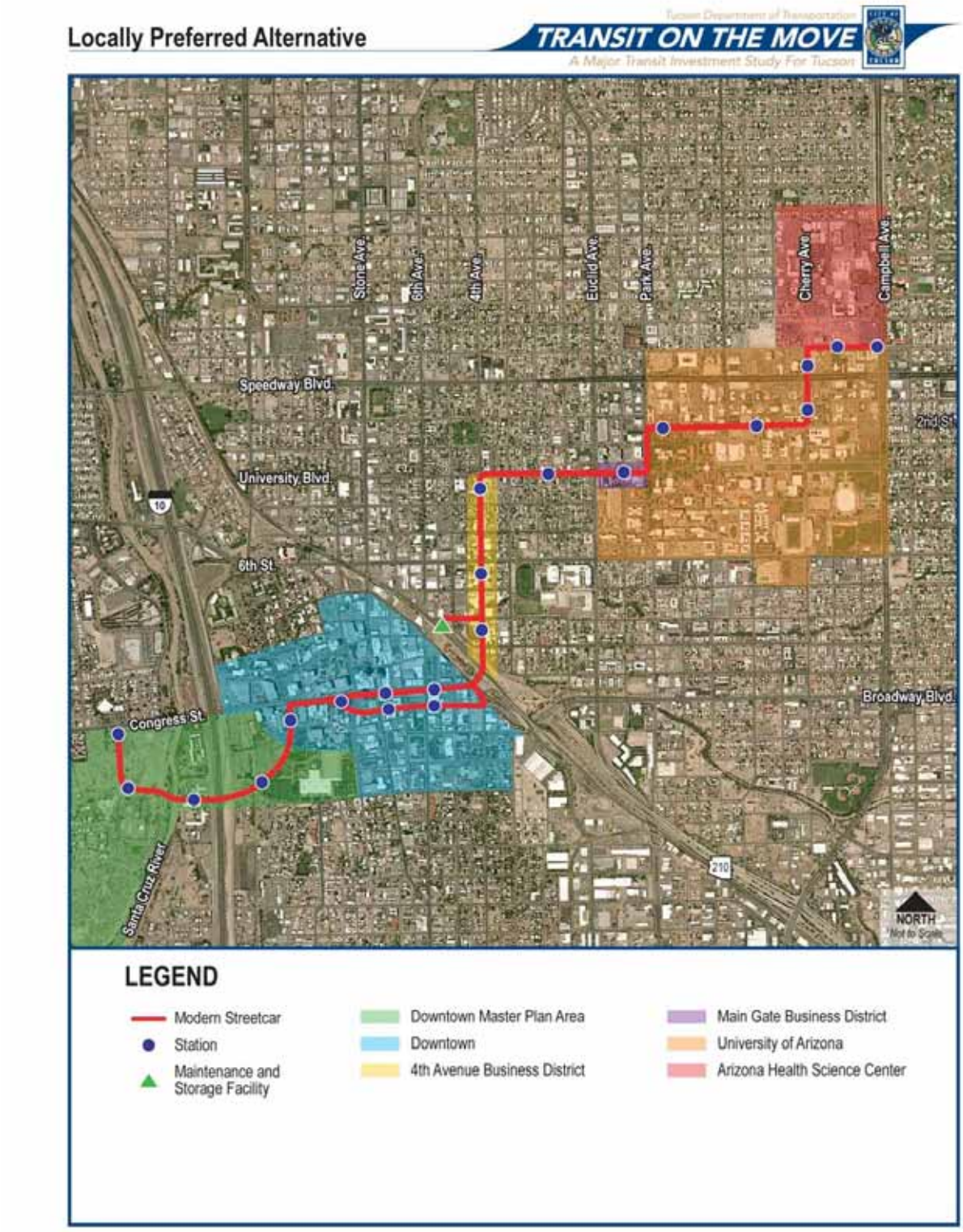


Exhibit 3-32
SUMMARY OF OFF CAMPUS HOUSING SHUTTLE SERVICE DATA

Community Name	Country Club Terrace	Deerfield Village	Northpointe	The Reserve at Star Pass	Sahara Apartments	College Place[1]
Number of Shuttles in Service	1	1	1	1	1	1
Trip Frequency	4 Per Day	4 Per Day	Every 40 Minutes	Every 40 Minutes	Every Hour On The Half Hour	Every Hour on the Hour
Roundtrips/ Day	2 morning, 2 afternoon	2 morning, 2 afternoon	16	16	10	10[1]
Daily Passengers	~ 20	~ 20	~ 250	~ 300	~ 25	~100[1]
Service Schedule	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Hours of Operation	7:00 am to 8:00 am, 4:00 pm to 5:00 pm	7:00 am to 8:00am, 4:00 pm to 5:00 pm	6:40 am to 5:40 pm	7:00 am to 5:30 pm	7:30 am to 5:20 pm	7:30 am to 5:30 pm
Days of Operation	Mon – Fri or every school day	Mon – Fri or every school day	Mon – Fri or every school day	Mon – Fri or every school day	Mon – Fri or every school day	Mon – Fri or every school day
Additional Charge?	No	No	No	No	Yes	No
Additional Notes	5 Stops at UA, Shares Van with Deerfield Village	5 Stops at UA, Shares Van with Country Club Terrace	Stops at Pima CC Before Arriving at UA Old Main	Stops at Pima CC Before Arriving at UA Old Main	Stops at Student Union Memorial Center Only	Stops at Old Main, Separate Runs to PCC as Needed

U-PASS USAGE TREND

The U-Pass is a Sun Tran transit pass available to both students and employees at a discounted price. A total of 2,248 U-Passes where reported by the UA to have been purchased by students and employees during the 2006-2007 academic year. The pass allows unlimited rides on Sun Tran buses. Sun Tran data on overall U-Pass usage during calendar years 2006 and 2007 are provided in Exhibit 3-33. The data included information on U-Pass usage by bus route. These data indicate the following:

- There were 37 Sun Tran routes with U-Pass usage.
- Overall, U-Pass usage declined by 8.7 percent from 2006 to 2007.
- 23 routes exhibited declining U-Pass usage.
- 14 routes exhibited an increase or no change in U-Pass usage.

These data do not necessarily indicate a decline in Sun Tran ridership by UA students, as 8.5 percent of students indicate a transit mode choice, but only 5.0 percent purchase a bus pass. It does indicate a decline in U-Pass use.

A potential strategy to reduce traffic demand and congestion could be to encourage a mode shift from auto to transit by increasing the use of U-Pass by students and employees. The use of a "universal" U-Pass, where all students are given a bus pass for a small registration fee, is an option that could significantly increase transit use by students.

Exhibit 3-33
U-PASS USAGE TREND

	Annual Ridership		
	2006	**2007**	**% Change**
Total	397,871	363,300	-8.7

2006-2007 PARKING PERMITS

Exhibit 3-34 provides data on the number of parking permits sold during academic year 2006-2007 and the number of parking spaces available for each permit type. The UA currently limits the number of parking permits sold, but does sell more permits than the spaces available to allow for high utilization of spaces while accounting for turnover in use. There is a waiting list for permit purchase. Based on information contained in the *2003 Comprehensive Plan*, the number of non-visitor spaces is not expected to increase substantially by year 2010, and may decline due to new building construction that replaces existing parking lot space[2].

[2] *The University of Arizona Comprehensive Campus Plan,* June 2003, Appendix 4, *Parking and Transportation Report,* page 88, Table 7-1.

Exhibit 3-34
2006-2007 PARKING SPACES AND PARKING PERMITS

	Permits Sold [1]	Non-Visitor Spaces [1]	Permit/Space Ratio
Garages	8,499	6,553	1.3
Parking Lots/Street	7,811	6,401	1.2
Motorcycle	350	234	1.5
Disabled	166	415	0.4
Carpool	22	55	0.4
TOTAL	**16,848**	**13,658**	**1.2**

1. Source: UA Parking and Transportation Services database and inventory, 2007.

UA PARKING COST COMPARISON

Exhibit 3-35 provides a summary of current UA parking cost and a comparison to costs for Arizona State University, Pima County, and the City of Tucson. These data suggest that UA parking cost is low in comparison to comparable parking costs at ASU and for Pima County and City of Tucson employees. Raising parking cost, or charging on a per use basis could help reduce parking demand at the UA and thus reduce traffic congestion in the area. To avoid an increase in the number of students and employees parking in adjacent neighborhoods, an expansion of the City of Tucson neighborhood parking ban program may be required with the increase in UA parking cost.

Exhibit 3-35
UA PARKING COST COMPARISON

FY 07-08 Annual Parking Rates				
Parking Type	**UA[1]**	**ASU[2]**	**Pima County (Downtown)[3]**	**ParkWise[4]**
Garages	$494	$480 - $660	$1,020	$660 - $1,020
Lot Specific	$143 - $394	$180 - $600		$300 - $480
Motorcycle	$97	$240		
Zone 1	$279			
South of Sixth	$279			

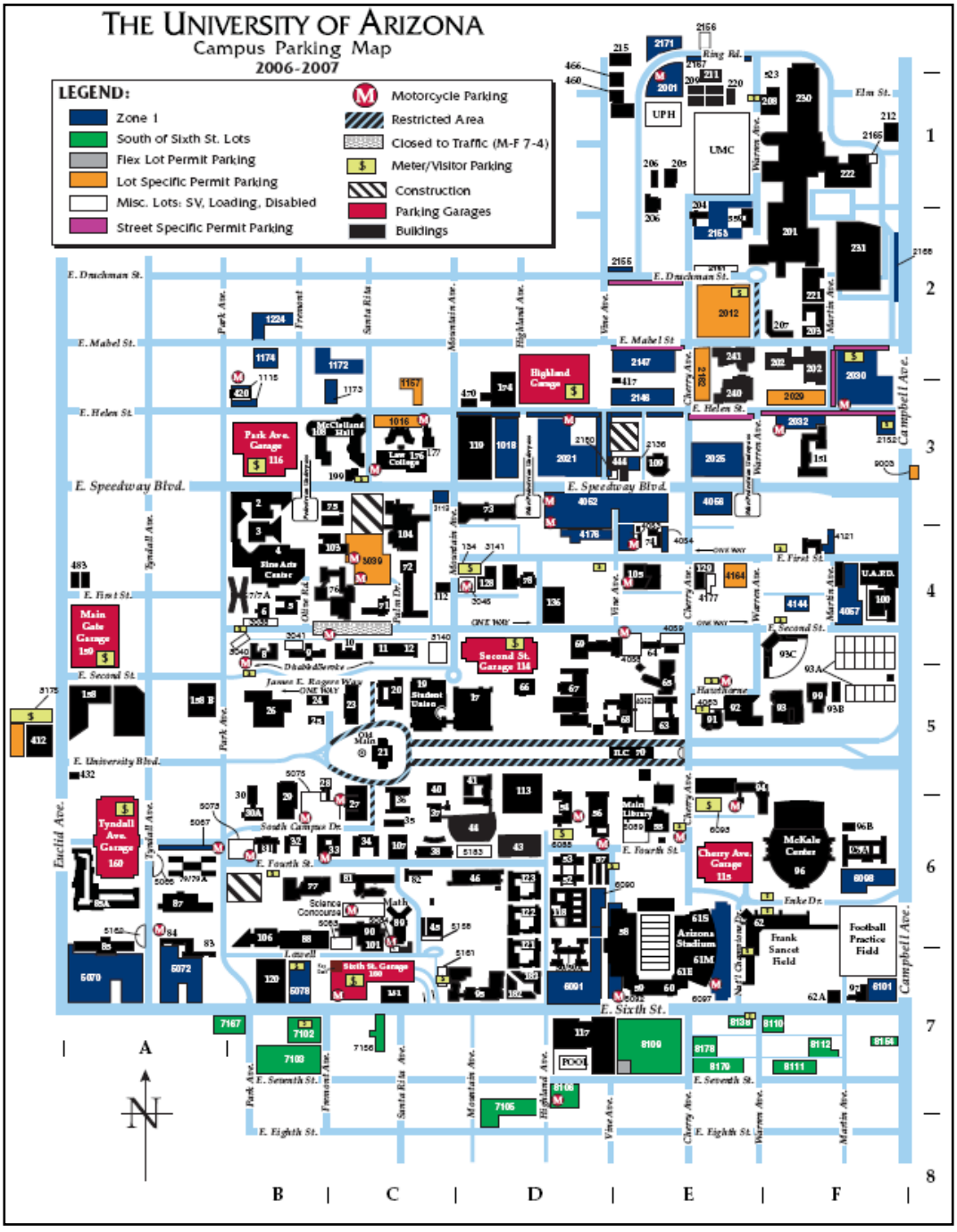
Sources:
1. UA PTS (FY 07-08)
2. ASU PTS (FY 07-08)
3. Pima County Facilities Management Department
4. City of Tucson Deptartment of Transportation

UA PARKING ACTIVITY

As of September 2006 the UA managed a total of 17,403 parking spaces within the planning area. This includes on-street metered parking, parking for service vehicles, motorcycle parking, reserved parking, leased parking, and visitor parking, along with permit spaces in the parking lots and garages. The UA parking lot layout is provided in Exhibit 3-36.

The UA Parking and Transportation Services periodically conducts a parking lot inventory and utilization survey, the last one of which was conducted in September 2006. The results of the last parking utilization inventory are provided in Exhibit 3-37. This inventory indicates that during peak utilization the UA parking facilities are near capacity, and during peak periods may be over capacity. The high peak utilization coupled with the anticipated growth in the UA community strongly indicates a need to reduce automobile travel demand to the campus.

Exhibit 3-36
UA PARKING LOT LAYOUT MAP



Source: University of Arizona Parking & Transportation Services.

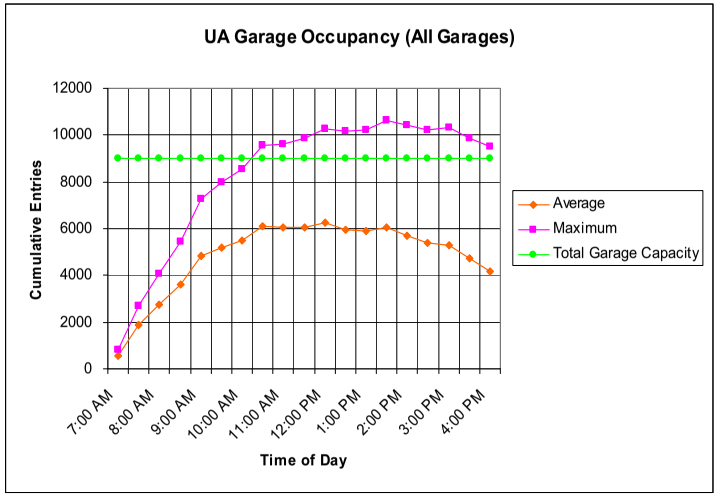
Exhibit 3-37
UA PARKING INVENTORY/ UTILIZATION

UNIVERSITY OF ARIZONA
PARKING AND TRANSPORTATION SERVICES

PARKING INVENTORY

2006-2007
Base Count - August 5, 1997
Last Update -September 5, 2006

LOT/ LOCATION	ZONE 1	LOT SPECIFIC	LOTS S. OF SIXTH ST.	STREET SPECIFIC	FLEX	GARAGES	S/V	L/UL	H/R	H/C	RES	C/P	Motorcycle	Meter	HC/ Meter	MC/ Meter	Visitor	Other	Leased	TOTAL
Total Spaces	3,259	1,502	1,431	78	45	6,553	506	203	29	415	102	55	234	456	23	5	1,944	248	315	17,403
Average Utilization	76%	55%	71%	42%	29%	N/A	57%	38%	57%	40%	51%	24%	41%	53%	N/A	N/A	N/A	45%	19%	N/A
Peak Utilization	91%	75%	84%	60%	47%	N/A	90%	78%	96%	70%	79%	46%	68%	90%	N/A	N/A	N/A	82%	64%	N/A



Source: University of Arizona Parking & Transportation Services.

UA Parking and Transportation Services (PTS) also provided data on parking garage average entry and exit permit activity per hour facility wide (summer excluded). These data are plotted in Exhibit 3-38. These data indicate the following:

- The peak activity periods for the UA garages by permit holders (students and employees) are from 7:00 – 9:00 AM and 4:00 – 6:00 PM.
- 9.6 percent of the garage activity occurs between 8:00 – 9:00 AM.
- 8.3 percent of the garage activity occurs between 5:00 – 6:00 PM.

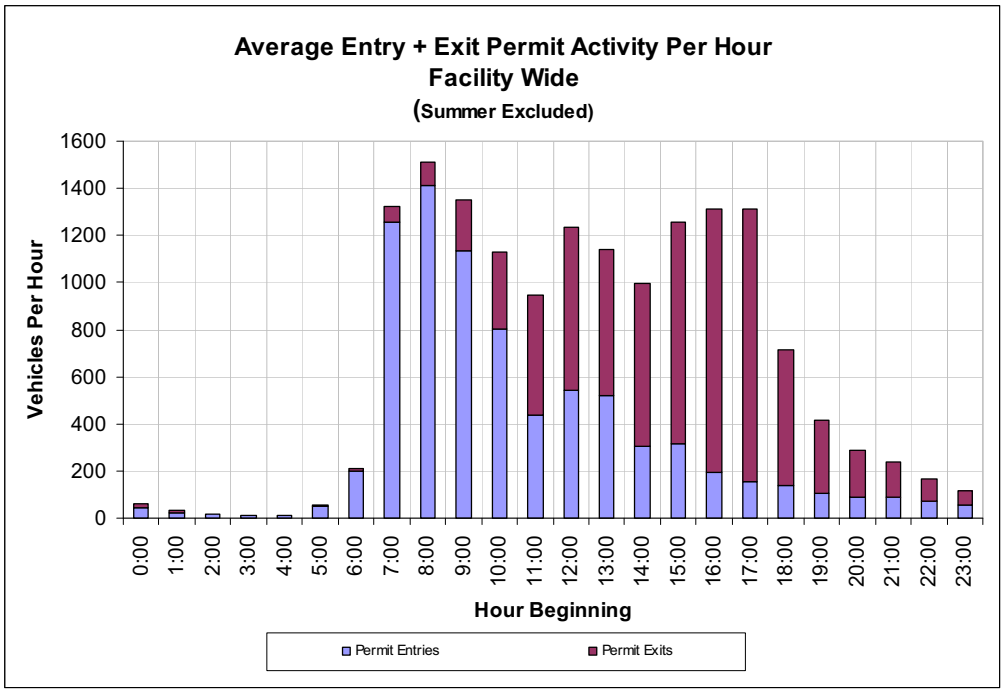
No data on the hourly activity for parking lots were available for this study. Entering and exiting 24-hour traffic counts were conducted at six UA parking lots locations on two consecutive weekdays during September 2007. The UA parking lot numbers and locations of the data collection are:

- Lots 4052, 4053, 4176 (considered a single lot for data collection) located between 1st Street and Speedway Boulevard at North Vine Avenue. (Zone 1 lot).
- Lot 6098 located in the northeast corner of East Enke Street and North Martin Avenue. (Zone 1 lot)
- Lot 7103 located in the northeast corner of North Park Avenue and East 7th Street. (South of 6th lot)
- Lot 8106 located in the southeast corner of North Highland Avenue and East 7th Street. (South of 6th lot).
- Lot 9005 located on Plumer Avenue south of Broadway Boulevard (Lot Specific Park and Ride Lot).
- Lot 9008 located in the southeast corner on North Mountain Avenue and East Adelade Drive (Lot Specific Park and Ride Lot).

The results of the traffic data collection for all of the parking lots combined are provided in Exhibit 3-39. These data indicate the following:

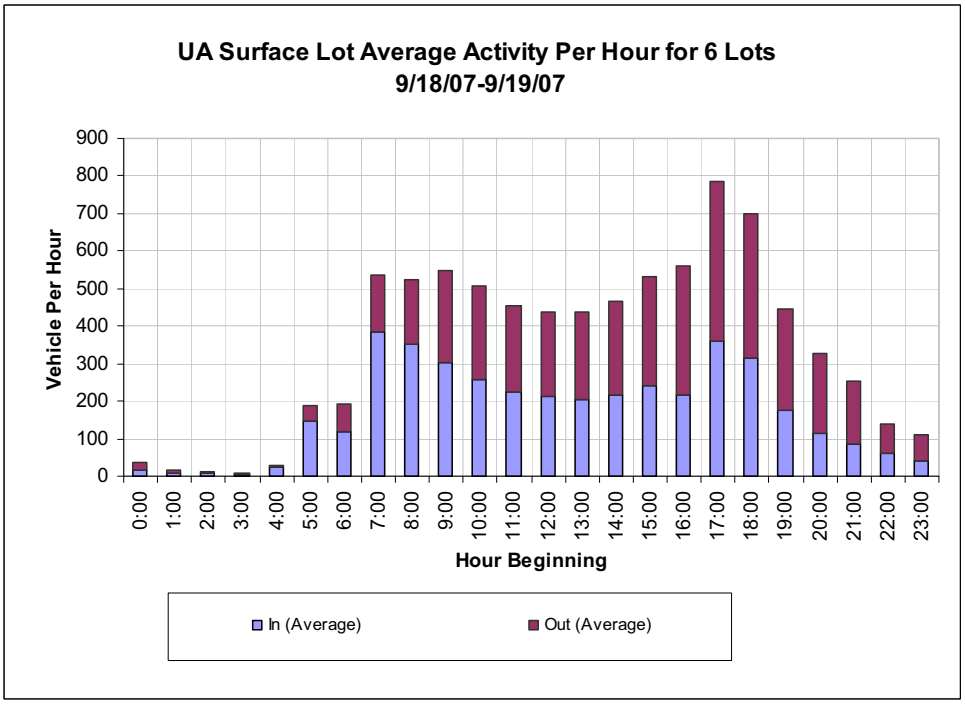
- The peak activity periods for the six parking lots were 7:00 – 9:00 AM and 5:00 – 7:00 PM.
- The peak activity periods are slightly different than for the garage activity, with a less pronounced peak during the AM peak period. The AM peak-hour is 9:00 – 10:00 AM, which is an hour later than the peak-hour for the garages.
- 6.6 percent of daily activity occurs between 9:00 – 10:00 AM.
- 9.5 percent of daily activity occurs between 5:00 – 6:00 PM.

Exhibit 3-38
UA GARAGE ACTIVITY FOR PERMIT HOLDERS



Source: UA Parking and Transportation Services, August 2005 – 2006 (summer excluded).

Exhibit 3-39
UA PARKING LOT ACTIVITY



Source: Morrison-Maierle, Inc. traffic counts, September 2007.

Exhibit 3-40 provides the combined garage and parking lot activity from Exhibits 3-38 and 3-39. Exhibit 3-41 provides the hourly traffic distribution of the total entering traffic for a typical day at the Speedway Boulevard / Campbell Avenue intersection adjacent to the UA campus. Examination of these data suggests the following:

- The peak-periods for the combined garage and lot data are from 7:00 – 9:00 AM and from 4:00 – 6:00 PM. This is coincident with the peak travel periods for the adjacent streets based on comparison to the data in Exhibit 3-31.
- 8.5 percent of the daily UA activity occurs between 8:00 – 9:00 AM.
- 8.7 percent of the daily UA activity occurs between 5:00 – 6:00 PM.
- There is a slightly higher peaking for UA traffic than other traffic in the area.
- Applying the peak-hour percentages from above to the estimated 42,280 daily student and employee auto trips to the UA yields the following peak-hour UA traffic estimates:
  - AM peak-hour UA traffic is approximately 3,590 vehicles per hour.
  - PM peak-hour UA traffic is approximately 3,680 vehicles per hour.

The analysis of these data suggests that reducing UA peak-hour traffic demand can have a significant impact on adjacent street traffic volume and congestion. Strategies for reducing total demand, or for moving traffic out of the peak activity hours to other, less congested time periods, should be considered.

Exhibit 3-40
COMBINED GARAGE AND PARKING LOT ACTIVITY

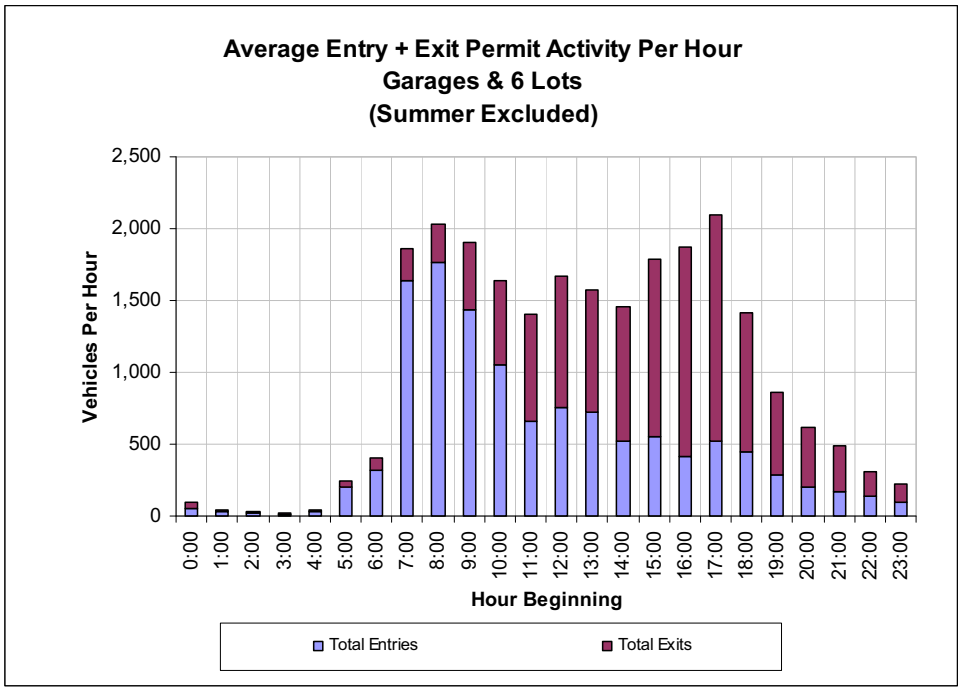
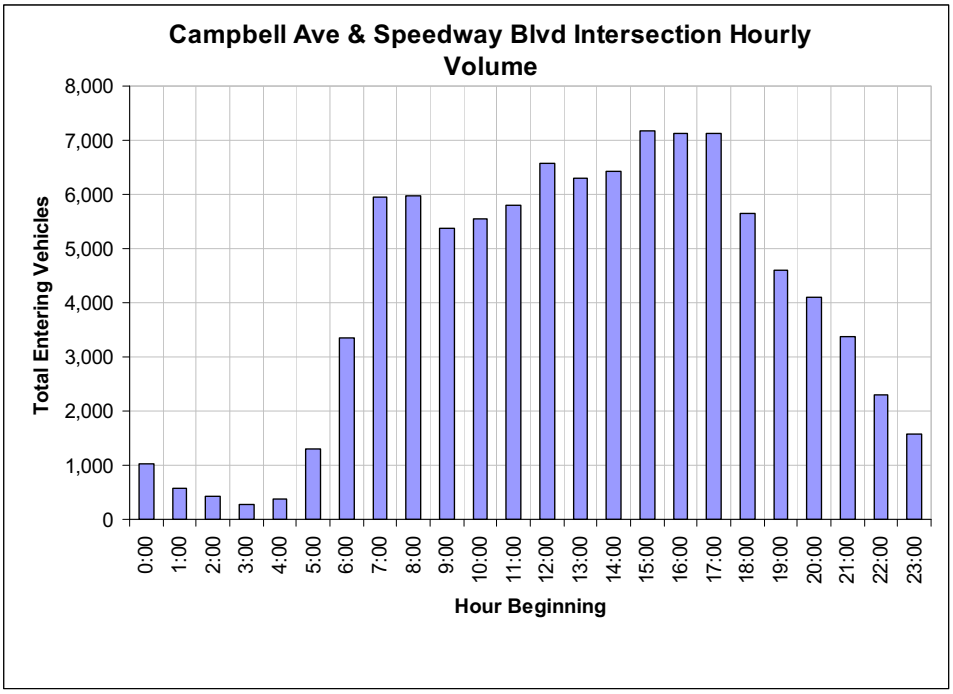


Exhibit 3-41
HOURLY TRAFFIC VOLUME DISTRIBUTION AT SPEEDWAY/CAMPBELL INTERSECTION
(Total entering volume by hour)



Source: PAG Traffic Counts, 2006.

UMC PARKING

Information and data describing UMC parking facilities and use were provided by UMC Security. The information, including number of spaces, utilization information, visitor lot information, patient lot information and payment information for those who are not there as a patient or visitor is summarized in Exhibit 3-42.

Exhibit 3-42
UMC PARKING INFORMATION

Number of parking garages	2 – (North garage- employee parking & South garage-mixed use parking)
North garage parking capacity	960
North garage utilization	Filled to capacity Monday through Friday with lighter weekend use
South garage capacity	730
South garage usage	75 spaces used for valet, 225 medical staff/ admin and 430 patient/visitor parking
South garage utilization	Filled to capacity Monday through Friday and ~40% utilization on weekends
Number of surface lots	2 – (West lot-employee parking & East ER lot-patient parking)
West lot parking capacity	485
East lot capacity	75
Temporary condition	West lot is currently being used as a staging area for construction of a six story addition to the hospital. To offset the parking loss, UMC is leasing the 200 space Catalina Theater garage at Grant & Campbell. Employees use this garage and a shuttle is provided to UMC.
Utilization of the leased garage	~75%
Parking Permits	Employees are issued permits that are a fringe benefit and is no cost to the employees
Parking fees	The parking fee is based on the time spent in the garage/lot. Hospital patients and visitors can get their parking validated and park free; this is to discourage parking for people not going to the hospital.

Source: UMC Security.

UA BICYCLE AND PEDESTRIAN FACILITIES

The UA campus has an exceptionally high level of bicycle and pedestrian activity. Many thousands of bicycles are used on campus on a daily basis by both students and employees. It is estimated the over 6,000 off-campus students and employees travel to campus by bicycle each day (see Exhibit 3-22), and the bicycle accounts for over 14 percent of the mode choice for trips to campus. It is estimated that over 12,000 bicycle trips are made to and from campus on a daily basis, not including the relatively small number bicycle trips to and from classes made by on-campus students. While on campus, bicycle commuters will often travel between University buildings by bicycle, increasing the daily bicycle traffic on campus. If each bicycle user made only two additional bicycle trips between University buildings while on campus, this would increase the daily number of bicycle trips to over 24,000.

The bicycle facilities within the UA planning area are extremely important to accommodate the level of bicycle activity. The UA Bike Route Map is provided in Exhibit 3-43. As part of this study, a field inventory of the number, size (spaces per rack), and location of bike rack facilities, provided by the UA within the planning area was conducted in June 2007. These data were mapped using ArcGIS. This inventory is summarized in Exhibit 3-44. A total of 8,963 bike rack spaces were counted through this inventory. The University indicates that between 600 and 900 students and employees register their bicycles with the University each year.

Exhibit 3-43
UA BIKE ROUTE MAP

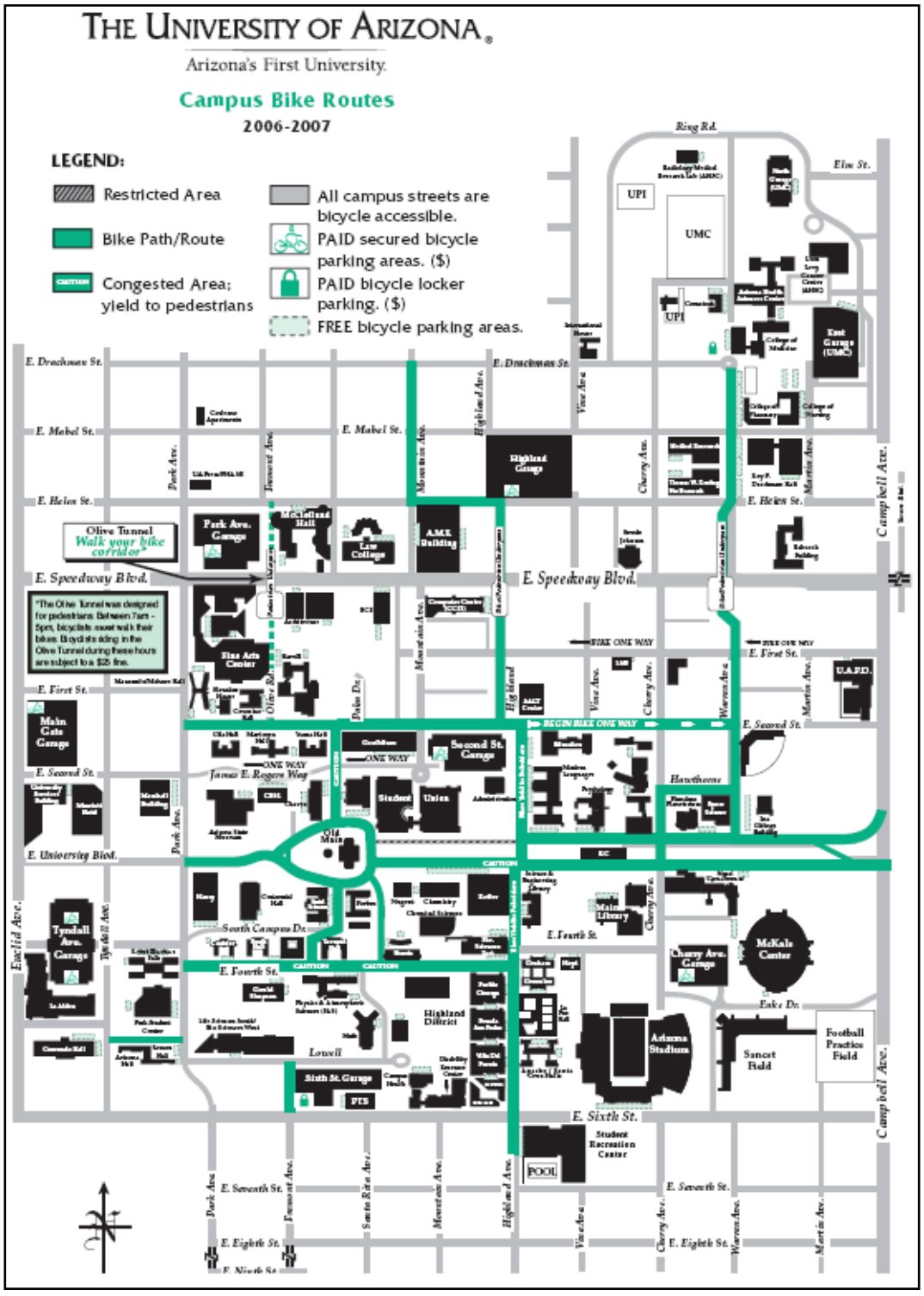
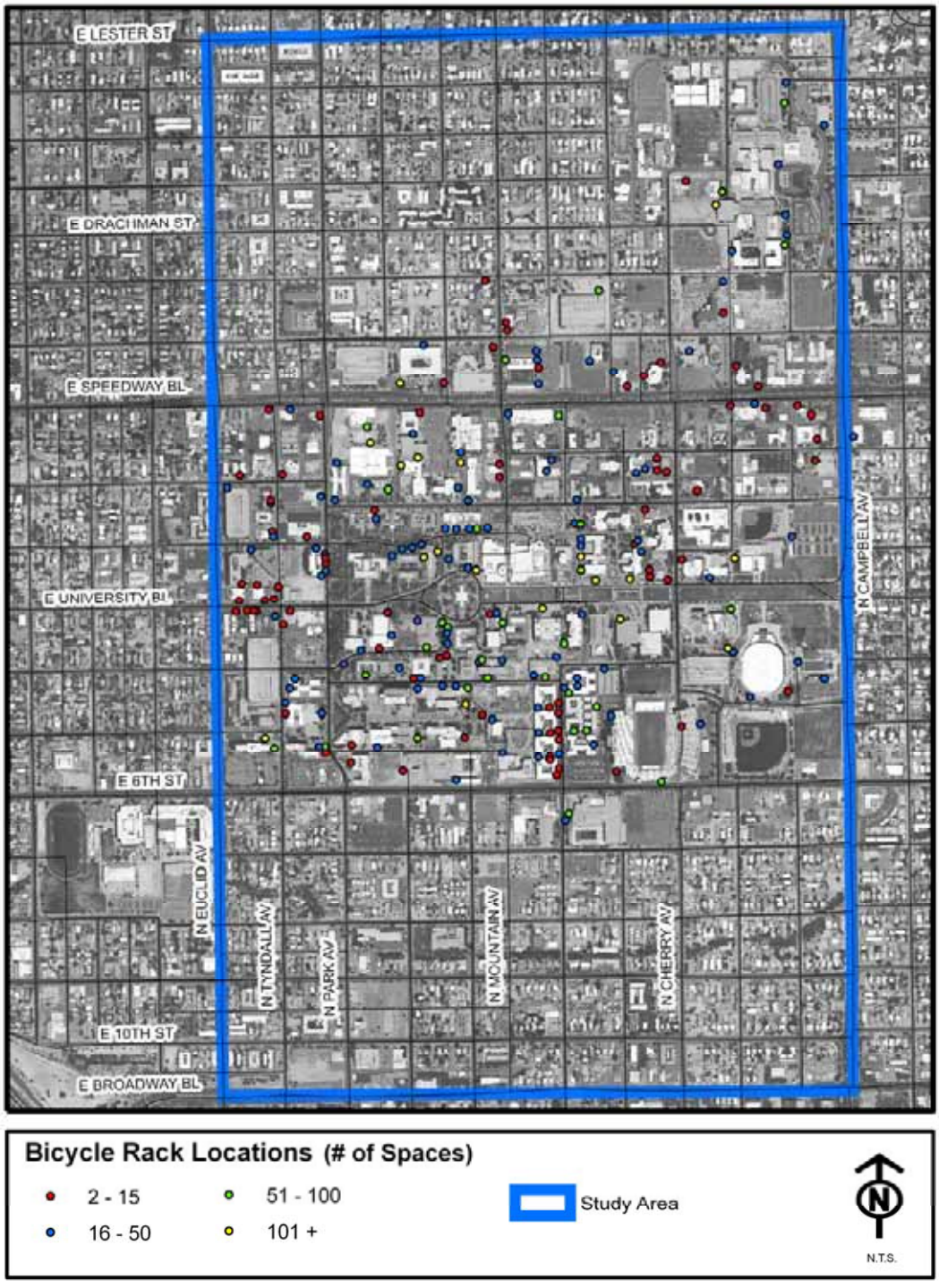


Exhibit 3-44
UA FIELD INVENTORY DATA – BICYCLE RACK LOCATIONS



Source: Morrison Maierle, Inc. field inventory data collection, June 11, 2007 through June 25, 2007.

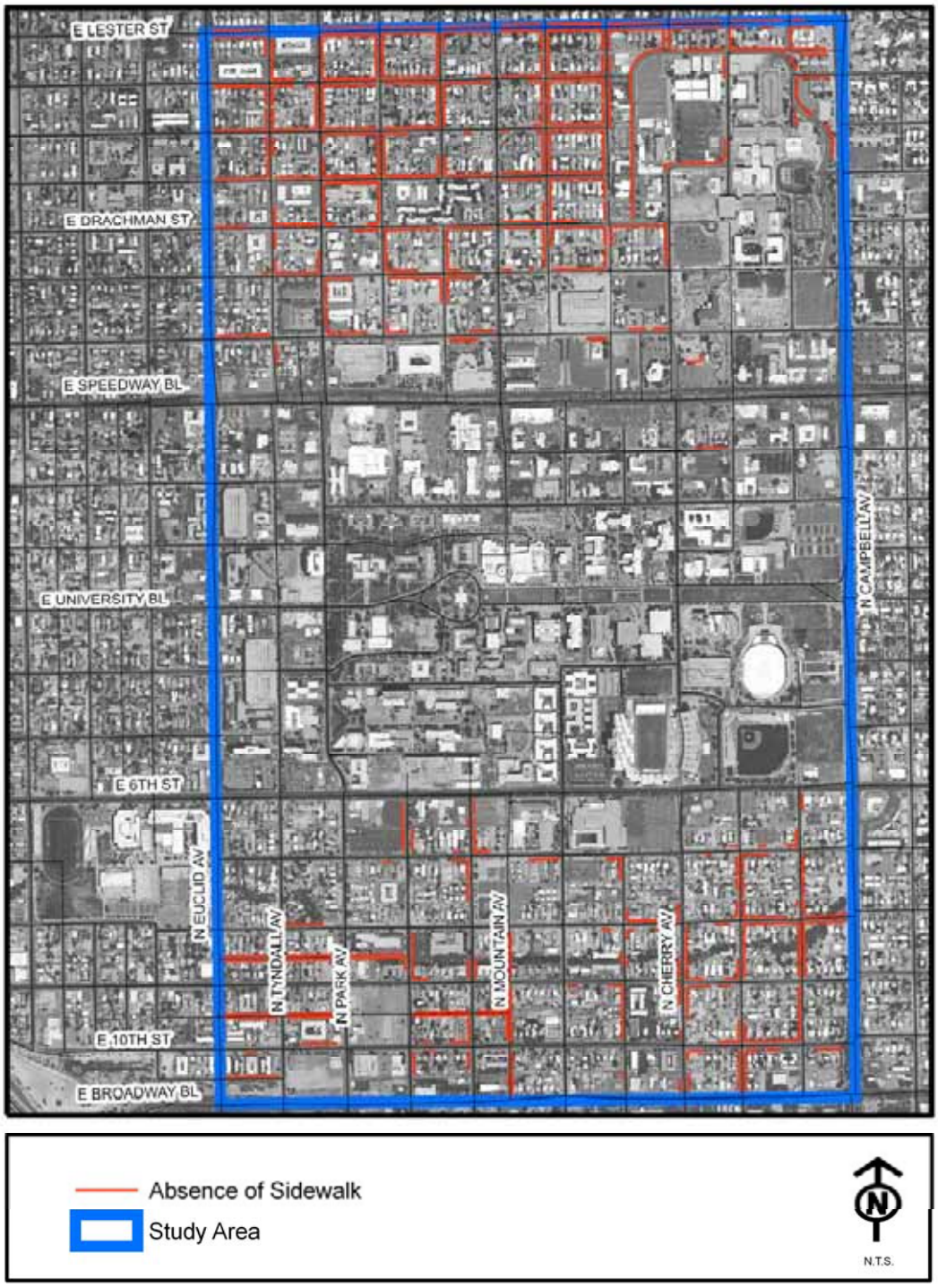
The UA planning area has an extensive network of sidewalks, ramps, and grade separations for pedestrians. However, the UA is concerned that there may be gaps in the sidewalk network and that this network may not be totally ADA compliant. A field inventory of the UA planning area was conducted in June 2007 to identify gaps in the sidewalk network and to identify locations where the curbs at intersections may not be ADA compliant. The inventory was conducted by data collectors walking along each roadway and street within the UA planning area. The following pedestrian facility features were inventoried:

- Absence of sidewalk
- Absence of pedestrian ramp or curb cut
- Presence of truncated dome warning strip on pedestrian ramps
- Presence of textured warning strip on pedestrian ramps

The inventory data were mapped using ArcGIS. A summary of the field inventory for the absence of sidewalk is provided Exhibit 3-45. The summary of the data on the absence of pedestrian ramps or curb cuts, and the type of warning treatment used on the pedestrian ramps is provided in Exhibit 3-46. Note that if a location with a sidewalk is not identified with the absence of a ramp or curb cut, and the presence of truncated domes or texture treatment is not indicated, this means that no differential pavement texture treatment is present on an existing ramp. An example is Speedway Boulevard between Euclid Avenue and Campbell Avenue, where the sidewalk has decorative textured, but there is no differential texture treatment at the corner ramps.

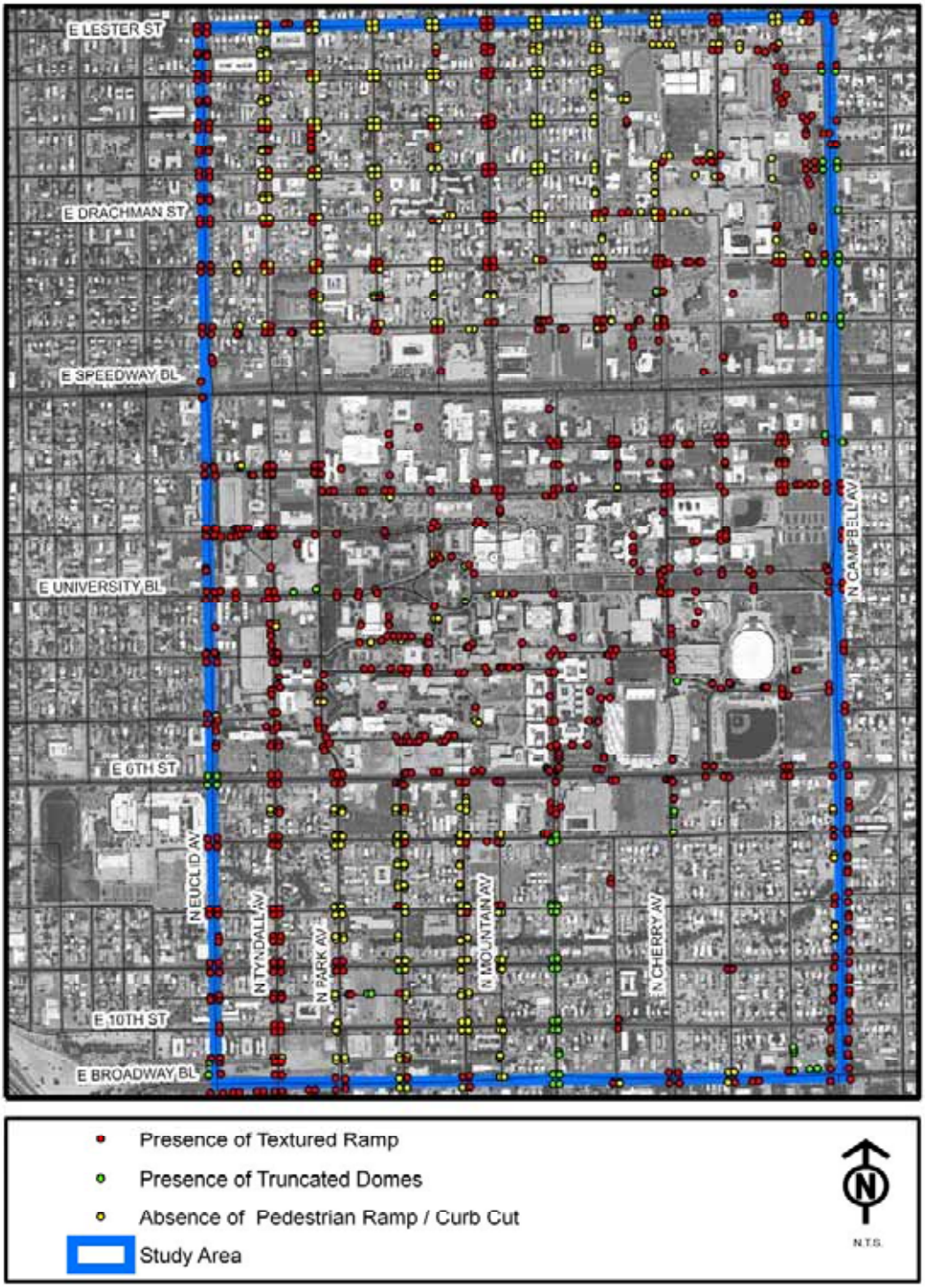
The inventory of pedestrian facilities identified a particular lack of sidewalks in the residential areas north of Speedway Boulevard and south of 6th Street. These areas coincide with locations of high levels of student and employee residential activity and high pedestrian mode choice for trips to the UA. This, along with the identification of locations lacking ADA ramp treatments, suggests the potential for the development of projects by the City of Tucson to provide pedestrian facility improvements in these areas.

Exhibit 3-45
ABSENCE OF SIDEWALK FIELD INVENTORY



Source: Morrison Maierle, Inc. field inventory data collection, June 11, 2007 through June 25, 2007.

Exhibit 3-46
PEDESTRIAN RAMP FIELD INVENTORY



Source: Morrison Maierle, Inc. field inventory data collection, June 11, 2007 through June 25, 2007.

LAND DEVELOPMENT OPPORTUNITIES

The transportation system serving University interacts with development in the surrounding community. To better understand the dynamics of this interaction in the future, key development plans and proposals were identified in the University area through contacts with the City of Tucson Departments of Planning and Urban Design, Development Services, Transportation and Real Estate. The projects described herein and shown on Exhibit 3-47 are in various stages of development ranging from conceptual planning to nearing construction.

Grant Road Corridor Plan

The City of Tucson has initiated the Grant Road Corridor Plan to prepare for the redevelopment of a five mile portion of Grant Road, between Oracle and Swan Roads to add an additional travel lane in each direction. Following a corridor alignment study and design, the project will culminate with a land use plan. The land use plan, to be adopted by Mayor and Council as a Corridor Overlay Plan, will identify opportunities for new development at key intersections along Grant Road and establish guidelines to shape the nature of that development. In addition, an opportunity may exist to develop one or more enhanced transit transfer points along Grant Road to serve UA commuters at the following locations:

- Grant Road and Mountain Avenue intersection to facilitate transfers between Sun Tran buses and the CatTran Orange Line serving the UA campus.
- Grant Road and Campbell Avenue intersection to facilitate transfers between Sun Tran routes service these corridors.

Grant Road and Campbell Avenue, Southeast Corner

Among the most significant intersections of the Grant Road Corridor is Grant Road and Campbell Avenue. The shopping center at the southeast corner of Grant Road and Campbell Avenue, including the existing Walgreens, Bookman's and the now closed Catalina Theater has been discussed for redevelopment as a four to six story mixed use development. Some coordination with the adjacent neighborhood has occurred but no formal development submittals have been submitted to the City of Tucson.

The parking garage formerly utilized by the Catalina Theater is currently contracted to the University Medical Center in conjunction with a shuttle service.

Grant Road and Campbell Avenue, Northwest Corner

The City of Tucson owns vacant property at the Northwest corner of Grant Road and Campbell Avenue. Opportunities for development of this property will likely emerge as a result of the Grant Road Corridor Plan.

The Oracle Project

The Oracle Project is a collaborative effort between neighbors, businesses and the City of Tucson to plan revitalization of the Oracle Road corridor between Speedway Boulevard and Grant Road. The project is focused on identifying redevelopment and reinvestment opportunities and will ultimately culminate in a land use plan to encourage and guide revitalization of the corridor.

Oracle Road and Drachman Street, Northwest Corner

Northwest of the Drachman Street circle interchange at Oracle Road, the Arizona Plaza Hotel is planned for a renovation and conversion to rental student housing. The renovated facility, to be known as "College Place" will house approximately 185 students with 20 rooms set aside for short-term stay. The renovation is expected to be complete with rooms open to students by April 2008. Full occupancy is expected by August 2008. The project includes a private van shuttle with service to the University each hour. Managers are investigating acquiring a 35 to 40-seat bus to supplement the 15-seat van. Shuttle service is also provided to destinations such as grocery stores on a regular schedule. The cost of the service is included in the rent.

Oracle Road and Drachman Street, Northeast Corner

With the reconfiguration of the Oracle Road/Drachman Street circle interchange into a typical "T" intersection, land at the northeast corner is planned for assembly and redevelopment as a six-story mixed use development to include ground floor retail, second floor office and approximately 80 units of residential condominiums above. The residential portion is targeted at mid-level professionals. A Planned Area Development rezoning was approved by Tucson Mayor and Council in September of 2006. Completion is anticipated in late 2009 to early 2010.

Stone Avenue Corridor Study

Completed in 2001, the Stone Avenue Corridor Study defines strategies to encourage infill of vacant land and redevelopment of under utilized property along Stone Avenue. The study provides development prototypes to draw significant Mixed-Use Commercial and Residential projects to the corridor.

Speedway Boulevard and Stone Avenue, Southwest Corner

"One West," a mixed use development including 100 to 110 condominium units, retail and office with an above ground parking garage has been proposed at the Southwest corner of Speedway Boulevard and Stone Avenue. The project will require sale of land owned by the City of Tucson and a Planned Area Development rezoning.

Speedway Boulevard and Stone Avenue, Northeast Corner

The property at the northeast corner of Speedway Boulevard and Stone Avenue is currently vacant and is listed for sale. Discussions with the real estate broker for the property indicate that, considering the parcel's size, the principal interest in the property to date has been for single story retail development.

Speedway Boulevard and 6th Avenue, Northeast Corner

The property formerly occupied by Chevron north of Speedway Boulevard stretching between 5th and 6th Avenues is currently vacant and could represent a significant development opportunity. A rezoning for the property was submitted in the late 1990's but was not finalized and no formal development submittals have been made to the City of Tucson since.

Broadway Corridor Plan

Work on an update to the 1987 Broadway Corridor Study is anticipated to begin in late 2007 to early 2008 to prepare for the programmed widening of Broadway Boulevard to six total travel lanes and two transit lanes from Euclid Avenue to Country Club Road. The study, like the ongoing Grant Road Corridor Study, will include a land use element identifying guidelines and opportunities for compatible redevelopment. Changes to the proposed alignment may create opportunities to develop land acquired for the corridor identified in the 1987 study.

Plumer Avenue and Broadway Boulevard, Northwest Corner

A two-acre site at the Northwest corner of Plumer Avenue and Broadway Boulevard has been identified for a 56-unit senior housing development. The project is currently in the pre-design phase with construction estimated to begin in early 2008 and completion anticipated in 2009.

Broadway Boulevard and Park Avenue, Northeast and Northwest Corners

In anticipation of opportunities created by the realignment of the Broadway corridor, developer interest has been expressed to City of Tucson staff in a land assemblage to support a mixed-use development on the east and west sides of Park Avenue north of Broadway Boulevard. Still in the formative stages, the preliminary concept discussed is for a mixed use development including retail, commercial and high density residential with an opportunity for student housing.

22nd Street Corridor Plan

The City of Tucson has initiated the 22nd Street Corridor Plan to prepare for the widening of 22nd Street between Interstate 10 and Kino Boulevard. Like the Grant Road and Broadway Boulevard Corridor plans, the 22nd Street Corridor Plan will have a land use component to identify and guide land development opportunities along the corridor following the road widening.

Campbell Avenue and 36th Street, "The Bridges"

The Bridges is a proposed 350-acre master-planned mixed-use development located south of 36th Street and west of Campbell Avenue. The project recently received Mayor and Council approval for a Planned Area Development rezoning which will allow approximately 1,000,000 square feet of commercial / retail / office and an approximately 350 room hotel on 129 acres; a maximum of 1,084 residential units on 117 acres; and a 53 acre University of Arizona biotech research park. This project will reinforce the importance of the Campbell Avenue / Kino Parkway corridor with its direct connection to the University of Arizona Campus and University Medical Center.

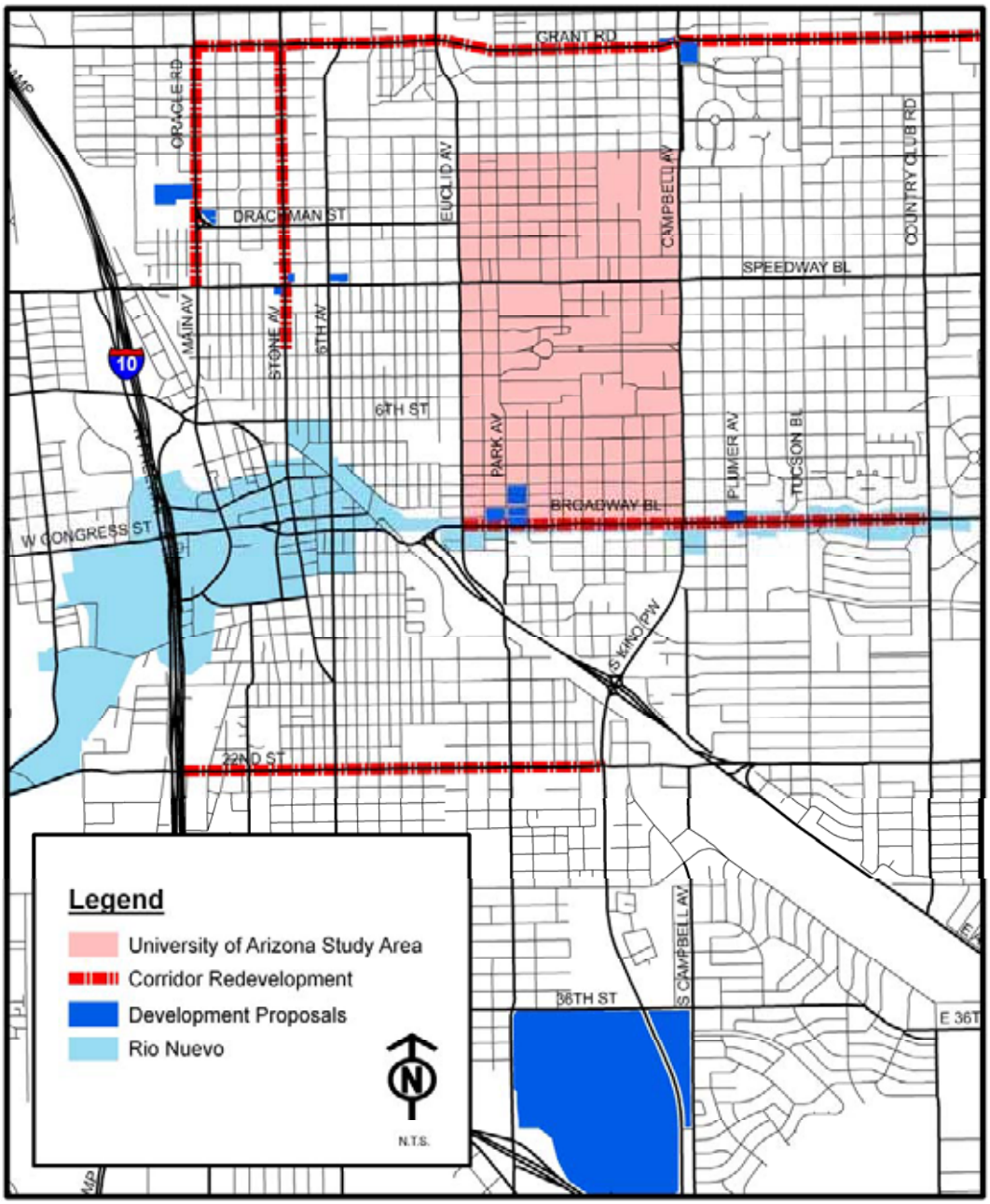
Rio Nuevo and Downtown

The Regional Transportation Authority (RTA) improvement package includes the implementation of a modern streetcar connection between the University and downtown. The implementation of the modern streetcar provides an exceptional opportunity for the redevelopment of land uses along the street car route. It may be possible to encourage the development of high intensity housing along the route geared towards the UA community. The availability of the modern streetcar with a direct connection to the UA could significantly reduce the use of the automobile for travel to and from the UA. This redevelopment could occur

through incentives to the private sector, or it could occur through the development of student housing along the streetcar route by the UA. Both options should be investigated to maximize the use of the modern streetcar as a travel demand management measure.

The Rio Nuevo Master Plan will continue to revitalize the downtown with a variety of projects including cultural attractions, housing, commercial development and restaurants. Major projects include the University of Arizona Science Center, Tucson Origins Heritage Park, Arena, and Depot Plaza. A number of mixed use/condominium housing developments are proposed downtown and are in varying stages of progress. These include the Lofts at Fifth Avenue, Town West/Nimbus Brewery, The Post, Presidio Terrace, the Santa Rita Hotel, the Martin Luther King building and the Rialto Block redevelopment.

Exhibit 3-47
SUMMARY OF NEW LAND DEVELOPMENT NEAR UA



IMPACT OF THE MODERN STREETCAR ON EXISTING UA AUTO TRAVEL DEMAND

The potential impact of the modern street car on auto travel to and from the UA was estimated based on the estimate of the number of UA off-campus students and UA employees **with parking permits** living with ¼-mile of the planned street car route. The ¼-mile distance was chosen because this is the typical distance transit users are willing to walk in order to access transit service. This estimate was made using the UA student and employee address and parking permit databases provided by the UA. The results of this estimation process are provided in Exhibit 3-48.

Exhibit 3-48
ESTIMATED POTENTIAL OF THE INITIAL MODERN STREET CAR SERVICE TO REDUCE AUTO TRAVEL TO THE UA BY STUDENTS AND EMPLOYEES

	Number with Auto Parking Permit	Number of Address Matches	Address Match Rate	Address Match Number Within ¼ - Mile Of Modern Street Car Route	Adjusted Number Within ¼-Mile Of Modern Street Car Route
UA Off-Campus Students	7,885	7,467	94.7	158	167
UA Employees	5,216	5,157	98.8	30	30

Based on the data presented in Exhibit 3-48, a maximum of approximately 200 automobiles per day could be eliminated from the UA travel demand if all of these permit holders drive to the UA and if all of them changed modes to the modern street car.

Based on the spatial analysis of residential location for UA off-campus students and employees, the following options should be considered to increase the potential of the modern street car to reduce auto travel to the UA:

- Extend the street car north of campus along one or more of the following streets:
  - Euclid Avenue
  - Mountain Avenue
  - Campbell Avenue
- Extend the street car east of campus along one or more of the following streets:
  - Speedway Boulevard
  - 6th Street
- Perhaps the greatest long range potential of the initial modern street car implementation to reduce automobile travel to the UA exists through the redevelopment of property along the initial street car route into higher density university-oriented housing. The street car would then provide a direct connection to the UA campus for a much higher number of UA students and staff, and could significantly impact future auto travel to campus. The City of Tucson is currently investigating "opportunity areas" for redevelopment along the proposed initial street car route, some of which may provide opportunities for new university-oriented housing. Rather than wait for private housing

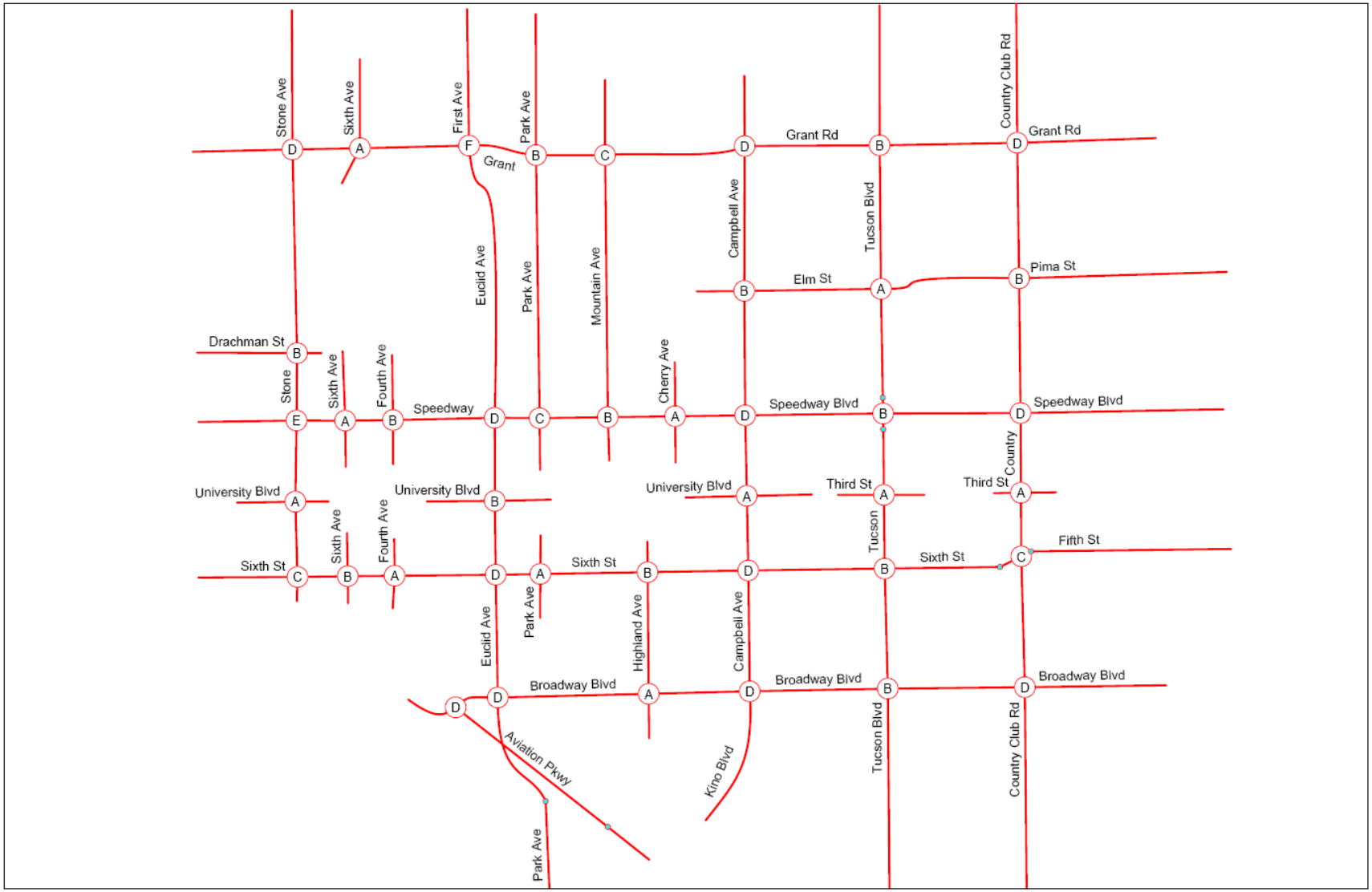
investment along the street car route, an option for consideration may be for the UA to purchase one or more of these redevelopment opportunities with the express purpose of constructing off-campus University housing which would be connected to campus by the streetcar.

YEAR 2005/2006 INTERSECTION LEVELS OF SERVICE

Signalized intersection levels of service for the 2005/2006 time period were provided from a previous study that was performed for the City of Tucson[3]. This study included a comprehensive Synchro model of every signalized intersection in the City of Tucson. The intersections near the UA Study area were examined from this study and the levels of service (LOS) for all intersections in the UA vicinity are provided in Exhibit 3-49 for the AM peak-hour and Exhibit 3-50 for PM peak-hour based on year 2005 and 2006 traffic counts, which were also provided by the City of Tucson. Levels of service by intersection approach are provided in Appendix A.

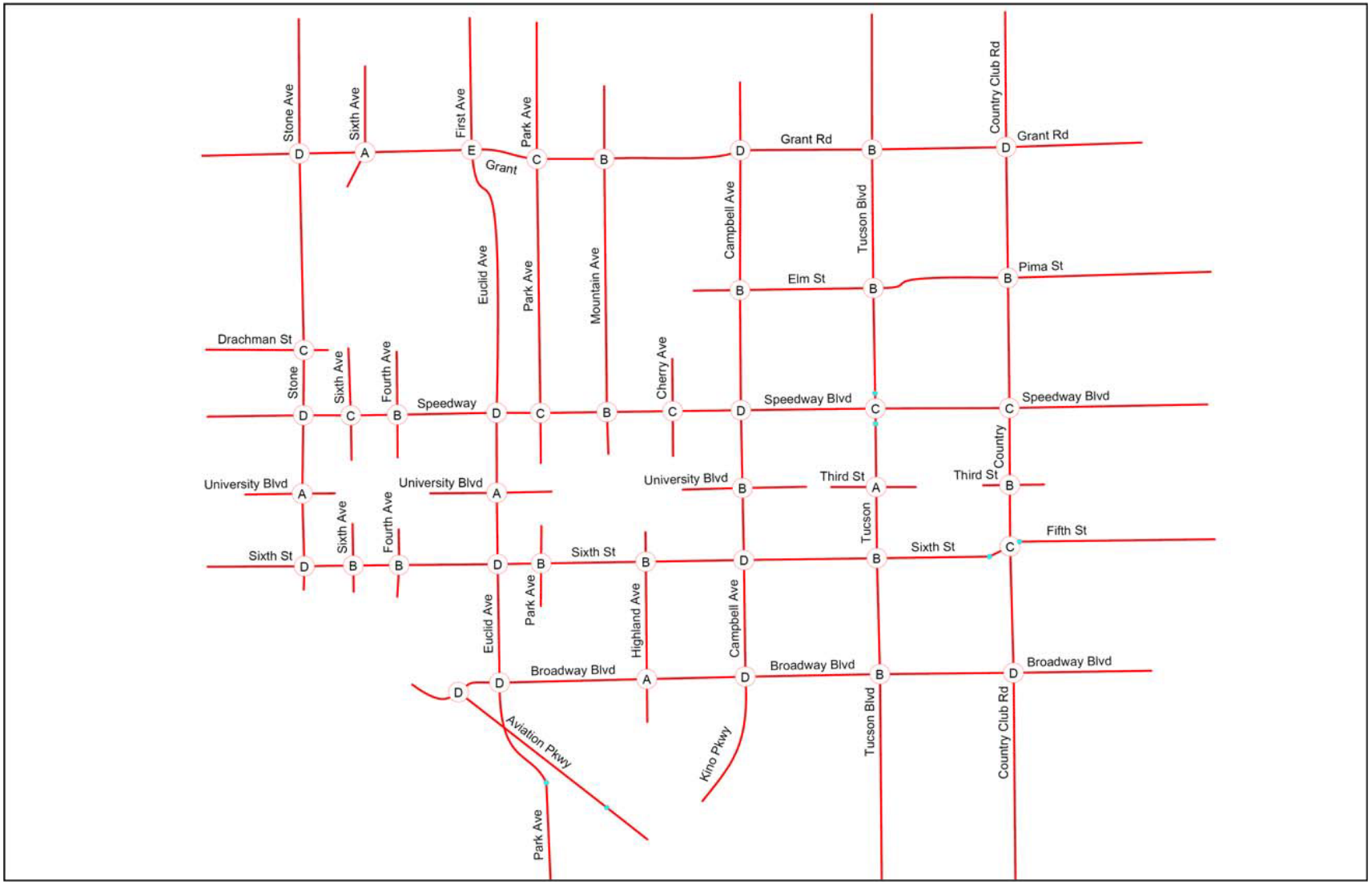
[3] City of Tucson, *Comprehensive Traffic Signal Analysis Tool,* prepared by Morrison-Maierle, Inc., June 2006.

Exhibit 3-49
YEAR 2005/2006 AM PEAK-HOUR INTERSECTION LEVEL OF SERVICE



Source: City of Tucson, *Comprehensive Traffic Signal Analysis Tool,* prepared by Morrison-Maierle, Inc., June 2006.

Exhibit 3-50
YEAR 2005/2006 PM PEAK-HOUR INTERSECTION LEVEL OF SERVICE



Source: City of Tucson, *Comprehensive Traffic Signal Analysis Tool,* prepared by Morrison-Maierle, Inc., June 2006.

4. TRAVEL DEMAND MANAGEMENT

TRAVEL DEMAND MANAGEMENT MEASURE ASSESSMENT

The primary goal of the TDM measure assessment was to identify and evaluate ways to reduce roadway congestion near the UA by managing UA traffic demand. The UA community travel demand and mode choice estimates presented earlier in this report provide a means to evaluate the trip reduction requirements associated with potential objectives of a TDM program. Example program objectives include the following:

- Maintain automobile travel at current levels for students and employees as the UA and UMC grow. This goal would require that the estimated year 2010 additional automobiles coming to campus be reduced by 3,265 autos per day.
- Decrease existing UA automobile travel to the UA by 10 percent and maintain at this level as the UA grows. This goal would require that a total reduction of 5,379 autos (22 percent) coming to campus each day by year 2010.
- Reduce vehicular travel by an amount sufficient to reduce traffic congestion near the UA during the AM and PM peak hours. The assessment of this objective requires the evaluation of AM and PM traffic demand at the intersections around the UA and the proportion of the total traffic consisting of UA trips. It is estimated that students, UA employees, and UMC employees currently contribute 3,590 and 3,680 vehicles to the AM and PM peak-hour traffic, respectively. This is estimated to increase in year 2010 to 4,145 and 4,248 for the AM and PM peak hours respectively. A very preliminary estimate is that the number of existing UA vehicles in the traffic around the study area would need to be decreased by at least 1,000 vehicles (approximately 28 percent) during the peak-hour for there to be a noticeable impact on traffic congestion at the major intersections around the campus.

It is very unlikely that achieving any objective related to reducing congestion and UA automobile travel will be achieved solely through TDMs directed at the off-campus student population. UA off-campus students make up 53 percent of the drive mode choice, UA employees make up 35 percent, and UMC employees make up 12 percent of the drive mode choice. UA employees represent a meaningful proportion of the overall vehicular demand, while UMC employees are not as meaningful. For example, reducing UMC auto travel by 10 percent would provide only a 1.2 percent reduction in overall auto use by the UA population. UA off-campus students and employees make up 88 percent of the drive mode choice combined; therefore TDM strategies should be directed at both the UA employee and off-campus student population in order to achieve significant overall effectiveness.

OPTIONS TO REDUCE AUTOMOBILE USE AND ROADWAY CONGESTION

There are several general categories of options to reduce automobile use by the UA population. Within each general category, several specific TDM strategies can be formulated for evaluation. These general categories are:

- Decrease auto mode share and increase alternate mode use either by directly targeting auto use or by providing alternate mode options that will indirectly target auto use. This approach could directly target all or a portion of the UA population.
- Centralize the UA population and increase the UA population living on or near campus (ideally within one mile of campus). Although this approach does not directly target auto

use, it could significantly reduce auto mode share. This approach would primarily impact UA students, unless increased housing for employees was specifically targeted.

- Spread travel demand to off-peak periods. This approach would affect travel by all modes, not just auto. This approach could also affect travel by all population groups.
- Decrease total trips to the UA study area. This approach would affect travel by all modes, not just auto, and could affect travel by all UA population groups.
- Increase roadway capacity. This is a supply side strategy affecting all travelers in the UA area. While this approach will address congestion issues around the UA, it does not reduce travel demand, and could increase travel demand.

The TDM options in each category can be employed independently, but are generally most effective when applied in combinations of options that specifically target a UA group or are designed to achieve a specific overall objective. For example, options designed to decrease automobile use can be more effective if combined with options to provide improved alternative mode service.

Some Options That Directly Target and Decrease Automobile Use

Options to directly target and decrease UA automobile use include the following:

- Increase parking cost.
  - Targets on and off-campus students and UA employees.
  - Targets over 90 percent of the UA population.
- Institute parking fees for UMC employees.
  - Targets only UMC employees.
  - Targets approximately 6 percent of the UA population.
- Restrict parking permit availability – Directly targets auto use. Numerous options could be considered:
  - Limit the number of permits to that currently being sold or reduce the number sold.
    - Targets all on and off-campus students and UA employees.
    - Eliminates future growth in demand.
  - No permits for students living within a specified distance from campus.
    - Only 1,246 student permits within 1 mile of campus, and an estimated 740 autos driven to campus daily.
    - Relatively small target group limits effectiveness.
  - Parking permits not allowed for freshmen.
    - 541 permits for off-campus freshmen, 855 permits for on-campus freshmen for a total of 1,396 permits.
    - Very small target group limits effectiveness.
  - Day of week parking permits for off-campus students (M, W, F or T, Th, F).
    - Could reduce student autos coming to campus by half Monday through Thursday (5,560 autos or 11,120 daily auto trips eliminated).
    - However, if the pass costs less, more students might buy, reducing effectiveness.
- Vanpool program for students and/or staff.

  - Would target all off-campus students and UA employees, but does not target auto use only.
  - Current alternative mode users might transfer to van pool.
- Time of day restrictions.
  - Could be used to target UA traffic peaking during the AM and PM peak hours by restricting parking to off-peak hours.
  - Primarily targets off-campus students.
- Single day use permits only.
  - Annual parking pass would be eliminated and replaced with single day use permits.
  - Targets off-campus students.
  - Encourages a shift to alternate modes by eliminating the convenience of the annual parking permit, and potentially increasing parking cost.
- Fee per use parking permit (all lots gated).
  - Annual parking pass would be eliminated.
  - Targets both off-campus students and employees.
- Increase peripheral parking with transit shuttle.
  - Lower priced parking in remote lots.
  - Targets off-campus students and employees that live more than five miles from campus.
- Restrict general use parking and add more carpool parking only permits and spaces.
  - Could be used to target students and employees, but is most likely applicable to employees.
  - Application to students may require student rideshare program as a support measure.
- Expand neighborhood parking bans (unfortunately, the level of neighborhood parking by students is unknown).
  - Targets students and employees parking in neighborhoods.

Some Options That Increase Alternative Mode Use

This approach employs the use of improved alternative mode service or alternative mode policies to increase alternative mode use. In general, options of this type do not specifically target auto users, but rather represent a broad appeal to all travelers to shift travel to a mode targeted with improvements in service. Options include:

- Expand CatTran service into neighborhoods surrounding campus.
- New neighborhood transit circulator system within 5-mile radius of campus circulating directly onto campus.
- UA transit shuttle within five miles of campus along existing Sun Tran routes. This service could circulate directly onto campus using small transit vehicles like those used for the City's Ticet service.
- Provide additionally subsidized or free transit pass.
- Universal transit pass deployment (all students get a pass with payment of tuition and fees).

- More SunTran express routes/service to UA with remote park-n-ride lots (serves travelers from more than 5 miles away from campus).
- Faculty/staff bicycle purchase subsidy.

The potential effectiveness of these options is best estimated based on assumptions regarding frequency and location of service, and the coordination with other options to directly decrease auto use. This type of evaluation is beyond the scope of this study.

Some Options to Centralize the UA Population

This approach is primarily directed at students as the most effective target group. While providing housing options for UA employees on or near campus would also reduce auto trips, it would be more costly to develop the type of housing that would attract UA employees. Options to increase the UA population living on or near campus include the following:

- Build more on-campus student housing.
  - Targets off-campus students.
  - In comparison to students living more than two miles from campus, for every 10 students that move to on-campus housing, the number of autos coming to campus is reduced by approximately 8.
- Build more private student housing within one mile of campus.
  - Most effective target group is students living more than two miles from campus.
  - In comparison to students living more than two miles from campus, for every 10 students that move to within one mile of campus, the number of autos coming to campus is reduced by approximately six.
- Increase the number of UA employees living within one mile of campus.
  - In comparison to employees living more than two miles from campus, for every 10 additional employees living within one mile of campus, the number of autos coming to campus each day is reduced by approximately three.
- Increase the number of UMC employees within one mile of campus.
  - This has even less potential to reduce auto trips to campus than that for UA employees. For every 10 additional employees living within one mile of campus, the number of autos coming to campus each day is reduced by approximately two.
- A policy that freshmen must live on campus.
  - Of the 4,742 freshmen, 1,667 (35 percent) currently live off-campus. Of the freshmen living off-campus, 541 have parking permits.
  - This is a relatively small target group, but a policy of this type may act as one strategy in a more comprehensive grouping of measures to reduce auto use.
- Provide a financial incentive for students to live on-campus (e.g., tuition discount).

Some Options to Spread Travel Demand to Off-Peak Periods

It may be beneficial to move the peak demand for UA traffic to off-peak periods for the general traffic, thus reducing congestion near the UA. This approach would not directly reduce overall traffic or parking demand at the UA. Options include the following:

- Shift employee work schedule (e.g., 9:00 AM to 6:00 PM).

- Reduce the number of classes starting between 8:00 and 9:00 AM.
- Start more classes at 6:30 PM or later.
- Conduct classes on weekends.

Some Options to Decrease Overall UA Trips

Generally, efforts to reduce the total number of trips being made to the UA by students and employees would impact users across all modes, not just travel by auto. Options intended to decrease trip making include the following:

- Limit enrollment.
- Limit the number of UA employees.
- More internet/web based classes.
- More telecommuting for staff.
- Use of satellite campuses to disperse travel to other areas.
- Compressed work week for employees.
- Compressed class week.

In general, for every 10 off-campus students that do not come to campus on a daily basis, the number of autos coming to campus would be reduced by four. For every 10 UA employees that do not come to campus on a daily basis, the number of autos coming to campus is reduced by approximately seven.

Some Options to Increase Roadway Capacity

Increasing roadway capacity will directly address traffic around the UA campus, but it does not target UA auto travel or parking demand. Based on existing traffic demand and intersection levels of service, the following options could be considered:

- Widen Speedway Boulevard to six lanes from Euclid Avenue to Stone Avenue, and from Main Street to I-10.
- Add intersection turn lanes (e.g., dual left-turn lanes on all approaches at Speedway Boulevard/Euclid Avenue intersection).
- Improve traffic signal timing to increase intersection capacity and traffic progression.
- Widen 6th Street to six lanes from Campbell Avenue to Euclid Avenue.

TDM MEASURE DEVELOPMENT, EVALUATION, AND RANKING

Travel demand management measures to reduce traffic volume and congestion in the UA planning area were developed, evaluated, and ranked to provide a list of potential measures for implementation. These measures were specifically focused on the majority members of the UA community contributing to automobile traffic on a daily basis during the AM and PM peak traffic hours on typical weekdays. Thus, these TDM measures were developed to address typical recurring congestion issues in the UA campus planning area. The majority members of the UA community contributing to typical recurring traffic congestion are described in Exhibit 4-1.

A brainstorming and evaluation workshop was held from 8:30 AM to 12:00 PM on December 3, 2007 at the Pima Association of Governments (PAG) offices. The workshop was conducted

using the ThinkTank software product licensed to PAG. ThinkTank is a software application that allows participants to anonymously participate in a group decision making process. In this case the decision making involved the evaluation and ranking of TDM measures. Each participant provides input to the process through their own individual computer terminal (provided by PAG) and the software automatically records and summarizes the input from all participants. After the session was complete, the software automatically provided a verbatim compilation of all participants input and summarized the evaluation of the TDM measures.

Exhibit 4-1
UA COMMUNITY CONTRIBUTING TO
TYPICAL RECURRING CONGESTION

	2006-2007 Academic Year[1]	Percent of Total Population	Estimated Year 2010	Percent Increase
Total Students	34,116	71.3%	40,000[2]	17
Off-Campus	28,725	60.0%	32,921[2]	15
On-Campus	5,391	11.2%	7,079[2]	31
UA Employees	10,647	22.3%	12,483[3]	17
UMC Employees	3,052[4]	6.4%	3,578[3]	17
Total Population	47,815	100.0%	56,061	17

1.

ThinkTank Session Participants

Twenty-one individuals representing the UA community, UMC, the Marshall Foundation, the City of Tucson, PAG staff, Sun Tran, and neighborhood associations in the UA area were invited to participate in the ThinkTank session. Of these 21 individuals, only 12 participated in the ThinkTank session. The organization or group represented by these participants is provided in Exhibit 4-2.

Exhibit 4-2
THINKTANK SESSION PARTICIPANTS

Organization/Group Represented	Number of Participants
University of Arizona	1
UA Parking and Transportation Services	3
Pima Association of Governments	1
Tucson Department of Transportation Transit	2
Tucson Department of Transportation	2
SunTran	1
Marshall Foundation	1
Feldman's Neighborhood Association	1

ThinkTank Session Process

The ThinkTank session had the following stated purpose:

- Identify potential TDM and other measures to address congestion near the UA.
- Evaluated these measures for application.
- Prioritize and rank these measures for potential implementation.

This ThinkTank session can be generalized as a four step process:

1. A brief presentation was made by the Project Team and PAG Staff to review the purpose of the project, the purpose of the ThinkTank session, the background materials and data generated by the project regarding UA community travel demand, and the ThinkTank session process and software.
2. Participants identified TDM measures for evaluation and ranking: In this case some TDM measures had been identified prior to the session and used as seed measures to begin the process. The TDM measures were grouped into the following seven general categories based on the primary purpose or focus of the measure:
    - Decrease Automobile Use
    - Increase Alternative Mode Use
    - Centralize UA Population
    - Spread Travel Demand
    - Decrease UA Trips
    - Increase Roadway Capacity
    - Other
3. Participants commented on the TDM measures identified, expressing concerns and issues. All comments were recorded and displayed to all participants for review as they were input.
4. Participants evaluated each TDM measure against preselected criteria using a 1 to 10 sliding scale, with 1 being the lowest score and 10 being the highest score for each criteria. For this session the following criteria were applied:
    - Cost: Defined as the monetary cost to the organization or jurisdiction to implement the idea. 1 = high cost (less desirable), 10 = low cost (most desirable).
    - Benefit: Defined as the effectiveness of the idea to manage automobile travel demand and reduce congestion. 1 = little reduction in travel demand, 10 = high reduction in travel demand.
    - Ease of Implementation: The effort required to overcome obstacles to the implementation of an idea. 1 = very difficult to implement, 10 = very easy to implement.

The process resulted in over 100 ideas being generated, with 98 of these considered to be sufficiently unique to be evaluated and prioritized. Complete documentation of the ideas, comments, questions, and issues generated by the participants is provided in Appendix B. The number of ideas evaluated within each of the TDM categories is provided in Exhibit 4-3.

Exhibit 4-3
NUMBER OF IDEAS
GENERATED FOR EVALUATION

Category	Number of Ideas Generated
Decrease Automobile Use	17
Increase Alternative Mode Use	46
Centralize UA Population	13
Spread Travel Demand	7
Decrease UA Trips	6
Increase Roadway Capacity	8
Other	1
Total	98

ThinkTank Session Results

The complete and detailed results of the ThinkTank session are provided in Appendix B. This detailed listing of input and results is generated by the ThinkTank software and represents a verbatim transcript of participant input of ideas, comments, and ranking of the TDM measures. Once the ThinkTank session is completed, this information cannot be modified.

A summary of the ThinkTank session results is provided in Exhibit 4-4. This summary is based on the ranking of the TDM ideas by the ThinkTank session participants. The ThinkTank software combines the ranking by individual participants for each criterion, and then combines the ranking across criteria to provide a total overall ranking of each TDM idea. The combination of ranking across criteria assumes that each criterion has equal weight in the ranking process.

The summary information in Exhibit 4-4 provides the following information:

- The top five ranked TDM ideas by individual criteria within each TDM category.
- The top five ranked TDM ideas within each TDM category.

The top 20 ranked TDM measures from the ThinkTank session are listed in Exhibit 4-5, along with overall ranking and average total score based on the combination of evaluation criteria. The total score is based on a 1 to 10 scale, with 10 being the highest rating.

The overall top ranked TDM measure from the ThinkTank session is the deployment of a universal transit pass for UA students. Under this concept, all UA students would be provided a transit pass with class enrollment. The pass could be paid for through several options including a small additional enrollment fee or an increase in parking permit cost. The latter option would work in conjunction with the universal transit pass to reduce auto trips to the UA. All UA students would be required to pay the additional enrollment fee if this option is selected, whether or not they chose to use transit. The increased parking permit cost option would work in conjunction with the universal transit pass to reduce auto trips to the UA. The universal pass would allow unlimited access to SunTran service.

A UA graduate student research project[1] conducted an extensive literature review and case study analysis of eight university universal pass programs. The literature review and case study analysis indicate that a universal pass program can be very effective at increasing student transit use (particularly when accompanied by transit and universal pass marketing towards students), and is effective at reducing automobile travel to campus by students. Several of the case studies cite the university's desire to reduce the need for new parking facilities and reduce roadway congestion near/on campus as motivating factors for initiating a universal pass program. The case studies indicate that the universal pass cost to students is generally heavily discounted in comparison to the per ride fare, and is also significantly less than the cost of discounted transit passes purchased individually by students under prior programs.

A TDM measure tied for the second place ranking is to increase parking cost. Previous materials provided in this report indicate that the UA charge for student and staff parking passes is less than that charged by Arizona State University and is less than the current market rate for City of Tucson and Pima County employee parking passes.

Emphasis from the ThinkTank session was also placed on marketing and ad campaigns to increase the awareness of available transit service to students and parents. Two TDM ideas regarding improved student marketing and information on alternative modes were ranked tied for second, a third similar idea was ranked tenth, and three other ideas were ranked among the top 20. These ideas are consistent with the findings of a recent UA student survey conducted by SunTran to gage student awareness of transit services and the current UA U-pass program[2]. The analysis from the U-pass survey study indicated that 59 percent of UA students are unaware of the current U-pass discounted fare program.

[1] Bommarito, Teresa, *Unlimited Acesss Pass Program: The University of Arizona and SunTran Proposal,* Fall 2007.
[2] Decision Support, Inc., *Results of the U-Pass Study Prepared for SunTran,* April 2007.

Exhibit 4-4
THINKTANK SESSION SUMMARY OF RESULTS
(December 3, 2007)

	Criteria Ranking				
Category/TDM	**Cost**	**Benefit**	**Implementation**	**Category Rank**	**Overall Rank**
Decrease Automobile Use					
Make parking permit rates equal to Tucson market.			3		
No parking permits issued to students living on campus.	2	4		**2**	**8**
Prohibit driving if commute is less than 3 miles.		4			
Higher parking rates for more convenient parking.			3		
Incentives for not driving to campus.		1			
Prohibit freshman from bringing cars to campus.	5	4	2	**2**	**8**
Increase parking cost.	1	3	3	**1**	**2**
Institute parking fees for UMC employees.	4			**5**	
Restrict parking permit availability.	3	2		**4**	
Single day use permits only.			1		
Increase Alternative Mode Use					
Increase peripheral parking with transit shuttle.		2			
Ad campaign to increase awareness of alternative modes available.	5		3	**4**	**10**
Freshman packets should contain only alternative transportation modes.	1		1	**2**	**2**
Increase marketing of alternatives to parents of incoming students.	1		2	**2**	**2**
Provide incoming students with user friendly information (via video, etc.) on how to ride the bus.			4		
Rapid bus transit system for major arterials n/s and e/w.		5			
More shuttles around neighborhoods.		3			
Create a bike sharing program.	4				
Work with off campus housing (student apartment complexes) to provide bus passes, or shuttle services to and from campus.	3			**4**	
Provide additionally subsidized or free transit pass.		3			
Universal transit pass deployment (all students get a pass with payment of tuition and fees).		1	4	**1**	**1**

Exhibit 4-4 (Continued)
THINKTANK SESSION SUMMARY OF RESULTS
(December 3, 2007)

	Criteria Ranking				
Category/TDM	**Cost**	**Benefit**	**Implementation**	**Category Rank**	**Overall Rank**
Centralize UA Population					
Do not rezone historic districts (Federal or city) near campus.	1		1	**2**	
Capitalize on streetcar by pursuing all possible opportunities for university-oriented (faculty & students) housing along streetcar route.	5	5	3	**2**	
Rezone areas closer to campus for higher densities and mixed uses.	2	3		**2**	
Build more on-campus student housing.		2	4		
Build more private student housing within one mile of campus.	4	4	4	**5**	
A policy that freshmen must live on campus.	3	1	2	**1**	
Spread Travel Demand					
Use of satellite campuses to disperse travel to other areas.		1	2		
Spread classes out more, night classes and Saturday.	2	2	4	**1**	
Shift employee work schedule (e.g., 9:00 AM to 6:00 PM).	1	5		**3**	
Reduce the number of classes starting between 8:00 and 9:00 AM.	3	4	3	**3**	
Start more classes at 6:30 PM or later.	3		4	**5**	
Conduct classes on weekends.	5	3	1	**2**	
Decrease UA Trips					
Limit enrollment.		5	5	**5**	
Limit the number of UA employees.	5				
More internet/web based classes.	3	1	2	**2**	**6**
More telecommuting for staff.	2	2	1	**1**	**5**
Compressed work week for employees.	1	2	3	**2**	**6**
Compressed class week.	4	4	4	**4**	
Increase Roadway Capacity					
Park Avenue, 6th street to Speedway, needs improvements for better traffic management	5		3	**5**	
Create more right turn lanes.	3	5	3	**4**	
1st Avenue improved to 6 lanes from Speedway to River Road.		4			
Better traffic flow... more or longer left arrows.	2	5	2	**2**	
Widen Speedway Blvd. to 6 lanes from Euclid Ave. to Stone Ave., and from Main St. to I-10.		1		**5**	
Add intersection turn lanes (e.g., dual left-turn lanes on all approaches at Speedway/Euclid intersections).	4	2	5	**3**	
Improve traffic signal timing to increase intersection capacity and traffic progression.	1	2	1	**1**	

Exhibit 4-5
TOP 20 RATED TDM MEASURES

TDM Measure	Overall Rank	Average Total Score (1 - 10)
Universal transit pass deployment (all students get a Sun Tran/Modern Street car pass with payment of tuition and fees).	1	7.0
Increase parking cost.	2	6.8
Freshman packets should contain only alternative transportation modes.	2	6.8
Increase marketing of alternatives to parents of incoming students.	2	6.8
More telecommuting for staff.	5	6.6
More internet/web based classes.	6	6.6
Compressed work week for employees.	6	6.5
No parking permits issued to students living on campus.	8	6.4
Prohibit freshman from bringing cars to campus.	8	6.4
Ad campaign to increase awareness of alternative modes available.	10	6.3
Restrict parking permit availability.	11	6.2
Increase marketing of existing and future TDMs to increase awareness.	11	6.2
Work with off-campus apartments to provide bus passes or shuttle service.	11	6.2
A policy that freshmen must live on campus.	14	6.1
Institute parking fees for UMC employees.	15	6.0
Improve traffic signal timing to increase intersection capacity.	16	5.9
Provide incoming freshmen user friendly information on how to ride the bus.	17	5.8
Provide a student ride matching service.	17	5.8
Create a bike sharing program.	17	5.8
Spread classes out, more night classes and Saturday.	17	5.8

Four of the top 20 ranked TDM measures are designed to reduce travel to the UA by increasing staff telecommuting, providing more internet/web based classes, instituting a compressed work week program for employees, or spreading classes out with more night classes or holding classes on Saturday. Four of the top 20 ranked TDM measures involve restricting the availability of parking or the use of automobiles by students.

The top 20 ranked TDM measures were presented to the public for review and comment at a public open house conducted on February 6, 2008. A summary of the open house activities and comments received is provided in Chapter 5 of this document.

5. PROJECT PUBLIC INVOLVEMENT PROGRAM AND COMMENTS

PUBLIC INVOLVEMENT PROGRAM

A project public Open House was held on February 6, 2008 from 12:00 to 4:00 PM on campus Student Union Memorial Center. Project materials available at the Open House included the following:

- Thirteen display boards describing the project and the results of the TDM evaluation and ranking.
- A handout consisting of the Open House display materials with additional details on the project.
- An Open House comment form and survey for attendees.
- Directions for attendees to provide additional comments through the UA PTS website.
- Project contact information.
- A sign-in sheet for attendees.

Nine members of the Project Team and Project Technical Advisory Committee (TAC) were also in attendance to answer project related questions and provide additional explanation of project materials.

A marketing program was developed by the UA PTS to promote attendance at the Open House and raise the level of awareness of all PTS parking and transportation programs by the campus community. The marketing program was initiated two weeks prior to the Open House. The marketing program included the following elements:

- Posters in CatTran Shuttles, the Student Union, the Recreation Center, library, Catcard Office, Garages, and the PTS lobby. A copy of the poster is provided in Exhibit 5-1.
- Electronic announcements and emails.
- Personal contacts through emails and telephone calls.
- A press kit and media release to the Wildcat student newspaper, Tucson Weekly, AZ Daily Star, KVOA, KOLD, KGUN, KUAT, the UA Communications Department, and UAnews.org. (See the press release in Exhibit 5-2.)
- Response mechanisms were established for web response at parking@arizona.edu and by telephone at 626-PARK.

OPEN HOUSE ATTENDANCE AND COMMENTS

The Open House was attended by approximately 53 individuals, including those associated with the project. The sign-in sheets from the Open House are provided in Appendix C.

A comment form, shown in Exhibit 5-3, was used to solicit public input at the open house. A summary of the comments received via this form and through the other response mechanisms is provided in Exhibit 5-4. For reference, the top 20 TDM measures, as displayed at the Open House are also provided in Exhibit 5-4. Note that all comments received were transcribed verbatim to this report.

Exhibit 5-1
OPEN HOUSE POSTER

Exhibit 5-2
OPEN HOUSE PRESS RELEASE

Campus Invited to Share Traffic, Parking Concerns at Open House

PARKING & TRANSPORTATION SERVICES

The event will include displays of information being collected as part of a UA traffic study.

By University Communications
January 30, 2008

Tired of being stuck in University of Arizona traffic? Interested in an alternative to paying for parking? If you answered yes to either of these questions, Parking and Transportation Services wants your input.

The University community is invited to attend the UA Travel Demand Management Open House on Feb. 6 between noon and 4 p.m. in the Sabino Room of the Student Union Memorial Center. A formal presentation will take place several times during the open house, and visitors can read informational displays and leave their feedback on comment forms.

Parking and Transportation Services, with a grant from the Pima Association of Governments, is studying ways to manage travel demand as part of the UA Transportation Needs Assessment Study. Information and displays from the study will be available at the open house and will explain possibilities for reducing traffic congestion at the UA. The study, which is under way now, will be wrapped up soon and will use the feedback from the open house to evaluate ways to reduce roadway congestion on and around campus.

Along with state, county and city officials, the UA has compiled a list of traffic management measures that may help alleviate congestion on campus, including increasing alternative transportation options, allowing more employees to telecommute or allowing more employees to adopt "compressed" work weeks, where the same number of hours are worked over fewer days. A complete list of these possible measures will be available at the open house.

For more information, call 626-PARK or visit **http://parking.arizona.edu**.

et cetera

What | Travel Demand Management Open House
When | Feb. 6, 12 p.m.-4 p.m.
Where | Student Union Memorial Center, Sabino Room

Exhibit 5-3
OPEN HOUSE COMMENT FORM

University of Arizona
Transportation Needs Assessment Study Open House
February 6, 2008

Comment Sheet

Demographic Information

Circle one: Faculty Staff Student Neighbor Other _____

Typical mode of transportation to campus: Car Bus Bike Walk Other _____

Distance from campus: Within 1 mile 1-2 miles 2-5 miles 5-8 miles 8+ miles

Name and email (optional): _____

Comments and Survey

The UA Department of Parking and Transportation Services wants to know what you think about the travel demand measures being considered. Please use this form to tell us which of the top 20 Travel Demand Management measures identified today you consider to be your top three (3) choices for possible implementation, in order of preference. You also may comment on why you think each measure is important or useful for reducing traffic congestion around the UA.

1. Measure # ____. Comments: _____

_____

_____

2. Measure # ____. Comments: _____

_____

_____

3. Measure # ____: Comments: _____

_____

_____

Are there any other types of measures that we should consider to reduce congestion around the UA?

_____

_____

_____

Given the physical and financial constraints surrounding parking and transportation in the UA planning area, please rate the following factors that could influence your decision to use alternate modes of transportation to get to the UA campus.

I would be more likely to…	**Less likely/More likely (Please circle your choice)**
Bike to campus if there were safer and more convenient places to park my bike	N/A 1 2 3 4 5
Bike or walk to campus if there were more multi-use paths	N/A 1 2 3 4 5
Bike or walk to campus if there were more facilities to shower or dress	N/A 1 2 3 4 5
Ride CatTran if the shuttle ran more frequently	N/A 1 2 3 4 5
Ride CatTran if the shuttle came closer to my house/apartment	N/A 1 2 3 4 5
I would be willing to…	**Less willing/More willing**
Pay $____more for a UA parking permit if I received a free, unlimited SunTran bus pass	N/A 1 2 3 4 5
Pay a $50-$100 annual fee so that all students, faculty and staff receive a free, annual, unlimited bus pass (value of $275 per bus pass)	N/A 1 2 3 4 5

What would it take to get you out of your single occupancy vehicle and use an alternative mode of transportation (bike, shuttle, bus, car pool, walk, etc.) to get to campus?

_____

_____

Please provide any other comments that you might have about the information provided at the Open House today.

_____

_____

Additional comments and questions can be submitted online at the Parking and Transportation Services Web site: www.parking.arizona.edu.

Thank you for your participation.

Exhibit 5-4
OPEH HOUSE COMMENTS SUMMARY

University of Arizona
Transportation Needs Assessment Study Open House
February 6, 2008

Comment Sheet Response Summary

Demographic Information

Total Respondents: **34**	Faculty: **1** Other: **2**	Staff: **21**	Student: **6**	Neighbor: **4**
Total Respondents: **32**	Car: **21** Other: **0**	Bus: **3**	Bike: **5**	Walk: **3**
Total Respondents: **34**	Within 1 mile: **6** 8+ miles: **10**	1-2 miles: **3**	2-5 miles: **9**	5-8 miles: **6**

Top 3 TDM Strategies

TDM Measure # (See Exhibit 5-4)	#1 Measure # of Respondents	#2 Measure # of Respondents	#3 Measure # of Respondents
1	15	6	2
2	3	6	
3	2	2	2
4			1
5	2		3
6	2	1	
7		1	2
8		4	4
9	4	1	2
10		1	
11		1	2
12			
13	1	2	3
14	1	1	
15	2	1	3
16			
17	1		
18			
19			
20		2	4

Candidate Top Ten TDM Measures

1. Universal transit pass deployment (all students get a SunTran/Modern Street Car pass with payment of tuition and fees).
2. Increase parking cost.
3. Freshman packets should contain only alternative transportation modes.
4. Increase marketing of alternatives to parents of incoming students.
5. More telecommuting for staff.
6. More internet/web based classes.
7. Compressed work week for employees.
8. No parking permits issued to students living on campus.
9. Prohibit freshman from bringing cars to campus.
10. Ad campaign to increase awareness of alternative modes available.

Candidate Top 11-20 TDM Measures

11. Restrict parking permit availability.
12. Increase marketing of existing and future TDMs to increase awareness.
13. Work with off-campus apartments to provide bus passes or shuttle service.
14. A policy that freshmen must live on campus.
15. Institute parking fees for UMC employees.
16. Improve traffic signal timing to increase intersection capacity.
17. Provide incoming freshmen user friendly information on how to ride the bus.
18. Provide a student ride matching service.
19. Create a bike sharing program.
20. Spread classes out, more night classes and Saturday.

Exhibit 5-4 (Continued)
OPEH HOUSE COMMENTS SUMMARY

TDM Strategy Comments

Ranked TDM Strategy Number	TDM Strategy Selected	Comments
#1 Measure	#1	• Targets wide audience and provides a range of benefits, even beyond TDM.
	#2	• They are extremely expensive.
	#1	• Being a bus rider, I would encourage all measures that would increase SunTran ridership.
	#2	• Increasing parking rates will encourage people to use other means to get to campus.
	#1	• Great idea. Need to get Sun Tran to accommodate more than 2 bicycles per bus.
	#17	• Measures #10 is the very similar. It is important to give students motive to use public transportation.
	#1	• If you have this option you would need to work with Sun Tran to make their routes reliable.
	#1	• Get this before students or find a way to fund it with some student participation.
	#3	• Parking needs to have more time to speak @orientation and emphasis on lack of parking to incoming students.
	#2	• Stay well below ASU.
	#5	• Although employees try to negotiate these options, their supervisors say no. This requires campus cultural shift.
	#9	• No need for freshman to have cars. Adjust better, experience campus environment without access to cars.
	#13	• I lived in an off-campus apartment my last 2 years at the university. The complex provided a shuttle. Students will jump at the opportunity to save a little gas money if the shuttles have short headway times.
	#6	• Best recommendation will greatly reduce traffic results.
	#1	• I agree giving an option for public transportation that is shared many the cost of all students seems to me to be a favorable choice among that population.
	#15	• Open the UMC garage for general use.
	#9	• Freshmen need to acclimate to campus life and the rigors of college. Keeping them on campus is the best way to do this.
	#1	• A great idea. More students will utilize this option if it's built into their tuition fees.
	#1	• Safe biking, including bike routes, bike boulevards, etc.
	#6	• Web based classes would be helpful to students but often bring more work to faculty staff.
	#14	• Off campus housing is cheaper than on campus. You shouldn't force people to live in an area.
	#1	• Provide transit pass for staff as well as students.
	#1	• Spread out class times, would reduce congestion as well as be useful to non traditional students.
	#15	• Fees for UMC employees except minimum wage staff would add funds to budget.
#2 Measure	#2	• Its bound to happen - sooner will bring the benefits sooner.
	#1	• Good option.
	#2	• Increasing parking fees might help with #1.
	#8	• Open-up parking to those living off campus. This will only work if transportation is provided for people to rent vehicles to run errands and such.
	#2	• Increasing cost of parking permits will make more people chose to park in neighborhoods close to campus.
	#3	• Need more.
	#8	• Unless student can verify they need vehicle-due to work off campus.
	#6	• Science faculty will fight this as they already known upon sciences courses offered online at community colleges.
	#9	• Bad for retention of upper classmates. Res. Life already-
#2 Measure (continued)	#1	• Possessions of a transit pass should lead to great usage of transit services.
	#2	• This method of forces some students to consider other alternative modes of transportation.
	#1	• Ok, if staff and faculty can use to w/o parking a free.
	#8	• Feel as though a strong measure #9 will cause negative criticism-some universities only prohibit freshmen.
	#1	• Great idea, as long as the buses are reliable and accessible.
	#15	• UMC employees take all the best parking spots at the highland garage due to early start times. It's frustrating to know they don't even pay! I don't like telling new employees that no on-campus parking is available.
	#2	• Traffic signs like slow speed, eg.
	#13	• Shuttles will help the most considerably reduce congestion, especially during poor weather.
	#20	• This would also benefit people that have complex work schedules.
	#2	• Bike share and paths. People perceive biking as dangerous more bike paths would improve rideshare.
	#1	• Great idea to encourage students for use of alternate modes of transportation.
#3 Measure	#8	• Will impact campus significantly and likely accomplish related TDMs related to students.
	#9	• Seems like a logical idea since most live on campus.
	#5	• Telecommute as well and will appreciate that it doesn't work well for everyone it's a valuable alternative for me.
	#13	• There is a market to work with off campus landlords to provide incentives to live or rent from them.
	#20	• A good way to utilize more efficiently both building and transit capacity.
	#20	• Centralize the population-students and faculty should live along streetcar route and downtown.
	#9	• Give the idea a trial and run it up the flag pole.
	#1	• Good idea but will only work if price of permits increase of students.
	#15	• They don't have to pay? But faculty and staff do?
	#20	• Requires a campus cultured shift as faculty don't want to teach them or they are in their research labs.
	#11	• The fastest way to get people to find alternative transportation is to restrict parking, limiting access.
	#1	• If students have a bus pass conveniently built into their cat card, they will at least consider using it.
	#20	• Good idea if the insecurity proves the infrastructure support-to support the concession services.
	#5	• This is a discouraged widely across campus-presidential encouragement would make such an option easier for subordinates such as myself.
	#5	• I could do a lot but not all of my work from home. I like this idea perhaps you could provide permits for specific days of the week as part of a telecommuting program.
	#4	• I've had many students over the years tell me they only tell their parents about transportation modes that appeal to them.
	#3	• Dedicated to public transportation like laves on Speedway and Euclid.
	#8	• Students that live on campus should not need a parking permit. They live on campus so they don't have to drive.
	#11	• Based on geographic region, schedule or what?
Other Measures		• U of A funded express buses from the Oro Valley/N. Tucson/E. Tucson areas. I like Sun Tran but it does require patience.
		• Several of the measures are good, however I urge to explore, seriously, park and ride lots. Commuters can't accommodate with parking would be able to access their cars(errands, etc) while parking a car off site given the impossible prospect of providing additional parking spaces close-in.
		• On-campus students- a way they can easily rent a car when needed.
		• I strongly disagree with measure 2, since this will affect making people who have no access to public transportation.
		• Making bike trails more friendly both on and off campus.
		• Increase number of commute lots and CAT Tran routes to off-campus locations the problem with city bus use is that some routes are very

Exhibit 5-4 (Continued)
OPEH HOUSE COMMENTS SUMMARY

Other Measures (continued)		unreliable- bus doesn't show up when it's supposed to and then you are late for work or class. • Make it easier for employees to leave/take time of 3 months off in the summer. • Not just increasing awareness of alternative modes of transportation-also work with U of A to educate students about ease/accessibility/low cost of alternatives. • Continue providing numerous off-campus lots where the CAT TRAN will pick up drivers for free. • Provide funds to ATLAS Center to study it's applications. • Consider Opt. 1 for employees-separate employee/student parking options creates. Eliminate Dept. service permits there is a great abuse with this option. • No this is a very thorough list. • Employees have to be able to get to work and have access to parking this parking also needs to be affordable. Perhaps provide permits to employees on an as needed basis. • Provide a certain amount of paid administrative leave to employees who use alternate transportation. • Freshmen not parking on campus-work with Sun Tran to schedule additional routes for convenience. • Education about behavior of pedestrians and bikes on campus. • Consider reduced rates for part-time employees/faculty. • Closing all vehicular traffic on campus. Access only available to mass transit, pedestrian etc. • 1) Install video surveillance for bike rack areas to encourage bike use. (way too much bike theft); 2) encourage motorcycles/motor scooter use by students and staff; 3) publicize outlying lot/CATtran options for staff.

Alternate Mode Physical/Financial Constraint Influence Factors Responses

I would be more likely to...	**Less likely/More likely** N/A: 1 2 3 4 5
Bike to campus if there were safer and more convenient places to park my bike	N/A: **11** 1: **3** 2: **0** 3: **4** 4: **4** 5: **2** **Respondents: 24**
Bike or walk to campus if there were more multi-use paths	N/A: **8** 1: **3** 2: **1** 3: **3** 4: **3** 5: **6** **Respondents: 24**
Bike or walk to campus if there were more facilities to shower or dress	N/A: **10** 1: **3** 2: **1** 3: **2** 4: **3** 5: **4** **Respondents: 23**
Ride CatTran if the shuttle ran more frequently	N/A: **9** 1: **1** 2: **3** 3: **3** 4: **4** 5: **3** **Respondents: 23**
Ride CatTran if the shuttle came closer to my house/apartment	N/A: **5** 1: **2** 2: **0** 3: **2** 4: **4** 5: **9** **Respondents: 22**
I would be willing to...	**Less willing/More willing** N/A: 1 2 3 4 5
Pay $____more for a UA parking permit if I received a free, unlimited SunTran bus pass	N/A: **5** 1: **6** 2: **1** 3: **3** 4: **2** 5: **4** **Respondents: 21, Range from $0-$100**
Pay a $50-$100 annual fee so that all students, faculty and staff receive a free, annual, unlimited bus pass (value of $275 per bus pass)	N/A: **2** 1: **6** 2: **2** 3: **2** 4: **7** 5: **3** **Respondents: 23**

Exhibit 5-4 (Continued)
OPEH HOUSE COMMENTS SUMMARY

What would it take to get you out of your single occupancy vehicle and use an alternative mode of transportation (bike, shuttle, bus, car pool, walk, etc.) to get to campus?

- I usually walk or bike - rainy weather an issue.
- Bus routes that worked for where I live - not require transfers. Better bike routes north-south along Oracle/Stone/1st Ave. corridors.
- A bus service to my area Roger and Mountain.
- Buy a house close to campus.
- Incentives to use an alternative mode, reduced parking permit if you use it only two three times a week lower cost.
- Yes.
- Drive to campus only if necessary.
- Whenever I can use alternative transportation. When I don't, I take City buses.
- More bike friendly lanes.
- I walk, but can only do so because I live 21/2 miles from campus.
- Better & more frequent bus services (Sun Tran).
- A Sun Tran in Rita Ranch it is apart of RTA, but that could take 20 years.
- I already walk or bike to campus.
- Shuttles offer short headways.
- Make riding the bus more attractive to my wife.
- Vehicle is part of job requirement.
- Better ways to provide transportation.
- I ride the bus now.
- Already bike.
- Shuttle service closer to my home. Cheaper parking for part time employees more frequent shuttle/more punctual.
- Safer bicycle travel along major routes.
- Live too far out for CAT and buses it takes more than an hour plus to travel time to get to bus locations.
- I recently attended the 2/6/08 transportation open house. There is an express bus that comes to Sunrise and Swan that I occasionally take. I would take it more often but don't want to pay for a garage pass and a bus pass. If I was given a bus pass as part of my garage pass.
- I would use it more often. If the bus, route 106 was extended to Sunrise and Kolb it would be even more attractive.
- If I lived closer to campus -- however I will pursue carpooling option.

Please provide any other comments that you might have about the information provided at the Open House today.

- Very laudable initiative congratulations!
- Walking and biking on Mountain Ave. just north of the University has become dangerous-Too many cars!
- Get RTA monies for improvements like everybody else does.
- Need designated area for apt. complex shuttles to lead/unload.
- Great job. Very professional.
- I think disabled students/faculty should receive priority for parking permits be able to get them @ no cost.
- Good!
- The information provided is really good.
- Unable to do, due to work equipment requirements.
- Thank you for offering it. Announce to campus your measures under consideration with a 3d memo.
- Work with Sun Tran to inform public of express routes from such areas.
- How does one report existing UA pedestrian bike routes and roadway problems?
- Great information. Parking is a huge problem and much too expensive.
- It is cheaper for me to drive 2.5 mi. to work than take Sun Tran.
- Sun Tran – suggest access from south side of Tucson: Green Valley, Sahuarita and Vail. There's not much available for drivers coming from the South.
- Add Park & Ride lots and buses for drivers coming from the South.
- Vans from outlying areas to campus. Note: Sierra Vista/Ft. Huchuaca employees ride vans (30) from Tucson to work each day which are subsidized by their employer.
- How will any of these changes impact large events on campus? Where will visitors and fans park?
- Sporting events now force permit holders of surface lots to exit by 5pm on game days… How can hourly employees leave early on game days?
- Make increases in parking fees commensurate with employment position and salary… Minimum wage and classified folks would pay less for parking than appointed staff.
- Have vehicle(s) available to borrow by staff who rides bus or bicycle for appointments and emergency calls from family members that require a quick trip to school or home. Reservation system for when staff member has an appointment and know ahead of time.

6. UNIVERSITY OF ARIZONA PARTICIPATION IN THE PIMA ASSOCIATION OF GOVERNMENTS (PAG) TRANSPORTATION IMPROVEMENT PROGRAM (TIP) PROCESS

EXISTING CONDITIONS

The UA is not directly eligible to receive regional transportation project funding from PAG. Project funding eligibility is confined to PAG governmental member jurisdictions, and thus the UA does not qualify. For the UA to submit a project to PAG for TIP consideration, the project must be sponsored by a PAG member jurisdiction, either the City of Tucson or Pima County. In that the UA planning area is entirely contained within the City of Tucson, the City is the jurisdiction that has in the past been approached by the UA to sponsor a UA project for the TIP. This coordination with the City has occurred infrequently in the past.

The Regional Transportation Authority (RTA)/PAG TIP Subcommittee represents the entryway for the inclusion of projects in the TIP and consideration for regional funding of projects. For a project to be considered for the TIP a formal written submittal to the TIP Subcommittee must be made by the sponsoring jurisdiction. The UA does have voting member representation on the PAG TIP Subcommittee, which includes representatives from all member jurisdictions, ADOT, the Tohono O'odham Nation, the Pascua Yaqui Tribe, and PAG. The PAG TIP Subcommittee evaluates and reviews project eligibility for inclusion in the TIP, and evaluates project funding availability and opportunities. Recommendations to include projects in the TIP from the PAG TIP Subcommittee are forwarded to the RTA and PAG Transportation Planning Committees (TPC) for approval, and are subsequently forwarded to the PAG Regional Council for final approval. The UA is a voting member of the PAG TPC, but is <u>not</u> a voting member of the RTA TIP Subcommittee, the RTA Transportation Planning Committee, or the Regional Council.

The PAG TIP is updated annually, but amendments can be made to the TIP throughout the year to add projects or redistribute available funds. TIP amendments, which originate from the sponsoring jurisdiction, are subject to the same review and approval process as any TIP project.

The UA has made project submittals to the PAG TIP Subcommittee on a very limited basis in the past, with the City of Tucson acting as the project sponsor for the submittal. This past coordination with the City of Tucson has been on an ad hoc basis with no formal project identification and development process within the UA structure, and no formal coordination process with the City. The lack of a formal structured process for developing UA projects for TIP consideration and funding has the following implications:

- Projects worthy of consideration for regional funding may not be identified or forwarded to PAG.
- The strength of project sponsorship, both internal to the UA and at the City, may be weakened by the informal nature of the existing process, possibly resulting in projects not being forwarded to PAG or being forwarded with less than full support.

Transportation projects suitable for regional funding may have an origin in any of the following UA departments:

- Parking and Transportation Services (PTS)
- Campus Facilities Planning (CFP)
- Facilities Management
- Design and Construction

- UA Police Department
- Risk Management

There has been only limited coordination between these UA departments in project development for the purpose of obtaining regional funding for project implementation.

Most streets within the UA planning area boundaries are not controlled by the UA. The major arterials and many local streets are controlled and maintained by the City of Tucson. Some streets controlled by the UA must be maintained as public thoroughfares through an agreement with the City. Exhibit 1 indicates which streets within the UA planning area are controlled by the university.

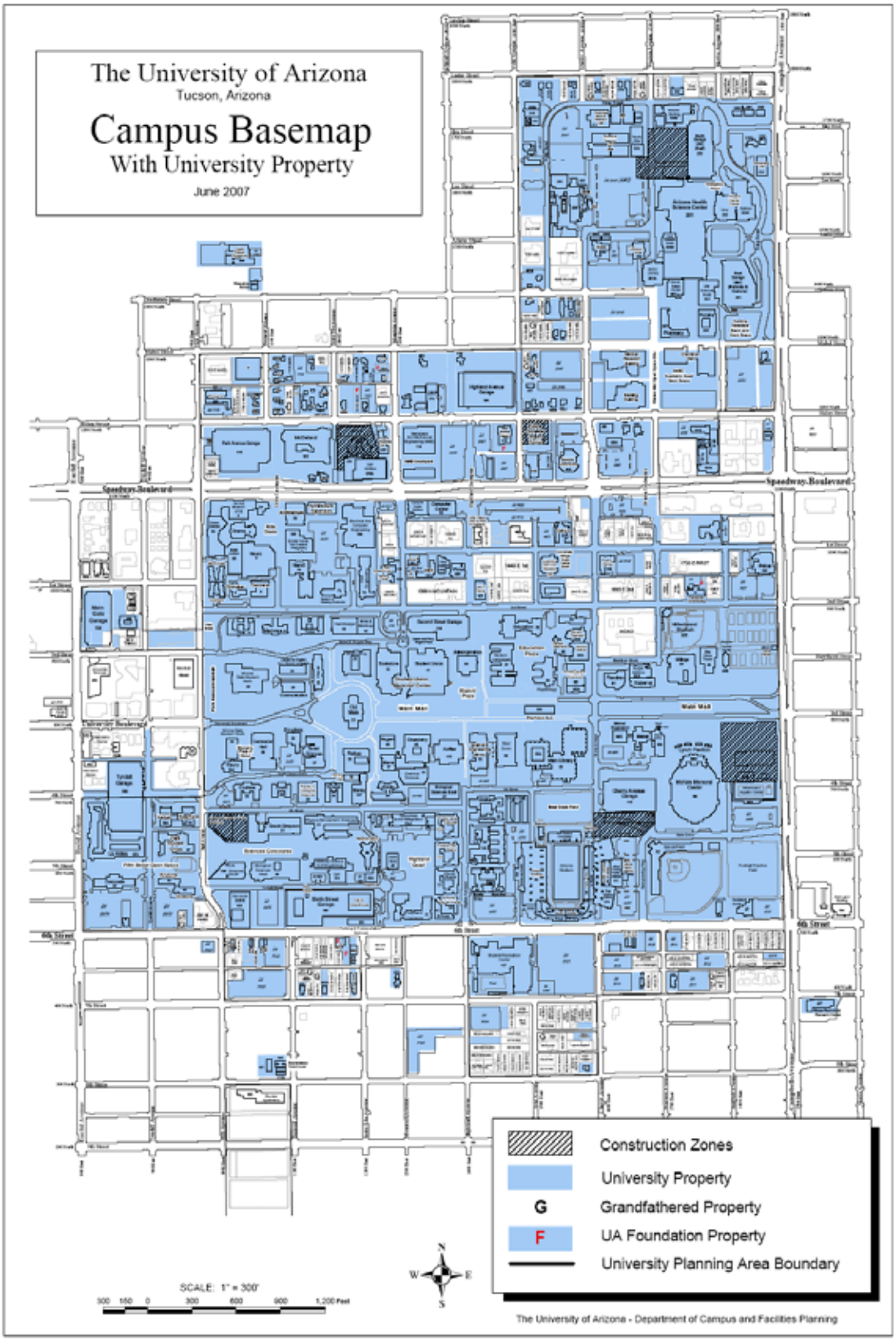
TYPES OF PROJECTS CONSIDERED FOR THE TIP

There are several types of projects that may be considered for TIP funding. The TIP is a multi-modal funding program for transportation system improvements, however not all funding sources can be applied to all types of improvements. For example, Highway User Revenue Funds (HURF) can only be applied to roadway improvement projects. A general list of the types of projects that can be considered for TIP funding is provided below:

- Roadway improvement:
  - Capacity improvements (adding lanes, including intersection turn lanes)
  - Safety improvements (projects specifically designed to reduce the number of crashes.
  - Traffic signal improvements.
  - Pavement improvements.
  - Engineering studies and design.
- Bridge improvements
- Transit improvements:
  - Service improvements and expansion.
  - Transit facilities.
  - Capital operating equipment (new buses).
  - Planning studies.
- Transportation enhancements – project categories applicable to UA include:
  - Provision of pedestrian and bicycle facilities.
  - Provision of safety and educational activities for pedestrians and bicyclists.
  - Acquisition of scenic easements or historic sites.
  - Landscaping and other scenic beautification.
  - Historic preservation (must have a strong transportation link).
- Bicycle and pedestrian programs
- Rideshare
- Travel Reduction
- Clean Cities
- Alternate mode programs
- Airport improvements.

There could be a significant potential for the UA to develop projects in several of these project areas for incorporation into the PAG TIP.

Exhibit 6-1
UA CAMPUS BASEMAP SHOWING UNIVERSTIY PROPERTY



POTENTIAL FUNDING SOURCES

There are 41 categories of funding listed in the PAG TIP, but not all of them would be accessible for UA projects. Of the 41 funding categories, the 18 categories listed in Exhibit 6-2 could provide funding depending on the type of project being considered, as funding categories are generally applicable to specific types of projects.

Exhibit 6-2
POTENTIAL TIP FUNDING FOR UA PROJECTS

Fund Name	Description
2.6%	Highway User Revenue Funds reserved for State Highways
12.6%	Highway User Revenue Funds (HURF)
5307	Federal FTA formula funds (Urbanized Area Transit)
5309	Federal FTA Capital Investment Grants & Loans (New starts)
ACSTP	Advance Construction STP Funds Programmed by PAG
ADEQ	Arizona Dept. of Environmental Quality
ASTP	Federal STP Funds Programmed by ADOT
ATEA	Federal Transportation Enhancement funds programmed for ADOT projects
HELP	Highway Expansion Loan Program (state infrastructure bank)
HES	Federal Safety Program Funds Programmed by ADOT
ITS	Special appropriations in TEA-21 for Intelligent Transportation Projects
LTAF	Local Transportation Assistance Fund (state lottery funds)
PDAF	Project Development Activity Funds (subcategory of 12.6%)
STATE	Non Federal State Funds
STP	Federal Surface Transportation Program Funds Programmed by PAG
TEA	Transportation Enhancement Funds Programmed by ADOT
TENH	STP Funds Programmed by PAG for Transit Enhancement Purposes
TUC	City of Tucson funds provided for projects sponsored by other agencies.

Local jurisdictions are responsible for partial funding and costs associated with Federal-aid funded projects. In addition to the local jurisdiction's share of design, right-of-way and construction costs, the local jurisdiction must transmit sufficient funds to ADOT prior to any ADOT activity on a local government project to cover the cost of ADOT technical review.

The UA would need to coordinate with the local jurisdiction sponsor and PAG to determine which funding source or sources could be applied to a specific project, and whether partial funding by the UA would be required.

COORDINATION AND DEVELOPMENT OF UA PROJECTS FOR THE REGIONAL TIP

There are three primary levels of coordination and development of UA projects for inclusion in the regional TIP process. These levels of coordination are:

- Internal UA coordination
- Coordination between the UA and the local jurisdiction project sponsor.
- Coordination between the UA and PAG .

Internal UA Coordination and Project Development Process

The UA internal process for developing and coordinating transportation projects for the regional TIP would begin at the departmental level and would include, but not be limited to the following UA departments:

- Parking and Transportation Services (PTS)
- Campus Facilities Planning (CFP)
- Facilities Management
- Design and Construction
- UA Police Department
- Risk Management

The UA internal process would include the following general steps and activities:

- A specific individual within each of the departments indicated above should be assigned the responsibility of reviewing and evaluating transportation system needs and developing projects to address those needs. This individual would develop a brief project description and cost estimate for each prospective project. A project can be a study to identify needs, evaluate alternatives, and recommend projects for implementation. The prospective projects should be reviewed and approved by each respective department.
- The individuals from each department would meet as a committee to review and coordinate the projects for consideration. This committee would be the UA TIP Committee and would report to the individual department administrators and the UA Senior Vice President of Business Affairs. It is recommended that the UA staff member that is the Official Representative of the UA to the PAG Transportation Improvement Program Subcommittee act as the Chairman of the UA TIP Committee.
- The UA TIP Committee would develop a prioritized list of projects to be forwarded to the local jurisdiction sponsor (most likely the City of Tucson) for review. The UA TIP Committee would also be responsible for indentifying the most appropriate local jurisdiction sponsor for each project. The list of projects would first be sent to the UA Senior Vice President of Business Affairs for review and approval before being forwarded to the local jurisdiction sponsor.
- The UA TIP Committee would be responsible for providing the TIP project data and documentation, in accordance with PAG requirements, to support the project's funding application for those projects that will ultimately be forwarded to PAG for inclusion in the TIP.

Coordination Between the UA and the Local Jurisdiction Project Sponsor

The coordination between the UA and the local jurisdiction project sponsor should occur on a regular and formal basis. This coordination should occur at least annually and possibly more frequently, depending on the nature and timing of the projects being considered. Projects can be accepted into the PAG TIP at any time during the year through TIP amendments. The

coordination between the UA and the local jurisdiction project sponsor should occur at two general levels:

- The first and highest level of coordination should be between the UA and the Director of Transportation for the local jurisdiction project sponsor. The purpose of this level of coordination would be to coordinate the UA projects with any related projects being developed by the local jurisdiction, and to achieve agreement for project support by the local jurisdiction sponsor. Any written agreements between the UA and the local jurisdiction required for project sponsorship would be coordinated at this level. This coordination would also identify the appropriate local jurisdiction staff personnel for the second level of coordination.
- The second level of coordination would be between the UA and the local jurisdiction staff personnel that would assist in developing the necessary project information and data needed for the funding application to PAG. This level of coordination would only be needed for those projects that advance through the first level of coordination indicated above.

Coordination Between the UA and PAG

The coordination between the UA and the PAG TIP Subcommittee would generally consist of the following activities:

- The members of the UA TIP Committee will document all of the information required by PAG to support major and minor project funding applications (see Appendix D for data requirements and forms). The provision of these data will most likely require information that will be obtained from the local jurisdiction (e.g., pavement condition, average daily traffic) or from PAG (e.g., forecast average daily traffic). Therefore, the UA will need to coordinate with the local jurisdiction and PAG to acquire the information needed for the project documentation.
- The UA representative to the PAG TIP Subcommittee will need to conduct the following coordination activities with PAG:
  - Identify the sources for the information required to document major or minor projects for PAG funding application. Contact these sources and acquire the information needed.
  - Coordinate with PAG to identify the appropriate funding source and UA fund match requirements for each project.
  - Prepare and submit the required documentation to PAG in a timely fashion consistent with the annual PAG TIP development process.
  - Attend PAG TIP Subcommittee meetings and champion UA projects.

The UA representative to the PAG TIP Subcommittee may also be required to attend PAG Transportation Planning Committee and Regional Transportation Council meetings to support the funding applications for UA projects. The UA will also be required to provide information on the status of the development and implementation of funded projects to the PAG TIP Subcommittee and the PAG TPC. The UA must be prepared to advance funded projects in a timely fashion and expend the funds for project development and implementation during the time periods specified in the TIP.

EVALUATION CRITERIA FOR INTERNAL UA PROJECT EVALUATION

The following represents a general process for the internal evaluation and development for UA projects for prospective application for regional funding and inclusion in the PAG TIP:

- Determine whether the project is generally consistent with one or more of the project types considered for the TIP.
- Evaluate, rank and prioritize projects using appropriate criteria to identify those projects that are most likely to meet PAG criteria for funding. It is recommended that the UA base the internal screening evaluation of projects on the same general criteria used by PAG to evaluate projects for the TIP funding. Using the PAG criteria the UA can be assured that the highest ranking projects will have the best chance to qualify for regional funding. Using the PAG evaluation criteria for the internal evaluation will have the additional benefit of providing information required by PAG for project documentation. The general criteria categories used by PAG for project evaluation are the following:
  - Safety benefits
  - System preservation
  - Number of users who will benefit
  - Congestion benefits
  - Environmental benefits
  - Improved accessibility
  - Improved system continuity
  - Regional significance

Additional information on how these general criteria categories are applied by PAG and how then can be applied to the internal UA evaluation process are contained in Appendix D in the "Minor Projects Funding Application". This application of the PAG process for Minor Projects is generally easy to apply and can be easily adapted to an internal process for the UA.

POTENTIAL UA PROJECTS FOR TIP CONSIDERATION

The review of recommendations from previous studies, the field inventory of pedestrian and bicycle facilities, plus discussions with the project Technical Advisory Committee has provided information for the conceptualization of potential UA related projects for PAG TIP consideration. Several of these projects involve studies to specifically identify improvements for implementation, which would also have potential funding through the PAG TIP. The following provides a brief description of these potential projects:

1. **Expansion of the Modern Street Car System** – This project would include the planning, design, and implementation of a system expansion beyond the initial implementation that is currently being planned. The system expansion would potentially be to the north and to the east of the UA campus.
2. **Neighborhood Transit Circulation System Feasibility Study** – This study would evaluate the feasibility of providing a neighborhood transit circulation system focused on the UA community within an approximate 5-mile radius of campus. The study would also compare the cost effectiveness of providing this service in comparison to providing upgraded Sun Tran service along existing transit routes to serve the UA. This study should also include of the potential for new park-and-ride parking lot locations and shuttle connections to the UA campus.

3. **UA Neighborhoods Sidewalk Improvement Program** – This project would construct new sidewalks and provide ADA sidewalk ramps in the neighborhoods north and south of the main campus that currently lack these facilities.
4. **UA Traffic Calming Study** – This study would identify specific locations for the implementation of traffic calming measures to reduce pedestrian/bicycle/vehicle conflicts. The study would provide specific recommendations for implementation that could then move to design and construction.
5. **Speedway Boulevard / Euclid Avenue Intersection Capacity Improvements** – This project would identify and design capacity improvements for this intersection that would then be constructed.
6. **UA Bicycle System Improvement Study** – This project would investigate and recommend bicycle system improvements both on campus and off-campus through connections to the neighborhoods surrounding the campus. Recommended improvements would then move to design and implementation.
7. **New HAWK Pedestrian Signals Near the UA** – The potential for HAWK pedestrian signals has been previously identified for Euclid/5th Street and Euclid/2nd Street.
8. **Multi-Modal Streetscape Design and Implementation** – The following provide potential locations for these projects as recommended in previous studies:
    a. Highland Avenue from Broadway to Sixth Street.
    b. Mountain Avenue from Speedway to Grant Road.
    c. Speedway Boulevard.
    d. Park Avenue.
    e. Euclid Avenue.
    f. Campbell Avenue.
    g. Sixth Street.
    h. University Boulevard.
9. **UA Student Ride Share Program Feasibility Analysis** – This study would evaluate the feasibility of establishing a ride share matching program for UA students living off-campus.
10. **UA Planning Area Roadway Improvements Study** – This study would evaluate roadway system improvement needs within the UA campus planning area, including traffic circulation, roadway capacity, signing, striping, and pavement rehabilitation needs.
11. **UA Planning Area Traffic Safety Study** – This study would identify the locations, and evaluate the characteristics of traffic safety issues within the UA planning area, particularly vehicular, pedestrian, and bicycle conflicts**,** and develop recommendations to address the identified problems. This would include an evaluation of crash reports.

7. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

The following represents a brief summary of the conclusions and recommendations developed through this study effort. The details on the development of these conclusions and recommendations can be found in the body of this report.

EXISTING AND YEAR 2010 TRAVEL DEMAND

Over 21,100 automobile trips are made to campus each day by students and employees. This does not include automobile trips made by visitors. It was estimated that this would increase to over 24,400 by year 2010, a 15 percent increase.

Fifty-nine percent of the total off campus students, UA employees, and UMC employees live within five miles of campus. For UA employees, sixty-nine percent living within five miles of campus arrive by automobile (drive + carpool).

There is a substantial potential to reduce auto travel to campus by focusing TDMs on the students and employees living within five miles of campus, particularly those living in the two to five-mile range.

TRAVEL DEMAND MANAGEMENT

Over 100 travel demand management (TDM) measures were evaluated as part of this study. The universal transit pass and increasing parking cost were the number one and two measures as rated by the public and other stakeholders. Other high ranking measures included:

- Freshman packets should contain only alternative transportation modes.
- Increase marketing of alternatives to parents of incoming students.
- More telecommuting for staff.
- More internet/web based classes.

More TDM information is included in Chapter 4 with the top twenty rated TDM measures provided in Exhibit 4-5.

UA PARTICIPATION IN THE PAG TIP PROCESS

There are several types of projects that could potentially be funded through the PAG TIP process to support transportation needs affecting travel to and from the UA. There are also a variety of potential regional funding sources that could be used to fund these projects, but not all funding sources can be applied to all project types. A general list of the types of projects that can be considered for TIP funding can be found in Chapter 6.

Also included in Chapter 6 are several project concepts that were identified through the activities of this study that have potential for being funding through the PAG TIP. These projects are:

1. Expansion of the Modern Street Car System
2. Neighborhood Transit Circulation System Feasibility Study
3. UA Neighborhoods Sidewalk Improvement Program
4. UA Traffic Calming Study

5. Speedway Boulevard / Euclid Avenue Intersection Capacity Improvements
6. UA Bicycle System Improvement Study
7. New HAWK Pedestrian Signals Near the UA
8. Multi-Modal Streetscape Design and Implementation
9. UA Student Ride Share Program Feasibility Analysis
10. UA Planning Area Roadway Improvements Study
11. UA Planning Area Traffic Safety Study

Finally, additional levels of coordination are recommended, which include:

- An internal UA TIP Committee to evaluate and develop a prioritized list of projects for potential PAG TIP funding.
- Regular and formal coordination between the UA and the local jurisdictional sponsor of any proposed TIP project.
- Increased coordination between the UA and PAG to provide any needed information for TIP consideration, including attendance by the UA at the appropriate PAG meetings.

APPENDIX A

LEVEL OF SERVICE BY INTERSECTION APPROACH BASED ON 2005 AND 2006 DATA

AM Level of Service		Eastbound			Westbound			Northbound			Southbound		
Int ID	Intersection	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
347	Grant Rd & Stone Ave	C	D		D	C		D	C		D	D	
348	Grant Rd & Sixth Ave	A	A		A	A		D	D	B	C	C	
349	Grant Rd & First Ave	C	D		D	F		C	C		E	D	
350	Grant Rd & Park Ave	B	B		C	A		C	C		C	D	
351	Grant Rd & Mountain Ave	D	C		D	A			C			D	
352	Grant Rd & Campbell Ave	C	C	B	F	C	A	B	B	A	D	F	B
353	Grant Rd & Tucson Blvd	C	A		C	B		C	C	A	B	C	B
355	Grant Rd & Country Club Rd	B	C		D	E		E	C		D	E	
398	Elm St & Campbell Ave	D	A		D	D		C	A		A	A	
399	Elm St & Tucson Blvd	B	B		B	B		A	A		A	A	
400	Pima St & Country Club Rd	C	C		C	D		A	A		A	B	
420	Drachman St & Stone Ave		C	C		B		A	A		B	B	
438	Speedway Blvd & Stone Ave	D	D	B	F	C		D	C	A	E	F	
439	Speedway Blvd & Sixth Ave	A	A			A			D				
440	Speedway Blvd & Fourth Ave	A	B		C	A		C	C	B	D	D	
441	Speedway Blvd & Euclid Ave	B	D		F	C	A	D	D	B	C	E	B
442	Speedway Blvd & Park Ave	C	C		C	A	A	C	C	A	D	D	B
443	Speedway Blvd & Mountain Ave	F	C		C	A		C	C	B	D	D	C
444	Speedway Blvd & Cherry Ave	D	B		C	A		D	D	C	D	D	C
445	Speedway Blvd & Campbell Ave	C	C	B	F	D	A	D	D	B	C	C	B
447	Speedway Blvd & Tucson Blvd	B	A		A	B	A	D	D	B	D	D	B
449	Speedway Blvd & Country Club Rd	C	B	A	E	D	A	F	C	A	E	D	B
482	University Blvd & Stone Ave								A		B	B	
485	University Blvd & Euclid Ave	D	D		C	C		A	A		A	A	
487	University Blvd & Campbell Ave	D	C			C		A	A		A	A	
488	Third St & Tucson Blvd		A			A			A			A	
489	Third St & Country Club Rd								A			A	
500	Sixth St & Stone Ave	C	D		F	B			B		D	C	
501	Sixth St & Sixth Ave	A	A			A			C				
502	Sixth St & Fourth Ave	A	A		A	A		D	C		C	D	
503	Sixth St & Euclid Ave	D	D		C	C		D	B		E	D	
504	Sixth St & Park Ave	A	A		A	A		D		A	D		A
506	Sixth St & Highland Ave	B	B		A	A	A	C	D		C	C	B
508	Sixth St & Campbell Ave	D	C	A	B	C		C	B	A	C	F	
510	Sixth St & Tucson Blvd	A	A		A	A		B	B		B	C	
512	Fifth St & Country Club Rd	C	C		B	C	A	B	C	B	C	D	
572	Broadway Blvd & Aviation Pkwy		C	A	C	B		F		A			
573	Broadway Blvd & Euclid Ave	F	C	B	C	D	B	D	D	A	F	D	C
575	Broadway Blvd & Highland Ave	A	A		A	A		D	C		C	C	
577	Broadway Blvd & Campbell Ave	E	B	A	D	E		D	E	B	B	C	A
579	Broadway Blvd & Tucson Blvd	A	A		A	B		C	D	A	C	E	C
581	Broadway Blvd & Country Club Rd	C	B		C	E	A	C	D	A	D	D	

PM Level of Service		Eastbound			Westbound			Northbound			Southbound		
Int ID	Intersection	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
347	Grant Rd & Stone Ave	E	D		C	D		E	D		F	D	
348	Grant Rd & Sixth Ave	A	A		A	A		C	D	B	C	C	
349	Grant Rd & First Ave	E	E		D	F		E	E		F	D	
350	Grant Rd & Park Ave	A	A		C	C		C	E		F	C	
351	Grant Rd & Mountain Ave	C	A		C	A			E			C	
352	Grant Rd & Campbell Ave	D	E	A	C	B	A	C	F	A	F	D	A
353	Grant Rd & Tucson Blvd	B	A		B	B		C	D	B	F	C	A
355	Grant Rd & Country Club Rd	C	D		C	D		F	D		E	D	
398	Elm St & Campbell Ave	D	C		C	B		A	A		A	B	
399	Elm St & Tucson Blvd	B	B		A	A		A	C		B	B	
400	Pima St & Country Club Rd	C	D		C	D		A	A		A	A	
420	Drachman St & Stone Ave		E	C		C		B	B		D	D	
438	Speedway Blvd & Stone Ave	E	D	A	D	D		F	C	A	F	C	
439	Speedway Blvd & Sixth Ave	D	C			A			C				
440	Speedway Blvd & Fourth Ave	A	A		C	A		D	D	C	D	C	
441	Speedway Blvd & Euclid Ave	C	C		F	C	A	F	D	B	F	E	C
442	Speedway Blvd & Park Ave	C	D		F	C	A	C	C	A	E	C	A
443	Speedway Blvd & Mountain Ave	D	B		B	B		C	C	A	D	D	C
444	Speedway Blvd & Cherry Ave	C	B		E	B		C	C	C	D	C	C
445	Speedway Blvd & Campbell Ave	F	D	A	E	B	A	D	D	A	D	C	A
447	Speedway Blvd & Tucson Blvd	D	D		C	A	A	C	C	A	D	C	A
449	Speedway Blvd & Country Club Rd	C	D	A	D	C	A	E	D	A	C	C	A
482	University Blvd & Stone Ave								A		B	A	
485	University Blvd & Euclid Ave	D	C		D	D		A	A		B	A	
487	University Blvd & Campbell Ave	D	C			C		B	A		D	A	
488	Third St & Tucson Blvd		A			A			A			A	
489	Third St & Country Club Rd								B			B	
500	Sixth St & Stone Ave	D	D		D	F			C		F	C	
501	Sixth St & Sixth Ave	C	B			B			C				
502	Sixth St & Fourth Ave	A	A		A	A		C	D		D	D	
503	Sixth St & Euclid Ave	D	D		D	F		D	C		F	D	
504	Sixth St & Park Ave	A	B		A	A		C		A	D		A
506	Sixth St & Highland Ave	A	A		A	A	A	C	C		C	D	B
508	Sixth St & Campbell Ave	F	C	A	C	C		C	C	A	E	E	
510	Sixth St & Tucson Blvd	B	A		C	A		B	C		C	C	
512	Fifth St & Country Club Rd	D	D		C	C	A	C	D	C	C	C	
572	Broadway Blvd & Aviation Pkwy		C	C	A	A		F		B			
573	Broadway Blvd & Euclid Ave	F	B	A	F	C	B	E	D	B	E	C	B
575	Broadway Blvd & Highland Ave	A	A		B	A		C	C		C	B	
577	Broadway Blvd & Campbell Ave	F	C	A	F	D		C	D	A	C	C	A
579	Broadway Blvd & Tucson Blvd	D	B		B	B		C	D	B	B	C	A
581	Broadway Blvd & Country Club Rd	F	B		C	E	A	D	F	A	F	E	

APPENDIX B

THINK TANK SESSION RESULTS

ThinkTank
Process and Outcome Disclaimer

ThinkTank is a software application that allows participants to anonymously participate in a group decision making process. The results of these processes are not an official statement of PAG policy or practice. The results of these processes may be considered during the planning process.

1. Good Morning!

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2. TDM Ideas

1. Decrease Automobile Use

1.1. make parking permit rates equal to Tucson Market
1.2. No parking permits issued to students living on campus
1.3. Pay studnts/employees not to bring their vehicle to cmpus
1.4. Prohibit driving if commute is less than 3 mies
1.5. Eliminate black market in residential parking pemits. Currenly, students sell/rent the permits on streets with residential permit parking only.
1.6. hgher parkig rates for more convenient parking
1.7. incentives for not driving to campus
1.8. mandate reomte parking for freshman. Provide shuttle servie to campus
1.9. Prohibit freshman from bringing cars to campus
1.10. Increase parking cost.
1.11. Institute parking fees for UMC employees.
1.12. Restrict parking permit availability.
1.13. Time of day restrictions.
1.14. Single day use permits only.
1.15. Fee per use parking permit (all lots gated).
1.16. Restrict general use parking and add more carpool parking only permits and spaces.
1.17. Expand neighborhood parking bans.

2. Increase Alternative Mode Use

2.1. Increase peripheral parking with transit shuttle.
2.2. Vanpool program for students and/or staff.
2.3. Mandate new building projects that will increase demand to pay a transportation fee to fun alternative transprtation pograms
2.4. Provide better transt linkages between PCC & UA (Downtown Campus).
2.5. bus priority access on campus streets. Re-think circulation patterns
2.6. Increase Park and Ride useage (Additional Marketing)
2.7. ad campaign to increase awareness of alt. modes available
2.8. Increase the marketing of existing and future TDM programs to increse awareness
2.9. freshman packets should contain only alternative transportation mode
2.10. increase marketing of alternatives to parents ofincoming students
2.11. Provide incoming students with user friendly information (via video, etc.) on how to ride the bus.
2.12. Create auto free zone
2.13. dedicated bus lanes or HOV lanes
2.14. Look for mixed use uniersity-oriented housing development opportunities along RTA corridors like Grant, Broadway, 22nd
2.15. Incentify private sector housing to provide alternat odes of transprt with flexible schedules
2.16. increase subsidy for vanpools
2.17. Reduce pedestrian fatalities and near-fatalities by strictly enforcing speed limits, stop signs, other signals and signs.
2.18. Improve local bicycle lanes to promote cycling

2.19. provide shower/clean up areas for bikers/walkers
2.20. Identify a high-density pedestrian zone around the University with signage or colored pavement.
2.21. Improve pedestrian safety by installing additional HAWK crossings near the University.
2.22. Improve access to campus by pedestians and cyclists with overpasses, bike paths, sidewalks
2.23. Improve lighting and sidewalk connections to promote walking
2.24. Increase the number of express SuTran routes into the campus and add later evening service
2.25. Build park and ride at locations that Cat Tran can use at 5 to 7 mile radius from campus.
2.26. Provide a student ride matching service
2.27. transit priority lanes on surrounding roadways
2.28. Rapid bus transit system for major arterials n/s and e/w
2.29. more shuttles around neighborhoods
2.30. make current transporttion sexierto proote ridership ie all new buses
2.31. create a bike sharing program
2.32. Extend the modern streetcar line into the neighbrhoods to provide a fixed rail line to the campus
2.33. more grade-separated facilities: ped and bike underpassess, transit underpasses, underground parking access, pedestrian bridges
2.34. Work with off campus housing (student apartment complexes)to provide bus passes, or shuttle sevices to and from campus
2.35. better bus schedue hours to create convenience
2.36. Move CatTran into SunTran so that transit can go where it needs not based on cost or artifical boundries
2.37. Provide on-campus vehicle alternatives for those alternative mode users (zip car) to eliminate need for car during the day
2.38. direct transit from larger populated areas..express routes
2.39. Increase incentives for carpooling
2.40. Expand CatTran service into neighborhoods surrounding campus.
2.41. New neighborhood transit circulator system within 5-mile radius of campus circulating directly onto campus.
2.42. UA transit shuttle within 5 miles of campus along existing SunTran routes.
2.43. Provide additionally subsidized or free transit pass.
2.44. Universal transit pass deployment (all students get a pass with payment of tuition and fees).
2.45. More SunTran express routes/service to UA with remote park-n-ride lots.
2.46. Faculty/staff bicycle purchase subsidy.

3. Centralize UA Population

3.1. A better K-12 public school system in central Tucson will encourage faculty & grad students with families to live closer in
3.2. Do not rezone historic districts (Federal or city) near campus. This option shold be off the table, as it is streuously opposed by the residents and homewners in these neighborhoods. It is also problematic from many other perspectives (e.g. low-denisty housing plays a role in preserving mature vegetation that mitigates heat and pollution generated by autmobile traffic, high rental rates are corelated with increased crime).
3.3. create ease and incentives for builders to build in core an renovate existing buildings
3.4. Provide financial incentive for faculty to purchase housing downtown (and use streetcar to work)

3.5. Capitalize on streetcar by pursuing all possible opportunties for university-oriented (faculty & students) housing along streetcar route.
3.6. rezone areas closer to campus for higher densities and mixed uses
3.7. provide more and better quality housing for UA employees in central Tucson
3.8. Build more on-campus student housing.
3.9. Build more private student housing within one mile of campus.
3.10. Increase the number of UA employees living within one mile of campus.
3.11. Increase the number of UMC employees within one mile of campus.
3.12. A policy that freshmen must live on campus.
3.13. Provide a financial incentive for students to live on-campus (e.g., tuition discount).

4. Spread Travel Demand

4.1. Use of satellite campuses to disperse travel to other areas.
4.2. Spread classes out more, night classes and Sarurday.
4.3. Hold core classes at highschools for freshman to limit their trips to campus
4.4. Shift employee work schedule (e.g., 9:00 AM to 6:00 PM).
4.5. Reduce the number of classes starting between 8:00 and 9:00 AM.
4.6. Start more classes at 6:30 PM or later.
4.7. Conduct classes on weekends.

5. Decrease UA Trips

5.1. Limit enrollment.
5.2. Limit the number of UA employees.
5.3. More internet/web based classes.
5.4. More telecommuting for staff.
5.5. Compressed work week for employees.
5.6. Compressed class week.

6. Increase Roadway Capacity

6.1. Park Avene 6th street to Speedway needs improvements for better traffic management
6.2. create more right turn lanes
6.3. 1st Avenue improve to 6 lanes from Speedway to River Road
6.4. better traffic flow... more or longer left arrows
6.5. Widen Speedway Blvd. to 6 lanes from Euclid Ave. to Stone Ave., and from Main St. to I-10.
6.6. Add intersection turn lanes (e.g., dual left-turn lanes on all approaches at Speedway/Euclid intersections).
6.7. Improve traffic signal timing to increase intersection capacity and traffic progression.
6.8. Widen 6th St. to 6 lanes from Campbell Ave. to Euclid Ave.

7. Other

7.1. preferential parking/reduced rates for fuel efficient vehicles

8. Extra

8.1. Reduce parking costs for alternative fuel vehicles
8.2. lights timed according to flow...in A.M. have lights coming into campus be mor conducive to moving traffic from N to S
8.3. Widen Speedway to 6 lanes from I-10 to Euclid
8.4. more on-line learning avaiability
8.5. Higher subsidy for bs pass
8.6. Car pool incentives forboth aculty and students
8.7. Limit access to parking - higher costs, less availability, more restrictions on access
8.8. Provide incentives to produce preferable behavior, such as payments or reduced costs for carpoolers .

8.9. Universal Access Pass funded by combination minimal student fee and other source(s)
8.10. Mandatory bus pass purchase built into tuition costs

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3. Break

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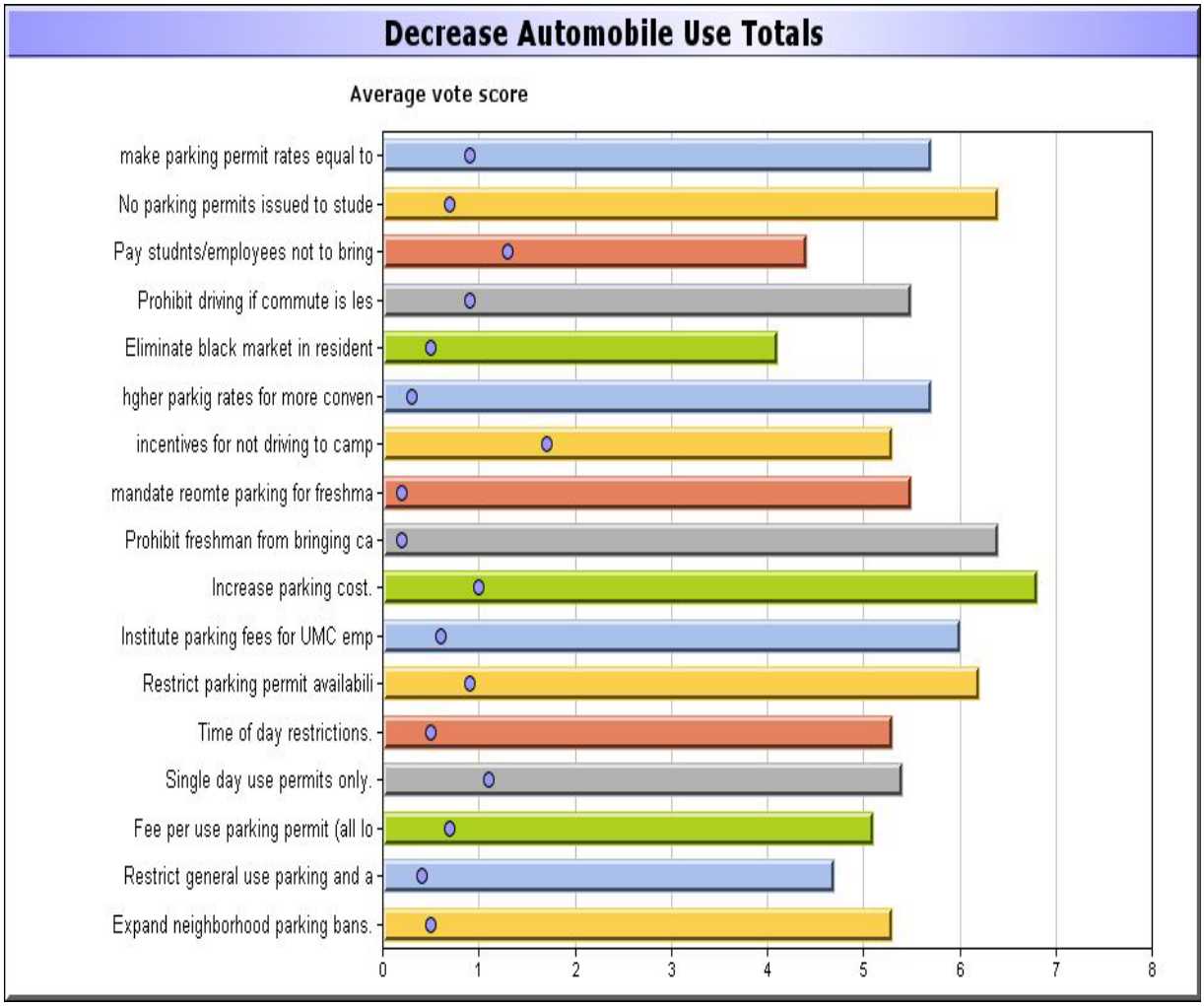
4. Decrease Automobile Use

1. Decrease Automobile Use Totals



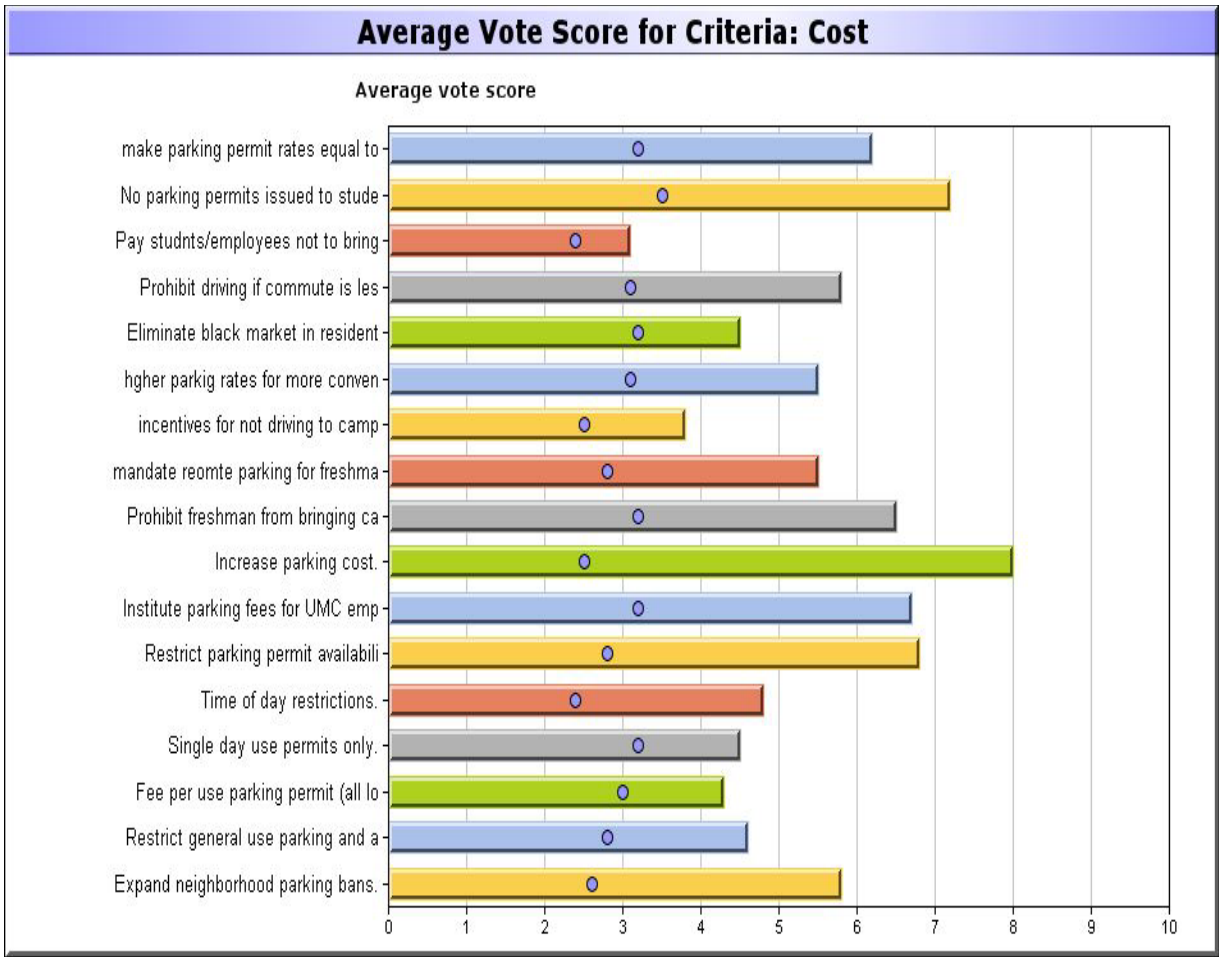
Decrease Automobile Use Totals

		Criteria				
		Cost	Benefit	Ease of Implementation		
	Voting Method:	SlidingScale	SlidingScale	SlidingScale		
#	Ballot Items				Average	STD

1.	make parking permit rates equal to Tucson Market	6.2	4.7	6.1	5.7	0.9
2.	No parking permits issued to students living on campus	7.2	6.2	5.8	6.4	0.7
3.	Pay studnts/employees not to bring their vehicle to cmpus	3.1	5.6	4.4	4.4	1.3
4.	Prohibit driving if commute is less than 3 mies	5.8	6.2	4.5	5.5	0.9
5.	Eliminate black market in residential parking pemits. Currenly, students sell/rent the permits on streets with residential permit parking only.	4.5	4.2	3.5	4.1	0.5
6.	hgher parkig rates for more convenient parking	5.5	5.6	6.1	5.7	0.3
7.	incentives for not driving to campus	3.8	7.2	4.8	5.3	1.7
8.	mandate reomte parking for freshman. Provide shuttle servie to campus	5.5	5.4	5.7	5.5	0.2
9.	Prohibit freshman from bringing cars to campus	6.5	6.2	6.5	6.4	0.2
10.	Increase parking cost.	8.0	6.4	6.1	6.8	1.0
11.	Institute parking fees for UMC employees.	6.7	5.6	5.7	6.0	0.6
12.	Restrict parking permit availability.	6.8	6.5	5.2	6.2	0.9
13.	Time of day restrictions.	4.8	5.8	5.3	5.3	0.5
14.	Single day use permits only.	4.5	5.1	6.6	5.4	1.1
15.	Fee per use parking permit (all lots gated).	4.3	5.5	5.5	5.1	0.7
16.	Restrict general use parking and add more carpool parking only permits and spaces.	4.6	5.2	4.4	4.7	0.4
17.	Expand neighborhood parking bans.	5.8	4.8	5.3	5.3	0.5

Voting Details
Criteria Statistic: Mean. Votes Cast: 23, Abstained: 0

2. Decrease Automobile Use Criteria: Cost
Vote Method: SlidingScale



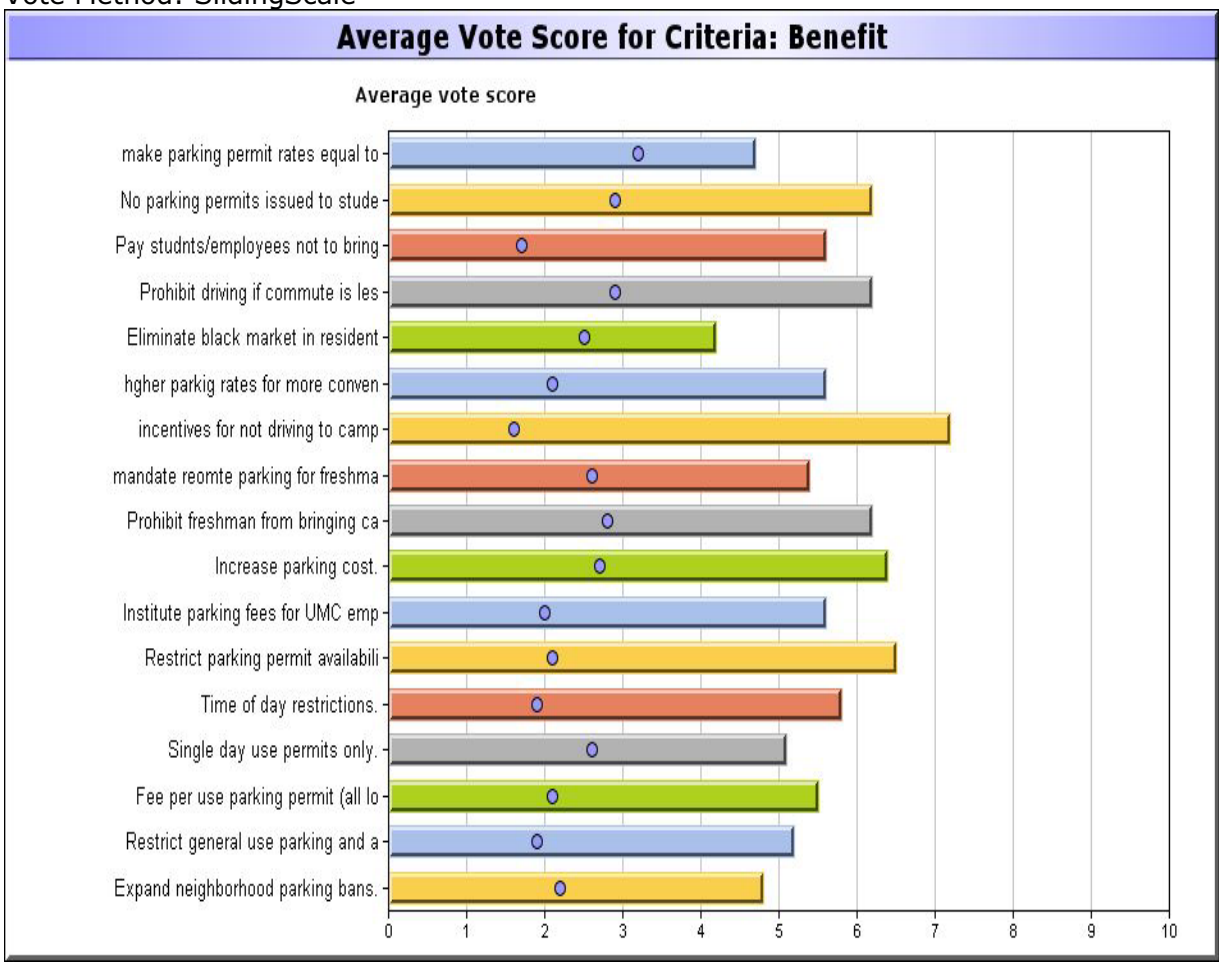
Decrease Automobile Use Criteria: Cost

		Vote Distribution													
#	Ballot Items	1	2	3	4	5	6	7	8	9	10	Avg	Total	STD	Votes
1.	make parking permit rates equal to Tucson Market	1	1	1	1	2	1	1	-	2	3	6.2	81.0	3.2	13
2.	No parking permits issued to students living on campus	-	3	1	-	-	-	-	1	3	5	7.2	94.0	3.5	13
3.	Pay studnts/employees not to bring their vehicle to cmpus	4	2	4	1	-	-	1	-	1	-	3.1	40.0	2.4	13
4.	Prohibit driving if commute is less than 3 mies	1	1	1	2	2	-	2	1	-	3	5.8	76.0	3.1	13
5.	Eliminate black market in residential parking pemits. Currenly, students sell/rent the permits on streets with residential permit parking only.	3	3	-	-	1	3	-	1	1	1	4.5	59.0	3.2	13
6.	hgher parkig rates for more convenient parking	-	4	1	1	-	2	-	2	2	1	5.5	71.0	3.1	13
7.	incentives for not driving to campus	2	4	1	1	1	2	-	2	-	-	3.8	50.0	2.5	13
8.	mandate reomte parking for freshman.	1	2	1	1	1	-	3	2	2	-	5.5	72.0	2.8	13

	Provide shuttle servie to campus														
9.	Prohibit freshman from bringing cars to campus	2	-	1	-	2	-	1	3	2	2	6.5	84.0	3.2	13
10.	Increase parking cost.	1	-	-	-	1	-	1	3	3	4	8.0	104.0	2.5	13
11.	Institute parking fees for UMC employees.	2	-	-	1	2	-	1	1	4	2	6.7	87.0	3.2	13
12.	Restrict parking permit availability.	1	-	-	2	1	2	1	1	2	3	6.8	89.0	2.8	13
13.	Time of day restrictions.	2	-	2	2	1	3	2	-	1	-	4.8	62.0	2.4	13
14.	Single day use permits only.	5	-	-	1	1	1	1	4	-	-	4.5	59.0	3.2	13
15.	Fee per use parking permit (all lots gated).	4	1	1	1	-	3	1	-	2	-	4.3	56.0	3.0	13
16.	Restrict general use parking and add more carpool parking only permits and spaces.	2	1	3	1	1	1	2	1	-	1	4.6	60.0	2.8	13
17.	Expand neighborhood parking bans.	1	1	1	-	2	1	5	-	1	1	5.8	76.0	2.6	13

3. Decrease Automobile Use Criteria: Benefit

Vote Method: SlidingScale



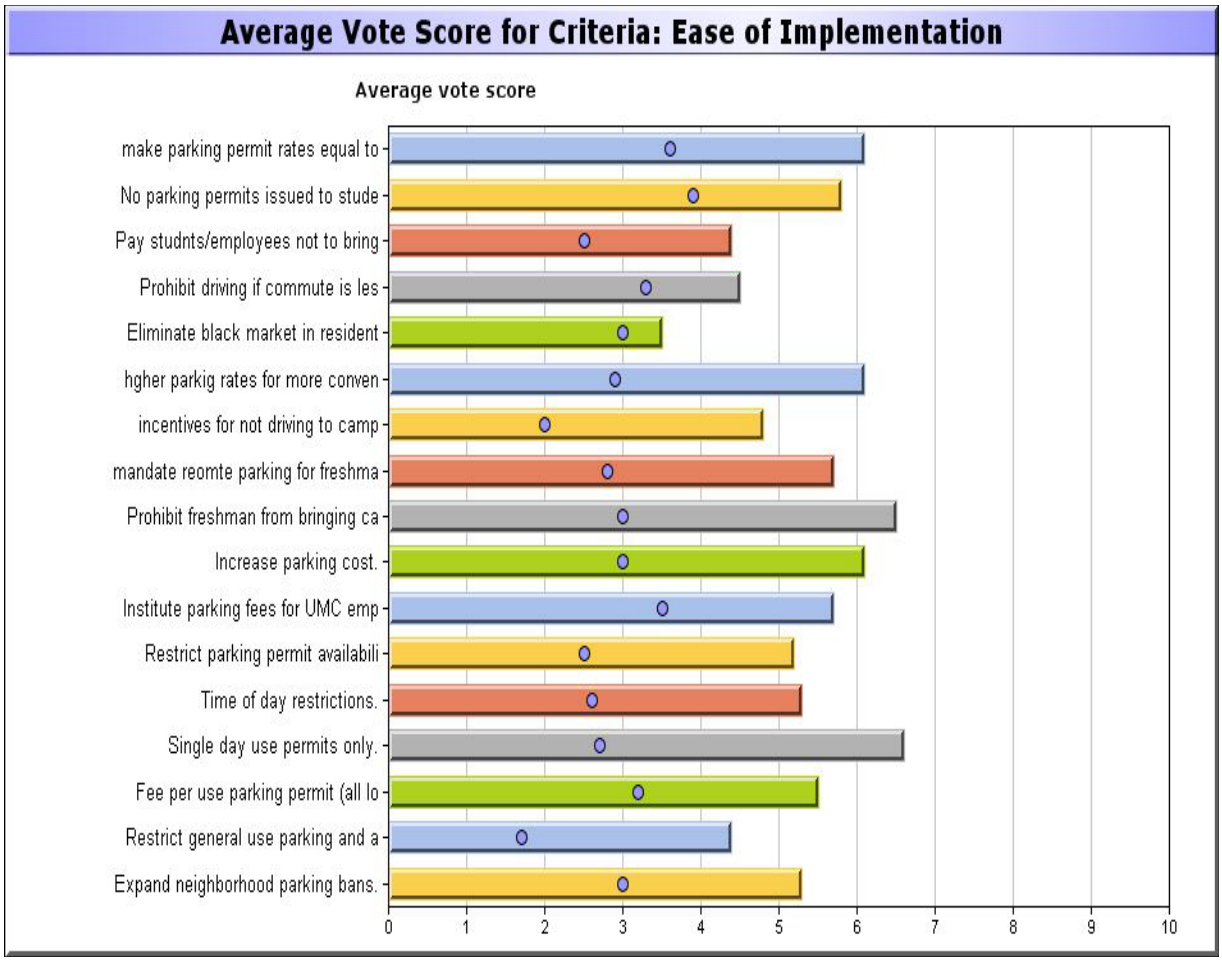
Decrease Automobile Use Criteria: Benefit

		Vote Distribution													
#	Ballot Items	1	2	3	4	5	6	7	8	9	10	Avg	Total	STD	Votes

1.	make parking permit rates equal to Tucson Market	2	3	-	2	2	-	1	-	2	1	4.7	61.0	3.2	13
2.	No parking permits issued to students living on campus	1	1	-	1	3	1	2	-	2	2	6.2	80.0	2.9	13
3.	Pay studnts/employees not to bring their vehicle to cmpus	-	1	-	1	5	2	2	2	-	-	5.6	73.0	1.7	13
4.	Prohibit driving if commute is less than 3 mies	1	1	-	1	3	1	1	2	-	3	6.2	81.0	2.9	13
5.	Eliminate black market in residential parking pemits. Currenly, students sell/rent the permits on streets with residential permit parking only.	1	2	4	-	-	-	3	1	-	-	4.2	46.0	2.5	11
6.	hgher parkig rates for more convenient parking	-	1	2	1	-	5	2	1	1	-	5.6	73.0	2.1	13
7.	incentives for not driving to campus	-	-	-	-	2	3	3	2	2	1	7.2	93.0	1.6	13
8.	mandate reomte parking for freshman. Provide shuttle servie to campus	1	2	-	1	3	1	2	1	2	-	5.4	70.0	2.6	13
9.	Prohibit freshman from bringing cars to campus	1	1	1	-	2	1	2	2	2	1	6.2	80.0	2.8	13
10.	Increase parking cost.	1	-	-	2	3	1	1	1	2	2	6.4	83.0	2.7	13
11.	Institute parking fees for UMC employees.	-	1	1	1	2	6	-	1	-	1	5.6	73.0	2.0	13
12.	Restrict parking permit availability.	-	-	2	-	1	3	3	2	1	1	6.5	85.0	2.1	13
13.	Time of day restrictions.	-	1	-	2	4	-	3	3	-	-	5.8	75.0	1.9	13
14.	Single day use permits only.	1	2	2	-	2	1	1	4	-	-	5.1	66.0	2.6	13
15.	Fee per use parking permit (all lots gated).	-	1	1	3	3	-	2	2	1	-	5.5	71.0	2.1	13
16.	Restrict general use parking and add more carpool parking only permits and spaces.	-	1	2	2	1	4	1	2	-	-	5.2	68.0	1.9	13
17.	Expand neighborhood parking bans.	1	-	2	3	3	2	1	-	-	1	4.8	63.0	2.2	13

4. Decrease Automobile Use Criteria: Ease of Implementation

Vote Method: SlidingScale



Decrease Automobile Use Criteria: Ease of Implementation

		Vote Distribution													
#	Ballot Items	1	2	3	4	5	6	7	8	9	10	Avg	Total	STD	Votes
1.	make parking permit rates equal to Tucson Market	3	-	-	-	1	1	1	-	4	1	6.1	67.0	3.6	11
2.	No parking permits issued to students living on campus	3	2	-	-	1	-	1	1	1	4	5.8	76.0	3.9	13
3.	Pay studnts/employees not to bring their vehicle to cmpus	1	3	2	2	-	1	3	-	1	-	4.4	57.0	2.5	13
4.	Prohibit driving if commute is less than 3 mies	4	1	1	2	-	-	2	1	1	1	4.5	58.0	3.3	13
5.	Eliminate black market in residential parking pemits. Currenly, students sell/rent the permits on streets with residential permit parking only.	4	-	3	2	-	-	-	1	-	1	3.5	39.0	3.0	11
6.	hgher parkig rates for more convenient parking	-	2	2	-	1	2	1	2	1	2	6.1	79.0	2.9	13
7.	incentives for not driving to campus	-	-	5	2	2	1	-	3	-	-	4.8	63.0	2.0	13
8.	mandate reomte parking for freshman.	1	1	1	1	3	1	-	3	1	1	5.7	74.0	2.8	13

	Provide shuttle servie to campus															
9.	Prohibit freshman from bringing cars to campus	1	-	2	-	2	1	2	1	1	3	6.5	84.0	3.0	13
10.	Increase parking cost.	1	2	1	-	-	1	1	5	2	-	6.1	79.0	3.0	13
11.	Institute parking fees for UMC employees.	1	3	1	1	1	-	-	1	3	2	5.7	74.0	3.5	13
12.	Restrict parking permit availability.	-	1	3	2	3	-	-	3	-	1	5.2	68.0	2.5	13
13.	Time of day restrictions.	-	3	1	1	2	2	-	2	2	-	5.3	69.0	2.6	13
14.	Single day use permits only.	-	1	2	-	1	1	2	3	1	2	6.6	86.0	2.7	13
15.	Fee per use parking permit (all lots gated).	1	3	1	-	-	3	2	-	1	2	5.5	71.0	3.2	13
16.	Restrict general use parking and add more carpool parking only permits and spaces.	1	1	2	1	5	2	1	-	-	-	4.4	57.0	1.7	13
17.	Expand neighborhood parking bans.	2	1	-	2	2	2	1	1	-	2	5.3	69.0	3.0	13

5. Decrease Automobile Use Ballot Items with Comments

1. make parking permit rates equal to Tucson Market
   1.1. Tucson does not have a parking market -look at ASU
   1.2. What is Tucson market?
   1.3. Parking rates in downtown Tucson are 50-100% more expensive than UA
   1.4. ditto - #2 - whatis the Tucson mtk? Ithught current rates were based on costs to build garages/lots
2. No parking permits issued to students living on campus
   2.1. Students on campus still have cars
   2.2. students have jobs and need transportation
   2.3. Not realistic
   2.4. Increased SunTran routes and schedues can help make this more realisic
   2.5. This will result in more parking in neighborhoods.
   2.6. could encourage more traffic problems in neighborhoods. How about designated parking for Freshman only?
3. Pay studnts/employees not to bring their vehicle to cmpus
   3.1. Difficult to use state funds for this. Lega concerns
4. Prohibit driving if commute is less than 3 mies
   4.1. How do you know/impliment
   4.2. Impossile to enforce
   4.3. Could prohibit the sale of a parking permit to these individuas.
5. Eliminate black market in residential parking pemits. Currenly, students sell/rent the permits on streets with residential permit parking only.
   5.1. not sure that the benefit would be worth the cost
   5.2. Not sure how large the problem currently is.
6. hgher parkig rates for more convenient parking
   6.1. could impact retailers or visitors to capus
7. incentives for not driving to campus
   7.1. Would these be financial incentives?
8. mandate reomte parking for freshman. Provide shuttle servie to campus
   8.1. Freshman need to come to campus the most
   8.2. could potnetially cause problems in neighborhoods
   8.3. Freshman are typically on the campus the gretest length of time for any given day. A shuttle could be a benefit
9. Prohibit freshman from bringing cars to campus
   9.1. How would you enforce
   9.2. few freshman have cars presently
   9.3. Approximately 1200 freshman crrently have permits

10. Increase parking cost.
    10.1. Unless you have enforcement, people will park in neighborhoods
    10.2. Neighborhoods have parking programs to enforce parking
11. Institute parking fees for UMC employees.
    11.1. UMC needs to be competitive for employees
    11.2. Shift work makes this hard
12. Restrict parking permit availability.
    12.1. This will definitely result in neighborhood parking congestion.
    12.2. Unless the City program is managed properly
13. Time of day restrictions.
    13.1. Difficult to manage with ope access to surfac parking lots
14. Single day use permits only.
    14.1. would this mean ONLY daily permits would be sold? Or that daily permits would be available in addition to other permits?
    14.2. hard to know how many people would use. my make garages harder to manage
    14.3. Could be a mxture of both
15. Fee per use parking permit (all lots gated).
    15.1. Not all lots are gate so large infrasructure costs to implemmnent
    15.2. expensive and very difficult to enforce and manage
    15.3. Will require additional staff (lot attendants).
16. Restrict general use parking and add more carpool parking only permits and spaces.
17. Expand neighborhood parking bans.
    17.1. Cntrolled by the City, not UA
    17.2. Not sure enough are not restricted to add significant benefit
    17.3. Current procedure is a cumbersome block-by-block petition process. Might need a citywide policy instead.

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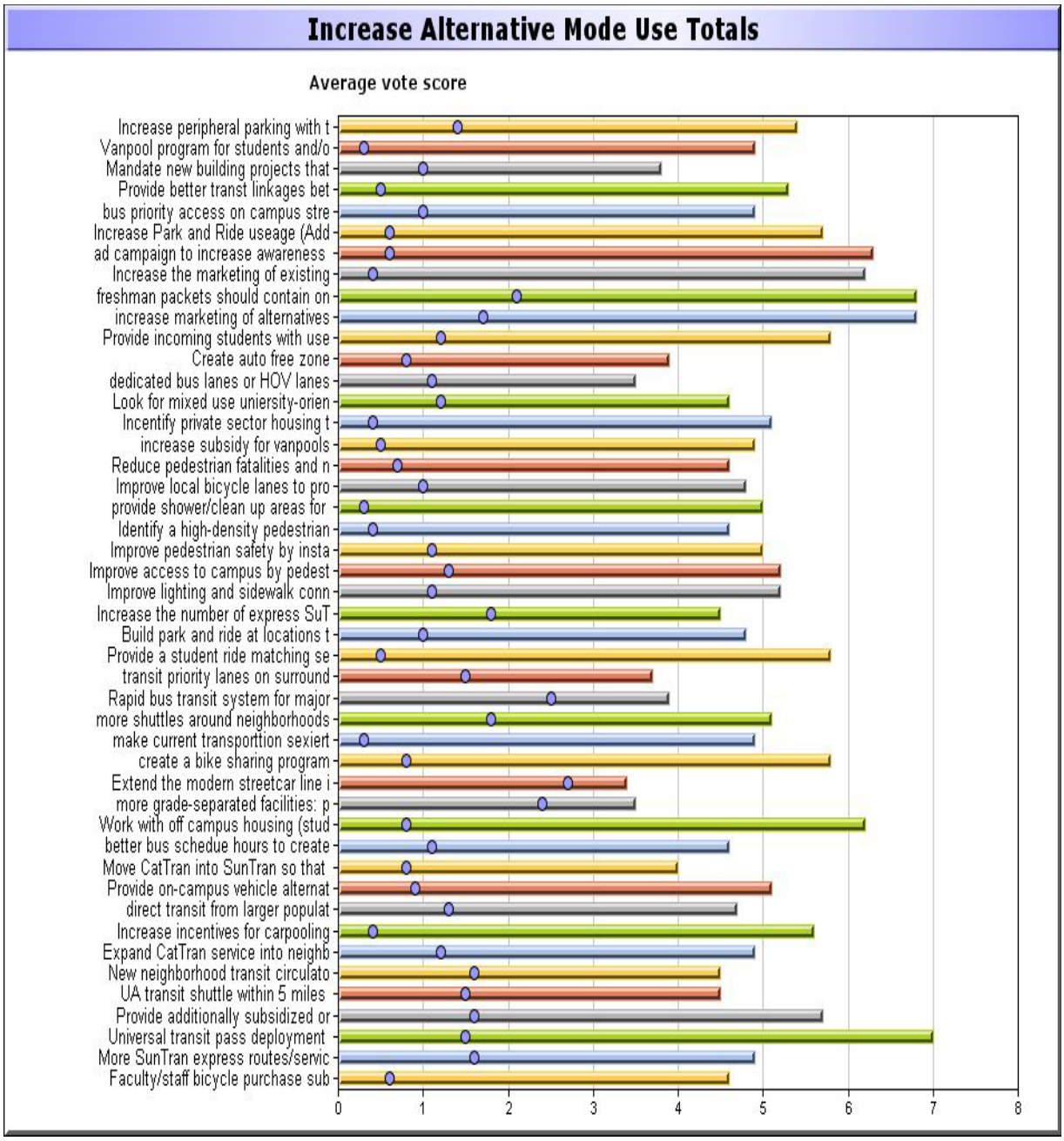
5. Increase Alternative Mode Use

1. Increase Alternative Mode Use Totals



Increase Alternative Mode Use Totals

		Criteria			
		Cost	Benefit	Ease of Implementation	
	Voting Method:	SlidingScale	SlidingScale	SlidingScale	
#	Ballot Items				Average STD
1.	Increase peripheral parking with transit shuttle.	4.3	6.9	5.0	5.4 1.4
2.	Vanpool program for	4.7	5.2	4.8	4.9 0.3

	students and/or staff.					
3.	Mandate new building projects that will increase demand to pay a transportation fee to fun alternative transprtation pograms	3.2	4.9	3.2	3.8	1.0
4.	Provide better transt linkages between PCC & UA (Downtown Campus).	4.8	5.8	5.5	5.3	0.5
5.	bus priority access on campus streets. Re-think circulation patterns	4.5	6.1	4.2	4.9	1.0
6.	Increase Park and Ride useage (Additional Marketing)	5.0	6.1	5.9	5.7	0.6
7.	ad campaign to increase awareness of alt. modes available	6.2	5.8	7.0	6.3	0.6
8.	Increase the marketing of existing and future TDM programs to increse awareness	5.9	6.0	6.7	6.2	0.4
9.	freshman packets should contain only alternative transportation mode	7.8	4.3	8.2	6.8	2.1
10.	increase marketing of alternatives to parents ofincoming students	7.8	4.8	7.8	6.8	1.7
11.	Provide incoming students with user friendly information (via video, etc.) on how to ride the bus.	6.1	4.5	6.8	5.8	1.2
12.	Create auto free zone	4.3	4.5	3.0	3.9	0.8
13.	dedicated bus lanes or HOV lanes	2.8	4.8	3.0	3.5	1.1
14.	Look for mixed use uniersity-oriented housing development opportunities along RTA corridors like Grant, Broadway, 22nd	4.2	5.9	3.6	4.6	1.2
15.	Incentify private sector housing to provide alternat odes of transprt with flexible schedules	5.2	5.3	4.7	5.1	0.4
16.	increase subsidy for vanpools	4.3	5.2	5.2	4.9	0.5
17.	Reduce pedestrian	3.8	4.9	5.1	4.6	0.7

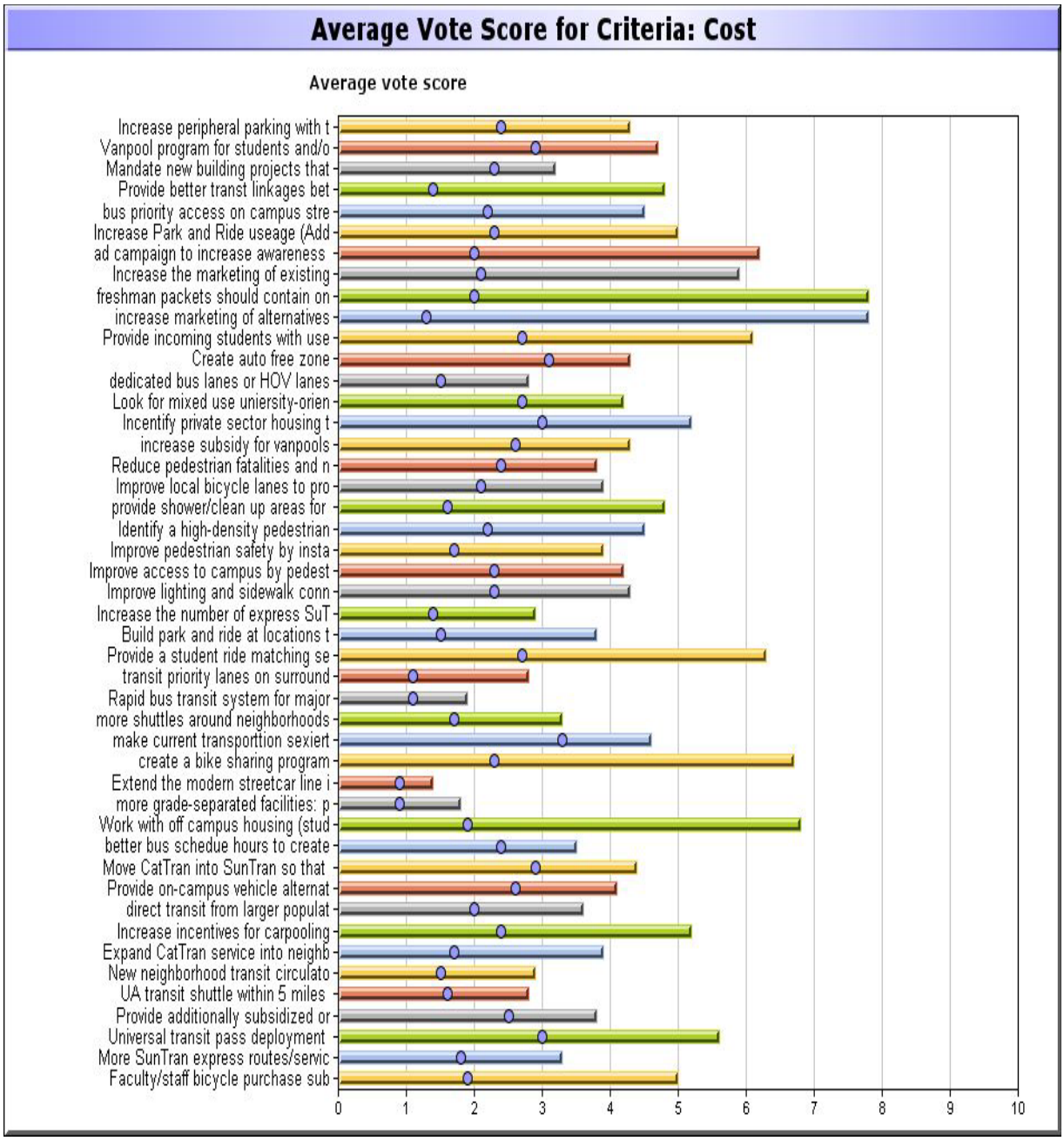
	fatalities and near-fatalities by strictly enforcing speed limits, stop signs, other signals and signs.					
18.	Improve local bicycle lanes to promote cycling	3.9	5.8	4.5	4.7	1.0
19.	provide shower/clean up areas for bikers/walkers	4.8	5.3	4.8	5.0	0.3
20.	Identify a high-density pedestrian zone around the University with signage or colored pavement.	4.5	4.2	5.1	4.6	0.4
21.	Improve pedestrian safety by installing additional HAWK crossings near the University.	3.9	6.1	4.9	5.0	1.1
22.	Improve access to campus by pedestians and cyclists with overpasses, bike paths, sidewalks	4.2	6.7	4.8	5.2	1.3
23.	Improve lighting and sidewalk connections to promote walking	4.3	6.5	4.8	5.2	1.1
24.	Increase the number of express SuTran routes into the campus and add later evening service	2.9	6.4	4.1	4.5	1.8
25.	Build park and ride at locations that Cat Tran can use at 5 to 7 mile radius from campus.	3.8	5.8	4.7	4.8	1.0
26.	Provide a student ride matching service	6.3	5.7	5.3	5.8	0.5
27.	transit priority lanes on surrounding roadways	2.8	5.4	2.8	3.7	1.5
28.	Rapid bus transit system for major arterials n/s and e/w	1.9	6.7	3.1	3.9	2.5
29.	more shuttles around neighborhoods	3.3	6.8	5.3	5.1	1.8
30.	make current transporttion sexierto proote ridership ie all new buses	4.6	5.2	5.0	4.9	0.3
31.	create a bike sharing program	6.7	5.2	5.3	5.8	0.8

32.	Extend the modern streetcar line into the neighbrhoods to provide a fixed rail line to the campus	1.4	6.5	2.3	3.4	2.7
33.	more grade-separated facilities: ped and bike underpassess, transit underpasses, underground parking access, pedestrian bridges	1.8	6.2	2.5	3.5	2.4
34.	Work with off campus housing (student apartment complexes)to provide bus passes, or shuttle sevices to and from campus	6.8	6.5	5.2	6.2	0.8
35.	better bus schedue hours to create convenience	3.5	5.8	4.6	4.6	1.1
36.	Move CatTran into SunTran so that transit can go where it needs not based on cost or artifical boundries	4.4	4.6	3.1	4.0	0.8
37.	Provide on-campus vehicle alternatives for those alternative mode users (zip car) to eliminate need for car during the day	4.1	5.5	5.8	5.1	0.9
38.	direct transit from larger populated areas..express routes	3.6	6.1	4.3	4.7	1.3
39.	Increase incentives for carpooling	5.2	6.0	5.6	5.6	0.4
40.	Expand CatTran service into neighborhoods surrounding campus.	3.9	6.3	4.6	4.9	1.2
41.	New neighborhood transit circulator system within 5-mile radius of campus circulating directly onto campus.	2.9	6.2	4.4	4.5	1.6
42.	UA transit shuttle within 5 miles of campus along existing SunTran routes.	2.8	5.8	4.8	4.5	1.5
43.	Provide additionally subsidized or free transit pass.	3.8	6.8	6.3	5.7	1.6

44.	Universal transit pass deployment (all students get a pass with payment of tuition and fees).	5.6	8.5	6.8	7.0	1.5
45.	More SunTran express routes/service to UA with remote park-n-ride lots.	3.3	6.5	5.0	4.9	1.6
46.	Faculty/staff bicycle purchase subsidy.	5.0	3.9	4.8	4.6	0.6

Voting Details
Criteria Statistic: Mean. Votes Cast: 26, Abstained: 0

2. Increase Alternative Mode Use Criteria: Cost
Vote Method: SlidingScale



Increase Alternative Mode Use Criteria: Cost

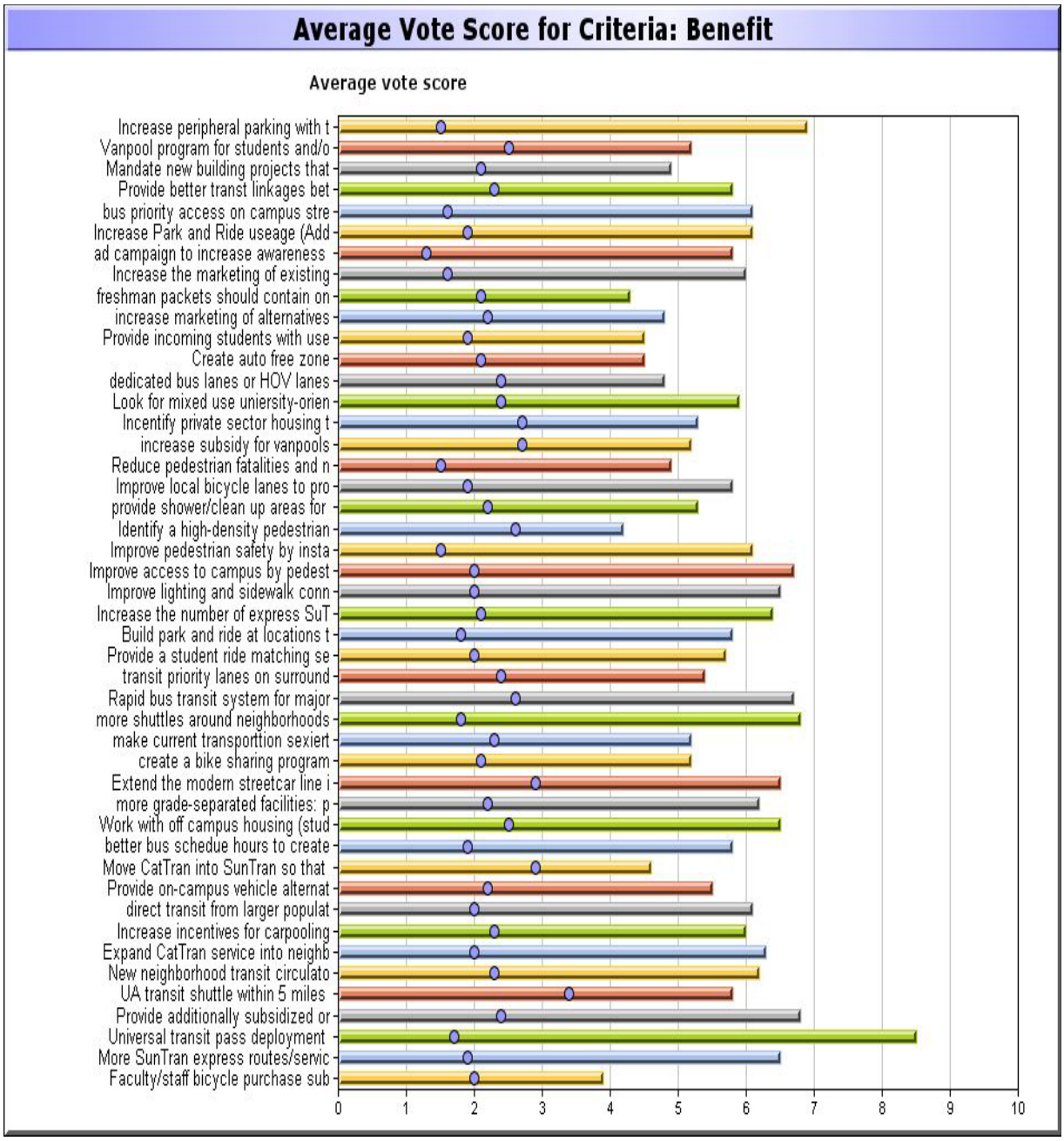
		Vote Distribution													
#	**Ballot Items**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Avg**	**Total**	**STD**	**Votes**
1.	Increase peripheral parking with transit shuttle.	1	1	3	2	2	-	-	1	1	-	4.3	47.0	2.4	11
2.	Vanpool program for students and/or staff.	3	-	1	2	1	2	1	-	2	-	4.7	56.0	2.9	12
3.	Mandate new building projects that will increase demand to pay a transportation fee to fun alternative transprtation pograms	2	4	3	-	1	-	1	1	-	-	3.2	39.0	2.3	12

4.	Provide better transt linkages between PCC & UA (Downtown Campus).	-	-	2	4	3	1	2	-	-	-	4.8	57.0	1.4	12
5.	bus priority access on campus streets. Re-think circulation patterns	1	1	3	1	1	3	1	1	-	-	4.5	54.0	2.2	12
6.	Increase Park and Ride useage (Additional Marketing)	-	3	1	1	1	1	4	1	-	-	5.0	60.0	2.3	12
7.	ad campaign to increase awareness of alt. modes available	-	1	1	1	-	1	5	3	-	-	6.2	74.0	2.0	12
8.	Increase the marketing of existing and future TDM programs to increse awareness	-	2	-	1	-	2	5	2	-	-	5.9	71.0	2.1	12
9.	freshman packets should contain only alternative transportation mode	-	-	1	-	-	2	1	3	3	2	7.8	93.0	2.0	12
10.	increase marketing of alternatives to parents ofincoming students	-	-	-	-	1	1	1	6	2	1	7.8	94.0	1.3	12
11.	Provide incoming students with user friendly information (via video, etc.) on how to ride the bus.	1	1	-	1	1	3	-	3	1	1	6.1	73.0	2.7	12
12.	Create auto free zone	2	3	1	1	2	-	-	1	1	1	4.3	52.0	3.1	12
13.	dedicated bus lanes or HOV lanes	1	5	4	1	-	-	1	-	-	-	2.8	34.0	1.5	12
14.	Look for mixed use uniersity-oriented housing development opportunities along RTA corridors like Grant, Broadway, 22nd	2	2	1	2	2	1	1	-	-	1	4.2	50.0	2.7	12
15.	Incentify private sector housing to provide alternat odes of transprt with flexible schedules	2	-	2	1	2	-	2	1	1	1	5.2	63.0	3.0	12
16.	increase subsidy for vanpools	2	2	1	1	2	1	2	-	1	-	4.3	52.0	2.6	12
17.	Reduce pedestrian fatalities and near-fatalities by strictly enforcing speed limits, stop signs, other signals and signs.	2	2	1	4	1	-	1	-	1	-	3.8	46.0	2.4	12
18.	Improve local bicycle lanes to promote cycling	1	2	3	2	2	-	1	1	-	-	3.9	47.0	2.1	12
19.	provide shower/clean up areas for bikers/walkers	-	-	4	1	2	3	2	-	-	-	4.8	58.0	1.6	12
20.	Identify a high-density pedestrian zone around the University with signage or colored pavement.	1	2	1	2	1	3	1	1	-	-	4.5	54.0	2.2	12
21.	Improve pedestrian safety by installing additional HAWK crossings near the University.	1	1	4	1	3	1	1	-	-	-	3.9	47.0	1.7	12
22.	Improve access to campus by pedestians and cyclists with overpasses, bike paths, sidewalks	1	3	1	2	1	1	2	1	-	-	4.2	51.0	2.3	12
23.	Improve lighting and sidewalk connections to promote walking	1	2	2	1	3	1	-	2	-	-	4.3	52.0	2.3	12
24.	Increase the number of express SuTran routes into the campus and add later evening service	3	1	4	2	2	-	-	-	-	-	2.9	35.0	1.4	12
25.	Build park and ride at locations that Cat Tran can use at 5 to 7 mile radius from campus.	-	3	2	3	2	2	-	-	-	-	3.8	46.0	1.5	12

26.	Provide a student ride matching service	-	1	2	1	1	-	1	2	4	-	6.3	76.0	2.7	12
27.	transit priority lanes on surrounding roadways	-	7	1	3	1	-	-	-	-	-	2.8	34.0	1.1	12
28.	Rapid bus transit system for major arterials n/s and e/w	6	2	3	1	-	-	-	-	-	-	1.9	23.0	1.1	12
29.	more shuttles around neighborhoods	1	2	4	1	1	-	1	-	-	-	3.3	33.0	1.7	10
30.	make current transporttion sexierto proote ridership ie all new buses	2	1	3	1	-	-	1	1	1	1	4.6	51.0	3.3	11
31.	create a bike sharing program	-	1	-	2	-	1	3	3	1	1	6.7	80.0	2.3	12
32.	Extend the modern streetcar line into the neighbrhoods to provide a fixed rail line to the campus	9	2	-	1	-	-	-	-	-	-	1.4	17.0	0.9	12
33.	more grade-separated facilities: ped and bike underpassess, transit underpasses, underground parking access, pedestrian bridges	6	3	3	-	-	-	-	-	-	-	1.8	21.0	0.9	12
34.	Work with off campus housing (student apartment complexes)to provide bus passes, or shuttle sevices to and from campus	-	-	-	1	3	1	2	3	1	1	6.8	82.0	1.9	12
35.	better bus schedue hours to create convenience	3	-	3	5	-	-	-	-	-	1	3.5	42.0	2.4	12
36.	Move CatTran into SunTran so that transit can go where it needs not based on cost or artifical boundries	-	5	1	-	2	1	-	-	1	1	4.4	48.0	2.9	11
37.	Provide on-campus vehicle alternatives for those alternative mode users (zip car) to eliminate need for car during the day	2	3	-	3	-	1	2	-	1	-	4.1	49.0	2.6	12
38.	direct transit from larger populated areas..express routes	1	2	4	3	1	-	-	-	1	-	3.6	43.0	2.0	12
39.	Increase incentives for carpooling	1	1	-	1	5	1	1	1	-	1	5.2	63.0	2.4	12
40.	Expand CatTran service into neighborhoods surrounding campus.	1	1	4	1	3	1	1	-	-	-	3.9	47.0	1.7	12
41.	New neighborhood transit circulator system within 5-mile radius of campus circulating directly onto campus.	2	4	2	1	3	-	-	-	-	-	2.9	35.0	1.5	12
42.	UA transit shuttle within 5 miles of campus along existing SunTran routes.	2	5	-	1	3	-	-	-	-	-	2.8	31.0	1.6	11
43.	Provide additionally subsidized or free transit pass.	3	-	4	1	1	1	1	-	1	-	3.8	46.0	2.5	12
44.	Universal transit pass deployment (all students get a pass with payment of tuition and fees).	1	1	3	-	-	-	4	-	3	-	5.6	67.0	3.0	12
45.	More SunTran express routes/service to UA with remote park-n-ride lots.	1	2	6	1	1	-	-	1	-	-	3.3	40.0	1.8	12
46.	Faculty/staff bicycle purchase subsidy.	1	-	2	1	2	3	3	-	-	-	5.0	60.0	1.9	12

3. Increase Alternative Mode Use Criteria: Benefit

Vote Method: SlidingScale



Increase Alternative Mode Use Criteria: Benefit

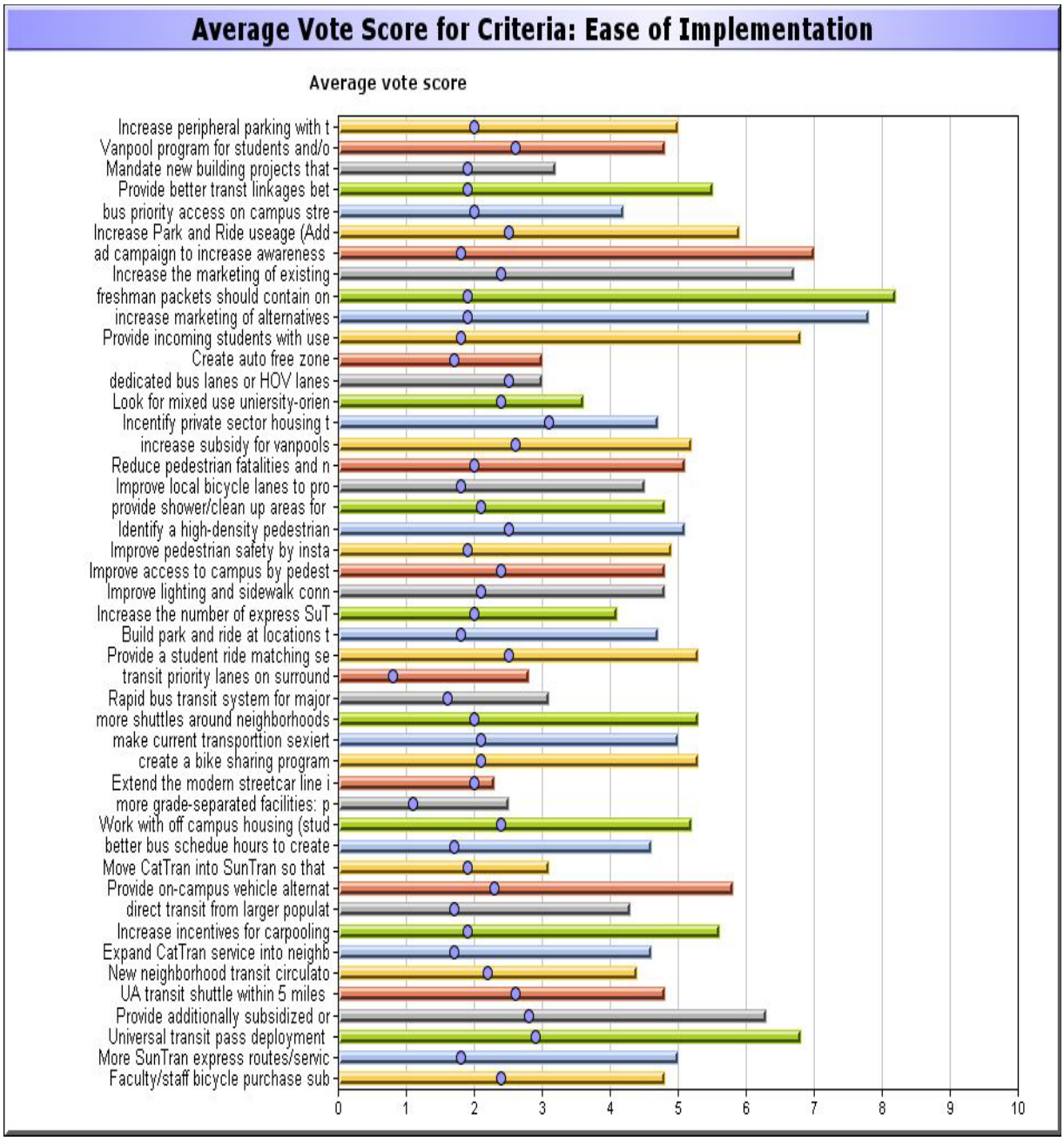
		Vote Distribution													
#	**Ballot Items**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Avg**	**Total**	**STD**	**Votes**
1.	Increase peripheral parking with transit shuttle.	-	-	-	-	4	-	2	5	1	-	6.9	83.0	1.5	12
2.	Vanpool program for students and/or staff.	-	2	2	1	3	-	-	3	1	-	5.2	62.0	2.5	12
3.	Mandate new building projects that will increase demand to pay a transportation fee to fun alternative transprtation pograms	-	2	1	2	3	1	2	-	1	-	4.9	59.0	2.1	12

4.	Provide better transt linkages between PCC & UA (Downtown Campus).	-	1	1	2	2	1	2	2	-	1	5.8	69.0	2.3	12
5.	bus priority access on campus streets. Re-think circulation patterns	-	-	1	1	2	2	4	2	-	-	6.1	73.0	1.6	12
6.	Increase Park and Ride useage (Additional Marketing)	-	-	2	-	2	4	-	3	1	-	6.1	73.0	1.9	12
7.	ad campaign to increase awareness of alt. modes available	-	-	1	1	1	6	2	1	-	-	5.8	70.0	1.3	12
8.	Increase the marketing of existing and future TDM programs to increse awareness	-	1	-	1	-	5	4	1	-	-	6.0	72.0	1.6	12
9.	freshman packets should contain only alternative transportation mode	1	1	3	2	1	2	1	1	-	-	4.3	52.0	2.1	12
10.	increase marketing of alternatives to parents ofincoming students	1	1	2	1	1	3	2	1	-	-	4.8	58.0	2.2	12
11.	Provide incoming students with user friendly information (via video, etc.) on how to ride the bus.	1	-	3	3	-	4	-	1	-	-	4.5	54.0	1.9	12
12.	Create auto free zone	2	-	1	2	4	1	1	1	-	-	4.5	54.0	2.1	12
13.	dedicated bus lanes or HOV lanes	1	2	1	1	2	2	1	2	-	-	4.8	57.0	2.4	12
14.	Look for mixed use uniersity-oriented housing development opportunities along RTA corridors like Grant, Broadway, 22nd	-	1	1	1	2	3	1	1	1	1	5.9	71.0	2.4	12
15.	Incentify private sector housing to provide alternat odes of transprt with flexible schedules	-	2	1	2	2	2	1	-	-	2	5.3	64.0	2.7	12
16.	increase subsidy for vanpools	1	1	2	-	2	3	1	-	1	1	5.2	63.0	2.7	12
17.	Reduce pedestrian fatalities and near-fatalities by strictly enforcing speed limits, stop signs, other signals and signs.	-	-	2	4	2	1	3	-	-	-	4.9	59.0	1.5	12
18.	Improve local bicycle lanes to promote cycling	-	-	2	1	2	3	-	4	-	-	5.8	70.0	1.9	12
19.	provide shower/clean up areas for bikers/walkers	1	-	-	4	2	1	2	1	1	-	5.3	64.0	2.2	12
20.	Identify a high-density pedestrian zone around the University with signage or colored pavement.	1	3	2	1	1	2	1	-	-	1	4.2	51.0	2.6	12
21.	Improve pedestrian safety by installing additional HAWK crossings near the University.	-	-	1	-	3	4	1	3	-	-	6.1	73.0	1.5	12
22.	Improve access to campus by pedestians and cyclists with overpasses, bike paths, sidewalks	-	1	-	-	2	1	4	3	-	1	6.7	80.0	2.0	12
23.	Improve lighting and sidewalk connections to promote walking	-	1	-	-	2	2	4	2	-	1	6.5	78.0	2.0	12
24.	Increase the number of express SuTran routes into the campus and add later evening service	-	-	1	2	1	2	1	3	2	-	6.4	77.0	2.1	12
25.	Build park and ride at locations that Cat Tran can use at 5 to 7 mile radius from campus.	-	1	-	1	3	4	1	1	1	-	5.8	69.0	1.8	12

26.	Provide a student ride matching service	-	1	1	-	5	1	-	4	-	-	5.7	68.0	2.0	12
27.	transit priority lanes on surrounding roadways	-	1	2	1	4	-	1	2	-	1	5.4	65.0	2.4	12
28.	Rapid bus transit system for major arterials n/s and e/w	-	1	1	-	3	-	1	2	3	1	6.7	80.0	2.6	12
29.	more shuttles around neighborhoods	-	-	1	-	1	2	3	2	2	-	6.8	75.0	1.8	11
30.	make current transporttion sexierto proote ridership ie all new buses	1	1	-	2	3	2	1	1	1	-	5.2	62.0	2.3	12
31.	create a bike sharing program	-	1	2	2	1	3	1	1	1	-	5.2	63.0	2.1	12
32.	Extend the modern streetcar line into the neighbrhoods to provide a fixed rail line to the campus	-	1	2	-	1	2	2	-	1	3	6.5	78.0	2.9	12
33.	more grade-separated facilities: ped and bike underpassess, transit underpasses, underground parking access, pedestrian bridges	-	-	1	2	3	-	3	1	1	1	6.2	74.0	2.2	12
34.	Work with off campus housing (student apartment complexes)to provide bus passes, or shuttle sevices to and from campus	-	1	1	-	3	-	1	4	1	1	6.5	78.0	2.5	12
35.	better bus schedue hours to create convenience	-	1	1	-	3	2	3	2	-	-	5.8	69.0	1.9	12
36.	Move CatTran into SunTran so that transit can go where it needs not based on cost or artifical boundries	2	1	2	2	1	1	1	-	1	1	4.6	55.0	2.9	12
37.	Provide on-campus vehicle alternatives for those alternative mode users (zip car) to eliminate need for car during the day	-	1	1	2	3	1	1	2	1	-	5.5	66.0	2.2	12
38.	direct transit from larger populated areas..express routes	-	-	2	1	2	-	3	4	-	-	6.1	73.0	2.0	12
39.	Increase incentives for carpooling	-	2	-	1	1	2	2	3	1	-	6.0	72.0	2.3	12
40.	Expand CatTran service into neighborhoods surrounding campus.	-	1	-	-	2	5	-	2	2	-	6.3	76.0	2.0	12
41.	New neighborhood transit circulator system within 5-mile radius of campus circulating directly onto campus.	-	1	1	-	2	4	-	1	3	-	6.2	74.0	2.3	12
42.	UA transit shuttle within 5 miles of campus along existing SunTran routes.	2	1	1	-	1	2	-	1	2	2	5.8	70.0	3.4	12
43.	Provide additionally subsidized or free transit pass.	-	-	1	1	2	2	2	-	1	3	6.8	82.0	2.4	12
44.	Universal transit pass deployment (all students get a pass with payment of tuition and fees).	-	-	-	-	1	1	1	1	4	4	8.5	102.0	1.7	12
45.	More SunTran express routes/service to UA with remote park-n-ride lots.	-	-	2	-	1	1	4	3	1	-	6.5	78.0	1.9	12
46.	Faculty/staff bicycle purchase subsidy.	2	1	2	2	2	2	1	-	-	-	3.9	47.0	2.0	12

4. Increase Alternative Mode Use Criteria: Ease of Implementation

Vote Method: SlidingScale



Increase Alternative Mode Use Criteria: Ease of Implementation

		Vote Distribution													
#	**Ballot Items**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Avg**	**Total**	**STD**	**Votes**
1.	Increase peripheral parking with transit shuttle.	-	-	3	3	3	-	-	3	-	-	5.0	60.0	2.0	12
2.	Vanpool program for students and/or staff.	1	2	2	-	2	2	1	1	1	-	4.8	57.0	2.6	12
3.	Mandate new building projects that will increase demand to pay a transportation fee to fun alternative transprtation pograms	1	4	4	1	-	-	2	-	-	-	3.2	39.0	1.9	12

4.	Provide better transt linkages between PCC & UA (Downtown Campus).	-	-	2	2	2	3	1	1	1	-	5.5	66.0	1.9	12
5.	bus priority access on campus streets. Re-think circulation patterns	-	3	2	2	2	1	1	1	-	-	4.2	51.0	2.0	12
6.	Increase Park and Ride useage (Additional Marketing)	-	-	4	-	2	-	1	3	2	-	5.9	71.0	2.5	12
7.	ad campaign to increase awareness of alt. modes available	-	-	1	-	2	-	3	4	2	-	7.0	84.0	1.8	12
8.	Increase the marketing of existing and future TDM programs to increse awareness	-	1	1	-	2	1	-	4	3	-	6.7	80.0	2.4	12
9.	freshman packets should contain only alternative transportation mode	-	-	1	-	-	-	1	4	4	2	8.2	98.0	1.9	12
10.	increase marketing of alternatives to parents ofincoming students	-	-	1	-	-	-	5	-	5	1	7.8	93.0	1.9	12
11.	Provide incoming students with user friendly information (via video, etc.) on how to ride the bus.	-	-	-	1	2	3	2	2	1	1	6.8	81.0	1.8	12
12.	Create auto free zone	2	3	4	1	1	-	1	-	-	-	3.0	36.0	1.7	12
13.	dedicated bus lanes or HOV lanes	3	4	2	1	1	-	-	-	-	1	3.0	36.0	2.5	12
14.	Look for mixed use uniersity-oriented housing development opportunities along RTA corridors like Grant, Broadway, 22nd	2	1	5	1	2	-	-	-	-	1	3.6	43.0	2.4	12
15.	Incentify private sector housing to provide alternat odes of transprt with flexible schedules	2	2	1	1	2	1	1	-	-	2	4.7	56.0	3.1	12
16.	increase subsidy for vanpools	1	-	3	2	1	1	1	1	2	-	5.2	62.0	2.6	12
17.	Reduce pedestrian fatalities and near-fatalities by strictly enforcing speed limits, stop signs, other signals and signs.	-	1	1	3	4	-	-	3	-	-	5.1	61.0	2.0	12
18.	Improve local bicycle lanes to promote cycling	1	-	2	3	4	-	1	1	-	-	4.5	54.0	1.8	12
19.	provide shower/clean up areas for bikers/walkers	-	2	1	3	2	2	1	-	1	-	4.8	57.0	2.1	12
20.	Identify a high-density pedestrian zone around the University with signage or colored pavement.	1	1	2	-	3	1	2	1	1	-	5.1	61.0	2.5	12
21.	Improve pedestrian safety by installing additional HAWK crossings near the University.	1	-	2	2	1	3	3	-	-	-	4.9	59.0	1.9	12
22.	Improve access to campus by pedestians and cyclists with overpasses, bike paths, sidewalks	-	3	2	1	-	2	2	2	-	-	4.8	58.0	2.4	12
23.	Improve lighting and sidewalk connections to promote walking	1	1	2	-	3	3	1	1	-	-	4.8	57.0	2.1	12
24.	Increase the number of express SuTran routes into the campus and add later evening service	-	2	5	1	1	1	1	1	-	-	4.1	49.0	2.0	12
25.	Build park and ride at locations that Cat Tran can use at 5 to 7 mile radius from campus.	-	2	1	3	1	3	2	-	-	-	4.7	56.0	1.8	12

26.	Provide a student ride matching service	-	1	3	1	1	3	-	2	-	1	5.3	64.0	2.5	12
27.	transit priority lanes on surrounding roadways	-	5	4	3	-	-	-	-	-	-	2.8	34.0	0.8	12
28.	Rapid bus transit system for major arterials n/s and e/w	2	3	3	1	2	1	-	-	-	-	3.1	37.0	1.6	12
29.	more shuttles around neighborhoods	-	-	2	3	2	1	-	3	-	-	5.3	58.0	2.0	11
30.	make current transporttion sexierto proote ridership ie all new buses	1	-	2	3	-	2	3	1	-	-	5.0	60.0	2.1	12
31.	create a bike sharing program	-	-	3	1	4	1	1	-	2	-	5.3	64.0	2.1	12
32.	Extend the modern streetcar line into the neighbrhoods to provide a fixed rail line to the campus	4	6	-	1	-	-	-	1	-	-	2.3	28.0	2.0	12
33.	more grade-separated facilities: ped and bike underpassess, transit underpasses, underground parking access, pedestrian bridges	2	5	2	3	-	-	-	-	-	-	2.5	30.0	1.1	12
34.	Work with off campus housing (student apartment complexes)to provide bus passes, or shuttle sevices to and from campus	-	1	1	5	1	-	1	1	2	-	5.2	63.0	2.4	12
35.	better bus schedue hours to create convenience	-	1	1	6	1	1	1	1	-	-	4.6	55.0	1.7	12
36.	Move CatTran into SunTran so that transit can go where it needs not based on cost or artifical boundries	1	7	-	1	1	1	1	-	-	-	3.1	37.0	1.9	12
37.	Provide on-campus vehicle alternatives for those alternative mode users (zip car) to eliminate need for car during the day	-	2	-	1	3	1	1	3	1	-	5.8	69.0	2.3	12
38.	direct transit from larger populated areas..express routes	-	1	3	4	2	-	1	1	-	-	4.3	52.0	1.7	12
39.	Increase incentives for carpooling	-	1	-	2	3	3	1	1	1	-	5.6	67.0	1.9	12
40.	Expand CatTran service into neighborhoods surrounding campus.	-	2	1	2	4	1	2	-	-	-	4.6	55.0	1.7	12
41.	New neighborhood transit circulator system within 5-mile radius of campus circulating directly onto campus.	-	2	4	-	3	1	1	-	1	-	4.4	53.0	2.2	12
42.	UA transit shuttle within 5 miles of campus along existing SunTran routes.	1	1	3	1	1	2	1	-	2	-	4.8	58.0	2.6	12
43.	Provide additionally subsidized or free transit pass.	1	1	-	-	2	1	3	2	-	2	6.3	76.0	2.8	12
44.	Universal transit pass deployment (all students get a pass with payment of tuition and fees).	1	-	-	2	1	-	3	1	1	3	6.8	82.0	2.9	12
45.	More SunTran express routes/service to UA with remote park-n-ride lots.	-	-	2	4	3	-	1	2	-	-	5.0	60.0	1.8	12
46.	Faculty/staff bicycle purchase subsidy.	2	-	1	3	1	2	2	-	1	-	4.8	57.0	2.4	12

5. Increase Alternative Mode Use Ballot Items with Comments

1. Increase peripheral parking with transit shuttle.
   1.1. collaboration between City and UA could make this a success
2. Vanpool program for students and/or staff.

3. Mandate new building projects that will increase demand to pay a transportation fee to fun alternative transprtation pograms
   3.1. Sound illegal
   3.2. make it an impact fee for outside of area
   3.3. Unclear what this means.
   3.4. may not reduce car traffic
   3.5. Campus fee for campus buildings to fund the cost of providing TDM programs
4. Provide better transt linkages between PCC & UA (Downtown Campus).
   4.1. would be compatible with AJAC pogram and also promote trip reduction
5. bus priority access on campus streets. Re-think circulation patterns
   5.1. assumes this means giving buses priority
   5.2. Good idea on bus priority
6. Increase Park and Ride useage (Additional Marketing)
   6.1. Yes, but first we need to provide better transit service. Some buses are over capacity
   6.2. Buses are smetimes a hard sell otside the U area
7. ad campaign to increase awareness of alt. modes available
   7.1. Ad campaign require onging funding. Each new cohort of students must be educated.
   7.2. All education is a good idea.
   7.3. making alternate modes easier/more desirable to use is a better investment of resources than trying to sell something that really isn't desirable or convenient
   7.4. Advertising requires on on-going campaign to reinfore message-effective, but costly
8. Increase the marketing of existing and future TDM programs to increse awareness
   8.1. might require UA and COT cooperation/coordination
9. freshman packets should contain only alternative transportation mode
10. increase marketing of alternatives to parents ofincoming students
   10.1. parents are often the decision makers regarding having a car or not.
   10.2. Agreed, but students tend to provide the parents with their "needs"More detailed information is needed to the parents.
11. Provide incoming students with user friendly information (via video, etc.) on how to ride the bus.
12. Create auto free zone
   12.1. Around the entire campus or just incertain areas?
   12.2. Nt sure how this would improve regional traffic congesion
   12.3. Would detract othe from visiting the campus which wiould hurt commerce and efors to make university more accessible to th community
   12.4. Great idea, but needs to be coupled with other solutions (Park and Ride lots, buses. etc).
   12.5. The Campus already has several auto free zones
   12.6. This would determine how serious we really are
   12.7. Only works if we have a better lan for region
13. dedicated bus lanes or HOV lanes
   13.1. usually means wider roads...which comes w/ many negatives
14. Look for mixed use uniersity-oriented housing development opportunities along RTA corridors like Grant, Broadway, 22nd
   14.1. This requires rezoning -- a bitter legal and political fight.
   14.2. This will require good education on the issues. One the public is accepting of the strategy, it can have great sucess.
   14.3. Much of the property along these corridors is underutilized per current zoning
   14.4. This could help preserve the neighborhoods near the corridors by discouraging "minidorms"

14.5. This is an option PROMOTED by the minidorm developers.

15. Incentify private sector housing to provide alternat odes of transprt with flexible schedules

15.1. we continue to make it easierto build outside the core and impct fees are structured so that it is just as easy to bild in ita Ranch as in the central corridor

15.2. The moreindividuals that live close to the campus, the higher the likelyhood they will use a TDM to access the campus.

16. increase subsidy for vanpools

17. Reduce pedestrian fatalities and near-fatalities by strictly enforcing speed limits, stop signs, other signals and signs.

17.1. Should include strict enforcement of bicycle and pedestrian law also

18. Improve local bicycle lanes to promote cycling

19. provide shower/clean up areas for bikers/walkers

20. Identify a high-density pedestrian zone around the University with signage or colored pavement.

20.1. Notsure what the benefit would be

20.2. This would alert motorists to slow down and watch for pedestrians.

20.3. I would enhance the ped experience which would be a benefit if more housing was built around the campus.

21. Improve pedestrian safety by installing additional HAWK crossings near the University.

22. Improve access to campus by pedestians and cyclists with overpasses, bike paths, sidewalks

22.1. Removing pedestrian traffic from major intersections with bridges and tunnels will improve traffic flow and improve safety

23. Improve lighting and sidewalk connections to promote walking

23.1. The current process for obtaining sidewalks and streetligts is awful. Neighborhoods are pitted against each other to compete for a totally inadequate pot of funds. We need sidewalks and sreetlights thoughout the core urban area. This should be a no-brainer!

23.2. This would also improve the safety

24. Increase the number of express SuTran routes into the campus and add later evening service

24.1. Would the Uiversity subsidize them?

24.2. The increased fees from addtional rider should help pay for the service.

24.3. New express routes are generally beneficial because they appeal to the choice commuter, but can be costly.

25. Build park and ride at locations that Cat Tran can use at 5 to 7 mile radius from campus.

25.1. could combine with SunTran park and rides.

25.2. A bus pass provided to all employees and students wouldallow them to use the existing SunTran Park and Ride faciliies

26. Provide a student ride matching service

26.1. match this with marketing and incentives for carpooling

27. transit priority lanes on surrounding roadways

27.1. means wider roads which are harder for peds to cross and more prone to cars speeding

27.2. Reduce the number of lanes instead of widening the roads.

27.3. using existing lanes is more ped friendly but creates more congestin

28. Rapid bus transit system for major arterials n/s and e/w

28.1. can be accomplished with more modern vehicles and priority sgnalization. Frequency of service is already good.

29. more shuttles around neighborhoods

30. make current transporttion sexierto proote ridership ie all new buses
30.1. This would be effective and cheap
31. create a bike sharing program
31.1. Unless they can take the bike home will only reduce congestion for trips within campus
31.2. In existing systems elsewhere, yes, they can tke the bike home. However, I don't see this working in our city, where bicycles are routinely stolen and sold for drug money.
31.3. while more expensive, bikes can be fitted with GPS/tracking in order to track usage and prevent theft (or at least allow for recovery).
31.4. Electronic tracking could help
32. Extend the modern streetcar line into the neighbrhoods to provide a fixed rail line to the campus
33. more grade-separated facilities: ped and bike underpassess, transit underpasses, underground parking access, pedestrian bridges
33.1. Expensive but look at the success of the current underpasses. No accidents and no delays.
34. Work with off campus housing (student apartment complexes)to provide bus passes, or shuttle sevices to and from campus
34.1. Isn't this already being done? Perhaps the programculd be expanded at low cost.
35. better bus schedue hours to create convenience
36. Move CatTran into SunTran so that transit can go where it needs not based on cost or artifical boundries
36.1. Would move cost to City away from U of A
36.2. Would the UA not still have to pay to have SunTran operate buses on the campus?
36.3. Needs to be shred cost but exta coordination (along with MSC) would add routes and schedules without additional cost
36.4. The current SunTran buses could not operate the intra-campus routes. Smaller vehicles would be needed.
36.5. On a cost per hour of service, Cat Tran has a lower cost. No union.
36.6. Better coord. & Planning needed but Cat Tran can provide service more economical. Cat Tran could use some Regional help wth bus or operational fuds
37. Provide on-campus vehicle alternatives for those alternative mode users (zip car) to eliminate need for car during the day
37.1. insurance sometimes requires age limits for drivers
38. direct transit from larger populated areas..express routes
39. Increase incentives for carpooling
40. Expand CatTran service into neighborhoods surrounding campus.
40.1. Poor cost/benefit tradeoff. The closer and chaaper routes would be less useful, as residents already use alternate modes.
41. New neighborhood transit circulator system within 5-mile radius of campus circulating directly onto campus.
42. UA transit shuttle within 5 miles of campus along existing SunTran routes.
43. Provide additionally subsidized or free transit pass.
43.1. A bus pass is the mosdt effective means to reduce the number of single occupancy trips to a campus
44. Universal transit pass deployment (all students get a pass with payment of tuition and fees).
44.1. The universal pass is the key to additional funding for transit improvements and increasing usage by students and faculty
44.2. This is necessary in any option!

44.3. There are a variey of ways to fund a Univeral Access Pass and so tuition and fees should not be the only method suggested.

45. More SunTran express routes/service to UA with remote park-n-ride lots.
46. Faculty/staff bicycle purchase subsidy.

46.1. How do you enforce the use of the bike for commuting to campus?

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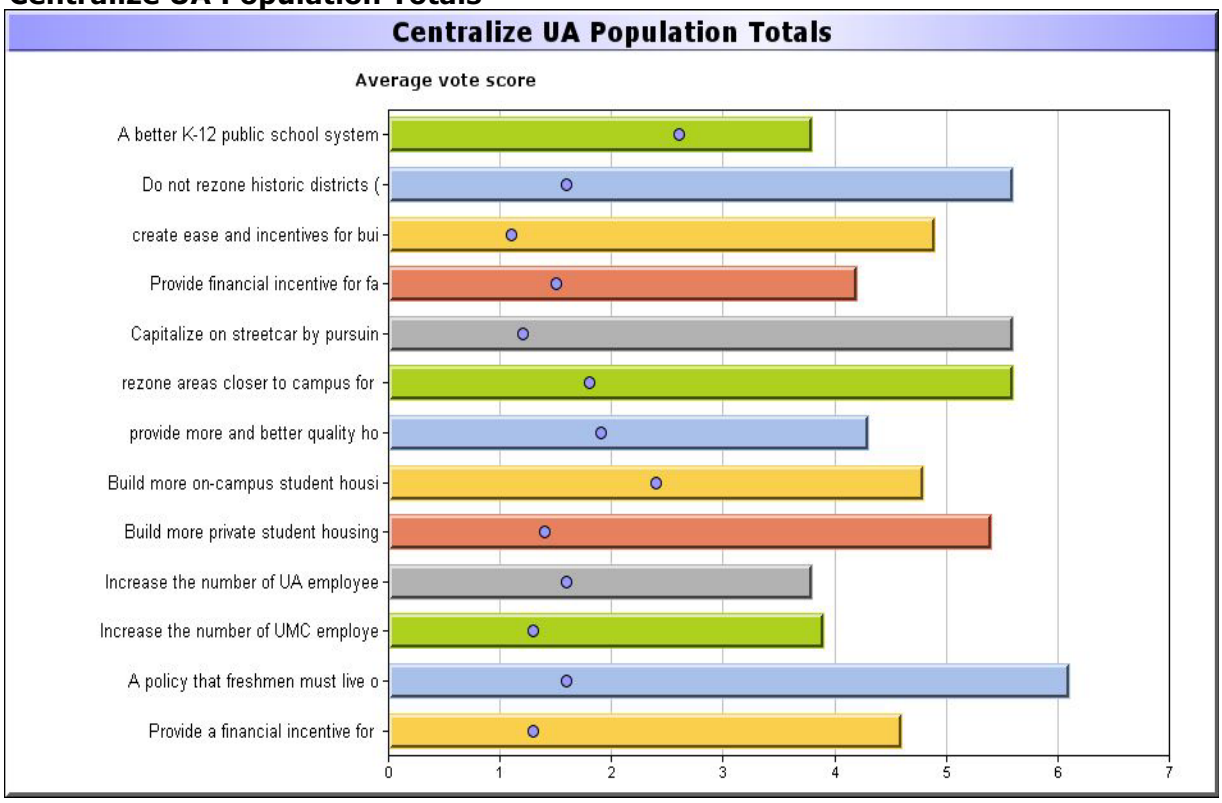
6. Centralize UA Population

1. Centralize UA Population Totals



Centralize UA Population Totals

		Criteria				
		Cost	Benefit	Ease of Implementation		
	Voting Method:	SlidingScale	SlidingScale	SlidingScale		
#	Ballot Items				Average	STD
1.	A better K-12 public school system in central Tucson will encourage faculty & grad students with families to live closer in	2.2	6.8	2.4	3.8	2.6
2.	Do not rezone historic districts (Federal or city)	7.3	4.1	5.4	5.6	1.6

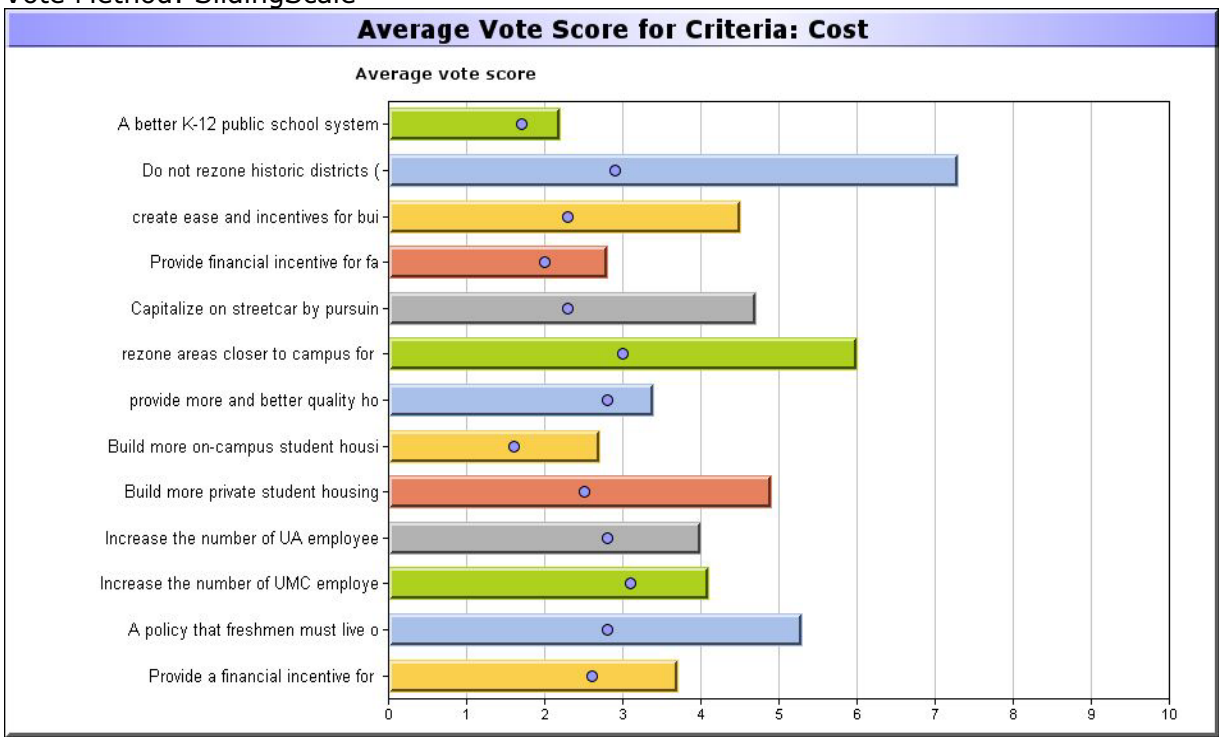
	near campus. This option shold be off the table, as it is streuously opposed by the residents and homewners in these neighborhoods. It is also problematic from many other perspectives (e.g. low-denisty housing plays a role in preserving mature vegetation that mitigates heat and pollution generated by autmobile traffic, high rental rates are corelated with increased crime).					
3.	create ease and incentives for builders to build in core an renovate existing buildings	4.5	6.2	4.1	4.9	1.1
4.	Provide financial incentive for faculty to purchase housing downtown (and use streetcar to work)	2.8	5.8	3.8	4.2	1.5
5.	Capitalize on streetcar by pursuing all possible opportunties for university-oriented (faculty & students) housing along streetcar route.	4.7	6.9	5.1	5.6	1.2
6.	rezone areas closer to campus for higher densities and mixed uses	6.0	7.2	3.7	5.6	1.8
7.	provide more and better quality housing for UA employees in central Tucson	3.4	6.5	2.9	4.3	1.9
8.	Build more on-campus student housing.	2.7	7.4	4.3	4.8	2.4
9.	Build more private student housing within one mile of campus.	4.9	7.0	4.3	5.4	1.4
10.	Increase the number of UA employees living within one mile of campus.	4.0	5.3	2.2	3.8	1.6
11.	Increase the number of UMC employees within one mile of campus.	4.1	5.2	2.6	3.9	1.3
12.	A policy that freshmen	5.3	7.9	5.2	6.1	1.6

	must live on campus.					
13.	Provide a financial incentive for students to live on-campus (e.g., tuition discount).	3.7	6.1	4.2	4.6	1.3

Voting Details
Criteria Statistic: Mean. Votes Cast: 13, Abstained: 0

2. Centralize UA Population Criteria: Cost

Vote Method: SlidingScale



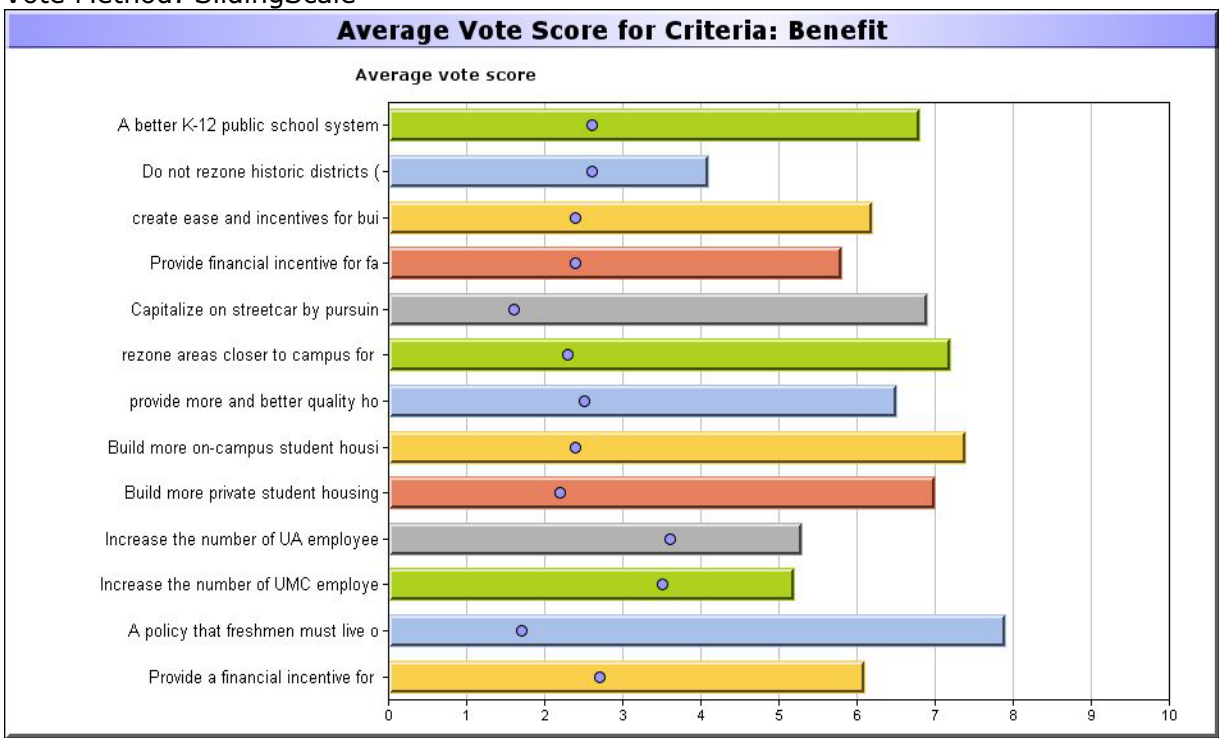
Centralize UA Population Criteria: Cost

		Vote Distribution													
#	**Ballot Items**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Avg**	**Total**	**STD**	**Votes**
1.	A better K-12 public school system in central Tucson will encourage faculty & grad students with families to live closer in	5	5	-	1	-	-	1	-	-	-	2.2	26.0	1.7	12
2.	Do not rezone historic districts (Federal or city) near campus. This option shold be off the table, as it is streuously opposed by the residents and homewners in these neighborhoods. It is also problematic from many other perspectives (e.g. low-denisty housing plays a role in preserving mature vegetation that mitigates heat and pollution generated by autmobile traffic, high rental rates are corelated with increased crime).	-	1	1	1	-	-	1	2	2	3	7.3	80.0	2.9	11

3.	create ease and incentives for builders to build in core an renovate existing buildings	2	1	1	2	3	2	-	2	-	-	4.5	58.0	2.3	13
4.	Provide financial incentive for faculty to purchase housing downtown (and use streetcar to work)	5	2	2	-	3	-	1	-	-	-	2.8	37.0	2.0	13
5.	Capitalize on streetcar by pursuing all possible opportunties for university-oriented (faculty & students) housing along streetcar route.	1	1	2	3	2	-	3	-	1	-	4.7	61.0	2.3	13
6.	rezone areas closer to campus for higher densities and mixed uses	1	1	1	1	2	1	2	1	-	3	6.0	78.0	3.0	13
7.	provide more and better quality housing for UA employees in central Tucson	5	2	-	2	2	-	-	1	1	-	3.4	44.0	2.8	13
8.	Build more on-campus student housing.	4	3	1	4	-	1	-	-	-	-	2.7	35.0	1.6	13
9.	Build more private student housing within one mile of campus.	1	2	-	3	2	2	1	-	2	-	4.9	64.0	2.5	13
10.	Increase the number of UA employees living within one mile of campus.	3	1	3	2	1	-	-	2	1	-	4.0	52.0	2.8	13
11.	Increase the number of UMC employees within one mile of campus.	5	-	-	3	2	-	-	1	2	-	4.1	53.0	3.1	13
12.	A policy that freshmen must live on campus.	1	1	3	-	2	1	1	3	-	1	5.3	69.0	2.8	13
13.	Provide a financial incentive for students to live on-campus (e.g., tuition discount).	2	3	3	2	-	1	1	-	-	1	3.7	48.0	2.6	13

3. Centralize UA Population Criteria: Benefit

Vote Method: SlidingScale

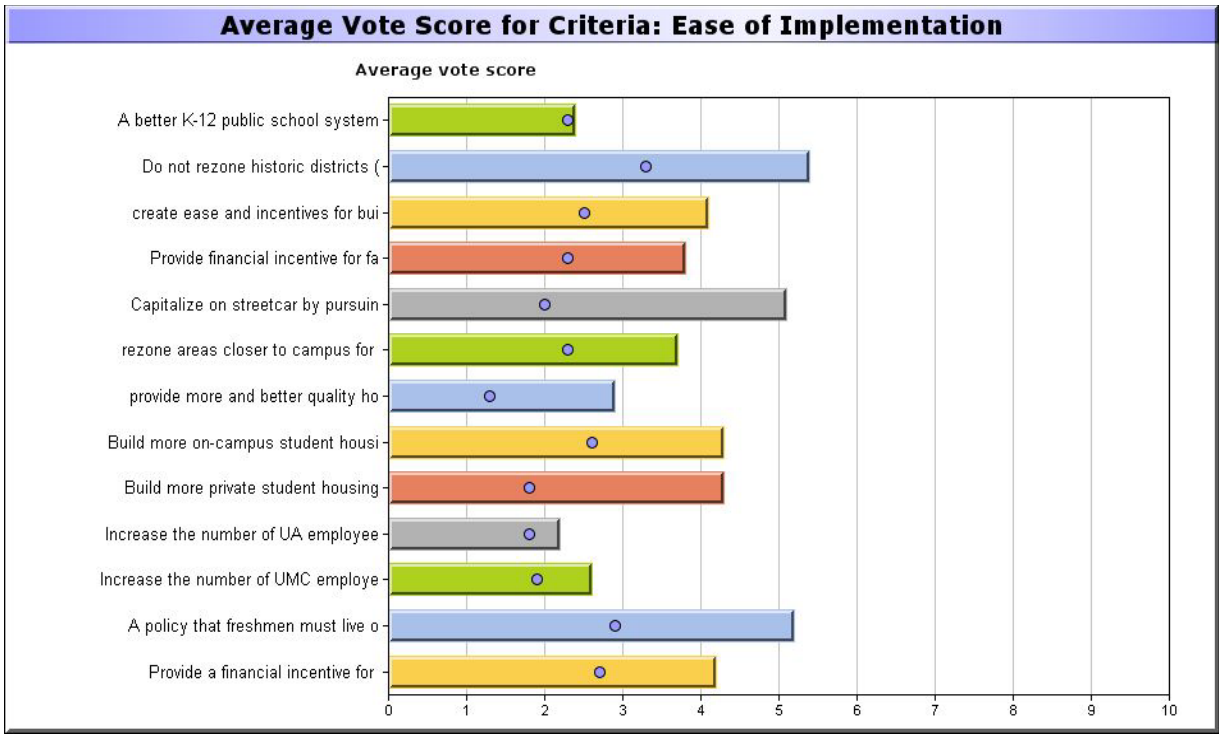


Centralize UA Population Criteria: Benefit

		Vote Distribution													
#	Ballot Items	1	2	3	4	5	6	7	8	9	10	Avg	Total	STD	Votes
1.	A better K-12 public school system in central Tucson will encourage faculty & grad students with families to live closer in	-	1	-	2	1	1	3	1	1	3	6.8	89.0	2.6	13
2.	Do not rezone historic districts (Federal or city) near campus. This option shold be off the table, as it is streuously opposed by the residents and homewners in these neighborhoods. It is also problematic from many other perspectives (e.g. low-denisty housing plays a role in preserving mature vegetation that mitigates heat and pollution generated by autmobile traffic, high rental rates are corelated with increased crime).	1	3	1	2	2	-	1	-	-	1	4.1	45.0	2.6	11
3.	create ease and incentives for builders to build in core an renovate existing buildings	1	-	1	-	2	3	3	1	1	1	6.2	80.0	2.4	13
4.	Provide financial incentive for faculty to purchase housing downtown (and use streetcar to work)	1	-	1	2	1	3	3	-	1	1	5.8	75.0	2.4	13
5.	Capitalize on streetcar by pursuing all possible opportunties for university-oriented (faculty & students) housing along streetcar route.	-	-	-	-	1	7	1	1	2	1	6.9	90.0	1.6	13
6.	rezone areas closer to campus for higher densities and mixed uses	-	1	-	-	2	3	-	1	5	1	7.2	93.0	2.3	13
7.	provide more and better quality housing for UA employees in central Tucson	1	-	1	-	2	2	1	4	1	1	6.5	84.0	2.5	13
8.	Build more on-campus student housing.	-	1	-	1	-	2	1	3	3	2	7.4	96.0	2.4	13
9.	Build more private student housing within one mile of campus.	-	1	-	-	2	2	2	2	3	1	7.0	91.0	2.2	13
10.	Increase the number of UA employees living within one mile of campus.	2	2	1	-	1	2	-	1	-	3	5.3	64.0	3.6	12
11.	Increase the number of UMC employees within one mile of campus.	3	1	1	1	2	-	1	1	-	3	5.2	67.0	3.5	13
12.	A policy that freshmen must live on campus.	-	-	-	1	-	-	4	4	1	3	7.9	103.0	1.7	13
13.	Provide a financial incentive for students to live on-campus (e.g., tuition discount).	-	1	2	2	-	1	3	2	-	2	6.1	79.0	2.7	13

4. Centralize UA Population Criteria: Ease of Implementation

Vote Method: SlidingScale



Centralize UA Population Criteria: Ease of Implementation

		Vote Distribution													
#	Ballot Items	1	2	3	4	5	6	7	8	9	10	Avg	Total	STD	Votes
1.	A better K-12 public school system in central Tucson will encourage faculty & grad students with families to live closer in	5	6	-	-	1	-	-	-	1	-	2.4	31.0	2.3	13
2.	Do not rezone historic districts (Federal or city) near campus. This option shold be off the table, as it is streuously opposed by the residents and homewners in these neighborhoods. It is also problematic from many other perspectives (e.g. low-denisty housing plays a role in preserving mature vegetation that mitigates heat and pollution generated by autmobile traffic, high rental rates are corelated with increased crime).	1	3	-	1	-	1	2	1	-	2	5.4	59.0	3.3	11
3.	create ease and incentives for builders to build in core an renovate existing buildings	3	2	1	-	2	3	1	1	-	-	4.1	53.0	2.5	13
4.	Provide financial incentive for faculty to purchase housing downtown (and use streetcar to work)	2	3	-	3	3	1	-	-	1	-	3.8	50.0	2.3	13
5.	Capitalize on streetcar by pursuing all possible opportunties for university-oriented (faculty & students) housing along streetcar route.	-	-	2	5	2	2	-	1	-	1	5.1	66.0	2.0	13
6.	rezone areas closer to campus for higher	2	1	4	3	2	-	-	-	-	1	3.7	48.0	2.3	13

	densities and mixed uses															
7.	provide more and better quality housing for UA employees in central Tucson	2	3	4	2	2	-	-	-	-	-	2.9	38.0	1.3	13
8.	Build more on-campus student housing.	1	3	2	2	1	2	-	1	-	1	4.3	56.0	2.6	13
9.	Build more private student housing within one mile of campus.	1	1	2	3	3	2	-	1	-	-	4.3	56.0	1.8	13
10.	Increase the number of UA employees living within one mile of campus.	6	3	1	1	-	-	1	-	-	-	2.2	26.0	1.8	12
11.	Increase the number of UMC employees within one mile of campus.	5	3	1	2	1	-	1	-	-	-	2.6	34.0	1.9	13
12.	A policy that freshmen must live on campus.	-	3	2	1	2	1	1	1	-	2	5.2	67.0	2.9	13
13.	Provide a financial incentive for students to live on-campus (e.g., tuition discount).	2	3	2	1	-	2	-	3	-	-	4.2	54.0	2.7	13

5. Centralize UA Population Ballot Items with Comments

1. A better K-12 public school system in central Tucson will encourage faculty & grad students with families to live closer in

   1.1. May not help because some people do not want to live in the city, but farther out.

2. Do not rezone historic districts (Federal or city) near campus. This option shold be off the table, as it is streuously opposed by the residents and homewners in these neighborhoods. It is also problematic from many other perspectives (e.g. low-denisty housing plays a role in preserving mature vegetation that mitigates heat and pollution generated by autmobile traffic, high rental rates are corelated with increased crime).

   2.1. Currently there i an area directly wet of campus (east of Eclid) tat has several redevelopment opportunities for higher densities that the private sector would take on. Could also reduce impact to neighborhoods to west.

3. create ease and incentives for builders to build in core an renovate existing buildings

   3.1. This option must be pursued in a thoughtful manner, or it will facilitate the bulldozing of historic neighbrhoods, which is aready under way.

   3.2. Currently easier to create sprawl and tear down existig building than to renovate. Thoughtful includes making sure that balance existsso that neighborhoods ere livable and pedestrian friendly, ieshoppig nd commerce nearby.

4. Provide financial incentive for faculty to purchase housing downtown (and use streetcar to work)
5. Capitalize on streetcar by pursuing all possible opportunties for university-oriented (faculty & students) housing along streetcar route.
6. rezone areas closer to campus for higher densities and mixed uses

   6.1. This is a nonstarter. Mayor and Council already voted this down. They will continue to do so, if they want to stay in office.

   6.2. Areadirectly west of campus (east of Euclid) and on Park have opportunity sites.

   6.3. The areas do not have to be directly adjacent to campus, but anywhere within2 miles will dramatically increase the TDM usage for those living there.

   6.4. Many areas near streetar route have potential (west of 4th Ave & downtown)

7. provide more and better quality housing for UA employees in central Tucson
8. Build more on-campus student housing.
9. Build more private student housing within one mile of campus.

   9.1. Again, this option presumes that historic neighborhoods will be (and should be) bulldozed to make way for apartment buildings. Anyone pursuing this option had better be prepared for a major legal/politcal battle.

   9.2. You could move beyond the neighborhoods directly adjacent to campus. The apartment complexes on Mountain are a prime expample.

10. Increase the number of UA employees living within one mile of campus.

10.1. How?
10.2. Resonably priced housing and more activity

11. Increase the number of UMC employees within one mile of campus.
11.1. probably not realistic

12. A policy that freshmen must live on campus.
12.1. Cost is based on if there is currently enoug housing for this to take place
12.2. Would this require additional housing or is there an adequate supply already
12.3. more is needed. Currently there areonly about 7,000 beds on campus with 800 more to be under cnstruction starting this fall

13. Provide a financial incentive for students to live on-campus (e.g., tuition discount).
13.1. need to build more housing first
13.2. On campus housing full
13.3. There is a benefit in terms of academic success for freshman to live on campus, but not all students want or can afford to live on campus.

---

7. Spread Travel Demand

1. Spread Travel Demand Totals

Spread Travel Demand Totals

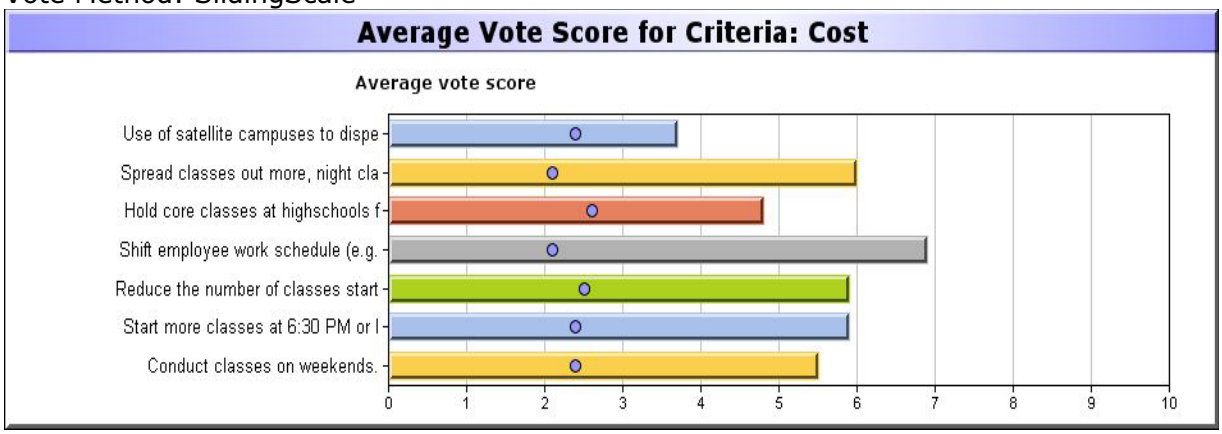
		Criteria				
		Cost	Benefit	Ease of Implementation		
	Voting Method:	SlidingScale	SlidingScale	SlidingScale		
#	Ballot Items				Average	STD
1.	Use of satellite campuses to disperse travel to other areas.	3.7	6.8	5.0	5.2	1.6
2.	Spread classes out more, night classes and Sarurday.	6.0	6.7	4.8	5.8	0.9
3.	Hold core classes at highschools for freshman to limit their trips to campus	4.8	5.1	4.1	4.7	0.5
4.	Shift employee work schedule (e.g., 9:00 AM to 6:00 PM).	6.9	5.5	4.2	5.5	1.3
5.	Reduce the number of	5.9	5.6	4.9	5.5	0.5

	classes starting between 8:00 and 9:00 AM.					
6.	Start more classes at 6:30 PM or later.	5.9	5.4	4.8	5.4	0.5
7.	Conduct classes on weekends.	5.5	6.2	5.4	5.7	0.5

Voting Details
Criteria Statistic: Mean. Votes Cast: 13, Abstained: 0

2. Spread Travel Demand Criteria: Cost

Vote Method: SlidingScale

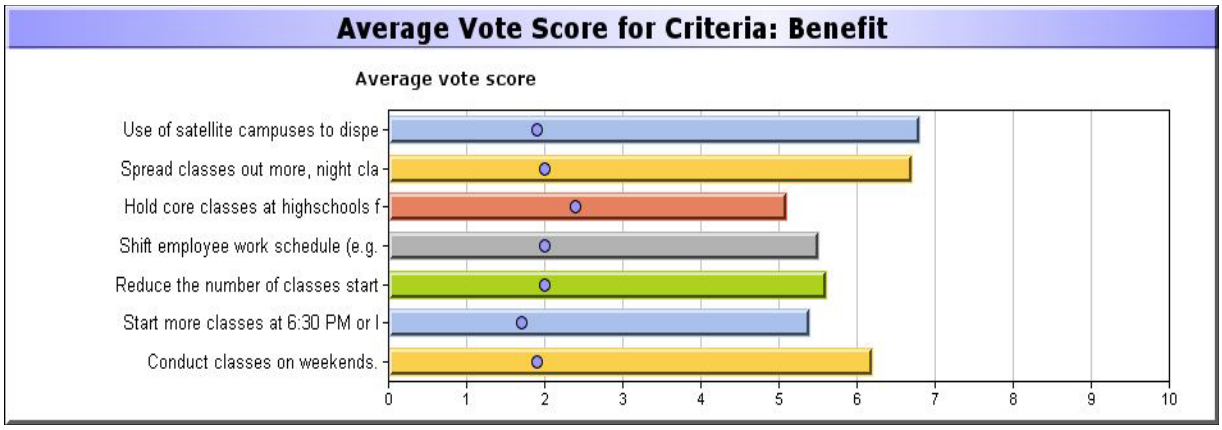


Spread Travel Demand Criteria: Cost

		Vote Distribution													
#	Ballot Items	1	2	3	4	5	6	7	8	9	10	Avg	Total	STD	Votes
1.	Use of satellite campuses to disperse travel to other areas.	3	3	-	2	2	-	3	-	-	-	3.7	48.0	2.4	13
2.	Spread classes out more, night classes and Sarurday.	-	1	-	2	3	2	-	4	1	-	6.0	78.0	2.1	13
3.	Hold core classes at highschools for freshman to limit their trips to campus	1	2	2	1	1	3	-	2	1	-	4.8	63.0	2.6	13
4.	Shift employee work schedule (e.g., 9:00 AM to 6:00 PM).	-	-	1	1	2	1	1	4	2	1	6.9	90.0	2.1	13
5.	Reduce the number of classes starting between 8:00 and 9:00 AM.	1	-	3	-	-	1	4	3	1	-	5.9	77.0	2.5	13
6.	Start more classes at 6:30 PM or later.	1	1	-	-	3	2	2	3	1	-	5.9	77.0	2.4	13
7.	Conduct classes on weekends.	1	1	-	2	3	2	1	1	2	-	5.5	71.0	2.4	13

3. Spread Travel Demand Criteria: Benefit

Vote Method: SlidingScale

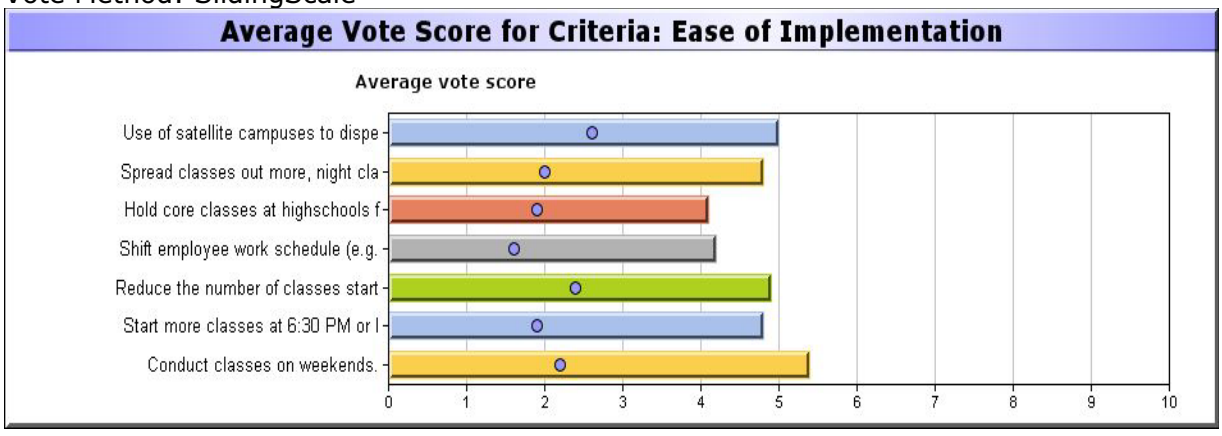


Spread Travel Demand Criteria: Benefit

		Vote Distribution													
#	Ballot Items	1	2	3	4	5	6	7	8	9	10	Avg	Total	STD	Votes
1.	Use of satellite campuses to disperse travel to other areas.	-	-	-	1	3	2	2	3	-	2	6.8	89.0	1.9	13
2.	Spread classes out more, night classes and Sarurday.	-	-	1	2	-	2	2	5	-	1	6.7	87.0	2.0	13
3.	Hold core classes at highschools for freshman to limit their trips to campus	1	1	2	1	3	-	2	3	-	-	5.1	66.0	2.4	13
4.	Shift employee work schedule (e.g., 9:00 AM to 6:00 PM).	-	-	2	2	4	2	1	1	-	1	5.5	71.0	2.0	13
5.	Reduce the number of classes starting between 8:00 and 9:00 AM.	-	-	2	1	4	4	-	-	1	1	5.6	73.0	2.0	13
6.	Start more classes at 6:30 PM or later.	-	-	3	-	4	3	1	2	-	-	5.4	70.0	1.7	13
7.	Conduct classes on weekends.	-	1	-	-	3	4	2	2	-	1	6.2	81.0	1.9	13

4. Spread Travel Demand Criteria: Ease of Implementation

Vote Method: SlidingScale



Spread Travel Demand Criteria: Ease of Implementation

		Vote	

		Distribution													
#	Ballot Items	1	2	3	4	5	6	7	8	9	10	Avg	Total	STD	Votes
1.	Use of satellite campuses to disperse travel to other areas.	-	4	1	-	2	2	2	-	2	-	5.0	65.0	2.6	13
2.	Spread classes out more, night classes and Sarurday.	1	1	1	1	5	1	2	1	-	-	4.8	63.0	2.0	13
3.	Hold core classes at highschools for freshman to limit their trips to campus	1	1	3	5	-	1	1	1	-	-	4.1	53.0	1.9	13
4.	Shift employee work schedule (e.g., 9:00 AM to 6:00 PM).	-	1	5	2	2	1	2	-	-	-	4.2	55.0	1.6	13
5.	Reduce the number of classes starting between 8:00 and 9:00 AM.	-	2	2	3	2	-	1	2	1	-	4.9	64.0	2.4	13
6.	Start more classes at 6:30 PM or later.	-	2	1	2	4	1	2	1	-	-	4.8	63.0	1.9	13
7.	Conduct classes on weekends.	-	1	2	1	4	1	2	1	-	1	5.4	70.0	2.2	13

5. Spread Travel Demand Ballot Items with Comments

1. Use of satellite campuses to disperse travel to other areas.
   1.1. This would require a shift in thinking. UA thinks of satellite campuses as located far outside the city (e.g. in Sierra Vista).
   1.2. Cost of building the new infrastructure wouild be high
   1.3. couldn'tg satellite campus also be a local schools??
   1.4. Local schools are already a capacity during the das.
   1.5. College life is about campus experience.
2. Spread classes out more, night classes and Sarurday.
3. Hold core classes at highschools for freshman to limit their trips to campus
   3.1. High school facilities already utlized. College students don't want to be at a high school
   3.2. makes no sense.we say freshmen shouldn' have cars...then sugesg they drive to a high school
   3.3. This option would reduce the campus experience for freshman
   3.4. How about using PCC campuses?
   3.5. Thee is already classes at PCC that count twards UA credit. They are not just for freshman, but anyone.
   3.6. Could ause loss of rntion of freshmen
4. Shift employee work schedule (e.g., 9:00 AM to 6:00 PM).
   4.1. Facilities management costs must be considered in evaluating any proposal of this type.
   4.2. this is dependant on job duties
   4.3. Could create longer days fo students and not reduce trips.
5. Reduce the number of classes starting between 8:00 and 9:00 AM.
   5.1. Ma jsut have longer days, not reduce trips
   5.2. Thi would enhace pedetrian safety, by sfting pedestrian traffic to a time of day when vehicular traffc is less. However, UA is on a four-day class schedule as a cost-saving measure.
   5.3. theentire campus is not on a 4day schedule
6. Start more classes at 6:30 PM or later.
   6.1. Could encourage multiple daily commutes to campus
   6.2. or not derease trips--jst longer days on ampus
   6.3. Could increase cost in utilities-lighting & heating/cooling
   6.4. The number of evening classs is already increasing. Difficult when students need to work to help pay the increasing cst of education.

6.5. Would make the University more accessible to folks who already work full-time. This is in line with the mssion of a land-grant University.

7. Conduct classes on weekends.
   7.1. May icrease overhead due to eletricity
   7.2. I'm sure faculty will love the idea
   7.3. need to get faculty to teach these classes.
   7.4. This also would not mean a student is not drivingdurng the week, but taking additional class on the weekend.

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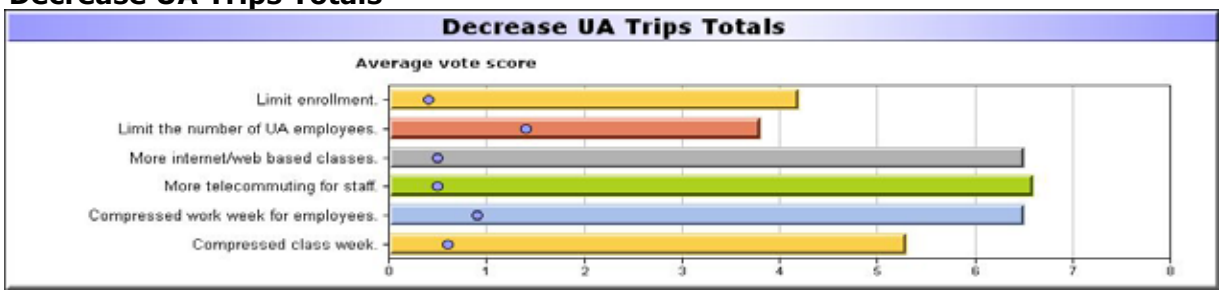
8. Decrease UA Trips

1. Decrease UA Trips Totals



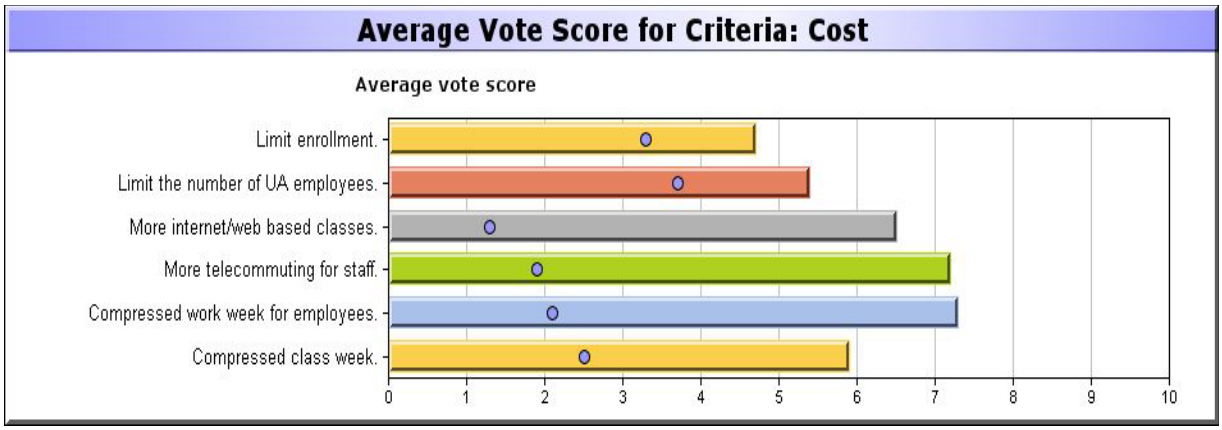
Decrease UA Trips Totals

		Criteria				
		Cost	Benefit	Ease of Implementation		
	Voting Method:	SlidingScale	SlidingScale	SlidingScale		
#	Ballot Items				Average	STD
1.	Limit enrollment.	4.7	3.8	4.2	4.2	0.4
2.	Limit the number of UA employees.	5.4	3.2	2.8	3.8	1.4
3.	More internet/web based classes.	6.5	7.0	5.9	6.5	0.5
4.	More telecommuting for staff.	7.2	6.6	6.2	6.6	0.5
5.	Compressed work week for employees.	7.3	6.6	5.6	6.5	0.9
6.	Compressed class week.	5.9	5.4	4.7	5.3	0.6

Voting Details
Criteria Statistic: Mean. Votes Cast: 13, Abstained: 0

2. Decrease UA Trips Criteria: Cost

Vote Method: SlidingScale

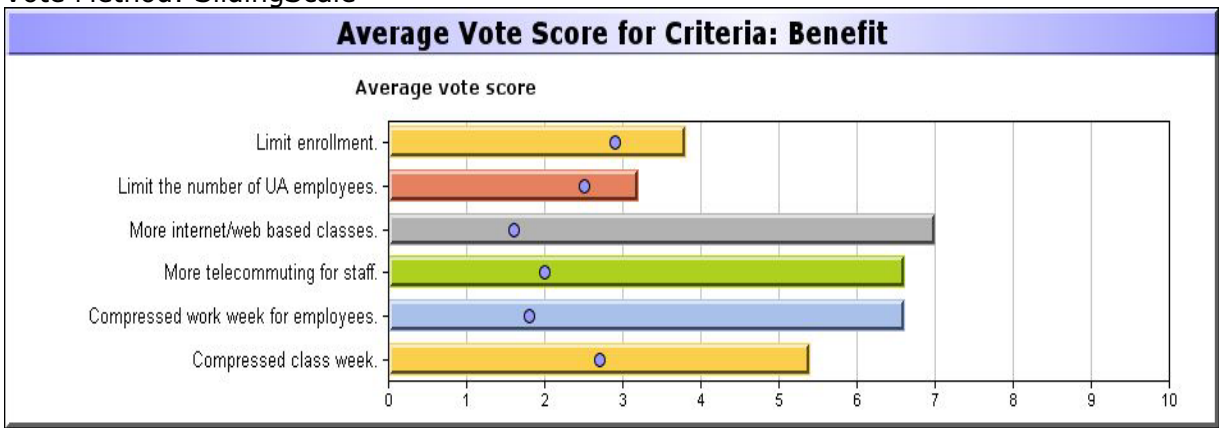


Decrease UA Trips Criteria: Cost

		Vote Distribution													
#	Ballot Items	1	2	3	4	5	6	7	8	9	10	Avg	Total	STD	Votes
1.	Limit enrollment.	4	1	-	1	2	-	2	1	1	1	4.7	61.0	3.3	13
2.	Limit the number of UA employees.	4	1	-	-	1	1	-	2	3	1	5.4	70.0	3.7	13
3.	More internet/web based classes.	-	-	-	1	1	5	3	2	1	-	6.5	85.0	1.3	13
4.	More telecommuting for staff.	-	-	-	1	2	2	2	2	3	1	7.2	93.0	1.9	13
5.	Compressed work week for employees.	-	-	-	1	3	1	1	1	5	1	7.3	95.0	2.1	13
6.	Compressed class week.	-	1	1	3	1	1	3	-	2	1	5.9	77.0	2.5	13

3. Decrease UA Trips Criteria: Benefit

Vote Method: SlidingScale



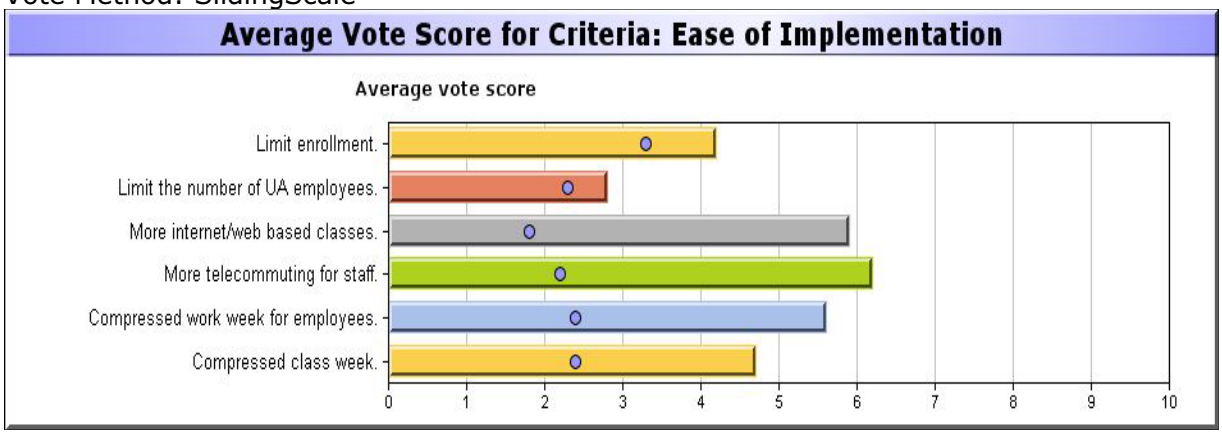
Decrease UA Trips Criteria: Benefit

		Vote Distribution													
#	Ballot Items	1	2	3	4	5	6	7	8	9	10	Avg	Total	STD	Votes
1.	Limit enrollment.	3	3	1	2	1	-	1	1	-	1	3.8	50.0	2.9	13
2.	Limit the number of UA employees.	5	2	1	1	1	1	1	1	-	-	3.2	42.0	2.5	13
3.	More internet/web based classes.	-	-	-	1	1	3	2	5	-	1	7.0	91.0	1.6	13
4.	More telecommuting for staff.	-	-	-	2	2	4	-	2	2	1	6.6	86.0	2.0	13
5.	Compressed work week for employees.	-	-	1	-	1	6	1	2	1	1	6.6	86.0	1.8	13

6.	Compressed class week.	2	1	-	-	4	1	2	1	2	-	5.4	70.0	2.7	13

4. Decrease UA Trips Criteria: Ease of Implementation

Vote Method: SlidingScale



Decrease UA Trips Criteria: Ease of Implementation

		Vote Distribution													
#	Ballot Items	1	2	3	4	5	6	7	8	9	10	Avg	Total	STD	Votes
1.	Limit enrollment.	4	1	3	1	-	-	-	1	3	-	4.2	54.0	3.3	13
2.	Limit the number of UA employees.	5	2	2	2	1	-	-	-	1	-	2.8	37.0	2.3	13
3.	More internet/web based classes.	-	-	-	3	3	3	2	1	-	1	5.9	77.0	1.8	13
4.	More telecommuting for staff.	-	-	2	1	2	3	1	2	1	1	6.2	80.0	2.2	13
5.	Compressed work week for employees.	1	1	1	-	2	2	4	1	1	-	5.6	73.0	2.4	13
6.	Compressed class week.	-	3	1	3	3	-	1	1	-	1	4.7	61.0	2.4	13

5. Decrease UA Trips Ballot Items with Comments

1. Limit enrollment.
   1.1. Not likely
   1.2. Not sure how this would work?
   1.3. The cost of attending wil limit the numbers some, but there is a large surge of high school students who need to go to college and UA must help support this.
   1.4. Not good for UA economy, or education in general
   1.5. President Likins had such a policy. President Shelton repudiated the policy immediately after arriving in Tucson. I don't see him changing his mind, especially as the University is bcomeing increasigly dependent on tuition s a funing source.
2. Limit the number of UA employees.
   2.1. Employes are needed to support the mission of the university
   2.2. we are developin more new programs which require most saff and faulty
   2.3. makes class sizes larger
3. More internet/web based classes.
   3.1. Don't have the quality of in-person classes
   3.2. Idea is growing and NAU has been very successful. This is not for allclasses, but some could be taught in this manner
4. More telecommuting for staff.
   4.1. many already do this
5. Compressed work week for employees.
   5.1. many employees already do this

5.2. many are on a compressed work...often causes problems because not all emloyees are in the office
5.3. Would onl compound the traffic prblem on work days
5.4. With compressed work weeks the average shit is longer, so peak traffic may be reduced, it will just last longer.
5.5. Unless work week was staggered

6. Compressed class week.
6.1. Would create more congestion on class days
6.2. This is already in place. Most classes meet MW or TuTh only.
6.3. The benifit would depend on implimentation. You woul have too much congestion on the compressed days

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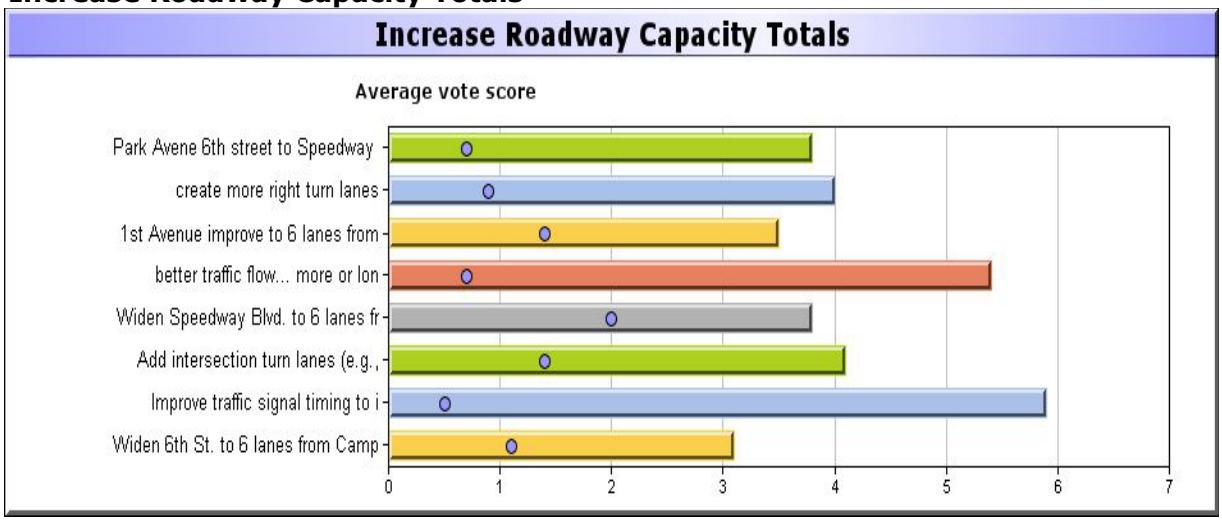
9. Increase Roadway Capacity

1. Increase Roadway Capacity Totals



Increase Roadway Capacity Totals

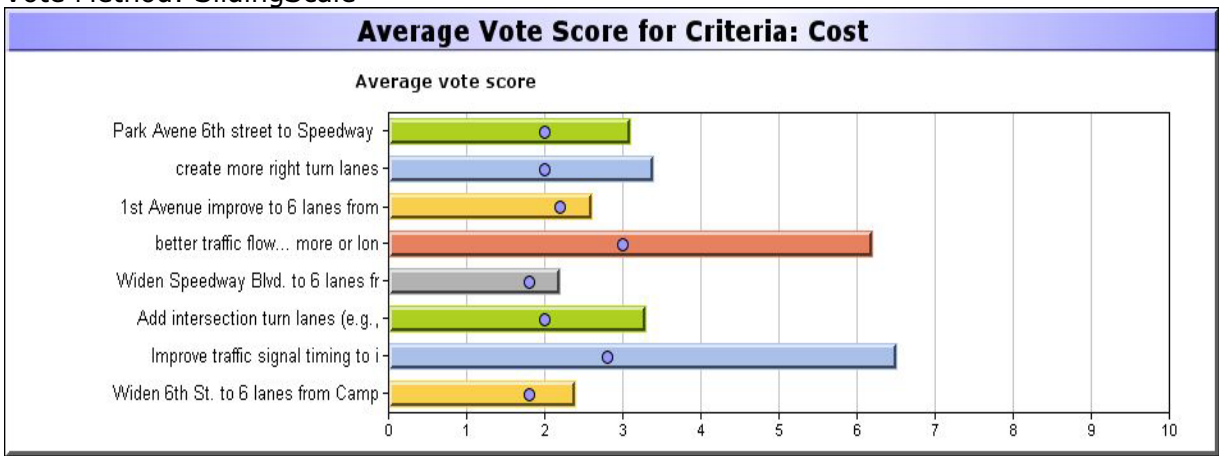
		Criteria				
		Cost	Benefit	Ease of Implementation		
	Voting Method:	SlidingScale	SlidingScale	SlidingScale		
#	Ballot Items				Average	STD
1.	Park Avene 6th street to Speedway needs improvements for better traffic management	3.1	4.5	3.7	3.8	0.7
2.	create more right turn lanes	3.4	5.0	3.7	4.0	0.9
3.	1st Avenue improve to 6 lanes from Speedway to River Road	2.6	5.1	2.9	3.5	1.4
4.	better traffic flow... more	6.2	5.0	5.0	5.4	0.7

	or longer left arrows					
5.	Widen Speedway Blvd. to 6 lanes from Euclid Ave. to Stone Ave., and from Main St. to I-10.	2.2	6.0	3.2	3.8	2.0
6.	Add intersection turn lanes (e.g., dual left-turn lanes on all approaches at Speedway/Euclid intersections).	3.3	5.8	3.3	4.1	1.4
7.	Improve traffic signal timing to increase intersection capacity and traffic progression.	6.5	5.8	5.5	5.9	0.5
8.	Widen 6th St. to 6 lanes from Campbell Ave. to Euclid Ave.	2.4	4.3	2.6	3.1	1.1

Voting Details
Criteria Statistic: Mean. Votes Cast: 12, Abstained: 0

2. Increase Roadway Capacity Criteria: Cost

Vote Method: SlidingScale



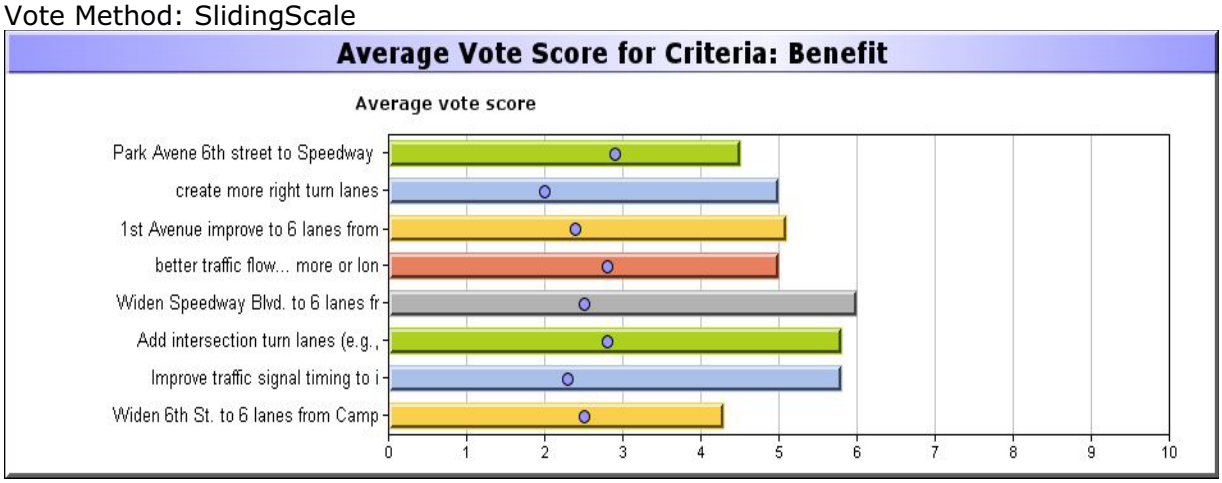
Increase Roadway Capacity Criteria: Cost

		Vote Distribution													
#	Ballot Items	1	2	3	4	5	6	7	8	9	10	Avg	Total	STD	Votes
1.	Park Avene 6th street to Speedway needs improvements for better traffic management	4	1	1	1	3	1	-	-	-	-	3.1	34.0	2.0	11
2.	create more right turn lanes	2	2	3	2	2	-	-	1	-	-	3.4	41.0	2.0	12
3.	1st Avenue improve to 6 lanes from Speedway to River Road	3	6	1	1	-	-	-	-	1	-	2.6	31.0	2.2	12
4.	better traffic flow... more or longer left arrows	2	-	-	-	3	1	1	3	-	2	6.2	74.0	3.0	12
5.	Widen Speedway Blvd. to 6 lanes from Euclid Ave. to Stone Ave., and from Main St. to I-10.	5	4	1	1	-	-	1	-	-	-	2.2	27.0	1.8	12
6.	Add intersection turn lanes (e.g., dual left-turn	3	1	3	2	1	1	1	-	-	-	3.3	40.0	2.0	12

	lanes on all approaches at Speedway/Euclid intersections).														
7.	Improve traffic signal timing to increase intersection capacity and traffic progression.	1	-	1	-	2	3	-	1	2	2	6.5	78.0	2.8	12
8.	Widen 6th St. to 6 lanes from Campbell Ave. to Euclid Ave.	4	5	1	-	1	-	1	-	-	-	2.4	29.0	1.8	12

3. Increase Roadway Capacity Criteria: Benefit

Vote Method: SlidingScale

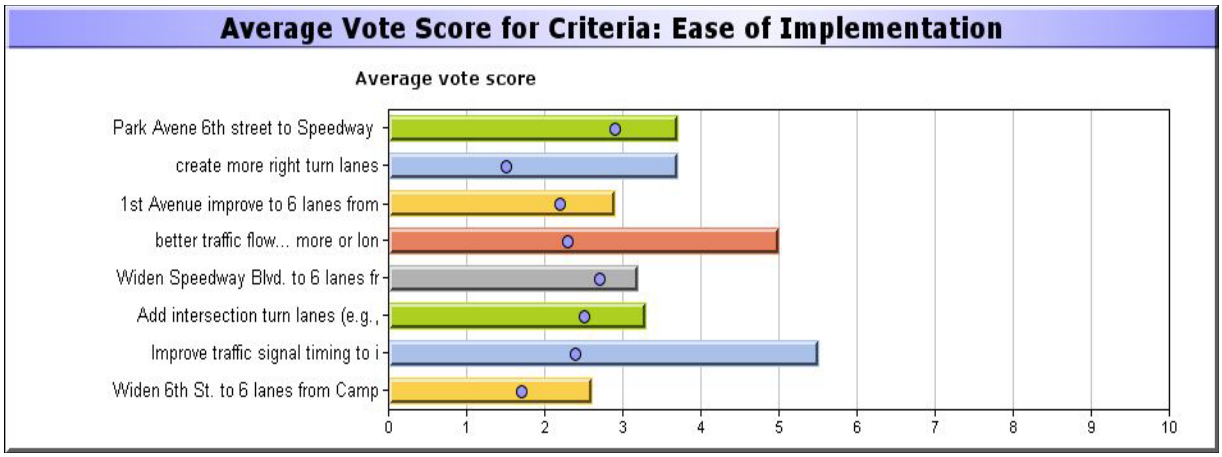


Increase Roadway Capacity Criteria: Benefit

		Vote Distribution													
#	Ballot Items	1	2	3	4	5	6	7	8	9	10	Avg	Total	STD	Votes
1.	Park Avene 6th street to Speedway needs improvements for better traffic management	3	2	-	-	1	2	2	2	-	-	4.5	54.0	2.9	12
2.	create more right turn lanes	-	2	1	2	1	4	-	2	-	-	5.0	60.0	2.0	12
3.	1st Avenue improve to 6 lanes from Speedway to River Road	1	-	3	2	-	2	2	1	1	-	5.1	61.0	2.4	12
4.	better traffic flow... more or longer left arrows	2	-	2	2	-	3	-	2	-	1	5.0	60.0	2.8	12
5.	Widen Speedway Blvd. to 6 lanes from Euclid Ave. to Stone Ave., and from Main St. to I-10.	-	-	3	1	-	4	1	1	-	2	6.0	72.0	2.5	12
6.	Add intersection turn lanes (e.g., dual left-turn lanes on all approaches at Speedway/Euclid intersections).	-	2	2	1	-	1	2	1	3	-	5.8	69.0	2.8	12
7.	Improve traffic signal timing to increase intersection capacity and traffic progression.	-	-	2	2	2	3	-	1	1	1	5.8	69.0	2.3	12
8.	Widen 6th St. to 6 lanes from Campbell Ave. to Euclid Ave.	1	2	3	1	1	1	2	-	1	-	4.3	52.0	2.5	12

4. Increase Roadway Capacity Criteria: Ease of Implementation

Vote Method: SlidingScale



Increase Roadway Capacity Criteria: Ease of Implementation

		Vote Distribution													
#	**Ballot Items**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Avg**	**Total**	**STD**	**Votes**
1.	Park Avene 6th street to Speedway needs improvements for better traffic management	4	2	1	1	1	-	-	3	-	-	3.7	44.0	2.9	12
2.	create more right turn lanes	1	1	4	3	1	2	-	-	-	-	3.7	44.0	1.5	12
3.	1st Avenue improve to 6 lanes from Speedway to River Road	4	2	3	1	-	1	-	1	-	-	2.9	35.0	2.2	12
4.	better traffic flow... more or longer left arrows	-	2	2	-	4	1	2	-	-	1	5.0	60.0	2.3	12
5.	Widen Speedway Blvd. to 6 lanes from Euclid Ave. to Stone Ave., and from Main St. to I-10.	4	2	2	2	-	1	-	-	-	1	3.2	38.0	2.7	12
6.	Add intersection turn lanes (e.g., dual left-turn lanes on all approaches at Speedway/Euclid intersections).	3	3	2	1	1	-	1	-	1	-	3.3	40.0	2.5	12
7.	Improve traffic signal timing to increase intersection capacity and traffic progression.	-	-	3	3	1	-	2	2	-	1	5.5	66.0	2.4	12
8.	Widen 6th St. to 6 lanes from Campbell Ave. to Euclid Ave.	3	4	3	1	-	-	1	-	-	-	2.6	31.0	1.7	12

5. Increase Roadway Capacity Ballot Items with Comments

1. Park Avene 6th street to Speedway needs improvements for better traffic management
   1.1. Traffic is slow here, due to numeros pedestrian crossings. This is as it should be. Tucson needs to give up the fantasy that it's okay to drive 50 mph + in an area with heavy pedestrian traffi.
   1.2. Better chaneling of pedetrians crossing the road would help
   1.3. Improvements might mean crossing areas
2. create more right turn lanes
3. 1st Avenue improve to 6 lanes from Speedway to River Road
   3.1. this is an RTA project
   3.2. This and other road-widening projects simply shift the bottlenecks to different locations.
4. better traffic flow... more or longer left arrows
5. Widen Speedway Blvd. to 6 lanes from Euclid Ave. to Stone Ave., and from Main St. to I-10.

5.1. This and other road-widening projects simply move the bottlenecks to other locations. Also, this project is planned for approximately 2020, when gas will be costly. expensiveprice and aalability of

5.2. This will require eminent domain seizues, forbidden by Prop 207.

6. Add intersection turn lanes (e.g., dual left-turn lanes on all approaches at Speedway/Euclid intersections).
7. Improve traffic signal timing to increase intersection capacity and traffic progression.

7.1. Road widening projects simply move the bottlenecks elsewhere.

8. Widen 6th St. to 6 lanes from Campbell Ave. to Euclid Ave.

8.1. Previus planning study concluded to notwiden this rod.

8.2. Instead, how about making this stretch more pedestrian oriented with mixed use development that is in scale w/ the n'hood and adds university housing

8.3. The idea was to make the area within the campus more ed frendly

8.4. Add transit-only lanes which can also function as turn and bike lanes

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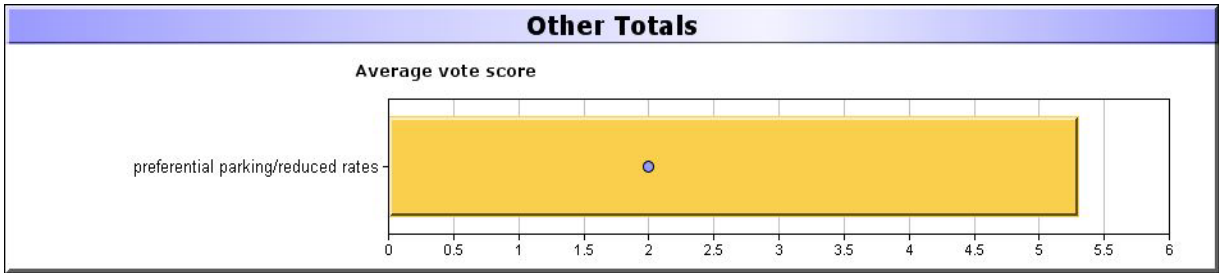
10. Other

1. Other Totals



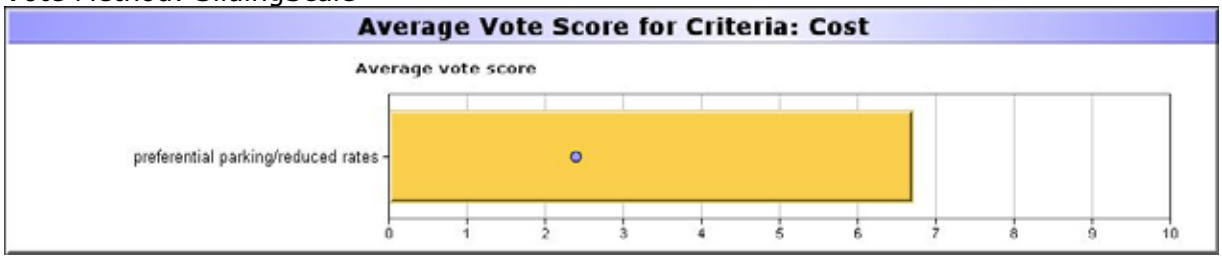
Other Totals

		Criteria			
		Cost	Benefit	Ease of Implementation	
	Voting Method:	SlidingScale	SlidingScale	SlidingScale	
#	Ballot Items				Average STD
1.	preferential parking/reduced rates for fuel efficient vehicles	6.7	2.9	6.2	5.3 2.0

Voting Details
Criteria Statistic: Mean. Votes Cast: 13, Abstained: 0

2. Other Criteria: Cost

Vote Method: SlidingScale

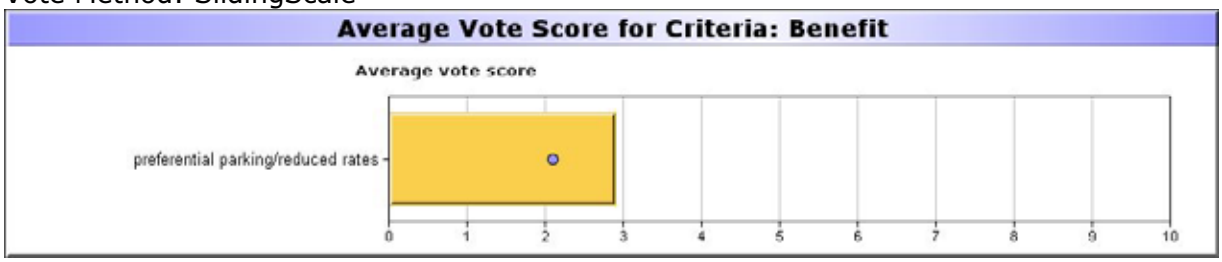


Other Criteria: Cost

		Vote Distribution													
#	Ballot Items	1	2	3	4	5	6	7	8	9	10	Avg	Total	STD	Votes
1.	preferential parking/reduced rates for fuel efficient vehicles	-	2	-	-	-	2	5	1	2	1	6.7	87.0	2.4	13

3. Other Criteria: Benefit

Vote Method: SlidingScale

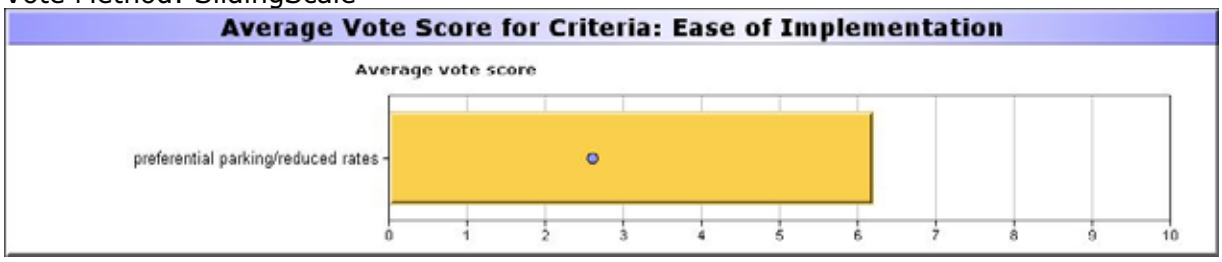


Other Criteria: Benefit

		Vote Distribution													
#	Ballot Items	1	2	3	4	5	6	7	8	9	10	Avg	Total	STD	Votes
1.	preferential parking/reduced rates for fuel efficient vehicles	5	2	1	2	1	1	1	-	-	-	2.9	38.0	2.1	13

4. Other Criteria: Ease of Implementation

Vote Method: SlidingScale



Other Criteria: Ease of Implementation

		Vote Distribution													
#	Ballot Items	1	2	3	4	5	6	7	8	9	10	Avg	Total	STD	Votes
1.	preferential parking/reduced rates for fuel efficient vehicles	-	2	1	-	2	1	2	3	1	1	6.2	80.0	2.6	13

5. Other Ballot Items with Comments

1. preferential parking/reduced rates for fuel efficient vehicles
   1.1. Does not help the congestion problem, but does help air quality
   1.2. good idea, but doesn't lower the number of cars on the road

1.3. Great idea, should not be ruled out because it doesn't directly reduce congestion. It reduces pollution, which is a major problematic component of congestion.

APPENDIX C

OPEN HOUSE SIGN-IN SHEETS

UA Needs Study Open House
February 6, 2008 12:00 – 4:00 p.m.
Student Union Memorial Center, Sabino Room

Name	Mailing Address	Email Address
Amber Soergel	10070 E. Paseo San Bruno, 85747	asoergel@
Paula Swanson	PO Box 40032 T/A 85717	pswanson@
Christopher Wildmer	7050 E Sunrise Dr. # 9203 Tucson 85750	Chaw@as.arizona.edu
Debbie Marlow	1104 E Adelaide, #A 85719	dmarlow@email.arizona.edu
Peter Van Peenen	1221 N. Mountain Ave 85719	pfv@email
Vince Catalano	6201 N Stone Ave	Vince.Catalano.tucsonAZgov
JOHN FRANCISCO	YOU KNOW IT	YOU KNOW IT
Ant		XDS @ COL.NET

UA Needs Study Open House
February 6, 2008 12:00 – 4:00 p.m.
Student Union Memorial Center, Sabino Room

Name	Mailing Address	Email Address
Frank Soltys	730 N. Norton Ave 19	fsoltys@cox.net
Mike Delahunty	2536 W. Veredo De La Manana	delahunt@email.arizona.edu
Frank G. Castro III	3800 S. Camino Verde Tuc. AZ. 85735	fcastro@email.arizona.edu
Christine Michalowski	313 N. Warren	cken@u.arizona.edu
John Vogel	331 S Alvernon Way #2, Tucson 85711	jvogel@usgs.gov
Leila Gass	1111 E. Ghula Vista Rd, Tucson 85718	lgass@usgs.gov
Grant McCormick	220 W. Sixth	
Teresa Bommarito	415 E University Blvd 85705	
JOSEPH KRAUS	STEWARD OBSERVATORY 933 N. CHERRY AVE 85721	JKRAUS@AS.ARIZONA.EDU

UA Needs Study Open House
February 6, 2008 12:00 – 4:00 p.m.
Student Union Memorial Center, Sabino Room

Name	Mailing Address	Email Address
Felipe Ladron	1860 E. River Rd Suite 300 ~~1860~~ Tucson, AZ, 85718	ladronell.arizona.edu
Michael A Vimme	Box 210 129	mav@email
BOB SOMMERFIELD	PO BOX # 649936, TUCSON, AZ 85728	SOMMER@UAPD.ARIZONA.EDU
DAVID HEINEKING	PTS	heinekin@email.arizona.edu
TOM FISHER	TDOT TRANSIT	TOM.FISHER@TUCSONAZ.GOV
Ruth Reiman	PAG 177 N. Church Ave. #405 85701	rreiman@pagnet.org
Brendan O'Connor	434 E. 1st St. Tucson, AZ 85705	oconnorb@email.arizona.edu
Alice Roe	2318 E. ELM St. 85719	alicer@dakotacom.net
Nicole Gavin	City of Tucson Transportation	
Laura Welburn	PTS	lwilburn@email.arizona.edu
Joyce Childers	PTS	childers@email.arizona.edu
Barbara Foster	Career Services – SUMC	bfoster@arizona...

UA Needs Study Open House
February 6, 2008 12:00 – 4:00 p.m.
Student Union Memorial Center, Sabino Room

Name	Mailing Address	Email Address
John Liosatos	177 N. Church #405	JLIOSATOS@PAGNET.ORG
JAMES BEIER	8710 N. THORNYDALE RD #140	jbeier@m-m.net
James Witkowski	8710 N. Thornydale Rd. #140	jwitkowski@m-m.net
Bill Davidson	1117 E Sixth St.	billd@email.arizona.edu
Jennifer O'Connor	177 N. Church Ave. #405	joconnor@pagnet.org
Jennifer Swegle	850 N. Silverbell Rd. #136	jennifer@email.arizona.edu
Elaine Wilson	10480 N. Thornydale Rd 85742	elainew@email.Arizona.edu
Robert Done	177 N. Church #405 T/A 85701	rdone@pagnet.org
Mary Durham-Gibson	1932 E 10th St Tucson 85719	durham@u.arizona.edu
Jim Glock	PO Box 27210 Tucson AZ 85726	jim.glock@tucsonaz.gov
JOHN DUNLOP	950 N. CHERRY AVE	
Tom Amparano	1117 E. 6th street 85721-0181	TAMPARAN@EMAIL.ARIZONA.EDU

UA Needs Study Open House
February 6, 2008 12:00 – 4:00 p.m.
Student Union Memorial Center, Sabino Room

Name	Mailing Address	Email Address
Patrick Kass	1117 E. 6th street	pkass@email.arizona.edu
Joel Valdez	UA	
Cody Calamaio	2621 N Estrella Ave	Calamaio@email.arizona.edu
B.J. Camp	8401 S Kolb Rd Unit 182	BCAMP@EMAIL.ARIZONA.EDU
Armando Vargas	PO 210030	avargas@u.arizona.edu
Sarah Evans	885 N. Euclid #414	sevans1@email.arizona.edu
Kevin Haywood	1852 E First St Tuc AZ.	haywood@uapd.arizona.edu.
Adam Robbins	811 E Waterman	crobbins@email.arizona.edu
A. DAYKIN	UAPD	
Christa Kirk		CKirK@agarizona.edu
LEO E. HENKE	PTS	henke@email.arizona.edu
GREG ORSINI	1860 East River Road, Suite 300 85718	GregOrsini@dmjmharris.com

APPENDIX D

TRANSPORTATION IMPROVEMENT PROGRAM MAJOR AND MINOR PROJECT FUNDING APPLICATIONS

TRANSPORTATION IMPROVEMENT PROGRAM
PROJECT DATA
TO SUPPORT
MAJOR PROJECTS
FUNDING APPLICATION

PROJECT NAME _____ SPONSOR ID _____

TIP ID #_____ | SPONSOR PRIORITY _____

SAFETY BENEFITS

1. What are the safety problems in the project area? Describe recent accident history, lack of lighting, substandard geometry, etc. (3 year history)

Scoring:	Level of Safety Problems	Points
	High	20
	Medium	10
	Low	5

2. How does the project propose to address the safety conditions in the project area?

Scoring: Secondary multiplier - Subjective 0 to 1

1. 1 = The project will likely solve all of the safety problems in the project area.
2. .75 = The project will make a major contribution to eliminating the safety problems in the project area.
3. .5 = The project will make a minor contribution to eliminating the safety problems in the project area.
4. 0 = The project will not contribute to eliminating the safety problems in the project area.

Total Safety Score = _____ points x _____ multiplier = _____ (Max of 20 points)

SYSTEM PRESERVATION

3. What is the average Pavement Condition Index, Bridge Sufficiency Index, or other infrastructure condition in the project area?

Roadway Pavements		Bridges and other structures	
Condition	Points	Condition	Points
Good	1	Good (80-100)	1
Fair	5	Fair (50-80)	5
Poor	10	Poor (under 50)	10

* Projects that do not address the identified condition problems get zero points.

Total System Preservation Score = _____ (Max of 10 points)

NUMBER OF USERS WHO WILL BENEFIT

4. What is the average ADT on the most recent PAG traffic volumes maps? If the count is more than one year old, give the year the count was taken.

Existing ADT: Estimated Future ADT (2025):

Scoring: Total score is the sum of both tables below.

Existing Conditions		Future Conditions (2025)	
ADT	Points	ADT	Points
70,000 or more	6		
55,000 - 69,999	5	60,000 or more	4
40,000 - 54,999	4	40,000 - 54,999	3
25,000 - 39,999	3	25,000 - 39,000	2
10,000 - 24,999	2	10,000 - 24,999	1
less than 10,000	1	less than 10,000	0

Total User Benefit Score = _____ (Max of 10 points)

CONGESTION BENEFITS

5.	What is the average peak hour LOS in the project area before the project?	Average Daily LOS	Peak hour LOS
6.	What will be the opening day LOS after the project is built?	Average Daily LOS	Peak Hour LOS
7.	What is the estimated LOS for 2025 if the project is not built?	Average Daily LOS	Peak Hour LOS
8.	What is the estimated 2025 LOS if the project is built?	Average Daily LOS	Peak Hour LOS

Scoring (5-8): Total score is the sum of both tables below.

Existing LOS	After project LOS	Points	2025 Ave. LOS w/o the project	2025 Ave. LOS w/ the project	Points
E	D or better	3	E	D or better	3
F	D or better	5	F	D or better	5
F	E	4	F	E	4

Total Congestion Score = _____ (Max of 10 points)

ENVIRONMENTAL BENEFITS

9. How does the project support or promote any of the following?
   1. Use of rubberized asphalt
   2. Use of recycled materials or salvage of existing materials
   3. Paving dirt roads
   4. Construction of new bicycle or pedestrian facilities
   5. Reductions in VMT or promotes alternate fuel useage
   6. Provision of landscaping
   7. Provision of special wildlife accommodations
   8. Noise mitigation beyond legal requirements
   9. Flood control facilities or removal of dip crossings
   10. Specific improvements to control existing erosion problems
   11. Adding new curbing and/or paved shoulders

Scoring: Score one point for each of the above items addressed by the project.

Total Environmental Score = _____ (Max 10 points)

IMPROVED ACCESSIBILITY

10. How does the project improve access to public transit service? Address the following:
    1. New transit service.
    2. New transit amenities (shelters, sidewalk, etc.)
    3. Improved conditions on existing transit routes.

(Subjective up to 10 points)

11. How many lineal feet of new (not replacement) sidewalk or multi-use facility will be built with the project?

1 point for each 1000' of new (not replacement) sidewalk or multi-use facility (Max of 5 points)

Total Accessibility Score = _____ (Max of 15 points)

IMPROVE SYSTEM CONTINUITY

12. Does the project contribute to the continuity of the system by completing missing links or extending a major corridor? If yes, please describe.

Scoring: Roadway missing links or extensions = 10 points
Sidewalk missing links or extensions = 2 points
Shoulders/bike path missing links or extensions = 2 points

Total Continuity score = _____ (Max of 10 points)

REGIONAL SIGNIFICANCE

13. To what degree is the project consistent with local and regional land use plans?

Scoring: * Specifically listed in the RTP = 1 point
Specifically listed in sponsor's general plan = 4 points
Specifically listed in multiple jurisdiction's general plans = 9 points

* Reconstruction and major maintenance projects will be considered to be listed in both the RTP and the sponsor's local plans.

14. Does the project facilitate travel to destinations of significant regional importance? (Score 1 point for each of the following destinations served to a maximum of 3. Must be within 2 miles of the destination and directing traffic toward the destination.)

1. Mt. Lemmon
2. TIA
3. Desert Museum
4. Davis Monthan
5. Tucson Mall
6. University of Arizona & Tech Park
7. Park Mall
8. El Con Mall
9. Foothills Mall
10. All Major Hospitals
11. Sahuaro National Monument (East & West)
12. All PCC Campus'
13. Sabino Canyon
14. Tucson Convention Center
15. Pima Air Museum
16. All Casinos
17. La Encantada Shopping Center
18. Town Centers
19. Jewish Community Center
20. Others to be identified

Total Regional Significance score = _____ (Max of 10 points)

SUMMARY

Item	Points	Item	Points
Safety Benefits		Environmental Benefits	
System Preservation		Improved Accessibility	
Benefitting Users		System Continuity	
Congestion Benefits		Regional Significance	

Total Score = _____

TRANSPORTATION IMPROVEMENT PROGRAM
PROJECT DATA
TO SUPPORT
MINOR PROJECTS
FUNDING APPLICATION

PROJECT NAME _____ SPONSOR ID _____

TIP ID #_____ SPONSOR PRIORITY _____

SAFETY BENEFITS

1. What are the safety problems in the project area? Describe recent accident history, lack of lighting, substandard geometry, etc. (3 year history)

2. How does the project propose to address the safety conditions in the project area?

SYSTEM PRESERVATION

3. What is the average Pavement Condition Index, Bridge Sufficiency Index, or other infrastructure condition in the project area?

NUMBER OF USERS WHO WILL BENEFIT

4. What is the average ADT on the most recent PAG traffic volumes maps? If the count is more than one year old, give the year the count was taken.

Existing ADT: Estimated Future ADT (2025):

CONGESTION BENEFITS			
5.	What is the average peak hour LOS in the project area before the project?	Average Daily LOS	Peak hour LOS
6.	What will be the opening day LOS after the project is built?	Average Daily LOS	Peak Hour LOS
7.	What is the estimated LOS for 2025 if the project is not built?	Average Daily LOS	Peak Hour LOS
8.	What is the estimated 2025 LOS if the project is built?	Average Daily LOS	Peak Hour LOS

ENVIRONMENTAL BENEFITS

9. How does the project support or promote any of the following?
   1. Use of rubberized asphalt
   2. Use of recycled materials or salvage of existing materials
   3. Paving dirt roads
   4. Construction of new bicycle or pedestrian facilities
   5. Reductions in VMT or promotes alternate fuel useage
   6. Provision of landscaping
   7. Provision of special wildlife accommodations
   8. Noise mitigation beyond legal requirements
   9. Flood control facilities or removal of dip crossings
   10. Specific improvements to control existing erosion problems
   11. Adding new curbing and/or paved shoulders

IMPROVED ACCESSIBILITY

10. How does the project improve access to public transit service? Address the following:
    1. New transit service.
    2. New transit amenities (shelters, sidewalk, etc.)
    3. Improved conditions on existing transit routes.

11. How many lineal feet of new (not replacement) sidewalk or multi-use facility will be built with the project?

IMPROVE SYSTEM CONTINUITY

12. Does the project contribute to the continuity of the system by completing missing links or extending a major corridor? If yes, please describe.

REGIONAL SIGNIFICANCE

13. To what degree is the project consistent with local and regional land use plans?

14. Does the project facilitate travel to destinations of significant regional importance?

1. TIA
2. Desert Museum
3. Davis Monthan
4. Tucson Mall
5. University of Arizona & Tech Park
6. Park Mall
7. El Con Mall
8. Foothills Mall
9. All Major Hospitals
10. Sahuaro National Monument (East & West)
11. All PCC Campus'
12. Sabino Canyon
13. Tucson Convention Center
14. Pima Air Museum
15. All Casinos
16. La Encantada Shopping Center
17. Town Centers
18. Jewish Community Center
19. Others to be identified

SUMMARY

Item	Points	Item	Points
Safety Benefits		Environmental Benefits	
System Preservation		Improved Accessibility	
Benefitting Users		System Continuity	
Congestion Benefits		Regional Significance	

Total Score = _____