CITY OF DAVIS SHORT RANGE TRANSIT PLAN

FISCAL YEARS 2014/15-2020/21

Prepared by Sacramento Area Council of Governments (SACOG)

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CITY OF DAVIS
SHORT RANGE TRANSIT PLAN
FISCAL YEARS 2015-2021

ACKNOWLEDGEMENTS

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

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CHAPTER 1—INTRODUCTION

What is a Short-Range Transit Plan?

A short-range transit plan (SRTP) is a five- to seven-year planning document that provides policy and financial direction to guide future transit planning, service operation, capital investment, and policy decisions. SRTPs may also provide broad direction for a period of up to ten years. SRTPs should be updated every three to five years to reflect progress towards implementation of recommendations from previous SRTPs and to adapt the financial plan to more accurately reflect fiscal realities.

SRTP Objectives and Focus Areas

The primary objective of this SRTP is to provide a current SRTP for the City of Davis. Davis last adopted an SRTP update in 2005 for fiscal years 2006/07-2012/13. This SRTP update will cover fiscal years 2014/15-2020/21 and will provide policy and financial direction necessary for continued successful service implementation by Unitrans and Davis Community Transit.

At the local level, this SRTP update provided an opportunity to explore some key issues. In particular, the University of California Davis (UC Davis) announced its 2020 Initiative, a plan to add 5,000 more undergraduate students by 2020, with corresponding increases in graduate students, faculty, and staff. This SRTP plans for anticipated ridership and service increases associated with this projected campus growth, and operating and capital expenditures and revenues needed to support those service expansions.

For Davis Community Transit, analyses were conducted concerning potential operational efficiencies, including conditional eligibility and alternatives for providing evening trips.

At the regional level, this SRTP is a step towards implementing the Metropolitan Transportation Plan (MTP)/Sustainable Communities Strategy (MTP/SCS), a regional long-range planning document that provides a framework for transportation investments in El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba counties over a twenty- to thirty-year period. The MTP/SCS for 2035, adopted April 19, 2012, calls for a significant increase in transit service and ridership to meet the growing transportation demand in the Sacramento region, and the recommendations suggested in this SRTP represent an important step in helping to realizing the MTP vision.

Plan Organization

This SRTP is broken down into six additional chapters, as follows:

CHAPTER 2—PLANNING CONTEXT: provides a detailed overview of the study area, including the geographic location, community characteristics, demographic characteristics, and planned developments.

CHAPTER 3—FIXED ROUTE SERVICE ANALYSIS: provides information and analysis of Unitrans fixed route transit services and performance in the City of Davis over time.

CHAPTER 4—DEMAND RESPONSE SERVICE ANALYSIS: provides information about Davis Community Transit's ADA/complementary paratransit services, analyzes system performance and productivity statistics, including an analysis of evening service and alternatives, and makes operational recommendations.

CHAPTER 5—STAFFING MARKETING: provides an overview of the current organizational structure staffing, and marketing efforts of Unitrans and DCT, with recommendations for future improvements.

CHAPTER 6—FLEET AND FACILITIES PLAN: inventories the current Unitrans and DCT fleet and facilities, provides a fleet replacement schedule, and plans for future facilities improvements.

CHAPTER 7—FINANCIAL ANALYSIS: analyzes alternative scenarios for Unitrans' service growth, explains assumptions and makes projections for future operational and capital expenditures and revenues, explains the myriad sources of transit revenues, and provides additional recommendations for plan implementation.

CHAPTER 2—PLANNING CONTEXT

This chapter provides an overview of the study area, including its geographic location, community characteristics, demographic characteristics, and level of transportation access. A summary of major or proposed developments is also included in this chapter. A solid understanding of how the study area is changing is an important factor when considering options for improving transit service.

Geographic Location

The City of Davis is located at the southern end of the Sacramento Valley, along the Putah Creek near the Solano County line. Davis is approximately 12 miles west of Sacramento, 8 miles south of Woodland, and 5 miles northeast of Dixon. Davis is Yolo County's largest city and home to the county's largest employer – the University of California, Davis (UC Davis).

Davis is internally divided by two freeways (I-80 and SR 113), a north-south railroad (California Northern), an east-west railroad (Union Pacific), and several major streets. The city is divided into six unofficial districts made up of smaller neighborhoods.

- Central Davis includes the area north of Fifth Street and Russell Boulevard, south of Covell Boulevard, east of SR 113, and west of the railroad tracks running along G Street.
- Downtown Davis encompasses the numbered-and-lettered grid north of I-80 and the area south of Fifth Street, east of A Street, and west of the Sacramento Northern railroad tracks.
- East Davis includes the area north of I-80 and east of the Sacramento Northern railroad tracks to the City limits.
- North Davis includes the area north of Covell Boulevard and west of the railroad tracks.
- South Davis includes the area south of I-80.
- West Davis includes the area north of Russell Boulevard and west of SR 113.

Figure 2.1 shows the SRTP area in relation to the Sacramento region.

Community Profile

The City of Davis is best known for UC Davis and biking. As a nationally and internationally esteemed university, UC Davis is closely tied to the City of Davis, both economically and in how the city has grown over the years. The campus is adjacent to the Davis city limits, in unincorporated Yolo County. It consists of four units:

- Central Campus – located just west of downtown Davis, the Central Campus runs along Hutchison Drive, the main roadway that bisects the campus. The Central Campus is where most of UC Davis' academic, housing, and support facilities are located. It also includes the Health Sciences District.
- West Campus – located west of SR 113 and south of Russell Boulevard, this area's primary purpose is for field teaching and research facilities. It is home to the new West Village development.
- South Campus – located south of I-80 along Old Davis Road, this area consists mostly of field teaching and research facilities.
- Russell Ranch – located approximately six miles west of the Central Campus along Russell Boulevard, Russell Ranch supports large-scale agricultural and environmental research, sustainable agricultural practices, and habitat mitigation.

Figure 2.2 shows a map of the UC Davis central campus.

Adjacent to the central campus, downtown Davis encompasses approximately seven square-blocks of retail and services, including some housing and the Amtrak station near the intersection of 2nd Street and H Street. Major transportation corridors in the city include Covell Boulevard, Russell Boulevard, and Cowell Boulevard (east-west streets) and Anderson Road, F Street, Pole Line Road, and Mace Boulevard (north-south streets).

The city has been widely considered the "Bicycle Capital of America" since as far back as 1964. Davis was the first city in the nation to experiment with and implement the now-ubiquitous bike lane. There are now more than 100 miles of bike paths, lanes, and trails inundating the city. In 2006, Davis was the first city to earn the Platinum Bicycle-Friendly Community (BFC) Award from the League of American Bicyclists. Davis is also the home of the US Bicycling Hall of Fame. Davis' rich bicycle culture can be seen throughout the city, and its influences felt in a variety of sectors, including public transportation.

Figure 2.1

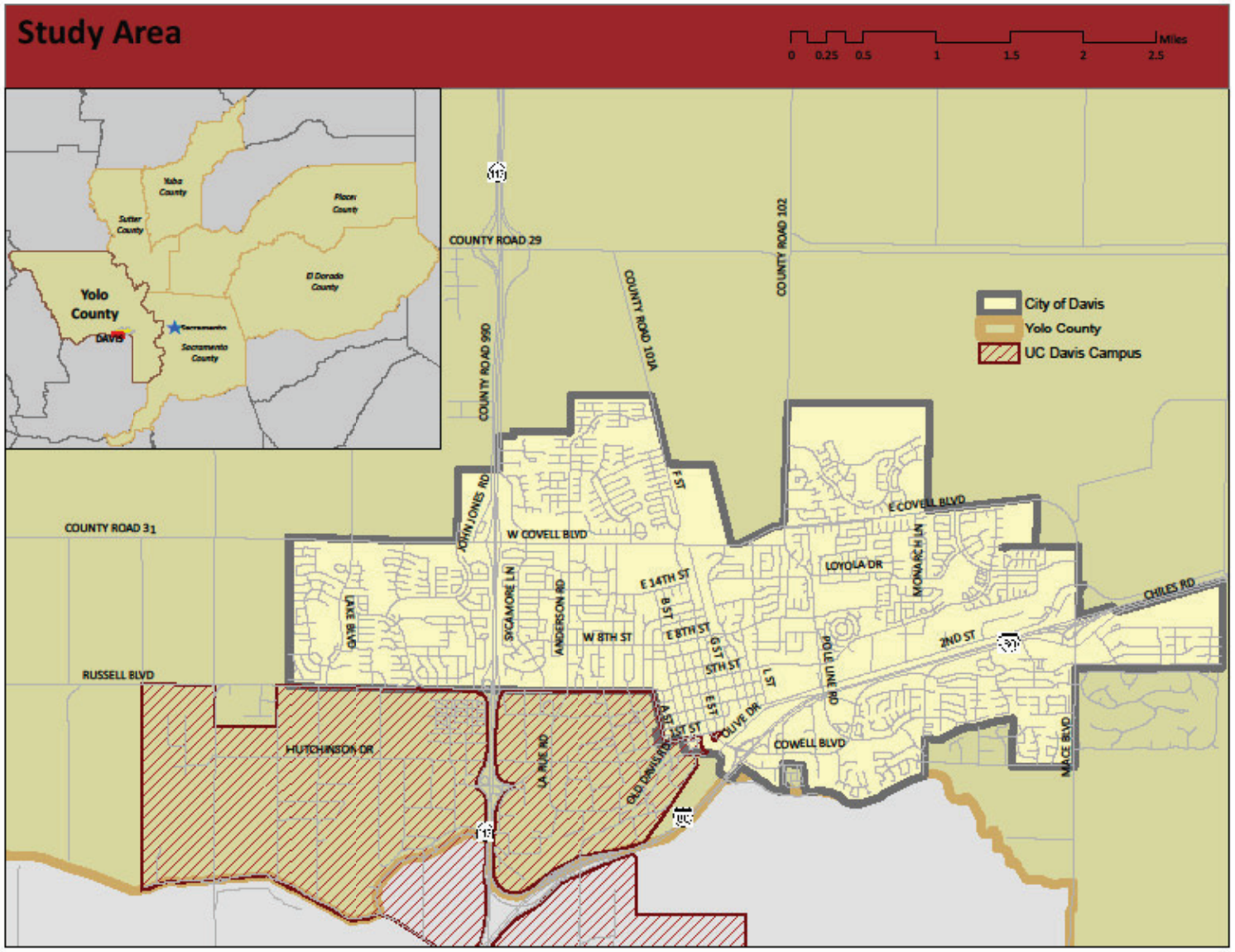
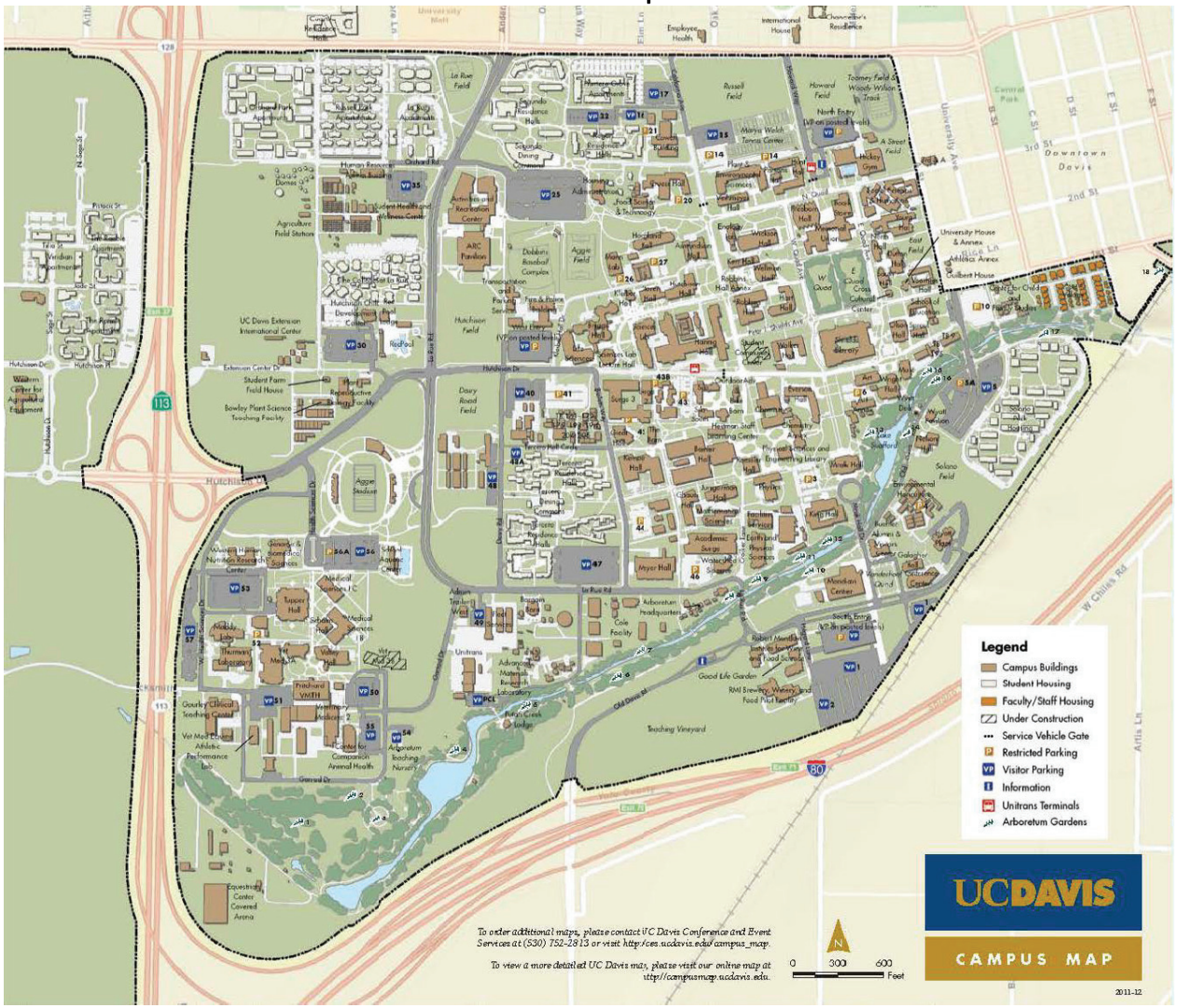

Study Area
0 0.25 0.5 1 1.5 2 2.5 Miles
Yolo County
DAVIS
Yuba County
Sutter County
Placer County
El Dorado County
Sacramento County
City of Davis
Yolo County
UC Davis Campus
COUNTY ROAD 29
COUNTY ROAD 99B
COUNTY ROAD 102
COUNTY ROAD 101A
COUNTY ROAD 31
JOHN JONES RD
W COVELL BLVD
E COVELL BLVD
F ST
LOYOLA DR
MONARCH LN
CHILES RD
E 14TH ST
B ST
E 8TH ST
W 8TH ST
G ST
5TH ST
L ST
2ND ST
POLE LINE RD
SYCAMORE LN
ANDERSON RD
LAKE BLVD
RUSSELL BLVD
HUTCHINSON DR
A ST
1ST ST
OLIVE DR
COWELL BLVD
LA RUE RD
OLD DAVIS RD
MACE BLVD

Figure 2.2
UC Davis Campus



SOURCE: UC DAVIS

Demographics

POPULATION

In 2010, the city of Davis' population was 65,622. City population is not expected to grow dramatically over the next decade. Table 2.1 below provides SACOG's population and household projections for the city of Davis through 2020. SACOG projects population to increase to 69,301, a 5.6% increase over the 2010 city population.

Table 2.1
City of Davis Population and Household Projections, 1990 to 2020

	1990	2000	2010	% change 1990-2010	2020	% change 2010-20
Population	46,209	60,308	65,622	42.0%	69,301	5.6%
Households	17,953	22,948	24,873	38.5%	27,994	12.5%

Source: SACOG, 2014

However, UC Davis, adjacent to the city but in unincorporated Yolo County, has considerable plans for expansion over the next 10 years. The UC Davis campus currently has over 32,500 students. This includes approximately 26,000 undergraduates and 6,500 graduate students. UC Davis has already surpassed the number of students projected for 2015-16 in the campus Long Range Development Plan. UC Davis' 2020 Initiative anticipates an additional 5,000 undergraduate students and associated increases in graduate students and staff by 2020. Because the city of Davis is largely built out, it is uncertain where additional student housing will be available for an increased student population; it is likely that a portion of the new student population will reside in other nearby cities like Woodland and Winters.

HOUSEHOLD, ECONOMIC, AND SOCIAL CHARACTERISTICS

The Davis Urbanized Area (UA), which includes all of the urbanized area in and around the city of Davis plus the UC Davis campus, is ethnically diverse, much like the Sacramento region as a whole. Although a majority of residents still identify themselves as white/Caucasian (53.9%), Asians (23.3%), Hispanics/Latinos (14.8%), and other minority groups (8.1%) make up nearly half of the population, reflecting the worldwide renown of UC Davis. In terms of language preference, English is the primary language spoken at home for 68% of residents. Smaller percentages speak Asian languages (14.5%), Spanish (10.6%), Indo-European languages (6.3%), and other languages (10.6%) at home, but only 9.2% of UA residents speak English less than very well.

Davis has large numbers of residents on either side of the income scale. The median household income in the Urbanized Area is $51,948; however, that number can be misleading. Most households are either much higher or much lower than the median. The student population tends to fall on the lower end of the income scale. The non-student population dramatically increases the median household income.

Perhaps a more accurate description of the economic characteristics of Davis can be seen from the poverty statistics. Approximately 26.9% of people live below the poverty line, reflecting the large student population, but only 4.3% of families live below the poverty line, reflecting the relatively affluent non-student population.

Social Characteristics

As with income characteristics, the age distribution in the Davis Urbanized Area can largely be separated into the student versus the non-student population. Because of the large number of students living in the community, the median age in Davis is 24.4, compared with 36.4 in the region). In Davis , 15.2% of the population is 17 years and younger, 66% of the population is age 18-54, and 18.9% of the population is 55 and older.

Unsurprisingly, Davis is a well-educated community, with 70.6% of residents earning a BA or higher. Davis is well below the regional average for less than a high school diploma (2.8% in Davis compared to 6.3% for the region).

Davis is also below the regional average for persons with a disability and persons who are 65 or older, two key demographic groups that are often more reliant on public transportation. Only 8.5% of Davis residents are 65 and older, compared to 13.2% for the region as a whole, and 5.5% of Davis residents have a disability, compared to 12.2% for the region as a whole.

Travel Characteristics

Perhaps one of Davis' most notable characteristics is the propensity of residents to use alternative forms of transportation. According to the 2010 census, only 52.7% of workers drove alone to work, compared to 75.4% regionwide. Davis residents have much higher rates of walking (4% in Davis, compared to 2.2% in the region), taking public transportation (8.1% in Davis, compared to 2.2% in the region), and bicycling (20.3% in Davis, compared to 1.8% in the region). It is not that surprising then that vehicle ownership rates in Davis are lower than in the region as a whole. Over 10% of Davis households have zero vehicles available compared to 7.6% for the region, and 35.3% have one vehicle available compared to 32.4% for the region. Table 2.2 provides a more detailed community profile.

Table 2.2
Community Profile for the Davis Urbanized Area[1]

Characteristic	Estimate	%	Six-County SACOG Region %
General Characteristics			
Total Population	74,746	100.0%	2,316,019
Female	37,173	49.7%	50.9%
Male	37,573	50.3%	49.1%
17 years and younger	11,341	15.2%	28.2%
18 to 54 years	49,311	66.0%	48.3%
55 years and older	14,094	18.9%	23.5%
Median Age	24.4	-----	36.4
Total Households	26,521	100.0%	843,411
Average Household Size	2.58	-----	2.8
Race/Ethnicity			
White Alone	40,264	53.9%	55.6%
Hispanic or Latino	11,053	14.8%	20.7%
Black or African American Alone	2,137	2.9%	6.7%
American Indian and Alaska Native Alone	159	0.2%	0.6%
Asian Alone	17,402	23.3%	11.6%
Native Hawaiian and Other Pacific Islander Alone	84	0.1%	0.7%
Some Other Race Alone	378	0.5%	0.2%
Two or More Races	3,269	4.4%	3.9%
Language Spoken at Home (population ages 5+)	71,965		2,211,636
English	-----	68.0%	71.8%
Spanish	-----	10.6%	12.6%
Indo-European languages	-----	6.3%	7.3%
Asian and Pacific Island languages	-----	14.5%	7.7%
Other languages	-----	0.6%	0.6%
Speaks English less than very well	-----	9.2%	11.7%
School Enrollment (population ages 3+ enrolled in school)	39,367		689,241
Enrolled in preschool, Kindergarten or grades 1-8	7,163	18.2%	47.3%
Enrolled in high school (grades 9-12)	3,066	7.8%	20.3%
Enrolled in college	29,138	74.0%	32.4%
Educational Attainment (populated aged 25+)	36,946		1,541,661
Less than 9th grade	1,041	2.8%	6.2%
Less than high school (no diploma)	825	2.2%	6.3%
High school graduate	2,894	7.8%	21.9%
Some College (no diploma)	6,088	16.5%	36.2%
BA or higher	26,098	70.6%	29.4%

[1] Figures do not include West Village area, which was not yet captured in Census figures

Characteristic	Estimate	%	Six-County SACOG Region %
Means of Transportation to Work (workers aged 16+)			
Drove Alone	17,448	52.7%	75.4%
Carpooled	2,506	7.6%	11.4%
Public Transportation	2,684	8.1%	2.2%
Bicycle	6,712	20.3%	1.8%
Walked	1,330	4.0%	2.2%
Taxicab, motorcycle, or other means	175	0.5%	0.9%
Worked at Home	2,258	6.8%	6.0%
Income			
Median Household Income	$51,948	-----	$56,070
Per Capita Income	$29,766	-----	$27,295
Potential Transit Market			
One vehicle available per household	9,222	35.3%	32.4%
Zero vehicles available per household	2,696	10.3%	7.6%
Non-White Population	34,482	51.3%	44.4%
Percentage of people below federal poverty level	18,191	26.9%	17.3%
Percentage of families below federal poverty level	-----	4.2%	-----
Youth under 18	11,644	15.6%	28.2%
Seniors 65 and older	6,318	8.5%	13.2%
Persons with a disability	4,087	5.5%	12.2%

SOURCE: U.S. CENSUS BUREAU; 2010 DECENNIAL CENSUS, 2012 AMERICAN COMMUNITY SURVEY (ACS) 1-YEAR ESTIMATES

POPULATION CONCENTRATIONS

Figures 2.3, 2.4, and 2.5 below show the geographic distribution of population throughout the City of Davis. Figure 2.3 shows the distribution of population as a whole. From this map, it can be seen that there are clusters of high-density population throughout the city, with the highest concentrations located in the western half.

In Figure 2.4 population density is shown for residents under age 18. The distribution of population for this age group is more segregated than population as a whole. The highest concentrations of population for those under 18 are in West, South, and East Davis, with a smattering of smaller concentrations in North, Central, and Downtown Davis.

In Figure 2.5 population density is shown for residents age 65 and over. The highest concentrations of those 65 and older can be found in the western half of the city, with a few smaller pockets in the eastern half. Particularly high concentrations are seen in North and Central Davis between SR 113 and Anderson Rd.

Some of these concentrations represent a number of senior residences in Davis, including:

- University Retirement Community (URC), offering a continuum of care from independent to assisted living plus a skilled nursing facility;
- Atria Covell Gardens, offering independent and assisted living; and
- Eleanor Roosevelt Circle which offers apartments for seniors with low to moderate incomes.
- Rancho Yolo, a senior mobile home park.

In 2014, Carlton Plaza, offering 120 independent and assisted living apartments for seniors, opened at 2726 Fifth Street. Route A currently serves this location, Eleanor Roosevelt Circle, and Rancho Yolo; the P & Q serve URC; and Route J serves Covell Gardens. However, Carlton Plaza, URC and Covell Gardens all offer some level of transportation services for their residents to appointments and activities, reducing demand for Unitrans or Davis Community Transit services.

Figure 2.3

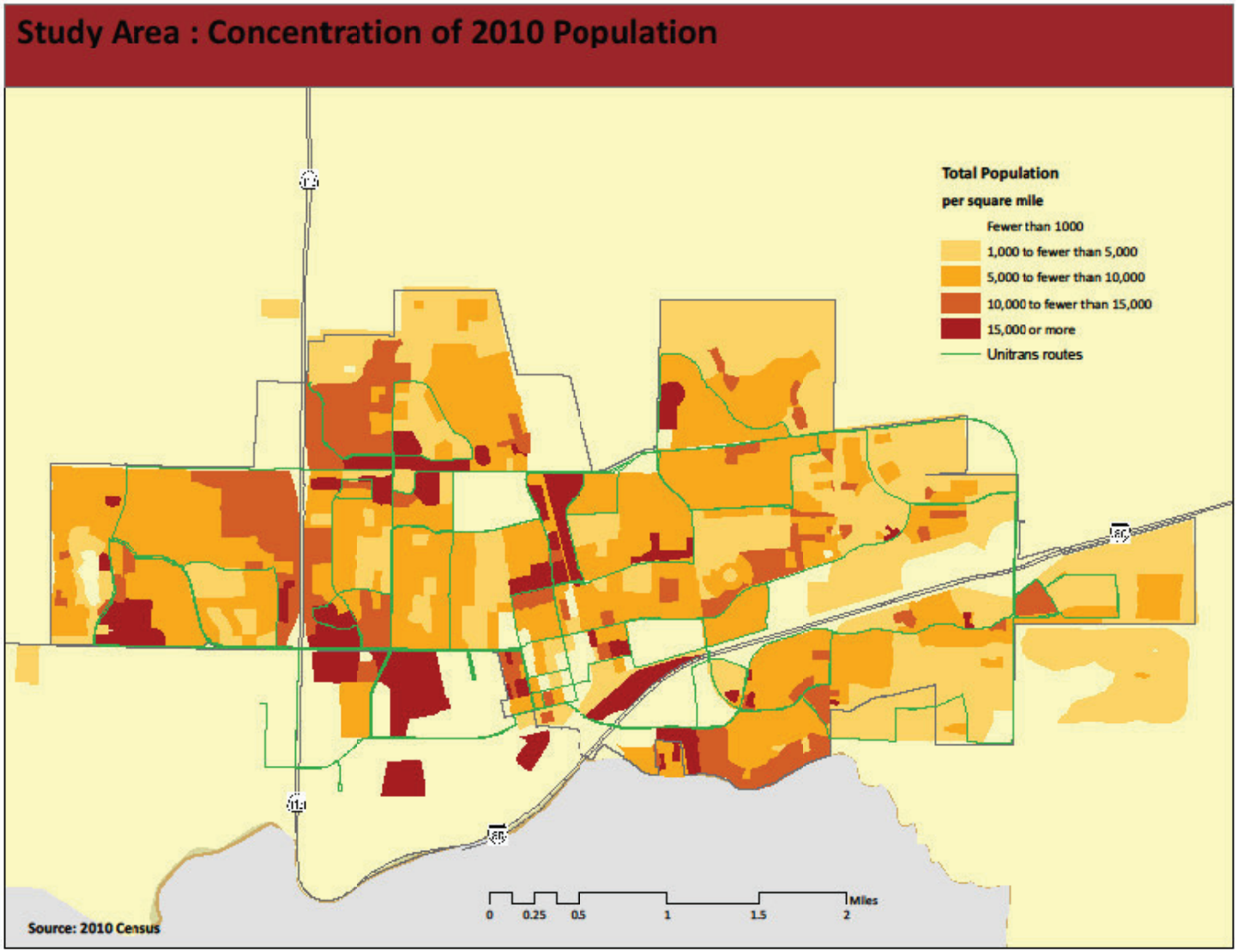

Study Area : Concentration of 2010 Population
Total Population
per square mile
Fewer than 1000
1,000 to fewer than 5,000
5,000 to fewer than 10,000
10,000 to fewer than 15,000
15,000 or more
Unitrans routes
Miles
0
0.25
0.5
1
1.5
2
Source: 2010 Census

Figure 2.4

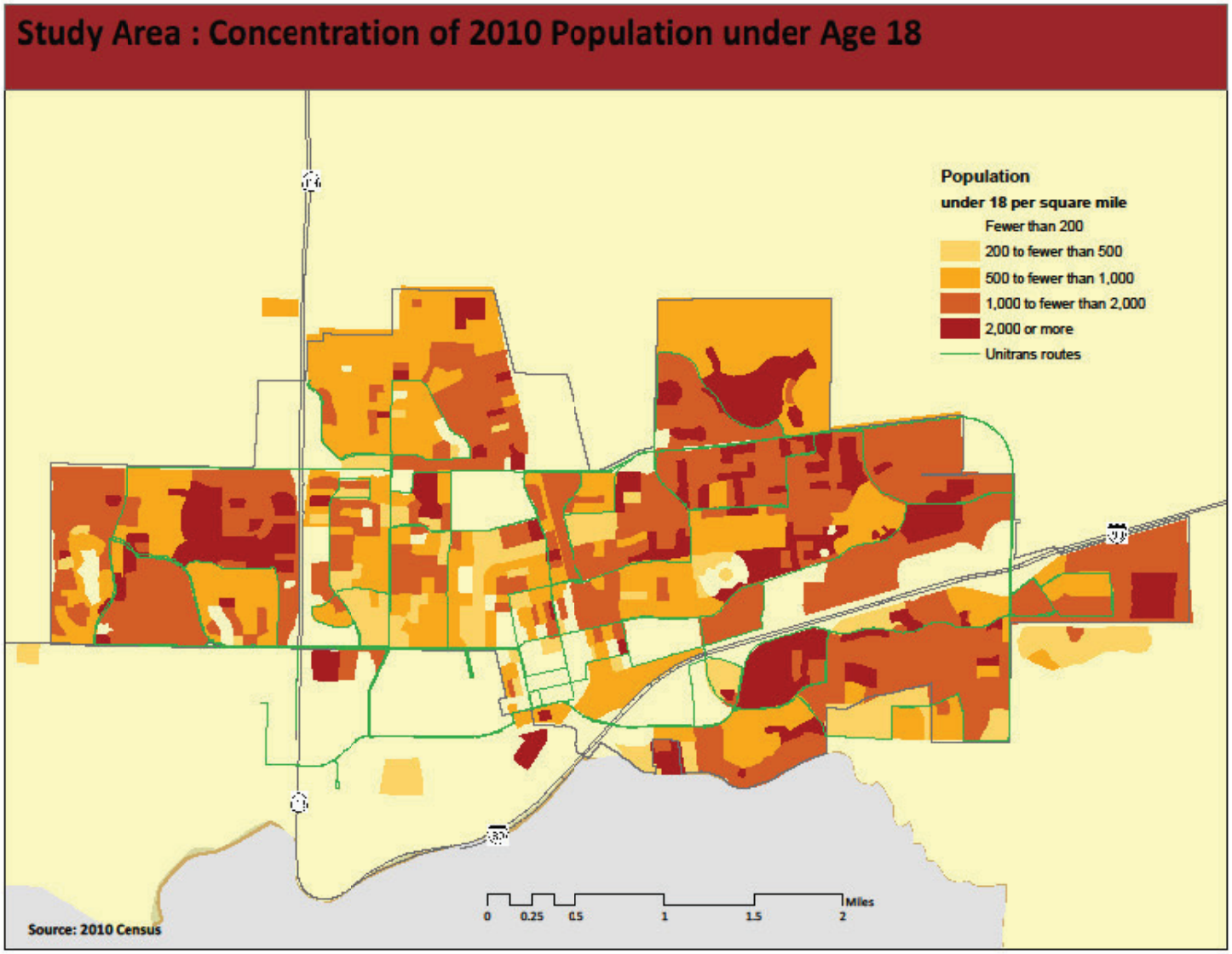
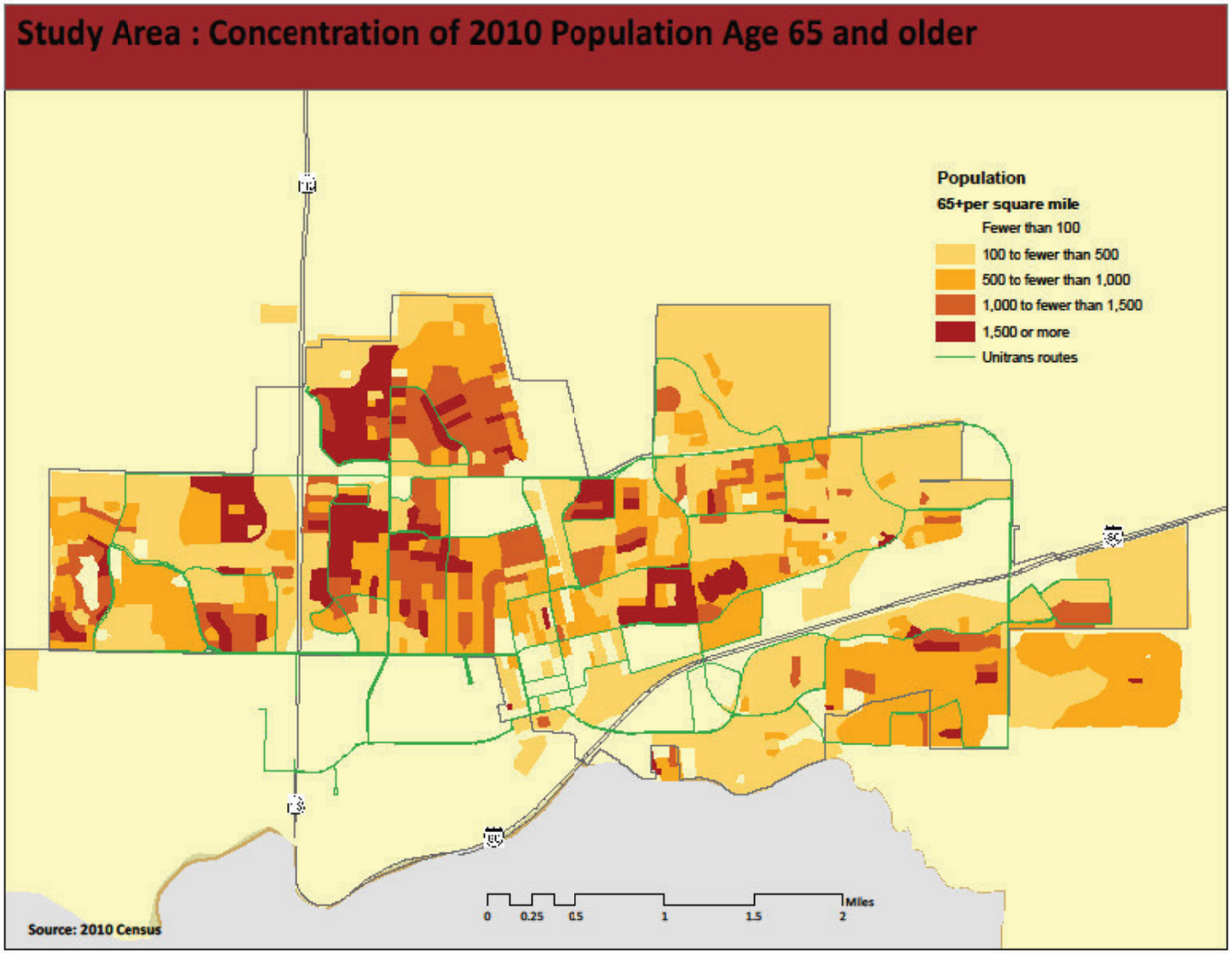

Study Area : Concentration of 2010 Population under Age 18
Population
under 18 per square mile
Fewer than 200
200 to fewer than 500
500 to fewer than 1,000
1,000 to fewer than 2,000
2,000 or more
Unitrans routes
Miles
0
0.25
0.5
1
1.5
2
Source: 2010 Census

Figure 2.5


Study Area : Concentration of 2010 Population Age 65 and older
Population
65+per square mile
Fewer than 100
100 to fewer than 500
500 to fewer than 1,000
1,000 to fewer than 1,500
1,500 or more
Unitrans routes
Source: 2010 Census
0
0.25
0.5
1
1.5
2
Miles

City of Davis Survey

A City of Davis survey asked residents to identify needs in the provision of transit service. The greatest need, according to that survey, is better integration of bus and rail service with other transportation options. The next two important needs identified were the need for increased public transportation service (including frequency of buses and destinations served) and the need for improved communication systems (e.g., real-time bus information, Wi-Fi). Less important needs were more direct bus routes through downtown Davis and improved comfort on public transportation. The survey was not specific to Unitrans. Comments included better parking and circulation at the Amtrak station, improved Yolobus service, better transportation for seniors and others with mobility limitations, and increased service during UCD holidays and on weekends/nights.

Journey to Work

Journey to work statistics are important for transit planning because commuters are one of the biggest segments of "choice riders." Choice riders are riders who have alternative transportation options but choose to take transit instead. These riders have different needs and expectations than non-choice riders. Because Unitrans serves only the City of Davis and UC Davis campus, the pool of commuters is largely limited to those who both live and work in Davis or at UC Davis, with a small number of commuters who transfer to Unitrans from Yolobus.

Analyzing worker flows is one way to quantify the potential commuter market. Table 2.3 below shows worker flows for the city of Davis and the Davis Urbanized Area which includes the UC Davis campus. The city alone evidences a net worker outflow. However, as a whole, the area experiences a net inflow of workers, meaning that more people are coming in to the area for employment than are leaving for employment. This is in part because many people who live in the city work at UC Davis, which is outside the city boundaries.

Table 2.3
Worker Flows (2010)

	City of Davis	Davis UA
Employed in area	14,213	34,441
Employed in area and live in area	4,232	9,616
Worker inflow	*9,981*	*24,825*
Live in area	24,972	26,753
Live in area and employed in area	4,232	9,616
Worker outflow	*20,740*	*17,137*
Net Worker Flow	***(10,759)***	***7,688***

SOURCE: LED ON-THE-MAP DATA – INFLOW/OUTFLOW OF WORKERS – ALL JOBS 2010 HTTP://ONTHEMAP.CES.CENSUS.GOV

Of the over 9,600 people who live and work in the urbanized area, over 4,700 live in the city of Davis and work within the University of California, Davis Census Designated Place (CDP)[2], as shown in Table 2.4. These particularly represent a potential expansion market.

Table 2.4
Place of Residence of Workers with Jobs in the University of California, Davis CDP

	2010	
Place of Residence (City or CDP)	Job Count	Share
Davis	4,719	23.8%
Sacramento	2,928	14.8%
Woodland	1,320	6.7%
Elk Grove	703	3.5%
West Sacramento,	583	2.9%
Arden-Arcade CDP	447	2.3%
Dixon	418	2.1%
Vacaville	398	2.0%
North Highlands CDP	267	1.3%
Folsom	263	1.3%
All Other Locations	7,800	39.3%
Total – all cities, CDPs	19,846	100.0%

SOURCE: LED ON-THE-MAP DATA – DESTINATION TYPE PLACES – ALL JOBS 2010 HTTP://ONTHEMAP.CES.CENSUS.GOV

Growth and Development

GROWTH MANAGEMENT

In general, Davis residents take a proactive approach to managing growth in their community. One of the main goals of the City's General Plan is to retain the small, "university town" character and the surrounding rich agricultural areas. The cornerstone of the City's approach to growth is public involvement. Over the past several decades, there have been a number of amendments to the General Plan, all of which have included extensive public review and input. In June 1986, the voters approved Measure I, which was an advisory measure that would allow the city to "grow as slow as legally possible."

Measure J

In November 1999, the City of Davis City Council approved an amendment to the Davis General Plan that requires voter approval for development proposals that amend the Land Use Map. Measure J was approved by popular vote in March 2000 and is codified as Municipal Code 40.41.0. The measure was renewed as Measure R in 2010 and extended the sunset

[2] A Census Designated Place (CDP) is a concentration of population identified by the U.S. Census Bureau for statistical purposes.

date to 2020. The ordinance mandates voter approval for developments that modify lands designated for agricultural or urban reserve uses. Voters must approve a proposal by a simple majority. Since its enactment, two developments have gone to the voters under Municipal Code 40.41.0: Covell Village and Wildhorse Ranch. Davis residents rejected both of these developments in favor of a slower growth model.

Development

The Cannery

The Cannery is a mixed-use, master-planned, residential development proposed for a 100-acre property north of East Covell Boulevard. The project site is bounded on the south by Covell Boulevard, on the north and east by agricultural lands, and on the west by an existing UPRR line and the F Street Channel. The project proposal includes 551 dwelling units ranging from single-family detached homes to high-density, multi-family units and lofts. This project is currently under environmental review.

The Cannery site is currently served by several Unitrans routes. Routes E, P, Q, and T stop at Covell Boulevard/F Street, and Routes P, Q, and T stop at Covell Boulevard/J Street. Route F also has stops along F Street in close proximity to the Cannery, but those stops are not accessible because there is no pedestrian crossing provided across the railroad tracks.

Nishi Property

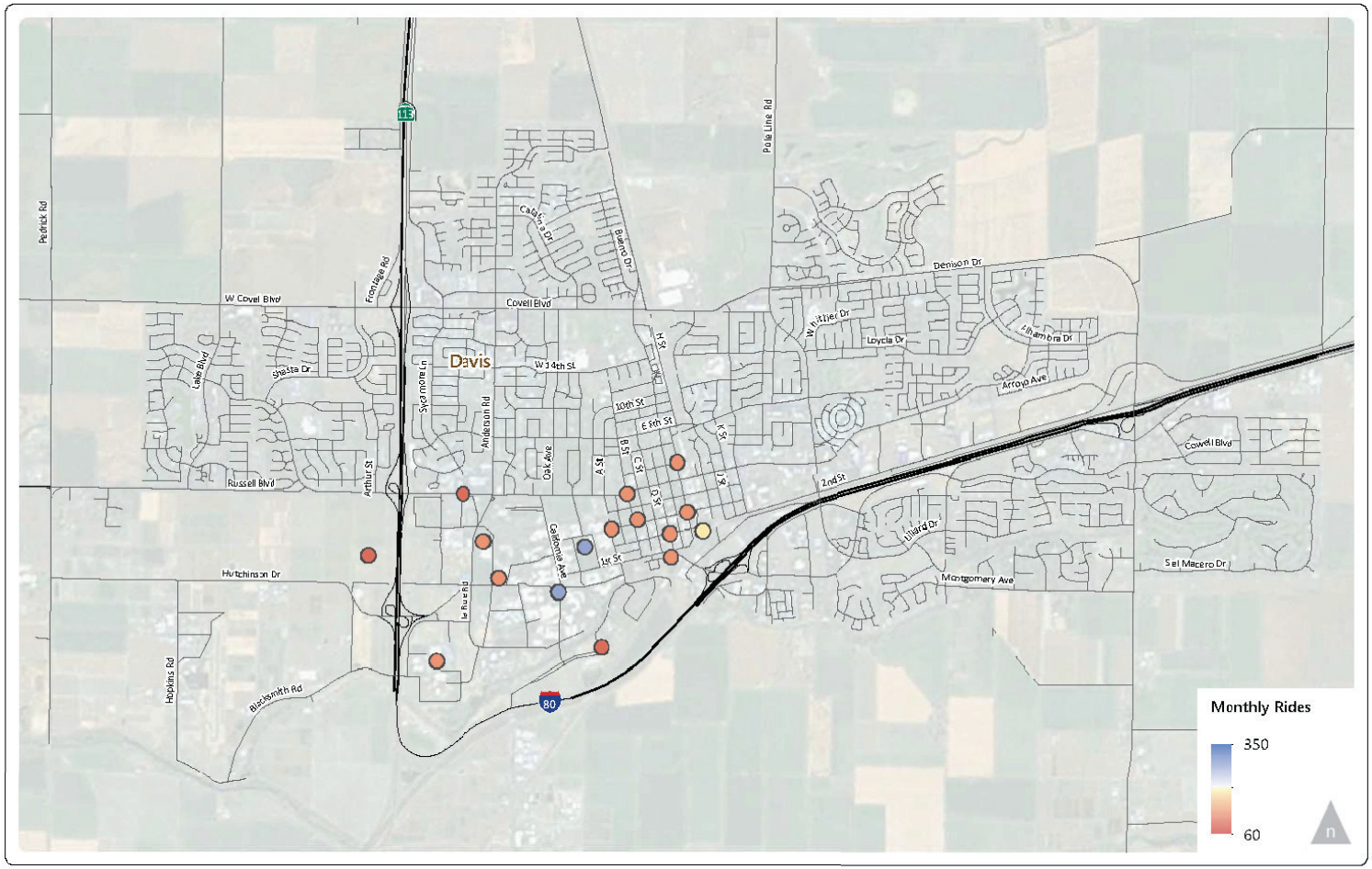
The Nishi Property is an undeveloped 44-acre slice of land along the southern edge of the city and bordered by Interstate 80, Olive Drive, and the Union Pacific Railroad tracks. It is further bounded by the South Davis Bike Path. City development staff and the landowner, Nishi Gateway LLC, would like to transform the property into a mixed-use development of 600 units of high-density housing, plus research and business park space. Unitrans does not currently serve this site. It is covered by Measure J, requiring a public vote before it can be developed.

Multi-Jurisdictional Planning Efforts

Bike Share

In 2013, the Sacramento Metropolitan Air Quality Management District (SMAQMD) released a Bike Share Business Plan for the Sacramento area. The Plan recommends implementing a bike share program, with stations in Sacramento, West Sacramento and Davis. A preliminary map of bike station locations is shown in Figure 2.6. In some cities, bike share provides a “last mile” connection to/from transit services.

Figure 2.6
Preliminary Bike Share Locations/Ridership Estimates in Davis UA



bikeshare business plan

FEHR PEERS

STATION RIDERSHIP ESTIMATES - LIMITED SYSTEM
DAVIS

CHAPTER 3—FIXED ROUTE SERVICE ANALYSIS

History

Unitrans service began under the name University Transport System in 1968. At this time, the Associated Students, UC Davis (ASUCD) purchased two vintage London double decker buses to operate on two routes. Unitrans opened to the general public in 1972 with partial funding provided by the City of Davis. Since then, ASUCD and the City of Davis have continued partnering to provide public transit service to the city of Davis. Unitrans now serves the entire city with 49 buses on 18 routes, carrying over 3.8 million passengers a year – over 20,000 on a typical day.

The historic London double-decker bus has become the symbol of Unitrans. Unitrans is the only transit provider in the United States to use authentic London double deck buses in daily service. One of the original double deck buses has been converted from a diesel engine to run on compressed natural gas (CNG). The use of a CNG engine in a vintage double-decker in unique in the United States and possibly the world. These vintage buses were joined in 2010 by two modern double-decker buses. Three lines (E, F and G) use vintage double-decker buses during the academic year. In spite of the prominence of the Unitrans double-decker buses, most current service is provided by modern single-deck buses fueled by CNG.

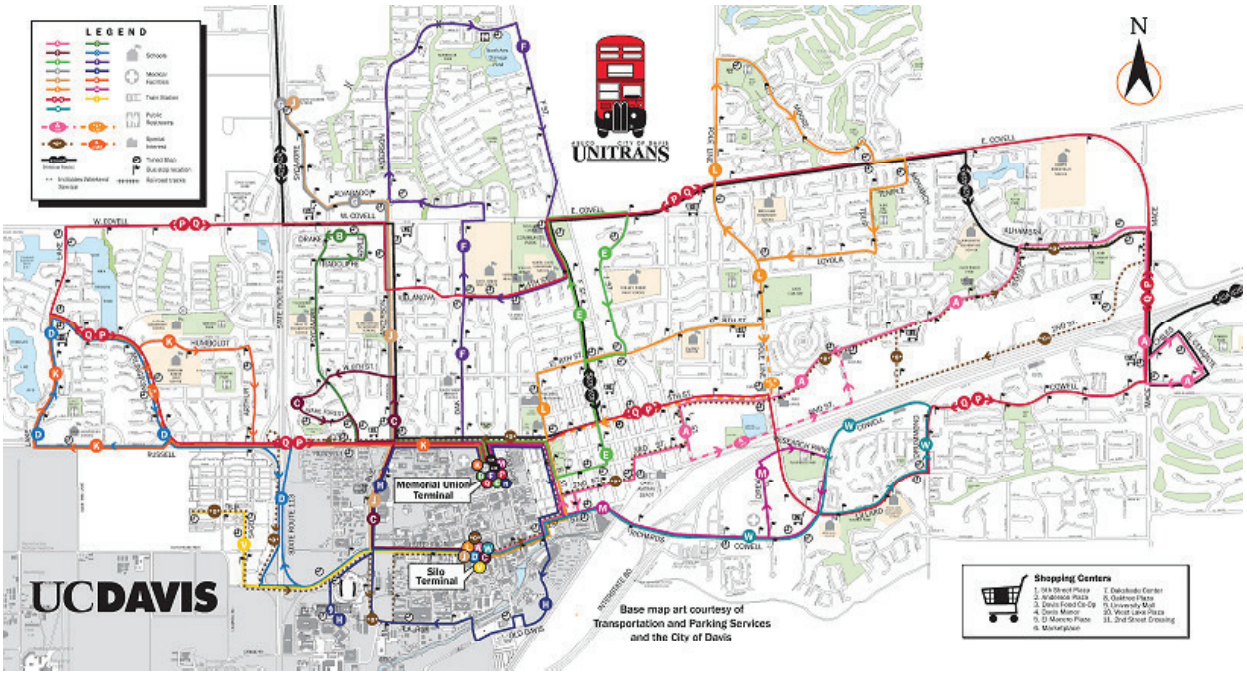
Existing Service

Unitrans operates 19 separate, lettered fixed-routes shown in Figure 3.1. The naming convention for all Unitrans routes is the letter of the line and then the main destinations covered (e.g., P-Davis Perimeter Counter Clockwise, or D-Lake Blvd/Arlington). The majority of service is focused on connecting various student-cluster neighborhoods with the UC Davis campus, but service is also provided throughout the city.

The UC Davis campus has two main terminals: the Memorial Union Terminal (MU) and the Silo Terminal (Silo). The MU Terminal is the major transfer center, including bus layover pads for Unitrans, Yolobus, and Fairfield/Suisun Transit, shelters, benches, information, and other passenger amenities. Unitrans is reconstructing the MU Terminal in Summer 2014 to provide improved access, safety, and capacity. The Silo is located along the Hutchison Corridor that bisects the UC Davis campus. Nine routes serve the MU and eight routes serve the Silo. The S & T lines, which provide service to the junior high schools and high school, do not serve either UC Davis terminal.

Unitrans provides varying schedule types depending on the University's academic calendar. Unitrans offers the following different service types:

Figure 3.1
Unitrans Route Map for FY 13-14



SOURCE: UNITRANS 2014

Regular Service is provided while UC Davis classes are in session during the winter, spring, and fall quarters. Monday thru Thursday, service operates with departures from 6:25 a.m. until 11:10 p.m. On Fridays, morning service begins at the same time as other weekdays, but no night service is provided, meaning that the last runs of the night begin at 8:10 p.m. on Fridays. Routes S & T operate one morning and one afternoon trip Monday through Friday during the Davis Unified School District school year, except holidays and during winter and spring breaks, with a special schedule on Route S on Wednesdays and on Route T on Wednesdays and Thursdays.

Finals Service is provided during finals week for each quarter (in December, March, and June). Unlike the regular service schedule, night service is provided throughout the finals service schedule (including Friday and Saturday nights).

Summer and Break Service is provided during the summer, spring break, holidays, and other times when UC Davis is not in regular session. Limited night service is provided on four lines – but not on Friday, Saturday, or Sunday nights.

Weekend Service runs on Saturdays and Sundays throughout the year between 9:00 a.m. and 6:05 p.m. Weekend service also runs on weekdays between Christmas and New Year's Eve. Weekend service is provided on Routes P/Q out of the MU and on Routes D, J, L, O, and W serving the Silo.

Amtrak Shuttle Service is provided on Sunday evenings (or on Mondays of a 3-day holiday weekend). The shuttle leaves the Amtrak Station after train arrivals and will take riders to any destination within the City.

Airport Shuttle Service is provided on the Wednesday before Thanksgiving only. The shuttle runs hourly from 10:00 a.m. to 7:00 p.m. between the Memorial Union and Sacramento International Airport. Yolobus provides regular transit service between the airport and Davis.

Picnic Day Service is provided annually on Picnic Day. All routes use the MU terminal, running every 15-30 minutes from 8:30 a.m. to 5:30 p.m. A $1.00 cash fare applies to all riders on Picnic Day.

Holidays

Unitrans does not operate on Labor Day, Thanksgiving Day, Christmas Eve, Christmas Day, New Year's Eve, New Year's Day, and Independence Day. Unitrans operates a weekend service schedule on Martin Luther King, Jr. Day, Presidents Day, Memorial Day, Labor Day, Veterans Day, and the day after Thanksgiving. Unitrans ends service early the day prior to Thanksgiving.

Fare Structure

Students

UC Davis undergraduate students pay a student fee each quarter, which entitles them to unlimited rides on Unitrans by showing their Aggie Card. Graduate students and UC Davis faculty and staff are not subject to the quarterly fee, and therefore, do not receive unlimited rides. A listing of all current fare types is shown in Table 3.1.

Special Groups

In addition to undergraduates, the following groups receive unlimited free access to Unitrans:

- City of Davis employees (with valid ID card)
- Seniors (60 and older, with a valid senior pass)
- Disabled passengers (with a valid disabled pass)
- Medicare card holders (with a valid ID card)
- Persons with a UCD Parking Permit (with valid permit – A, C, CP, L, M, V)

General Public

The general public may ride Unitrans for $1.00 per ride, and up to two children under age 5 may ride free per fare-paying adult. In addition to single rides, Unitrans sells a variety of passes, shown in Table 3.1, which are available at the Unitrans office and City Hall annex. Discounted goBus passes for graduate students, faculty, and staff who join the goClub, UC Davis' commuter program, are available at UC Davis Transportation and Parking Services (TAPS).

Table 3.1
Current Fare Types and Prices

Fare Media	Fare Type	General Public	Discounted GoBus Rates
Cash	Single Ride	$1.00	
Passes	Annual Pass	$180.00	
	Quarter Pass	$64.00	$41.00
	Monthly Pass	$25.00	$15.00
	Ten-Ride Ticket	$6.00	$3.50

SOURCE: UNITRANS, 2013

Spare the Air

Unitrans provides free rides to all passengers on "Spare the Air" days.

Transfers

Unitrans issues free transfers to patrons who need to switch bus lines to complete their trip. Transfers are valid for one half-hour from issue during regular service and for one hour from issue during finals and summer/break service. Transfers may not be used for the same bus line on which the transfer was issued, and transfers may not be used to transfer between the P/Q lines, the D/K lines, and the M/W lines.

In addition to intra-agency transfers, Unitrans also accepts all transfers and monthly, semi-monthly, daily, and senior/disabled passes from RT and Yolobus, as well as transfers from the Capitol Corridor and Fairfield-Susuin Transit. RT and Yolobus, along with six other operators, are in the process of implementing the Connect Card, a smart card fare payment system. Unitrans will need to devise a new approach to transfers given this change.

System Performance

Tables 3.2 and 3.3 on the following page provide basic operating statistics and performance measures for Unitrans. In its most recent triennial audit, the auditor cited Unitrans as one of the most cost-effective and productive transit systems in the state.

In the seven years since the last SRTP, Unitrans has generally seen steady growth in ridership and relatively steady operating costs per passenger. Between FY 2006/07 and 2012/13, ridership increased by 22.3 percent from about 3.2 million to nearly 3.9 million passengers. Farebox revenues from UC Davis undergraduate fees, pass sales and cash fares grew by 30 percent. Operating expenses increased by 21.7 percent from $3.5 million to $4.2 million, but due to increased ridership, operating cost fell to $1.09/rider, a half percent less than the $1.10/rider in FY 2006/07 and the lowest in seven years. Passengers per revenue service hour increased 7 percent, from 45.1/revenue hour to 48.5/revenue hour.

In Unitrans' last three full fiscal years of operation, Fiscal Year 2010/11 during the recession showed the lowest farebox recovery ratio (56.5%) and highest operating cost per passenger ($1.24) and revenue service hour ($56.92) due to expansion of some services. By 2012/13 , despite increases in revenue service hours and miles and an increase of over 315,000 riders (8.8%), Unitrans had decreased total operating costs by 4.5%. These shifts lowered operating costs per passenger by 12 percent (to $1.09) and per revenue service hour by 7% (to $52.86), while increasing farebox recovery to 61.7%.

Table 3.2
Unitrans Base Operating Statistics

	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	% Change FY 06/07 to FY 12/13
Total Passengers	3,173,916	3,136,916	3,423,717	3,507,357	3,565,306	3,678,809	3,880,464	22.3%
Vehicles	46	48	49	50	49	49	49	6.5%
Revenue Service Miles	736,797	704,711	718,701	743,234	790,901	803,164	801,007	8.7%
Revenue Service Hours	70,335	68,477	69,913	73,594	77,838	79,345	80,050	13.8%

SOURCE: TRIENNIAL PERFORMANCE AUDIT 2013, UNITRANS 2014

Table 3.3
Unitrans Performance Indicators

	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	% Change FY 06/07-FY 12/13
Farebox Revenues	$2,003,833	$2,436,142	$2,560,088	$2,490,633	$2,507,839	$2,570,266	$2,608,847	30.2%
Operating Expenses	$3,477,770	$3,887,920	$4,151,072	$3,969,011	$4,430,904	$4,212,464	$4,231,473	21.7%
Farebox Recovery Ratio	57.6%	62.7%	61.7%	62.8%	56.6%	61.0%	61.7%	7.0%
Operating Cost per Passenger	$1.10	$1.24	$1.21	$1.13	$1.24	$1.15	$1.09	-0.5%
Average Fare per Passenger	$0.63	$0.78	$0.75	$0.71	$0.70	$0.70	$0.67	6.5%
Passengers/ Revenue Service Hour	45.1	45.8	49.0	47.7	45.8	46.4	48.5	7.4%
Passengers/ Revenue Service Mile	4.3	4.5	4.8	4.7	4.5	4.6	4.8	12.5%
Service Miles per Service Hour	10.5	10.3	10.3	10.1	10.2	10.1	10.0	-4.5%
Operating Cost/Revenue Service Hour	$49.45	$56.78	$59.37	$53.93	$56.92	$53.09	$52.86	6.9%
Operating Cost/Revenue Service Mile	$4.72	$5.52	$5.78	$5.34	$5.60	$5.24	$5.28	11.9%

SOURCE: TRIENNIAL PERFORMANCE AUDIT 2013, UNITRANS 2014

Performance Standards

Unitrans adopted a series of performance standards as part of the previous SRTP. Table 3.4 compares Unitrans' performance in FY 2012/13 with these adopted standards. Unitrans met or exceeded all standards, with two exceptions.

First, the standard for vehicle miles between road calls is 20,000 miles; the actual was 11,955 miles in FY 2012/13.

Second, Unitrans uses as a capacity standard peak loading conditions not to exceed 150% of seats for 95% of bus trips and 90% of bus riders. The system slightly missed the standard at 94% of bus trips in FY 2012/13 and 88% of bus riders. Crowding at peak times – typically around UC Davis class start and end times – has been a longstanding issue for Unitrans, especially in inclement weather when some people ride the bus instead of bicycling. Unitrans addresses crush load trips by using tripper buses or double decker buses where possible, but overcrowding still occurs at times. Although Unitrans seeks to label trippers and explain that they may not stop at all stops, complaints are still received from riders who arrive late at a stop and/or believe they have been passed up by a regular bus.

Table 3.4
Performance Measurement System from 2005 SRTP and FY 2012/13 Performance

Goal	Objective	Performance Measure	Standard	FY 2012-13 Performance
Effectiveness	Convenience	% of student dwelling units within 1/4 mile of transit stop	90%	Over 95% of student residents are within 1/4 mile
		% of major activity centers within 1/8 of transit stop	90%	92%
		Peak-hour service frequencies for routes >=60 pass/hour	15-minute service	G, J, W, V are >60; V going to 15" freq in FY14
	Reliability	% within 5" of scheduled time	90%	94% (at terminal)
		Number of missed trips	<1/day	Yes
		Vehicle miles between road calls	20,000	11,955
	Safety	Miles between preventable major accidents	100,000	100,126
		Injuries per 100,000 boardings	<=1	Yes
		Safety meetings	Quarterly	Yes, quarterly meetings
	Attractiveness	Annual ridership growth	>= population growth	FY12 to 13: Ridership +5% Student population +3% City of Davis population +0%
		Provide accurate and timely information	Schedules stocked on vehicles and through community	Yes

Goal	Objective	Performance Measure	Standard	FY2012-13 Performance
Efficiency	Cost Efficiency	Change in Op cost / rev hour	<= CPI	FY12 to 13: Cost/hr -2.4% CPI +1.6%
	Productivity	Passengers per rev veh hr	40	48
		Individual route productivity	Consider changes if less than 15	All lines are >15
	Maintenance	% of PMs completed w/in 500 miles of scheduled	100%	Yes
		Wash exterior and sweep interior	Ext. wash 2/week Interior: Daily	Yes
	Cost Recovery	% of annual cost from fares	60%	61%
Integration/ Coordination	Shared Facilities	Study feasibility of timed transfer terminal	Complete study	MU Conceptual Design completed; construction 2014
	Coordinate service and fares	Waiting times between buses at transfer locations	Local <=10" Regional <= 20"	Yes. Waiting times within standard; fares fully integrated
	Paratransit coordination	Coordinate Unitrans service with ADA services	Ongoing coordination	Regular meetings with DCT and YCTD for coordination
	Inclusion of transit w the general plans	Transit service considered in plans and development review	Ongoing coordination	Close coordination with City of Davis, UCD ORMP, and SACOG
Accessibility	Wheelchair lifts	% vehicles with lifts	100% of single-deck buses	100% of single-deck buses; 97% of trips; 97% of miles
	Special needs	% known concentrations of senior and disabled residents with transit service	100%	Yes
	Capacity	Peak loading conditions not to exceed 150% of seats	95% of bus trips. 90% of bus riders on trips <60	No, 94% of bus trips and 88% of bus riders
	Identify gaps	Meet w/ interest groups and respond to comments	Respond to requests; resolve w/in 6 months	Yes, requests also gathered at Unitrans Advisory Committee meeting and Unmet Transit Needs hearings

Route Performance

Average daily ridership has increased in all types of service, as shown in Table 3.5.

Table 3.5
Average Daily Ridership by Service, FY 2009/10-FY 2012/13

Service	2009-10	2010-11	2011-12	2012-13	Rev Vehicle Hours	Riders/ RVH
Regular Service Mon-Thur	21,060	20,610	21,334	22,298	391	57.0
Regular Service Friday	15,614	15,777	16,565	17,230	353	48.8
Summer/Break Mon-Thur	5,728	6,151	6,468	6,758	185	36.5
Weekend (academic year)	920	1,101	1,259	1,464	36	40.7
Weekend (summer/break)	303	455	610	683	36	19.0

Figures 3.2 and 3.3 show the variations in annual ridership and revenue hours across Unitrans' routes. Figures 3.4 and 3.5 illustrate average daily boardings on different routes.

Figure 3.2
Annual One-Way Passenger Trips by Route

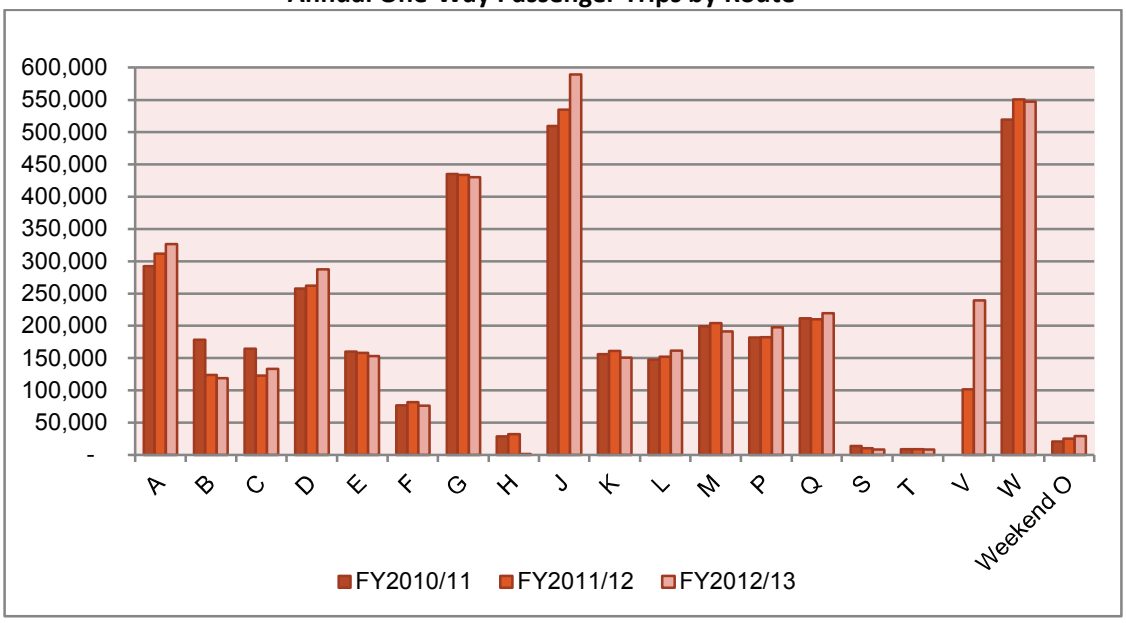


Figure 3.3
Annual Revenue Hours by Route

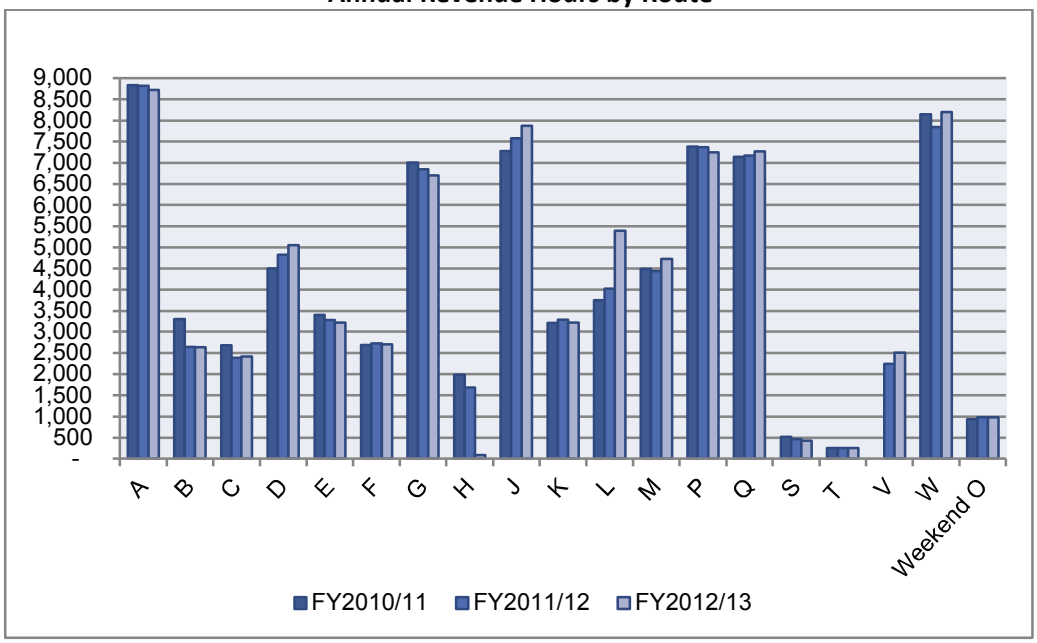


Figure 3.4
Unitrans Ridership by Route

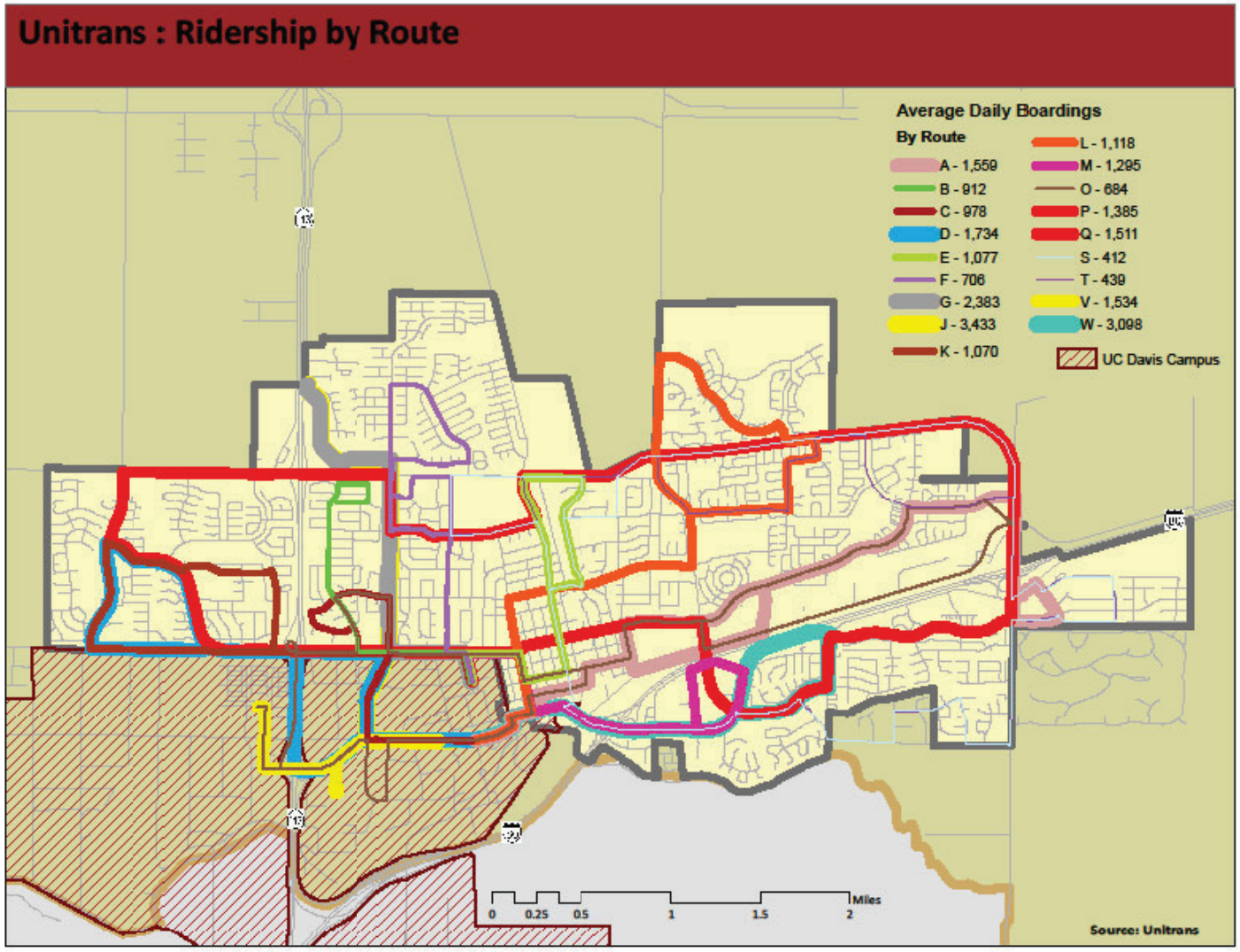
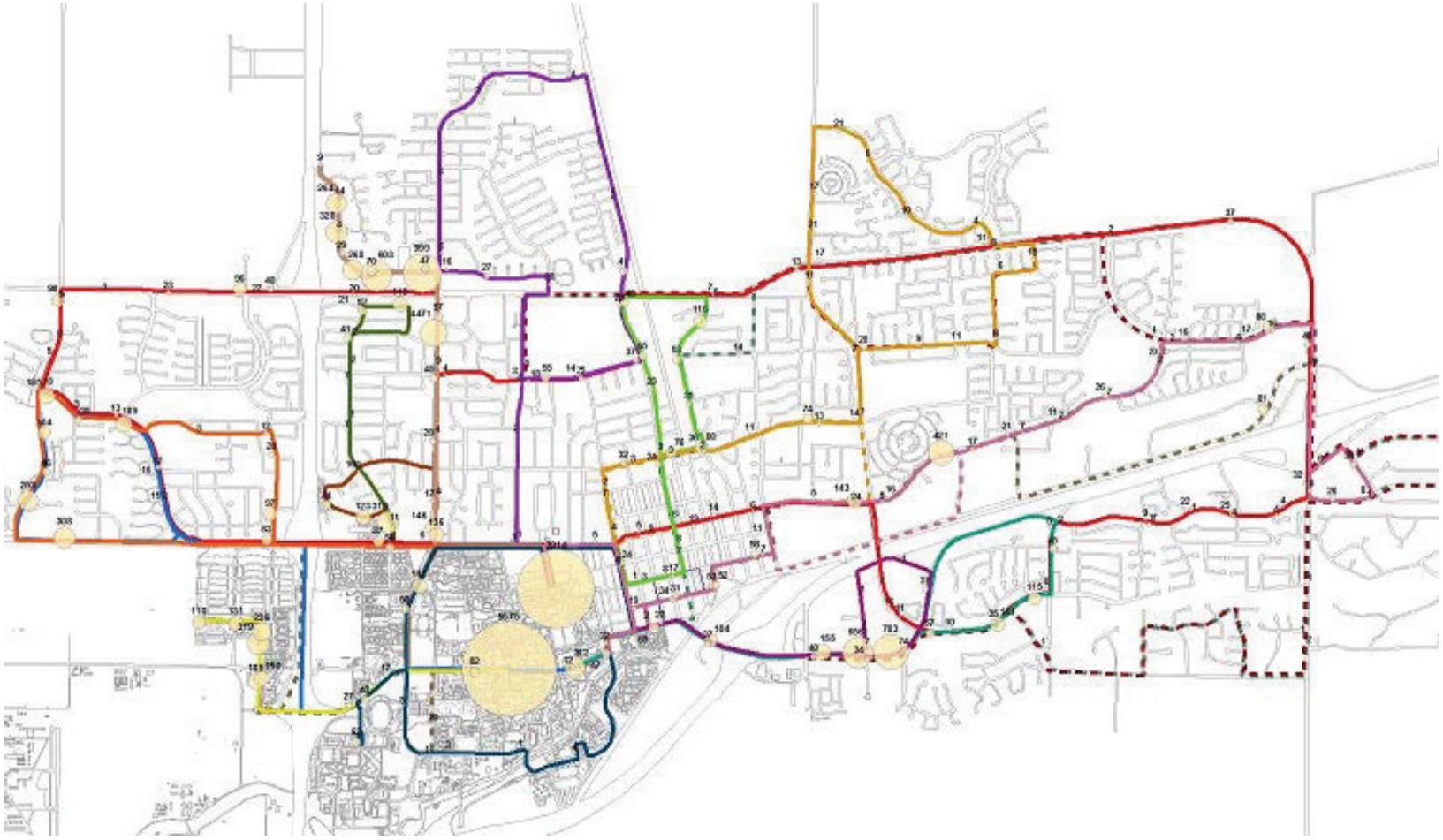


Figure 3.5
Unitrans Routes and Average Daily Boardings by Stop, October 2013



SOURCE: UNITRANS, 2013

Table 3.6 shows in more detail changes in annual ridership and revenue hours over the last three fiscal years of operation for Unitrans' 19 regular routes.

Table 3.6
Changes in Ridership and Revenue Hours, FY 2010/11-FY 2012/13

Line	Description	Terminal	FY 2010/11	FY 2011/12	FY 2012/13	Ridership FY 10/11-12/13	Rev Hours FY 10/11-12/13
A	Downtown/Fifth/Alhambra	Silo	292,485	311,448	326,892	12%	-1%
B	Wake Forest/Sycamore/Drake	MU	178,001	123,537	119,209	-33%	-20%
C	Sycamore/Wake Forest	Silo	164,626	122,737	132,791	-19%	-10%
D	Lake/ Arlington	Silo	257,583	262,258	287,764	12%	12%
E	Downtown/F / J	MU	159,912	158,162	152,739	-4%	-5%
F	Oak/ E. Alvarado/ Catalina	MU	76,549	82,055	76,288	0%	0%
G	Anderson/ Alvarado/N. Sycamore	MU	435,115	433,635	430,372	-1%	-4%
H	Hutchison/Health Sciences/La Rue	Silo	28,010	32,360	1,740	-94%	-96%
J	Anderson/ Alvarado/N. Sycamore	Silo	509,660	535,019	589,211	10%	4%
K	Lake/Arlington	MU	156,128	160,818	150,661	-4%	0%
L	E. Eighth/Chestnut/Fremont	Silo	147,342	152,069	161,229	9%	44%
M	5th/Research Park/Cowell	MU	199,121	204,445	191,273	-4%	5%
P	Davis Perimeter via South Davis	MU	181,627	182,781	197,756	8%	-2%
Q	Davis Perimeter via West Davis	MU	211,725	210,454	219,272	4%	1%
S	Holmes/Harper School Tripper	NA	13,848	10,500	8,157	-41%	-17%
T	Davis High School Tripper	NA	8,807	8,600	8,380	-5%	0%
V	West Village	Silo		101,575	239,144		
W	Cowell/Lillard/Drummond	Silo	519,660	550,723	547,337	-1%	5%
O	Weekend Shopper's Shuttle	Silo	20,515	25,250	29,624	44%	5%

SOURCE: UNITRANS, 2014

The most significant service changes over the three-year period included:

- Introduction of Sunday service;
- Extension of Route L to serve Wildhorse;
- Re-routing of Routes M, P, Q and T; and
- Establishment of Route V serving West Village..

Despite these revisions, average ridership per hour has remained relatively stable across most routes, as shown in Table 3.7. This reflects Unitrans' careful decisions on when to revise services to meet demand.

Table 3.7
Average One-Way Trips per Revenue Service Hour by Route, FY 2010/11-FY 2012/13

Line	Description	Terminal	FY 2010/11	FY 2011/12	FY 2012/13
A	Downtown/ Fifth / Alhambra	Silo	33	35	37
B	Wake Forest/ Sycamore/ Drake	MU	54	47	45
C	Sycamore/ Wake Forest	Silo	61	51	55
D	Lake/ Arlington	Silo	57	54	57
E	Downtown/ F / J	MU	47	48	47
F	Oak/ E. Alvarado/ Catalina	MU	28	30	28
G	Anderson/ Alvarado/ N. Sycamore	MU	62	63	64
H	Hutchison/ Health Sciences/ La Rue	Silo	14	19	20
J	Anderson/ Alvarado/ N. Sycamore	Silo	70	71	75
K	Lake/ Arlington	MU	49	49	47
L	E. Eighth/ Chestnut/ Fremont	Silo	39	38	30
M	5th/ Research Park/ Cowell	MU	44	46	40
P	Davis Perimeter via South Davis	MU	25	25	27
Q	Davis Perimeter via West Davis	MU	30	29	30
S	Holmes/ Harper School Tripper	NA	27	23	19
T	Davis High School Tripper	NA	34	33	33
V	West Village	Silo	-	45	95
W	Cowell/Lillard/Drummond	Silo	64	70	67
O	Weekend Shoppers Shuttle	Silo	22	26	30

SOURCE: UNITRANS, 2014

Unitrans' headway policy is to schedule one weekday bus every 30 minutes during the daytime when UC Davis classes are in session and regular service is running, and every 60 minutes on days when UC Davis is not in session, and at night and on weekends where service is provided. On bus lines with more than 60 passengers per hour, the daytime headway is halved to every 15 minutes on days when UC Davis is in session and every 30 minutes on weekdays when classes are not in session. The V Route, which began service in FY 2011/12 and quickly reached an average of 95 passengers per hour in 2012/13, now has 15-minute service.

There are slight variations in schedules on the other highest ridership routes. During each hour, Route D operates on a headway schedule of 10-15-15-20 minutes. Routes G, J and W have a 10-10-20-20 minute schedule.

In FY 2013-14, additional route changes were made, which will be reflected in future ridership data. In addition to moving to 15-minute frequencies on Route V, these included:

- A complete revision to Route H serving the perimeter of the UCD campus;
- Extension of Route F to serve north Anderson Road;
- A more "universal" schedule for city perimeter Routes P and Q; and
- Weekend service on Route D and a portion of Route L.

Unitrans has proposed a number of service changes to start in August/September 2014. These would:

- Add weekend service to the V Line serving West Village, to run hourly leaving the Silo from 9:30 a.m. to 5:40 p.m.
- Eliminate the L Line Limited, and re-route the O Line Weekend Shoppers Shuttle westbound via Pole Line, 8th Street, and L Street to maintain service to the Davis Manor Shopping Center. With weekend service added on the V line to the Silo, eliminate service on the O line between West Village and the Silo.
- Revise the H Line, which serves the UC Davis campus perimeter, by eliminating the loop via Alumni Lane, extending service to the southwest Health Sciences area and to Campbell Road, and adding a stop west of the southern Hutchison roundabout.
- Making the A Limited its own lettered line, and running the revised line between Cantrill Drive and the MU terminal via B Street and 5th Street, rather than to the Silo via Hutchison Drive. The current A line would maintain its route and continue to offer service to the Silo at 30-minute headways during the regular schedule.
- Revise the S Line to Holmes and Harper Junior High Schools by: continuing on Montgomery and eliminating the Rosario-Almond-Willowbank loop in South Davis; running the first S Line in the morning on the current route from South Davis via downtown in time for 1st period at both junior high schools; then running a second truncated S Line starting from the current stop at Davis High School to Holmes and Harper.
- Revise the T Line to/from Davis High School to run via Montgomery instead of Rosario-Almond-Willowbank in South Davis.

Route C ridership is on an upward trend; however, increasing the frequency would not be recommended if it reaches the 60 passenger/hour level because the route is very short and biking and walking are excellent, inexpensive options for many residents.

Unmet Transit Needs Findings

The Unmet Transit Needs process is a yearly review of transit needs of people who live in the SACOG four-county Regional Transportation Planning Agency (RTPA) area made up of Sacramento, Sutter, Yolo, and Yuba counties and the cities within. The process is required by the California State Transportation Development Act (TDA).

SACOG staff conducts public hearings throughout the four-county area to receive comments from the public that will help determine if there are unmet transit needs. An unmet transit need is an expressed or identified need for transit services that would likely serve those most dependent on transit, and which is not currently being met through the existing system of

public transportation services. Unmet transit needs must also comply with the Americans with Disabilities Act and be accessible to all.

The SACOG Board makes final findings regarding which jurisdictions have "unmet transit needs that are reasonable to meet." To be "reasonable to meet" an unmet transit need must have community acceptance reflecting the need of more than one person; be equitable and open to the general public, including the elderly and those with disabilities; have potential ridership; and have the ability to be cost effective and meet the required farebox recovery ratio. If the SACOG Board finds any unmet transit needs that are reasonable to meet in a city or county, then Transit Development Act (TDA) funds must first be spent to fulfill those transit needs.

In 2012/13, a comment was made that a bus service/stop was needed near the Twin Pines affordable apartments at 3333 F Street. In August 2013, Unitrans extended Route F and added a bus stop at Anderson Road and Sandpiper, about 1/10 of a mile from the apartments. In 2013/14, a request was made for a bus stop on westbound Covell Boulevard at Denali on the Route P. Unitrans committed to working with the City of Davis to assess the potential for these improvements, however the City's initial assessment is that the north side of Covell is not a feasible location for a bus stop at Denali. The request for a lighted shelter for the bus stop at the corner of Mace and Cowell Boulevards for northbound Routes A and P is unlikely to be fulfilled until the corner parcel is developed.

On-Board Survey Results

Unitrans regularly surveys riders to monitor patron type and fare payment media, and to gauge rider perceptions of various aspects of Unitrans service. Also, in the spring of 2012, the City of Davis conducted a community survey on a variety of topics, one of which was transit service. The results of that survey are discussed below, in addition to the Unitrans surveys.

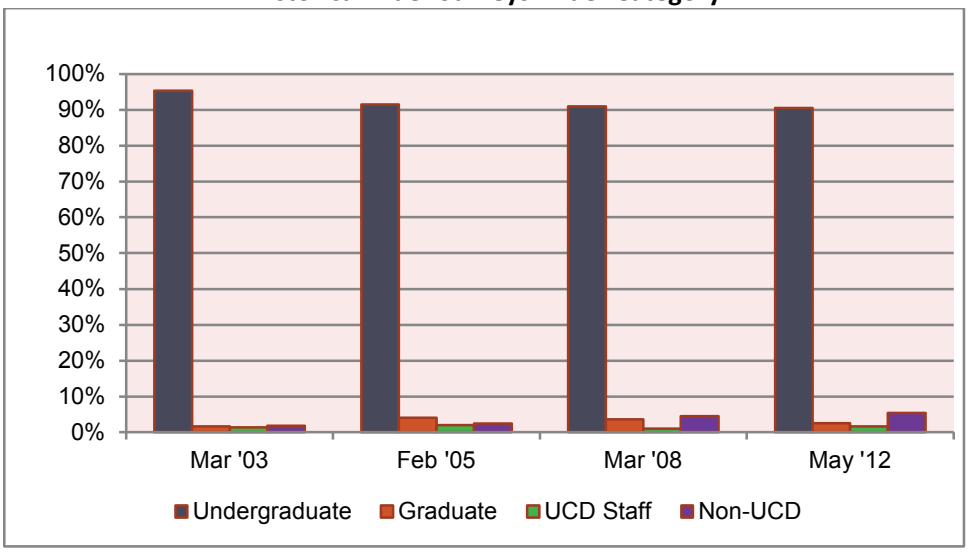
Historical Unitrans Surveys

The on-board surveys analyzed in this SRTP encompass five surveys, all conducted during regular service. The surveys were conducted in March 2003, February 2005, May 2006, March 2008, and May 2012.

Patron Type

The overwhelming majority of Unitrans riders are UCD undergraduate students. As shown in Figure 3.6, between 91% and 95% of respondents indicated they were undergraduate students in the survey years. In the most recent 2012 survey, there was a slight increase in the proportion of non-UCD patrons to 5.3% of riders. Graduate students plus UCD staff have been generally constant, hovering between 3% and 6% of total riders.

Figure 3.6
Historical Rider Surveys: Rider Category

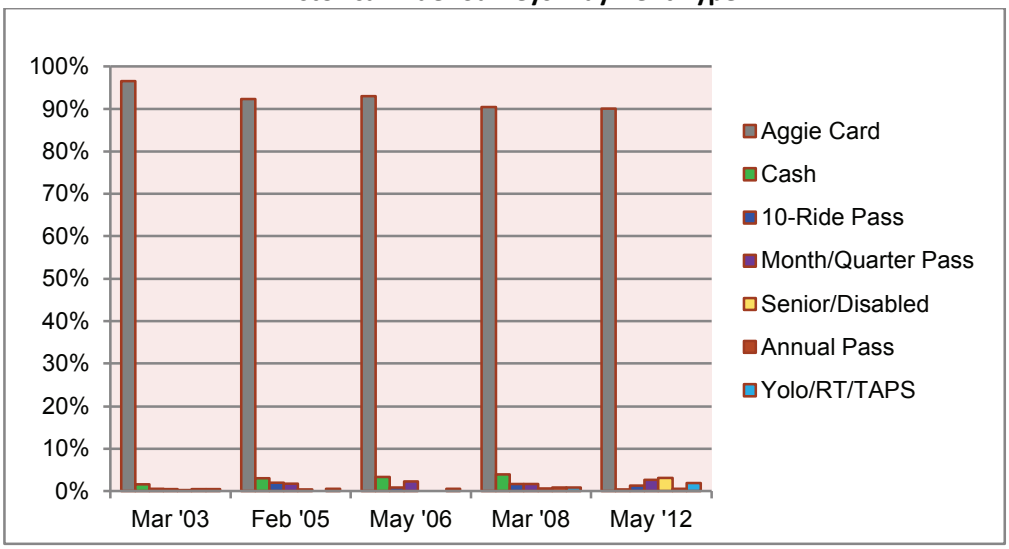


SOURCE: UNITRANS ON-BOARD SURVEYS, 2003-2012

Payment Type

As would be expected because of the large number of UCD undergraduate student riders, the student registration card (Aggie Card), is the most popular form of payment on Unitrans, accounting for between 90% and 96% of transactions during the survey years. However, as shown in Figure 3.7, in recent surveys, other payment methods such as the month/quarter pass and annual pass have slowly increased as a share of fare types.

Figure 3.7
Historical Rider Surveys: Payment Type



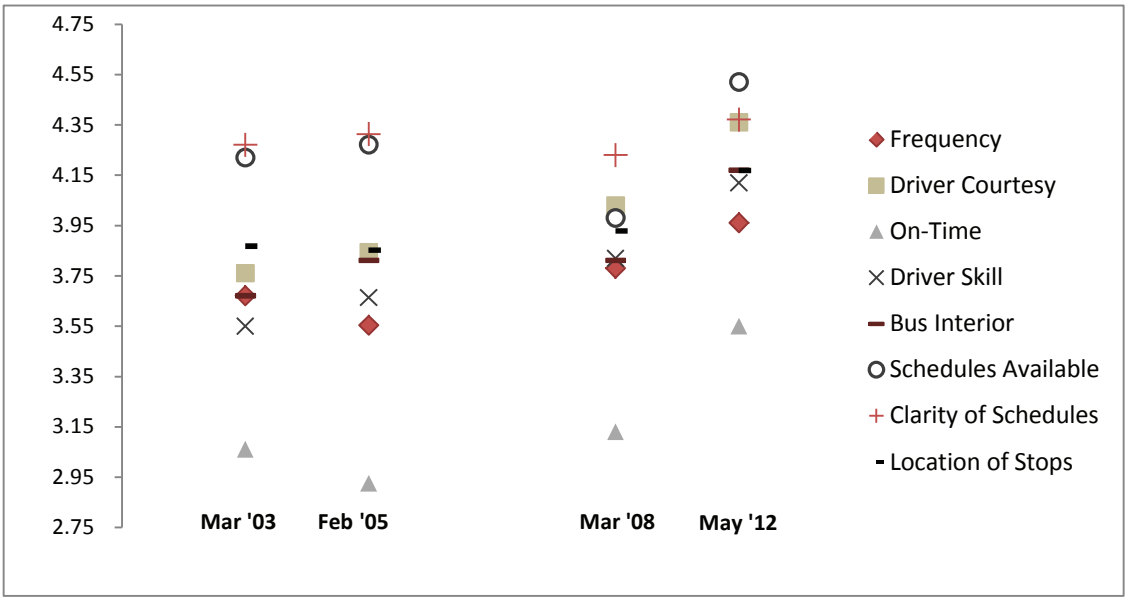
SOURCE: UNITRANS ON-BOARD SURVEYS, 2003-2012

Patron Opinion Regarding Unitrans Service

The Unitrans on-board surveys also ask patrons to rate Unitrans on a one to five scale on various aspects of the Unitrans service, including frequency of service, driver courtesy, on-time performance, driver skill, bus interior cleanliness, having schedules available, clarity of schedules, and location of stops.

Figure 3.8 shows a scatter plot of the historical results. Having schedules available, clarity of schedules, and driver courtesy have been the highest rated over the last several years, all falling in the 4 to 4.5 range. Bus interior cleanliness, location of stops, driver skill, and frequency have all been around the 3.5 to 4 range, with an upward trend seen in the most recent survey. The lowest ranked aspect of Unitrans service has been on-time performance, which has ranked as low as 2.92 in February of 2005 and as high as 3.55 in May of 2012.

Figure 3.8
Historical Rider Surveys: Rider Opinion



SOURCE: UNITRANS ON-BOARD SURVEYS, 2003-2012

On-time performance is defined by Unitrans as a route arriving within 5 minutes of its scheduled time at UC Davis. As shown in Table 3.8, the average for all routes was 92% in October 2013. Most routes have exceeded Unitrans' 90% performance standard over time. Of 16 routes, 12 were above the 90% standard in 2013, and nine were at or above 94%. Routes A and Q have shown the most consistent challenge in achieving on-time performance levels.

Table 3.8
Unitrans On-Time Performance Comparison, October 2007-October 2013

LINE	Oct-07	Oct-08	Oct-09	Oct-10	Oct-11	Oct-12	Oct-13
A	84%	67%	84%	89%	85%	84%	84%
B	98%	98%	99%	99%	100%	100%	95%
C	90%	93%	96%	97%	95%	98%	98%
D	95%	94%	96%	99%	98%	97%	96%
E	92%	94%	93%	96%	95%	96%	91%
F	98%	99%	98%	99%	99%	98%	94%
G	96%	97%	94%	98%	95%	95%	99%
H							99%
J	74%	82%	75%	85%	96%	96%	94%
K	98%	96%	96%	98%	94%	94%	91%
L	86%	62%	79%	87%	80%	99%	100%
M	98%	99%	99%	99%	99%	94%	87%
P	82%	91%	84%	93%	94%	91%	82%
Q	78%	83%	80%	87%	82%	79%	70%
V					100%	97%	98%
W	81%	66%	92%	94%	90%	95%	93%
All	89%	87%	90%	94%	93%	94%	92%

Service Demand

The largest source of ridership growth in Unitrans' ridership will continue to be students. UC Davis' 2020 Initiative calls for the average enrollment of undergraduates at UC Davis during the fall-winter-spring quarters to be increased to approximately 28,850 students by 2020, a growth of 5,000 students above the number enrolled in the 2011-2012 academic year. This represents a 2.1% annual increase in the number of undergraduate students, and will also result in some expansion of graduate students, faculty and staff to support the undergraduate population. Since Unitrans ridership has consistently outpaced undergraduate growth rates, the financial plan in Chapter 7 anticipates this service demand, while assuming Unitrans will maintain its successful policies concerning service revisions and expansions based on hourly ridership.

CHAPTER 4—DEMAND RESPONSE SERVICE ANALYSIS

History

Davis Community Transit (DCT) began providing paratransit service to the Davis community in 1971. Until the mid-1990s, DCT was known as Davis Special Transit. Davis Special Transit provided paratransit trips within Davis city limits, and Davis Senior Transit provided trips to Woodland (Monday-Friday to the Adult Day Health Care Center) and to Sacramento (twice a month for medical appointments only). The name change to Davis Community Transit happened when DCT was relocated from the Davis Senior Center to downtown Davis (the former Greyhound station from 1995-2002 and then the Amtrak Station from 2002-2010). With the move to the downtown area, new ADA requirements in 1995, and increasing service demands, DCT stopped providing trips to Woodland and Sacramento in the late 1990s and Yolobus became the intercity paratransit provider.

Existing Service

DCT is the complementary paratransit service within the City of Davis for the local fixed route transit providers Yolobus and Unitrans. DCT is operated in-house by City of Davis staff, under the direction of the city's Parks and Recreation Department. DCT is now located at the City of Davis Corporation Yard and has a fleet of four vehicles, increased from three in fiscal year 2011/12. The service accommodates over 16,000 trips per year.

DCT is operated 365 days of the year, within a ¾-mile radius of fixed bus routes operated by Unitrans and Yolobus within the City of Davis. DCT's service area is shown in Figure 4.1. Core service hours are from 7:00 a.m. to 7:00 p.m.; however, service is available to ADA registrants during Yolobus Route 42 coverage hours within Davis between 5:00 a.m. and 11:30 p.m. on weekdays, and 7:00 a.m. and 10:00 pm. on weekends and holidays.

One-way trips may be reserved between one and 14 days in advance. To be guaranteed, rides must be requested no later than 5 p.m. the previous day. However, passengers must call the office when they are ready for their return trip. Round trip returns may only be scheduled in advance for rides after 5:00 pm or on the weekends. Same-day reservations may be made on a time- and space-available basis.

DCT's pick-up window is shorter than many systems' 30-minute window, from 10 minutes before to 10 minutes after the scheduled pick-up time. The bus will wait three minutes once it arrives – two minutes shorter than the industry standard – or it is considered a no-show. If time permits, DCT will wait up to five minutes. Cancellations must be made at least 30 minutes prior to the scheduled pick-up time or it is considered a late cancellation. DCT may suspend service for riders with a pattern of no-shows and late cancellations. Table 4.1 shows how DCT meets/exceeds ADA requirements.

Figure 4.1

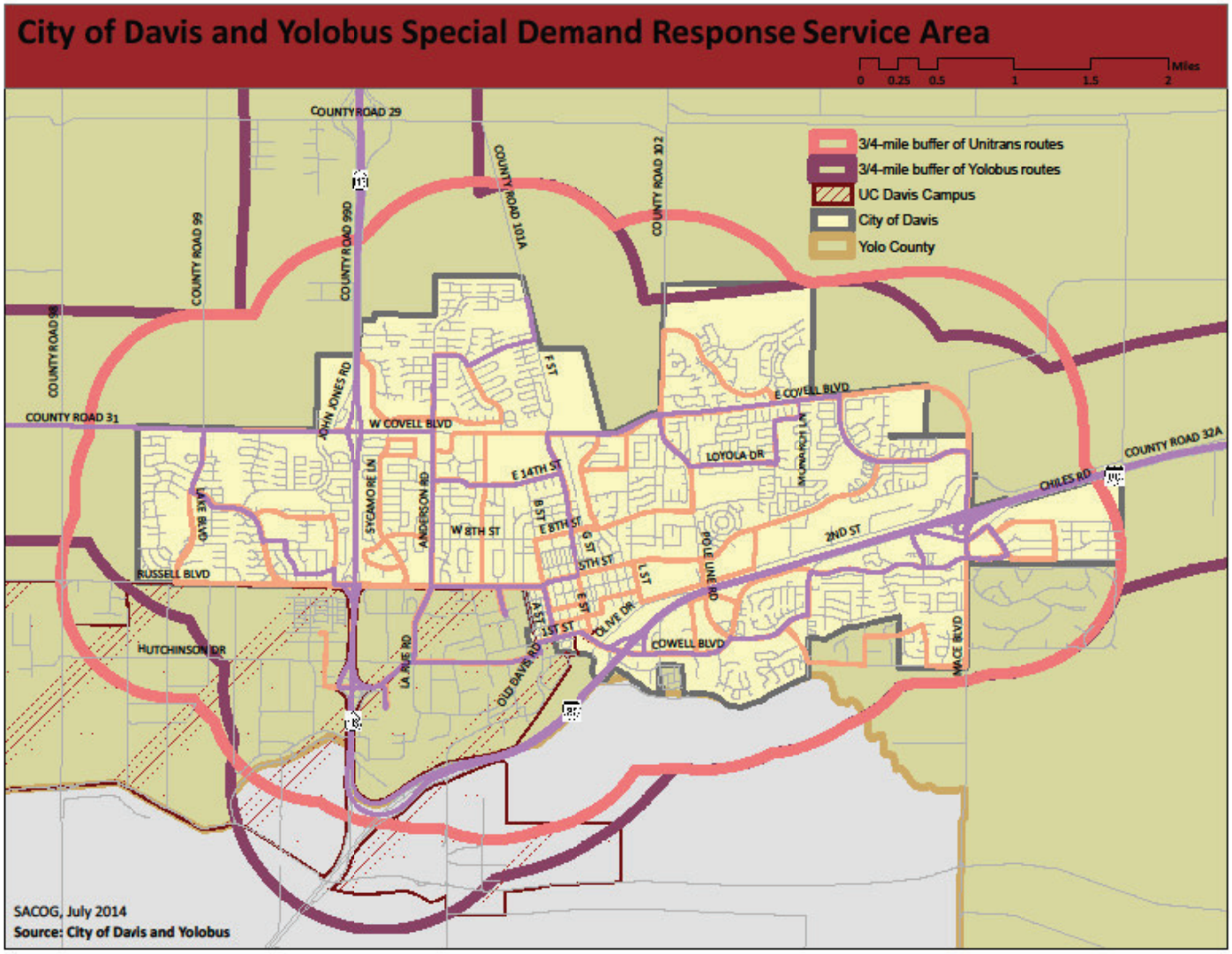

City of Davis and Yolobus Special Demand Response Service Area
0 0.25 0.5 1 1.5 2 Miles
3/4-mile buffer of Unitrans routes
3/4-mile buffer of Yolobus routes
UC Davis Campus
City of Davis
Yolo County
COUNTY ROAD 29
COUNTY ROAD 99
COUNTY ROAD 99D
COUNTY ROAD 101A
COUNTY ROAD 102
COUNTY ROAD 98
COUNTY ROAD 31
JOHN JONES RD
W COVELL BLVD
E COVELL BLVD
F ST
LOYOLA DR
MONARCH LN
COUNTY ROAD 32A
CHILES RD
E 14TH ST
SYCAMORE LN
ANDERSON RD
W 8TH ST
B ST
E 8TH ST
G ST
5TH ST
2ND ST
L ST
POLE LINE RD
RUSSELL BLVD
E ST
1ST ST
OLIVE DR
COWELL BLVD
MACE BLVD
HUTCHINSON DR
LA RUE RD
OLD DAVIS RD
SACOG, July 2014
Source: City of Davis and Yolobus

Table 4.1
DCT ADA Requirement Adherence

ADA Requirement	DCT Performance	Meets Requirement?
Service Area		
ADA paratransit service must be offered in all areas defined as being within ¾ mile of a fixed route	Davis Community Transit (DCT) is an advance reservation, origin-to-destination paratransit service, provided to complement the fixed route series of Unitrans and Yolobus within Davis. Service is provided within ¾ mile of fixed route bus lines in Davis.	DCT meets this ADA requirement.
Coverage		
Service must be offered during the days and times when fixed-route service is offered	DCT offers service between 5:00 a.m. and 11:30 p.m. on weekdays, and 7:00 a.m. and 10:00 pm. on weekends and holidays, when either Unitrans or Yolobus is operating.	DCT meets this ADA requirement.
Fares		
Fares for ADA paratransit may be up to twice the cash fare for equivalent fixed route service	DCT regular cash fares are $2.00 each way for regular service, which corresponds with Unitrans' core service hours; and $4.00 each way during premium service, which corresponds with Yolobus' early morning and late evening hours.	DCT's fare is below the ADA maximum allowable fare during regular hours (7 am to 7 pm) because of complementarity to Unitrans instead of Yolobus service.
Eligibility		
Individuals who are unable to use fixed-route transit due to a disability or mobility impairment must be eligible for paratransit	DCT is available to customers traveling within Davis who are not able to use the fixed route service due to a disability or health condition.	DCT meets this ADA requirement.

ADA Requirement	DCT Performance	Meets Requirement?
Reservations		
Must be able to make a "next" day reservation. Longer reservations and standing reservations may be offered.	DCT accommodates booking requests from one to fourteen days in advance, and rides must be requested no later than 5 p.m. the previous day. Same day rides are given if time and space permit.	DCT exceeds this ADA requirement by taking reservations up to 14 days in advance and limited same-day reservations.
Trip Purpose and Trip Limit Restrictions		
There may be no prioritization or limitation placed on trip purposes, and there may be no limits on the number of trips an individual may take on paratransit	DCT has no trip purpose restrictions or limits on the number of trips an individual can book.	DCT meets these ADA requirements.
Subscription Trips or Standing Orders		
Subscription trips or standing orders may not exceed 50% of capacity during any time period when capacity is limited	Subscription trips are not accommodated on DCT. Each trip must be booked as a single trip.	DCT meets this ADA requirement.
Passenger Assistance		
Curb-to-curb service is required, with passengers traveling from their residence or destination locations to and from the vehicle.	DCT provides curb-to-curb service with passengers traveling from their residence or destination locations to and from the vehicle. If door-to-door assistance is required, it must be indicated on the application and must be requested at the time the ride is scheduled.	DCT exceeds this requirement by offering door-to-door assistance upon request.
Capacity Limitations		
Under a recent ADA legal interpretation, no trip request booked at least one day in advance can be denied. However, agencies can offer travel time alternatives within one hour before or after the original requested drop off or pick up time.	DCT may schedule pick-up time up to one hour before or after the requested time.	DCT meets this ADA requirement.
Guests and Attendants		

ADA Requirement	DCT Performance	Meets Requirement?
Guests who may or may not have mobility limitations may ride the paratransit service provided they have reserved in advance, pay the full fare for their ride, and are subject to capacity constraints. Attendants who are required to assist a rider with mobility may ride at no charge, provided they are registered as a Personal Care Attendant (PCA) in advance	One unregistered companion may accompany a certified customer, and must pay the 1-way fare. A personal care attendant may accompany a certified customer on DCT at no extra charge if the customer's application states that one is needed.	DCT meets these ADA requirements.
Vehicle Design		
Vehicles must be designed to accommodate both ambulatory passengers and persons using an electric wheelchair, scooter, or non-powered wheelchair.	DCT offers lift-equipped vehicles. Mobility aids on DCT must not exceed the weight limit of the vehicle's lift, and dimensions cannot exceed 30" by 48".	DCT meets this ADA requirement.

Fare Structure

DCT last raised fares on paratransit service in 2009. Table 4.2 shows a listing of fare types offered and the current price. Premium fares are charged during early morning and late evening hours.

Table 4.2
DCT Fare Structure

Service	One-Way Fare	Ticket Books
Regular	$2.00	$10, $20, $40
Premium	$4.00	$10, $20, $40

SOURCE: DAVIS COMMUNITY TRANSIT

Fares may be paid in cash or with $2.00 tickets from pre-paid 5-, 10- and 20-ride punch cards. These may be purchased by registered riders on DCT vehicles, at the DCT main office, or by phone with a credit card.

System Performance

Table 4.3 provides Base Operating Statistics for DCT from FY 2006/07 to FY 2012/13. Over the seven year span, DCT has experienced a ridership decrease of 9% and revenue service hour decrease of 5%, although mileage increased 5%, likely due to city growth.

From the peak ridership year in FY 2008/09, DCT has seen a steady decrease of 12% from 18,702 to 16,407 total rides in FY 2012/13. Revenue service hours have fluctuated from year to year, based on trip demands.

Table 4.3
Base Operating Statistics

	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	06/07-12/13
Total Passengers	18,116	18,595	18,702	18,564	17,809	16,612	16,407	-9%
# of Vehicles	3	3	3	3	3	4	4	
Revenue Service Miles	67,060	67,227	71,790	57,196	72,942	67,590	70,504	5%
Revenue Service Hours	5,345	4,285	4,189	4,381	5,048	4,700	5,096	-5%

SOURCE: TRIENNIAL PERFORMANCE AUDIT, 2013, DCT 2013

Despite reduced trip provision, operating expenses over the seven-year span have increased by 48% to about $500,000, as shown in Table 4.4. Operating cost measures rose per passenger by 63%; per revenue hour by 55%; and per revenue service mile by 41%. A positive note is that operating cost per revenue service hour has declined from its peak in FY 08/09 and 09/10. Farebox revenues have remained fairly stable. The farebox recovery ratio in FY 12/13 was 6.5%, below the 10% standard, but Unitrans's high farebox recovery ratio more than compensates for DCT's rate.

Table 4.4
DCT Performance Indicators, FY 2006/07 to FY 2012/13

	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	06/07-12/13
Farebox Revenues	$21,930	$28,110	$32,644	$36,353	$32,585	$30,012	$33,000	50%
Operating Expenses	$343,287	$392,818	$431,093	$460,668	$483,232	$459,677	$507,328	48%
Farebox Recovery Ratio	6.39%	7.16%	7.57%	7.89%	6.74%	6.53%	6.50%	2%
Operating Cost per Passenger	$18.95	$21.12	$23.05	$24.82	$27.13	$27.67	$30.92	63%
Average Fare per Passenger	$1.21	$1.51	$1.75	$1.96	$1.83	$1.81	$2.01	66%
Passengers per Revenue Service Hour	3.39	4.34	4.46	4.24	3.53	3.53	3.22	-5%
Passengers per Revenue Service Mile	0.27	0.28	0.26	0.32	0.24	0.25	0.23	-14%
Operating Cost per Revenue Service Hour	$64.23	$91.67	$102.91	$105.15	$95.73	$97.80	$99.55	55%
Operating Cost per Revenue Service Mile	$5.12	$5.84	$6.00	$8.05	$6.62	$6.80	$7.20	41%

SOURCE: TRIENNIAL PERFORMANCE AUDIT, 2013, DCT 2013

Trip Requests and Provision

Return trips require a phone call, except those scheduled for evenings and weekends. As shown in Table 4.5, wait times for return pick-ups decreased over the four-year period, with a third more under 20 minutes, and 8.5% fewer over 30 minutes.

Table 4.5
Return Trips

	FY 09/10	FY 10/11	FY 11/12	FY 12/13	% change 09/10-12/13
No. of calls for return trips	5,244	5,955	5,737	5,997	14.4%
< 20-minute wait for trip	2,268	2,831	2,886	3,033	33.7%
> 30-minute wait for trip	1,360	1,495	1,225	1,244	-8.5%

SOURCE: DCT ANNUAL REPORTS

However, on-time performance declined slightly in FY 2012/13 compared with the prior year, as shown in Table 4.6. This may in part be due to driver turnover and shortages.

Table 4.6
DCT On-Time Performance

	FY 2011/12	FY 2012/13
July	91.5%	89.5%
August	91.9%	85.8%
September	90.0%	88.9%
October	88.9%	86.5%
November	87.8%	86.4%
December	87.1%	89.9%
January	88.0%	89.9%
February	87.4%	90.0%
March	88.0%	87.3%
April	90.8%	87.8%
May	89.4%	85.7%
June	85.9%	85.5%

SOURCE: DAVIS COMMUNITY TRANSIT ANNUAL REPORTS

Other significant changes include more than a doubling of same day trips and evening rides provided, shown in Table 4.7 for the last four-year period.

Table 4.7
DCT Trip Scheduling and Provision, FY 2009/10 to FY 2012/13

	FY 09/10	FY 10/11	FY 11/12	FY 12/13	% change 09/10-12/13
Total trips requested	21,404	20,258	19,095	19,041	-11%
Total trips scheduled	21,298	20,121	18,887	18,814	-12%
Total trips provided	18,564	17,809	16,612	16,407	-12%
Same day trips provided	182	234	402	365	101%
Percent of total trips	0.98%	1.31%	2.42%	2.22%	
Unmet same day requests	106	137	208	227	114%
Evening rides	240	215	285	526	119%
Percent of total trips	1.29%	1.21%	1.72%	3.21%	
Cancellations	2,498	2,112	1,914	2,044	-18%
Percent	11.73%	10.50%	10.13%	10.86%	
No-shows	236	200	361	363	54%
Percent	1.27%	1.12%	2.17%	2.21%	

SOURCE: DAVIS COMMUNITY TRANSIT ANNUAL REPORTS

In FY 12/13, 1.6 same day requests were accommodated for every request that was denied. Providing 3.22 trips per revenue service hour is higher than for many transit agencies;

however, with its smaller service area, DCT has shown that it has been able to achieve an even higher ratio. While same day requests may take advantage of capacity, the increase in same day trips may help explain the recent decrease in passengers per revenue hour, as trips may not be as efficient to provide without advance scheduling. A recommendation of the triennial audit was to negotiate trip times within the ADA-allotted one hour window to improve vehicle productivity. DCT staff should consider whether efficiencies could be improved through greater rider education on the benefits of advance scheduling for the costs of service, through added negotiation of days or trip times with riders whose trips are more flexible, and/or a longer window.

Over the four-year period, cancellations were down 18% to about 11% of scheduled rides, but no shows increased by 54% to about 2.2% of rides provided. DCT staff indicate they do work with riders with repeated no-shows through reminders and education on DCT policies. DCT should also monitor cancellations and contact any riders who cancel frequently to educate them on the impacts. DCT should also consider whether to lengthen its 30-minute cancellation policy and/or to establish a longer cancellation requirement for evening and weekend trips to increase scheduling certainty and efficiencies.

In general, the Triennial Audit recommended revising performance measures and standards to ensure they reflect operating parameters and realistic system objectives, evaluate performance compared with standards on a regular basis, and survey riders every two years. However, as a small system, DCT staff has more consistent contact with riders, so biannual surveys may exceed local needs.

Rider Mobility

Between FY 2009/10 and FY 2012/13, as shown in Table 4.8, ADA-eligible riders decreased as a percentage of total passengers, indicating that attendants and companions are riding more frequently.

Although total trips decreased by nearly 12%, older riders (62+) increased by 13.8% and lift deployments for those 62+ increased by 55%. However, for those under 62, lift deployments decreased by 14%. These countervailing trends could be due to several factors: more of DCT's ridership may have reached age 62 during this period; there may be more passengers of that age needing lift support; and/or DCT may have had some success in moving some of its younger lift-using riders to fixed route service.

Table 4.8
ADA and Senior Ridership, FY 2009/10 to FY 2012/13

	FY 09/10	FY 10/11	FY 11/12	FY 12/13	% change 09/10-12/13
Total Trips Provided	18,564	17,809	16,612	16,407	-11.6%
ADA-Eligible Riders*	17,508	16,428	15,195	15,182	-13.3%
Percent of passengers	94.3%	92.4%	91.5%	92.5%	
Riders 62+	8,456	9,426	9,564	9,626	13.8%
Percent of passengers	45.6%	53.9%	57.0%	58.7%	
Total lift Deployments	2,879	3,037	3,258	3,410	18.4%
Percent of all trips	16%	17%	20%	21%	
Lift deployments - age 62+	1,358	1,677	1,873	2,110	55.4%
Lift deployments - <62	1,515	1,360	1,385	1,300	-14.2%

* Remainder = attendants and companions

In 2012, a partnership of the City of Davis, Unitrans, DCT and Yolobus began a travel training program. The program has offered biannual workshops in Davis on using local transportation services. Unitrans and DCT also indicated there may be opportunities for UC Davis students to provide more workshops, field trips, or one-on-one trainings with riders. As a small system, DCT staff know their riders well, and can identify and target those who could be capable of using Unitrans more often with additional training. Paratransit, Inc. has also received funding for mobility training in the region. As this SRTP was finalized, a notice for the last workshop in April 2014 was on the City website (http://community-development.cityofdavis.org/travel-training-program). As travel training expands, DCT should ensure that up-to-date information is included on the DCT website and in the rider brochure, and notice is provided to likely candidates for training.

Additionally, DCT staff noted that some riders use DCT instead of Unitrans even if they are able. DCT should enforce more consistently conditional trip eligibility for those who can use Unitrans when it is in service, especially in the evening or on weekends when few trips are scheduled.

Evening Trips

As shown in Table 4.8, lift deployments have been increasing in FY 2012/13 still represented only 21% of trips, or about one in five. This is important for the provision of evening trips.

A recommendation of the triennial audit was to evaluate the possible benefits of instituting a taxi subsidy program to meet the demand for the small number of later evening trip requests. As part of developing the SRTP, an analysis was conducted of trips provided by DCT after 5:00 pm between October 2013 and March 2014. Table 4.9 summarizes this analysis.

Table 4.9
Evening Ridership

	Number of Trips:		Number of Evenings with:							Number of:	
	One-Way Only	Round-Trip	1 Trip	2 Trips	3 Trips	4 Trips	5 Trips	6 Trips	8 Trips	Cancellations	No-Shows
October 2013	30	10	5	6	5	2	2	0	0	10	1
November 2013	33	7	9	6	3	3	1	0	0	11	0
December 2013	34	7	11	6	5	1	0	1	0	13	0
January 2014	19	8	5	4	3	2	1	0	0	4	1
February 2014	23	13	9	5	1	4	1	1	0	11	0
March 2014	24	2	9	4	1	0	0	0	1	6	0
Total	**163**	**47**	**48**	**31**	**18**	**12**	**5**	**2**	**1**	**55**	**2**
	Total Trips=257		**Total Evenings Service Provided = 117**								

Among the key findings:

- Of the 314 total trips requested from 5:00 pm on, 257 or 81.5% were provided, 2 were no-shows, and 55 or 17.5% were cancelled.
- Of the 117 evenings on which DCT provided service, 48 evenings (41%) had only one trip, 31 (27%) had two trips, 18 (15%) had three trips, and 12 (10%) had four trips.
- Seven of the 31 two-trip evenings provided a round trip for one individual.
- On numerous evenings, trips were widely separated in time, such as one pick-up around 6:00 pm and the next at 8:30 or 9:00 pm.
- Some reservations appeared to be for regularly scheduled evening activities or returns home from work, or perhaps a monthly engagement, but most appeared to be more sporadic.
- It was not possible to determine if some one-way trips were a return home, following a trip out earlier in the day; however, some one-way evening trips were to public places, such as the public library or Mondavi Center, suggesting that riders found a different way home.
- Cancellations were made on 39 of the 117 evenings, or one-third of all evenings where service was provided.
- On six evenings with cancellations, no trips ended up being provided.

Waiting time between trips is not considered revenue service. DCT's efficiency is reduced significantly when staff are kept on to provide a few trips in the evening, especially when cancellations are made.

As part of the SRTP, the cost of taxi service to serve some of these evening trips was also analyzed. There are at least seven taxi cab companies operating in Davis, at least one of which has accessible ramp vehicles. Many provide service 24 hours per day/7days per week, as well as flat rates for rides scheduled in advance and/or discounts for seniors.

A number of actual one-way trips were assessed to compare the potential costs of taxi service. The longest trip analyzed, at 5.3 miles, was estimated to cost between $15.00 and $19.00, depending upon the company. A trip of 2.5 miles could cost between $9.00 and $11.50. Some trips were less than a mile, costing around $5.00-$6.00. At these rates, even with foregoing the fare revenue, DCT could achieve some level of cost savings, especially when only one or two trips are scheduled for an evening. An analysis might also be extended to weekend trips to see if similar patterns exist.

DCT should further assess the benefits of utilizing taxis as an alternative for some evening trips. As part of this analysis, a number of policies/issues will need to be considered, including:

- How a taxi program could be designed where taxi service would not be expected or encourage expanding rider demands because of the potential for solo subsidized taxi trips.
- A policy for when taxi service would be substituted for DCT service based on a cost comparison standard, i.e., if the cost of service minus fare(s) exceeds the cost of a taxi by some difference, a taxi would be utilized, unless accessibility needs of the rider(s) could not be met through a taxi service.
- Exploring whether taxis could provide a shared ride for more than one rider (e.g., two eligible riders or a rider and aide/companion) to or from a common destination if the ride otherwise met the DCT standard. The analysis showed a number of evenings where more than one rider made the same trip, such as between a senior residence and the Mondavi Center.
- Adopting policies that a taxi ride could not be used for accessing multiple destinations, e.g., stopping at a grocery store, pharmacy, etc., thereby changing the cost parameters.
- Addressing how taxi providers would be monitored and paid, how the fare would be applied to the taxi cost, and measures to avoid fraud.
- Developing a rider complaint system and evaluation program to monitor taxi provider and driver performance.

- Determining how to assign rides to a taxi service. Paratransit, Inc. (PI) recently researched options for using taxi services to fulfill trip requests. One concern was FTA's drug and alcohol monitoring testing requirements if Paratransit, Inc. selects the company/driver to which they assign trips. Paratransit, Inc. found that if they do not choose the taxi provider directly, this avoids the testing issue. In May 2014, PI's Board of Directors authorized PI to enter into an agreement with one or more taxi brokerages to assign trip requests from PI to providers. It may also be possible to allow riders to select the company, thereby avoiding the requirement.

A number of transit agencies in the region have expressed interest in utilizing taxi services as an alternative for some of their demand-response trips. SACOG staff is planning to work with the Transit Coordinating Committee to share PI and other research, and could help agencies including DCT explore options to utilize taxi services successfully.

Summary of DCT Operational Recommendations

- Emphasize to riders scheduling in advance whenever possible to reduce the costs of service.
- Work with staff on ways to successfully negotiate days or trips with riders whose trips are flexible without incurring trip denials.
- Consider a longer window for trip negotiations.
- Monitor and follow up with riders who frequently cancel trips.
- Consider whether to lengthen the 30-minute cancellation requirement.
- Establish a longer cancellation requirement for evening and weekend trips.
- Enforce more consistently conditional trip eligibility.
- Continue to partner with Unitrans to expand travel training through students and/or volunteer ride buddies.
- Develop a pilot program for using taxi services to provide evening low productivity trips, including an evaluation component.
- Revise and adopt performance objectives, standards and measures, and evaluate performance compared with standards on a regular basis.

CHAPTER 5—STAFFING AND MARKETING

Unitrans Organizational Structure and Staffing

GOVERNANCE

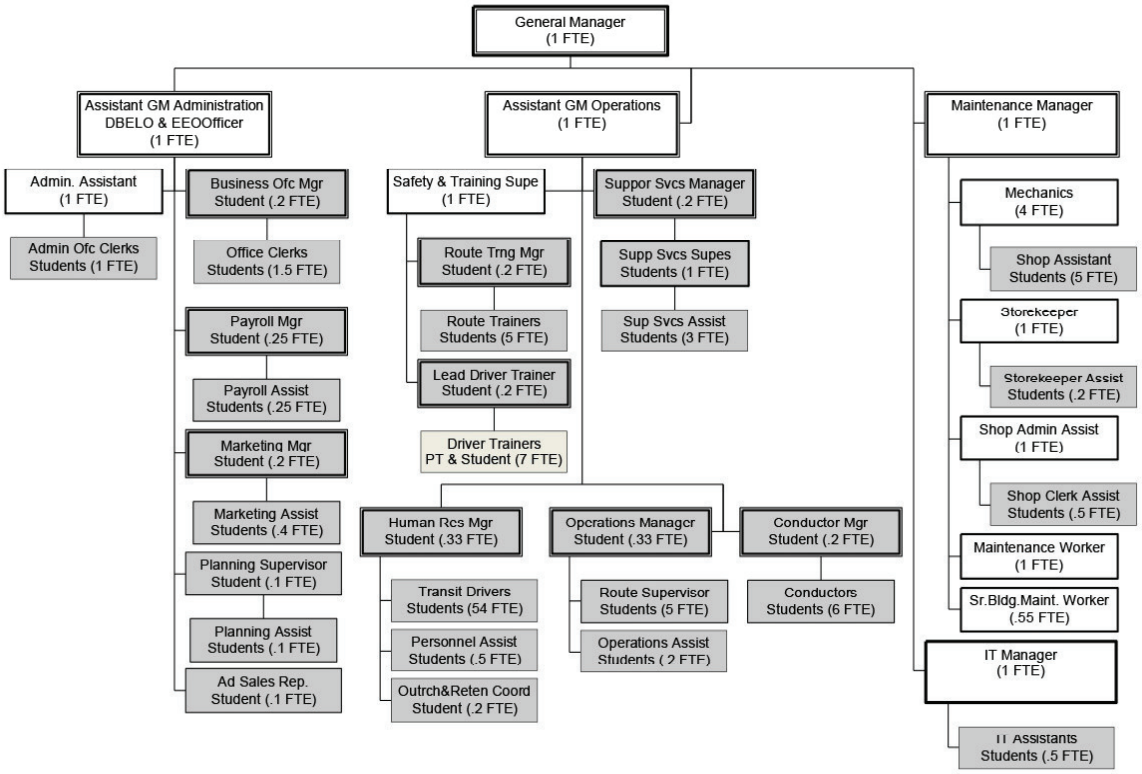
Unitrans has a shared governance system. It is both a unit of the Associated Students of UC Davis (ASUCD) and is also a function of the City of Davis. The ASUCD Senate adopts an annual budget for Unitrans. The Unitrans Advisory Committee (UAC), staffed by City of Davis' public works staff, generally meets once a year to review proposed service changes for the following academic year and address any issues raised by the public. The City of Davis provides additional funding for the service to support capital and operating costs (discussed in more detail in Chapter 7, Financial Analysis). The Davis City Council oversees Unitrans in its adoption of an annual operating agreement and the submission and approval of FTA grants for capital and operating funds.

STAFFING

Unitrans is managed by a General Manager, five management employees and nine Maintenance Division employees, for a total of 15 career positions. The remaining over 200 part-time employees are all UC Davis students. Students not only dispatch and drive the buses, but also help: train and schedule drivers; maintain, clean and fuel vehicles; manage operations and payroll; provide customer service; keep up the website; and help plan and market Unitrans' services. UC Davis also supports Unitrans through risk management, payroll, and construction management services.

While a largely student-operated system is cost-efficient, it also offers students employment to help cover educational costs and has sparked students to pursue public transit as a career. Driver pay has been increased over the years to help attract and retain student drivers. Successful drivers can apply for supervisorial positions in their second or third year at Unitrans, as well as student professional positions as they near graduation. These come with higher pay rates and provide substantive training and experience in many aspects of the transit industry. Unitrans' organizational chart is shown in Figure 5.1, delineating both career and student positions.

Figure 5.1
Unitrans Organizational Chart



STAFF EXPANSION

Like any transit agency, Unitrans offers ongoing training and has policies related to safety, drug/alcohol use, and discipline. However, with a large part-time student workforce, Unitrans requires more drivers and experiences significant driver turnover as students graduate. Unitrans thus conducts more frequent training and retraining to insure a sufficient driver pool. Unitrans' extensive training needs prompted a recommendation in the 2013 Triennial Fiscal Audit for a second certified Behind the Wheel/Employer Testing Program (BTW/ETP) trainer to insure an adequate number of drivers are trained and licensed each summer to meet academic year driver needs.

Additionally, in a February 2014 maintenance report, Unitrans' Maintenance Manager suggested that as Unitrans' maintenance shop grows, there could be a need to modify the existing organizational structure with the addition of two potential positions:

- An extra supervisory safety position on the shop floor to oversee day-to-day operations of the shop, monitor safety compliance, and directly supervise the swing and day shifts.
- An administrative supervisor to support the administrative and parts team.

It was noted that these could potentially be filled by existing employees and/or add revenue from additional maintenance work such as for the UC Davis Fire Department.

Unitrans Marketing

With its long history and iconic double-decker buses, Unitrans has a strong brand and positive image in the Davis community. Unitrans continues to reach out to new waves of students, as well as the general community, through a multi-faceted public information/marketing program that includes:

- An extensive website, including a trip planner, notices, interactive route maps and real-time bus information
- A Facebook page
- Telephone and walk-in information services
- Mobile phone access to general and real-time bus information
- Posted bus information at terminals and key bus stops
- Increasing LED signage with next bus information at major terminals
- Outreach materials for target audiences, such as junior high and high school students for Routes S and T
- A travel training program in partnership with the City of Davis, DCT and Yolobus
- An ongoing bus stop improvement program

City Survey

A City of Davis survey asked respondents to identify transit service needs. The survey was not specific to Unitrans, however, there were several comments directly related to Unitrans and Davis Community Transit. Some common themes were better outreach and transportation for seniors and others with mobility limitations, making the website and route guide easier to understand, and better amenities at bus stops.

Unitrans Marketing Recommendations

Unitrans does not have a career marketing position, instead utilizing .2 FTE of student marketing support. Given turnover in the student marketing position, the Triennial Performance Audit recommended that Unitrans develop and update annually a marketing plan, to provide ongoing background and continuity for marketing efforts.

Additional marketing-related recommendations include the following:

- On the Unitrans website, add a tab providing an orientation to the system and website for new riders, and especially geared to potential general public and senior users.
- Include a translator option on the website for use by students or residents who feel more comfortable in their native language and foreign participants in campus English language programs.
- If limited routes are offered, clarify on the website that those routes exist. Currently, riders must download the PDF version of the route schedule to learn that there are limited as well as regular schedules on certain routes.
- Emphasize in travel training and outreach for seniors that Unitrans fares are free for those 60+, compared with DCT fares of $2.00 to $4.00 per ride.
- Continue to publicize in the broader community the availability and safety of the S and T routes and discounted fare options for reaching junior high schools and Davis High School; availability of the Summer Sizzler program, weekend Shoppers' Shuttle and perimeter P & Q Routes; GoClub discounts for faculty, staff and graduate students; and timed transfers at the MU Terminal for through-trips.

Davis Community Transit Organizational Structure and Staffing

DCT is part of the City of Davis' Recreation and Community Services Department. In 2010, DCT moved its administrative offices and fleet to the City's Parks & General Services yard on 5th Street. DCT has three full-time staff – a Paratransit Supervisor, Coordinator and Specialist – and 12 part-time vehicle operators, with six also serving as dispatchers. DCT receives support from other city departments such as finance for payroll and other financial matters, human resources, and information technology for website support. The City's maintenance shop services DCT vehicles along with other city vehicles, giving DCT priority to insure availability. Overhead is allocated to DCT for city support services. As a city program, DCT is ultimately governed by the City Council.

DCT's drivers and dispatchers are all temporary part-time employees, limited to no more than 1,000 of work annually. Most are former Unitrans drivers who have graduated, or students who drive for both Unitrans and DCT while still in school. Building on drivers Unitrans' training and experience, DCT offers its own training module to train drivers specifically in providing paratransit service. DCT reports that riders and drivers alike enjoy the intergenerational system, and staff turnover is fairly low compared with Unitrans. Given projections for slow growth in ridership, no additional staffing is assumed through FY 2018/19.

DCT Marketing

The primary source of public information for DCT is the city's website, cityofdavis.org. The Recreation and Community Services tab provides a list of links, including for Senior Services, which includes information on senior transportation, and a direct link to Davis Community Transit's web page. The Senior Scene, the Davis Senior Center's newsletter, also regularly includes DCT transportation and contact information.

DCT is also a partner on travel training with the City of Davis, Unitrans and Yolobus. DCT should continue to pursue opportunities for targeted travel training and/or ride buddies for riders most likely to be able to use Unitrans for a portion of their trips.

DCT Marketing Recommendations

- Work with the Community Services department to insure that senior and disabled services are easy to locate through the city website, and that a link to DCT's web page is consistently included wherever DCT is mentioned, such as in: http://community-services.cityofdavis.org/senior-services/transportation.
- Insure the DCT website and rider guide is up-to-date, including travel training information.
- Continue to capitalize on publicity in The Senior Scene for DCT service and travel training, and the Davis Enterprise.
- Continue to conduct periodic outreach and/or field trips at senior independent living residences to familiarize new residents, and/or those who have stopped driving or are considering no longer driving, with DCT and Unitrans alternatives, including Unitrans' free pass option for those 60+.
- Recruit potential ride buddies from senior residents who regularly use the DCT or Unitrans systems.
- Work with Unitrans to recruit and train students for travel training and with UC Davis' Disabled Student Program and Services (DSPS) to identify potential candidates for DCT services or travel training as mobility-impaired students arrive.

CHAPTER 6—FLEET AND FACILITIES PLAN

UNITRANS CURRENT FLEET

The Unitrans fleet currently consists of 59 vehicles: 42 regular full size coaches, six double-decker buses, including four vintage vehicles from London, U.K., and two cutaways, plus nine support vehicles. The regular fleet is shown in Table 6.1. Because of the limited space available on the UC Davis campus at transfer centers and bus stops, the double deck buses are needed to provide the capacity of almost two regular buses while using the same size footprint of a regular bus.

Table 6.1
Unitrans Fleet

#	Acquisition Year	Type	Make/Model	Active Revenue Fleet?
3	1971-74	Vintage Double Deck 1948-54	AEC RT - 2 diesel, 1 CNG	Yes
1	1970	Vintage Double Deck 1950	AEC RT, CNG conversion in progress	No
1	2002	Cutaway	FORD 240 Aerotech	Yes
1	2004	Cutaway	ELDORADO E-450 CNG	Yes
4	1996	Full-size Coach	ORION V	Yes
25	2009	Full-size Coach	NEWFLYER C40LFR	Yes
5	2003	Full-size Coach	ORION VII	Yes
4	2006	Full-size Coach	DAIMLER CHRYSLER ORION V	Yes
4	2007	Full-size Coach	DAIMLER CHRYSLER ORION V	Yes
2	2010	Double Decker Bus	ALEXANDER-DENNIS ENVIRO 500	Yes

The two cutaways and one of the four vintage double deck buses are not currently used in weekday revenue service. The current peak pullout is 36 revenue vehicles of the 47 available. Unitrans requires a number of spare vehicles due to the high volume of training that occurs nearly year-round, and particularly in the late summer.

Unitrans introduced 25 new buses to the Unitrans fleet in FY 2008/09 and 2009/10: 25 traditional transit coaches (CNG New Flyer low-floors), and two new Alexander-Dennis double-decker high-capacity buses, greatly improving fleet reliability. Receiving and putting into service such a high number of new vehicles at one time was a major challenge for the maintenance shop. Analysis by Unitrans' Maintenance Manager found that the New Flyers were averaging about 27,000 miles per year, with the oldest Orion Vs running only about 6,000 miles annually. The Maintenance Manager recommended running the buses more evenly to prevent the New Flyers from wearing out at a faster rate and all needing replacement at the same time. One of the Orion V buses is not scheduled to be replaced. This will reduce the active fleet available for peak service to a total of 46 single- and double-deck buses, until the second CNG doubledecker conversion is completed.

Most of the fleet runs on compressed natural gas (CNG), with the exception of four of the double-deckers and one of the cutaways, which use biodiesel. Unitrans is a national leader in both providing alternatives to traveling by car and for reducing transportation's impact on the environment. The newer vehicles have CNG storage tanks with a certified useful life of 20 years. The current fleet replacement strategy is to repower 12 of the twenty-five 2009 New Flyer buses when they accumulate 12 years in service. Repowering these buses will be a useful strategy to even out the funds needed for replacement, instead of concentrating all replacement costs, estimated at $16.5 million, in 2021 and 2022.

Unitrans is generally pleased with the performance and branding that the double-decker buses are delivering to the community, and wishes to purchase more. As part of the replacement plan, several of the regular buses are anticipated to be replaced by double deck buses, which provide greater ridership capacity on the highest demand routes. Unitrans' Maintenance Manager has pointed out that the newer Alexander-Dennis double deck buses are more expensive to run due to the higher costs of diesel fuel and maintenance, even compared with the vintage double deckers. However, there are tradeoffs for Unitrans. Double-deckers are part of Unitrans' branding and appeal in Davis. Additionally, they carry twice the capacity of the New Flyer single-deck buses: 81 seated vs. 40 seated, and 120 compared with 60 seated/standing, using Unitrans' performance standard of 150% of seats.

The goal is to purchase an additional four double deck buses in the next few years and to repower the two 2009 Alexander-Dennis buses at a future time. This would bring the total to six modern double deck buses in revenue service. However to achieve this goal, Unitrans will need to work with the California Air Resources Board (CARB) to approve the purchase.

Currently, no double-decker buses are being manufactured with CNG engines, and CARB denied Unitrans's 2012 request to purchase cleaner diesel double-deckers. Many years ago, Unitrans opted to choose the "Alternative Fuels" path when CARB mandated that all public transit agencies in the state dramatically reduce their emissions by either choosing a clean diesel path or an alternative fuels path. CARB does not allow Alternative Fuel path agencies to purchase any diesel vehicles without a waiver. Unfortunately, the waiver that Unitrans obtained from CARB to purchase the two Alexander Dennis diesel double-deckers in 2010 has expired. Although Unitrans' waiver request was not approved in 2012, CARB staff has indicated a willingness to work with Unitrans to acquire diesel doubledecker buses, as long as the majority of Unitrans' bus purchases are CNG and the fleet average emissions are within an acceptable range. In addition, Unitrans has been working with the UC Davis Institute of Transportation Studies to identify if any viable manufacturers of electric doubledecker buses may come into the market or if a prototype could be used in Davis for testing.

Table 6.2 assumes that this issue can be worked out with CARB, and shows the expected replacement costs as well as the number of each type of vehicle to be replaced or repowered in each year. Replacement costs are based on the estimated purchase price for each type of vehicle as of 2014, with a cost escalator of four percent per year thereafter. The replacement

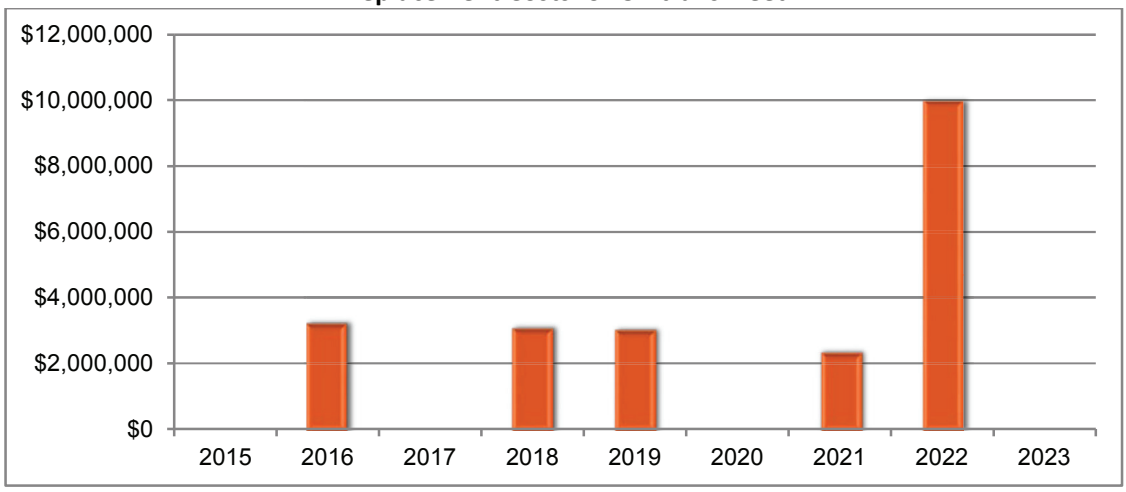
plan also anticipates a 3% annual growth in revenue service hours, discussed in more detail in Chapter 7, Financial Plan, with the vehicle expansion needs shown below.

Table 6.2
Projected Unitrans Bus Replacements/Expansions and Costs by Year, FY 2014/15 to FY 2021/22

Year	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Cutaway	0	0	0	0	0	0	0	0
Single Deck	0	4	0	3	3	0	0	12
Double Deck	0	1	0	1	1	0	0	1
Repower	0	0	0	1	0	0	12	2
Cost	$0	$3,244,800	$0	$3,100,125	$3,041,632	$0	$2,368,677	$9,990,554
Expansion	0	3	0	3	0	0	3	0
Cost	$0	$1,622,400	$0	$1,754,788	$0	$0	$1,897,979	$0

Without expansion vehicles, the total cost for replacement and repowering of vehicles, between FY2014/15 and FY2020/21 is $11,755,234. This is an annualized capital cost of $1,679,319. This compares to the average annual operating cost—without expansion—of $5,489,000 between FY2014/15 and FY2020/21. As a comparison, vehicle replacement is about one third of the overall cost of providing fixed route service with Unitrans vehicles. About $11.8 million or 54% of anticipated vehicle replacement expenditures occur within the first seven years of the plan. This allows longer range planning for the high level of replacement expenditures anticipated in FY 2021/22, as shown in Table 6.2 and Figure 6.1.

Figure 6.1
Replacement Costs for Unitrans Fleet



The Chapter 7 financial analysis includes a more detailed analysis of fleet expansion estimates based on current service levels and 3% and 3.5% service growth estimates.

Unitrans Support Vehicles

Unitrans' fleet of nine support vehicles helps a number of employees, including full-time employees and student interns, accomplish their work assignments for Unitrans operations.

Because most trips are short and most of the vehicles seldom leave the UC Davis campus, these vehicles tend to last much longer than might otherwise be expected. Replacement costs are grouped with other similar items and with the total estimated costs listed in the Financial Plan as Miscellaneous Support Equipment. Table 6.3 suggests a replacement plan for these vehicles, but support vehicles are replaced based on an annual assessment of their actual condition.

Table 6.3
Unitrans Support Fleet Replacement Plan

Vehicle #	Model Year	Vehicle Type	Make/Model	Fuel	Expected Replacement Year	Planned Replacement Year	Planned Cost
S3	2001	Car	Honda Civic	CNG	2008	2015	$20,800
S4	2003	Car	Honda Civic	CNG	2010	2018	$23,397
S5	2008	Car	Ford Escape	Gas-Electric	2015	2020	$25,306
S6	2013	Car	Toyota RAV4	Electric	2020	2025	$30,789
S104	1995	Lt Truck	Dodge	Diesel	2002	2016	$27,040
S114	2007	Lt Truck	Dodge Ram	Diesel	2014	2019	$30,416
GEM1	2003	Transport	GEM	Electric	2008	2017	$5,624
GEM2	2003	Transport	GEM	Electric	2008	2017	$5,624
	1983	Forklift		Diesel	1998	2022	$41,057

Unitrans Maintenance Facility Needs

The photo in Figure 6.2 shows Unitrans' Garrod Road Operations and Maintenance Facility. This critical facility, expanded in size in 2004 from three bays to six, features a fueling station (CNG and Diesel), drive-through bus wash, in-floor and portable lifts, a tire machine, equipment for conducting heavy repair work such as engine and transmission overhauls, and an extensive parts department.

Figure 6.2
Unitrans Bus Maintenance Facility

Almost all maintenance work is performed in-house, with only paint routinely contracted out due to the lack of a paint booth at the facility. Warranty work is conducted on buses that are still under manufacturer's warranty. While most reimbursements are for parts only, all warranty jobs are tracked carefully and when appropriate, work is done in-house and the manufacturer reimburses Unitrans for the labor.

Unitrans' uses a sophisticated preventative maintenance program for its revenue vehicles, with varying intensities of preventive maintenance performed every 3,000, 6,000, 18,000, 36,000, and 72,000 miles. Most Unitrans buses put on between 20,000 and 25,000 miles annually.

Unitrans' Maintenance Division also features a strong presence of student employees. Eight career positions within the division, including four mechanics, are supported by part-time student employees equal to 6.2 full-time equivalents (FTE), along with a separate "support division" of 4.2 FTE composed of students who handle bus washing and shelter cleaning duties.

In terms of facility needs:

- The yard asphalt is failing in places and is included in the financial plan for FY 2020/21.
- The Garrod facility is currently able to provide sufficient bus parking, but significant future expansion would cause Unitrans to need either to seek additional adjacent land for parking lot expansion or a satellite facility.

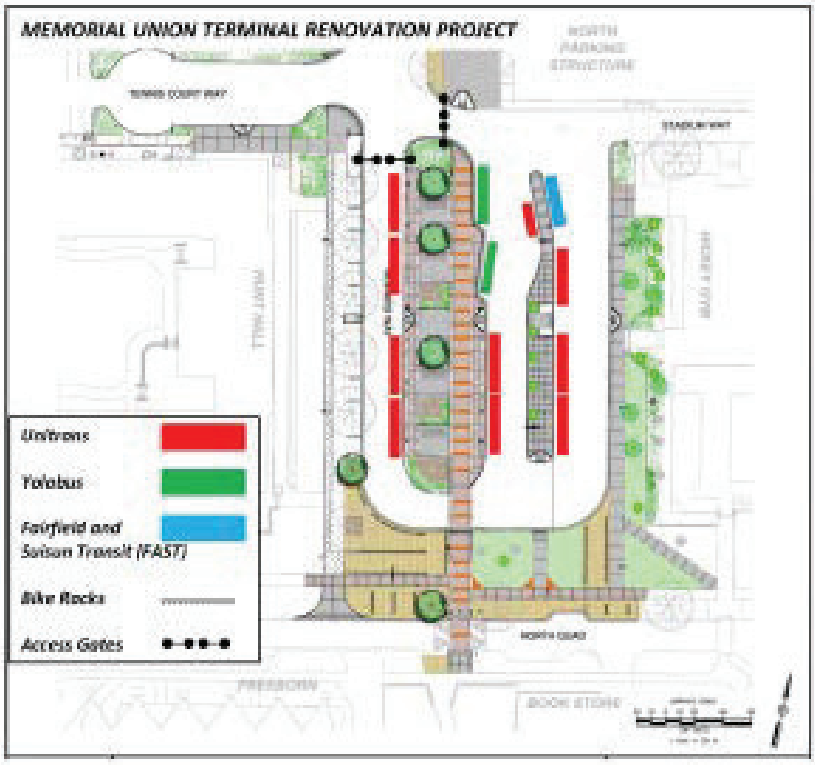
Facility Projects

Other planned Unitrans facility projects are discussed below.

Memorial Union Terminal

The Memorial Union (MU) bus terminal is being completely re-built in summer 2014, with MU-serving routes diverted to the Silo or Shields Library during construction. The Memorial Union terminal was built in the 1970s, and its current configuration provides difficult conditions for transfers as well as the turning radius required by larger buses. The new terminal site plan shown in Figure 6.3 will reverse the flow of buses to run in a clockwise direction so that bus doors will open onto curbs for improved accessibility and safety. The re-build also includes improved shelters, walkways, and seating areas.

Figure 6.3
Revised MU Terminal Site Plan



Russell Boulevard ITS Project

Unitrans' Intelligent Transportation Systems (ITS) Project is entering Phase III and is nearing completion. Phase III included procurement, installation, testing, and final acceptance of signal controller equipment to integrate with Unitrans' existing on-board Opticom Infrared Transit Signal Preemption equipment. This will improve on-time performance of Unitrans revenue vehicles on Russell Boulevard between A Street and Arthur Street as well as La Rue Road between Hutchison Drive and Russell Boulevard.

A total of seven intersections are included in the project:

- Russell Boulevard / Arthur Street
- Russell Boulevard / Sycamore Lane
- Russell Boulevard / La Rue Road / Anderson Road
- Russell Boulevard / Oak Avenue
- Russell Boulevard / Howard Way / College Park
- Russell Boulevard / A Street
- La Rue Road / Orchard Road

These intersections impact the performance of Routes G, D, K, Q, and P as well as serving the Memorial Union Terminal and the eleven routes that make transfers at that terminal. The equipment to be installed will upgrade these intersections and improve their complete streets capability to support multiple modes of transportation. More importantly, the equipment will allow the buses in revenue service some limited non-emergency pre-emption of the traffic signals as well as extending the length of the green lights for buses nearing the intersections to allow time for buses to pass through. The effect is less time waiting at the signal and more time serving riders as well as improved on-time performance. The following is the equipment to be installed:

- 4 Channel Multimode Phase Selectors at each of the seven intersections
- OptiCom IR Receivers
- Countdown Pedestrian Signals
- Pedestrian Push Buttons
- Bicycle Push Buttons
- Countdown Bicycle Signals

Unitrans was awarded STIP PTA funds for this project. The budget for Phase III is $255,000, based on an engineering estimate from Fehr & Peers, as shown in Table 6.4.

Table 6.4
Russell Boulevard Phase III ITS Project Estimated Costs

Materials and Installation	$155,000
Engineering and Contractor Management	$45,000
Contingency	$55,000
Total	**$255,000**

The project is being completed with a mix of federal grant funding and matching funds from Unitrans' capital reserve fund.

Bus Stops/Shelters

The seven intersections included in the ITS project include several bus stops, including implementing a bus stop on eastbound Russell at Arthur. Any improvements to these stops will be funded through Unitrans' existing Bus Stop Improvement Project, which identifies stop improvement priorities based on transit system needs. Two other locations noted in Chapter 3 as public requests through the unmet transit needs process werea potential stop on westbound Covell Boulevard at Denali for the Route P in conjunction with the City of Davis (although the City of Davis has indicated this may not be feasible) and a lighted shelter at the bus stop at the corner of Mace and Cowell Boulevards for northbound Routes A and P, which is not anticipated until the adjacent parcel is developed.

Refurbishment and Upgrade of CNG Fueling System

The refurbishment and upgrade of Unitrans' CNG fueling compressors and equipment is a high priority for Unitrans, given its heavy reliance on CNG buses. The Financial Plan includes $2 million as a preliminary cost estimate for this project.

Unitrans staff is preparing requests for proposals for firms to develop specifications and cost estimates for the CNG fueling system refurbishment and upgrade project. This information will be used by Unitrans staff to develop grant applications for funding using CMAQ, STIP, and FTA 5339 funding awards.

The CNG fueling refurbishment and upgrade project will include replacing compressors, replacing seals, providing additional types of connections, as well as additional capacity to improve operating pressures and fill rates. This is a key project because Unitrans does not have CNG fueling back-up available. In the event the fueling system goes down, fueling would require travel to Woodland or Sacramento. Removal of the existing underground diesel fuel storage tank is also being considered. It would be replaced with an above-ground tank.

Davis Community Transit Fleet Replacement

Davis Community Transit currently operates a fleet of four cutaway vehicles, shown in Table 6.5. These vehicles have a Ford E450 chassis with bodies by Elkhart and Starcraft. They offer seating for 12 ambulatory riders or for two riders using wheelchairs and six ambulatory passengers. The four vehicles are rotated into daily service so they accumulate the same number of service miles each month.

Table 6.5
Davis Community Transit Bus Fleet

#	Acquisition Year	Type	Make/Model	Fuel	Capital Cost
1	2010	Medium Bus Type II	Ford E450 Star Craft	Gas	$72,171
1	2012	Medium Bus Type II	Ford E450 Elkhart	Gas	$74,341
2	2013	Medium Bus Type II	Ford E450 Elkhart	Gas	$72,500

The current replacement plan uses a four-year useful life or 100,000 miles for planning replacement cycles. Generally, replacement does not happen before this number of years or miles, because replacing vehicles sooner would require prorated repayment of federal funds used to purchase the vehicles.

Many transit agencies, like Davis Community Transit using light-duty vehicles (an FTA designation), plan their vehicle replacements to occur before the need to replace the power train (especially the transmissions). This should not be a problem for Davis Community Transit, given the fairly low mileage in local service of the vehicles. As has been observed by DCT staff, the vehicles will accumulate more than 100,000 miles within the four-year useful life, but the number of miles and wear-and-tear will not be excessive for this type of vehicle.

Table 6.6 shows the recommended year and season of replacement for DCT's current fleet, as well as expected replacement costs. The plan replaces current vehicles with similar vehicles with similar accessories. Replacement costs are based on the purchase price of the two vehicles added to the fleet in 2013, plus a four percent escalator per year.

Table 6.6
Projected DCT Replacements and Costs by Year, FY 2014/15 to FY 2020/21

Unit #/ Acq Yr	FY2014/15	FY2015/16	FY2016/17	FY2017/18	FY2018/19	FY2019/20	FY2020/21
#555/2013				June 2018			
#556/2013			Jun 2017				Jun 2021
#557/2010	June 2015				June 2019		
#559/2012		June 2016				June 2020	
Total Cost	$78,416	$81,553	$84,815	$88,207	$91,736	$95,405	$99,221

The total cost for replacement of vehicles between FY2014/15 and FY2020/21 is $619,353. Davis Community Transit is eligible for FTA 5310 grant funding for these capital expenses. The California application process requires more of governmental agencies than it does of non-profit agencies; however, some cities have been successful in obtaining FTA 5310 funding to replace their fleet vehicles.

A rolling plan for purchasing replacement vehicles annually reduces the potential cost in each year. Given the small percentage of the Davis Community Transit fleet replacement costs as compared to the overall public transportation costs, one would expect that these four vehicles can be replaced soon after they reach the standard useful life of four years. However, capital funding may not always be available in each year as shown. It is recommended that DCT share a formal plan annually with Unitrans and the City of Davis for replacing vehicles in time for budget preparations and any financial negotiations to take place.

An alternative fleet replacement plan is to replace the vehicles when they accumulate more miles, e.g., 180,000 miles. This improves the potential to find state funding through grant programs such as FTA 5310. Older vehicles are usually funded for replacement before newer vehicles. Additionally, it may facilitate participating in grouped vehicle procurements with other agencies. However, this strategy can significantly increase the maintenance and repair costs for the fleet. Experience with similar sized vehicles in similar transit service has shown that maintenance labor hours increase the most. Delaying vehicle replacements will definitely require budgeting more mechanic hours to the fleet based on current staffing levels, as well as parts and outside repair services. Bus availability will also decrease because vehicles will be out of service more often for maintenance.

The Chapter 7 Financial Plan assumes sufficient revenue to maintain the current 4-year/ 100,000-mile standard for replacing DCT vehicles.

CHAPTER 7—FINANCIAL ANALYSIS AND PLAN

Unitrans Financial Analysis

Unitrans passenger trips have historically increased by a greater percentage than the undergraduate population at UC Davis. The underlying trend is that undergraduate students are taking more passenger trips per student.

UC Davis' 2020 Initiative anticipates increasing the number of undergraduate students by 2.1% annually until 2020, for a total increase of 5,000 students from academic year 2011/12 levels. Based on regression analysis comparing the number of undergraduate students and the number of passenger trips by students, this increase in students correlates to an increase in overall ridership by 3.0 to 3.5 percent.

Operating Cost Scenarios

Given these findings, an analysis was conducted comparing three scenarios for future operational and capital costs: maintaining the status quo vs. a 3% or 3.5% increase in service, measured by increases in vehicle revenue hours. The assumption is that as the demand for passenger trips increases with the increase in UC Davis undergraduate students, the number of vehicle hours required will also increase. While adding transit service is accomplished by adding more runs to existing routes and by adding additional routes, the following tables show the increased transit service in proportion to the increase in expected demand.

Table 7.1 provides a comparison of the three scenarios for operating costs. The Status Quo alternative maintains a constant number of vehicle revenue hours per year. The cost of providing this level of service continues to increase mainly due to increased costs for operations, maintenance-related labor and expenses, and fuel. Because of these increasing costs, the cost per vehicle revenue hour continues to increase.

The two growth scenarios assume that ridership will increase proportional to expanded vehicle hours. For the 3% and 3.5% service increase scenarios, the Operating Cost per Vehicle Revenue Hour used is based on the marginal cost of added service each year, with total operating cost calculated by multiplying the marginal cost by the expanded number of revenue hours, plus fixed costs. This methodology of using the marginal cost assumes that Unitrans would increase the number of vehicle revenue hours per year, but the additional costs of more revenue service hours would be offset in part by increases in passenger trips and fare and other revenues.

Table 7.1
Unitrans Alternative Scenarios: Operating Hours and Costs

		FY2014/15	FY2015/16	FY2016/17	FY2017/18	FY2018/19
Status Quo	Vehicle Revenue Hrs	83,726	83,726	83,726	83,726	83,726
	Operating Cost	$4,883,549	$5,202,187	$5,341,881	$5,485,488	$5,683,119
	Base Operating Cost/VRH	$58.33	$62.13	$63.80	$65.52	$67.88
	Marginal Cost/VRH	$48.12	$51.54	$52.95	$54.40	$55.90
3% Increase	Passenger Trips	4,116,784	4,240,288	4,367,496	4,498,521	4,633,477
	Vehicle Revenue Hrs	86,238	88,825	91,490	94,235	97,062
	Total Operating Cost	$5,004,086	$5,465,233	$5,752,954	$6,056,949	$6,428,998
3.5% Increase	Passenger Trips	4,157,000	4,302,000	4,453,000	4,609,000	4,770,000
	Vehicle Revenue Hrs	86,656	89,689	92,829	96,078	99,440
	Total Operating Cost	$5,024,200	$5,509,763	$5,823,854	$6,157,208	$6,561,928

Capital Cost Scenarios

The Fleet and Facilities Chapter includes a fleet replacement plan which effectively replaces the existing fleet. Under the Status Quo alternative, Unitrans' vehicle fleet would not expand, but would decrease to 43 vehicles that would be replaced over time. However, expansion of transit service hours to meet student demand would require additional buses.

Table 7.2 shows the costs of Unitrans replacement vehicles, plus additional buses for the 3% and 3.5% increase scenarios. In the early years, the two growth alternatives require the same number of vehicles. However, the 3.5% growth alternative requires more vehicles in FY2019/20 and FY2020/21. The table does not include support vehicles or three buses purchased in FY 13/14 with a State of Good Repair grant.

Table 7.2
Unitrans Revenue Vehicle Replacement Costs

		FY2014/15	FY2015/16	FY2016/17	FY2017/18	FY2018/19
Status Quo	Replacement Vehicles	0	5	0	5	4
	Replacement Cost	$0	$3,244,800	$0	$3,100,125	$3,041,632
3.0% Increase	Expansion Vehicles	0	3	0	3	0
	Expansion Cost	$0	$1,622,400	$0	$1,754,788	$0
3.5% Increase	Expansion Vehicles	0	3	0	3	0
	Expansion Cost	$0	$1,622,400	$0	$1,754,788	$0

Additional capital costs are similar for the three alternatives. These include miscellaneous support equipment, bus stop improvements, CNG fueling compressors and equipment, and the Russell Boulevard Signal Pre-emption Equipment. Several other capital projects are included in the plan, but they are not funded until FY2020/21. Table 7.3 shows the additional capital costs through FY 2018/19.

Table 7.3
Other Unitrans Capital Costs

		FY2014/15	FY2015/16	FY2016/17	FY2017/18	FY2018/19
Status Quo	Additional Capital Costs	$307,509	$180,353	$2,185,764	$191,336	$197,077

The total costs for each of the three alternatives are summarized in the following table. Note that these alternatives provide improved service within the existing service area, but do not expand transit service to new developments in the City of Davis. West Village is already partially built out and has frequent Unitrans service, the Cannery development area has bus stops nearby, and there are no new voter-approved developments.

Table 7.4
Total Costs of Alternative Scenarios

Scenario	FY2014/15	FY2015/16	FY2016/17	FY2017/18	FY2018/19	Total
Status Quo	$5,191,058	$8,627,340	$7,527,645	$8,776,949	$8,921,828	$39,044,820
3.0% Increase	$5,311,595	$10,512,786	$7,938,718	$11,103,198	$9,667,707	$44,534,004
3.5% Increase	$5,331,709	$10,557,316	$8,009,618	$11,203,457	$9,800,637	$44,902,737

Although the marginal difference between the 3% and 3.5% increase scenarios is only $369,000, it was determined to be both reasonable and prudent to select the 3% scenario for purposes of the SRTP Financial Plan for Unitrans.

Unitrans and DCT Financial Plan

This Financial Plan covers five years, given the uncertainty of longer term transit funding levels.

The key metric for determining expenses and fare revenues is expected annual vehicle revenue hours (VRH). Table 7.5 shows revenue hour assumptions for the financial plan. These are based on the 3% increase scenario for Unitrans described in the preceding section, and on the city's population growth rate for DCT service.

Table 7.5
Revenue Hour Assumptions, FY 2014/15 to FY 2018/19

	FY 2014/15	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19
Unitrans	86,238	88,825	91,490	94,235	97,062
DCT	5,138	5,177	5,216	5,255	5,294

Operating Costs

Table 7.6 summarizes projected operating costs for Unitrans and DCT through FY 2018/19. Operating costs are based on the current cost for transit services adjusted for inflation, expected cost increases, and expanded vehicle revenue hours and marginal costs for Unitrans based on the 3% growth scenario described above.

Table 7.6
Projected Operating Costs, FY 2014/15 to FY 2018/19

Operating Expenses	FY2014/15 (projected)	FY2015/16 (projected)	FY2016/17 (projected)	FY2017/18 (projected)	FY2018/19 (projected)	Annual Increase
Unitrans						
Operations - Labor	$ 2,023,698	$ 2,224,290	$ 2,279,898	$ 2,336,895	$ 2,395,317	2.5%
Operations - Expenses	$ 124,836	$ 128,581	$ 132,439	$ 136,412	$ 140,504	3.0%
Maintenance - Labor	$ 1,068,857	$ 1,125,922	$ 1,159,700	$ 1,194,491	$ 1,230,326	3.0%
Maintenance - Expenses	$ 811,846	$ 836,201	$ 861,287	$ 887,126	$ 913,740	3.0%
Administration - Labor	$ 470,666	$ 497,286	$ 512,204	$ 527,570	$ 543,397	3.0%
Administration - Expenses	$ 208,647	$ 214,907	$ 221,354	$ 227,994	$ 234,834	3.0%
Yolobus Unlimited Access	$ 175,000	$ 175,000	$ 175,000	$ 175,000	$ 225,000	
Base Operating Cost for Fixed Route (wo depr)	$ 4,883,549	$ 5,202,187	$ 5,341,881	$ 5,485,488	$ 5,683,119	
Operating Costs -- Marginal	$ 4,029,237	$ 4,314,995	$ 4,433,324	$ 4,554,924	$ 4,679,887	
Operating Costs -- Fixed	$ 854,313	$ 887,192	$ 908,558	$ 930,565	$ 1,003,232	
Marginal Cost Per Vehicle Revenue Hour	$ 48.12	$ 51.54	$ 52.95	$ 54.40	$ 55.90	
Base Fixed Route Vehicle Revenue Hours	*83,726*	*83,726*	*83,726*	*83,726*	*83,726*	0.0%
3% increase Fixed Route Vehicle Revenue Hours	86,238	88,825	91,490	94,235	97,062	3.0%
Total Operating Cost for Fixed Route (wo depr)	**$ 5,004,086**	**$ 5,465,233**	**$ 5,752,954**	**$ 6,056,949**	**$ 6,428,998**	
Fixed Route Unlinked Passenger Trips	4,116,784	4,240,288	4,367,496	4,498,521	4,633,477	3.0%
Cost per Passenger Trip	*$ 1.22*	*$ 1.29*	*$ 1.32*	*$ 1.35*	*$ 1.39*	
Davis Community Transit						
Salaries and Benefits	$ 413,327	$ 425,726	$ 438,498	$ 451,653	$ 465,203	3.0%
Operations	$ 142,165	$ 146,430	$ 150,823	$ 155,347	$ 160,008	3.0%
Base Operating Cost for Demand Response (wo depr)	$ 555,491	$ 572,156	$ 589,321	$ 607,000	$ 625,210	
Base Demand Response Vehicle Revenue Hours	*5,100*	*5,100*	*5,100*	*5,100*	*5,100*	0.0%
Base Cost per Vehicle Revenue Hour	*$ 108.92*	*$ 112.19*	*$ 115.55*	*$ 119.02*	*$ 122.59*	0.0%
Increased Demand Response Vehicle Revenue Hours	5,138	5,177	5,216	5,255	5,294	0.75%
Total Operating Cost for Demand Response (wo depr)	**$ 559,657**	**$ 580,771**	**$ 602,680**	**$ 625,416**	**$ 649,010**	
Demand Response Unlinked Passenger Trips	16,442	16,566	16,690	16,815	16,941	*3.2*
Cost per Passenger Trip	*$ 34.04*	*$ 35.06*	*$ 36.11*	*$ 37.19*	*$ 38.31*	
Total Fixed Rte & Demand Response Op Cost	**$ 5,563,743**	**$ 6,046,003**	**$ 6,355,634**	**$ 6,682,365**	**$ 7,078,008**	

Operating Revenues

Table 7.7 summarizes projected operating revenues and the fund balance after deducting operating expenses. A more detailed description of each revenue source follows.

Table 7.7

Projected Operating Revenues, FY 2014/15 to FY 2018/19

Operating Revenues	FY2014/15 (projected)	FY2015/16 (projected)	FY2016/17 (projected)	FY2017/18 (projected)	FY2018/19 (projected)
Unitrans					
Total Unitrans Fare Revenue	$2,714,378	$2,768,429	$3,260,309	$3,325,315	$3,391,651
Fixed Route Fares	*$268,178*	*$270,860*	*$314,604*	*$317,750*	*$320,927*
Unitrans Student Fees	*$2,446,199*	*$2,497,570*	*$2,945,705*	*$3,007,565*	*$3,070,724*
Advertising	$30,600	$31,212	$31,836	$32,473	$33,122
Miscellaneous	$30,000	$30,000	$30,000	$30,000	$30,000
CNG Fuel Rebate	$420,000				
FTA 5307 Formula (transfer from capital)	$1,300,000	$1,300,000	$1,300,000	$1,300,000	$1,300,000
TDA (transfer from capital)	$725,000	$730,000	$735,000	$740,000	$745,000
Unitrans Total Operating Revenues	**$5,219,978**	**$4,859,641**	**$5,357,145**	**$5,427,788**	**$5,499,773**
Op Revenue Less Op Expenses	**$215,892**	**-$605,591**	**-$395,809**	**-$629,161**	**-$929,224**
Davis Community Transit					
Fare Revenue	$29,925	$30,150	$37,970	$38,254	$38,541
LTF to DCT	$529,732	$550,621	$564,711	$587,161	$610,468
Davis Total Operating Revenues	**$559,657**	**$580,771**	**$602,681**	**$625,415**	**$649,009**
Op Revenue Less Op Expenses	**$0**	**$0**	**$0**	**$0**	**$0**

Local Funding Sources

Fares

Expected fare revenue for Unitrans includes student fees, which allow undergraduates to ride Unitrans for free. Student fees relate directly to the number of undergraduate students. Undergraduate students currently contribute $29 per quarter; however, when totaled, student fees received by Unitrans are 8% higher on average than the calculation of $29 per student per quarter because the UCD Summer Session program pays a $15 per-student fee for summer enrollment. Student fee revenues do not increase unless the number of undergraduate students increases, or the base rate of $29 per student per quarter increases.

For Unitrans, this Financial Plan assumes:

- A fee increase to $33.50 per student per quarter effective FY 2016/17;
- A 2.1% increase in UC Davis undergraduates in line with the UC Davis 2020 Initiative;
- A fare increase for paying passengers from $1.00 to $1.25; and
- A 1% increase per year in cash fares.

DCT's fares may be set at twice the fixed route fare of Unitrans. The Financial Plan assumes a fare increase for DCT to $2.50 per ride, or twice the increased Unitrans fare, beginning in FY 2015/16. Premium trips are assumed to remain the same at $4.00 per ride.

Miscellaneous

Additional local funding sources in addition to fares and student fees include advertising and miscellaneous revenues. These sources annually currently earn $60,000 in total.

Unitrans was also recently able to qualify for an IRS CNG tax credit that other transit systems have used. The revenue generated from the credit is roughly $140,000 per year. Unitrans is able to file for the credit for up to three years in arrears, adding about $420,000 to the projected income for FY 2014/15. Although there has been interest in reauthorizing the tax credit, the credit expired on December 31, 2013. The SRTP does not currently include the credit as part of projected future year revenues.

STATE FUNDING SOURCES

Transportation Development Act

The Transportation Development Act (TDA) is a state-collected local sales tax. For many years it has been a mainstay of funding for transit programs in California. The TDA provides two major sources of funding for public transportation: the Local Transportation Fund (LTF), which has been in existence since 1972, and the State Transit Assistance (STA) fund, which was instituted in 1980.

LTF revenues are available for operating transit services if the 20% farebox recovery ratio is met. LTF moneys must be spent for transit and paratransit purposes, unless a finding is made as part of the Unmet Transit Needs process that no unmet transit needs exist that can reasonably be met. In that case, remaining funds may be spent on roadway construction and maintenance purposes.

Other agencies have a claim on these sources of funding. Table 7.8 shows the distribution of STA and LTF funds for Yolo County. All of the STA funds are allocated to Yolo County Transportation District (YCTD). These STA funds reduce the amount of LTF funds allocated to YCTD. Besides Unitrans and DCT, SACOG and the City of Davis also receive a share of the LTF funds. A portion of Unitrans' LTF funds are used to cover operating costs, with the remainder used for capital expenses. The City of Davis may use its LTF funds for streets and roads purposes after all transit needs that are reasonable to meet are met.

Table 7.8

Federal, State, and Local Funds Allocated to Unitrans, DCT and Other Agencies

	FY2014/15	FY2015/16	FY2016/17	FY2017/18	FY2018/19
State Transit Assistance (STA) - YCTD	$489,000	$496,000	$503,000	$510,000	$517,000
Local Transportation (LTF) - YCTD	$1,037,000	$1,091,000	$1,147,000	$1,206,000	$1,268,000
Local Transportation (LTF) - Unitrans	$725,000	$730,000	$735,000	$740,000	$745,000
Local Transportation (LTF) - DCT	$530,000	$551,000	$565,000	$587,000	$610,000
Local Transportation (LTF) - SACOG	$98,000	$102,000	$106,000	$110,000	$114,000
Local Transportation (LTF) - Davis	$870,000	$916,000	$972,000	$1,023,000	$1,075,000
Total	$3,749,000	$3,886,000	$4,028,000	$4,176,000	$4,329,000

Federal Funding Sources

Federal FTA Section 5307 Urbanized Area Formula Program

This is an important source of transit funding for urbanized areas and the cities within them. These funds are provided to urbanized areas under a variety of conditions based on size. The Davis Urbanized Area is able to use FTA Section 5307 funds to offset operating costs as well as capital expenses.

Capital Costs

As shown in Table 7.9, capital costs include replacement vehicles and some expansion of the Unitrans revenue vehicle fleet as described in Chapter 6, Fleet and Facilities. The other large project is the refurbishment and upgrade of Unitrans' CNG Fueling System.

Table 7.9

Vehicle Replacement Costs, FY 2014/15 to FY 2018/19

Capital Expenses	FY2014/15 (projected)	FY2015/16 (projected)	FY2016/17 (projected)	FY2017/18 (projected)	FY2018/19 (projected)
Unitrans					
Vehicle Replacement		$ 3,244,800		$ 3,100,125	$ 3,041,632
Vehicle Expansion		$ 1,622,400		$ 1,754,788	
Misc Support Equipment	$ 103,000	$ 106,090	$ 109,273	$ 112,551	$ 115,927
Bus Stop Improvements	$ 72,100	$ 74,263	$ 76,491	$ 78,786	$ 81,149
Unitrans Mte Facility (CNG Compressors & Equip)			$ 2,000,000		
Russell Blvd Traffic Signal Pre-emption Proj Equipment & Installation	$ 132,409				
Unitrans Total	$ 307,509	$ 5,047,553	$ 2,185,764	$ 5,046,250	$ 3,238,709
DCT					
Vehicle Replacement	$ 78,416	$ 81,553	$ 84,815	$ 88,207	$ 91,736
Vehicle Expansion					
DCT Total	$ 78,416	$ 81,553	$ 84,815	$ 88,207	$ 91,736
Total Capital Cost	**$ 385,925**	**$ 5,129,106**	**$ 2,270,579**	**$ 5,134,457**	**$ 3,330,445**

Currently, the Memorial Union Terminal Project is under construction with an expected completion date of September 2014. The expected cost is $3,100,000 and these funds were budgeted in FY 2012/13 and FY 2013/14. The Russell ITS project total for Phase III was $255,000, with $132,409 budgeted in FY 2014/15.

The next highest priority capital item is the refurbishment of the Compressed Natural Gas (CNG) Fuel System. The expected cost for this project is $2,000,000.

In addition to these major capital items, Unitrans incudes funding in its annual budgets for Support Equipment (including support vehicles and shop equipment) and for Bus Stop Improvements. Unless earlier capital funds can be identified or project cost savings are obtained, several additional capital projects are not anticipated for funding until FY2020/21. These include replacing the underground storage tanks, fuel management system improvements, bus wash improvements, and resurfacing the drive areas at the maintenance and fueling facility.

Capital Revenues

Capital revenues, shown in Table 7.10, include a number of sources of funding.

Table 7.10

Unitrans and DCT Projected Capital Revenues, FY 2014/15 to FY 2018/19

Capital Revenues	FY2014/15 (projected)	FY2015/16 (projected)	FY2016/17 (projected)	FY2017/18 (projected)	FY2018/19 (projected)	
FTA 5307 Urbanized Area Formula (Total)	$ 2,972,485	$ 2,972,485	$ 2,972,485	$ 2,972,485	$ 2,972,485	0.0%
5307 Transfer to Operations	$ (1,300,000)	$ (1,300,000)	$ (1,300,000)	$ (1,300,000)	$ (1,300,000)	0.0%
5307 Remaining for Capital	*$ 1,672,485*	*$ 1,672,485*	*$ 1,672,485*	*$ 1,672,485*	*$ 1,672,485*	
FTA 5310 Enhanced Mobility	$ -	$ -	$ -	$ -	$ -	0.0%
Local Transportation Funds (Total)	$ 3,258,883	$ 3,389,238	$ 3,524,808	$ 3,665,800	$ 3,812,432	4.0%
State Transit Account (STA) Section 99313	$ 345,137	$ 352,040	$ 359,081	$ 366,263	$ 373,588	2.0%
State Transit Account (STA) Section 99314	$ 143,654	$ 143,654	$ 143,654	$ 143,654	$ 143,654	0.0%
LTF to SACOG Planning	$ (97,766)	$ (101,677)	$ (105,744)	$ (109,974)	$ (114,373)	
LTF & STA to YCTD	$ (1,525,499)	$ (1,586,519)	$ (1,649,980)	$ (1,715,979)	$ (1,784,618)	4.0%
LTF to DCT	$ (529,732)	$ (550,621)	$ (564,711)	$ (587,161)	$ (610,468)	
LTF for Davis	$ (869,677)	$ (916,115)	$ (972,108)	$ (1,022,602)	$ (1,075,215)	
LTF to Unitrans	**$ (725,000)**	**$ (730,000)**	**$ (735,000)**	**$ (740,000)**	**$ (745,000)**	
TDA Funds Not Allocated	$ -	$ -	$ -	$ -	$ -	
LTF Transfer to Operations						
DCT	$ (529,732)	$ (550,621)	$ (564,711)	$ (587,161)	$ (610,468)	
Unitrans	$ (725,000)	$ (730,000)	$ (735,000)	$ (740,000)	$ (745,000)	
LTF Remaining for Unitrans Capital	$ -	$ -	$ -	$ -	$ -	
State Proposition 1B						
PTMISEA Regional						
PTMISEA Local	$ 90,225	$ 90,225	$ 90,225			
Safety & Security						
Safety & Security Regional						
Safety & Security Local						
STIP/PTA	$ 255,000					
Unitrans Student Fee for Capital Projects	$ 312,000	$ 318,000	$ 325,200	$ 332,400	$ 339,600	
Total Capital Revenues	**$ 2,329,710**	**$ 2,080,710**	**$ 2,087,910**	**$ 2,004,885**	**$ 2,012,085**	

The following are more detailed descriptions of these capital revenue sources.

Local Funding Sources

The UC Davis student fee includes $4 per quarter that can only be used for Unitrans capital expenditures. The budget for FY2013/14 was $306,000. Note that proposed student fee increase in FY2016-17 applies the full increase from $29.00 to $33.50 for operating expenses.

STATE FUNDING SOURCES

PTMISEA Funds

The Public Transportation Modernization, Improvement, and Service Enhancement Account (PTMISEA) was approved as Proposition 1B on the November 2006 ballot as part of the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act. A total of $3.6 billion is designated for allocation over a ten year period for public transportation projects. The $3.6 billion is to be distributed by formula based on population or farebox revenue to transit operators for capital projects.

Each year, PTMISEA funds are appropriated in the state budget to the State Controller's Office (SCO) for allocation to eligible agencies, with the California Department of Transportation (Caltrans) Division of Mass Transportation as the administering agency. The SCO identifies and develops the list of eligible regional and local project sponsors and the amount each is eligible to receive, based on calculations outlined in SB 88, Statutes of 2007.

These funds are allocated as local and regional funding. SACOG is the primary project sponsor for SCO regional funding. SACOG issues calls for projects for these SCO regional funds and awards the funds to transit capital projects using established evaluation criteria. One of the evaluation criteria is regional equity for eligible transit agencies in the four-county area (Placer and El Dorado County administer their own funds). The selected transit capital projects are recommended by SACOG to Caltrans Division of Mass Transportation and their staff will recommend them for funding based on bond sales. When a capital project is partially or fully funded, SACOG receives a fund transfer from SCO. SACOG enters into a sub-recipient funding agreement with the project sponsor, who is responsible for implementing the project based on the schedule. The sub-recipient then submits invoices for reimbursement to SACOG. SACOG reviews the documentation and approves the invoices for payment.

PTMISEA funds can only be used for transit capital projects. These include such projects as the following:

- Rolling stock, to purchase, replace or rehabilitate transit vehicles, such as buses, vans, paratransit vehicles, and rail transit vehicles.
- Purchase of equipment (such as bus engines, computer systems, and signage) or other projects for rehabilitation, operation, modernization, or safety.
- Capital service enhancement or expansion, such as modernization of bus shelters, transit centers, and operation and maintenance facilities, for design and/or construction phases.

Any completed or partially completed project must be usable by the public when the PTMISEA funds allocated to the project are expended.

SACOG maintains a Ten-Year Expenditure Plan for PTMISEA funding as required by Caltrans Division of Mass Transportation. Transit projects are fit into the Expenditure Plan based on

need and equity. Funding continues to be allocated based on equity and is not taken away from the transit agency, but the availability of the funding is based on when projects are awarded and ready. The capital revenue section above is based on the Ten-Year Expenditure Plan for Unitrans.

Safety and Security Funds

Safety and Security funding was approved with Proposition 1B on the November 2006 ballot as part of the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act. One billion dollars is designated for allocation over a ten-year period for transit-related safety and security projects. The $1.0 billion is to be distributed by formula based on population or farebox revenue to transit operators for transit related safety and security capital projects.

Transportation Development Act

The Transportation Development Act (TDA) is a state-collected local sales tax. For many years it has been a mainstay of funding for transit programs in California. The TDA provides two major sources of funding for public transportation: the Local Transportation Fund (LTF), which has been in existence since 1972, and the State Transit Assistance (STA) fund, which was instituted in 1980. These sources of revenue are described in the Operating Revenue Section earlier in the Chapter.

STA revenues are available for both operating and capital expenses. Currently, operators are free to use 100 percent of their STA funding to support operations. However, beginning in FY 2015/16, a statewide exemption will expire that allows operators to forego a consumer price index test before using funding for operations. Unless the state elects to continue the exemption, operators will have to demonstrate that increases in annual operating costs are equivalent to or less than increases in the consumer price index (CPI). Operators that fail this test will be limited to using STA funds only for capital expenses. This SRTP assumes that YCTD will continue to use all STA funds for capital projects, and that this issue will not affect Unitrans or DCT.

Federal Funding Sources

FTA State of Good Repair Program

The FTA State of Good Repair program is a discretionary grant program that makes funds available to public transit providers to finance capital projects to replace, rehabilitate, and purchase buses and related equipment and to construct bus-related facilities.

FTA Section 5307 Program

As noted under operating revenues, FTA 5307 funds are an important source of transit funding. 5307 small urbanized area funds are apportioned by Caltrans by formula. Eligible activities include planning, engineering design and evaluation of transit projects and other technical transportation-related studies; capital investments in bus and bus-related activities such as replacement of buses, overhaul or rebuilding of buses, crime prevention and security

equipment, and construction of maintenance and passenger facilities. All preventive maintenance and some Americans with Disabilities Act complementary paratransit service costs are considered capital costs. For urbanized areas with populations less than 200,000, operating assistance is also an eligible expense.

FTA Section 5339 Capital Program

These federal funds are allocated though a state program. This source of funding replaces the FTA 5309 funding program under SAFETEA-LU.

FTA Section 5310 Elderly and Persons with Disabilities Program

The FTA Section 5310 Elderly and Persons with Disabilities Program is largely used to fund vehicle purchases in California for the provision of services to seniors and persons with disabilities. These funds have been available through Caltrans on an annual competitive basis. The FY 2012 apportionment for California is $13,704,514. These funds could potentially be used for the purchase of DCT buses and associated equipment, but DCT would need to compete with other transit agencies and nonprofits in the region.

Congestion Mitigation and Air Quality Improvement (CMAQ)

The Congestion Mitigation and Air Quality Improvement program has provided another source of funding for many transit services across the country. Through this program, funding has been available to metropolitan areas (including Davis) that are not in compliance with federal air quality standards regarding ozone or carbon monoxide. In the SACOG region, CMAQ funds have been used for a variety of projects including the purchase of “clean air” buses, the operation of transit demonstration programs, and “Spare the Air” programs that reimburse transit agencies for lost revenue when promoting transit with free rides on pollution alert days. The SACOG Call for Projects included $26 million in CMAQ funding for FY2012/13 and FY2013/14, including $1.2 million in CMAQ funding for Spare the Air programs.

FTA Clean Fuel Grants Program

The FTA Clean Fuel program is a discretionary grant program for clean fuel buses in air quality non-attainment and maintenance areas. Eligible projects include the purchase or lease of clean fuel buses, the construction or lease of clean fuel or electrical recharging facilities and related equipment for such buses, and construction or improvement of public transportation facilities to accommodate clean fuel buses. Approximately $51.5 million was available nationwide in FFY 2012.

FTA Livability Program

The FTA Livability program is a discretionary grant program that makes funds available to public transit providers to finance capital projects to replace, rehabilitate, and purchase buses and related equipment and to construct bus-related facilities. It includes assistance to sub-recipients that are public agencies, private companies engaged in public transportation or private non-profit organizations for bus and bus-related projects. The FFY 2012 amount for this program was $125 million nationwide.

It is important to note that some of these programs may be revised or eliminated in new federal transportation reauthorization bills. SACOG consistently monitors and reports to the region's transit operators on federal and state legislation and regulations regarding transit funding programs.

Operating Costs and Subsidy

The annual operating subsidy is determined using expected operating expenses (Table 7.6)and subtracting expected fare revenues (Table 7.7). Table 7.11 shows the projected annual operating subsidy needed for Unitrans and DCT.

Table 7.11
Expected Operating Subsidy, FY 2014/15 to FY 2018/19

Unitrans	FY 2014/15	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19
Operating Expense	$5,004,086	$5,465,233	$5,752,954	$6,056,949	$6,428,998
Fares	$268,178	$270,860	$314,604	$317,750	$320,927
Student Fees	$2,446,199	$2,497,570	$2,945,705	$3,007,565	$3,070,724
Operating Subsidy	**$2,289,709**	**$2,696,803**	**$2,492,645**	**$2,731,634**	**$3,037,347**
DCT	**FY 2014/15**	**FY 2015/16**	**FY 2016/17**	**FY 2017/18**	**FY 2018/19**
Operating Expense	$559,657	$580,771	$602,680	$625,416	$649,010
Fares	$29,925	$30,150	$37,970	$38,254	$38,541
Operating Subsidy	**$529,732**	**$550,621**	**$564,710**	**$587,162**	**$610,469**

The two main sources to fund the operating subsidy are Federal Transit Administration (FTA) Section 5307 Funds and Local Transportation Funds (LTF). DCT receives LTF for the entire amount of their operating subsidy. Unitrans receives all of the FTA Section 5307 funds apportioned to the Davis Urbanized Area, currently budgeted at $2,972,485 annually, and has programmed $1,300,000 annually towards operating expenses. The remaining operating subsidy uses LTF and some advertising and miscellaneous revenues.

Based on the current level of FTA Section 5307 funding and LTF revenues allocation to Unitrans' operating expenses, there is a surplus in FY 2014/15 and an unfunded balance in other years. Table 7.12 shows the remaining subsidy needed for Unitrans operations. This unfunded operating subsidy will need to be offset by capital revenues. As shown in Table 7.13, LTF funds should cover DCT's operating subsidy.

Table 7.12
Unitrans Unfunded Operating Subsidy, FY 2014/15 to FY 2018/19

Unitrans	FY 2014/15	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19
Operating Subsidy	$2,289,709	$2,696,803	$2,492,645	$2,731,634	$3,037,347
Offsets:					
Advertising & Misc.	$60,600	$61,212	$61,836	$62,473	$63,122
FTA 5307	$1,300,000	$1,300,000	$1,300,000	$1,300,000	$1,300,000
CNG Fuel Rebate	$420,000				
LTF	$725,000	$730,000	$735,000	$740,000	$745,000
Unfunded Operations	**-$215,891**	**$605,591**	**$395,809**	**$629,161**	**$929,225**

Table 7.13
DCT Operating Subsidy, FY 2014/15 to FY 2018/19

DCT	FY 2014/15	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19
Operating Subsidy	$529,732	$550,621	$564,710	$587,162	$610,469
LTF Offset:	$529,732	$550,621	$564,710	$587,162	$610,469
Unfunded Operations	**$0**	**$0**	**$0**	**$0**	**$0**

Capital Costs and Subsidy

Table 7.14 provides a summary of the costs and projected revenues for capital items for Unitrans and DCT. Capital revenues to offset Unitrans and DCT capital costs include FTA Section 5307 funds, PTMISEA (Prop 1B) funds, and student fees reserved for capital expenses. Additionally, it is assumed that LTF revenues currently being used by the City of Davis for streets and roads will offset capital expenditures.

Table 7.14
Capital Expenditures, FY 2014/15 to FY 2018/19

Unitrans & DCT	FY 2014/15	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19
Unitrans:					
Revenue Vehicles	$0	$4,867,200	$0	$4,854,913	$3,041,632
Misc. Support Equipment	$103,000	$106,090	$109,273	$112,551	$115,927
Bus Stop Improvements	$72,100	$74,263	$76,491	$78,786	$81,149
ITS Improvements	$132,409	$0	$0	$0	$0
CNG Fueling Station	$0	$0	$2,000,000	$0	$0
DCT: Revenue Vehicles	$78,416	$81,553	$84,815	$88,207	$91,736
Total Capital Costs	**$385,925**	**$5,129,106**	**$2,270,579**	**$5,134,457**	**$3,330,444**
FTA 5307	$1,672,485	$1,672,485	$1,672,485	$1,672,485	$1,672,485
PTMISEA	$90,225	$90,225	$90,225	$0	$0
STIP	$255,000	$0	$0	$0	$0
Student Fees for Capital	$312,000	$318,000	$325,200	$332,400	$339,600
Total Capital Revenues	**$2,329,710**	**$2,080,710**	**$2,087,910**	**$2,004,885**	**$2,012,085**
Revenue Less Capital	**$1,943,785**	**($3,048,396)**	**($182,669)**	**($3,129,572)**	**($1,318,359)**

Although Table 7.14 shows a negative capital balance after FY 2014/15, Unitrans' reserve funds help offset capital expenses for the first three years of the SRTP, as shown in Table 7.15. However, in FYs 2017/18 and 2018/19, negative fund balances begin to appear.

Table 7.15
Combined Fund Balance, FY 2014/15 to FY 2018/19

Unitrans & DCT	FY 2014/15	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19
Beginning Reserves	$3,100,000	$5,259,676	$1,605,689	$1,027,211	($2,731,522)
Unfunded Operations	($215,891)	$605,591	$395,809	$629,161	$929,225
Revenue Less Capital	$1,943,785	($3,048,396)	($182,669)	($3,129,572)	($1,318,359)
Ending Reserves	**$5,259,676**	**$1,605,689**	**$1,027,211**	**($2,731,522)**	**($4,979,106)**

Unitrans has several options to address these projected deficits:

- Work to obtain additional LTF from the City of Davis;
- Pursue any new federal/state funding programs or sources that may become available;
- Push out replacing some of Unitrans' current vehicles until later years;
- Delay the $2 million in expenses for the CNG fueling facility;
- Postpone purchasing some or all of the six expansion vehicles.

Fortunately, with its current reserve balance, Unitrans has time to pursue some combination of these options.

Additional/Future Issues

Personnel

As noted in Chapter 6, Administration and Marketing, several potential positions have been proposed: a second DMV-approved ETP Trainer, a shop floor supervisor position, and an administrative supervisor. Unitrans will need to consider whether these duties could be assumed through existing employees, would require new employees (whether student or career staff), and whether any additional costs could be covered through the operating expense increases projected in this Financial Plan, or new funding would need to be identified.

Fare Free Zone

In 2012, Unitrans began a discussion with the City of Davis and DCT staff concerning the potential for making Unitrans a fare-free system. Unitrans had the opportunity to experiment with making fares free for its riders during the Fix50 project, when Highway 50 in downtown Sacramento was under repair in Spring 2014, and transit agencies provided additional service or incentives to encourage transit usage to address additional vehicle congestion.

Unitrans conducted an analysis of the free fare period, comparing free fare days (April 22 through May 25, 2014) to the comparable days in 2013. Findings included:

- Total ridership was up 5%.
- On an average weekday, the increase was 4%, from 19,100 to 19,900 per day.
- On a typical weekend day, average ridership increased from 1,250 to 1,500, a 20% increase, likely due to the fact that fare-paying riders make up a higher proportion of Unitrans ridership on weekends.
- 257 bus trips were overcrowded, compared to 298 trips in 2013, suggesting that additional riders generally rode at times or in locations when the buses had available capacity.
- On-time performance increased to 97% in 2014, compared to 96% in 2013, due to the time-savings in not collecting fares.
- Several unsolicited comments were received from riders who ordinarily pay to ride, reporting their positive experiences with the free fare period.

A number of other transit systems in university-oriented communities are fare-free, including the Corvallis Transit System (Oregon State University), Cache Valley Transit District in Logan, Utah (Utah State University), Chapel Hill Transit (University of North Carolina), and AppalCART in Boone, North Carolina (Appalachian State University) ().

Additionally, Unitrans is facing complications with YCTD's implementation of the Connect Card (smart card fare payment system) for accepting Yolobus transfers. Because Unitrans has such a low proportion of cash-paying riders, Unitrans management did not identify sufficient benefits from joining the eight Connect Card Consortium agencies compared with the start-up

and ongoing costs of participating in the system. A fare-free operation would not require transfers from another system, thereby resolving any issues.

However, there are numerous considerations for Unitrans, DCT and the City of Davis in considering a fare-free system:

- Unitrans' lost revenues from cash fares, projected at $268,000 in FY 2014/15 and rising to $321,000 in FY 2018/19, would somehow need to be replaced.
- DCT by law may only charge twice the fare of the complementary fixed route system. If Unitrans' fare were zero, DCT's fare would also need to be zero. DCT's fare revenues of $30,000+ would then need to be covered to maintain its budget and farebox recovery ratio, as well as the potential increase in demand were the service to be offered at no cost to the user.
- With free fares, increased demand for services beyond that projected in the Financial Plan might require additional operations and/or capital expenditures and funding.
- Additional research would need to be conducted to clarify whether some agreement with FTA could be made for DCT to be considered complementary to YCTD only, in which case DCT fares could perhaps be tied to YCTD fares. However, this could potentially shift the responsibility for funding the complementary service to YCTD and/or change the times and boundaries of DCT service, which would also require careful consideration and changes to institutional and funding arrangements.

Recommendations

The following are additional recommendations for Unitrans and DCT for implementing the Financial Plan:

1. DCT should annually work closely with Unitrans and the City of Davis to communicate funding needs for the DCT system.
2. Unitrans should undertake discussions with the City of Davis on the use of city LTF funds for Unitrans capital funding needs.
3. Unitrans needs to work with YCTD on how to address transfers when the Connect Card is implemented on Yolobus.
4. Based on the success of the free fare pilot program, Unitrans should continue research into the options for a free fare system on a short-term or permanent basis.